

DISTRICT 2 STANDARDS

4-13-16

FULL SIZE

- 1.1 Deleted 4-15-15
- 3.1 Mailbox Turnout in Curb and Gutter Section
- 4.1 PC Concrete Islands and Medians Accessible to the Disabled
- 5.1 Standard Outlet for Curb and Gutter
- 10.1 Box Culvert End Sections
- 11.1 Concrete End Sections for Parallel Pipe Culverts 15" thru 84" Dia.
- 12.1 Concrete End Sections for Parallel Pipe Arch Culverts 15" thru 84" Dia.
- 13.1 Traversable Pipe Grate for Box Culvert End Section
- 14.1 Traversable Pipe Grate for Parallel Drainage Structure
- 15.1 Sloped Metal End Sections with Grate
- 20.1 Hot-Mix Asphalt Approaches and Mailbox Returns
- 25.1 Entrance Approaches – Urban Area
- 32.1 Sewer and Water Main Crossings
- 33.1 Concrete Collars for Pipe or Box Culvert Extensions
- 34.1 Work Zone Sign Details
- 35.1 Urban Lane Inside Closure, Multilane, 2W, with Mountable Median
- 36.1 Temporary Road Closure Expressway
- 37.1 Traffic Control for Three Lane Section
- 38.1 Traffic Control for Transition Areas
- 39.1 Traffic Control Typical Weave
- 40.1 Traffic Control for Road Closure
- 41.1 Typical Pavement Markings
- 44.1 Painting Details
- 53.1 Remove and Re-erect Steel Plate Beam Guardrail
- 54.1 Traffic Barrier Terminal, Type 2 (27" height)
- 68.1 Slotted Drain Pipe (Variable Height)
- 71.1 Detail of Flood Gate
- 72.1 40' Single Lane Median Crossover (45 mph Work Zone Speed Limit)
- 73.1 50' Single Lane Median Crossover (45 mph Work Zone Speed Limit)
- 74.1 64' Single Lane Median Crossover (45 mph Work Zone Speed Limit)
- 75.1 40' Single Lane Median Crossover (55 mph Work Zone Speed Limit)
- 76.1 50' Single Lane Median Crossover (55 mph Work Zone Speed Limit)
- 77.1 64' Single Lane Median Crossover (55 mph Work Zone Speed Limit)
- 78.1 88' Single Lane Median Crossover (55 mph Work Zone Speed Limit)
- 79.1 40' Two Lane Median Crossover (45 mph Work Zone Speed Limit)
- 80.1 50' Two Lane Median Crossover (45 mph Work Zone Speed Limit)
- 81.1 64' Two Lane Median Crossover (45 mph Work Zone Speed Limit)
- 82.1 40' Two Lane Median Crossover (55 mph Work Zone Speed Limit)
- 83.1 50' Two Lane Median Crossover (55 mph Work Zone Speed Limit)
- 84.1 64' Two Lane Median Crossover (55 mph Work Zone Speed Limit)
- 85.1 88' Two Lane Median Crossover (55 mph Work Zone Speed Limit)
- 86.1 Beveled Pipe & Guard Detail for Median Crossover
- 90.1 Traffic Barrier Terminal, Type 6B (Special)
- 92.1 Details of Planting and Bracing Trees

DISTRICT 2 STANDARDS

4-13-16

½ SIZE

- 10.2 Inlets, Special
- 11.2 Inlets, Special (Type A Gutter)
- 12.2 Double Inlet, Special
- 13.2 Frame & Grate for Inlets, Special
- 13.2a Frame & Grate for Inlets, Special
- 13.2b Frame & Grate for Inlets, Special
- 13.2c Frame & Grate for Inlets, Special
- 13.2d Frame & Grate for Inlets, Special
- 14.2 Inlets, Special, No. 1
- 15.2 Inlets, Special, No. 2
- 20.2 Standard Inlet for Type A Gutter (Special)
- 21.2 Standard Inlet for Curb & Gutter
- 30.2 Field Tile Junction Vaults 2' and 3' Dia.
- 31.2 Treatment of Field Tile Systems Under Ditches
- 32.2 Sign Panel - Type 1 (Special)
- 33.2 Special Drainage Outlet
- 34.2 Inlet Stand Pipe
- 35.2 Guardrail Erosion Control Treatments
- 36.2 Paved Ditch (Special)
- 37.2 Underdrain for Across Road (AR) Culverts
- 44.2 Reserved Parking Sign Detail
- 45.2 Superelevation Transition on Two-Lane Highway
- 46.2 Hot-Mix Asphalt Approaches and Mailbox Returns for Single Lift (SMART) Resurfacing Projects
- 47.2 Hot-Mix Asphalt Approaches and Mailbox Returns for Two Lifts (3P) Resurfacing Projects
- 48.2 Safety Edge (SMART Projects)
- 49.2 Safety Edge (3P Projects)
- 60.2 Deleted 4-15-15
- 61.2 Slotted Drain Pipe for Type A Gutter (Special)
- 63.2 Pipe Handrail for Steps
- 64.2 Pipe Handrail, Special – for Retaining Walls
- 66.2 Permanent Survey Markers, Type II
- 73.2 Automatic Flap Gate
- 81.2 Riprapped Culvert Energy Basin
- 89.2 Termination of Dead End Roads
- 90.2 Mechanical Joints for Concrete Pipe and Box Culverts
- 93.2 Typical Aggregate Base Sideroad
- 94.2 Traffic Control & Protection at Turn Bays (To Remain Open to Traffic)

DISTRICT 2 STANDARDS

4-13-16

¼ SIZE

- 8.4 Perimeter Erosion Barrier, Special
- 11.4 Concrete Curb (Special)
- 12.4 Concrete Curb (Special) (Adjacent to Resurfacing)
- 13.4 Combination Concrete Curb & Gutter, Type _____, Special
- 15.4 Gutter Outlet Adjacent to Stabilized Shoulders
- 16.4 Concrete Gutter, Type A, with Flume
- 17.4 Catch Basins or Inlets to be Adjusted or Reconstructed
- 18.4 Curb & Gutter Outlet, Special
- 19.4 Riprap at End Sections
- 19.4a Concrete Revetment Mat at End Sections
- 20.4 Grading Around Wingwalls
- 21.4 Aggregate Ditch for Flexible Ditch Lining
- 22.4 Hot Mix-Asphalt Shoulder
- 23.4 Detail of Hot-Mix Asphalt Shoulder at Guardrail
- 24.4 Pavement Breaking Detail
- 27.4 Concrete Headwalls for Pipe Drains
- 28.4 Cast-in-Place Reinforced Concrete End Sections
- 29.4 Silicone Joint Seal (Concrete Details)
- 30.4 Stone Wells, Special
- 31.4 Parking Blocks
- 32.4 Pavement Patching for Hot-Mix Asphalt Surfaced Pavement
- 33.4 Pavement Patching Detail
- 34.4 Thrust Block Details
- 35.4 Sidewalk and Driveway Pavement Pay Areas
- 36.4 Concrete Gutter, Type A (Special)
- 37.4 Delineator and Post Orientation
- 38.4 Edge of Pavement Repair
- 43.4 Required Cold Milled Surface Texture
- 44.4 Slab Movement Detection Device
- 46.4 Aerial Speed Check Zones
- 50.4 Typical Benching Detail on Existing Embankment
- 63.4 Land Section & Reference Markers
- 70.4 Tree Wall
- 71.4 Detail of Concrete Steps
- 79.4 Inlets, Special, No. 3
- 79.4a Inlets, Special, No. 4
- 79.4b Inlets, Special, No. 5
- 79.4c Inlets, Special, No. 6
- 79.4d Inlets, Special, No. 7
- 79.4e Inlets, Special, No. 8
- 79.4f Nose Type for Inlet Top Slab
- 79.4g Inlets, Special, No. 3, 4, 5, 6 Reinforcement Detail
- 79.4h Inlets, Special, No. 7 & 8 Reinforcement Detail
- 80.4 Inlets to be Reconstructed with New Standard 542546 Frame & Grate
- 83.4 Grate, Special
- 87.4 Typical Median Crossover Closure (with Emergency Opening)
- 88.4 Drain for Aggregate Bases in Urban Areas
- 91.4 Rumble Resurfacing
- 96.4 Drain for Aggregate Base Course
- 97.4 Subgrade Replacement
- 98.4 Typical Median Crossover Closure

District 2 Standards Designer Notes

4-13-16

Full Size District 2 Standards

- 1.1 Deleted 4-15-15
- 3.1 Use when a mailbox turnout is needed in a curb & gutter section and there isn't a parking lane or a mail delivery lane.
- 4.1 Use this when there are cross walks that will go through an island or median. Specify which option the contractor is required to use when building the Concrete Median (Special).
- 5.1 Use this when you need an outlet for curb and gutter, other than type B-6.24
- 10.1 This is to be used whenever we have a precast box culvert.
- 11.1 This is to be used for pipe culverts, Class D under all sideroads.
- 12.1 This is to be used for EQRS pipe culverts, Class D under all sideroads.
- 13.1 Use this whenever a cross drainage box culvert end section needs traversable pipe grates. Also include Standard 542311.
- 14.1 Use this whenever you use District Standards 10.1, 11.1 & 12.1 and the culvert is within the main line clear zone.
- 15.1 Use this when a Class D pipe culvert is under an entrance the culvert is within the main line clear zone.
- 20.1 Include for rural entrances and sideroads on 3R projects, reconstruction projects, or for new entrances. Do not include on 3P or Smart resurfacing projects.
- 25.1 Include for urban entrances with curb & gutter on 3R projects, reconstruction projects, or for new entrances. Do not include on 3P or Smart resurfacing projects.
- 32.1 Include in urban projects with proposed storm sewers or water mains.
- 33.1 Use this for pipe or box culvert extensions. Fill in the information in the table for the Bill of Materials.
- 34.1 Work Zone Sign Details. Include this when you have any of the following:
- Include in projects where the clear width through a work zone with temporary concrete barrier wall will be 16.0 feet or less.
 - Include when using Traffic Control and Protection Standard 701316 or 701321.
 - Use this in conjunction with the special provision Traffic Control for Narrow Lanes which is under the Traffic Control Plan. Use this on one-lane stage construction jobs when the lane is less than 13'-6" measured from the toe of the barrier wall to the guardrail or bridge wall.
 - Use this when using District Standard 37.1 and 38.1.
 - Use this on low volume entrances that are between the traffic signals on Highway Standard 701316 or 701321.
 - Include this for any milling of the mainline pavement.

District 2 Standards Designer Notes

4-13-16

- 35.1 Use this when it is necessary to close the inside lane on an urban project. Also include Highway Standard 701606 and the pay item for 701606.
- 36.1 Use this district standard for any short term closure of an expressway at a diamond interchange.
- 37.1 Use this district standard for work that will require a lane closure in a three lane section such as a truck climbing lane.
- 38.1 Use this district standard when there is a transition from a four lane section that transitions to a two lane section.
- 39.1 Include on 4 lane highways where the contractor may change a portion of the work to the opposite lane.
- 40.1 Include for a mainline road closure.
- 41.1 Include in projects with pavement marking or raised reflective pavement markers.
- 44.1 Include in projects with pavement marking on entrance and exit ramps & cloverleafs.
- 53.1 Use this to remove and re-erect an old type steel plate beam guardrail which has 6" block outs and a 27½" rail height.
- 54.1 Use this when installing a Traffic Barrier Terminal, Type 2 on the old type of steel plate beam guardrail with a 27½" rail height.
- 68.1 This can be used to increase drainage in curb & gutter with very flat grades (less than 0.3%). Also include this when constructing median crossovers.
- 71.1 Use if a property owner has a fenced field with livestock and a stream or river. The flood gate will be placed near the right-of-way to prevent livestock from leaving the field through the waterway. During high water, the flood gate will open to let water and debris through.
- 72.1, 73.1, 74.1, 75.1, 76.1, 77.1, 78.1 Use on single lane median crossovers of the median width specified and for the work zone speed limit. Include District Standard 86.1. If there are overlays on the existing PCC pavement, installing tie bars into the existing PCC pavement will not work. Talk to the Construction Field Engineer or your Project Engineer for more information.
- 79.1, 80.1, 81.1, 82.1, 83.1, 84.1, 85.1 Use on two lane median crossovers of the median width specified and for the work zone speed limit. Include District Standard 86.1. If there are overlays on the existing PCC pavement, installing tie bars into the existing PCC pavement will not work. Talk to the Construction Field Engineer or your Project Engineer for more information.
- 86.1 Include this on median crossovers, District Standards 72.1, 73.1, 74.1, 75.1, 76.1, 77.1, 78.1, 79.1, 80.1, 81.1, 82.1, 83.1, 84.1, & 85.1.

District 2 Standards Designer Notes

- 90.1 Use this on 4-lane highways that go under dual structures and the piers required shielding. The outside of the piers are shielded with impact attenuators. The gap between the piers is shielded using Traffic Barrier Terminal Type 6B (Special). The Traffic Barrier Terminal Type 6B (Special) is required on both sides of the piers.
Design Note: The **length** of the double thrie beam between the piers **must be added on the elevation on the District Standard.**
- 92.1 Include when planting new ball & burlapped trees.

½ Size District 2 Standards

- 10.2 This is used for drainage in a curb & gutter section. The diagonal grate is included in the cost. The diagonal grate is bicycle safe. If the inlet is in a driveway which has a depressed curb, the grate on the bottom left hand side will be used. The cost of this grate is also included in the cost of the inlet special. When using this do not include 13.2, 13.2a, 13.2b, 13.2c or 13.2d.
- 11.2 This is used for drainage in a Type A gutter. The grate is included in the cost of the inlet.
- 12.2 This is used when extra inlet capacity is needed. For example, in a sag condition.
- 13.2 These are different types of frame & grates for inlet specials. One of these can
13.2a be used to replace broken frame & grates on inlets to be adjusted or
13.2b reconstructed. Select the one that matches the existing. All of them are
13.2c bicycle safe.
13.2d
- 14.2 This has been used in medians where the gutter flag is less than 24".
- 15.2 This has been used in medians where the curb is only 2"± high. For example, near the nose of a ramped median.
- 20.2 Use this on the inlet end of Type A Gutter (Special)
- 21.2 Use this on the inlet end of Combination Concrete Curb & Gutter
- 30.2 If there is existing field tile on your job or think there could be field tile, include this standard. Also include a pay item for junction vaults.
- 31.2 If there is storm sewer or field tile under a ditch with 24" or less of cover, include this standard. Include the pay item for Miscellaneous Concrete.
- 32.2 Use this where the bridge is less than 24" wider than the roadway surface. This is very rare on a state route, but should be used on bridges on detour routes on County or Township roads.
- 33.2 This is a special drainage outlet to be used on existing pavements with drainage problems. The existing underdrains might not be working, or there is water pumping out of the joint between the pavement and shoulder.
- 34.2 This can be used to replace existing field tile stand pipes. The existing stand pipe is usually an orange perforated 6" pipe, 24" to 36" high, near the outlet end of a culvert. This could also be a new installation if requested by the property owner during Phase I or during negotiations.

District 2 Standards Designer Notes

7-20-16

- 35.2 This is an erosion control treatment at guardrail that Operations has used for years. The downside is the erosion control curb tends to further tilt the guardrail over time. This can be used to replace existing erosion control curb or at selected locations. A better treatment for slopes at guardrail is Perimeter Erosion Barrier, Special (Dist. Std. 8.4).
- 36.2 Paved ditch is rarely used in District 2. It tends to crack and water seeps under the concrete, causing it to be undermined. Once undermined it collapses, causing an erosion problem. Where it can be used is on very flat ditch grades, less than 0.2%. In this case, velocity is low, but the paved ditch could silt in. Operations could clean the paved ditch and the paved ditch establishes the grade line.
- 37.2 Include when installing or removing across road culverts in sags or on grades greater than 2%. The purpose of this is to prevent water pumping out of the joints of the pavement patch. Add the pay items for Pipe Underdrains, Type 2 and Concrete Headwalls for Pipe Drains.
- 44.2 This is to be used on all disabled parking stalls.
- 45.2 Include this on projects that correct existing superelevations, or on new pavements on superelevations. Not to be used on 3P or Smart projects because existing superelevations are not changed.
- 46.2 Include this on all Smart resurfacing projects.
- 47.2 Include this on all 3P resurfacing projects.
- 48.2 Include in Smart resurfacing projects with paved shoulders 3' or less.
- 49.2 Include in 3P resurfacing projects with paved shoulders 3' or less.
- 60.2 Deleted 4-15-15
- 61.2 This can be used to increase drainage in curb & gutter or Gutter, Type A (Special) where the longitudinal grade is less than 0.3%. Use 68.1 when constructing median crossovers.
- 63.2 Include this when constructing new steps.
- 64.2 Include this when handrails are needed on retaining walls. Not all retaining walls need handrails. Retaining walls that are supporting and adjacent to sidewalks or parking lots usually need a handrail. Landscaping walls to retain earth in front of a house usually don't need handrails.

District 2 Standards Designer Notes

7-20-16

- 66.2 Include this when using the pay item for Permanent Survey Marks. Do not include Highway Standard 667101 because Standard 66.2 is 5' deep and requires a witness marker.
- 73.2 Use this on entrance pipes or berm pipes adjacent to a river or canal. This will prevent water from the river or canal backing up into the ditch.
- 81.2 This is one option to control erosion at the ends of culverts with very high velocities. There is a design process to determine the dimensions in the chart. Consult with the Hydraulics Engineer on its use.
- 89.2 Include this at the end of dead end roads like a cul-de-sac or hammer head turn around.
- 90.2 Use this at locations where pipe culverts or box culvert joints could separate. Most culverts do not require the ties, so this is rarely used. One application is where the culvert outlets into a river. There could be erosion at the end of the culvert so the end section or sections of the culvert could tip or fall off. In this case, only the last one or two sections were tied.
- 93.2 Include this when sideroads are constructed with 3"± of incidental on an aggregate base and the mainline has 8" HMA shoulders. This standard includes 4' HMA shoulders on the sideroad return, which will be placed monolithically when the return is resurfaced.
- 94.2 Include this on multi-lane roads when the traffic lane is closed adjacent to a left or right turn lane and the turn lane is to remain open to traffic.

¼ Size District 2 Standards

- 8.4 This can be used on Smart & 3P resurfacing projects to maintain a maximum 9% cross slope on the aggregate shoulder in front of existing guardrail. The guardrail could also be removed and re-erected or replaced if it is extremely tipped, out of alignment, damaged, not to current standards, or the height is more than 3" high or low from the initial standard used to install it. Smart projects are allowed up to 15% of the total contract cost for spot safety improvements. 3P projects can also have spot safety improvements, but both projects require BDE approval. Include pay items for Steel Plate Beam Guardrail, Type A (Special), and Aggregate Wedge Shoulder, Type B.
- 11.4, 12.4 & 13.4 These can be used when a new median or curb & gutter is placed on bare concrete pavement. This isn't used much because the first thing necessary is bare concrete, and there isn't much bare concrete in our District.
- 15.4 This is used to replace existing gutter outlets adjacent to a HMA shoulder. District 2 doesn't construct new gutter adjacent to stabilized shoulders; curb & gutter is used. Therefore, when curb & gutter is constructed adjacent to a stabilized shoulder, use Highway Standard 606101.
- 16.4 This is a specialized gutter outlet. Do not use this on curb & gutter. An example of when it would be used is to outlet the gutter over the top of a culvert headwall.
- 17.4 Use this standard for adjustment of catch basins or inlets.
- 18.4 This is a specialized curb & gutter outlet. This can be used when there is a ditch behind the curb & gutter and there aren't any inlets with frame & grate or Winnebago's in the curb & gutter.
- 19.4 Use this when RIPRAP is required at culvert end section. Check the hydraulic report for the apron length and the size of the riprap to be used. Be sure to show the dimensions on the plans.
- 19.4a Use this when concrete revetment mat is required at an end section. There is a table on the standard which needs to be filled out. Check the hydraulic report for the apron length. Be sure to show the dimensions on the plans.
- 20.4 Use this on across road culverts that have wingwalls that are not parallel with the culvert. This is a guide for the Resident Engineer & Contractor on how to construct the dirt around wingwalls.
- 21.4 If riprap is needed in ditches to control erosion, use this standard. Specify the pay item for Class A3 or A4. Add the dimensions to the typical section. The height of the riprap on the side slopes should extend approximately 6" higher than the computed depth of water in the ditch.
- 22.4 Use this for new HMA shoulders. If guardrail will be installed before the surface course is placed, like on staged bridge projects, use District Standard 23.4
- 23.4 Use this on projects where guardrail will be installed before the surface course is placed. This allows the guardrail to be installed and the shoulder resurfaced to the post so the posts do not have to be removed and re-erected. For example, staged bridge projects require guardrail to be installed for Stage 2, but all of the surface course is placed after the bridge is completed. If new HMA shoulders are constructed and guardrail will be installed after the HMA shoulder is installed, use District Standard 22.4.

District 2 Standards Designer Notes

7-20-16

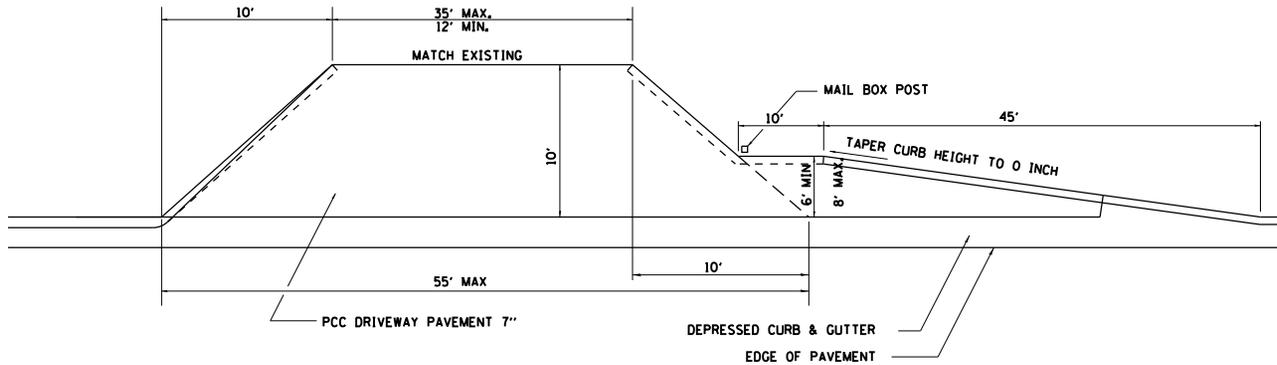
- 24.4 Use this on projects with large changes in vertical alignment from the existing pavement to a new full depth pavement. This will require a thick resurfacing taper, pavement breaking, and variable depth subbase granular material.
- 27.4 Use this if the underdrain behind the bridge abutment will outlet into the riprap on the bridge cone. If not, use Highway Standard 601101.
- 28.4 Use this if storm sewer or field tile outlets through the backslope of the ditch. This can also be used for Cast-in-Place Reinforced Concrete End Section 8" or 10".
- 29.4 Include this standard if #16 Polymer Concrete is checked on the Recurring Special Provision check sheet.
- 30.4 This can be used in sandy soils to drain areas with poor drainage or no outlets. Materials must take soil borings to determine if the stone well will function properly.
- 31.4 This can be used in parking lots or for diagonal parking if there isn't a curb or curb & gutter.
- 32.4 Use this standard for peek-a-boo patching. Peek-a-boo patching is used to remove and replace the existing HMA on top of concrete pavement, up to a maximum of 8" thick.
- 33.4 Use this standard for pavement patching when the existing HMA overlay thickness is 8" or thicker.
- 34.4 Include this when constructing new water mains, or moving or relocating fire hydrants. Do not include this for the thrust blocks on Highway Standards 609001, 609006, or 610001.
- 35.4 Use this standard in urban areas when removing and replacing sidewalk and driveway pavements.
- 36.4 When constructing concrete gutter, District 2 has a flat bottom gutter which is easier to construct. Do not include Highway Standard 606101. For gutter inlets, include #20.2 Standard Inlet for Type A Gutter (Special), and for outlets include #15.4 Gutter Outlet Adjacent to Stabilized Shoulder.
- 37.4 Include when installing new delineators. The purpose of rotating the post 180° is to give more support for the delineators so it doesn't break off.
- 38.4 Include this standard on 3P projects when there are areas along the edge of pavement that are badly deteriorated.
- 43.4 Include this standard if #13 HMA Surface Correction is checked on the Recurring Special Provisions check sheet. This milling is for surface corrections that will not be resurfaced. To date this has not been used in District 2.
- 44.4 Include this standard if #12 Subsealing of Concrete Pavements is checked on the Recurring Special Provisions check sheet. This is used with the pay items Dry Grout Solids and Holes Drilled. To date this has not been used in District 2.

District 2 Standards Designer Notes

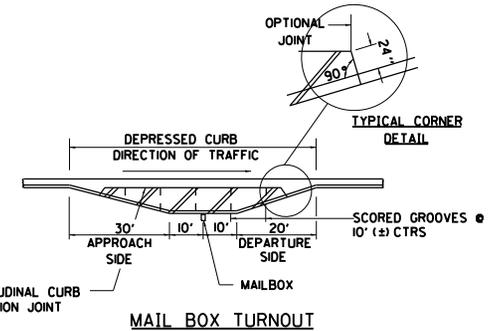
7-20-16

- 46.4 This is used when replacing existing aerial speed check zones on resurfacing projects. Field check the project to determine if any exist.
- 50.4 Include this when adding embankment on an existing slope that is 4' high or more.
- 63.4 Include this if Land Sections or ¼ Section Corners will be disturbed. This applies to projects where earth will be moved, not Smart or 3P resurfacing. Check with Land Acquisition for the existing section locations.
- 70.4 This can be used to save a tree on a slope that will be excavated. Usually there is a commitment in the project report to save a tree that requires a tree well.
- 71.4 Include this detail for installing or replacing steps adjacent to sidewalk.
- 79.4 These inlets, known as Winnebago's. No. 3 & 4, can be used with storm sewer up to 36" diameter, No. 5 & 6 can be used with storm sewer up to 24" diameter, 79.4a No. 7 can be used with storm sewer up to 48" diameter, and No. 8 can be used 79.4b with storm sewer up to 60" diameter. No. 4 & 6 have open backs for drainage 79.4c behind the inlets. Do not use Winnebago's with curb & gutter with gutter flags 79.4d less than 24", it makes the cross slope of the gutter flag too steep. This can be 79.4e dangerous for bicyclists, or people stepping off of the curb. Instead, use an 79.4f inlet with a frame & grate to fit the curb & gutter. When using 79.4, 79.4a, 79.4g 79.4b, or 79.4c, also include 79.4f & 79.4g. When using 79.4d & 79.4e, also 79.4h include 79.4f & 79.4h.
- 80.4 This can be used to lower an existing 3' x 3' median inlet.
- 83.4 Use this to replace broken grates or to replace a grate that isn't bicycle safe. Measure the existing grate to ensure this will fit.
- 87.4 Use this on permanent median crossovers where an emergency opening is needed. If an emergency opening isn't needed, use District Standard 98.4. Check with Operations to see if an opening is needed.
- 88.4 Use this in urban areas with new pavement, subbase, and storm sewer. The purpose of this is to drain the subbase.
- 91.4 This is usually used to replace existing rumble strips in the traffic lane before stop signs. It can also be used at new locations to reduce accidents.
- 96.4 Use this on new pavements with subbase where there will be ditches. Place one in all low points and others at approximately 250' intervals.
- 97.4 Include this for full depth patching. The quantity for subgrade replacement will be approximately 10-20% of the area of the full depth patches.
- 98.4 Use this on permanent median crossovers where an emergency opening is not needed. If an emergency opening is needed, use District Standard 87.4. Check with Operations to see if an opening is needed.

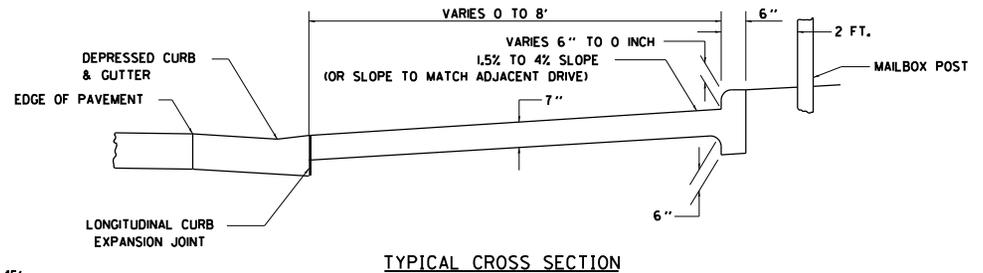
MAILBOX TURNOUT IN CURB AND GUTTER SECTION



COMMERCIAL ENTRANCE WITH MAIL BOX TURNOUT



MAIL BOX TURNOUT



TYPICAL CROSS SECTION

GENERAL NOTES

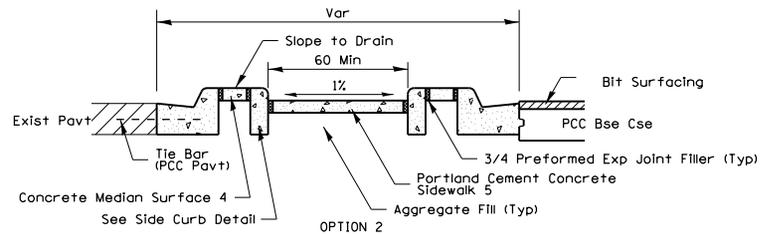
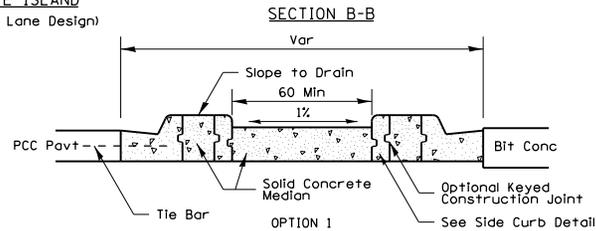
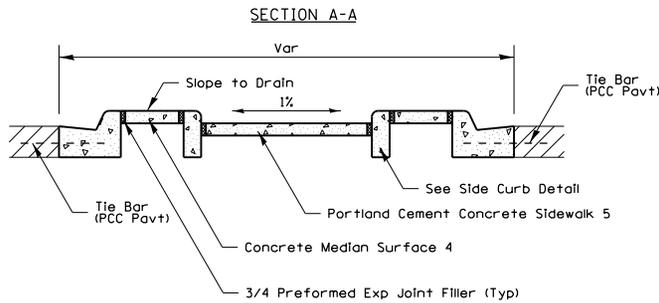
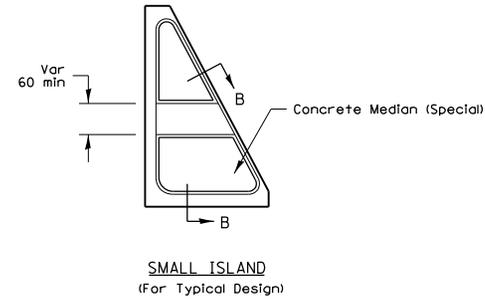
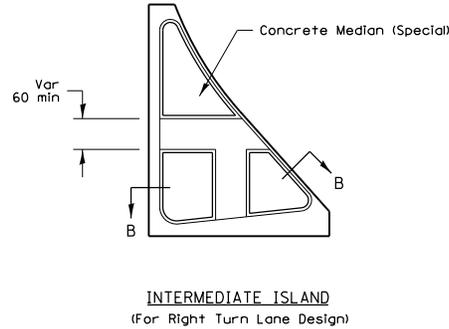
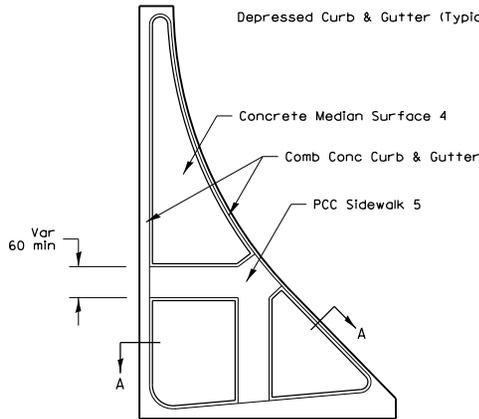
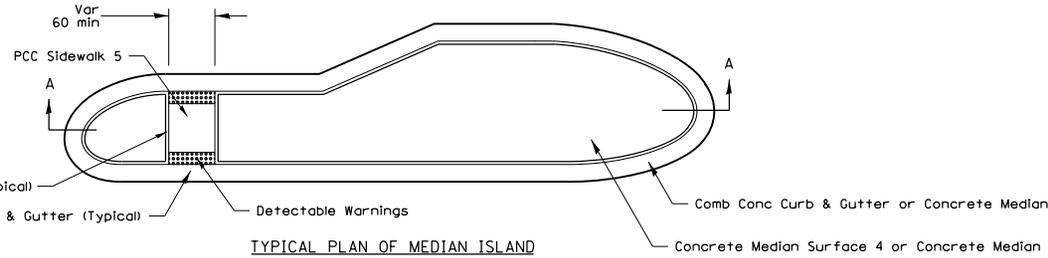
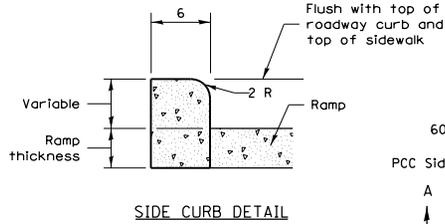
- 1.) THE LONGITUDINAL CURB EXPANSION JOINT SHALL CONFORM TO SECTION 1051 OF THE STANDARD SPECIFICATIONS.
- 2.) THE MAILBOX TURNOUT CROSS SLOPE WILL BE AS SHOWN ABOVE, AS SHOWN ON THE STATION CROSS SECTIONS OR AS DIRECTED BY THE ENGINEER.
- 3.) THE MAILBOX TURNOUT SHALL BE CONSTRUCTED WITH SCORED GROOVES, AS SPECIFIED IN ARTICLE 423.06 OF THE STANDARD SPECIFICATIONS, AT APPROXIMATELY 10 FT. CENTERS. IN THE EVENT THERE IS EXISTING OR PROPOSED SIDEWALK PRESENT, THESE SCORED GROOVES SHALL BE PLACED IN LINE WITH EVERY OTHER JOINT IN THE ADJACENT SIDEWALK.
- 4.) THE WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE YARD FOR P.C. CONCRETE DRIVEWAY PAVEMENT OF THE THICKNESS SPECIFIED IN THE PLANS WHICH PRICE SHALL INCLUDE THE LONGITUDINAL CURB EXPANSION JOINT, MONOLITHIC CURB AS SHOWN, SCORED GROOVES, AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
- 5.) SEE THE DISTRICT STANDARD 25.1 FOR ADDITIONAL DETAILS.

PRIVATE ENTRANCE WITH MAIL BOX TURNOUT

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

FILE NAME = District 2 Standard	USER NAME = I007/District 2	DESIGNED -	REVISED - 10-17-11	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REGION 2 / DISTRICT 2 STANDARD			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = 3/8" = 1' - 0"	DRAWN -	REVISED -		SCALE:	SHEET NO.	OF SHEETS	STA.	TO STA.	FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT	CONTRACT NO.
PLOT DATE = 1/18/2017	CHECKED -	REVISED -	REVISED -									

PC CONCRETE ISLANDS AND MEDIANS ACCESSIBLE TO THE DISABLED



General Notes:
See Standard 606301 and plan sheets for station & offsets, radii, dimensions, and details not shown.

See Standard 424031 for sidewalk details not shown.

The sidewalk should drain to the low side of the island. If necessary the sidewalk shall be sloped to drain at 1%.

See the plan general notes for the type of curb & gutter to be used on Islands.

The sidewalk should not be closer than 36 from the corner of the island.

Keyed longitudinal construction joints shall be constructed without tie bars.

Medians and large islands shall consist of PCC Sidewalk 5, Concrete Median Surface 4, and Combination Concrete Curb & Gutter, Type M or B of the size specified. Median Island can also be solid concrete medians.

Locations, layouts, and widths of the flush sidewalk area, shall be determined by the designer and shown on the plans.

The intermediate and small islands will be measured for payment from E.O.P. to E.O.P. using either option 1 or option 2, as specified in the plans, and will be paid for at the contract unit price per 50 FT for CONCRETE MEDIAN (SPECIAL) which shall include the combination curb & gutter, sidewalk, aggregate fill, concrete median surface, and solid concrete median.

Omit detectable warnings when distance between back of curbs is less than 6'.

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

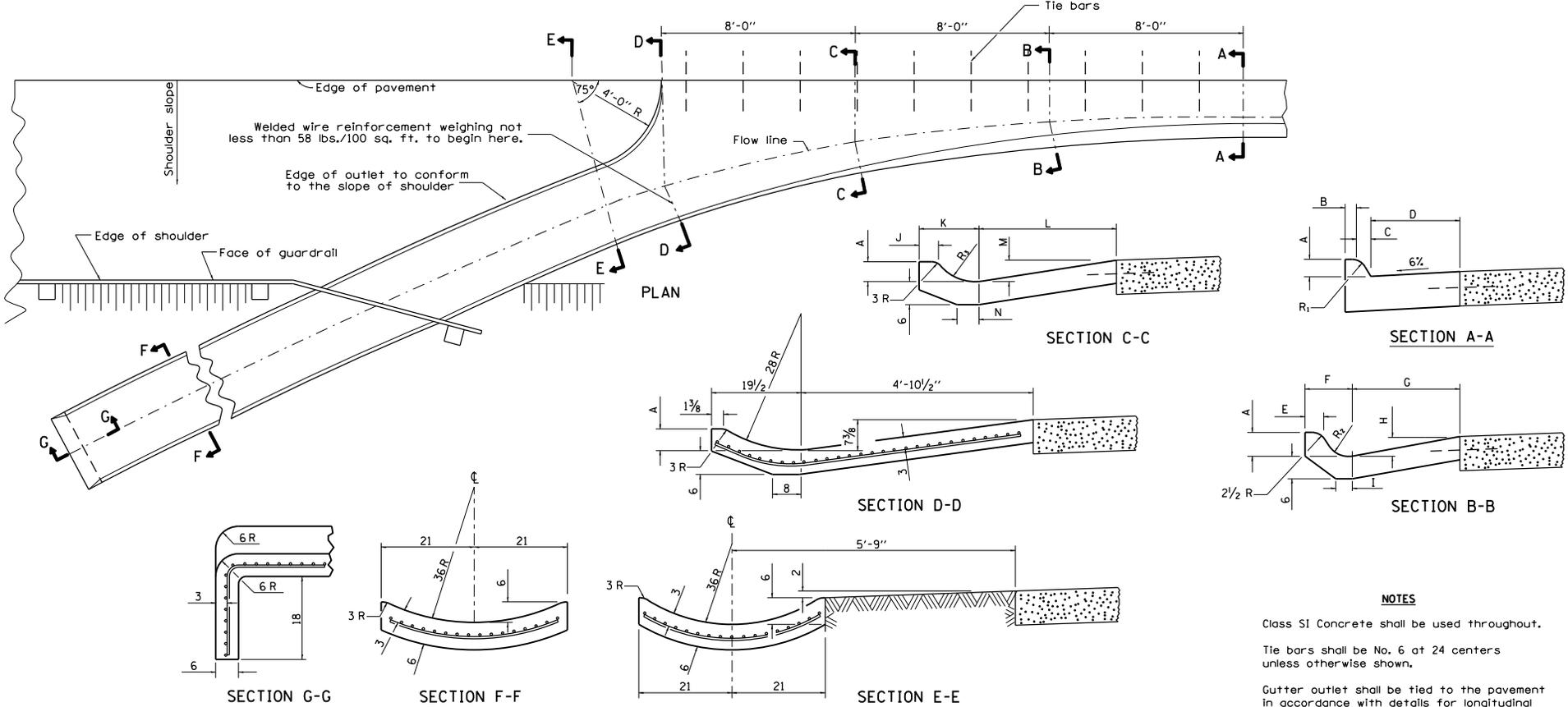
FILE NAME = District 2 Standard	USER NAME = I00T/District 2	DESIGNED -	REVISED - 1-05-16
	DRAWN -	REVISOR - 6-27-14	
	CHECKED -	REVISOR - 8-27-13	
	DATE -	REVISOR - 10-09-12	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

REGION 2 / DISTRICT 2 STANDARD

P.A. RFE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SCALE: SHEET NO. OF SHEETS STA. TO STA.			CONTRACT NO.	
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

STANDARD OUTLET FOR CURB & GUTTER



NOTES

Class SI Concrete shall be used throughout.

Tie bars shall be No. 6 at 24 centers unless otherwise shown.

Gutter outlet shall be tied to the pavement in accordance with details for longitudinal construction joint shown on Standard 420001.

If the average grade of pavement for the distance from Section A-A to D-D exceeds 2%, this distance shall be increased 6' for each 1% increase in grade.

When curb and gutter is constructed adjacent to flexible pavement, a 1 expansion joint shall be installed at construction joints.

All dimensions are in inches unless otherwise shown.

QUANTITY

For Section F-F =
0.069 cu. yds.
concrete per ft.

TYPE OF CURB & GUTTER	TABLE OF DIMENSIONS															CONCRETE QUANTITY A-A TO E-E AND CURTAIN WALL FOR 9 PAV'T (CU YDS)	CONCRETE QUANTITY A-A TO E-E AND CURTAIN WALL FOR 10 PAV'T (CU YDS)			
	SECTION A-A					SECTION B-B					SECTION C-C							R ₁	R ₂	R ₃
	A	B	C	D	E	F	G	H	I	J	K	L	M	N						
B-6.12	6	6	1	12	3	7 1/8	13 3/4	2 3/4	4	3	12 1/8	26 1/2	5	6	1	2	8	1.87	1.89	
B-6.18	6	6	1	18	3 3/4	9 1/4	22	3	5	3 1/2	14 1/4	28 3/4	5 1/8	5 1/2	1	4	10	2.18	2.20	
M-4.06	4	3	4	6	3	9 1/2	10 1/2	2	4	3	13	25	3	6	3	5	11	1.78	1.79	
M-4.12	4	3	4	12	3 1/8	9 3/4	13 3/4	2 3/4	6	3	13 1/2	26 1/2	5	6	3	5	9	1.89	1.91	
M-4.18	4	3	4	18	3 1/2	9 1/4	22	3	5	3 1/2	14 1/4	28 3/4	5 1/8	5 1/2	3	4	10	2.11	2.13	
M-4.24	4	3	4	24	5	11 1/2	26	3 3/8	4	3 3/4	15	38	5 3/8	5	3	6	12	2.34	2.37	
M-6.06	6	2	6	6	2 1/4	9 3/4	10 1/2	2	4	2 1/2	13	25	3	6	2	5	10	1.84	1.86	
M-6.12	6	2	6	12	3 1/2	8 1/8	13 3/4	2 3/4	6	3	13 1/2	26 1/2	5	6	2	2	9	1.96	1.98	
M-6.18	6	2	6	18	3 1/2	9 1/8	22	3	5	3 1/2	14 1/4	28 3/4	5 1/8	5 1/2	2	4	10	2.18	2.20	
M-6.24	6	2	6	24	5 1/8	11	26	3 3/8	4	3 3/4	17 3/4	38	5 3/8	5	2	3 1/4	16	2.46	2.49	

FILE NAME : District 2 Standard	USER NAME : I00T/District 2	DESIGNED -	REVISED - 1-05-16	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REGION 2 / DISTRICT 2 STANDARD	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
PLOT SCALE = 3/8" = 1' - 0"	CHECKED -	DRAWN -	REVISED - 11-12-14		SCALE:	SHEET NO. OF SHEETS	STA. TO STA.	FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT	CONTRACT NO.
PLOT DATE = 1/18/2017	DATE -	CHECKED -	REVISED -							

BOX CULVERT END SECTIONS

GENERAL NOTES

Box Culvert End Sections shall be constructed according to the requirements of Section 540 of the Standard Specifications except as modified herein. This work will be measured for payment as each, with each end of each culvert being one each. End sections will be paid for at the contract unit price per each for Box Culvert End Sections of the culvert number specified.

Typical box section dimensions, materials, and reinforcement details for Box Culvert End Sections shall be according to the requirements of ASTM C 1577 as required for the design of the portion of the culvert within the limits of Precast Concrete Box Culverts except as modified herein.

Number of segments shown in Side Elevation is for example only. Length and number of precast box sections required to construct Box Culvert End Sections shall be determined by the Contractor.

**See roadway plans for embankment slope (V:H). The Slope Must Match.

1" \emptyset anchor rods for the culvert ties shall conform to the requirements of ASTM F1554, Grade 105. Structural steel for the tie plate and restraint angle shall conform to the requirements of Article 1006.04 of the Standard Specifications. All components of the culvert tie detail shall be galvanized according to the requirements of AASHTO M 111 or M 232 as applicable. 2/4" x 2/4" x 3/8" plate washers shall be provided under each nut required for the anchor rods. Anchor rods connecting precast sections shall be brought to a snug tight condition followed by an additional 1/2 turn on one of the nuts. Match marks shall be provided on the bolt and nut to verify relative rotation between the bolt and the nut. Holes in the walls for the culvert tie assembly may be drilled using core bits in lieu of using formed holes.

All costs associated with furnishing and installing or constructing the geotextile fabric, toewall, and culvert ties will not be measured for payment but shall be included in the contract unit price for Box Culvert End Sections of the culvert number specified.

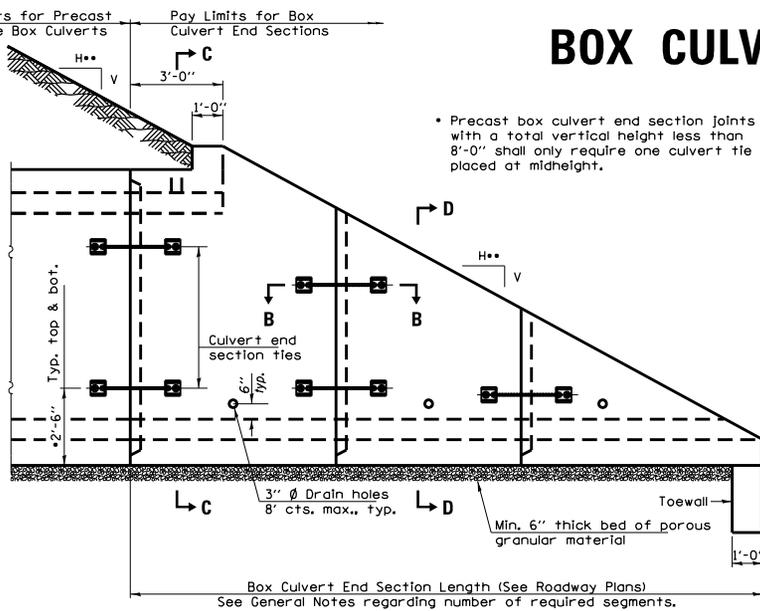
Reinforcement bars designated (E) shall be epoxy coated.

Drain holes shall conform to the requirements of Article 503.11 of the Standard Specifications unless noted otherwise.

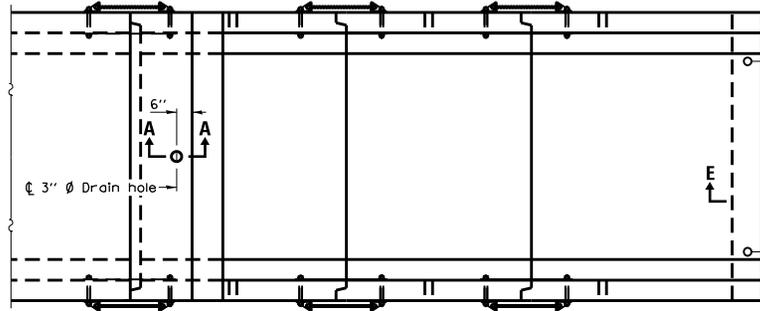
Nonwoven geotextile fabric shall conform to the requirements of Article 1080.01. The minimum weight of the fabric shall be 6 oz. / sq. yd.

For end sections with traversable pipe grate systems, see Highway Standard 542311 for required modifications.

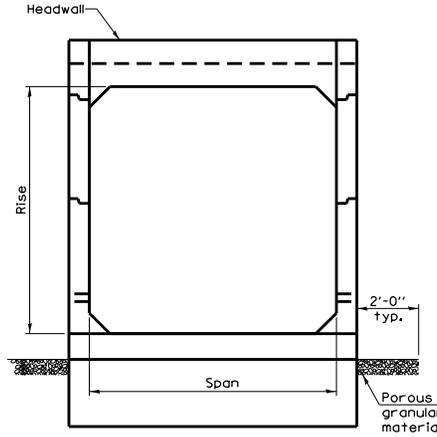
This standard can be used for either cross drainage structures or parallel drainage structures.



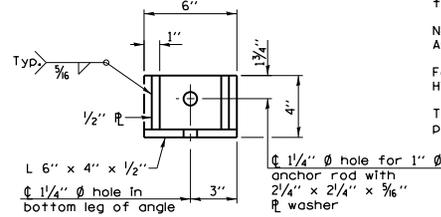
ELEVATION



PLAN



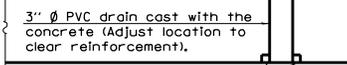
END VIEW



RESTRAINT ANGLE DETAIL

12" x 12" block of CA5, CAT, or CA11 coarse aggregate placed over drain opening. Block of aggregate shall be completely wrapped in nonwoven geotextile fabric.

Provide a double layer of 12" x 12" nonwoven geotextile fabric centered over the drain hole. Fabric shall be sealed to the concrete with mastic.

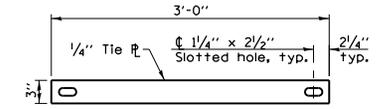


3" \emptyset PVC drain cast with the concrete (Adjust location to clear reinforcement).

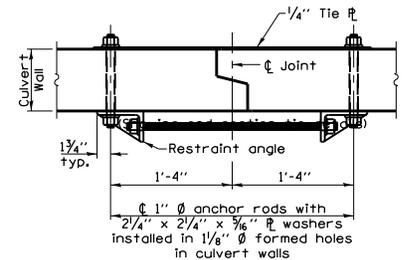
1/2" Square foam blockout around PVC drain (to be removed with formwork)

SECTION A-A

(All costs associated with furnishing and constructing the above drain details will not be measured for payment but shall be included in the contract unit price for the end section.)



TIE PLATE DETAIL



SECTION B-B

FILE NAME : District 2 Standard	USER NAME : I007/District 2	DESIGNED - DRAWN -	REVISED - 1-05-16 REVISED - 5-09-14
PLOT SCALE = 3/8" = 1' - 0"	CHECKED -	REVISED -	REVISED -
PLOT DATE = 1/18/2017	DATE -	REVISED -	REVISED -

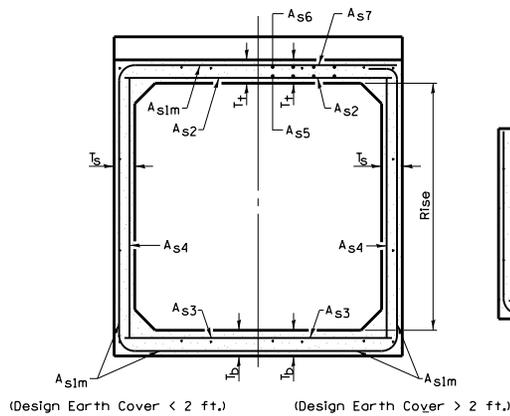
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

REGION 2 / DISTRICT 2 STANDARD

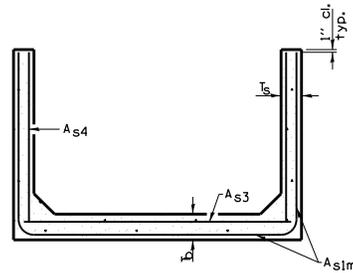
SCALE:	SHEET NO. OF SHEETS	STA. TO STA.	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT	CONTRACT NO.
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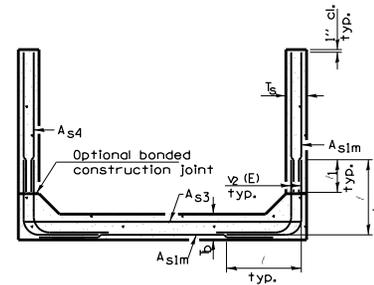
BOX CULVERT END SECTIONS



SECTION C-C



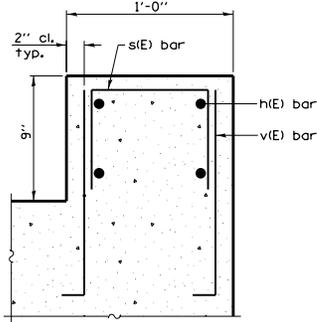
SECTION D-D



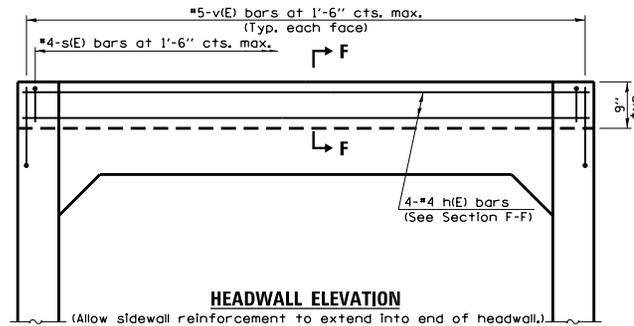
ALTERNATE SECTION D-D

T (in.)	Reinforcing Steel A_{s1m} (in. ² /ft.)											
	2	3	4	5	6	7	8	9	10	11	12	
4	0.19	0.17										
5	0.26	0.21	0.18									
6		0.26	0.23	0.22								
7		0.33	0.59	0.27	0.28							
8			0.43	0.39	0.36	0.34	0.40					
9				0.43	0.40	0.37	0.36	0.48				
10				0.47	0.44	0.41	0.38	0.42	0.56			
11				0.54	0.46	0.41	0.41	0.50	0.65			
12				0.58	0.50	0.45	0.46	0.65	0.75			

(A_{s1m} reinforcement based upon welded wire reinforcement conforming to AASHTO M 55 or M 221).



SECTION F-F



HEADWALL ELEVATION

(Allow sidewall reinforcement to extend into end of headwall.)

1 DIMENSION

- #3 bar = 2'-0"
- #4 bar = 2'-8"
- #5 bar = 3'-4"
- #6 bar = 3'-11"

Notes:
Alternate Section D-D is provided to allow the Contractor the option of casting the bottom slab of the end section first followed by construction of the sidewalls using conventional forming methods. Shop drawings that detail slab thickness and reinforcement layout shall be submitted to the Engineer for review and approval when using Alternate Section D-D.

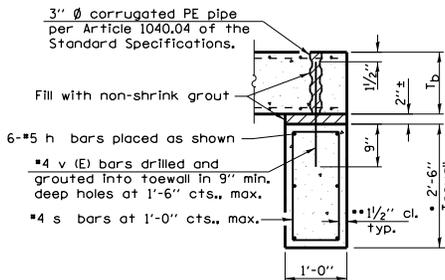
The size and spacing of the v_2 (E) bars shall provide a minimum reinforcement area along each face of the walls (in.²/ft.) equal to $1.10 \cdot (A_{s1m})$. v_2 (E) bars may consist of #3 thru #6 size reinforcement bars and the longitudinal spacing shall not exceed the lesser of the wall thickness or 8 inches.

Bonded construction joints shall be prepared according to Article 503.09 of the Standard Specifications.

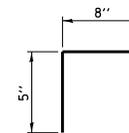
TOEWALL CONSTRUCTION SEQUENCE

1. Perform excavation and construct toewall.
2. Backfill according to the applicable paragraphs of Article 502.10 of the Standard Specifications and place bedding for precast box culvert end sections.
3. Set precast box culvert end section.
4. Drill and grout reinforcement in toewall using approved chemical adhesive in accordance with Section 1027 of the Standard Specifications.
5. Pressure grout voids using non-shrink grout conforming to Article 1024.02 of the Standard Specifications.

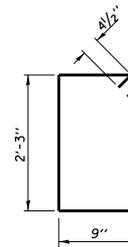
- The Contractor may furnish a precast or cast-in-place toewall. The Contractor shall be responsible for the strength and stability of the precast toewall during handling. Additional lifting points may be required depending upon the length of the toewall or the Contractor may need to modify the design of the toewall for the proposed handling method.
- If soil conditions permit, the sides of the toewall may be poured directly against the soil. The clear cover on the sides of the toewall shall be increased to 3" by increasing the thickness of the toewall.



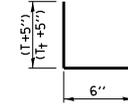
SECTION E-E



BAR s(E)



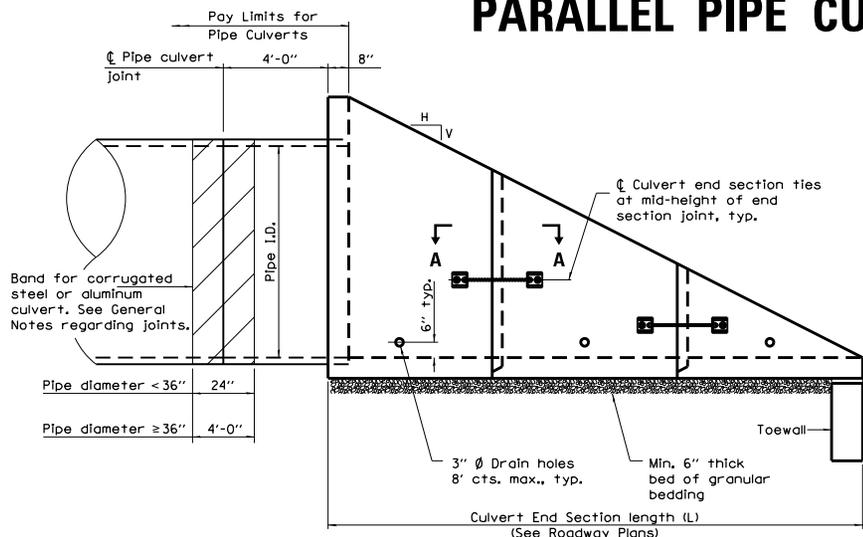
BAR s₁



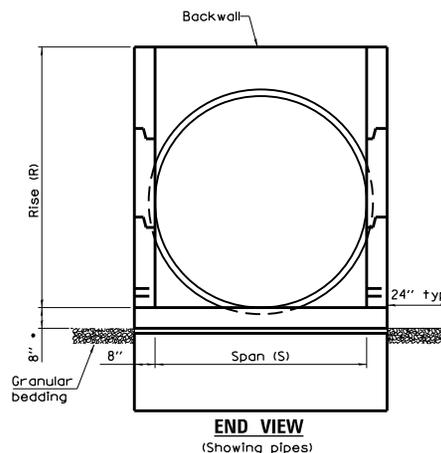
BAR v(E)

FILE NAME : District 2 Standard	USER NAME : I00T/District 2	DESIGNED - DRAWN -	DESIGNED - 1-05-16 REVISED - 5-09-14	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REGION 2 / DISTRICT 2 STANDARD			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
PLOT SCALE = 3/8" = 1' - 0"	CHECKED -	REVISOR -	SCALE: 1" = 1' - 0"		SHEET NO.	OF	SHEETS	STA.	TO STA.	CONTRACT NO.		
PLOT DATE = 1/18/2017	DATE	REVISOR	FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT							

CONCRETE END SECTIONS FOR PARALLEL PIPE CULVERTS 15" THRU 84" DIA.



ELEVATION



END VIEW
(Showing pipes)

• This dimension shall be increased by 1/2" for CIP field construction. See General Notes.

GENERAL NOTES

The concrete end sections detailed herein for flexible type pipe culverts are restricted to use with parallel type drainage structures only and traversable pipe grating placed perpendicular to the sidewalls. When traversable pipe grating placed parallel to the sidewalls is required, use standard 542001 or 542011.

A segment of pipe culvert shall be cast into the backwall of the concrete end section such that a minimum of 4 ft of pipe culvert extends from the back face of the end section as shown in Elevation.

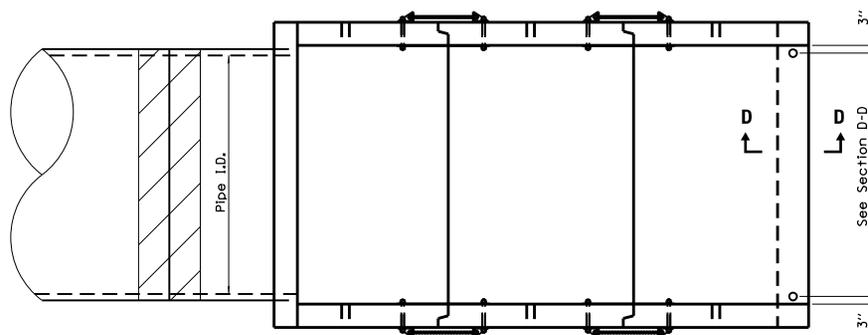
Segments of pipe culvert shall be joined in accordance with Article 542 of the Standard Specifications except bands for corrugated steel or aluminum culverts shall conform to the length requirements shown in elevation and have the same corrugations as the culvert pipe. These bands will be included in cost of the pipe.

The number of segments shown in elevation is for example only. The length and number of precast sections required to construct the end section shall be determined by the Contractor. See roadway plans for slope (V:H) and pipe inside diameter.

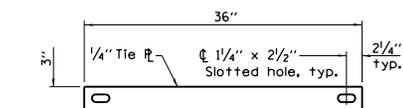
2 1/4" x 2 1/4" x 5/16" plate washers shall be provided under each nut required for the anchor rods. Holes in the walls for the culvert tie assembly may be drilled using core bits in lieu of formed holes.

All slope ratios are expressed as units of vertical displacement to units of horizontal displacement (V:H).

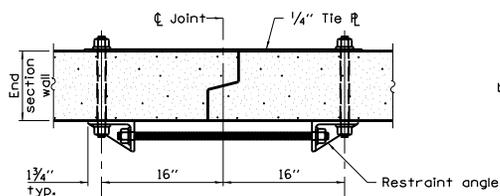
All dimensions are in inches unless otherwise shown.



PLAN

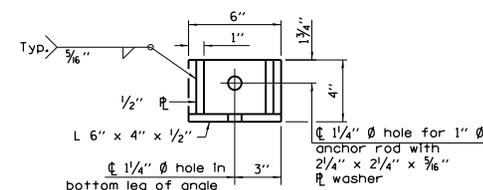


TIE PLATE DETAIL



SECTION A-A

(Showing end section tie details)

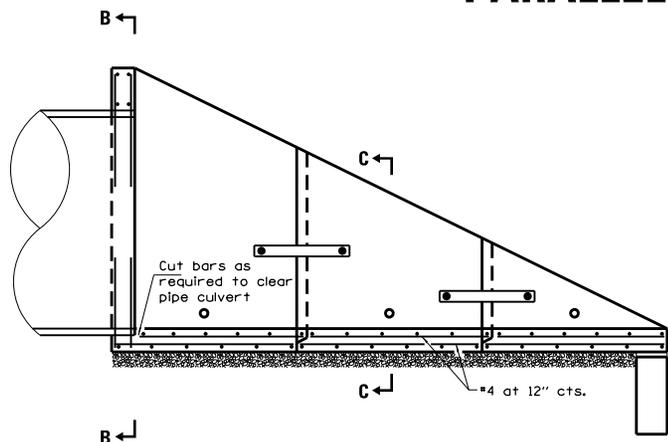


RESTRAINT ANGLE DETAIL

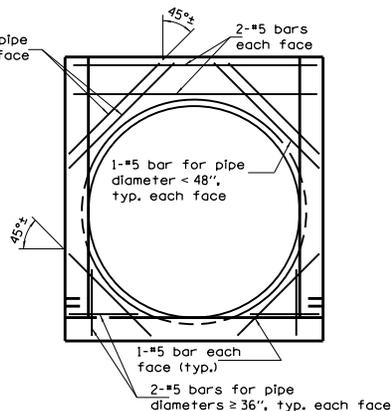
1" Ø Anchor rods with 2 1/4" x 2 1/4" x 5/16" plate washers installed in 1 1/8" dia. formed holes in end section walls

FILE NAME = District 2 Standard	USER NAME = I00T/District 2	DESIGNED -	REVISED - 1-05-16	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REGION 2 / DISTRICT 2 STANDARD	P.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = 3/8" = 1' - 0"	DRAWN -	REVISED - 5-09-14							
PLOT DATE = 1/18/2017	CHECKED -	REVISED -				SCALE: _____		SHEET NO. OF SHEETS STA. TO STA.		CONTRACT NO.
	DATE	REVISED -				FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

CONCRETE END SECTIONS FOR PARALLEL PIPE CULVERTS 15" THRU 84" DIA.



LONGITUDINAL SECTION
(Showing bottom slab and backwall reinforcement.)

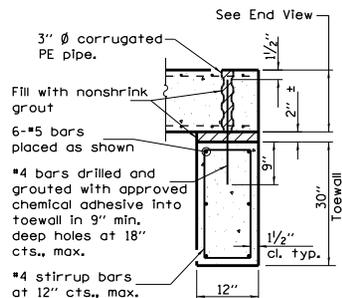


SECTION B-B
(Showing backwall reinforcement for pipes.)

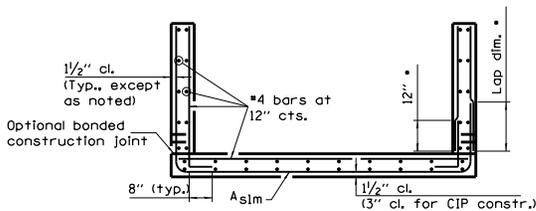
LAP DIMENSION

- 4 bar = 17"
- 5 bar = 21"
- 6 bar = 25"

• The Contractor may use lap splices for the sidewall reinforcement at the locations shown.



SECTION D-D



SECTION C-C

PARALLEL PIPE CULVERT END SECTION DIMENSIONS

Pipe I.D.	Tables IB, IC, IIIA, AND IIIB				
	R	S	Lap		
			1:4	1:6	1:10
15"	25"	16"	9'-0"	13'-2"	21'-6"
18"	28"	18"	10'-0"	14'-8"	24'-0"
21"	31"	22"	11'-0"	16'-2"	26'-6"
24"	35"	24"	12'-4"	18'-2"	29'-10"
30"	3'-5"	30"	14'-4"	21'-2"	34'-10"
36"	3'-11"	36"	16'-4"	24'-2"	39'-10"
42"	4'-5"	3'-6"	18'-4"	27'-2"	44'-10"
48"	5'-0"	4'-0"	20'-8"	30'-8"	50'-8"
54"	5'-4"	4'-6"	22'-0"	32'-8"	54'-0"
60"	5'-10"	5'-0"	24'-0"	35'-8"	59'-0"
66"	6'-4"	5'-6"	26'-0"	38'-8"	64'-0"
72"	6'-10"	6'-0"	28'-0"	41'-8"	69'-0"
78"	7'-4"	6'-6"	30'-0"	44'-8"	74'-0"
84"	7'-10"	7'-0"	32'-0"	47'-8"	79'-0"

REINFORCEMENT SCHEDULE

PIPES		
Pipe I.D.	As1m	
	Bar Size	Bar Spacing
15"	#4	12"
18"	#4	12"
21"	#4	12"
24"	#4	12"
30"	#4	12"
36"	#4	12"
42"	#4	12"
48"	#4	8"
54"	#4	8"
60"	#5	8"
66"	#5	8"
72"	#5	8"
78"	#5	8"
84"	#6	8"

The above "Tables" are referenced from Article 542.03 of the Standard Specifications.

FILE NAME = District 2 Standard	USER NAME = I007/District 2	DESIGNED - DRAWN -	REVISED - 1-05-16 REVISED - 5-09-14	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REGION 2 / DISTRICT 2 STANDARD	F.A. RTEL.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
PLOT SCALE = 3/8" = 1' - 0"	CHECKED -	REVISED -	SCALE:			SHEET NO. OF SHEETS	STA. TO STA.	CONTRACT NO.			
PLOT DATE = 1/18/2017	DATE	REVISED -	FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT								

CONCRETE END SECTIONS FOR PARALLEL PIPE CULVERTS 15" THRU 84" DIA.

QUANTITIES

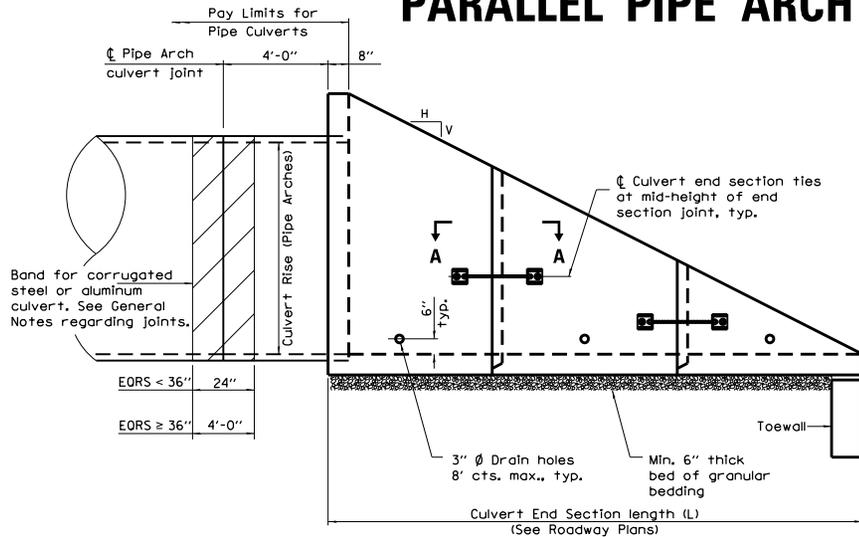
Pipe I.D.	Tables IB, IC, IIIA, AND IIIB								
	Concrete yd ³			Reinforcement without Lap lbs.			Reinforcement with Lap lbs.		
	Slope of End Section			Slope of End Section			Slope of End Section		
	1:4	1:6	1:10	1:4	1:6	1:10	1:4	1:6	1:10
15"	1.4	1.9	2.8	250	330	510	270	350	540
18"	1.6	2.2	3.4	290	400	600	310	420	640
21"	2.0	2.7	4.2	330	450	690	360	480	740
24"	2.3	3.2	5.0	370	510	790	400	550	850
30"	3.1	4.3	6.7	490	680	1060	520	720	1130
36"	3.9	5.5	8.7	580	810	1270	620	870	1360
42"	4.9	6.9	10.9	720	1020	1610	770	1080	1710
48"	6.0	8.6	13.7	940	1320	2090	1010	1420	2240
54"	6.9	9.8	15.7	1090	1540	2440	1160	1650	2610
60"	8.1	11.6	18.6	1410	2000	3190	1530	2180	3480
66"	9.5	13.6	21.8	1650	2360	3780	1780	2560	4100
72"	10.9	15.7	25.2	1840	2630	4220	1990	2850	4580
78"	12.4	17.9	28.9	2110	3040	4900	2280	3280	5290
84"	14.1	20.3	32.8	2710	3910	6320	2970	4290	6950

The above quantities are estimates and provided for information only. Actual quantities may vary depending upon the final layout of reinforcement and number of segments determined by the Contractor.

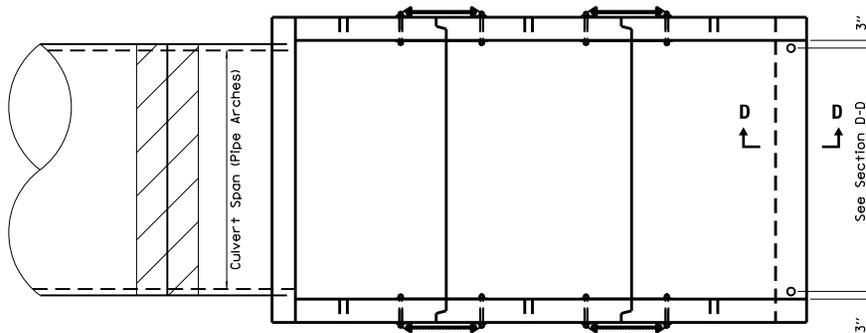
For cast-in-place construction, increase concrete volumes by approximately 12%.

FILE NAME : District 2 Standard	USER NAME : I007/District 2	DESIGNED - DRAWN -	REVISED - 1-05-16 REVISED - 5-09-14	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REGION 2 / DISTRICT 2 STANDARD	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		PLOT SCALE = 3/8" = 1' @ 1/8"	CHECKED - REVISID -							
		PLOT DATE = 1/18/2017	DATE -			SCALE:	SHEET NO. OF SHEETS	STA. TO STA.	FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT
CONTRACT NO.										

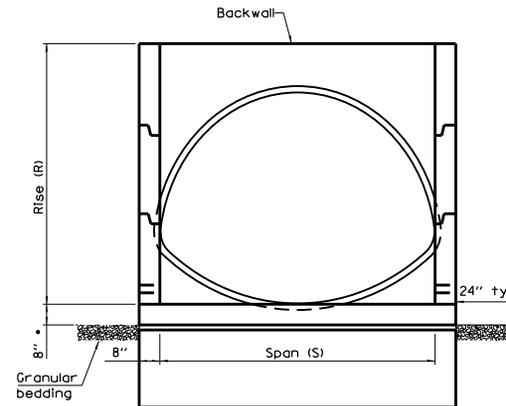
CONCRETE END SECTIONS FOR PARALLEL PIPE ARCH CULVERTS 15" THRU 84" DIA.



ELEVATION

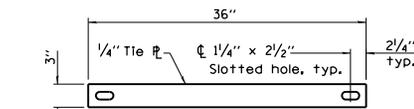


PLAN

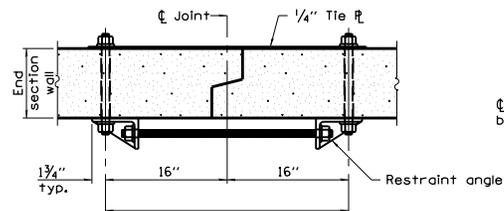


END VIEW
(Showing pipe arches)

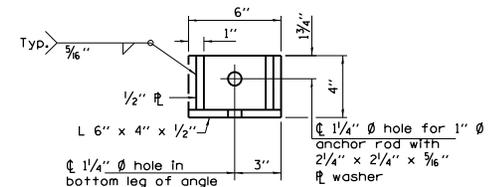
• This dimension shall be increased by 1/2" for CIP field construction. See General Notes.



TIE PLATE DETAIL



SECTION A-A
(Showing end section tie details)



RESTRAINT ANGLE DETAIL

GENERAL NOTES

The concrete end sections detailed herein for flexible type pipe culverts are restricted to use with parallel type drainage structures only and traversable pipe grating placed perpendicular to the sidewalls. When traversable pipe grating placed parallel to the sidewalls is required, use standard 542001 or 542011.

A segment of pipe culvert shall be cast into the backwall of the concrete end section such that a minimum of 4 ft of pipe culvert extends from the back face of the end section as shown in Elevation.

Segments of pipe culvert shall be joined in accordance with Article 542 of the Standard Specifications except bands for corrugated steel or aluminum culverts shall conform to the length requirements shown in elevation and have the same corrugations as the culvert pipe. These bands will be included in cost of the pipe.

The number of segments shown in elevation is for example only. The length and number of precast sections required to construct the end section shall be determined by the Contractor. See roadway plans for slope (V:H) and pipe inside diameter.

2 1/4" x 2 1/4" x 3/8" plate washers shall be provided under each nut required for the anchor rods. Holes in the walls for the culvert tie assembly may be drilled using core bits in lieu of formed holes.

All slope ratios are expressed as units of vertical displacement to units of horizontal displacement (V:H).

All dimensions are in inches unless otherwise shown.

FILE NAME = District 2 Standard	USER NAME = I00T/District 2	DESIGNED - DRAWN -	REVISED - 5-09-14
PLOT SCALE = 3/8" = 1' - 0"	CHECKED -	REVISED -	
PLOT DATE = 1/18/2017	DATE -	REVISED -	

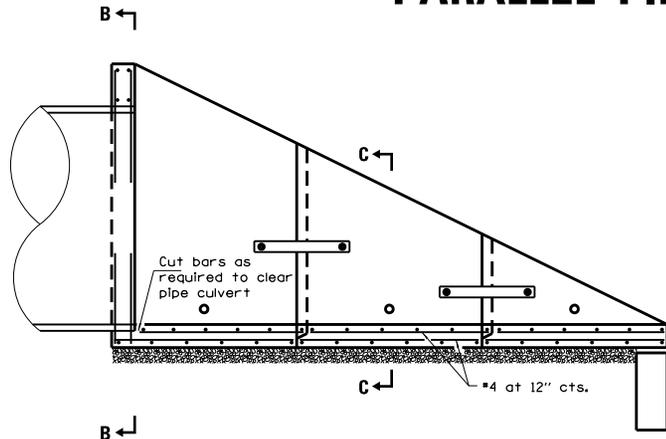
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

REGION 2 / DISTRICT 2 STANDARD

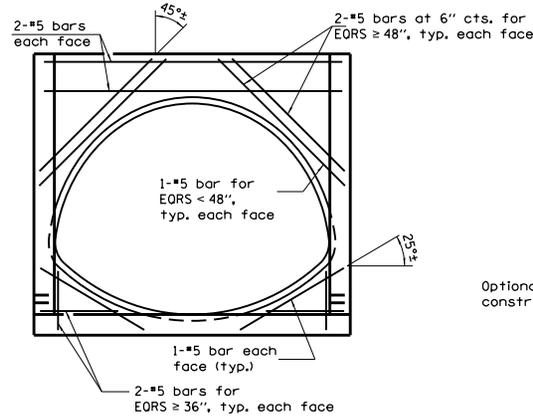
SCALE: SHEET NO. OF SHEETS STA. TO STA.

P.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO.	

CONCRETE END SECTIONS FOR PARALLEL PIPE ARCH CULVERTS 15" THRU 84" DIA.



LONGITUDINAL SECTION
(Showing bottom slab and backwall reinforcement.)

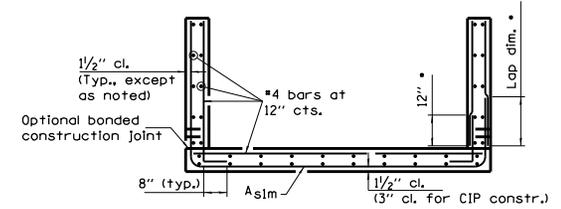


SECTION B-B
(Showing backwall reinforcement for arches.)

LAP DIMENSION

- *4 bar = 17"
- *5 bar = 21"
- *6 bar = 25"

• The Contractor may use lap splices for the sidewall reinforcement at the locations shown.



SECTION C-C

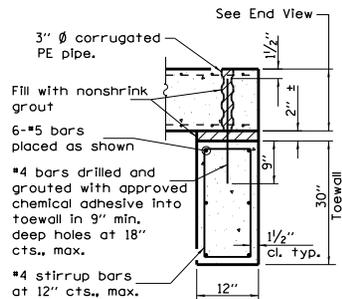
PARALLEL PIPE ARCH CULVERT END SECTION DIMENSIONS

Equivalent Round Size	Culvert		Table IIA, Corrugation : 2 3/8" x 1/2"						Culvert		Table IIA, Corrugation : 3" x 1"					
	Span	Rtse	R	S	L			Span	Rtse	R	S	L				
					Slope of End Section							Slope of End Section				
					1:4	1:6	1:10					1:4	1:6	1:10		
15"	17"	13"	23"	18"	8'-4"	12'-2"	19'-10"	-	-	-	-	-	-	-		
18"	21"	15"	25"	22"	9'-0"	13'-2"	21'-6"	-	-	-	-	-	-	-		
21"	24"	18"	28"	24"	10'-0"	14'-8"	24'-0"	-	-	-	-	-	-	-		
24"	28"	20"	30"	28"	10'-8"	15'-8"	25'-8"	-	-	-	-	-	-	-		
30"	35"	24"	34"	36"	12'-0"	17'-8"	29'-0"	-	-	-	-	-	-	-		
36"	42"	29"	39"	3'-6"	13'-8"	20'-2"	33'-2"	40"	31"	3'-6"	40"	14'-8"	21'-8"	35'-8"		
42"	49"	33"	3'-7"	4'-2"	15'-0"	22'-2"	36'-6"	46"	36"	3'-11"	3'-10"	16'-4"	24'-2"	39'-10"		
48"	57"	38"	4'-0"	4'-10"	16'-8"	24'-8"	40'-8"	53"	41"	4'-5"	4'-6"	18'-4"	27'-2"	44'-10"		
54"	64"	43"	4'-5"	5'-4"	18'-4"	27'-2"	44'-10"	60"	46"	4'-10"	5'-0"	20'-0"	29'-8"	49'-0"		
60"	71"	47"	4'-9"	6'-0"	19'-8"	29'-2"	48'-2"	66"	51"	5'-3"	5'-6"	21'-8"	32'-2"	53'-2"		
66"	77"	52"	5'-2"	6'-6"	21'-4"	31'-8"	52'-4"	73"	55"	5'-8"	6'-2"	23'-4"	34'-8"	57'-4"		
72"	83"	57"	5'-7"	7'-0"	23'-0"	34'-2"	56'-6"	81"	59"	6'-0"	6'-10"	24'-8"	36'-8"	60'-8"		
78"	-	-	-	-	-	-	-	87"	63"	6'-5"	7'-4"	26'-4"	39'-2"	64'-10"		
84"	-	-	-	-	-	-	-	95"	67"	6'-9"	8'-0"	27'-8"	41'-2"	68'-2"		

The above "Tables" are referenced from Article 542.03 of the Standard Specifications.

REINFORCEMENT SCHEDULE

PIPE ARCHES		
Equivalent Round Size	A s1m	
	Bar Size	Bar Spacing
15"	*4	12"
18"	*4	12"
21"	*4	12"
24"	*4	12"
30"	*4	12"
36"	*4	12"
42"	*4	12"
48"	*4	12"
54"	*4	8"
60"	*4	8"
66"	*4	8"
72"	*5	8"
78"	*5	8"
84"	*5	8"



SECTION D-D

FILE NAME : District 2 Standard	USER NAME : I007/District 2	DESIGNED -	DRAWN -	CHECKED -	DATE -	REVISED - 5-09-14	REVISED -	REVISED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REGION 2 / DISTRICT 2 STANDARD	P.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
PLOT SCALE = 3/8" = 1' in.		PLOT DATE = 1/18/2017		SCALE:		SHEET NO. OF SHEETS		STA. TO STA.		FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		CONTRACT NO.		

CONCRETE END SECTIONS FOR PARALLEL PIPE ARCH CULVERTS 15" THRU 84" DIA.

QUANTITIES

Equivalent Round Size	Table IIA, Corrugation: 2									Table IIA, Corrugation: 3" x 1"								
	Concrete yd ³			Reinforcement without Lap lbs.			Reinforcement with Lap lbs.			Concrete yd ³			Reinforcement without Lap lbs.			Reinforcement with Lap lbs.		
	Slope of End Section			Slope of End Section			Slope of End Section			Slope of End Section			Slope of End Section			Slope of End Section		
	1:4	1:6	1:10	1:4	1:6	1:10	1:4	1:6	1:10	1:4	1:6	1:10	1:4	1:6	1:10	1:4	1:6	1:10
15"	1.3	1.8	2.7	240	320	480	250	330	500	-	-	-	-	-	-	-	-	-
18"	1.5	2.1	3.2	270	360	540	290	370	570	-	-	-	-	-	-	-	-	-
21"	1.8	2.5	3.8	310	420	630	330	450	670	-	-	-	-	-	-	-	-	-
24"	2.1	2.8	4.4	360	480	730	380	510	780	-	-	-	-	-	-	-	-	-
30"	2.7	3.7	5.7	420	570	860	440	610	920	-	-	-	-	-	-	-	-	-
36"	3.4	4.6	7.2	520	700	1070	550	740	1140	3.6	5.0	7.8	560	770	1200	600	820	1270
42"	4.1	5.7	8.9	630	860	1340	660	910	1420	4.4	6.1	9.6	640	890	1380	680	940	1470
48"	5.0	7.0	11.0	740	1010	1560	780	1070	1650	5.5	7.7	12.2	800	1120	1750	840	1180	1860
54"	5.9	8.4	13.2	940	1320	2060	1000	1400	2190	6.4	9.1	14.4	980	1380	2170	1050	1470	2310
60"	6.9	9.7	15.4	1050	1470	2300	1110	1560	2440	7.4	10.6	16.8	1120	1580	2500	1190	1680	2670
66"	8.0	11.3	17.9	1190	1680	2630	1260	1780	2800	8.7	12.4	19.7	1320	1870	2960	1390	1980	3140
72"	9.1	12.9	20.6	1540	2190	3490	1660	2350	3770	9.9	14.1	22.4	1660	2360	3760	1790	2550	4060
78"	-	-	-	-	-	-	-	-	-	11.1	15.9	25.5	1880	2700	4320	2010	2900	4640
84"	-	-	-	-	-	-	-	-	-	12.4	17.8	28.5	2050	2940	4690	2200	3150	5040

The above quantities are estimates and provided for information only. Actual quantities may vary depending upon the final layout of reinforcement and number of segments determined by the Contractor.

For cast-in-place construction, increase concrete volumes by approximately 12%.

FILE NAME : District 2 Standard	USER NAME : I007/District 2	DESIGNED -	REVISED - 5-09-14	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REGION 2 / DISTRICT 2 STANDARD	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN -	REVISED -							
		CHECKED -	REVISED -							
		DATE -	REVISED -							
						SCALE:	SHEET NO. OF SHEETS	STA. TO STA.	FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT

TRAVERSABLE PIPE GRATE FOR BOX CULVERT END SECTIONS

PIPE-GRATE SCHEDULE FOR BOX CULVERT END SECTIONS

GENERAL NOTES

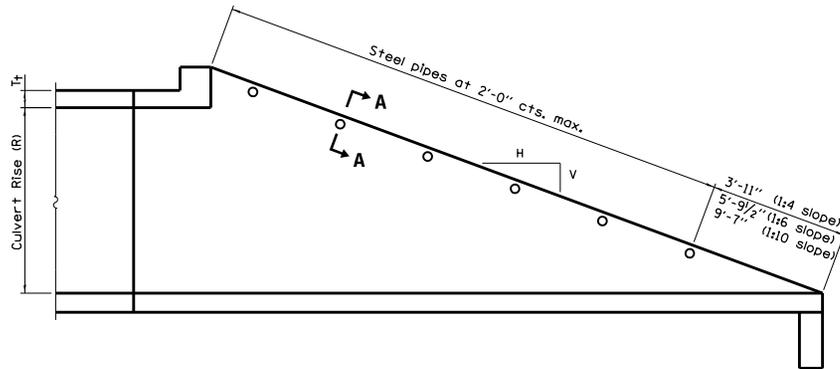
For layout of traversable pipe grate system, see Highway Standard 5423.11.

This table is only to be used for cross drainage structures.

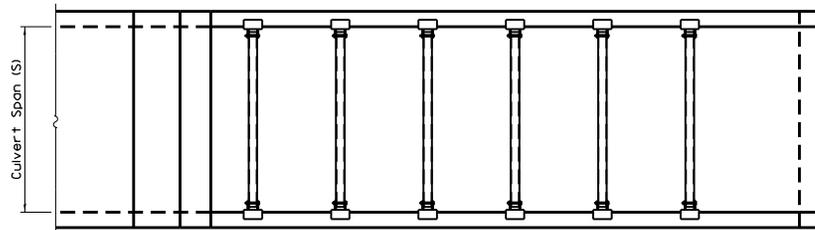
Precast Box Culvert Dimensions			Slope of End Section								
			i=3			i=4			i=6		
S (ft)	R (ft)	T ₁ (ft)	Main Pipe No. / Length	Int. Support No. / Length	Total Length of Pipe	Main Pipe No. / Length	Int. Support No. / Length	Total Length of Pipe	Main Pipe No. / Length	Int. Support No. / Length	Total Length of Pipe
4	2	7.5	1 8" 10"	N/A	8'-10"	1 11'-7"	N/A	11'-7"	1 17'-2"	N/A	17'-2"
4	2	5	1 8" 2"	N/A	8'-2"	1 10'-8"	N/A	10'-8"	1 15'-11"	N/A	15'-11"
4	3	7.5	1 12" 0"	N/A	12'-0"	1 15'-8"	N/A	15'-8"	1 23'-3"	1 3'-7"	26'-10"
4	3	5	1 11'-4"	N/A	11'-4"	1 14'-10"	N/A	14'-10"	1 22'-0"	1 3'-7"	25'-7"
4	4	7.5	1 15'-2"	N/A	15'-2"	1 19'-10"	1 3'-7"	23'-5"	1 29'-4"	2 3'-7"	36'-6"
4	4	5	1 14'-6"	N/A	14'-6"	1 18'-11"	N/A	18'-11"	1 28'-1"	2 3'-7"	35'-3"
5	2	8	1 8" 11"	N/A	8'-11"	1 11'-9"	N/A	11'-9"	1 17'-5"	N/A	17'-5"
5	2	6	1 8" 5"	N/A	8'-5"	1 11'-1"	N/A	11'-1"	1 16'-5"	N/A	16'-5"
5	3	8	1 12" 1"	N/A	12'-1"	1 15'-10"	N/A	15'-10"	1 23'-6"	1 4'-7"	28'-1"
5	3	6	1 11'-7"	N/A	11'-7"	1 15'-2"	N/A	15'-2"	1 22'-6"	1 4'-7"	27'-1"
5	4	8	1 15'-3"	N/A	15'-3"	1 20'-0"	1 4'-7"	24'-7"	1 29'-7"	2 4'-7"	38'-9"
5	4	6	1 14'-9"	N/A	14'-9"	1 19'-3"	N/A	19'-3"	1 28'-7"	2 4'-7"	37'-9"
5	5	8	1 18'-5"	N/A	18'-5"	1 24'-1"	2 4'-7"	33'-3"	1 35'-8"	3 4'-7"	49'-5"
5	5	6	1 17'-11"	N/A	17'-11"	1 23'-5"	1 4'-7"	28'-0"	1 34'-8"	2 4'-7"	43'-10"
6	2	8	2 8" 11"	N/A	17'-10"	2 11'-9"	N/A	23'-6"	2 17'-5"	N/A	34'-10"
6	2	7	2 8" 8"	N/A	17'-8"	2 11'-5"	N/A	22'-10"	2 16'-11"	N/A	33'-10"
6	3	8	2 12" 1"	N/A	24'-2"	2 15'-10"	N/A	31'-8"	2 23'-6"	1 5'-7"	52'-7"
6	3	7	2 11'-10"	N/A	23'-8"	2 15'-6"	N/A	31'-0"	2 23'-0"	1 5'-7"	51'-7"
6	4	8	2 15'-3"	N/A	30'-6"	2 20'-0"	1 5'-7"	45'-7"	2 29'-7"	2 5'-7"	70'-4"
6	4	7	2 15'-0"	N/A	30'-0"	2 19'-8"	1 5'-7"	44'-11"	2 29'-1"	2 5'-7"	69'-4"
6	5	8	2 18'-5"	N/A	36'-10"	2 24'-1"	2 5'-7"	59'-4"	2 35'-8"	3 5'-7"	88'-1"
6	5	7	2 18'-2"	N/A	36'-4"	2 23'-9"	2 5'-7"	58'-8"	2 35'-2"	2 5'-7"	81'-6"
6	6	8	2 21'-7"	1 5'-7"	48'-9"	2 28'-3"	2 5'-7"	67'-8"	2 41'-9"	3 5'-7"	100'-3"
6	6	7	2 21'-4"	1 5'-7"	48'-3"	2 27'-11"	2 5'-7"	67'-0"	2 41'-3"	3 5'-7"	99'-3"
7	2	8	2 8" 11"	N/A	17'-10"	2 11'-9"	N/A	23'-6"	2 17'-5"	N/A	34'-10"
7	3	8	2 12" 1"	N/A	24'-2"	2 15'-10"	N/A	31'-8"	2 23'-6"	2 6'-7"	60'-2"
7	4	8	2 15'-3"	N/A	30'-6"	2 20'-0"	2 6'-7"	53'-2"	2 29'-7"	3 6'-7"	78'-11"
7	5	8	2 18'-5"	N/A	36'-10"	2 24'-1"	3 6'-7"	67'-11"	2 35'-8"	4 6'-7"	97'-8"
7	6	8	2 21'-7"	2 6'-7"	56'-4"	2 28'-3"	3 6'-7"	76'-3"	2 41'-9"	5 6'-7"	116'-5"
7	7	8	2 24'-9"	3 6'-7"	69'-3"	2 32'-4"	4 6'-7"	91'-0"	2 47'-10"	6 6'-7"	135'-2"
8	2	8	3 8" 11"	N/A	26'-9"	3 11'-9"	N/A	35'-3"	3 17'-5"	N/A	52'-3"
8	3	8	3 12" 1"	N/A	36'-3"	3 15'-10"	N/A	47'-6"	3 23'-6"	2 7'-7"	85'-8"
8	4	8	3 15'-3"	N/A	45'-9"	3 20'-0"	2 7'-7"	75'-2"	3 29'-7"	3 7'-7"	111'-6"
8	5	8	3 18'-5"	N/A	55'-3"	3 24'-1"	3 7'-7"	95'-0"	3 35'-8"	4 6'-7"	137'-4"
8	6	8	3 21'-7"	2 7'-7"	79'-11"	3 28'-3"	3 7'-7"	107'-6"	3 41'-9"	5 6'-7"	163'-2"
8	7	8	3 24'-9"	3 7'-7"	97'-0"	3 32'-4"	4 7'-7"	127'-4"	3 47'-10"	6 7'-7"	189'-0"
8	8	8	3 27'-11"	3 7'-7"	106'-6"	3 36'-6"	4 7'-7"	139'-10"	3 53'-11"	6 7'-7"	207'-3"
9	2	9	3 9" 3"	N/A	27'-9"	3 12'-1"	N/A	36'-3"	3 17'-11"	N/A	53'-9"
9	3	9	3 12'-4"	N/A	37'-0"	3 16'-2"	N/A	48'-6"	3 24'-0"	3 8'-7"	97'-9"
9	4	9	3 15'-6"	N/A	46'-6"	3 20'-4"	2 8'-7"	78'-2"	3 30'-1"	3 8'-7"	116'-0"
9	5	9	3 18'-8"	N/A	56'-0"	3 24'-5"	3 8'-7"	99'-0"	3 36'-2"	4 8'-7"	142'-10"
9	6	9	3 21'-10"	2 8'-7"	82'-8"	3 28'-7"	3 8'-7"	111'-6"	3 42'-3"	5 8'-7"	169'-8"
9	7	9	3 25'-0"	3 8'-7"	101'-9"	3 32'-8"	4 8'-7"	132'-4"	3 48'-4"	6 8'-7"	196'-8"
9	8	9	3 28'-2"	3 8'-7"	110'-3"	3 36'-10"	4 8'-7"	144'-10"	3 54'-5"	6 8'-7"	214'-9"
9	9	9	3 31'-4"	3 8'-7"	119'-9"	3 40'-11"	5 8'-7"	165'-8"	3 60'-6"	7 8'-7"	241'-7"
10	2	10	3 9" 6"	N/A	28'-6"	3 12'-5"	N/A	37'-3"	3 18'-5"	N/A	55'-3"
10	3	10	3 12'-8"	N/A	38'-0"	3 16'-6"	N/A	49'-6"	3 24'-6"	3 9'-7"	102'-3"
10	4	10	3 15'-10"	N/A	47'-6"	3 20'-8"	2 9'-7"	81'-2"	3 30'-7"	3 9'-7"	120'-6"
10	5	10	3 19'-0"	N/A	57'-0"	3 24'-9"	3 9'-7"	103'-0"	3 36'-8"	4 9'-7"	148'-4"
10	6	10	3 22'-1"	2 9'-7"	85'-5"	3 28'-11"	3 9'-7"	115'-6"	3 42'-9"	5 9'-7"	176'-2"
10	7	10	3 25'-3"	3 9'-7"	104'-6"	3 33'-0"	4 9'-7"	137'-4"	3 48'-10"	6 9'-7"	204'-0"
10	8	10	3 28'-5"	3 9'-7"	114'-0"	3 37'-2"	4 9'-7"	149'-10"	3 54'-11"	6 9'-7"	222'-3"
10	9	10	3 31'-7"	4 9'-7"	133'-1"	3 41'-3"	5 9'-7"	171'-8"	3 61'-0"	7 9'-7"	250'-1"
10	10	10	3 34'-9"	4 9'-7"	142'-7"	3 45'-5"	5 9'-7"	184'-2"	3 67'-1"	8 9'-7"	277'-11"
11	2	11	4 9" 9"	N/A	39'-0"	4 12'-9"	N/A	51'-0"	4 18'-11"	N/A	75'-8"
11	3	11	4 12'-11"	N/A	51'-8"	4 16'-11"	N/A	67'-8"	4 25'-0"	3 10'-7"	131'-9"
11	4	11	4 16'-1"	N/A	64'-4"	4 21'-0"	2 10'-7"	105'-2"	4 31'-1"	3 10'-7"	156'-1"
11	6	11	4 22'-5"	2 10'-7"	110'-10"	4 29'-3"	3 10'-7"	148'-9"	4 43'-3"	5 10'-7"	225'-11"
11	8	11	4 28'-9"	3 10'-7"	146'-9"	4 37'-6"	4 10'-7"	192'-4"	4 55'-5"	6 10'-7"	285'-2"
11	10	11	4 35'-0"	4 10'-7"	182'-4"	4 45'-9"	5 10'-7"	235'-11"	4 63'-7"	8 10'-7"	355'-0"
11	11	11	4 38'-2"	4 10'-7"	195'-0"	4 49'-10"	6 10'-7"	262'-10"	4 73'-8"	9 10'-7"	389'-11"
12	2	12	4 10" 0"	N/A	40'-0"	4 13'-1"	N/A	52'-4"	4 19'-5"	N/A	77'-8"
12	3	12	4 13'-2"	N/A	52'-8"	4 17'-3"	N/A	69'-0"	4 25'-6"	3 11'-7"	136'-9"
12	4	12	4 16'-4"	N/A	65'-4"	4 21'-4"	2 11'-7"	108'-6"	4 31'-7"	4 11'-7"	172'-8"
12	6	12	4 22'-8"	2 11'-7"	113'-10"	4 29'-7"	3 11'-7"	153'-1"	4 43'-9"	5 11'-7"	232'-11"
12	8	12	4 29'-0"	3 11'-7"	150'-9"	4 37'-10"	4 11'-7"	197'-8"	4 55'-11"	7 11'-7"	304'-9"
12	10	12	4 35'-4"	4 11'-7"	187'-8"	4 46'-1"	5 11'-7"	242'-3"	4 68'-1"	8 11'-7"	365'-0"
12	12	12	4 41'-8"	5 11'-7"	224'-7"	4 54'-4"	6 11'-7"	286'-10"	4 80'-3"	10 11'-7"	436'-10"

FILE NAME :	USER NAME : I007/District 2	DESIGNED :	REVISIONS :	STATE OF ILLINOIS	REGION 2 / DISTRICT 2 STANDARD	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
District 2 Standard		DRAWN :	5-09-14	DEPARTMENT OF TRANSPORTATION						
	PLOT SCALE : 3/8" = 1' - 0"	CHECKED :				SCALE:	SHEET NO.	OF SHEETS	STA.	TO STA.
	PLOT DATE : 1/18/2017	DATE :								CONTRACT NO.
										FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT

TRAVERSABLE PIPE GRATE FOR PARALLEL DRAINAGE STRUCTURE



LONGITUDINAL SECTION



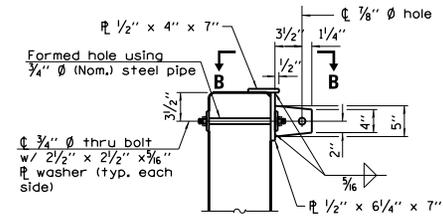
PLAN VIEW

GENERAL NOTES

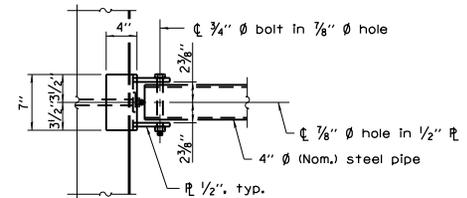
The minimum edge distance from the center of a hole to the free edge of a structural shape or plate shall be 1/2" unless noted otherwise.

This standard shall only be used on concrete end sections for parallel drainage structures.

The Contractor may install the thru bolts using drilling and grouting in lieu of providing a formed hole using steel pipe. Installation shall be in accordance with Article 509.06 using a method that results in the annulus surrounding the bolt being completely filled with adhesive. The method of drilling shall not result in spalled concrete at the exit face. Epoxy grouted thru bolts shall be snug tightened followed by an additional 1/3 turn on the interior nut at final installation. Cost included with Traversable Pipe Grate.



SECTION A-A
(4" Ø pipe not shown for clarity.)



VIEW B-B

FILE NAME = District 2 Standard	USER NAME = I007/District 2	DESIGNED -	REVISED - 5-09-14	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REGION 2 / DISTRICT 2 STANDARD	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = 3/8" = 1' - 0"	DRAWN -	REVISED -			SCALE:	SHEET NO. OF SHEETS STA.	TO STA.	FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT
PLOT DATE = 1/18/2017	CHECKED -	REVISED -	REVISED -							

TRAVERSABLE PIPE GRATE FOR PARALLEL DRAINAGE STRUCTURE

PIPE GRATE SCHEDULE FOR PARALLEL BOX CULVERTS

BOX SIZE		SLOPE OF END SECTION							
		1:4		1:6		1:10			
SPAN (FT.)	RISE (FT.)	Pipes No. / Length	Total Length of Pipe	Pipes No. / Length	Total Length of Pipe	Pipes No. / Length	Total Length of Pipe	Pipes No. / Length	Total Length of Pipe
3	2	5 @ 2'-7"	12'-11"	8 @ 2'-7"	20'-8"	12 @ 2'-7"	31'-0"		
3	3	7 @ 2'-7"	18'-1"	11 @ 2'-7"	28'-5"	17 @ 2'-7"	43'-11"		
4	2	5 @ 3'-7"	17'-11"	8 @ 3'-7"	28'-8"	13 @ 3'-7"	46'-7"		
4	3	8 @ 3'-7"	28'-8"	11 @ 3'-7"	39'-5"	18 @ 3'-7"	64'-6"		
4	4	10 @ 3'-7"	35'-10"	14 @ 3'-7"	50'-2"	23 @ 3'-7"	82'-5"		
5	2	6 @ 4'-7"	27'-6"	8 @ 4'-7"	36'-8"	13 @ 4'-7"	59'-7"		
5	3	8 @ 4'-7"	36'-8"	11 @ 4'-7"	50'-5"	18 @ 4'-7"	82'-6"		
5	4	10 @ 4'-7"	45'-10"	14 @ 4'-7"	64'-2"	23 @ 4'-7"	105'-5"		
5	5	12 @ 4'-7"	55'-0"	17 @ 4'-7"	77'-11"	28 @ 4'-7"	128'-4"		
6	2	6 @ 5'-7"	33'-6"	8 @ 5'-7"	44'-8"	13 @ 5'-7"	72'-7"		
6	3	8 @ 5'-7"	44'-8"	11 @ 5'-7"	61'-5"	18 @ 5'-7"	100'-6"		
6	4	10 @ 5'-7"	55'-10"	14 @ 5'-7"	78'-2"	23 @ 5'-7"	128'-5"		
6	5	12 @ 5'-7"	67'-0"	17 @ 5'-7"	94'-11"	28 @ 5'-7"	156'-4"		
6	6	14 @ 5'-7"	78'-2"	20 @ 5'-7"	111'-8"	33 @ 5'-7"	184'-3"		
7	2	6 @ 6'-7"	39'-6"	8 @ 6'-7"	52'-8"	13 @ 6'-7"	85'-7"		
7	3	8 @ 6'-7"	52'-8"	11 @ 6'-7"	72'-5"	18 @ 6'-7"	118'-6"		
7	4	10 @ 6'-7"	65'-10"	14 @ 6'-7"	92'-2"	23 @ 6'-7"	151'-5"		
7	5	12 @ 6'-7"	79'-0"	17 @ 6'-7"	111'-11"	28 @ 6'-7"	184'-4"		
7	6	14 @ 6'-7"	92'-2"	20 @ 6'-7"	131'-8"	33 @ 6'-7"	217'-3"		
7	7	16 @ 6'-7"	105'-4"	23 @ 6'-7"	151'-5"	38 @ 6'-7"	250'-2"		
8	2	6 @ 7'-7"	45'-6"	8 @ 7'-7"	60'-8"	13 @ 7'-7"	98'-7"		
8	3	8 @ 7'-7"	60'-8"	11 @ 7'-7"	83'-5"	18 @ 7'-7"	136'-6"		
8	4	10 @ 7'-7"	75'-10"	14 @ 7'-7"	106'-2"	23 @ 7'-7"	174'-5"		
8	5	12 @ 7'-7"	91'-0"	17 @ 7'-7"	128'-11"	28 @ 7'-7"	212'-4"		
8	6	14 @ 7'-7"	106'-2"	20 @ 7'-7"	151'-8"	33 @ 7'-7"	250'-3"		
8	7	16 @ 7'-7"	121'-4"	23 @ 7'-7"	174'-5"	38 @ 7'-7"	288'-2"		
8	8	18 @ 7'-7"	136'-6"	26 @ 7'-7"	197'-2"	43 @ 7'-7"	326'-1"		
9	2	6 @ 8'-7"	51'-6"	8 @ 8'-7"	68'-8"	13 @ 8'-7"	111'-7"		
9	3	8 @ 8'-7"	68'-8"	11 @ 8'-7"	94'-5"	18 @ 8'-7"	154'-6"		
9	4	10 @ 8'-7"	85'-10"	14 @ 8'-7"	120'-2"	23 @ 8'-7"	197'-5"		
9	5	12 @ 8'-7"	103'-0"	17 @ 8'-7"	145'-11"	28 @ 8'-7"	240'-4"		
9	6	14 @ 8'-7"	120'-2"	20 @ 8'-7"	171'-8"	33 @ 8'-7"	283'-3"		
9	7	16 @ 8'-7"	137'-4"	23 @ 8'-7"	197'-5"	38 @ 8'-7"	326'-2"		
9	8	18 @ 8'-7"	154'-6"	26 @ 8'-7"	223'-2"	43 @ 8'-7"	369'-1"		
9	9	20 @ 8'-7"	171'-8"	30 @ 8'-7"	257'-6"	48 @ 8'-7"	412'-0"		
10	2	6 @ 9'-7"	57'-6"	9 @ 9'-7"	86'-3"	14 @ 9'-7"	134'-2"		
10	3	8 @ 9'-7"	76'-8"	12 @ 9'-7"	115'-0"	19 @ 9'-7"	182'-1"		
10	4	10 @ 9'-7"	95'-10"	15 @ 9'-7"	143'-9"	24 @ 9'-7"	230'-0"		
10	5	12 @ 9'-7"	115'-0"	18 @ 9'-7"	172'-6"	29 @ 9'-7"	277'-11"		
10	6	14 @ 9'-7"	134'-2"	21 @ 9'-7"	201'-3"	34 @ 9'-7"	325'-10"		
10	7	16 @ 9'-7"	153'-4"	24 @ 9'-7"	230'-0"	39 @ 9'-7"	373'-9"		
10	8	18 @ 9'-7"	172'-6"	27 @ 9'-7"	258'-9"	44 @ 9'-7"	421'-8"		
10	9	20 @ 9'-7"	191'-8"	30 @ 9'-7"	287'-5"	49 @ 9'-7"	469'-7"		
10	10	22 @ 9'-7"	210'-10"	33 @ 9'-7"	316'-3"	54 @ 9'-7"	517'-6"		

PIPE GRATE SCHEDULE FOR PARALLEL BOX CULVERTS

BOX SIZE		SLOPE OF END SECTION							
		1:4		1:6		1:10			
SPAN (FT.)	RISE (FT.)	Pipes No. / Length	Total Length of Pipe	Pipes No. / Length	Total Length of Pipe	Pipes No. / Length	Total Length of Pipe	Pipes No. / Length	Total Length of Pipe
11	2	6 @ 10'-7"	63'-6"	9 @ 10'-7"	95'-3"	14 @ 10'-7"	148'-2"		
11	3	8 @ 10'-7"	84'-8"	12 @ 10'-7"	127'-0"	19 @ 10'-7"	201'-11"		
11	4	10 @ 10'-7"	105'-10"	15 @ 10'-7"	158'-9"	24 @ 10'-7"	254'-0"		
11	6	14 @ 10'-7"	148'-2"	21 @ 10'-7"	222'-3"	34 @ 10'-7"	359'-10"		
11	8	18 @ 10'-7"	190'-6"	27 @ 10'-7"	285'-9"	44 @ 10'-7"	465'-8"		
11	10	23 @ 10'-7"	243'-5"	33 @ 10'-7"	349'-3"	54 @ 10'-7"	571'-6"		
11	11	25 @ 10'-7"	264'-7"	36 @ 10'-7"	381'-0"	59 @ 10'-7"	624'-5"		
12	2	6 @ 11'-7"	69'-6"	9 @ 11'-7"	104'-3"	15 @ 11'-7"	173'-9"		
12	3	8 @ 11'-7"	92'-8"	12 @ 11'-7"	139'-0"	20 @ 11'-7"	231'-8"		
12	4	10 @ 11'-7"	115'-10"	15 @ 11'-7"	173'-9"	25 @ 11'-7"	289'-7"		
12	6	15 @ 11'-7"	173'-9"	21 @ 11'-7"	243'-3"	35 @ 11'-7"	405'-5"		
12	8	19 @ 11'-7"	220'-1"	27 @ 11'-7"	312'-9"	45 @ 11'-7"	512'-3"		
12	10	23 @ 11'-7"	266'-5"	33 @ 11'-7"	382'-3"	55 @ 11'-7"	637'-11"		
12	12	27 @ 11'-7"	312'-9"	39 @ 11'-7"	451'-9"	65 @ 11'-7"	752'-11"		

PIPE GRATE SCHEDULE FOR PARALLEL BOX CULVERTS

BOX SIZE		SLOPE OF END SECTION							
		1:4		1:6		1:10			
SPAN (FT.)	RISE (FT.)	Pipes No. / Length	Total Length of Pipe	Pipes No. / Length	Total Length of Pipe	Pipes No. / Length	Total Length of Pipe	Pipes No. / Length	Total Length of Pipe
3	2	5 @ 2'-7"	12'-11"	7 @ 2'-7"	18'-1"	11 @ 2'-7"	28'-5"		
3	3	7 @ 2'-7"	18'-1"	10 @ 2'-7"	25'-10"	16 @ 2'-7"	41'-4"		
4	2	5 @ 3'-7"	17'-11"	7 @ 3'-7"	25'-1"	12 @ 3'-7"	43'-0"		
4	3	7 @ 3'-7"	25'-1"	10 @ 3'-7"	35'-10"	17 @ 3'-7"	60'-11"		
4	4	9 @ 3'-7"	32'-3"	13 @ 3'-7"	46'-7"	22 @ 3'-7"	78'-10"		
5	2	5 @ 4'-7"	22'-11"	7 @ 4'-7"	32'-1"	12 @ 4'-7"	55'-0"		
5	3	7 @ 4'-7"	32'-1"	11 @ 4'-7"	50'-5"	17 @ 4'-7"	77'-11"		
5	4	9 @ 4'-7"	41'-3"	14 @ 4'-7"	64'-2"	22 @ 4'-7"	100'-10"		
5	5	11 @ 4'-7"	50'-5"	17 @ 4'-7"	77'-11"	27 @ 4'-7"	123'-9"		
6	2	5 @ 5'-7"	27'-11"	8 @ 5'-7"	44'-8"	12 @ 5'-7"	67'-0"		
6	3	7 @ 5'-7"	39'-1"	11 @ 5'-7"	61'-5"	17 @ 5'-7"	94'-11"		
6	4	10 @ 5'-7"	55'-10"	14 @ 5'-7"	78'-2"	23 @ 5'-7"	128'-5"		
6	5	12 @ 5'-7"	67'-0"	17 @ 5'-7"	94'-11"	28 @ 5'-7"	156'-4"		
6	6	14 @ 5'-7"	78'-2"	20 @ 5'-7"	111'-8"	33 @ 5'-7"	184'-3"		

Follow (<2 FT Cover) table for all other sizes

FILE NAME : District 2 Standard	USER NAME : I007/District 2	DESIGNED : DRAWN : CHECKED : DATE :	DESIGNED - REVISOR - REVISOR - REVISOR -	5-09-14	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REGION 2 / DISTRICT 2 STANDARD	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
PLOT SCALE : 3/8" = 1' @ 1/8" = 1'		PLOT DATE : 1/18/2017		SCALE:	SHEET NO. OF SHEETS	STA. TO STA.	FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT		CONTRACT NO.		

TRAVERSABLE PIPE GRATE FOR PARALLEL DRAINAGE STRUCTURE

PIPE GRATE SCHEDULE FOR PARALLEL PIPE CULVERTS 15" THRU 84" DIA.

Pipe I.D.	SLOPE OF END SECTION					
	1:4		1:6		1:10	
	Pipes No. / Length	Total Length of Pipe	Pipes No. / Length	Total Length of Pipe	Pipes No. / Length	Total Length of Pipe
15"	3 @ 0'-11"	2'-9"	4 @ 0'-11"	3'-8"	6 @ 0'-11"	5'-6"
18"	3 @ 1'-1"	3'-3"	5 @ 1'-1"	5'-5"	7 @ 1'-1"	7'-7"
21"	4 @ 1'-5"	5'-8"	5 @ 1'-5"	7'-1"	9 @ 1'-5"	12'-9"
24"	5 @ 1'-7"	7'-11"	6 @ 1'-7"	9'-6"	10 @ 1'-7"	15'-10"
30"	6 @ 2'-1"	12'-6"	8 @ 2'-1"	16'-8"	13 @ 2'-1"	27'-1"
36"	7 @ 2'-7"	18'-1"	10 @ 2'-7"	25'-10"	15 @ 2'-7"	38'-9"
42"	8 @ 3'-1"	24'-8"	11 @ 3'-1"	33'-11"	18 @ 3'-1"	55'-6"
48"	9 @ 3'-7"	32'-3"	13 @ 3'-7"	46'-7"	21 @ 3'-7"	75'-3"
54"	10 @ 4'-1"	40'-10"	14 @ 4'-1"	57'-2"	23 @ 4'-1"	93'-11"
60"	11 @ 4'-7"	50'-5"	15 @ 4'-7"	68'-9"	25 @ 4'-7"	114'-7"
66"	12 @ 5'-1"	61'-0"	17 @ 5'-1"	86'-5"	28 @ 5'-1"	142'-4"
72"	13 @ 5'-7"	72'-7"	18 @ 5'-7"	100'-6"	30 @ 5'-7"	167'-6"
78"	14 @ 6'-1"	85'-2"	20 @ 6'-1"	121'-8"	33 @ 6'-1"	200'-9"
84"	15 @ 6'-7"	98'-9"	21 @ 6'-7"	138'-3"	35 @ 6'-7"	230'-5"

FILE NAME : District 2 Standard	USER NAME : I007/District 2	DESIGNED -	REVISED - 5-09-14	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REGION 2 / DISTRICT 2 STANDARD	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN -	REVISED -							
		CHECKED -	REVISED -							
		DATE -	REVISED -							
						SCALE:	SHEET NO. OF SHEETS	STA. TO STA.	FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT
										CONTRACT NO.

TRAVERSABLE PIPE GRATE FOR PARALLEL DRAINAGE STRUCTURE

PIPE GRATE SCHEDULE FOR PARALLEL PIPE ARCH CULVERTS 15" THRU 84" DIA.

Pipe I.D.	SLOPE OF END SECTION					
	Table IIA, Corrugation : 2 3/4" x 1/2"					
	1:4		1:6		1:10	
Pipes No. / Length	Total Length of Pipe	Pipes No. / Length	Total Length of Pipe	Pipes No. / Length	Total Length of Pipe	
15"	2 @ 1'-1"	2'-2"	3 @ 1'-1"	3'-3"	5 @ 1'-1"	5'-5"
18"	3 @ 1'-5"	4'-3"	4 @ 1'-5"	5'-8"	6 @ 1'-5"	8'-6"
21"	3 @ 1'-7"	4'-9"	5 @ 1'-7"	7'-11"	7 @ 1'-7"	11'-1"
24"	4 @ 1'-11"	7'-8"	5 @ 1'-11"	9'-7"	8 @ 1'-11"	15'-4"
30"	4 @ 2'-7"	10'-4"	6 @ 2'-7"	15'-6"	10 @ 2'-7"	25'-10"
36"	5 @ 3'-1"	15'-5"	7 @ 3'-1"	21'-7"	12 @ 3'-1"	37'-0"
42"	6 @ 3'-9"	22'-6"	9 @ 3'-9"	33'-9"	14 @ 3'-9"	52'-6"
48"	7 @ 4'-5"	30'-11"	10 @ 4'-5"	44'-2"	16 @ 4'-5"	70'-8"
54"	8 @ 4'-11"	39'-4"	11 @ 4'-11"	54'-1"	18 @ 4'-11"	88'-6"
60"	8 @ 5'-7"	44'-8"	12 @ 5'-7"	67'-0"	20 @ 5'-7"	111'-8"
66"	9 @ 6'-1"	54'-9"	13 @ 6'-1"	79'-1"	22 @ 6'-1"	133'-10"
72"	10 @ 6'-7"	65'-10"	15 @ 6'-7"	98'-9"	24 @ 6'-7"	158'-0"
78"	-	-	-	-	-	-
84"	-	-	-	-	-	-

PIPE GRATE SCHEDULE FOR PARALLEL PIPE ARCH CULVERTS 15" THRU 84" DIA.

Pipe I.D.	SLOPE OF END SECTION					
	Table IIA, Corrugation : 3" x 1"					
	1:4		1:6		1:10	
Pipes No. / Length	Total Length of Pipe	Pipes No. / Length	Total Length of Pipe	Pipes No. / Length	Total Length of Pipe	
15"	-	-	-	-	-	-
18"	-	-	-	-	-	-
21"	-	-	-	-	-	-
24"	-	-	-	-	-	-
30"	-	-	-	-	-	-
36"	6 @ 2'-11"	17'-6"	8 @ 2'-11"	23'-4"	13 @ 2'-11"	37'-11"
42"	7 @ 3'-5"	23'-11"	10 @ 3'-5"	34'-2"	15 @ 3'-5"	51'-3"
48"	8 @ 4'-1"	32'-8"	11 @ 4'-1"	44'-11"	18 @ 4'-1"	73'-6"
54"	9 @ 4'-7"	41'-3"	12 @ 4'-7"	55'-0"	20 @ 4'-7"	91'-10"
60"	9 @ 5'-1"	45'-9"	14 @ 5'-1"	71'-2"	22 @ 5'-1"	111'-10"
66"	10 @ 5'-9"	57'-6"	15 @ 5'-9"	86'-3"	24 @ 5'-9"	138'-0"
72"	11 @ 6'-5"	70'-7"	16 @ 6'-5"	102'-8"	26 @ 6'-5"	166'-10"
78"	12 @ 6'-11"	83'-0"	17 @ 6'-11"	117'-7"	28 @ 6'-11"	193'-8"
84"	12 @ 7'-7"	91'-0"	18 @ 7'-7"	136'-6"	30 @ 7'-7"	227'-6"

FILE NAME : District 2 Standard	USER NAME : I007/District 2	DESIGNED : -	REVISED : - 5-09-14	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REGION 2 / DISTRICT 2 STANDARD	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN : -	REVISED : -							
		CHECKED : -	REVISED : -							
		DATE : 1/18/2017	REVISED : -							
						SCALE: SHEET NO. OF SHEETS STA. TO STA.		FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT		
									CONTRACT NO.	

TRAVERSABLE PIPE GRATE FOR PARALLEL DRAINAGE STRUCTURE

PIPE GRATE SCHEDULE FOR PARALLEL ELLIPTICAL PIPE CULVERTS 15" THRU 72" DIA.

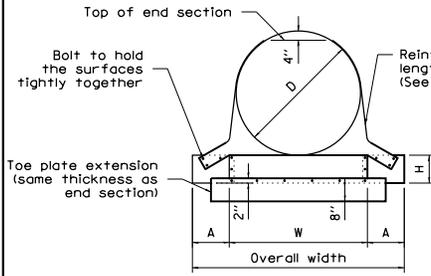
Pipe I.D.	SLOPE OF END SECTION					
	1:4		1:6		1:10	
	Pipes No. / Length	Total Length of Pipe	Pipes No. / Length	Total Length of Pipe	Pipes No. / Length	Total Length of Pipe
15"	3 @ 2'-7"	7'-9"	5 @ 2'-7"	12'-11"	7 @ 2'-7"	18'-1"
18"	3 @ 2'-7"	7'-9"	5 @ 2'-7"	12'-11"	7 @ 2'-7"	18'-1"
21"	5 @ 3'-3"	16'-3"	7 @ 3'-3"	22'-9"	12 @ 3'-3"	39'-0"
24"	5 @ 3'-3"	16'-3"	7 @ 3'-3"	22'-9"	12 @ 3'-3"	39'-0"
27"	6 @ 3'-7"	21'-6"	8 @ 3'-7"	28'-8"	13 @ 3'-7"	46'-7"
30"	6 @ 3'-11"	23'-6"	9 @ 3'-11"	35'-3"	14 @ 3'-11"	54'-10"
36"	7 @ 4'-7"	32'-1"	10 @ 4'-7"	45'-10"	16 @ 4'-7"	73'-4"
42"	8 @ 5'-5"	43'-4"	11 @ 5'-5"	59'-7"	18 @ 5'-5"	97'-6"
48"	9 @ 6'-1"	54'-9"	13 @ 6'-1"	79'-1"	20 @ 6'-1"	121'-8"
54"	10 @ 6'-9"	67'-6"	14 @ 6'-9"	94'-6"	23 @ 6'-9"	155'-3"
60"	11 @ 7'-7"	83'-5"	15 @ 7'-7"	113'-9"	25 @ 7'-7"	189'-7"
66"	11 @ 8'-3"	90'-9"	17 @ 8'-3"	140'-3"	27 @ 8'-3"	222'-9"
72"	12 @ 8'-11"	107'-0"	18 @ 8'-11"	160'-6"	30 @ 8'-11"	267'-6"

FILE NAME : District 2 Standard	USER NAME : I007/District 2	DESIGNED - DRAWN -	REVISED - 5-09-14 REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REGION 2 / DISTRICT 2 STANDARD	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.		
PLOT SCALE = 3/8" = 1' / in.	CHECKED -	REVISED -	SCALE:			SHEET NO.	OF SHEETS	STA.	TO STA.	CONTRACT NO.		
PLOT DATE = 1/18/2017	DATE -	REVISED -	FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT									

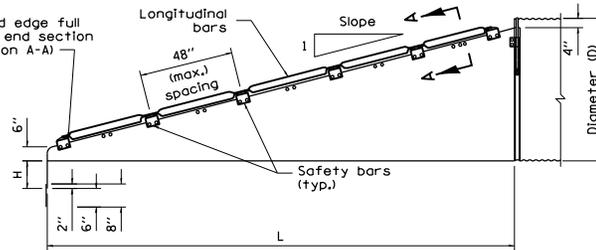
SLOPED METAL END SECTIONS WITH GRATE

GENERAL NOTES

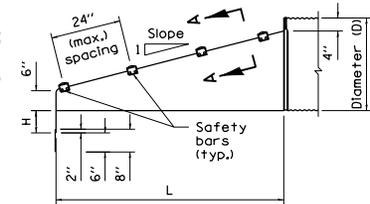
1. USE END SECTIONS ON 1V:4H TO 1V:6H SLOPES ONLY. USE TOE PLATE EXTENSION.
2. A #6 SLOPED END SECTION WILL BE USED FOR ALL PARALLEL DRAINAGE STRUCTURE END SECTIONS.
3. FABRICATE SAFETY AND LONGITUDINAL BARS FROM STEEL PIPE CONFORMING TO ASTM A53 SCHEDULE 40 SPECIFICATIONS. GALVANIZE BARS HOT DIPPED AFTER FABRICATION.
4. A LONGITUDINAL BAR IS REQUIRED FOR CROSS DRAINAGE END SECTIONS WHEN THE SPAN IS GREATER THAN 30". USE ADDITIONAL LONGITUDINAL BARS IF SPACING EXCEEDS 30" ON LARGER END SECTIONS.
5. SAFETY AND LONGITUDINAL BARS ARE NOT REQUIRED ON 30" AND SMALLER CROSS DRAINAGE END SECTIONS.
6. THESE END SECTIONS WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER EACH FOR SLOPED METAL END SECTIONS WITH GRATE OF THE DIAMETER SPECIFIED, WHICH SHALL INCLUDE FURNISHING AND INSTALLING THE END SECTION COMPLETE IN PLACE, INCLUDING THE TOE PLATE, EXCAVATING, BACKFILLING, CONNECTING TO THE PIPE, AND CROSS DRAINAGE BARS.



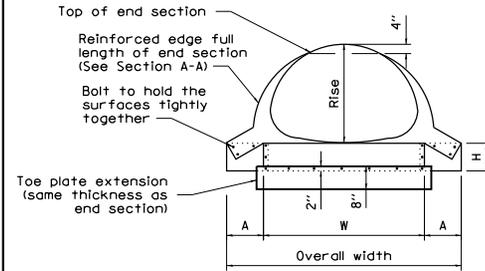
FRONT VIEW
ROUND PIPE CULVERT



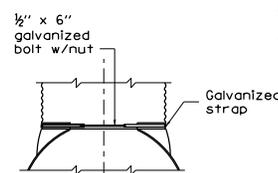
ELEVATION
CROSS DRAINAGE END SECTION



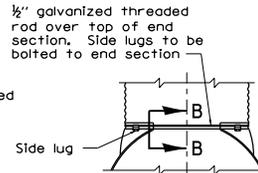
ELEVATION
PARALLEL DRAINAGE END SECTION



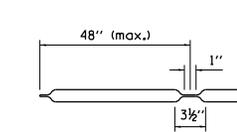
FRONT VIEW
PIPE ARCH CULVERT



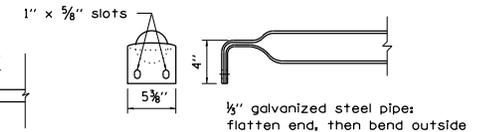
FOR METAL ROUND PIPES
15" THRU 24"
TYPE #1



FOR METAL ROUND PIPES 30"
AND LARGER, FOR PIPE ARCHES
21" X 15" AND LARGER
TYPE #2



LONGITUDINAL DRAINAGE BAR



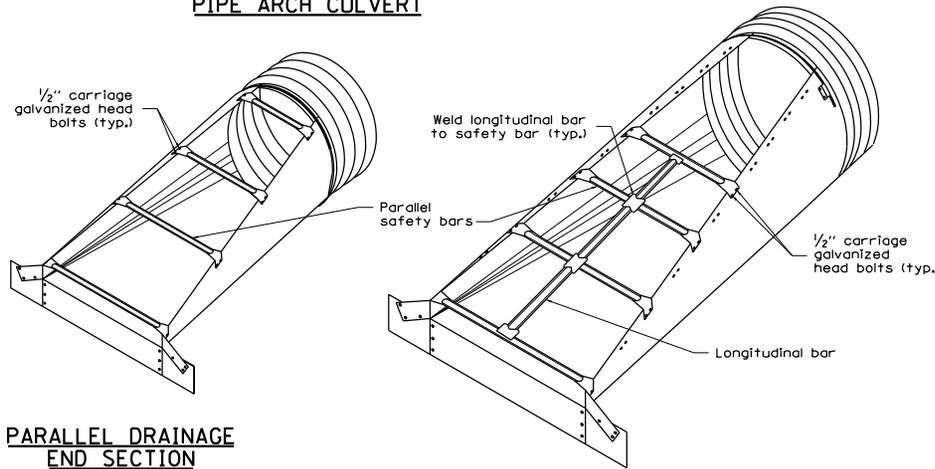
PARALLEL BARS

CONNECTOR DETAILS

SAFETY BAR DETAILS

METAL END SECTIONS FOR ROUND PIPE CULVERT							
PIPE SIZE INCHES	METAL THICK (MIN.) INCH/GAGE	DIMENSIONS IN INCHES					
		A	H	W	OVERALL WIDTH	L	
24	0.064/16	8	6	30	46	55	83
30	0.109/12	12	9	42	66	79	118
36	0.109/12	12	9	42	66	102	154
42	0.109/12	16	12	48	80	126	189
48	0.109/12	16	12	54	86	150	224
54	0.109/12	16	12	60	92	173	260
60	0.109/12	16	12	66	98	197	295

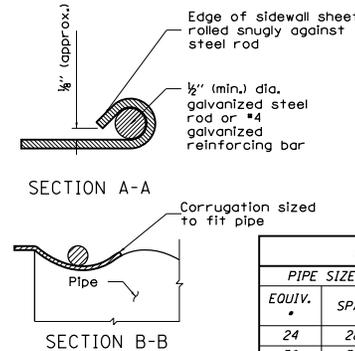
METAL END SECTIONS FOR PIPE ARCH CULVERT									
PIPE SIZE (INCHES) EQUIV. *	SPAN	RISE	METAL THICK (MIN.) INCH/GAGE	DIMENSIONS (INCHES)					
				A	H	W	OVERALL WIDTH	L	
24	28	20	0.064/16	8	6	33	49	40	60
30	35	24	0.109/12	12	9	40	64	55	83
36	41	29	0.109/12	12	9	47	71	75	112
42	48	32	0.109/12	16	12	54	86	90	136
48	56	37	0.109/12	16	12	62	94	110	165
54	63	42	0.109/12	16	12	69	101	130	195
60	70	46	0.109/12	16	12	76	107	146	218
72	82	56	0.109/12	16	12	88	120	185	278



**PARALLEL DRAINAGE
END SECTION**

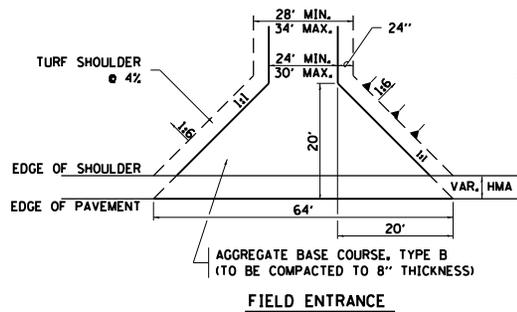
CROSS DRAINAGE END SECTION

NO SCALE

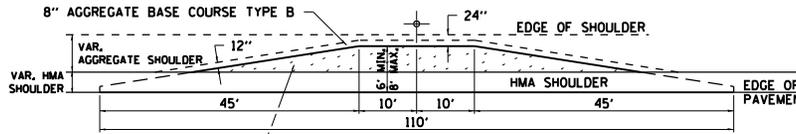


FILE NAME : District 2 Standard	USER NAME : I00T/District 2	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REGION 2 / DISTRICT 2 STANDARD	F.A. RTE.	SECTION	COUNTY	TOTAL SHEET NO.	
		DRAWN -	REVISED -			SCALE: 1" = 10'	SHEET NO. OF SHEETS STA.	TO STA.	FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT
		CHECKED -	REVISED -			CONTRACT NO.				
		DATE	REVISED							

HOT-MIX ASPHALT APPROACHES AND MAILBOX RETURNS



FIELD ENTRANCE

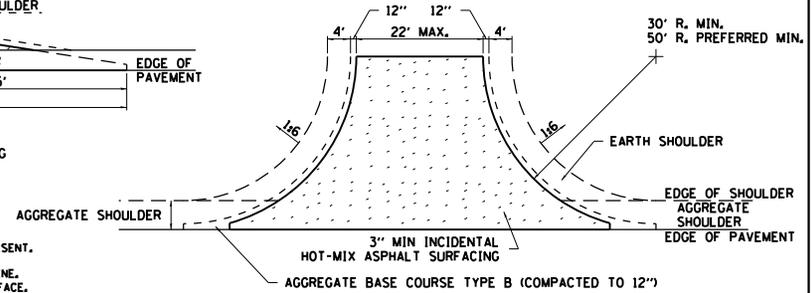


ON ALL ENTRANCES
8" AGGREGATE BASE COURSE TYPE B
2 1/4" INCIDENTAL HOT-MIX ASPHALT SURFACING

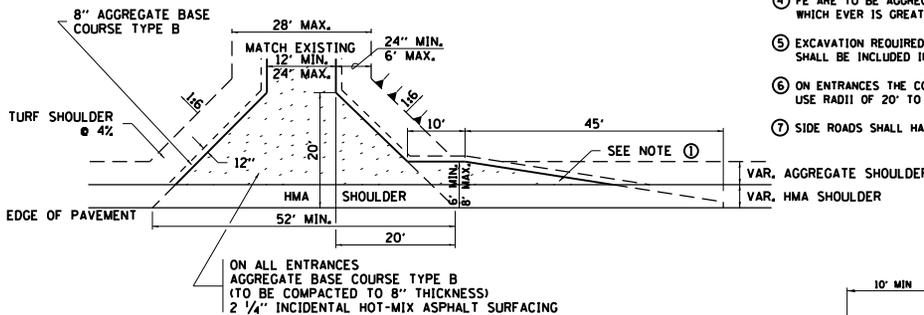
NOTE

- ① TURNOUTS ARE TO BE CONSTRUCTED ON THE APPROACH SIDE OF ALL PE & CE REGARDLESS IF A MAILBOX IS PRESENT.
- ② ALL PE & CE ARE TO BE SURFACED TO RIGHT OF WAY LINE. AREA BEHIND RIGHT OF WAY SHALL MATCH EXISTING SURFACE.
- ③ ALL PE & CE TO BE CONSTRUCTED WITH AN 8" AGGREGATE BASE COURSE, TYPE B AND WITH A 2 1/4" INCIDENTAL HOT-MIX ASPHALT SURFACING, UNLESS OTHERWISE NOTED.
- ④ FE ARE TO BE AGGREGATE TO RIGHT OF WAY OR TOUCH DOWN, WHICH EVER IS GREATEST.
- ⑤ EXCAVATION REQUIRED FOR PLACEMENT OF AGGREGATE BASE COURSE SHALL BE INCLUDED IN THE COST OF THE AGGREGATE BASE COURSE.
- ⑥ ON ENTRANCES THE CONTRACTOR HAS THE OPTION OF USING RADIUS RETURNS. USE RADII OF 20' TO 60'.
- ⑦ SIDE ROADS SHALL HAVE 3" INCIDENTAL PLACED IN TWO 1 1/2" LIFTS.

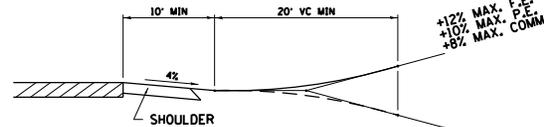
MAILBOX TURNOUT



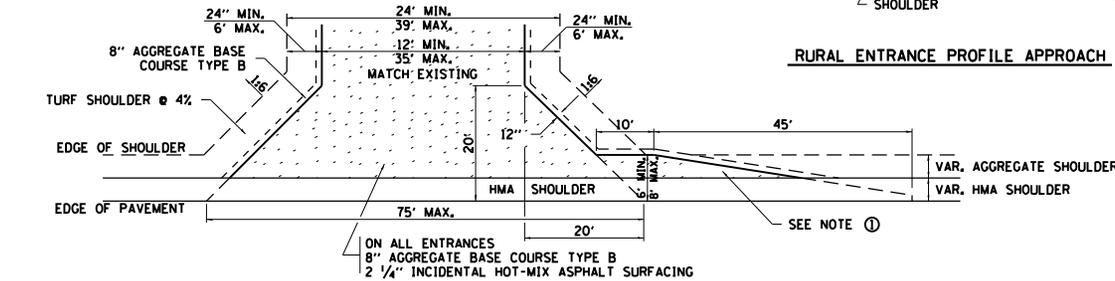
SIDE ROAD RETURN/EARTH SHOULDER



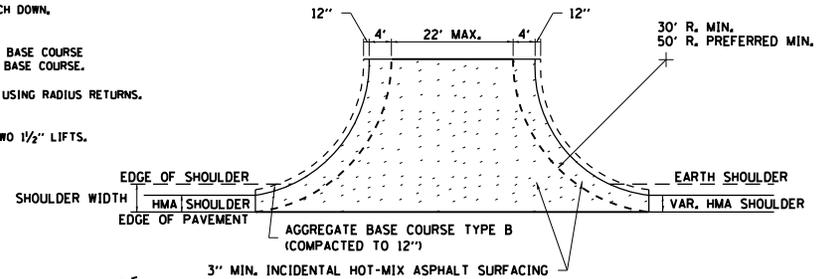
PRIVATE ENTRANCE



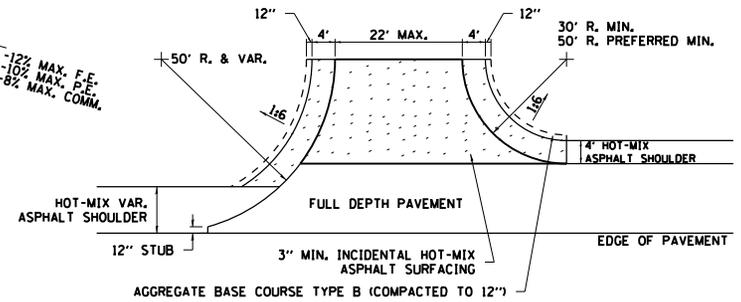
RURAL ENTRANCE PROFILE APPROACH



COMMERCIAL ENTRANCE



SIDE ROAD RETURN/HMA SHOULDER

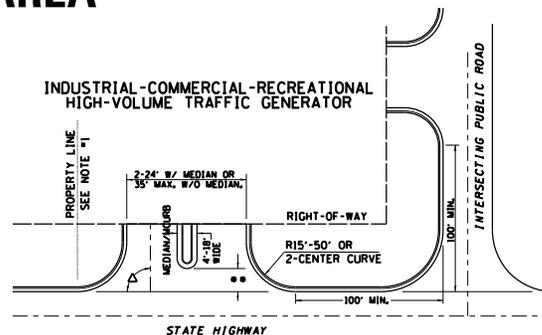
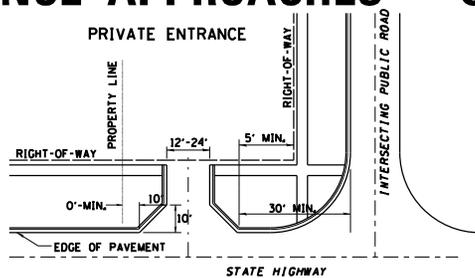
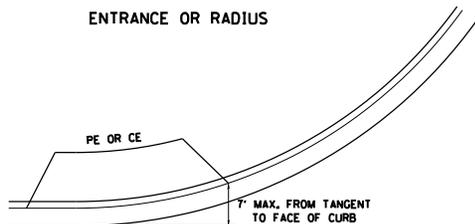


SIDE ROAD RETURN WITH RIGHT TURN LANE

FILE NAME = District 2 Standard	USER NAME = I00T/District 2	DESIGNED -	REVISED - 1-13-17	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REGION 2 / DISTRICT 2 STANDARD	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN -	REVISED - 6-27-14							
		CHECKED -	REVISED - 8-27-13							
		DATE = 1/18/2017	REVISED - 12-07-10							
					SCALE:	SHEET NO. OF SHEETS STA. TO STA.			FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT CONTRACT NO.	

ENTRANCE APPROACHES – URBAN AREA

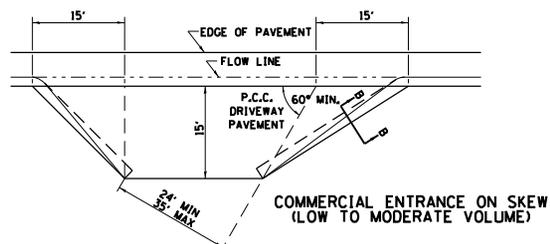
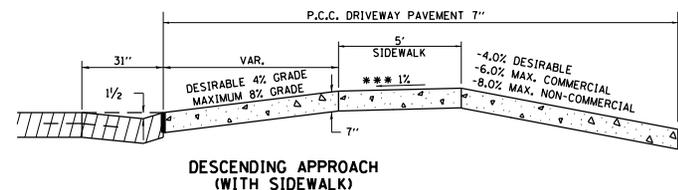
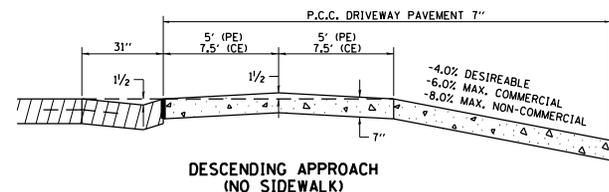
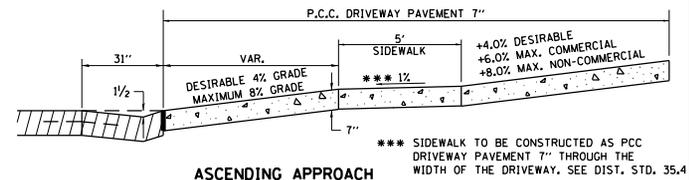
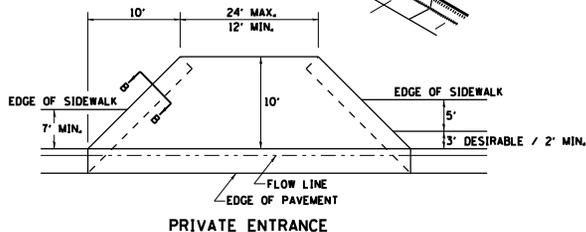
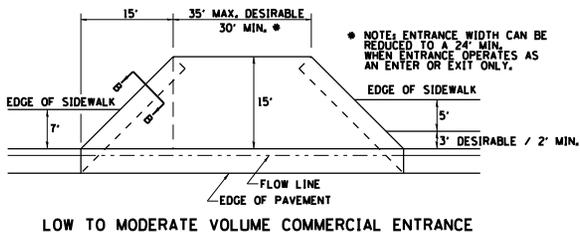
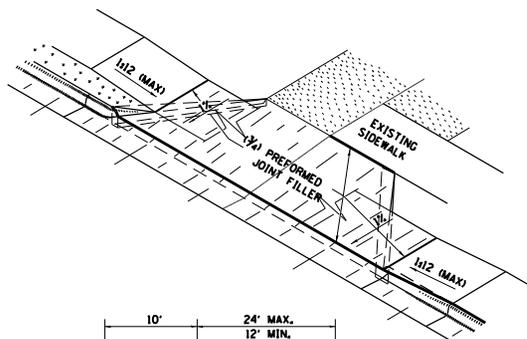
ENTRANCE OR RADIUS



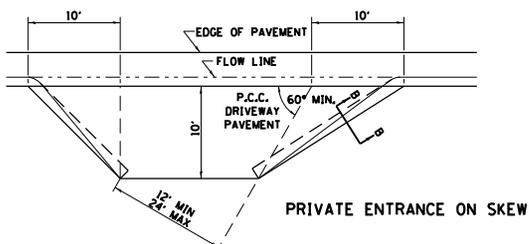
A MINIMUM OF 440 FEET SHALL BE MAINTAINED BETWEEN CENTER LINES OF ADJACENT DRIVEWAYS. Δ 90° DESIRABLE, 45° MIN. ANGLE PERMITTED ONLY FOR ONE-WAY DRIVEWAYS, 60° MIN. ANGLE FOR TWO-WAY DRIVEWAYS.
 NOTE: *1 ENCROACHMENT ON THE ADJACENT PROPERTY OWNER LAND REQUIRES HIS OR HER WRITTEN APPROVAL.

** 4'-10" IF HIGHWAY CURBED, AT EDGE OF SHOULDER IF HIGHWAY UNCURBED.

CURB NOT TO BE PLACED IN SIDEWALK AREAS.



NOTE: CURVED ENTRANCE RETURNS MAY BE USED FOR LOW TO MODERATE VOLUME LOCATIONS WITH REVIEW ON A CASE-BY-CASE BASIS.



FILE NAME : District 2 Standard	USER NAME : I007/District 2	DESIGNED - DRAWN -	REVISD - 6-27-14 REVISD - 12-07-10
PLOT SCALE = 3/8" = 1' - 0"	CHECKED -	REVISD -	REVISD -
PLOT DATE = 1/18/2017	DATE -	REVISD -	REVISD -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

REGION 2 / DISTRICT 2 STANDARD

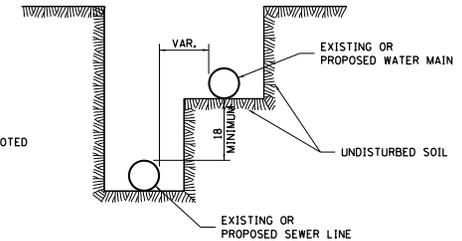
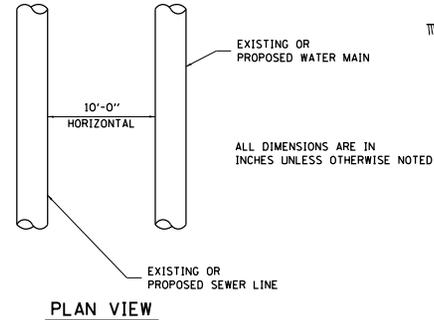
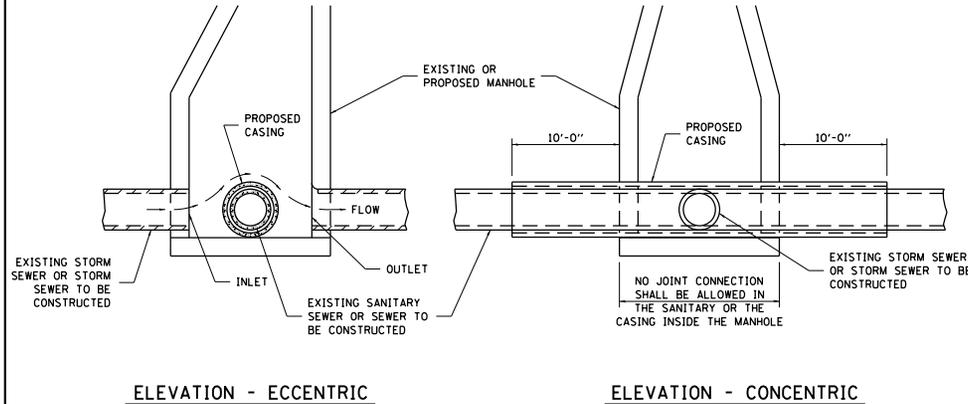
SCALE:	SHEET NO. OF SHEETS	STA. TO STA.	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
						CONTRACT NO.	
						FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT	

SEWER AND WATER MAIN CROSSINGS

THIS DETAIL IS FOR UNKNOWN UTILITIES UNLESS QUANTITIES ARE INCLUDED IN THE PLANS THE EXTRA WORK WILL BE PAID FOR IN ACCORDANCE WITH ARTICLE 109.04.

WHEN PROPOSED SEWER (OR WATER) IS LOCATED 10'-0" OR MORE FROM EXISTING WATER (OR SEWER) NO SPECIAL CONSTRUCTION REQUIRED.

WHEN PROPOSED SEWER (OR WATER) IS LOCATED LESS THAN 10'-0" FROM EXISTING WATER (OR SEWER) DETAILS BELOW SHALL APPLY.

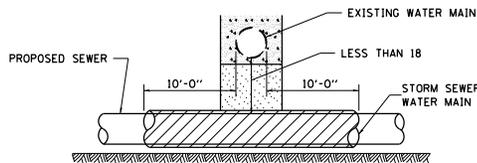


AT GRADE CROSSING OF SANITARY AND STORM SEWER

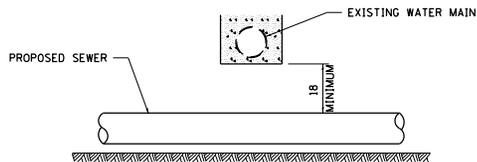
CASING SHALL BE CAST IRON WITH AN INSIDE DIAMETER 2" LARGER IN DIAMETER THAN ENCASED PIPE OUTSIDE DIAMETER WITH BOTH ENDS OF CASING SEALED

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED

POINT LOADS SHALL NOT BE ALLOWED BETWEEN SEWER OR SEWER CASING AND WATER MAIN
PROVIDE ADEQUATE SUPPORT FOR EXISTING WATER MAIN TO PREVENT DAMAGE DUE TO SETTLEMENT OF SEWER TRENCH



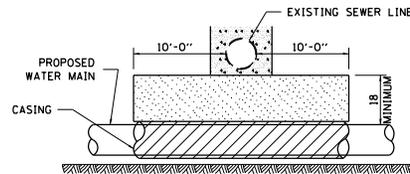
PROVIDE ADEQUATE SUPPORT FOR EXISTING WATER MAIN TO PREVENT DAMAGE DUE TO SETTLEMENT OF SEWER TRENCH
MAINTAIN 18 MINIMUM VERTICAL SEPARATION FOR 10 FT. HORIZONTALLY



ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED

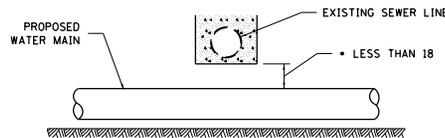
PROPOSED SEWER LINE BELOW EXISTING WATER MAIN

PROVIDE ADEQUATE SUPPORT FOR EXISTING SEWER LINE TO PREVENT DAMAGE DUE TO SETTLEMENT
PLACE TRENCH BACKFILL FOR 10 FT. ON EITHER SIDE OF SEWER LINE



CASING SHALL BE CAST IRON WITH AN INSIDE DIAMETER 2" LARGER IN DIAMETER THAN ENCASED PIPE OUTSIDE DIAMETER WITH BOTH ENDS OF CASING SEALED

PROVIDE ADEQUATE SUPPORT FOR EXISTING WATER MAIN TO PREVENT DAMAGE DUE TO SETTLEMENT OF SEWER TRENCH
MAINTAIN 18 MINIMUM VERTICAL SEPARATION FOR 10 FT. HORIZONTALLY

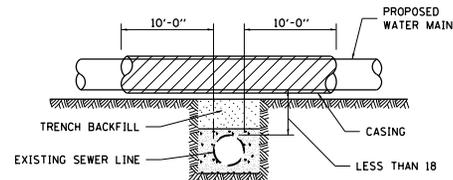


* NOT ALLOWED
MUST MAINTAIN 18 VERTICAL SEPARATION

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED

PROPOSED WATER MAIN BELOW EXISTING SEWER LINE

POINT LOADS SHALL NOT BE ALLOWED BETWEEN WATER MAIN OR WATER MAIN CASING AND SEWER

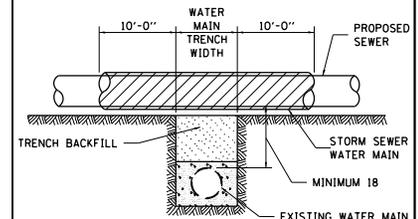


CASING SHALL BE CAST IRON WITH AN INSIDE DIAMETER 2" LARGER IN DIAMETER THAN ENCASED PIPE OUTSIDE DIAMETER WITH BOTH ENDS OF CASING SEALED

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED

PROPOSED WATER MAIN ABOVE EXISTING SEWER LINE

PROVIDE ADEQUATE SUPPORT FOR SEWER TO PREVENT SETTLING AND BREAKING THE WATER MAIN.



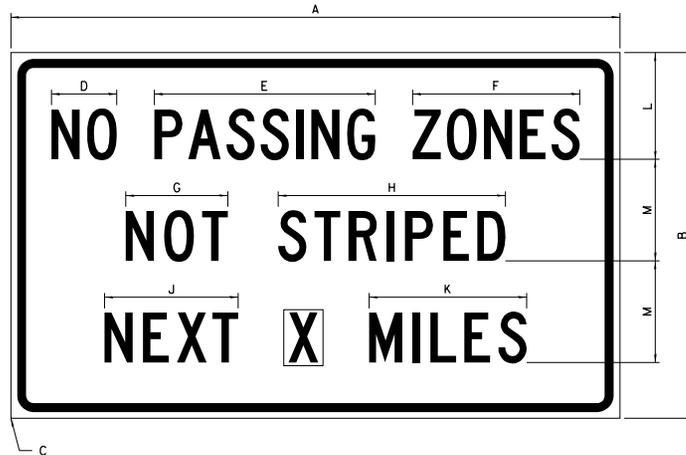
ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED

EXISTING WATER MAIN BELOW PROPOSED SEWER LINE WITH MINIMUM 18 VERTICAL SEPARATION

FILE NAME = District 2 Standard	USER NAME = 100T/District 2	DESIGNED - DRAWN -	REVISIONS - 10-17-11	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		REGION 2 / DISTRICT 2 STANDARD		F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = 3/8" = 1'	CHECKED -	REVISIONS -			SCALE: SHEET NO. OF SHEETS STA. TO STA.		FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT		CONTRACT NO.		
	PLOT DATE = 1/18/2017	DATE -	REVISIONS -									

WORK ZONE SIGN DETAILS

ILLINOIS STANDARD G20-I100



COLOR LEGEND AND BORDER BACKGROUND BLACK ORANGE NON-REFLECTORIZED REFLECTORIZED

SIGN SIZE	DIMENSIONS											
	A	B	C	D	E	F	G	H	J	K	L	M
60 x 36	60.00	36.00	2.25	6.4	21.80	16.40	10.00	22.40	13.20	15.50	10.50	10.00

SIGN SIZE	SERIES BY LINE			MARGIN	BORDER
	1	2	3		
60 x 36	5C	5C	5C	0.625	0.875

Sign not to scale

GENERAL NOTES

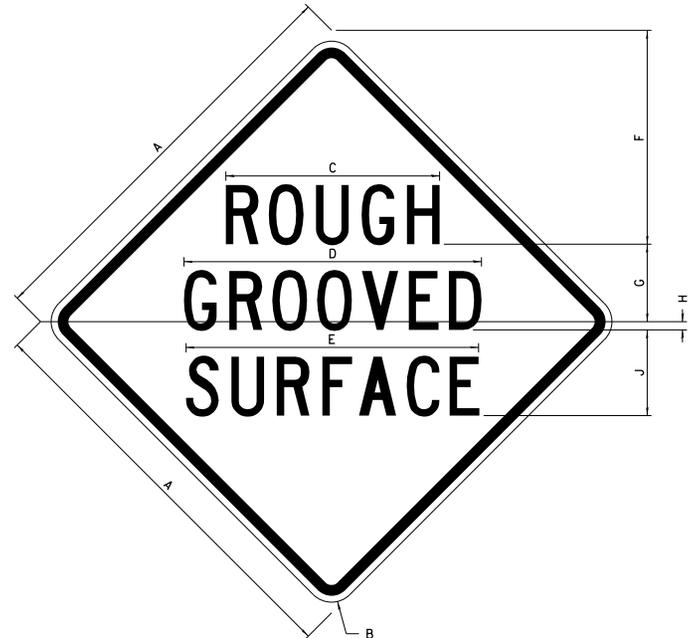
All work to furnish and install these signs shall be included in the cost of the specified traffic control standards and shall not be paid separately.

All Illinois Standard signs shall conform to the latest edition of the "Illinois Standard Highway Signs Book" in effect on the date of invitation for bids.

Signs shall meet the applicable portions of Sections 701 and 720 of the Standard Specifications.

All dimensions are in inches unless otherwise noted.

ILLINOIS STANDARD W8-I107



COLOR LEGEND AND BORDER BACKGROUND BLACK ORANGE NON-REFLECTORIZED REFLECTORIZED

SIGN SIZE	DIMENSIONS									
	A	B	C	D	E	F	G	H	J	
48 x 48	48.00	3.00	25.00	34.80	34.20	24.94	9.00	1.00	10.00	

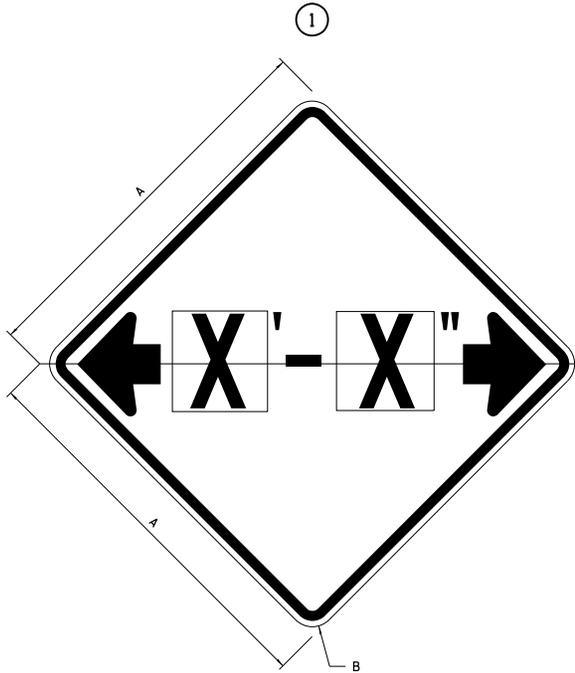
SIGN SIZE	SERIES BY LINE			MARGIN	BORDER
	1	2	3		
48 x 48	7C	7C	7C	1.250	0.750

Sign not to scale

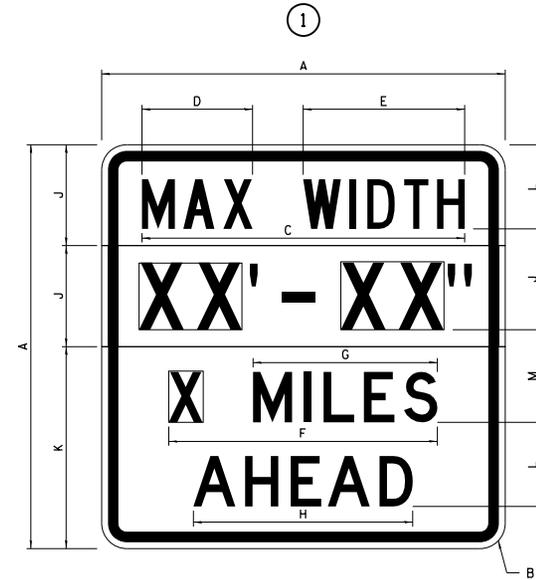
FILE NAME : District 2 Standard	USER NAME : I007/District 2	DESIGNED - DRAWN -	REVISED - 3-02-16 REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REGION 2 / DISTRICT 2 STANDARD	F.A. RTCL	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
PLOT SCALE = 3/8" = 1' - 0"				CHECKED -		REVISED -		CONTRACT NO.		
PLOT DATE = 1/18/2017				DATE -		REVISED -		FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT

WORK ZONE SIGN DETAILS

ILLINOIS STANDARD W12-I102



ILLINOIS STANDARD W12-I103



GENERAL NOTES

All work to furnish and install these signs shall be included in the cost of the specified traffic control standards and shall not be paid separately.

All Illinois Standard signs shall conform to the latest edition of the "Illinois Standard Highway Signs Book" in effect on the date of Invitation for bids.

Signs shall meet the applicable portions of Sections 701 and 720 of the Standard Specifications.

All dimensions are in inches unless otherwise noted.

COLOR LEGEND AND BORDER BACKGROUND BLACK FL ORANGE NON-REFLECTORIZED REFLECTORIZED

SIGN SIZE	DIMENSIONS	
	A	B
48 x 48	48.00	3.00

① Illinois Standard signs W12-I102 and W12-I103 shall be used as described in the special provisions.

SIGN SIZE	SERIES BY LINE	MARGIN	BORDER
	1		
48 x 48	12C	0.750	1.250

Sign not to scale

COLOR LEGEND AND BORDER BACKGROUND (WIDTH) BLACK WHITE FL ORANGE NON-REFLECTORIZED REFLECTORIZED REFLECTORIZED

SIGN SIZE	DIMENSIONS											
	A	B	C	D	E	F	G	H	J	K	L	M
48 x 48	48.00	3.00	38.40	13.20	19.20	32.00	22.00	26.20	12.00	24.00	10.00	11.00

SIGN SIZE	SERIES BY LINE				MARGIN	BORDER
	1	2	3	4		
48 x 48	6C	8D	6D	6D	0.750	1.250

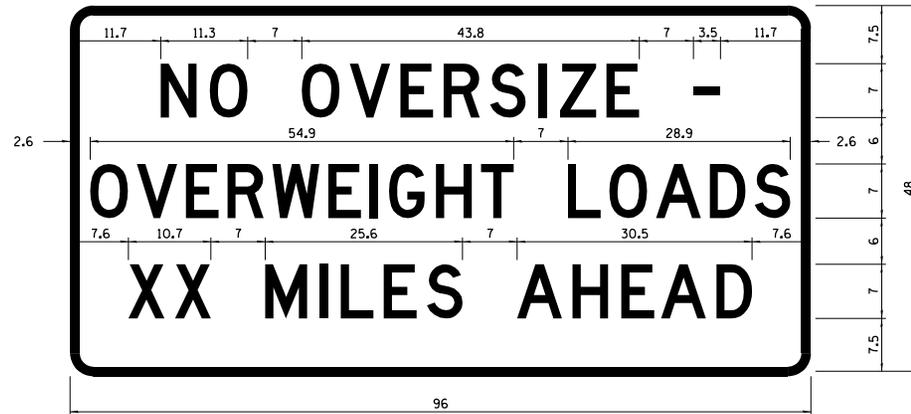
Sign not to scale

XX'-XX" WIDTH AND X MILES ARE VARIABLE TOP AND BOTTOM OF BACKGROUND WHITE

FILE NAME : District 2 Standard	USER NAME : I007/District 2	DESIGNED -	REVISOR -	3-02-16	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REGION 2 / DISTRICT 2 STANDARD			F.A. RT#.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
		DRAWN -	REVISOR -			SCALE:	SHEET NO.	OF	SHEETS	STA.	TO STA.	FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT	CONTRACT NO.
		CHECKED -	REVISOR -											
		DATE -	REVISOR -											

WORK ZONE SIGN DETAILS

ROAD CLOSED TO OVERSIZED LOADS



STOP LINE SIGN FOR TEMPORARY SIGNALS



COLOR LEGEND AND BORDER BACKGROUND BLACK ORANGE NON-REFLECTORIZED REFLECTORIZED

Permit Loads - Loads Over 13 Feet; 3.0" Radius, 1.3" Border;
 [NO OVERSIZE -] D; [OVERWEIGHT LOADS] D 85% spacing; [XX MILES AHEAD] D;
 Table of letter and object lefts.

N	O	O	V	E	R	S	I	Z	E	-
11.7	18.1	30.0	36.2	42.8	48.4	54.4	60.7	63.5	69.5	80.8

O	V	E	R	W	E	I	G	H	T	L	O	A	D	S
2.6	8.6	15.0	20.4	26.2	33.4	38.8	41.3	47.4	53.2	64.5	69.9	75.9	82.9	88.7

X	X	M	I	L	E	S	A	H	E	A	D
7.6	13.6	25.3	32.3	35.1	40.6	46.2	57.9	65.1	71.4	76.6	83.7

Sign not to scale

COLOR LEGEND AND BORDER BACKGROUND BLACK WHITE NON-REFLECTORIZED REFLECTORIZED

SIGN SIZE	SERIES BY LINE		
	1	2	3
24 x 24	4C	4C	4C

Sign not to scale

GENERAL NOTES

All work to furnish and install these signs shall be included in the cost of the specified traffic control standards and shall not be paid separately.

All Illinois Standard signs shall conform to the latest edition of the "Illinois Standard Highway Signs Book" in effect on the date of invitation for bids.

Signs shall meet the applicable portions of Sections 701 and 720 of the Standard Specifications.

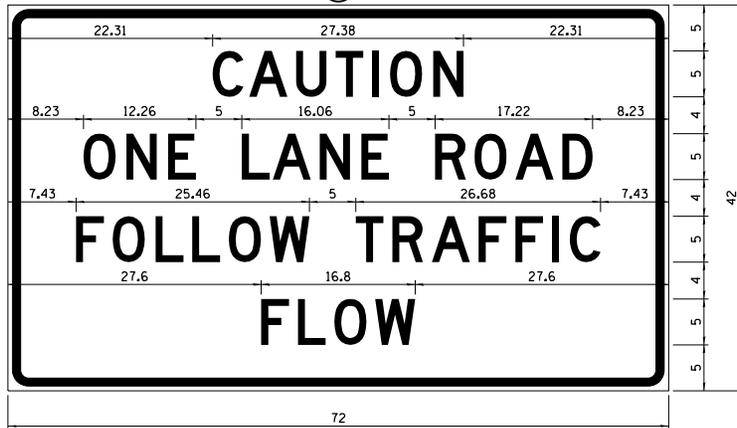
All dimensions are in inches unless otherwise noted.

FILE NAME : District 2 Standard	USER NAME : I007/District 2	DESIGNED - DRAWN -	REVISED - 3-02-16 REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REGION 2 / DISTRICT 2 STANDARD	F.A. RTEL	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
PLOT SCALE = 3/8" = 1'	CHECKED -	REVISED -	SCALE:			SHEET NO. OF SHEETS	STA. TO STA.	CONTRACT NO.			
PLOT DATE = 1/18/2017	DATE -	REVISED -	FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT					

**ENTRANCE SIGN FOR USE
WITH TEMPORARY SIGNALS**

WORK ZONE SIGN DETAILS

②



COLOR LEGEND AND BORDER BACKGROUND BLACK ORANGE NON-REFLECTORIZED REFLECTORIZED

2.25" Radius, 0.88" Border, 0.50" Indent;
[CAUTION] D; [ONE LANE ROAD] D;
[FOLLOW TRAFFIC] D; [FLOW] D

② This sign shall be installed at entrances located between the temporary signals as shown in the staging plans.

Table Of Widths And Spaces

22.31	C	3.36	0.62	A	4.18	0.94	U	3.36	0.94	T	3.04	0.94	I	0.78	1.17	O	3.52	1.17	N	3.36	22.31
-------	---	------	------	---	------	------	---	------	------	---	------	------	---	------	------	---	------	------	---	------	-------

8.23	O	3.51	1.17	N	3.36	1.18	E	3.04
------	---	------	------	---	------	------	---	------

5.00	L	3.05	0.31	A	4.18	0.94	N	3.36	1.17	E	3.05
------	---	------	------	---	------	------	---	------	------	---	------

5.00	R	3.36	0.93	O	3.52	0.94	A	4.18	0.93	D	3.36	8.23
------	---	------	------	---	------	------	---	------	------	---	------	------

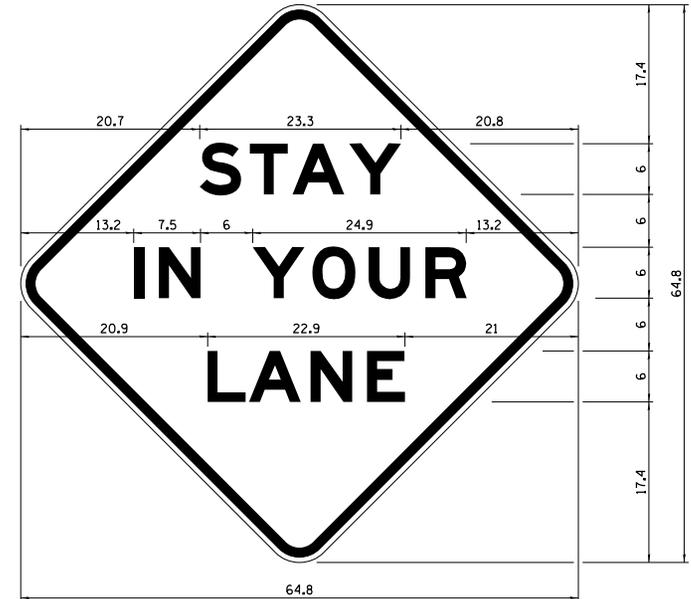
7.43	F	3.04	0.94	O	3.52	1.17	L	3.04	0.94	L	3.05	0.94	O	3.51	0.94	W	4.37
------	---	------	------	---	------	------	---	------	------	---	------	------	---	------	------	---	------

5.00	T	3.05	0.94	R	3.36	0.94	A	4.18	0.93	F	3.05	0.94	F	3.04	0.94	I	0.78	1.18	C	3.35	7.43
------	---	------	------	---	------	------	---	------	------	---	------	------	---	------	------	---	------	------	---	------	------

27.60	F	3.05	0.94	L	3.04	0.94	O	3.52	0.93	W	4.38	27.60
-------	---	------	------	---	------	------	---	------	------	---	------	-------

Sign not to scale

STAY IN YOUR LANE



COLOR LEGEND AND BORDER BACKGROUND BLACK ORANGE NON-REFLECTORIZED REFLECTORIZED

48.0" across sides 3.8" Radius, 1.0" Border, 0.6" Indent;
"STAY" E Mod; "IN YOUR" E Mod; "LANE" E Mod;

Table of Letter and Object Lefts

S	T	A	Y
20.7	26.8	31.6	38.0

I	N	Y	O	U	R
13.2	15.9	26.7	33.9	40.5	46.8

L	A	N	E
20.9	25.8	33.1	39.4

Sign not to scale

GENERAL NOTES

All work to furnish and install these signs shall be included in the cost of the specified traffic control standards and shall not be paid separately.

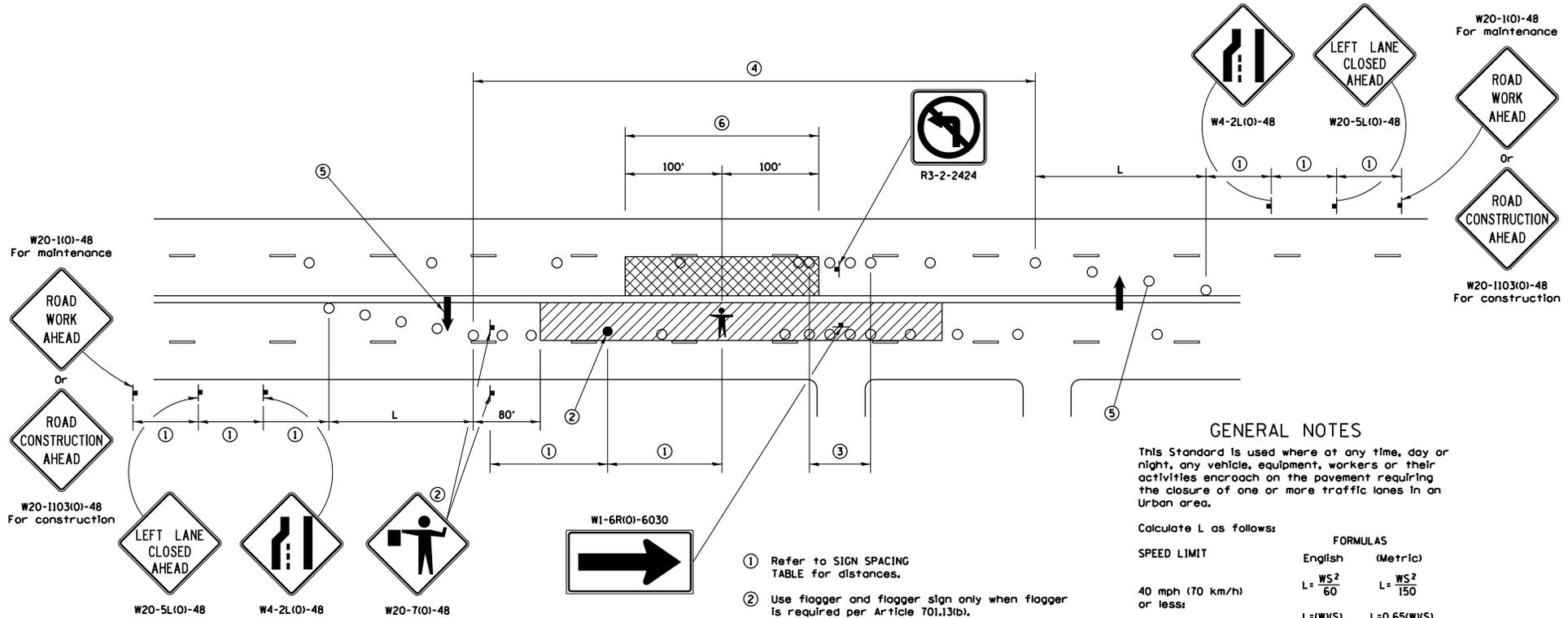
All Illinois Standard signs shall conform to the latest edition of the "Illinois Standard Highway Signs Book" in effect on the date of invitation for bids.

Signs shall meet the applicable portions of Sections 701 and 720 of the Standard Specifications.

All dimensions are in inches unless otherwise noted.

FILE NAME : District 2 Standard	USER NAME : I007/District 2	DESIGNED - DRAWN -	REVISED - 3-02-16	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REGION 2 / DISTRICT 2 STANDARD	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
PLOT SCALE = 3/8" = 1' @	CHECKED -	REVISED -	SCALE:			SHEET NO.	OF	SHEETS	STA.	TO STA.	CONTRACT NO.
PLOT DATE = 1/18/2017	DATE	REVISED -	FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT					

URBAN LANE INSIDE CLOSURE, MULTILANE, 2-WAY, WITH MOUNTABLE MEDIAN



GENERAL NOTES

This Standard is used where at any time, day or night, any vehicle, equipment, workers or their activities encroach on the pavement requiring the closure of one or more traffic lanes in an Urban area.

Calculate L as follows:

SPEED LIMIT	FORMULAS	
	English	(Metric)
40 mph (70 km/h) or less:	$L = \frac{WS^2}{60}$	$L = \frac{WS^2}{150}$
45 mph (80 km/h) or greater:	$L = (W)(S)$	$L = 0.65(W)(S)$

W = Width of offset in feet (meters),
S = Normal posted speed mph (km/h).

All dimensions are in inches (millimeters) unless otherwise shown.

Lane closures in the opposite direction shall be removed when no workers are present.

Cones or reflectorized cones shall not be used during hours of darkness.

This Traffic Control detail shall be included in the cost of Traffic Control and Protection Standard 701606.

SYMBOLS

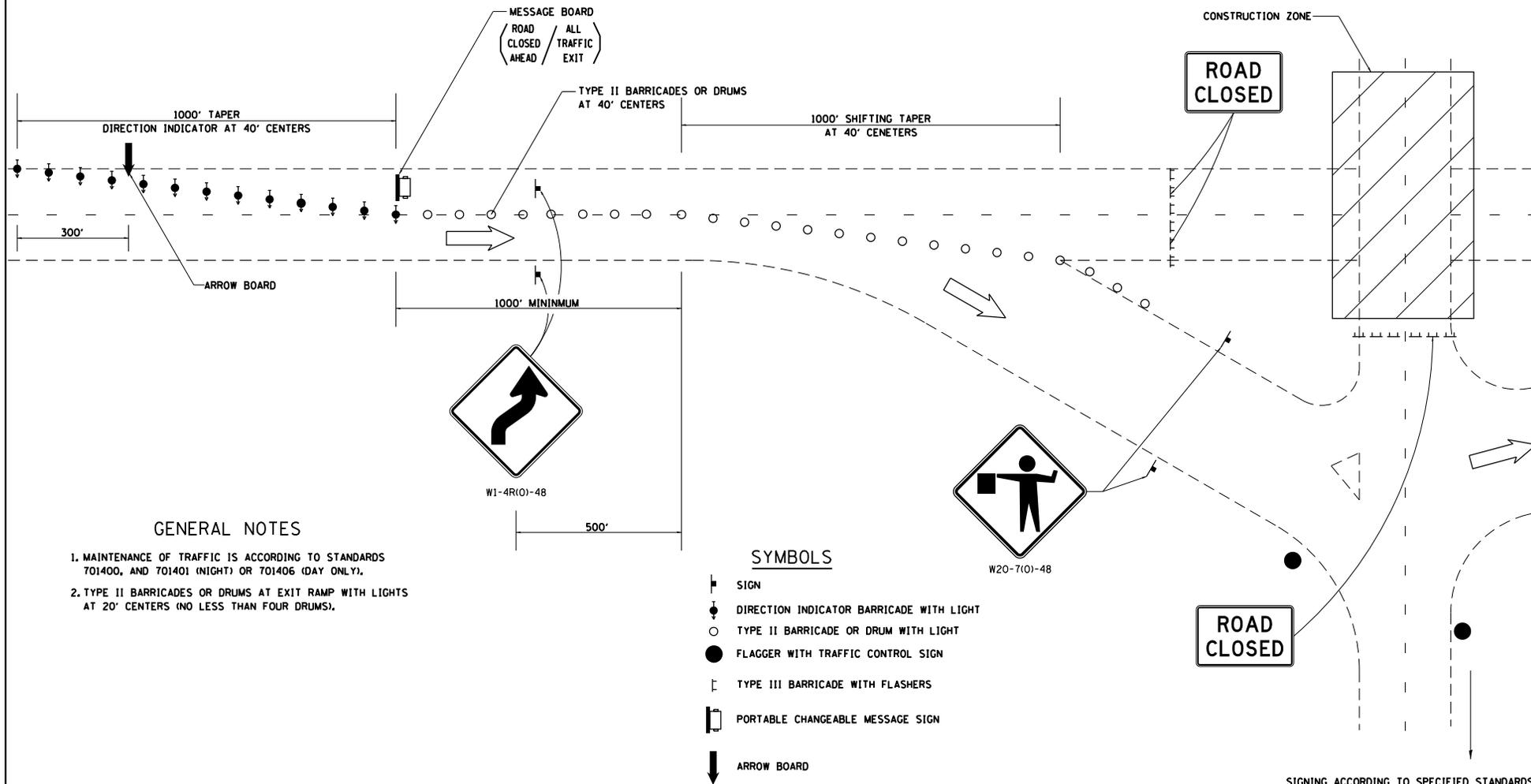
- WORK AREA
- CLOSED LANE
- ARROW BOARD
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- CONE, DRUM OR BARRICADE
- FLAGGER WITH TRAFFIC CONTROL SIGN.
- WORKER ON FOOT

SIGN SPACING	
Posted Speed	Sign Spacing
55	500' (150 m)
50-45	350' (100 m)
<45	200' (60 m)

- ① Refer to SIGN SPACING TABLE for distances.
- ② Use flagger and flagger sign only when flagger is required per Article 701.13(b).
- ③ Devices at 10' centers from edge of radius return to edge of radius return when left turns are prohibited due to actively working in the intersection.
- ④ Cones at 20' (6 m) centers for 250' (75 m). Additional cones may be placed at 40' (12 m) centers. When drums or Type I or Type II barricades are used, the interval between devices may be doubled (excluding devices in intersections).
- ⑤ Cones, drums or barricades at 20' (6 m) centers in taper.
- ⑥ No equipment, materials, vehicles, or other hazards are allowed in the closed lane in the opposite direction within 100' of a worker on foot.

FILE NAME : District 2 Standard	USER NAME : I007/District 2	DESIGNED - DRAWN -	REVISED - 1-05-16 REVISED - 7-22-14	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REGION 2 / DISTRICT 2 STANDARD	F.A. RTE.	SECTION	COUNTY	TOTAL SHEET NO.
	PLOT SCALE = 3/8" = 1' @ 1/8"	CHECKED - DATE -	REVISED -		SCALE:	SHEET NO.	OF SHEETS	STA.	TO STA.
	PLOT DATE = 1/18/2017								FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT CONTRACT NO.

TEMPORARY ROAD CLOSURE EXPRESSWAY



GENERAL NOTES

1. MAINTENANCE OF TRAFFIC IS ACCORDING TO STANDARDS 701400, AND 701401 (NIGHT) OR 701406 (DAY ONLY).
2. TYPE II BARRICADES OR DRUMS AT EXIT RAMP WITH LIGHTS AT 20' CENTERS (NO LESS THAN FOUR DRUMS).

SYMBOLS

- ┆ SIGN
- ◆ DIRECTION INDICATOR BARRICADE WITH LIGHT
- TYPE II BARRICADE OR DRUM WITH LIGHT
- FLAGGER WITH TRAFFIC CONTROL SIGN
- ┌ TYPE III BARRICADE WITH FLASHERS
- ☐ PORTABLE CHANGEABLE MESSAGE SIGN
- ↓ ARROW BOARD

SIGNING ACCORDING TO SPECIFIED STANDARDS

FILE NAME : District 2 Standard	USER NAME : I007/District 2	DESIGNED -	REVISED - 1-05-16
		DRAWN -	REVISED - 8-27-13
		CHECKED -	REVISED - 4-04-11
		DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

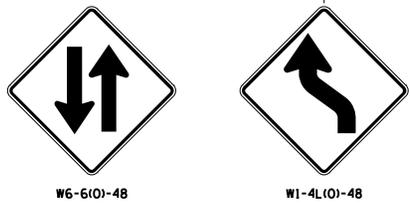
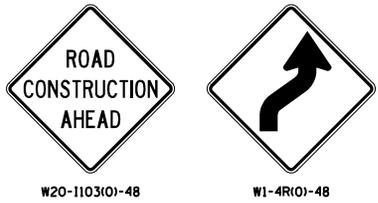
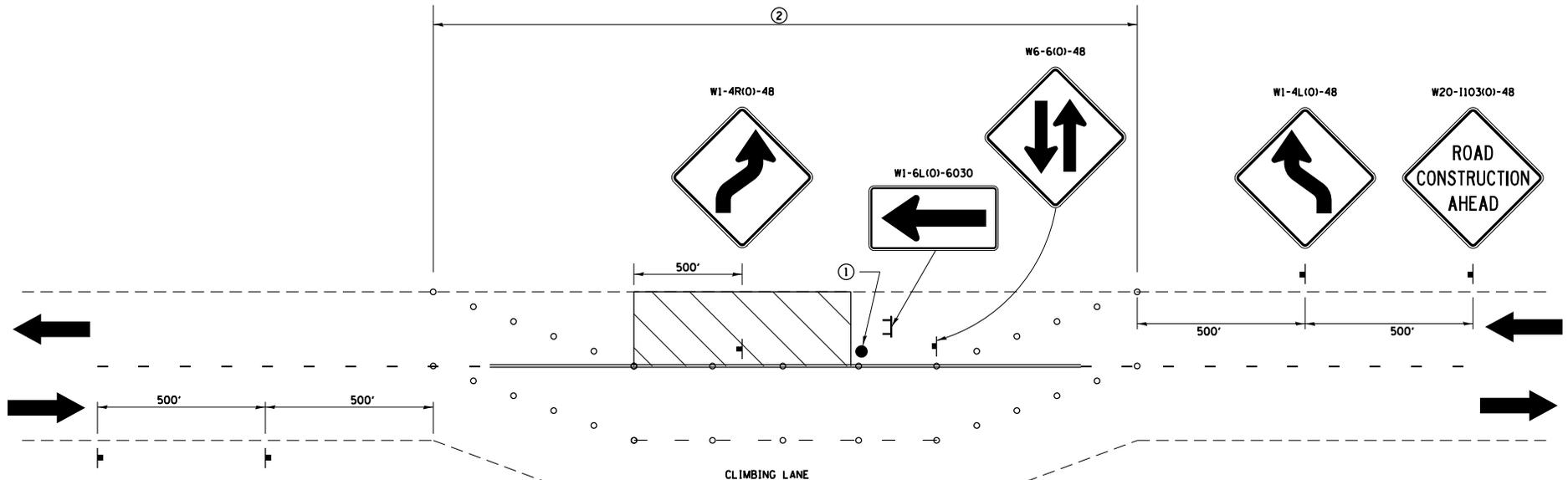
REGION 2 / DISTRICT 2 STANDARD

SCALE:	SHEET NO. OF SHEETS	STA. TO STA.	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		
					CONTRACT NO.		

TEMPORARY ROAD CLOSURE EXPRESSWAY

36.1

TRAFFIC CONTROL FOR THREE LANE SECTION CASE 1



SYMBOLS

- WORK AREA
- SIGN
- FLAGGER WITH TRAFFIC CONTROL SIGN
- CONE, DRUM OR BARRICADE
- TYPE III BARRICADE

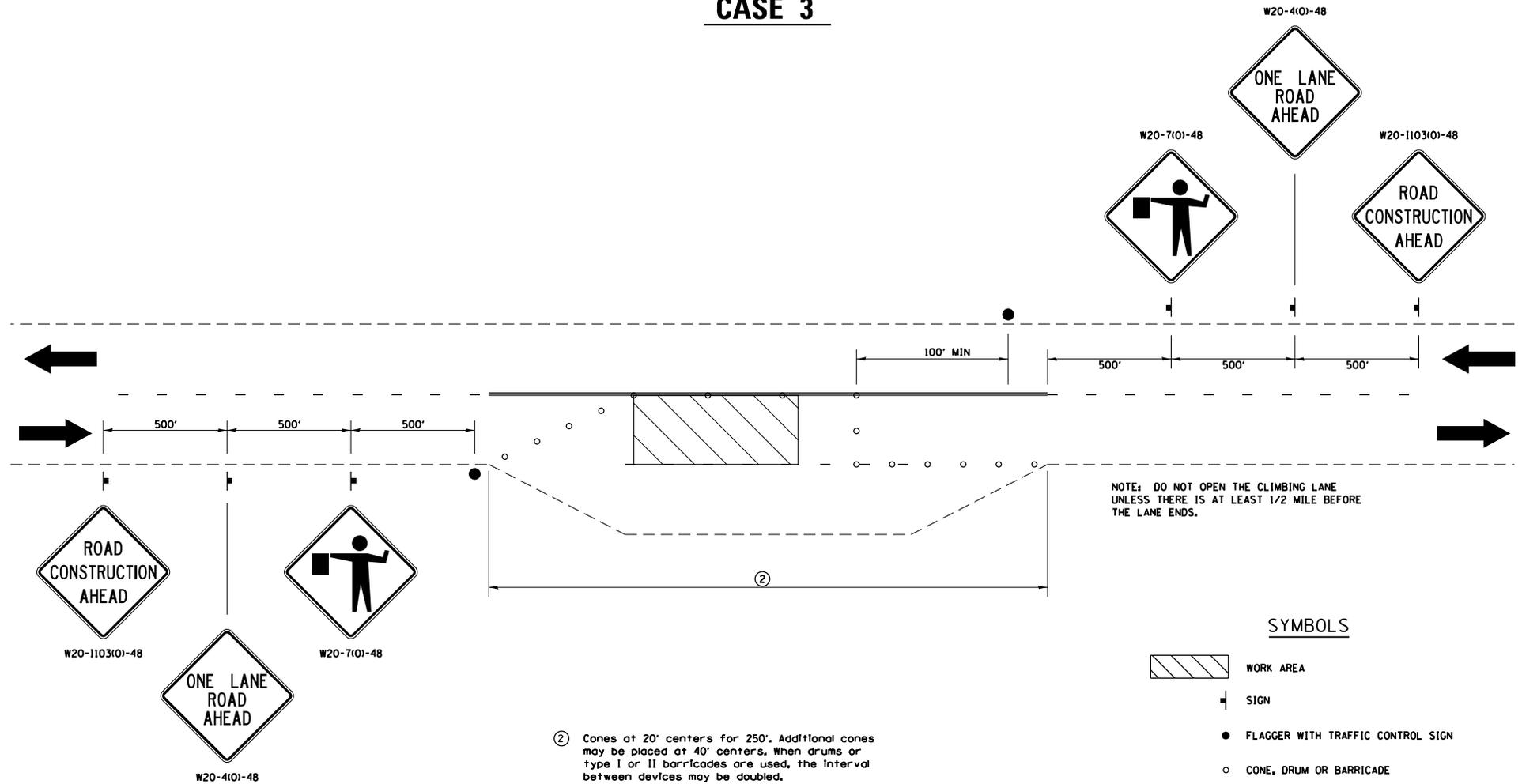
- ① Use flagger and flagger signs only when flagger is required per Article 701.13(b).
- ② Cones at 20' centers for 250'. Additional cones may be placed at 40' centers. When drums or type I or II barricades are used, the interval between devices may be doubled.

THIS TRAFFIC CONTROL DETAIL SHALL BE INCLUDED IN THE COST OF SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

FILE NAME : District 2 Standard	USER NAME : I007/District 2	DESIGNED -	REVISED - 1-05-16	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REGION 2 / DISTRICT 2 STANDARD	P.A. RTEL.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.		
		DRAWN -	REVISED - 8-27-13									
		CHECKED -	REVISED - 7-30-13									
		DATE -	REVISED -									
					SCALE:	SHEET NO.	OF	SHEETS	STA.	TO STA.		
										FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT	CONTRACT NO.

TRAFFIC CONTROL FOR THREE LANE SECTION

CASE 3



NOTE: DO NOT OPEN THE CLIMBING LANE UNLESS THERE IS AT LEAST 1/2 MILE BEFORE THE LANE ENDS.

② Cones at 20' centers for 250'. Additional cones may be placed at 40' centers. When drums or type I or II barricades are used, the interval between devices may be doubled.

SYMBOLS

- WORK AREA
- SIGN
- FLAGGER WITH TRAFFIC CONTROL SIGN
- CONE, DRUM OR BARRICADE

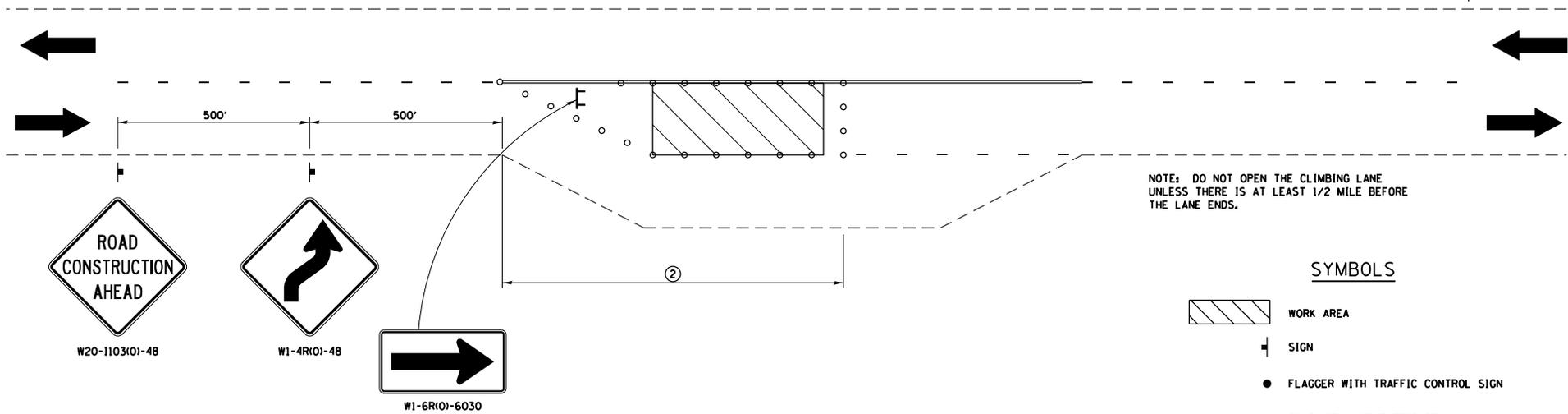
THIS TRAFFIC CONTROL DETAIL SHALL BE INCLUDED IN THE COST OF SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

FILE NAME : District 2 Standard	USER NAME : I007/District 2	DESIGNED -	REVISED - 1-05-16	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REGION 2 / DISTRICT 2 STANDARD	P.A. RTEL.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN -	REVISED - 8-27-13							
		CHECKED -	REVISED - 7-30-13							
		DATE -	REVISED -							

TRAFFIC CONTROL FOR THREE LANE SECTION

CASE 4

W20-1103(O)-48



NOTE: DO NOT OPEN THE CLIMBING LANE UNLESS THERE IS AT LEAST 1/2 MILE BEFORE THE LANE ENDS.

SYMBOLS

- WORK AREA
- SIGN
- FLAGGER WITH TRAFFIC CONTROL SIGN
- CONE, DRUM OR BARRICADE
- TYPE III BARRICADE

② Cones at 20' centers for 250'. Additional cones may be placed at 40' centers. When drums or type I or II barricades are used, the interval between devices may be doubled.

THIS TRAFFIC CONTROL DETAIL SHALL BE INCLUDED IN THE COST OF SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

CASE 4 APPLIES WHEN NO WORKERS ARE PRESENT. WHEN WORKERS ARE PRESENT, TWO LANES SHALL BE CLOSED AND TRAFFIC CONTROL SHALL BE ACCORDING TO CASE 3.

FILE NAME : District 2 Standard	USER NAME : I007/District 2	DESIGNED -	REVISED - 1-05-16	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REGION 2 / DISTRICT 2 STANDARD	F.A. RTE.	SECTION	COUNTY	TOTAL SHEET NO.	
		DRAWN -	REVISED - 8-27-13							
		CHECKED -	REVISED - 7-30-13							
		DATE - 1/18/2017	REVISED -							
					SCALE:	SHEET NO. OF SHEETS		STA. TO STA.	FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT	

TRAFFIC CONTROL FOR TRANSITION AREAS

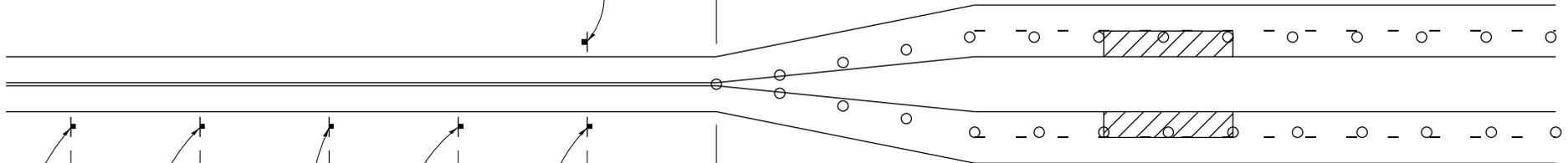
CASE 1

SIGNS, DEVICES & FLAGGERS
ACCORDING TO APPLICABLE
TRAFFIC CONTROL STANDARDS



DRUMS OR BARRICADES
⊙ 40' CENTERS

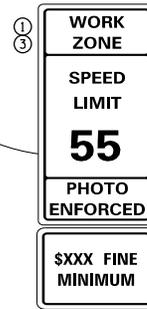
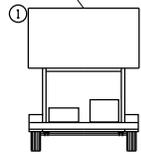
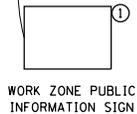
L ②



DRUMS OR BARRICADES
⊙ 40' CENTERS

SIGNS, DEVICES & FLAGGERS
ACCORDING TO APPLICABLE
TRAFFIC CONTROL STANDARDS

500' 500' 500' 500' 500'



SIGNS, DEVICES & FLAGGERS
ACCORDING TO APPLICABLE
TRAFFIC CONTROL STANDARDS

GENERAL NOTES
THIS DETAIL IS TO BE USED IN CONJUNCTION
WITH THE APPLICABLE MULTILANE TRAFFIC
CONTROL AND PROTECTION STANDARD.

1. If applicable, Use if shown on applicable multilane Traffic Control and Protection Standard being used.
2. If the work is within 2500 feet of the transition when the speed is > 40 mph, or 1500 feet for all other speeds, the detail shall be used.
3. WORK ZONE SPEED LIMIT 55 SIGN ASSEMBLY shall be replaced with WORK ZONE SPEED LIMIT 45 SIGN ASSEMBLY where the workers are within 500 feet of the transition.

THIS TRAFFIC CONTROL DETAIL SHALL BE INCLUDED
IN THE COST OF SPECIFIED TRAFFIC CONTROL
STANDARDS OR ITEMS.

○ DRUMS OR BARRICADES WITH LIGHTS

▨ WORK AREA

NOTE: STANDARDS 701301 AND 701306
SHALL NOT BE USED WITHIN 500 FEET
OF THE TRANSITION.

* DEPENDS ON GEOMETRICS
OF THE TRANSITION, MAY
SWITCH THE "STAY IN YOUR
LANE" AND "WEAVE SIGNS"

FILE NAME = District 2 Standard	USER NAME = I007/District 2	DESIGNED -	REVISED - 1-05-16
		DRAWN -	REVISED - 8-27-13
		CHECKED -	REVISED - 1-16-13
		DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

REGION 2 / DISTRICT 2 STANDARD

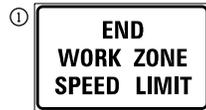
SCALE: SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO.	

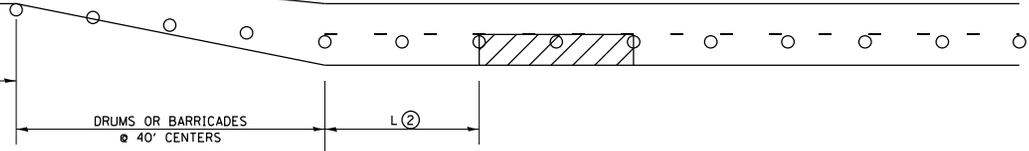
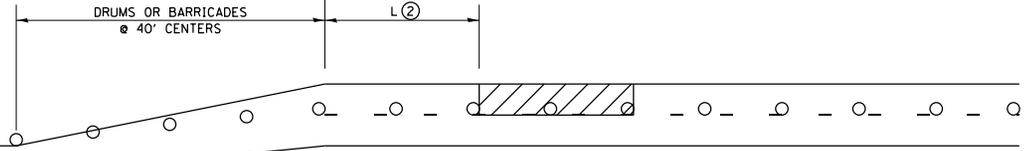
TRAFFIC CONTROL FOR TRANSITION AREAS

CASE 2

SIGNS, DEVICES & FLAGGERS
ACCORDING TO APPLICABLE
TRAFFIC CONTROL STANDARDS



G20-1103(O)-6036

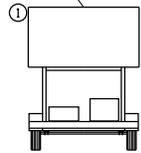


SIGNS, DEVICES & FLAGGERS
ACCORDING TO APPLICABLE
TRAFFIC CONTROL STANDARDS

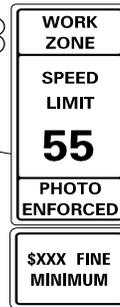
WORK ZONE PUBLIC
INFORMATION SIGN



W20-1101-48



PORTABLE CHANGEABLE
MESSAGE SIGN



W2-1115(O)-3618

R2-1-3648

R10-1108p-3618
(only along roadways under
the jurisdiction of the State.)

R2-1106-3618

GENERAL NOTES
THIS DETAIL IS TO BE USED IN CONJUNCTION
WITH THE APPLICABLE MULTILANE TRAFFIC
CONTROL AND PROTECTION STANDARD.

1. If applicable, Use if shown on applicable multilane Traffic Control and Protection Standard being used.
2. If the work is within 2500 feet of the transition when the speed is > 40 mph, or 1500 feet for all other speeds, the detail shall be used.
3. WORK ZONE SPEED LIMIT 55 SIGN ASSEMBLY shall be replaced with WORK ZONE SPEED LIMIT 45 SIGN ASSEMBLY where the workers are within 500 feet of the transition.

THIS TRAFFIC CONTROL DETAIL SHALL BE INCLUDED
IN THE COST OF SPECIFIED TRAFFIC CONTROL
STANDARDS OR ITEMS.

○ DRUMS OR BARRICADES WITH LIGHTS



WORK AREA

NOTE: STANDARDS 701301 AND 701306
SHALL NOT BE USED WITHIN 500 FEET
OF THE TRANSITION.

FILE NAME = District 2 Standard	USER NAME = I007/District 2	DESIGNED -	REVISED - 1-05-16
		DRAWN -	REVISED - 8-27-13
		CHECKED -	REVISED - 1-16-13
		DATE -	REVISED -

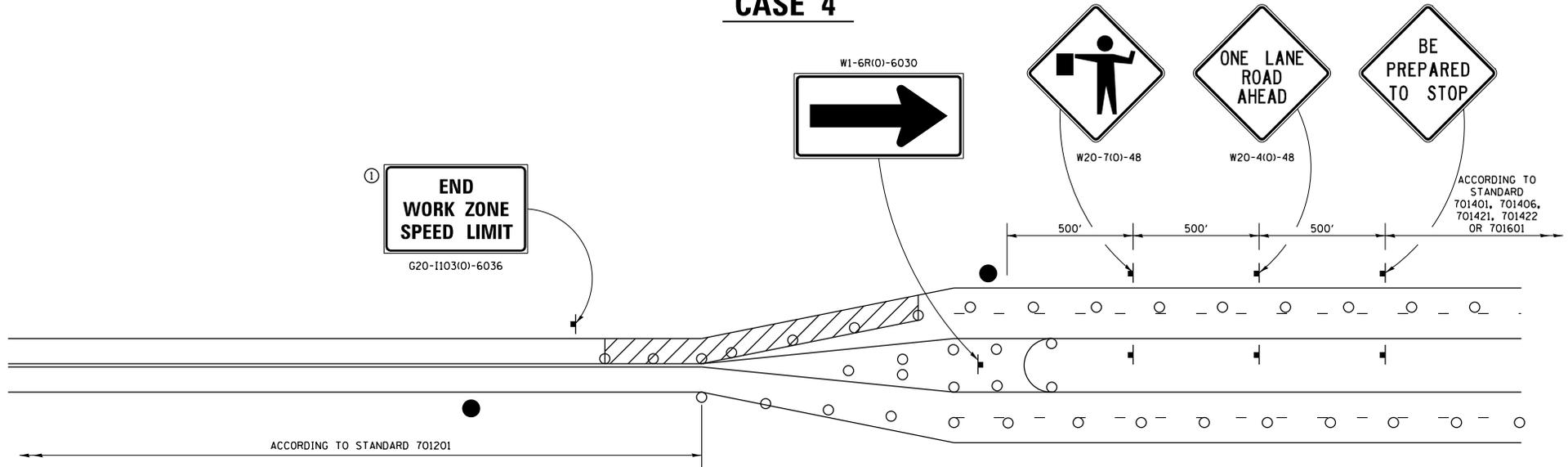
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

REGION 2 / DISTRICT 2 STANDARD

SCALE:	SHEET NO. OF SHEETS	STA. TO STA.	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
						CONTRACT NO.	
						FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT	

TRAFFIC CONTROL FOR TRANSITION AREAS

CASE 4



GENERAL NOTES
 THIS DETAIL IS TO BE USED IN CONJUNCTION WITH THE APPLICABLE MULTILANE TRAFFIC CONTROL AND PROTECTION STANDARD.

1. If applicable, Use if shown on applicable multilane Traffic Control and Protection Standard being used.
2. If the work is within 2500 feet of the transition when the speed is > 40 mph, or 1500 feet for all other speeds, the detail shall be used.
3. WORK ZONE SPEED LIMIT 55 SIGN ASSEMBLY shall be replaced with WORK ZONE SPEED LIMIT 45 SIGN ASSEMBLY where the workers are within 500 feet of the transition.

THIS TRAFFIC CONTROL DETAIL SHALL BE INCLUDED IN THE COST OF SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

● FLAGGER WITH TRAFFIC CONTROL SIGN

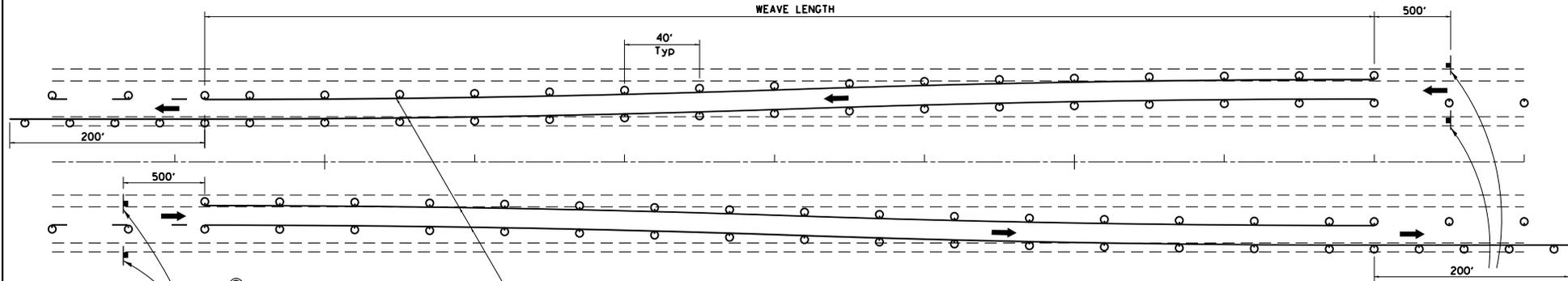
○ DRUMS OR BARRICADES WITH LIGHTS

WORK AREA

NOTE: STANDARDS 701301 AND 701306 SHALL NOT BE USED WITHIN 500 FEET OF THE TRANSITION.

FILE NAME : District 2 Standard	USER NAME : I007/District 2	DESIGNED -	REVISED - 1-05-16	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REGION 2 / DISTRICT 2 STANDARD	P.A. RTE.	SECTION	COUNTY	TOTAL SHEET NO.
		DRAWN -	REVISED - 8-27-13						
		CHECKED -	REVISED - 3-05-12						
		DATE -	REVISED -						
					SCALE:	SHEET NO.	OF SHEETS	STA.	TO STA.
									FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT
									CONTRACT NO.

TRAFFIC CONTROL TYPICAL WEAVE



Temporary Pavement Marking required if Typical Weave is used for 14 days or more.



W1-4R(O)-48



W1-4L(O)-48

SYMBOLS

- DRUM WITH STEADY BURN MONO-DIRECTIONAL LIGHT
- ┼ SIGN

STANDARD WEAVE CONDITIONS FOR DIFFERENT SPEED LIMITS

POSTED SPEED LIMIT	WEAVE LENGTH
65 MPH OR HIGHER	780 FT.
55 MPH	660 FT.
45 MPH	540 FT.

GENERAL NOTES:

USE ON LONG 4-LANE PROJECTS WHERE THE CONTRACTOR MAY CHANGE A PORTION OF THE WORK TO THE OPPOSITE LANE.

USE WHERE THE PROJECT IS ADJACENT TO ANOTHER AND THE CONTRACTOR COULD BE WORKING ON DIFFERENT LANES.

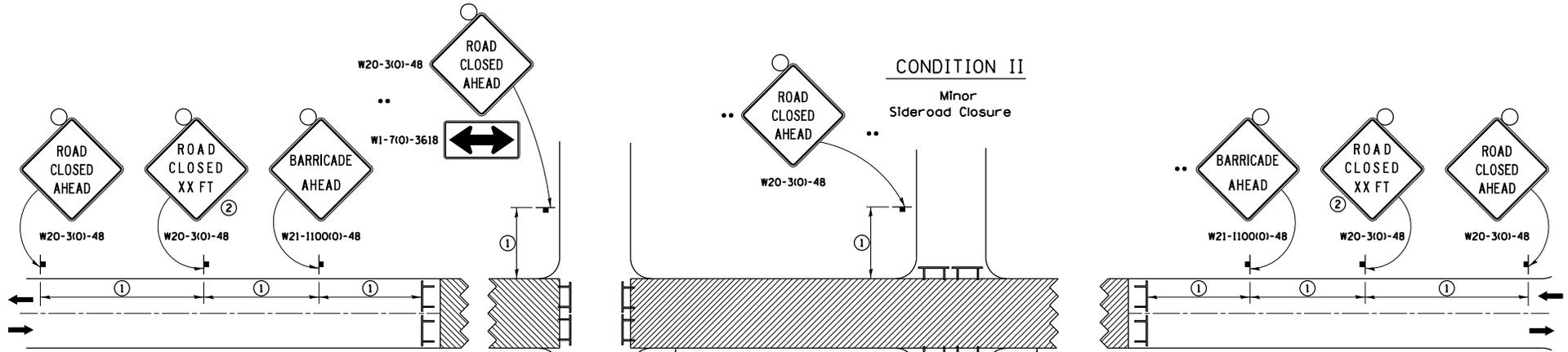
TEMPORARY PAVEMENT MARKING SHALL BE USED WHEN TYPICAL WEAVE IS USED FOR 14 DAYS OR MORE.

TRAFFIC CONTROL TYPICAL WEAVE SHALL BE INCLUDED IN THE COST OF THE SPECIFIC TRAFFIC CONTROL STANDARDS OF ITEMS.

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

FILE NAME : District 2 Standard	USER NAME : I007/District 2	DESIGNED - DRAWN -	REVISED - 1-05-16 REVISED - 6-27-14	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REGION 2 / DISTRICT 2 STANDARD			F.A.T. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = 3/8" = 1' / in.	CHECKED -	REVISED - 8-27-13		SCALE:	SHEET NO.	OF SHEETS	STA.	TO STA.	CONTRACT NO.		
	PLOT DATE = 1/18/2017	DATE -	REVISED - 10-17-11		FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT					

TRAFFIC CONTROL FOR ROAD CLOSURE



SYMBOLS

-  Work area
-  Type III Barricade with Flashers
-  Sign with flashing light

GENERAL NOTES

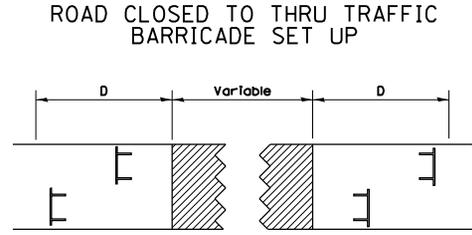
- Longitudinal dimensions may be adjusted to fit field conditions.
- Side roads requiring all three signs as shown in CONDITION I (Major Sideroad Closure), shall be listed in the special provision.
- ** Where local access is to be maintained, barricades are to be set up as shown in Road Closed to thru traffic, Type III Barricades and R11-2-4830 signs shall be as shown in "Road Closed to All Traffic" detail on Highway Standard 701901.
- All dimensions are in inches unless otherwise shown.

①

SIGN SPACING TABLE	
Posted Speed	Sign Spacing
45 MPH and above	500'
Below 45 MPH	250'

②

SIGN LEGEND	
Posted Speed Limit	Distance
45 MPH and above	1000'
Below 45 MPH	500'



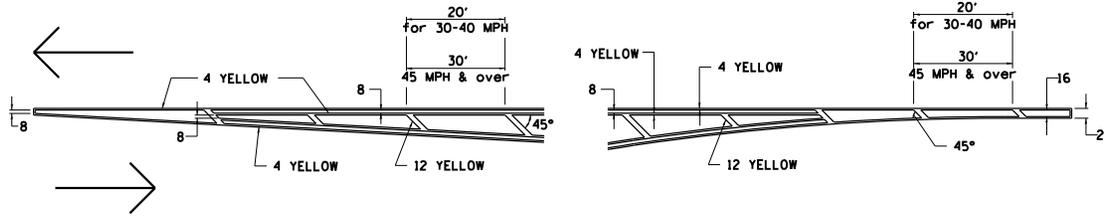
Type III Barricades and R11-4-4830 signs shall be as shown in "Road Closed to Thru Traffic" detail on Highway Standard 701901. If the distance "D" exceeds 2000' an additional set of barricades and R11-4-4830 shall be placed at each end of the work area.

TYPICAL APPLICATION FOR ROAD CLOSURE

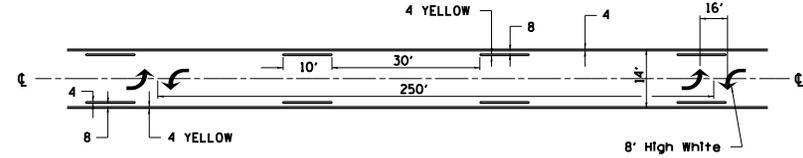
FILE NAME : District 2 Standard	USER NAME : I007/District 2	DESIGNED -	REVISED - 1-05-16	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REGION 2 / DISTRICT 2 STANDARD			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN -	REVISED - 8-27-13									
		CHECKED -	REVISED - 10-17-11		SCALE: SHEET NO. OF SHEETS STA. TO STA.			CONTRACT NO.				
		DATE - 1/18/2017	REVISED -		TRAFFIC CONTROL FOR ROAD CLOSURE			ILLINOIS FED. AID PROJECT				

TYPICAL PAVEMENT MARKINGS

TYPICAL PAVEMENT MARKING FOR FLUSH MEDIAN AT LEFT TURN LANE

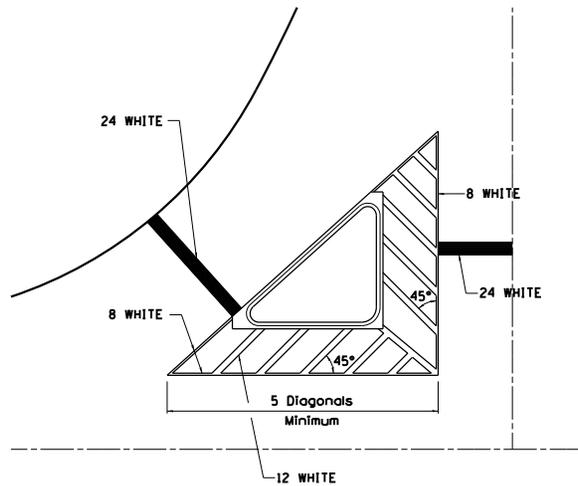


MEDIAN PAVEMENT MARKING



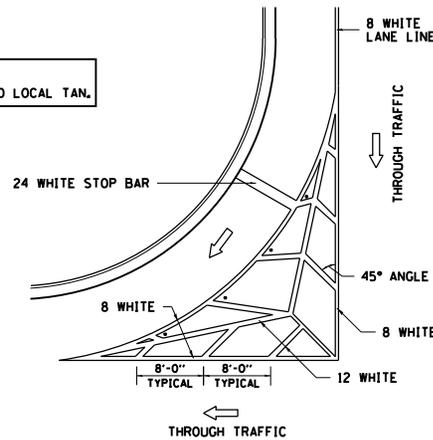
** ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

TYPICAL ISLAND OFFSET SHOULDER WIDTH



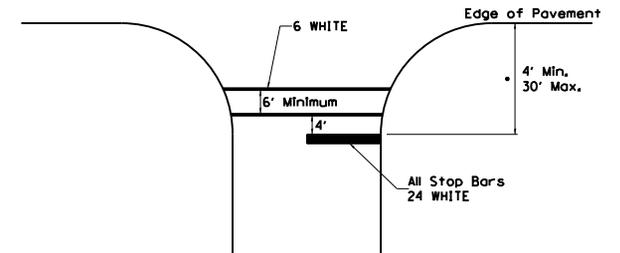
TYPICAL MARKING FOR PAINTED ISLANDS

NOTE:
* 45° TO LOCAL TAN.



STANDARD CROSSWALK MARKING

See Schedules for Locations

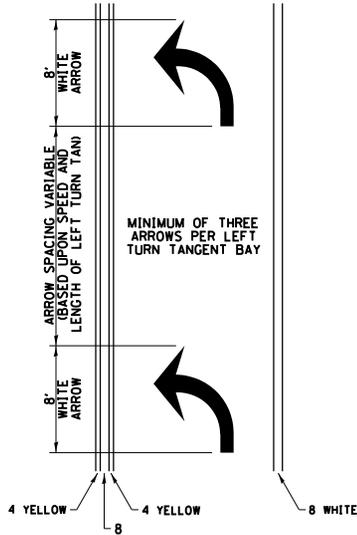


* Distance to the nearest edge of the intersecting roadway in the absence of a marked crosswalk.

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PLOT SCALE = 3/8" = 1' - 0"	CHECKED -	REVISED -	REVISED -		SCALE:	SHEET NO.	OF SHEETS	STA.	TO STA.	FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT	CONTRACT NO.
PLOT DATE = 1/18/2017	DATE -	REVISED -	REVISED -									

TYPICAL PAVEMENT MARKINGS

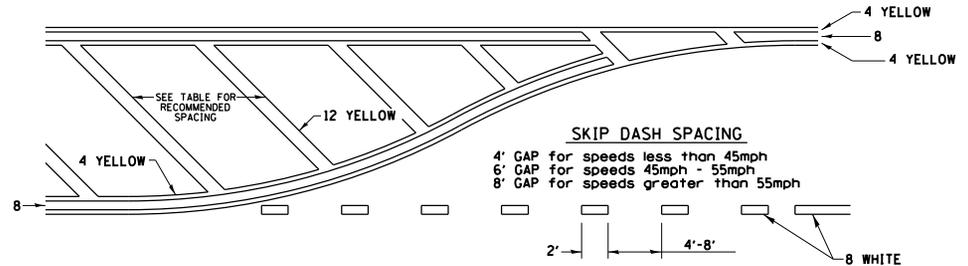
ARROW LAYOUT



- ◀ ONE-WAY AMBER MARKER
- ◀ ONE-WAY CRYSTAL MARKER
- ◀ TWO-WAY AMBER MARKER

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

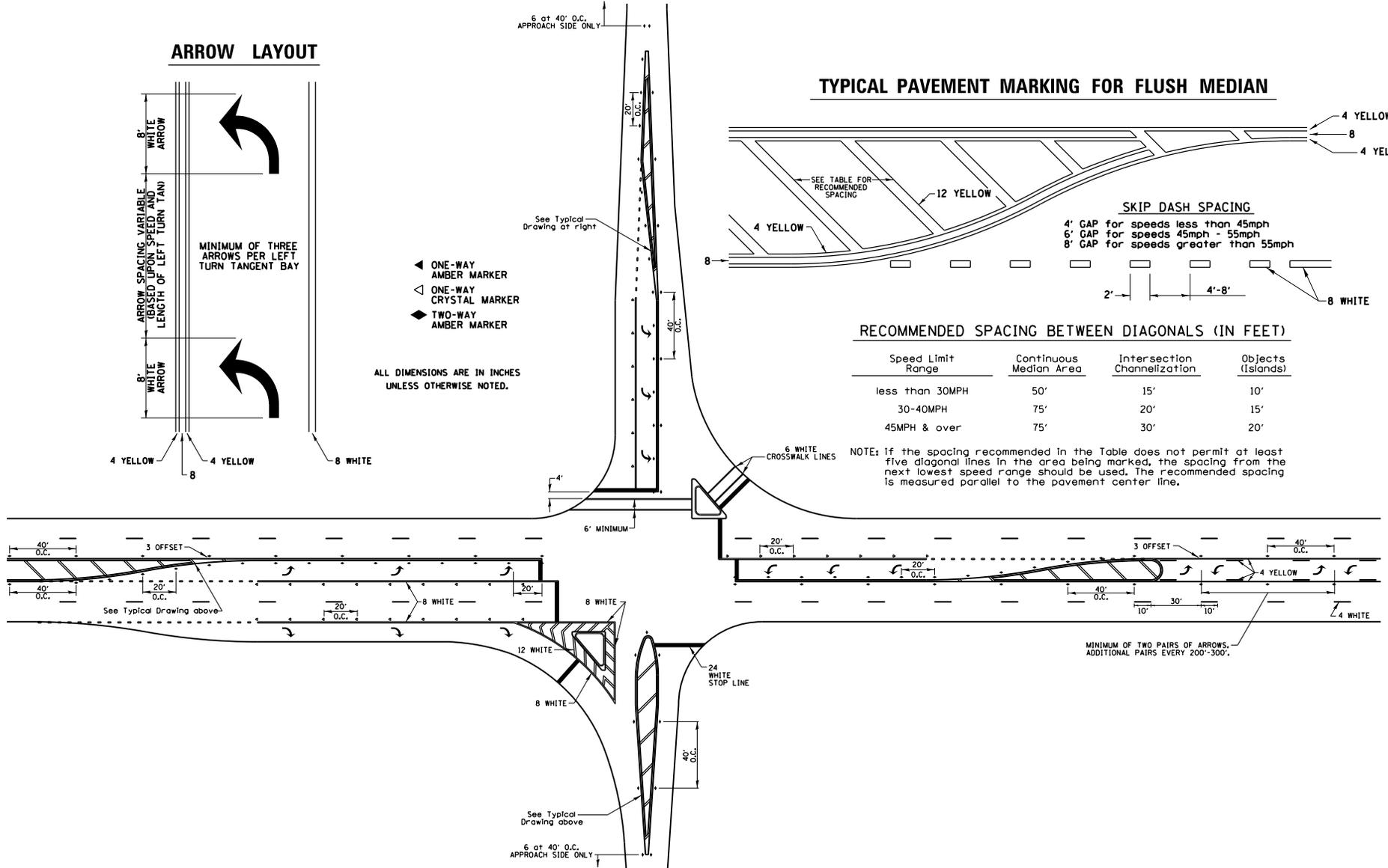
TYPICAL PAVEMENT MARKING FOR FLUSH MEDIAN



RECOMMENDED SPACING BETWEEN DIAGONALS (IN FEET)

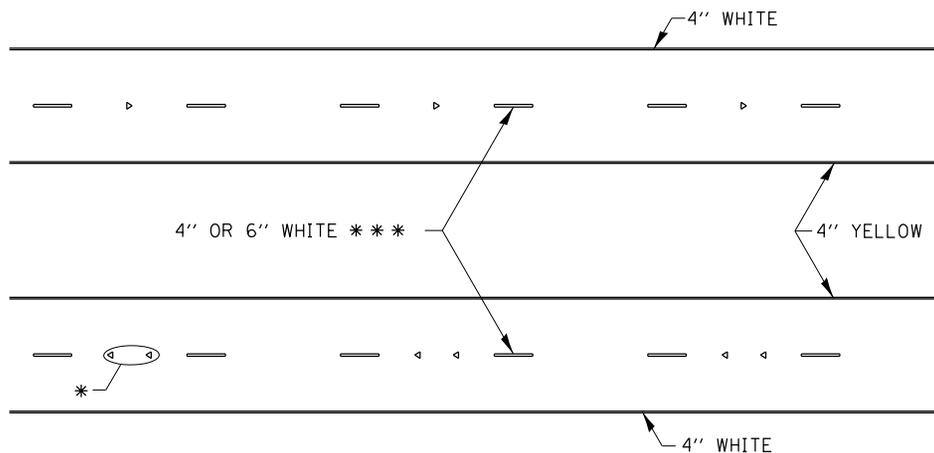
Speed Limit Range	Continuous Median Area	Intersection Channelization	Objects (Islands)
less than 30MPH	50'	15'	10'
30-40MPH	75'	20'	15'
45MPH & over	75'	30'	20'

NOTE: if the spacing recommended in the Table does not permit at least five diagonal lines in the area being marked, the spacing from the next lowest speed range should be used. The recommended spacing is measured parallel to the pavement center line.



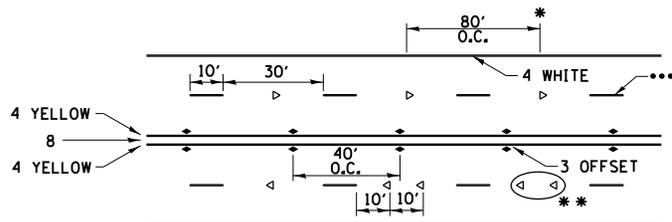
FILE NAME : District 2 Standard	USER NAME : I007/District 2	DESIGNED - DRAWN -	REVISOR - 6-27-14 REVISOR - 3-05-12	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REGION 2 / DISTRICT 2 STANDARD			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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PLOT DATE = 1/18/2017	DATE -	REVISOR -	FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT							

TYPICAL PAVEMENT MARKINGS



* SEE HIGHWAY STANDARD 781001 FOR SPACING DETAILS.
USE DOUBLE MARKERS WHEN ADT > 20,000.

MULTI-LANE / DIVIDED

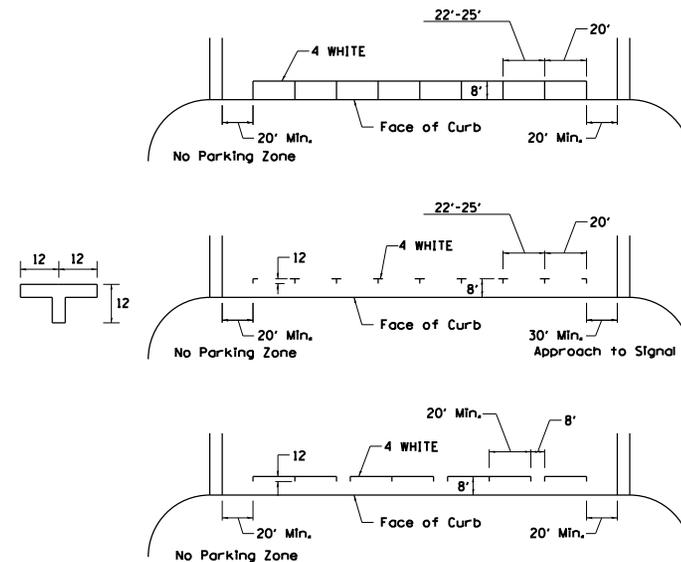


- REDUCE TO 40' O.C. ON CURVES WHERE ADVISORY SPEEDS ARE 10 MPH LOWER THAN POSTED SPEEDS.
- USE DOUBLE MARKERS WHEN ADT ≥ 20,000
- CENTERLINE SKIP DASH PAVEMENT MARKING SPEED LIMIT LESS THAN 40 MPH USE 4" LINE. SPEED LIMIT 40 MPH AND OVER USE 6" LINE.

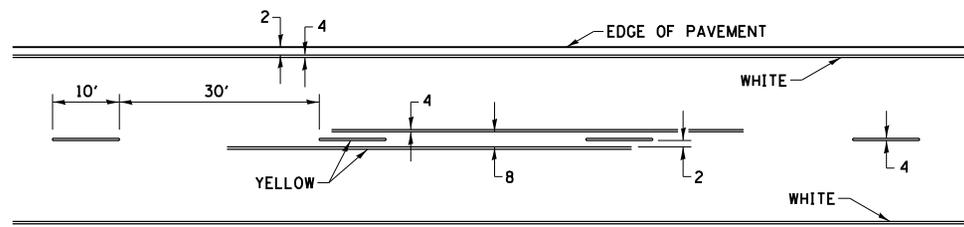
MULTI-LANE / UNDIVIDED & ONE WAY

(FOR MULTI-LANE UNDIVIDED HIGHWAYS USE THIS
DETAIL NOT HIGHWAY STANDARD 781001)

TYPICAL PARKING SPACING



TYPICAL PAVEMENT MARKING FOR TWO LANE SECTION – NO PASSING ZONES



SYMBOLS

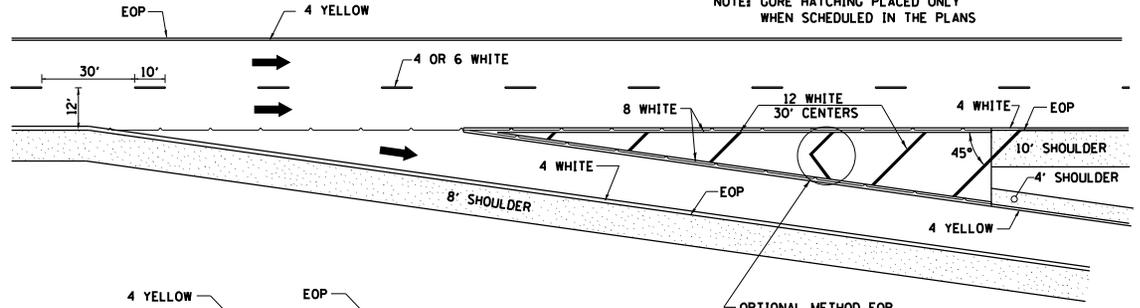
FILE NAME : District 2 Standard	USER NAME : I007/District 2	DESIGNED - DRAWN -	REVISOR - 6-27-14 REVISOR - 8-27-13	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REGION 2 / DISTRICT 2 STANDARD			F.A. RTEL.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
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	PLOT DATE = 1/18/2017	DATE -	REVISOR -		TYPICAL PAVEMENT MARKINGS SHEET 3 OF 3 41.1								

PAINTING DETAILS

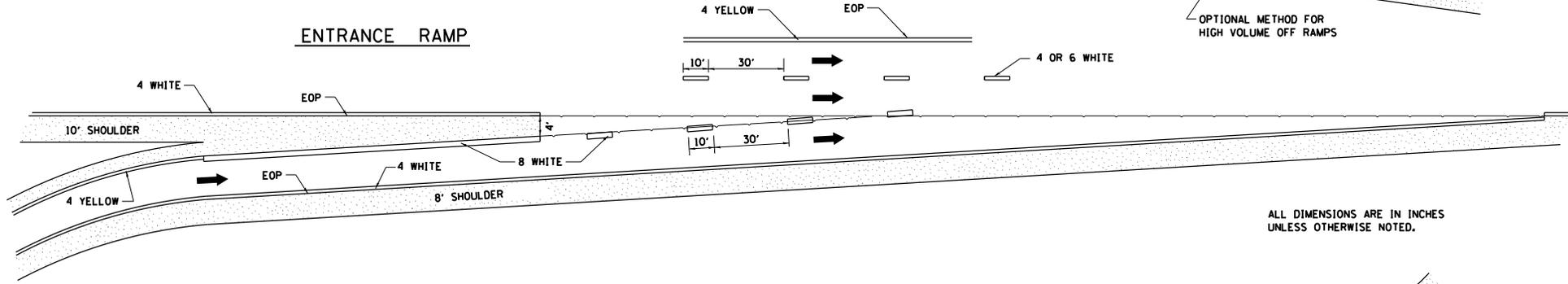
EXIT RAMP

NOTE: CORE HATCHING PLACED ONLY WHEN SCHEDULED IN THE PLANS

CENTERLINE SKIP DASH PAVEMENT MARKING WIDTH SHALL BE 4" WHEN THE POSTED SPEED LIMIT IS UNDER 40 MPH AND 6" WHEN THE POSTED SPEED LIMIT IS 40 MPH AND OVER.

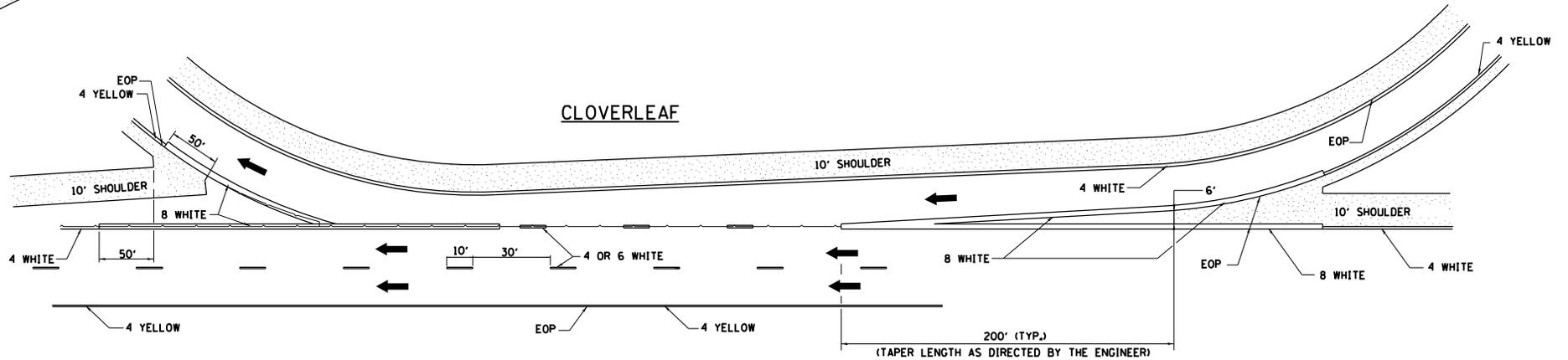


ENTRANCE RAMP



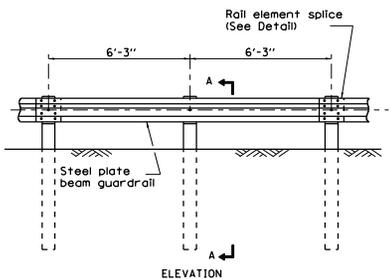
ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

CLOVERLEAF

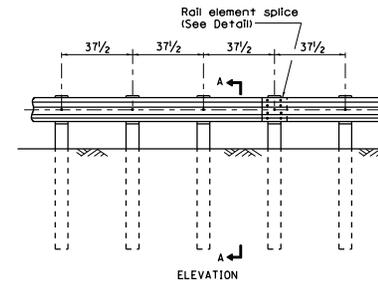
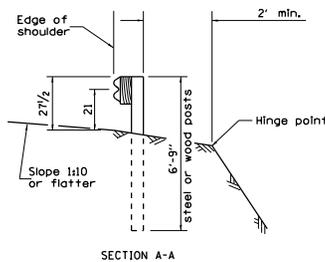


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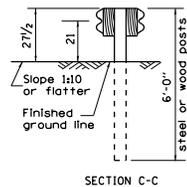
REMOVE AND REERECT STEEL PLATE BEAM GUARDRAIL



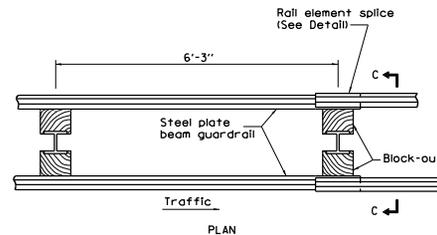
TYPE A
6'-3" Typical post spacing



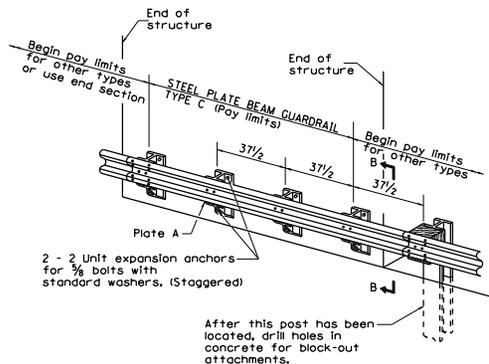
TYPE B
3 7/8" Closed post spacing



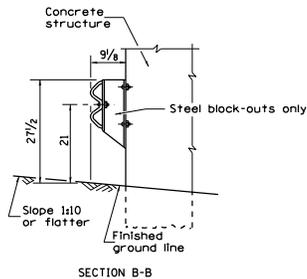
SECTION C-C



TYPE D
Double steel plate beam guardrail
6'-3" typical post spacing



TYPE C
3 7/8" Block-out spacing



SECTION B-B

GENERAL NOTES

All slope ratios are expressed as units of vertical displacement to units of horizontal displacement (V:H).

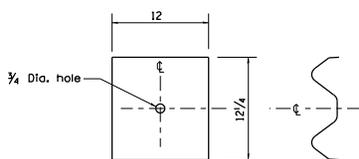
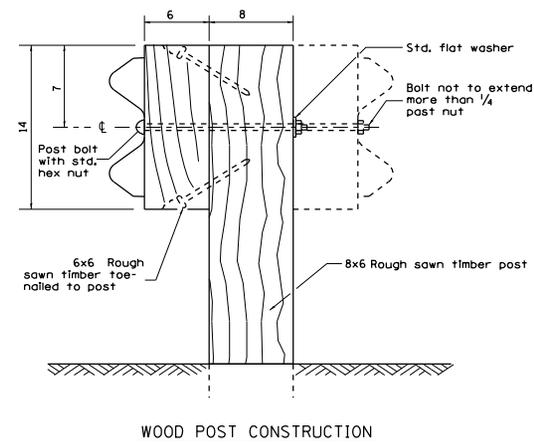
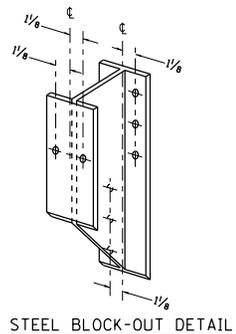
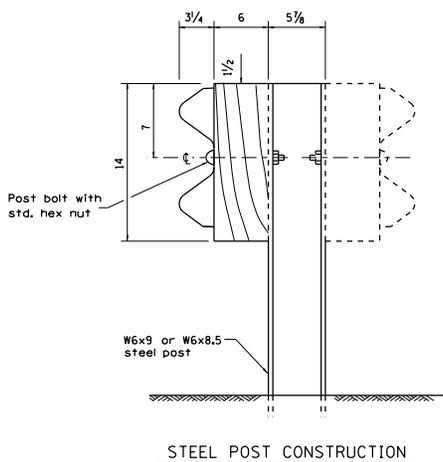
All dimensions are in inches unless otherwise shown.

The existing steel posts may be drilled to match the bolt pattern shown herein for the wood block-out, or a new steel post shall be provided.

This detail is applicable to the guardrail system used prior to January 1, 2007. For details on the Midwest Guardrail System, see Standard 630001.

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		CHECKED -	REVISED -						CONTRACT NO.				
		DATE -	REVISED -										
				SCALE: _____				SHEET NO. OF SHEETS STA. TO STA.		FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			

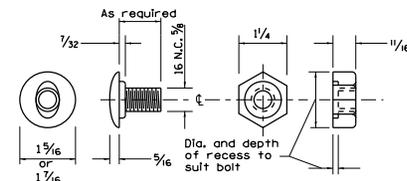
REMOVE AND REERECT STEEL PLATE BEAM GUARDRAIL



NOTE

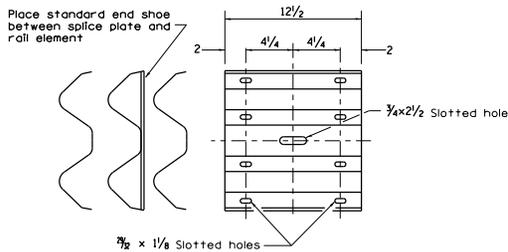
Plate A shall be placed between rail element and block-out at non-splice mounting points only when steel block-outs are used.

PLATE A

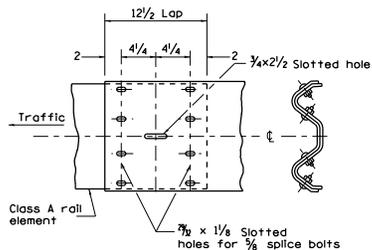


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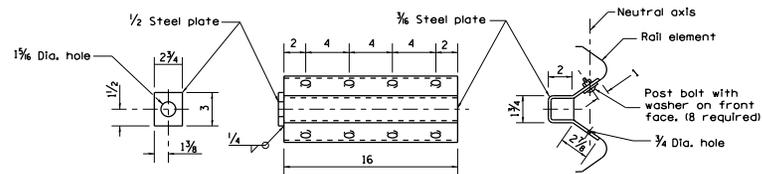
REMOVE AND REERECT STEEL PLATE BEAM GUARDRAIL



SPLICE PLATE



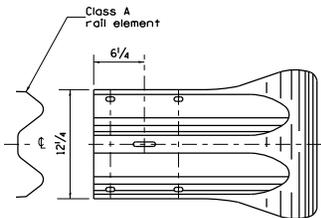
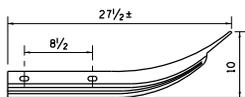
RAIL ELEMENT SPLICE



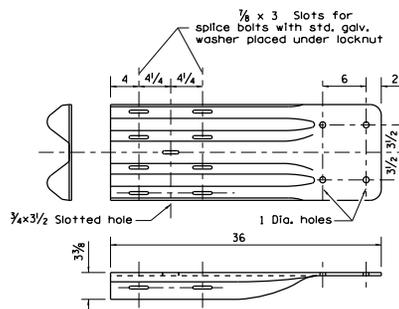
NOTE

Anchor plate T shall be used to attach cable assembly to guardrail when required on traffic barrier terminals.

ANCHOR PLATE T DETAILS



END SECTION



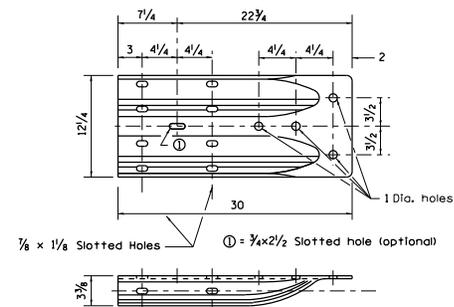
NOTE

When end shoe is attached to a bridge parapet which has an expansion joint, the bolts shall be provided with a locknut or double nut and shall be tightened only to a point that will allow guardrail movement.

The standard end shoe shall be attached to the concrete with pre-drilled or self-drilling anchor bolts. The anchor cone shall be set flush with the surface of the concrete.

Externally threaded studs protruding from the surface of the concrete will not be permitted.

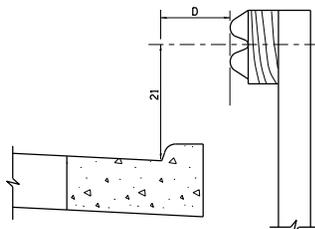
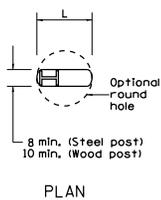
END SHOE



ALTERNATE END SHOE

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PLOT DATE = 1/18/2017	CHECKED -	REVISED -							CONTRACT NO.	

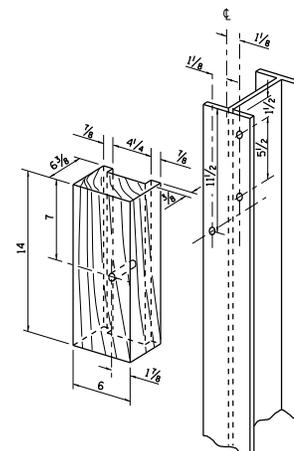
REMOVE AND REERECT STEEL PLATE BEAM GUARDRAIL



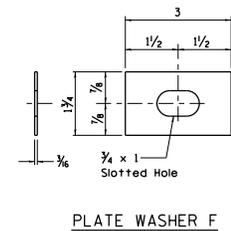
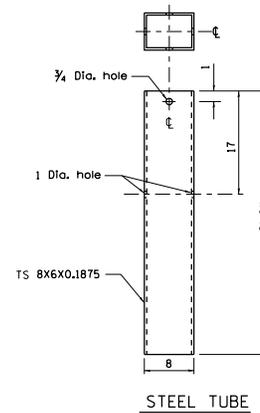
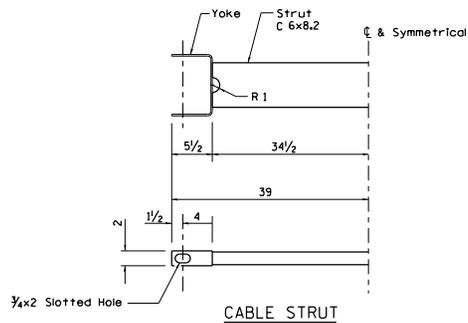
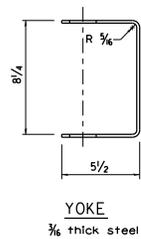
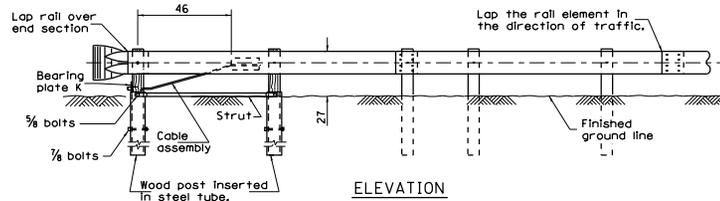
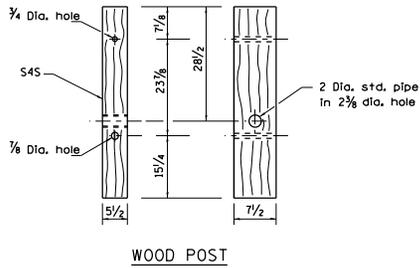
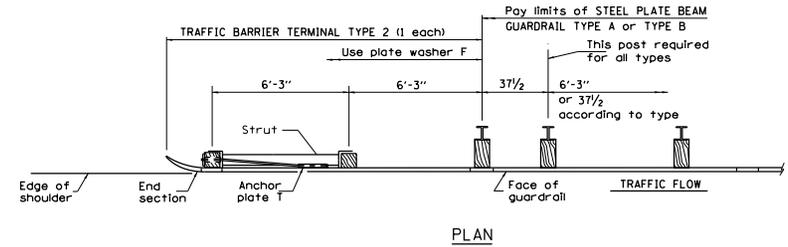
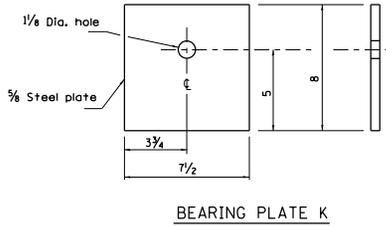
Note:
If it is necessary for D to be more than 12 and less than 10'-0" type M-2 curb and gutter (Std. 606001) shall be used in front of and in advance of the guardrail.

GUARDRAIL PLACED BEHIND CURB

(D = 0 desirable to 12 maximum)



TRAFFIC BARRIER TERMINAL, TYPE 2 (27" HEIGHT)



GENERAL NOTES

See Standard 630001 for details of guardrail not shown.

The bearing plate K shall be held in position by (2) two eight penny nails driven into the post and bent over the top of the plate.

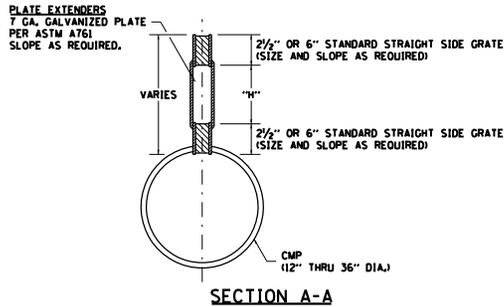
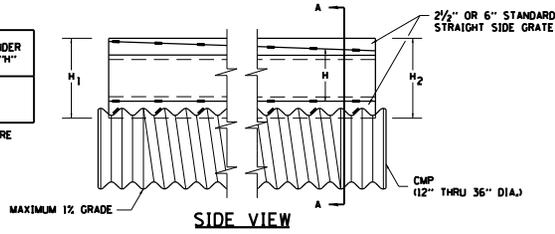
All dimensions are in inches unless otherwise shown.

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PLOT DATE = 1/18/2017	DATE -	REVISED -	REVISED -								

SLOTTED DRAIN PIPE

LOADING CONDITION	MAX. EXTENDER HEIGHT - "H"
H20/H25 • 750 PSI CONCRETE	19"

• 125 PSI TIRE PRESSURE



GENERAL

Class SI Concrete shall be used throughout. This specification covers Slotted Drain used for the removal of water as shown on the plans. The Slotted Drain shall be Corrugated Pipe Culvert with Integral Slotted Drains. Before placing the concrete adjacent to the pipe, the slot shall be covered by either thin, flat metal sheathing or by a board notched to fit over the grate bars. This covering must fit closely in the slot to prevent entry of concrete into the pipe. Paving over the slotted drain will then be one continuous operation over the protected drain. The protection for the drain slot shall then be removed. The pipe shall drain into the side of the inlet. The opening where the slot is removed shall be covered to prevent concrete from entering the pipe. The Corrugated Steel Pipe used in the Slotted Drain shall meet the requirements of AASHTO M36/ASTM A760. The CMP shall be ALUMINIZED STEEL Type 2. The diameter shall be as shown on the plans. Steel grating shall meet the galvanizing requirements of AASHTO M111. This work will be paid for at the contract unit price per foot for SLOTTED DRAIN of the pipe diameter specified WITH VARIABLE SLOT, or SLOTTED DRAIN, of the pipe diameter specified, WITH 6" SLOT, and shall include concrete and grating for depth specified on plans. Use approved end cap to prevent concrete entry into the pipe during gutter construction on the upstream end of the pipe.

CONNECTIONS

The Corrugated Steel Pipe shall have a minimum of two rerolled annular ends. The Slotted Drain bands shall be modified HUGGER Bands to secure the pipe and prevent infiltration of the backfill. When the Slotted Drain is banded together, the adjacent grates shall have a maximum 3" gap.

GRATES

The grates shall be manufactured from ASTM A670, Grade 36 steel. The spacers and bearing bars (sides) shall be 3/16" material 10,008". The spacers shall be on 6" centers and welded on both sides to each bearing bar (sides) with four (4) 1-1/4" long 3/16" fillet welds on each side of the bearing bar. The plate extender shall be 7 gage steel meeting ASTM A761. The engineer may call for tensile strength tests on the grate if the grate is not in compliance with the above spacer specifications. If tensile strength tests are called for, minimum results for an in-place spacer pulled perpendicular to the bearing bar shall be:
I= 12,000 pounds for 2- 1/2" grate
I= 15,000 pounds for 6" grate

GALVANIZING

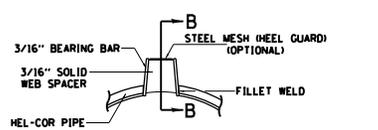
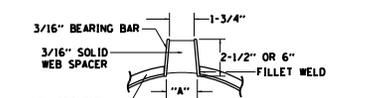
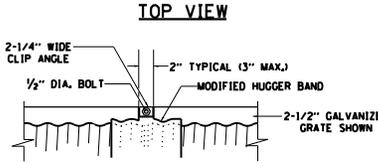
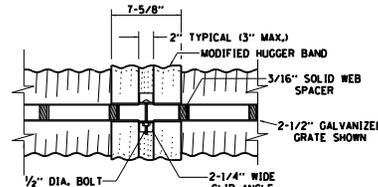
The grate and plate extenders shall be galvanized in accordance with ASTM A123 except with a 2 oz. galvanized coating.

GRATE ATTACHED TO CSP

The grate shall be fillet welded with a minimum weld 1" long to the CSP on each side of the grate at every other corrugation.

TOLERANCES - FINISHED SLOTTED DRAIN - 20' LENGTHS

Vertical Bow ± 3/8"
Horizontal Bow ± 5/8"
Twist ± 1/2"



SECTION A-A
DETAIL WITH MESH
(TRAPEZOIDAL GALVANIZED GRATE SHOWN)

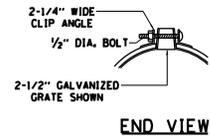
STANDARD SIZES						
GAGE OF PIPE	DIAMETER OF PIPE					
	12"	15"	18"	24"	30"	36"
16	X	X	X	X	X	X
14	X	X	X	X	X	X
12	N.A.	N.A.	N.A.	N.A.	X	X

GRATE TYPE	"A"	
VERT	2-1/2"	1-3/4"
TRAP	2-1/2"	2-1/4"
TRAP	6"	3"

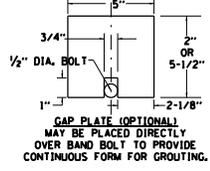
VERT = VERTICAL
TRAP = TRAPEZOIDAL

SLOTTED DRAIN NOTES

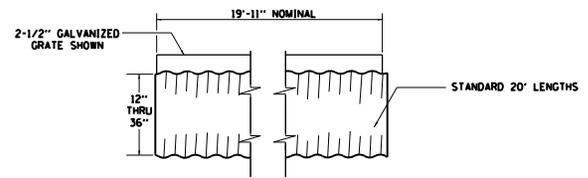
- GRATING IS AVAILABLE IN DEPTHS OF 2-1/2" AND 6".
- VERTICAL GRATING (STRAIGHT SIDES) WITH VERTICAL SPACERS IS ALSO AVAILABLE.
- FOR 6" VERTICAL & TRAPEZOIDAL REQUIREMENTS, THE SLOTTED DRAIN BAND MAY BE FURNISHED WITH THE 4" TECHCO BAND ANGLE.
- DIMENSIONS ARE SUBJECT TO MANUFACTURING TOLERANCES.
- DIMENSIONS FOR H₁ AND H₂ AS REQUIRED.
- H₁ AND H₂ MEASURED FROM TOP OF GRATE TO BOTTOM OF GRATE.



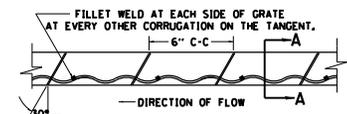
END VIEW



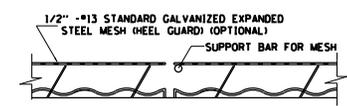
GAP PLATE (OPTIONAL) MAY BE PLACED DIRECTLY OVER BAND BOLT TO PROVIDE CONTINUOUS FORM FOR GROUTING.



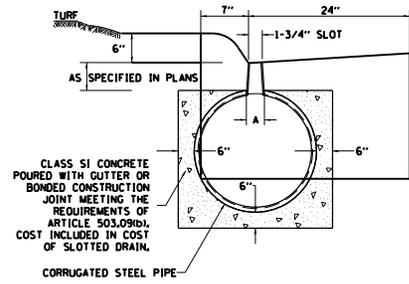
TYPICAL PIPE SECTION



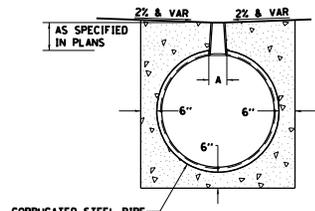
GRATE WELDING DETAIL



SECTION B-B



DETAIL FOR CURB & GUTTER

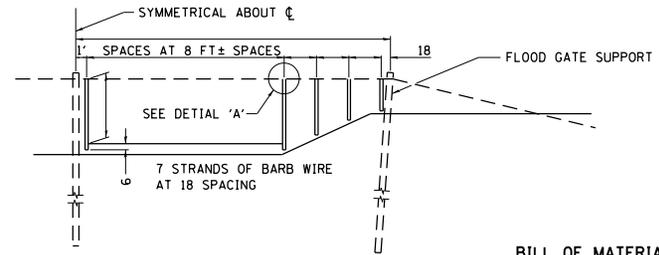
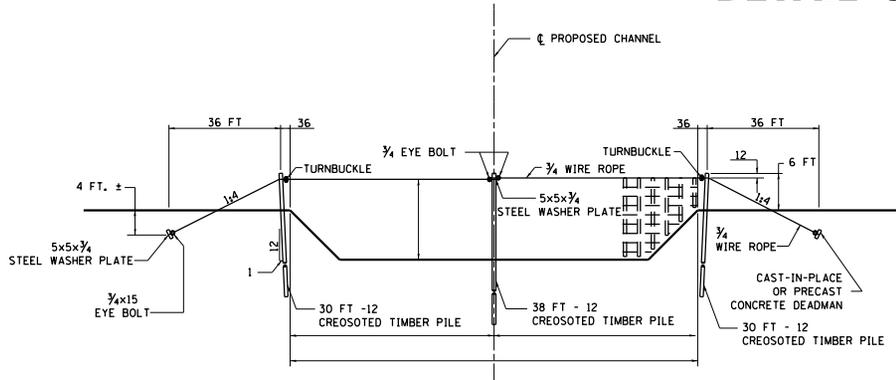


DETAIL FOR CROSSOVERS, DRIVEWAYS, OR PARKING LOTS

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

FILE NAME : District 2 Standard	USER NAME : I007/District 2	DESIGNED : -	REVISED : - 1-05-16	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REGION 2 / DISTRICT 2 STANDARD	F.A. R.T.E.	SECTION	COUNTY	TOTAL SHEET NO.	
		DRAWN : -	REVISED : - 6-27-14		SCALE: 1" = 10'	SHEET NO. OF SHEETS	STA. TO STA.	CONTRACT NO.		
		CHECKED : -	REVISED : - 10-18-11					FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT		

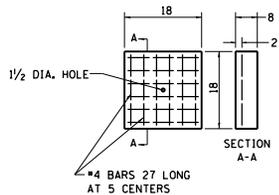
DETAIL OF FLOOD GATE



BILL OF MATERIALS

QUANTITY	UNIT	ITEM
	FT	2 x 4 TREATED LUMBER
	FT	GALVANIZED BARBED WIRE
	FT	SPECIAL STEEL CHANNEL SC 25, 2 1/2 x 2 1/2
	EACH	3/8 x 3 GALVANIZED STEEL BOLTS AND WASHERS
	EACH	3/8 x 2 GALVANIZED STEEL U-BOLTS
	EACH	GALVANIZED CABLE CLAMPS
	LBS	GALVANIZED FENCE STAPLES

NOTE:
THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER EACH FOR

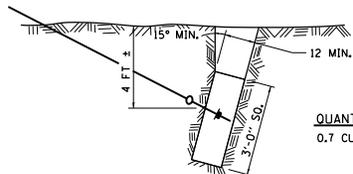


QUANTITIES FOR 2 DEADMEN
0.3 CU. YD CLASS S1 CONCRETE
36 LBS REINFORCEMENT BARS

DETAIL OF PRECAST CONCRETE DEADMAN

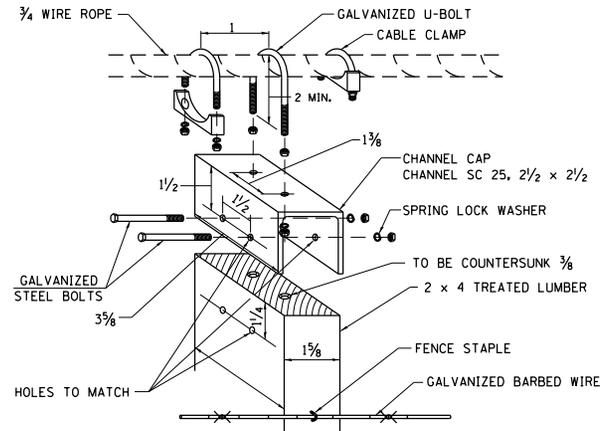
BILL OF MATERIALS

QUAN.	UNIT	ITEM
FT		3/4 DIA. GALVANIZED WIRE ROPE
EACH		3/4 DIA. x 15 GALVANIZED EYE BOLTS WITH NUTS AND WASHERS
EACH		3/4 DIA. GALVANIZED TURNBUCKLES
EACH		3/4 DIA. GALVANIZED CABLE CLAMPS
EACH		5x5x3/4 STEEL WASHER PLATES
EACH		PRECAST CONCRETE DEADMEN OR CAST-IN-PLACE CONCRETE DEADMEN
FT		12 CREOSOTED TIMBER PILE (INCLUDES FURNISHING AND DRIVING TIMBER PILE)



QUANTITIES FOR 2 DEADMEN
0.7 CU. YD. CLASS S1 CONCRETE

DETAIL OF CAST-IN-PLACE CONCRETE DEADMAN



DETAIL 'A'

EXPLODED VIEW OF FLOOD GATE TO CABLE

NOTE:
PRECAST CONCRETE DEADMEN AND CAST-IN-PLACE CONCRETE DEADMEN SHALL BE CONSTRUCTED OF CLASS S1 CONCRETE

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

FILE NAME : District 2 Standard	USER NAME : I00T/District 2	DESIGNED - DRAWN -	REVISIONS - 8-09-12	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REGION 2 / DISTRICT 2 STANDARD	F.A. RTEL.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
PLOT SCALE = 3/8" = 1'	CHECKED -	REVISIONS -	SCALE:			SHEET NO.	OF SHEETS	STA.	TO STA.	FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT
PLOT DATE = 1/18/2017	DATE	REVISIONS -	CONTRACT NO.								

40' SINGLE LANE MEDIAN CROSSOVER

(POSTED SPEED LIMIT 55 MPH, WORK ZONE SPEED LIMIT 45 MPH)

TYPICAL SECTION

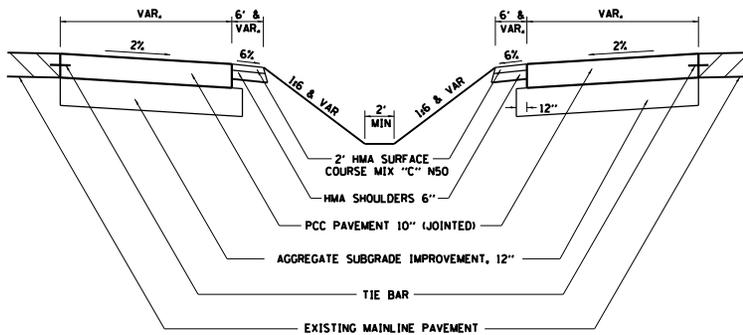


TABLE OF OFFSETS AND DROPS						
Distance feet from location station	0	60'	75'	100'	125'	143.73'
Offsets feet from inside edge of pavement	20'	18'	15.32'	11.37'	8.06'	6.00'
Drop feet from inside edge of pavement	0.0'	0.0'	0.0'	0.0'	0.0'	0.0'

GENERAL NOTES

Construction of median crossover shall conform to the requirement of current Standard Specifications.

Slotted drain shall be constructed of 14 or 16 gauge corrugated metal roadway pipe modified to accommodate slotted drain as shown.

Pavement, subbase, & shoulder quantities are:

(1340.88 Sq. Yds.) AGGREGATE SUBGRADE IMPROVEMENT, 12"
 (1250.80 Sq. Yds.) P.C.C. PAVEMENT 10" (JOINTED)
 (45.1 Tons) 2" HMA SURFACE COURSE, MIX "C", N50
 (402.52 Sq. Yds.) HMA SHOULDERS 6"

Elbows and Caps shall be considered included to the SLOTTED DRAIN 12" WITH 6" SLOT.

See District Standard 61.2 or 68.1 for details for the slotted drain.

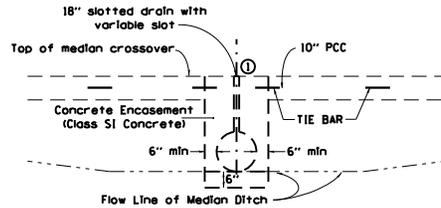
See District Standard 86.1 for details for the beveled pipe & guard.

The crossover is designed using a 45mph design speed.

The end of the pipe guard shall be set where a minimum 1:4 front slope can be constructed from each side of pipe guard to the HMA shoulder.

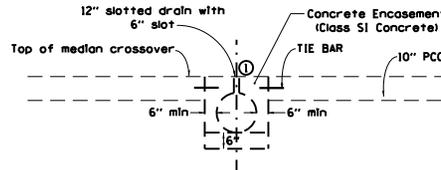
The PCC Pavement 10" (Jointed) shall be constructed according to Section 420 of the Standard Specifications and Highway Standards 420001, 420101, & 420106

The PCC Pavement 10" (Jointed) shall be tied to adjacent existing concrete pavement and the concrete encasement for the slotted drain. The tie bars shall be No. 5 bars 24" long @ 30" cts. and installed according to the applicable portions of Article 420.05(b) of the Standard Specifications. The cost of the bars to be included in the cost of the PCC Pavement 10" (Jointed).



SECTION A-A

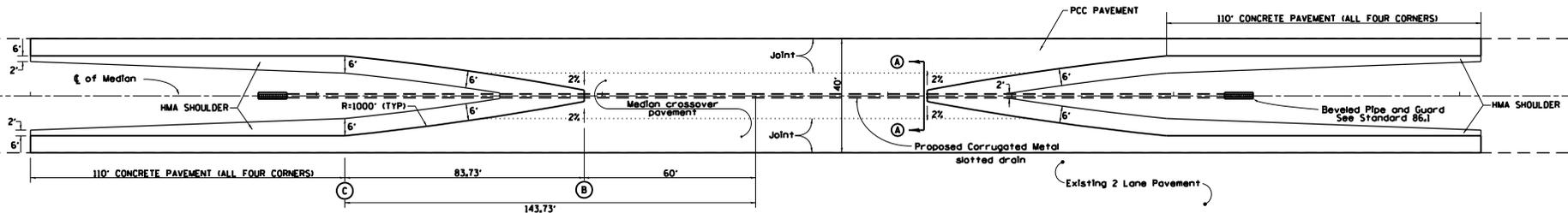
(USE TO MAINTAIN MEDIAN DRAINAGE THROUGH THE CROSSOVER)



SECTION A-A

(WHEN CROSSOVER IS AT MEDIAN HIGH POINT)

① Duct tape or wood blocks shall be used to cover slotted drain during construction of crossover paving



TYPICAL PLAN

Unless otherwise specified, when the median crossover is to be removed, the Contractor shall be required to saw full-depth along the shoulder line 6' from edge of pavement). The 6' adjacent to the edge of pavement shall remain in place and be used as shoulders. The cost of Sawing shall be included in the Pavement Removal.

Longitudinal joints shall be sawed at a max 12' width. All joints shall be sealed.

TRAFFIC CONTROL STANDARD 701416 IS TO BE USED WITH THIS DETAIL

FILE NAME : District 2 Standard	USER NAME : I00T/District 2	DESIGNED -	REVISED - 1-05-16	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REGION 2 / DISTRICT 2 STANDARD	P.A. SITE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
		DRAWN -	REVISED - 8-27-13			SCALE:	SHEET NO. OF SHEETS	STA. TO STA.	FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT	CONTRACT NO.
		CHECKED -	REVISED - 12-07-10								
		DATE -	REVISED -								

50' SINGLE LANE MEDIAN CROSSOVER

(POSTED SPEED LIMIT 55 MPH, WORK ZONE SPEED LIMIT 45 MPH)

TYPICAL SECTION

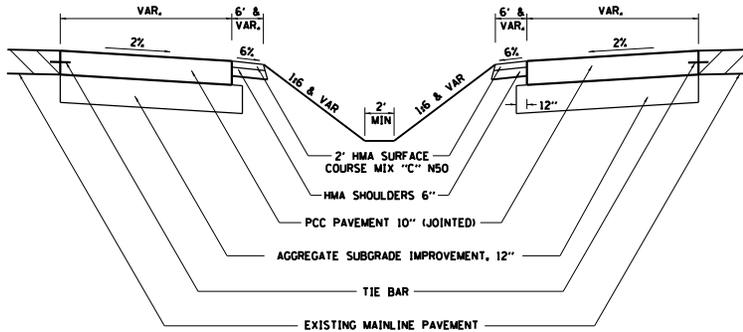


TABLE OF OFFSETS AND DROPS							
Distance feet from location station	0'	53'	75'	100'	125'	150.00'	161.73'
Offsets feet from inside edge of pavement	25'	23'	18.57'	14.14'	10.37'	7.25'	6.00'
Drop feet from inside edge of pavement	0.5'	0.46'	0.37'	0.28'	0.021'	0.15'	0.12'

GENERAL NOTES

Construction of median crossover shall conform to the requirement of current Standard Specifications.

Slotted drain shall be constructed of 14 or 16 gauge corrugated metal roadway pipe modified to accommodate slotted drain as shown.

Pavement, subbase, & shoulder quantities are:

(1634.94 Sq. Yds.)	AGGREGATE SUBGRADE IMPROVEMENT, 12"
(1533.52 Sq. Yds.)	P.C.C. PAVEMENT 10" (JOINTED)
(52.9 Tons)	2" HMA SURFACE COURSE, MIX "C", NSO
(472.79 Sq. Yds.)	HMA SHOULDERS 6"

Elbows and Caps shall be considered included to the SLOTTED DRAIN 12" WITH 6" SLOT.

See District Standard 61.2 or 68.1 for details for the slotted drain.

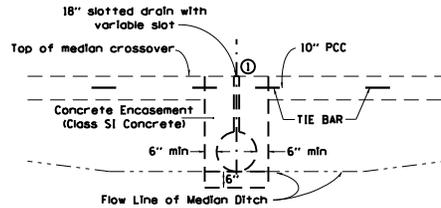
See District Standard 86.1 for details for the beveled pipe & guard.

The crossover is designed using a 45mph design speed.

The end of the pipe guard shall be set where a minimum 1:4 front slope can be constructed from each side of pipe guard to the HMA shoulder.

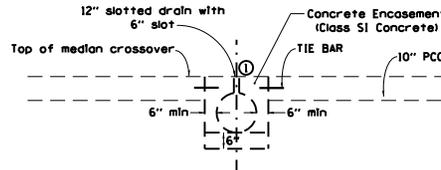
The PCC Pavement 10" (Jointed) shall be constructed according to Section 420 of the Standard Specifications and Highway Standards 420001, 420101, & 420106

The PCC Pavement 10" (Jointed) shall be tied to adjacent existing concrete pavement and the concrete encasement for the slotted drain. The tie bars shall be No. 6 bars 24" long @ 30" cts. and installed according to the applicable portions of Article 420.05(b) of the Standard Specifications. The cost of the bars to be included in the cost of the PCC Pavement 10" (Jointed).



SECTION A-A

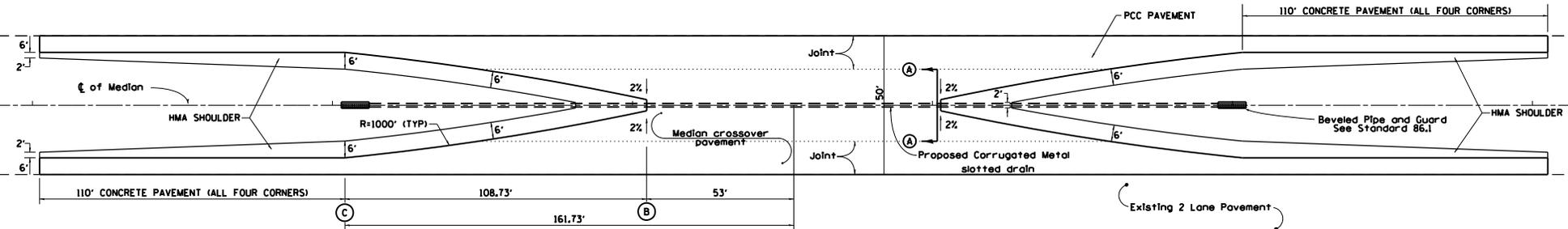
(USE TO MAINTAIN MEDIAN DRAINAGE THROUGH THE CROSSOVER)



SECTION A-A

(WHEN CROSSOVER IS AT MEDIAN HIGH POINT)

① Duct tape or wood blocks shall be used to cover slotted drain during construction of crossover paving



TYPICAL PLAN

Unless otherwise specified, when the median crossover is to be removed, the Contractor shall be required to saw full-depth along the shoulder line 6' from edge of pavement). The 6' adjacent to the edge of pavement shall remain in place and be used as shoulders. The cost of Sawing shall be included in the Pavement Removal.

Longitudinal joints shall be sawed at a max 12' width. All joints shall be sealed.

TRAFFIC CONTROL STANDARD 701416 IS TO BE USED WITH THIS DETAIL

FILE NAME : District 2 Standard	USER NAME : I007/District 2	DESIGNED -	REVISED - 1-05-16	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REGION 2 / DISTRICT 2 STANDARD	P.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
		DRAWN -	REVISED - 8-27-13			SCALE:	SHEET NO. OF SHEETS	STA. TO STA.	FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT	CONTRACT NO.
		CHECKED -	REVISED - 12-07-10								
		DATE -	REVISED -								

64' SINGLE LANE MEDIAN CROSSOVER

(POSTED SPEED LIMIT 55 MPH, WORK ZONE SPEED LIMIT 45 MPH)

TYPICAL SECTION

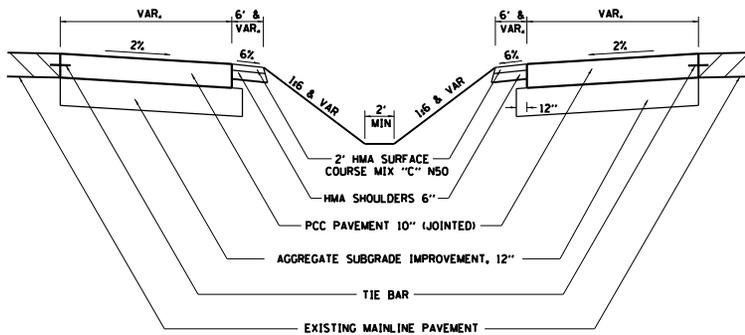
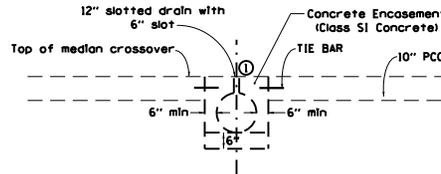
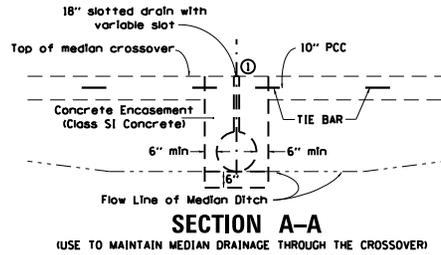


TABLE OF OFFSETS AND DROPS									
Distance feet from location station	0	46'	50'	75'	100'	125'	150'	175'	185.20'
Offsets feet from inside edge of pavement	32'	30'	29.02'	23.32'	18.28'	13.90'	10.11'	7.08'	6'
Drop feet from inside edge of pavement	0.64'	0.6'	0.58'	0.47'	0.37'	0.28'	0.20'	0.14'	0.12'

GENERAL NOTES

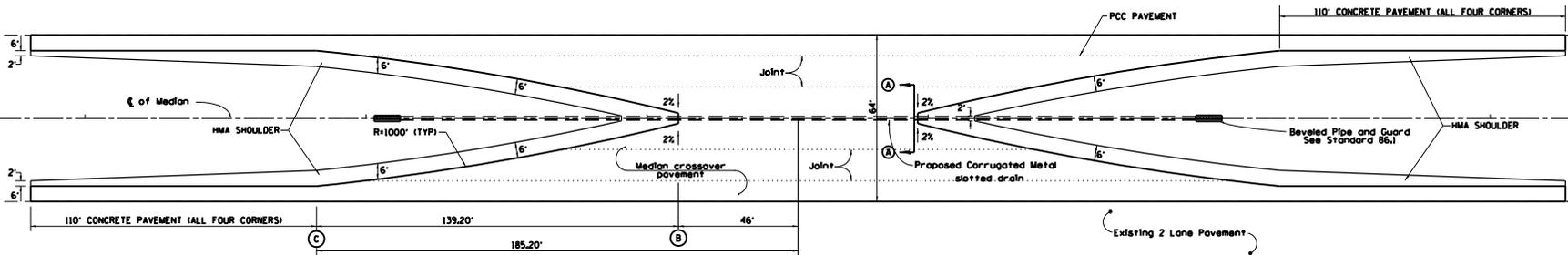
- Construction of median crossover shall conform to the requirement of current Standard Specifications.
- Slotted drain shall be constructed of 14 or 16 gauge corrugated metal roadway pipe modified to accommodate slotted drain as shown.
- Pavement, subbase, & shoulder quantities are:
 - (2071.96 Sq. Yds.) AGGREGATE SUBGRADE IMPROVEMENT, 12"
 - (1956.64 Sq. Yds.) P.C.C. PAVEMENT 10" (JOINTED)
 - (62.5 Tons) 2" HMA SURFACE COURSE, MIX "C", N50
 - (558.24 Sq. Yds.) HMA SHOULDERS 6"
- Elbows and Caps shall be considered included to the SLOTTED DRAIN 12" WITH 6" SLOT.
- See District Standard 61.2 or 68.1 for details for the slotted drain.
- See District Standard 86.1 for details for the beveled pipe & guard.
- The crossover is designed using a 45mph design speed.
- The end of the pipe guard shall be set where a minimum 1:4 front slope can be constructed from each side of pipe guard to the HMA shoulder.
- The PCC Pavement 10" (JOINTED) shall be constructed according to Section 420 of the Standard Specifications and Highway Standards 420001, 420101, & 420106
- The PCC Pavement 10" (JOINTED) shall be tied to adjacent existing concrete pavement and the concrete encasement for the slotted drain. The tie bars shall be No. 5 bars 24" long @ 30" cts. and installed according to the applicable portions of Article 420.05(b) of the Standard Specifications. The cost of the bars to be included in the cost of the PCC Pavement 10" (JOINTED).



① Duct tape or wood blocks shall be used to cover slotted drain during construction of crossover paving

SECTION A-A

(WHEN CROSSOVER IS AT MEDIAN HIGH POINT)



TYPICAL PLAN

Unless otherwise specified, when the median crossover is to be removed, the Contractor shall be required to saw full-depth along the shoulder line 6' from edge of pavement). The 6' adjacent to the edge of pavement shall remain in place and be used as shoulders. The cost of Sawing shall be included in the Pavement Removal.

Longitudinal joints shall be sawed at a max 12' width. All joints shall be sealed.

TRAFFIC CONTROL STANDARD 701416 IS TO BE USED WITH THIS DETAIL

FILE NAME = District 2 Standard	USER NAME = I007/District 2	DESIGNED -	REVISED - 1-05-16	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REGION 2 / DISTRICT 2 STANDARD	P.A. SITE.	SECTION	COUNTY	TOTAL SHEETS
		DRAWN -	REVISED - 8-27-13						
		CHECKED -	REVISED - 12-07-10						
		DATE	REVISED -						
PLOT SCALE = 3/8" = 1' IN.		PLOT DATE = 1/18/2017		SCALE: SHEET NO. OF SHEETS STA. TO STA.		CONTRACT NO.			

40' SINGLE LANE MEDIAN CROSSOVER

(POSTED SPEED LIMIT 65 MPH OR HIGHER, WORK ZONE SPEED LIMIT 55 MPH)

TYPICAL SECTION

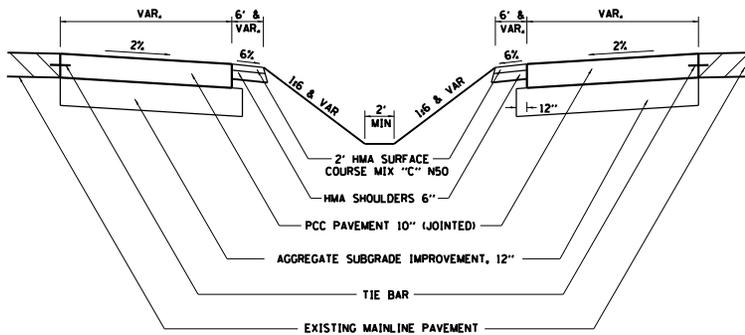


TABLE OF OFFSETS AND DROPS							
Distance feet from location station	0	77'	100'	125'	150'	175'	183.23
		(B)					(C)
Offsets feet from inside edge of pavement	20'	18'	14.79'	11.69'	8.98'	6.67'	6'
	(A)						
Drop feet from inside edge of pavement	0.4'	0.36'	0.3'	0.23'	0.18'	0.13'	0.12'

GENERAL NOTES

Construction of median crossover shall conform to the requirement of current Standard Specifications.

Slotted drain shall be constructed of 14 or 16 gauge corrugated metal roadway pipe modified to accommodate slotted drain as shown.

Pavement, subbase, & shoulder quantities are:

(1709.35 Sq. Yds.)	AGGREGATE SUBGRADE IMPROVEMENT, 12"
(1596.03 Sq. Yds.)	P.C.C. PAVEMENT 10" (JOINTED)
(57.1 Tons)	2" HMA SURFACE COURSE, MIX "C", N50
(509.64 Sq. Yds.)	HMA SHOULDERS 6"

Elbows and Caps shall be considered included to the SLOTTED DRAIN 12" WITH 6" SLOT.

See District Standard 61.2 or 68.1 for details for the slotted drain.

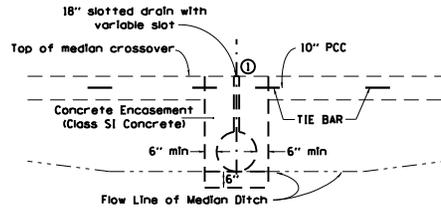
See District Standard 86.1 for details for the beveled pipe & guard.

The crossover is designed using a 55mph design speed.

The end of the pipe guard shall be set where a minimum 1:4 front slope can be constructed from each side of pipe guard to the HMA shoulder.

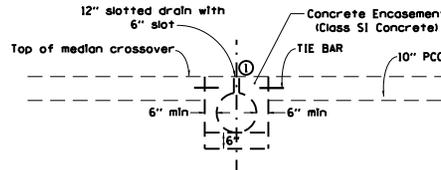
The PCC Pavement 10" (JOINTED) shall be constructed according to Section 420 of the Standard Specifications and Highway Standards 420001, 420101, & 420106

The PCC Pavement 10" (JOINTED) shall be tied to adjacent existing concrete pavement and the concrete encasement for the slotted drain. The tie bars shall be No. 6 bars 24" long @ 30" cts. and installed according to the applicable portions of Article 420.05(b) of the Standard Specifications. The cost of the bars to be included in the cost of the PCC Pavement 10" (JOINTED).



SECTION A-A

(USE TO MAINTAIN MEDIAN DRAINAGE THROUGH THE CROSSOVER)

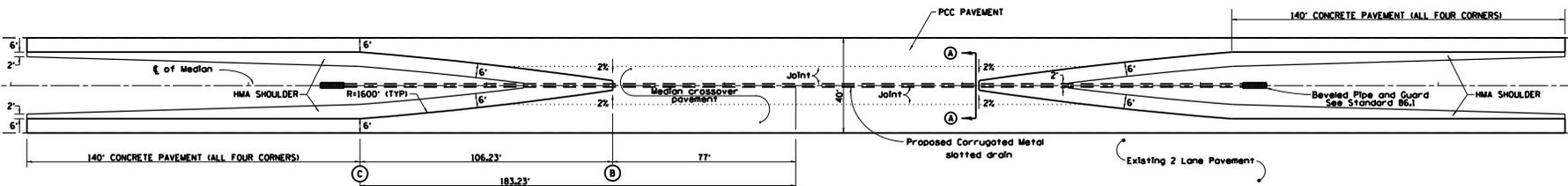


SECTION A-A

(WHEN CROSSOVER IS AT MEDIAN HIGH POINT)

① Duct tape or wood blocks shall be used to cover slotted drain during construction of crossover paving

TYPICAL PLAN



Unless otherwise specified, when the median crossover is to be removed, the Contractor shall be required to saw full-depth along the shoulder line 6' from edge of pavement). The 6' adjacent to the edge of pavement shall remain in place and be used as shoulders. The cost of Sawing shall be included in the Pavement Removal.

Longitudinal joints shall be sawed at a max 12' width. All joints shall be sealed.

TRAFFIC CONTROL STANDARD 701416 IS TO BE USED WITH THIS DETAIL

FILE NAME = District 2 Standard	USER NAME = I007/District 2	DESIGNED -	REVISD - 1-05-16	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REGION 2 / DISTRICT 2 STANDARD	P.A. RTE.	SECTION	COUNTY	TOTAL SHEET NO.	
		DRAWN -	REVISD - 6-27-14			SHEET NO.	OF SHEETS	STA.	TO STA.	CONTRACT NO.
		CHECKED -	REVISD - 8-27-13			SCALE:				
		DATE -	REVISD - 12-07-10			FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			

50' SINGLE LANE MEDIAN CROSSOVER

(POSTED SPEED LIMIT 65 MPH OR HIGHER, WORK ZONE SPEED LIMIT 55 MPH)

TYPICAL SECTION

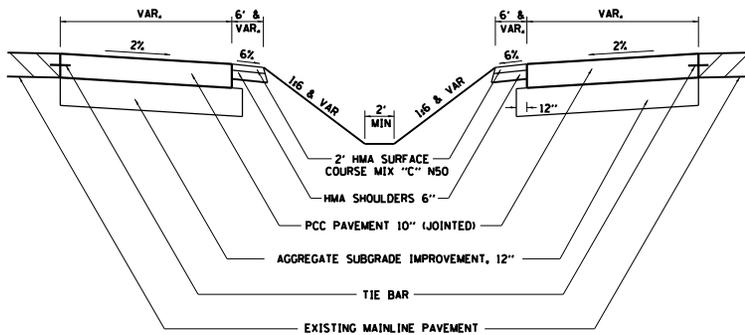


TABLE OF OFFSETS AND DROPS									
Distance feet from location station	0'	68'	75'	100'	125'	150'	175'	200'	206.02'
Offsets feet from inside edge of pavement	25'	23'	21.84'	17.97'	14.50'	11.43'	8.76'	6.49'	6'
Drop feet from inside edge of pavement	0.5'	0.46'	0.44'	0.36'	0.29'	0.23'	0.175'	0.13'	0.12'

GENERAL NOTES

Construction of median crossover shall conform to the requirement of current Standard Specifications.

Slotted drain shall be constructed of 14 or 16 gauge corrugated metal roadway pipe modified to accommodate slotted drain as shown.

Pavement, subbase, & shoulder quantities are:

(2084.0 Sq. Yds.)	AGGREGATE SUBGRADE IMPROVEMENT, 12"
(1956.55 Sq. Yds.)	P.C.C. PAVEMENT 10" (JOINTED)
(67.1 Tons)	2" HMA SURFACE COURSE, MIX "C", N50
(598.67 Sq. Yds.)	HMA SHOULDERS 6"

Elbows and Caps shall be considered included to the SLOTTED DRAIN 12" WITH 6" SLOT.

See District Standard 61.2 or 68.1 for details for the slotted drain.

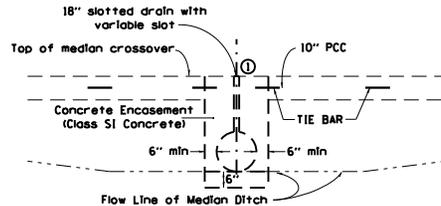
See District Standard 86.1 for details for the beveled pipe & guard.

The crossover is designed using a 55mph design speed.

The end of the pipe guard shall be set where a minimum 1:4 front slope can be constructed from each side of pipe guard to the HMA shoulder.

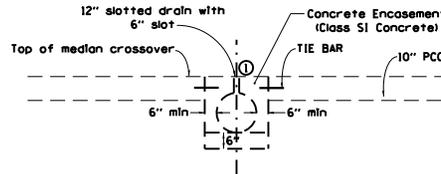
The PCC Pavement 10" (JOINTED) shall be constructed according to Section 420 of the Standard Specifications and Highway Standards 420001, 420101, & 420106

The PCC Pavement 10" (JOINTED) shall be tied to adjacent existing concrete pavement and the concrete encasement for the slotted drain. The tie bars shall be No. 5 bars 24" long @ 30" cts. and installed according to the applicable portions of Article 420.05(b) of the Standard Specifications. The cost of the bars to be included in the cost of the PCC Pavement 10" (JOINTED).



SECTION A-A

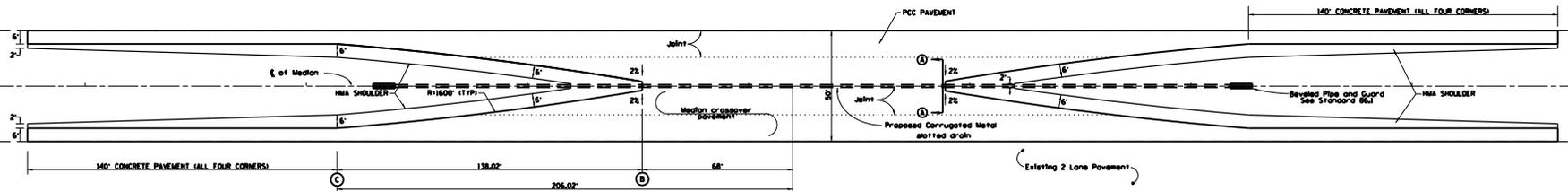
(USE TO MAINTAIN MEDIAN DRAINAGE THROUGH THE CROSSOVER)



SECTION A-A

(WHEN CROSSOVER IS AT MEDIAN HIGH POINT)

① Duct tape or wood blocks shall be used to cover slotted drain during construction of crossover paving



TYPICAL PLAN

Unless otherwise specified, when the median crossover is to be removed, the Contractor shall be required to saw full-depth along the shoulder line 6' from edge of pavement). The 6' adjacent to the edge of pavement shall remain in place and be used as shoulders. The cost of Sawing shall be included in the Pavement Removal.

Longitudinal joints shall be sawed at a max 12' width. All joints shall be sealed.

TRAFFIC CONTROL STANDARD 701416 IS TO BE USED WITH THIS DETAIL

FILE NAME : District 2 Standard	USER NAME : I007/District 2	DESIGNED -	REVISED - 1-05-16	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REGION 2 / DISTRICT 2 STANDARD	P.A. SITE.	SECTION	COUNTY	TOTAL SHEET NO.	
		DRAWN -	REVISED - 6-27-14			SHEET NO.	OF SHEETS	STA.	TO STA.	CONTRACT NO.
		CHECKED -	REVISED - 8-27-13			FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				
		DATE -	REVISED - 12-07-10							

64' SINGLE LANE MEDIAN CROSSOVER

(POSTED SPEED LIMIT 65 MPH OR HIGHER, WORK ZONE SPEED LIMIT 55 MPH)

TYPICAL SECTION

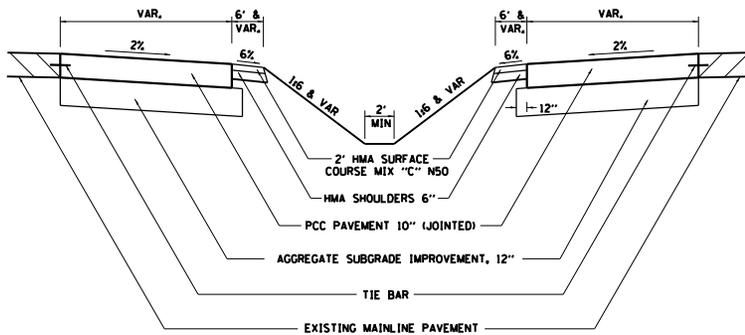


TABLE OF OFFSETS AND DROPS										
Distance feet from location station	0	60'	75'	100'	125'	150'	175'	200'	225'	236.83'
Offsets feet from inside edge of pavement	32'	30'	27.18'	22.80'	18.84'	15.27'	12.11'	9.35'	6.98'	6'
Drop feet from inside edge of pavement	0.64'	0.6'	0.54'	0.456'	0.377'	0.31'	0.24'	0.187'	0.139'	0.12'

GENERAL NOTES

Construction of median crossover shall conform to the requirement of current Standard Specifications.

Slotted drain shall be constructed of 14 or 16 gauge corrugated metal roadway pipe modified to accommodate slotted drain as shown.

Pavement, subbase, & shoulder quantities are:

- (2651.79 Sq. Yds.) AGGREGATE SUBGRADE IMPROVEMENT, 12"
- (2509.74 Sq. Yds.) P.C.C. PAVEMENT 10" (JOINTED)
- (79.2 Tons) 2" HMA SURFACE COURSE, MIX "C", NSO
- (707.03 Sq. Yds.) HMA SHOULDERS 6"

Elbows and Caps shall be considered included to the SLOTTED DRAIN 12" WITH 6" SLOT.

See District Standard 61.2 or 68.1 for details for the slotted drain.

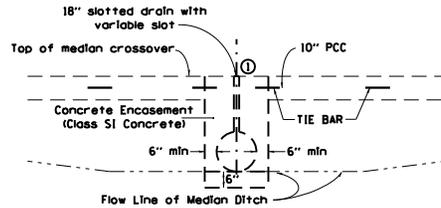
See District Standard 86.1 for details for the beveled pipe & guard.

The crossover is designed using a 55mph design speed.

The end of the pipe guard shall be set where a minimum 1:4 front slope can be constructed from each side of pipe guard to the HMA shoulder.

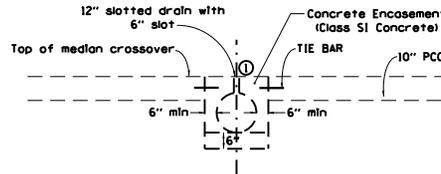
The PCC Pavement 10" (JOINTED) shall be constructed according to Section 420 of the Standard Specifications and Highway Standards 420001, 420101, & 420106

The PCC Pavement 10" (JOINTED) shall be tied to adjacent existing concrete pavement and the concrete encasement for the slotted drain. The tie bars shall be No. 6 bars 24" long @ 30" cts. and installed according to the applicable portions of Article 420.05(b) of the Standard Specifications. The cost of the bars to be included in the cost of the PCC Pavement 10" (JOINTED).



SECTION A-A

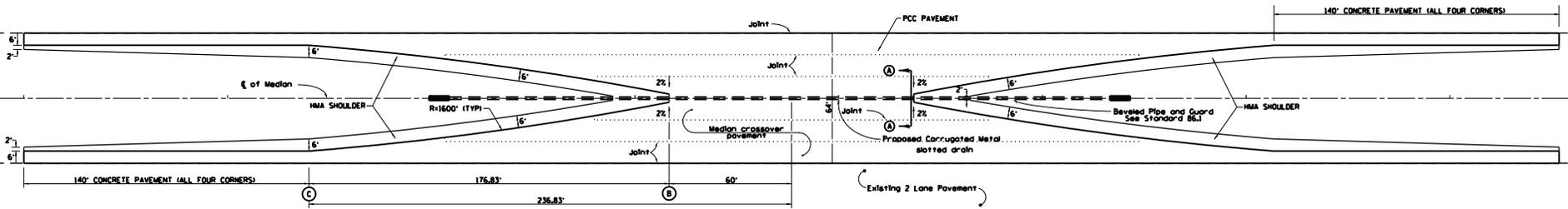
(USE TO MAINTAIN MEDIAN DRAINAGE THROUGH THE CROSSOVER)



SECTION A-A

(WHEN CROSSOVER IS AT MEDIAN HIGH POINT)

① Duct tape or wood blocks shall be used to cover slotted drain during construction of crossover paving



TYPICAL PLAN

Unless otherwise specified, when the median crossover is to be removed, the Contractor shall be required to saw full-depth along the shoulder line 6' from edge of pavement). The 6' adjacent to the edge of pavement shall remain in place and be used as shoulders. The cost of Sawing shall be included in the Pavement Removal.

Longitudinal joints shall be sawed at a max 12' width. All joints shall be sealed.

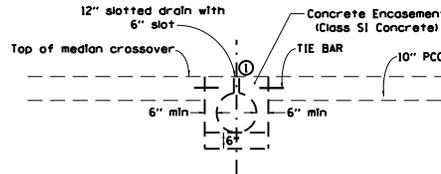
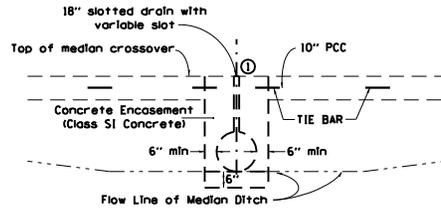
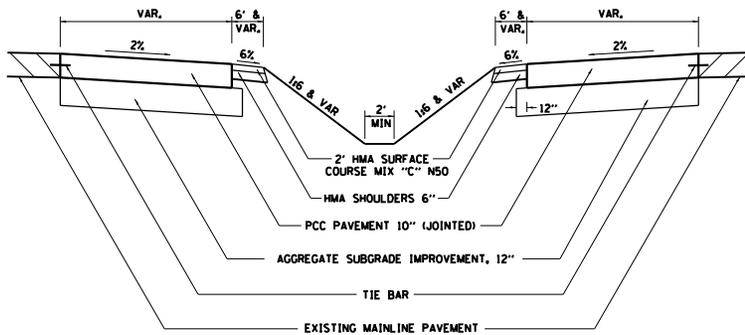
TRAFFIC CONTROL STANDARD 701416 IS TO BE USED WITH THIS DETAIL

FILE NAME = District 2 Standard	USER NAME = I007/District 2	DESIGNED -	REVISED - 1-05-16	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REGION 2 / DISTRICT 2 STANDARD	P.A. RTE.	SECTION	COUNTY	TOTAL SHEET NO.	
		DRAWN -	REVISED - 6-27-14			SCALE:	SHEET NO. OF SHEETS	STA. TO STA.	CONTRACT NO.	
		CHECKED -	REVISED - 8-27-13			FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		
		DATE -	REVISED - 12-07-10							

88' SINGLE LANE MEDIAN CROSSOVER

(POSTED SPEED LIMIT 65 MPH OR HIGHER, WORK ZONE SPEED LIMIT 55 MPH)

TYPICAL SECTION



① Duct tape or wood blocks shall be used to cover slotted drain during construction of crossover paving

SECTION A-A

(WHEN CROSSOVER IS AT MEDIAN HIGH POINT)

GENERAL NOTES

Construction of median crossover shall conform to the requirement of current Standard Specifications.

Slotted drain shall be constructed of 14 or 16 gauge corrugated metal roadway pipe modified to accommodate slotted drain as shown.

Pavement, subbase, & shoulder quantities are:

(3704.06 Sq. Yds.)	AGGREGATE SUBGRADE IMPROVEMENT, 12"
(3535.98 Sq. Yds.)	P.C.C. PAVEMENT 10" (JOINTED)
(96.79 Tons)	2" HMA SURFACE COURSE, MIX "C", NSO
(864.23 Sq. Yds.)	HMA SHOULDERS 6"

Elbows and Caps shall be considered included to the SLOTTED DRAIN 12" WITH 6" SLOT.

See District Standard 61.2 or 68.1 for details for the slotted drain.

See District Standard 86.1 for details for the beveled pipe & guard.

The crossover is designed using a 55mph design speed.

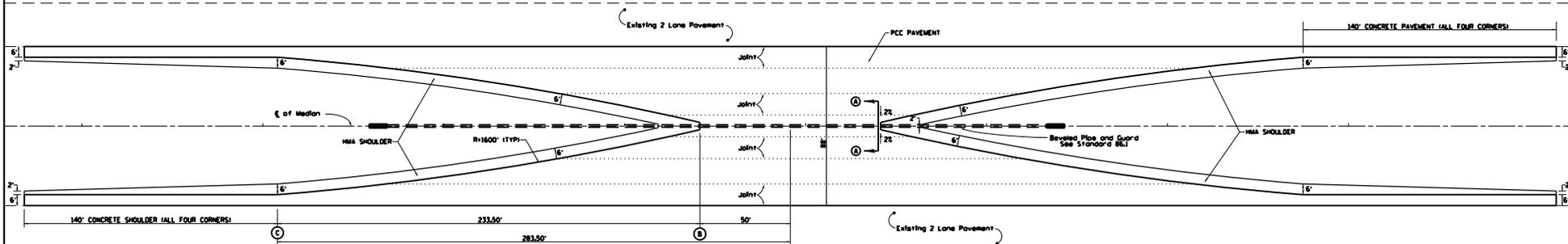
The end of the pipe guard shall be set where a minimum 1:4 front slope can be constructed from each side of pipe guard to the HMA shoulder.

The PCC Pavement 10" (JOINTED) shall be constructed according to Section 420 of the Standard Specifications and Highway Standards 420001, 420101, & 420106

The PCC Pavement 10" (JOINTED) shall be tied to adjacent existing concrete pavement and the concrete encasement for the slotted drain. The tie bars shall be No. 6 bars 24" long @ 30" cts. and installed according to the applicable portions of Article 420.05(b) of the Standard Specifications. The cost of the bars to be included in the cost of the PCC Pavement 10" (JOINTED).

TABLE OF OFFSETS AND DROPS

Distance feet from location station	0	50'	75'	100'	125'	150'	175'	200'	225'	250'	275'	283.50'
Offsets feet from inside edge of pavement	44'	42'	36.44'	31.30'	26.57'	22.25'	18.34'	14.83'	11.72'	9.01'	6.70'	6'
Drop feet from inside edge of pavement	0.88'	0.84'	0.73'	0.63'	0.53'	0.43'	0.37'	0.30'	0.23'	0.18'	0.13'	0.12'



TYPICAL PLAN

Unless otherwise specified, when the median crossover is to be removed, the Contractor shall be required to saw full-depth along the shoulder line 6' from edge of pavement). The 6' adjacent to the edge of pavement shall remain in place and be used as shoulders. The cost of Sawing shall be included in the Pavement Removal.

Longitudinal joints shall be sawed at a max 12' width. All joints shall be sealed.

TRAFFIC CONTROL STANDARD 701416 IS TO BE USED WITH THIS DETAIL

FILE NAME = District 2 Standard	USER NAME = I007/District 2	DESIGNED -	REVISED - 1-05-16	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REGION 2 / DISTRICT 2 STANDARD	P.A. SITE.	SECTION	COUNTY	TOTAL SHEET NO.	
		DRAWN -	REVISED - 6-27-14			SCALE:	SHEET NO. OF SHEETS STA.	TO STA.	FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT
		CHECKED -	REVISED - 8-27-13			CONTRACT NO.				
		DATE = 1/18/2017	REVISED - 12-07-10							

40' TWO LANE MEDIAN CROSSOVER

(POSTED SPEED LIMIT 55 MPH, WORK ZONE SPEED LIMIT 45 MPH)

TYPICAL SECTION

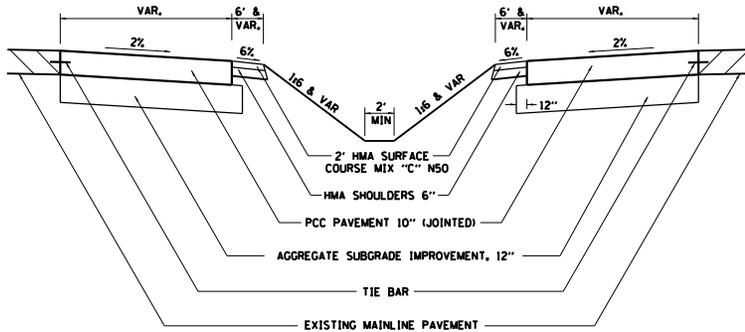
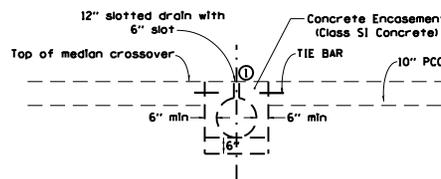
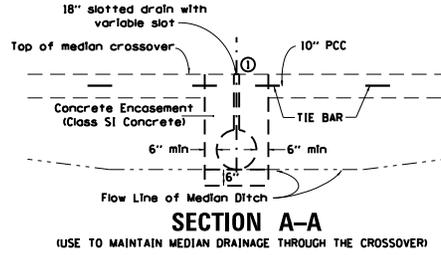


TABLE OF OFFSETS AND DROPS						
Distance feet from location station	0	76.95'	100'	125'	150'	168.69'
Offsets feet from inside edge of pavement	20'	18'	14.22'	10.70'	7.79'	6.00'
Drop feet from inside edge of pavement	0.4'	0.36'	0.28'	0.21'	0.16'	0.12'



① Duct tape or wood blocks shall be used to cover slotted drain during construction of crossover paving

SECTION A-A

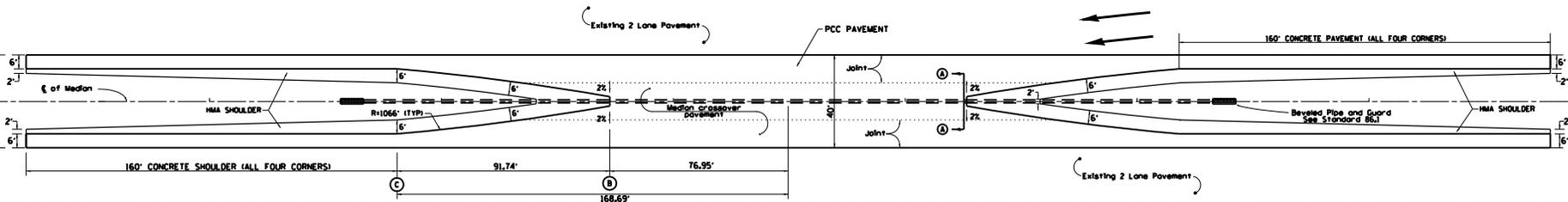
(WHEN CROSSOVER IS AT MEDIAN HIGH POINT)

GENERAL NOTES

- Construction of median crossover shall conform to the requirement of current Standard Specifications.
- Slotted drain shall be constructed of 14 or 16 gauge corrugated metal roadway pipe modified to accommodate slotted drain as shown.
- Pavement, subbase, & shoulder quantities are:

(1685.28 Sq. Yds.)	AGGREGATE SUBGRADE IMPROVEMENT, 12"
(1572.43 Sq. Yds.)	P.C.C. PAVEMENT 10" (JOINTED)
(57.28 Tons)	2" HMA SURFACE COURSE, MIX "C", N50
(511.45 Sq. Yds.)	HMA SHOULDERS 6"
- Elbows and Caps shall be considered included to the SLOTTED DRAIN 12" WITH 6" SLOT.
- See District Standard 61.2 or 68.1 for details for the slotted drain.
- See District Standard 86.1 for details for the beveled pipe & guard.
- The crossover is designed using a 45mph design speed.
- The end of the pipe guard shall be set where a minimum 1:4 front slope can be constructed from each side of pipe guard to the HMA shoulder.
- The PCC Pavement 10" (JOINTED) shall be constructed according to Section 420 of the Standard Specifications and Highway Standards 420001, 420101, & 420106
- The PCC Pavement 10" (JOINTED) shall be tied to adjacent existing concrete pavement and the concrete enclosure for the slotted drain. The tie bars shall be No. 6 bars 24" long @ 30" cts. and installed according to the applicable portions of Article 420.05(b) of the Standard Specifications. The cost of the bars to be included in the cost of the PCC Pavement 10" (JOINTED).

TYPICAL PLAN



Unless otherwise specified, when the median crossover is to be removed, the Contractor shall be required to saw full-depth along the shoulder line 6' from edge of pavement). The 6' adjacent to the edge of pavement shall remain in place and be used as shoulders. The cost of Sawing shall be included in the Pavement Removal.

Longitudinal joints shall be sawed at a max 12' width. All joints shall be sealed.

TRAFFIC CONTROL STANDARD 701416 IS TO BE USED WITH THIS DETAIL.

FILE NAME = District 2 Standard	USER NAME = I007/District 2	DESIGNED -	REVISED - 1-05-16	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REGION 2 / DISTRICT 2 STANDARD	P.A. SITE.	SECTION	COUNTY	TOTAL SHEET NO.	
	PLOT SCALE = 3/8" = 1' - 0"	DRAWN -	REVISED - 8-27-13							
	PLOT DATE = 1/18/2017	CHECKED -	REVISED - 4-04-11							
		DATE -	REVISED -							

50' TWO LANE MEDIAN CROSSOVER

(POSTED SPEED LIMIT 55 MPH, WORK ZONE SPEED LIMIT 45 MPH)

TYPICAL SECTION

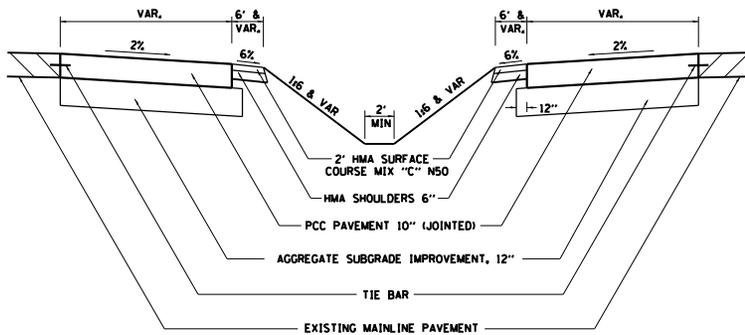
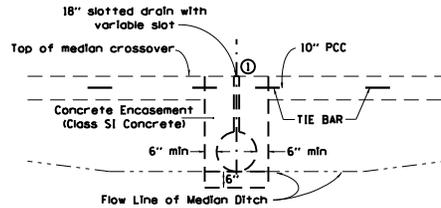
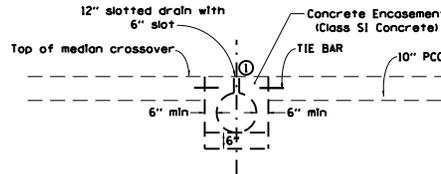


TABLE OF OFFSETS AND DROPS								
Distance feet from location station	0	69.72'	75'	100'	125'	150'	175'	188.01'
		Ⓟ						Ⓢ
Offsets feet from inside edge of pavement	25'	23'	21.95'	17.35'	13.37'	9.99'	7.21'	6.00'
	Ⓣ							
Drop feet from inside edge of pavement	0.5'	0.46'	0.44'	0.35'	0.27'	0.20'	0.14'	0.12'



SECTION A-A

(USE TO MAINTAIN MEDIAN DRAINAGE THROUGH THE CROSSOVER)



SECTION A-A

(WHEN CROSSOVER IS AT MEDIAN HIGH POINT)

GENERAL NOTES

Construction of median crossover shall conform to the requirement of current Standard Specifications.

Slotted drain shall be constructed of 14 or 16 gauge corrugated metal roadway pipe modified to accommodate slotted drain as shown.

Pavement, subbase, & shoulder quantities are:

(2029.23 Sq. Yds.)	AGGREGATE SUBGRADE IMPROVEMENT, 12"
(1904.29 Sq. Yds.)	P.C.C. PAVEMENT 10" (JOINTED)
(65.64 Tons)	2" HMA SURFACE COURSE, MIX "C", N50
(586.07 Sq. Yds.)	HMA SHOULDERS 6"

Elbows and Caps shall be considered included to the SLOTTED DRAIN 12" WITH 6" SLOT.

See District Standard 61.2 or 68.1 for details for the slotted drain.

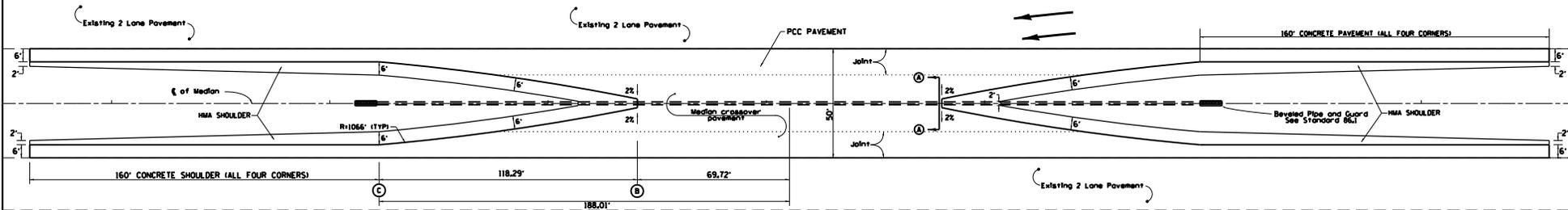
See District Standard 86.1 for details for the beveled pipe & guard.

The crossover is designed using a 45mph design speed.

The end of the pipe guard shall be set where a minimum 1:4 front slope can be constructed from each side of pipe guard to the HMA shoulder.

The PCC Pavement 10" (JOINTED) shall be constructed according to Section 420 of the Standard Specifications and Highway Standards 420001, 420101, & 420106

The PCC Pavement 10" (JOINTED) shall be tied to adjacent existing concrete pavement and the concrete encasement for the slotted drain. The tie bars shall be No. 6 bars 24" long @ 30" cts. and installed according to the applicable portions of Article 420.05(b) of the Standard Specifications. The cost of the bars to be included in the cost of the PCC Pavement 10" (JOINTED).



TYPICAL PLAN

Unless otherwise specified, when the median crossover is to be removed, the Contractor shall be required to saw full-depth along the shoulder line 6' from edge of pavement). The 6' adjacent to the edge of pavement shall remain in place and be used as shoulders. The cost of Sawing shall be included in the Pavement Removal.

Longitudinal joints shall be sawed at a max 12' width. All joints shall be sealed.

TRAFFIC CONTROL STANDARD 701416 IS TO BE USED WITH THIS DETAIL

FILE NAME = District 2 Standard	USER NAME = I007/District 2	DESIGNED -	REVISED - 1-05-16	STATE OF ILLINOIS	REGION 2 / DISTRICT 2 STANDARD	P.A. RTE.	SECTION	COUNTY	TOTAL SHEET NO.
		DRAWN -	REVISED - 8-27-13	DEPARTMENT OF TRANSPORTATION					
		CHECKED -	REVISED - 4-04-11		SCALE:	SHEET NO.	OF SHEETS	STA.	TO STA.
		DATE -	REVISED -						CONTRACT NO.
									FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT

64' TWO LANE MEDIAN CROSSOVER

(POSTED SPEED LIMIT 55 MPH, WORK ZONE SPEED LIMIT 45 MPH)

TYPICAL SECTION

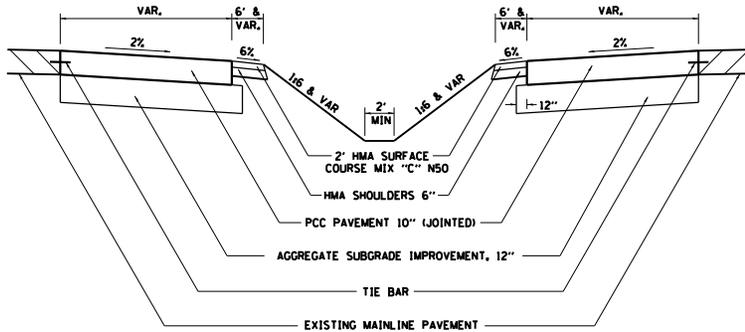


TABLE OF OFFSETS AND DROPS

Distance feet from location station	0	62.41'	75'	100'	125'	150'	175'	200'	212.87'
Offsets feet from inside edge of pavement	32'	30'	27.14'	21.92'	17.33'	13.35'	9.97'	7.20'	6.00'
Drop feet from inside edge of pavement	0.64'	0.60'	0.54'	0.44'	0.35'	0.27'	0.20'	0.14'	0.12'

GENERAL NOTES

Construction of median crossover shall conform to the requirement of current Standard Specifications.

Slotted drain shall be constructed of 14 or 16 gauge corrugated metal roadway pipe modified to accommodate slotted drain as shown.

Pavement, subbase, & shoulder quantities are:

- (2534.76 Sq. Yds.) AGGREGATE SUBGRADE IMPROVEMENT, 12"
- (2394.89 Sq. Yds.) P.C.C. PAVEMENT 10" (JOINTED)
- (75.73 Tons) 2" HMA SURFACE COURSE, MIX "C", N50
- (676.15 Sq. Yds.) HMA SHOULDERS 6"

Elbows and Caps shall be considered included to the SLOTTED DRAIN 12" WITH 6" SLOT.

See District Standard 61.2 or 68.1 for details for the slotted drain.

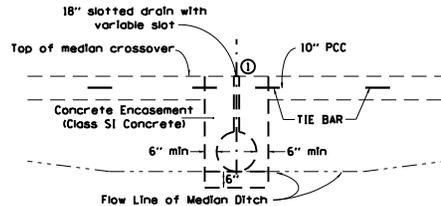
See District Standard 86.1 for details for the beveled pipe & guard.

The crossover is designed using a 45mph design speed.

The end of the pipe guard shall be set where a minimum 1:4 front slope can be constructed from each side of pipe guard to the HMA shoulder.

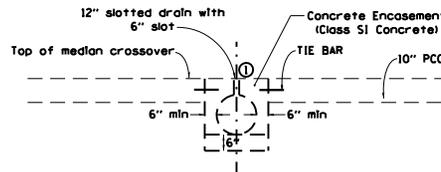
The PCC Pavement 10" (JOINTED) shall be constructed according to Section 420 of the Standard Specifications and Highway Standards 420001, 420101, & 420106

The PCC Pavement 10" (JOINTED) shall be tied to adjacent existing concrete pavement and the concrete encasement for the slotted drain. The tie bars shall be No. 6 bars 24" long @ 30" cts. and installed according to the applicable portions of Article 420.05(b) of the Standard Specifications. The cost of the bars to be included in the cost of the PCC Pavement 10" (JOINTED).



SECTION A-A

(USE TO MAINTAIN MEDIAN DRAINAGE THROUGH THE CROSSOVER)

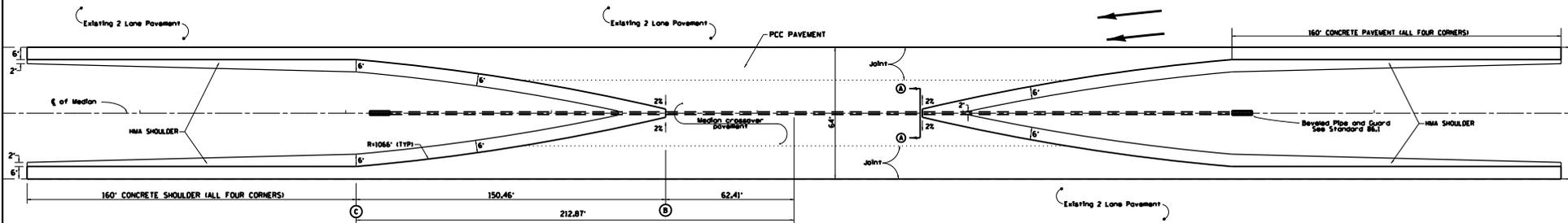


SECTION A-A

(WHEN CROSSOVER IS AT MEDIAN HIGH POINT)

① Duct tape or wood blocks shall be used to cover slotted drain during construction of crossover paving

TYPICAL PLAN



Unless otherwise specified, when the median crossover is to be removed, the Contractor shall be required to saw full-depth along the shoulder line 6' from edge of pavement). The 6' adjacent to the edge of pavement shall remain in place and be used as shoulders. The cost of Sawing shall be included in the Pavement Removal.

Longitudinal joints shall be sawed at a max 12' width. All joints shall be sealed.

TRAFFIC CONTROL STANDARD 701416 IS TO BE USED WITH THIS DETAIL

FILE NAME : District 2 Standard	USER NAME : I007/District 2	DESIGNED -	REVISED - 1-05-16	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REGION 2 / DISTRICT 2 STANDARD	P.A. RTE.	SECTION	COUNTY	TOTAL SHEET NO.	
		DRAWN -	REVISED - 8-27-13			SCALE:	SHEET NO. OF SHEETS	STA. TO STA.	CONTRACT NO.	
		CHECKED -	REVISED - 4-04-11					FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT
		DATE -	REVISED -							

40' TWO LANE MEDIAN CROSSOVER

(POSTED SPEED LIMIT 65 MPH OR HIGHER, WORK ZONE SPEED LIMIT 55 MPH)

TYPICAL SECTION

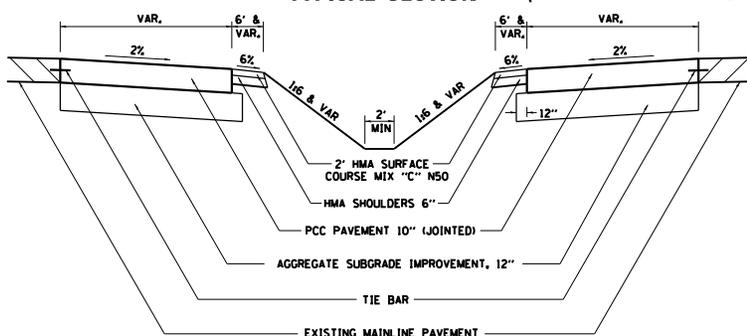


TABLE OF OFFSETS AND DROPS							
Distance feet from location station	0	100.33'	125'	150'	175'	200'	220.57'
Offsets feet from inside edge of pavement	20'	18'	14.88'	12.07'	9.60'	7.48'	6.00'
Drop feet from inside edge of pavement	0.40'	0.36'	0.30'	0.24'	0.19'	0.15'	0.12'

GENERAL NOTES

Construction of median crossover shall conform to the requirement of current Standard Specifications.

Slotted drain shall be constructed of 14 or 16 gauge corrugated metal roadway pipe modified to accommodate slotted drain as shown.

Pavement, subbase, & shoulder quantities are:

(2142.56 Sq. Yds.)	AGGREGATE SUBGRADE IMPROVEMENT, 12"
(2003.87 Sq. Yds.)	P.C.C. PAVEMENT 10" (JOINTED)
(71.01 Tons)	2" HMA SURFACE COURSE, MIX "C", NS0
(634.04 Sq. Yds.)	HMA SHOULDERS 6"

Elbows and Caps shall be considered included to the SLOTTED DRAIN 12" WITH 6" SLOT.

See District Standard 61.2 or 68.1 for details for the slotted drain.

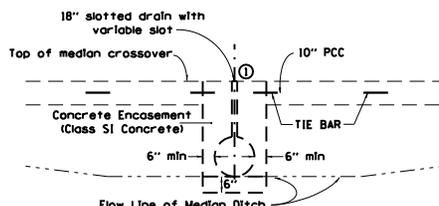
See District Standard 86.1 for details for the beveled pipe & guard.

The crossover is designed using a 55mph design speed.

The end of the pipe guard shall be set where a minimum 1:4 front slope can be constructed from each side of pipe guard to the HMA shoulder.

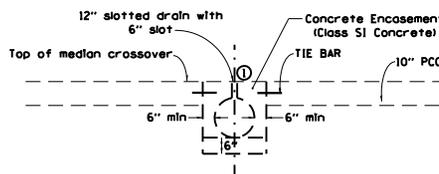
The PCC Pavement 10" (JOINTED) shall be constructed according to Section 420 of the Standard Specifications and Highway Standards 420001, 420101, & 420106

The PCC Pavement 10" (JOINTED) shall be tied to adjacent existing concrete pavement and the concrete encasement for the slotted drain. The tie bars shall be No. 6 bars 24" long @ 30" cts. and installed according to the applicable portions of Article 420.05(b) of the Standard Specifications. The cost of the bars to be included in the cost of the PCC Pavement 10" (JOINTED).



SECTION A-A

(USE TO MAINTAIN MEDIAN DRAINAGE THROUGH THE CROSSOVER)

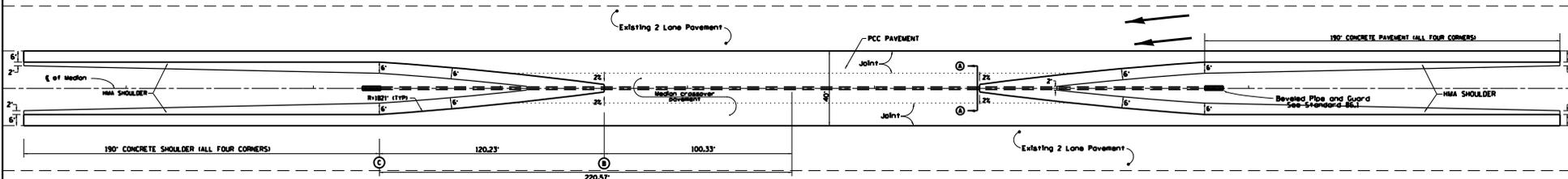


SECTION A-A

(WHEN CROSSOVER IS AT MEDIAN HIGH POINT)

① Duct tape or wood blocks shall be used to cover slotted drain during construction of crossover paving

TYPICAL PLAN



Unless otherwise specified, when the median crossover is to be removed, the Contractor shall be required to saw full-depth along the shoulder line 6' from edge of pavement). The 6' adjacent to the edge of pavement shall remain in place and be used as shoulders. The cost of Sawing shall be included in the Pavement Removal.

Longitudinal joints shall be sawed at a max 12' width. All joints shall be sealed.

TRAFFIC CONTROL STANDARD 701416 IS TO BE USED WITH THIS DETAIL

FILE NAME : District 2 Standard	USER NAME : I007/District 2	DESIGNED -	REVISED - 1-05-16	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REGION 2 / DISTRICT 2 STANDARD	P.A. SITE.	SECTION	COUNTY	TOTAL SHEET NO.	
		DRAWN -	REVISED - 6-27-14			SCALE:	SHEET NO. OF SHEETS	STA. TO STA.	FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT
		CHECKED -	REVISED - 8-27-13			CONTRACT NO.				
		DATE	REVISED - 4-04-11							

64' TWO LANE MEDIAN CROSSOVER

(POSTED SPEED LIMIT 65 MPH OR HIGHER, WORK ZONE SPEED LIMIT 55 MPH)

TYPICAL SECTION

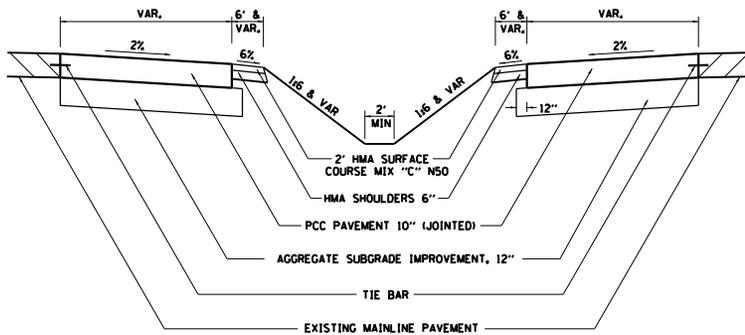


TABLE OF OFFSETS AND DROPS											
Distance feet from location station	0	81.32'	100'	125'	150'	175'	200'	225'	250'	275'	278.80'
Offsets feet from inside edge of pavement	32'	30'	26.79'	22.80'	19.16'	15.88'	12.95'	10.37'	8.14'	6.26'	6.00'
Drop feet from inside edge of pavement	0.64'	0.60'	0.54'	0.46'	0.38'	0.32'	0.26'	0.21'	0.16'	0.13'	0.12'

GENERAL NOTES

Construction of median crossover shall conform to the requirement of current Standard Specifications.

Slotted drain shall be constructed of 14 or 16 gauge corrugated metal roadway pipe modified to accommodate slotted drain as shown.

Pavement, subbase, & shoulder quantities are:

- (3256.59 Sq. Yds.) AGGREGATE SUBGRADE IMPROVEMENT, 12"
- (3082.80 Sq. Yds.) P.C.C. PAVEMENT 10" (JOINTED)
- (95.09 Tons) 2" HMA SURFACE COURSE, MIX "C", N50
- (848.99 Sq. Yds.) HMA SHOULDERS 6"

Elbows and Caps shall be considered included to the SLOTTED DRAIN 12" WITH 6" SLOT.

See District Standard 61.2 or 68.1 for details for the slotted drain.

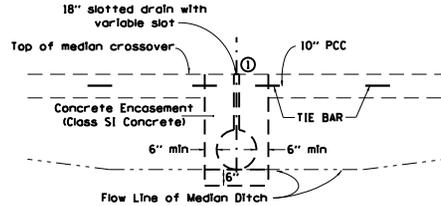
See District Standard 86.1 for details for the beveled pipe & guard.

The crossover is designed using a 55mph design speed.

The end of the pipe guard shall be set where a minimum 1:4 front slope can be constructed from each side of pipe guard to the HMA shoulder.

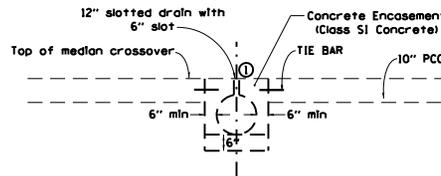
The PCC Pavement 10" (JOINTED) shall be constructed according to Section 420 of the Standard Specifications and Highway Standards 420001, 420101, & 420106

The PCC Pavement 10" (JOINTED) shall be tied to adjacent existing concrete pavement and the concrete encasement for the slotted drain. The tie bars shall be No. 5 bars 24" long @ 30" cts. and installed according to the applicable portions of Article 420.05(b) of the Standard Specifications. The cost of the bars to be included in the cost of the PCC Pavement 10" (JOINTED).



SECTION A-A

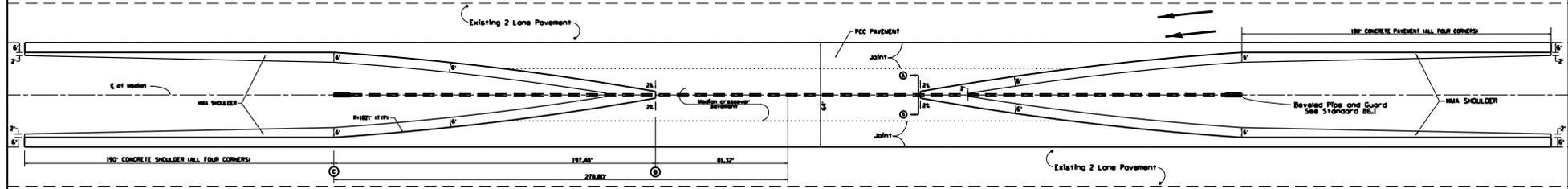
(USE TO MAINTAIN MEDIAN DRAINAGE THROUGH THE CROSSOVER)



SECTION A-A

(WHEN CROSSOVER IS AT MEDIAN HIGH POINT)

① Duct tape or wood blocks shall be used to cover slotted drain during construction of crossover paving



TYPICAL PLAN

Unless otherwise specified, when the median crossover is to be removed, the Contractor shall be required to saw full-depth along the shoulder line 6' from edge of pavement). The 6' adjacent to the edge of pavement shall remain in place and be used as shoulders. The cost of Sawing shall be included in the Pavement Removal.

Longitudinal joints shall be sawed at a max 12' width. All joints shall be sealed.

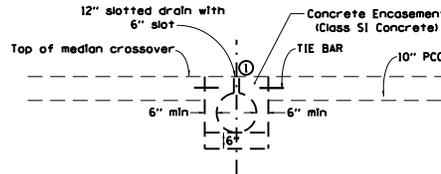
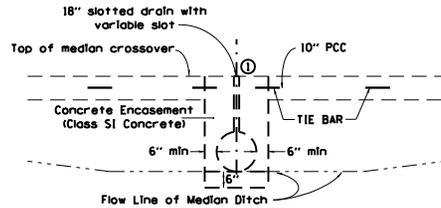
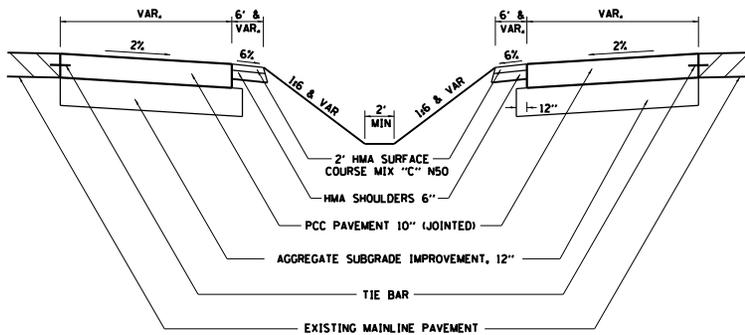
TRAFFIC CONTROL STANDARD 701416 IS TO BE USED WITH THIS DETAIL

FILE NAME : District 2 Standard	USER NAME : I007/District 2	DESIGNED -	REVISED - 1-05-16	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REGION 2 / DISTRICT 2 STANDARD	P.A. SITE.	SECTION	COUNTY	TOTAL SHEET NO.
	PLOT SCALE = 3/8" = 1' / 16"	DRAWN -	REVISED - 6-27-14			SCALE:	SHEET NO. OF SHEETS	STA. TO STA.	CONTRACT NO.
	PLOT DATE = 1/18/2017	CHECKED -	REVISED - 8-27-13			FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT		
		DATE -	REVISED - 4-04-11						

88' TWO LANE MEDIAN CROSSOVER

(POSTED SPEED LIMIT 65 MPH OR HIGHER, WORK ZONE SPEED LIMIT 55 MPH)

TYPICAL SECTION



① Duct tape or wood blocks shall be used to cover slotted drain during construction of crossover paving

SECTION A-A

(WHEN CROSSOVER IS AT MEDIAN HIGH POINT)

GENERAL NOTES

Construction of median crossover shall conform to the requirement of current Standard Specifications.

Slotted drain shall be constructed of 14 or 16 gauge corrugated metal roadway pipe modified to accommodate slotted drain as shown.

Pavement, subbase, & shoulder quantities are:

(4481.22 Sq. Yds.)	AGGREGATE SUBGRADE IMPROVEMENT, 12"
(4279.37 Sq. Yds.)	P.C.C. PAVEMENT 10" (JOINTED)
(114.14 Tons)	2" HMA SURFACE COURSE, MIX "C", NSO
(1019.14 Sq. Yds.)	HMA SHOULDERS 6"

Elbows and Caps shall be considered included to the SLOTTED DRAIN 12" WITH 6" SLOT.

See District Standard 61.2 or 68.1 for details for the slotted drain.

See District Standard 86.1 for details for the beveled pipe & guard.

The crossover is designed using a 55mph design speed.

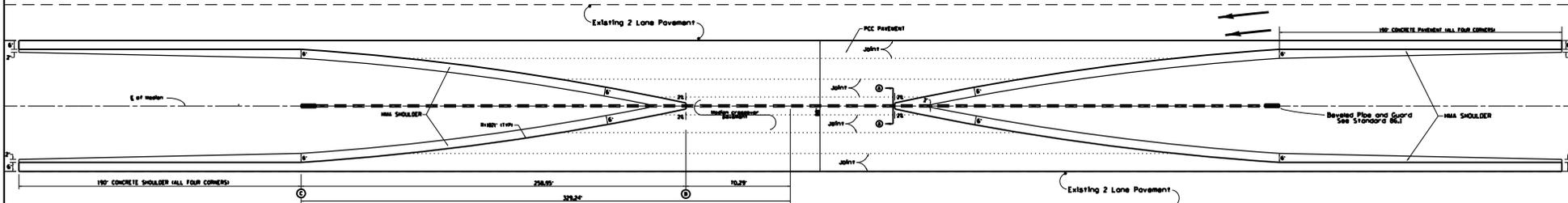
The end of the pipe guard shall be set where a minimum 1:4 front slope can be constructed from each side of pipe guard to the HMA shoulder.

The PCC Pavement 10" (Jointed) shall be constructed according to Section 420 of the Standard Specifications and Highway Standards 420001, 420101, & 420106

The PCC Pavement 10" (Jointed) shall be tied to adjacent existing concrete pavement and the concrete encasement for the slotted drain. The tie bars shall be No. 6 bars 24" long @ 30" cts. and installed according to the applicable portions of Article 420.05(b) of the Standard Specifications. The cost of the bars to be included in the cost of the PCC Pavement 10" (Jointed).

TABLE OF OFFSETS AND DROPS

Distance feet from location station	0	70.29' ⓑ	75'	100'	125'	150'	175'	200'	225'	250'	275'	300'	325'	329.24' Ⓒ
Offsets feet from inside edge of pavement	44'	42'	41.00'	35.93'	31.23'	26.86'	22.86'	19.22'	15.94'	13.00'	10.42'	8.18'	6.29'	6.00'
Drop feet from inside edge of pavement	0.88'	0.84'	0.82'	0.72'	0.62'	0.54'	0.46'	0.38'	0.32'	0.26'	0.21'	0.16'	0.13'	0.12'



TYPICAL PLAN

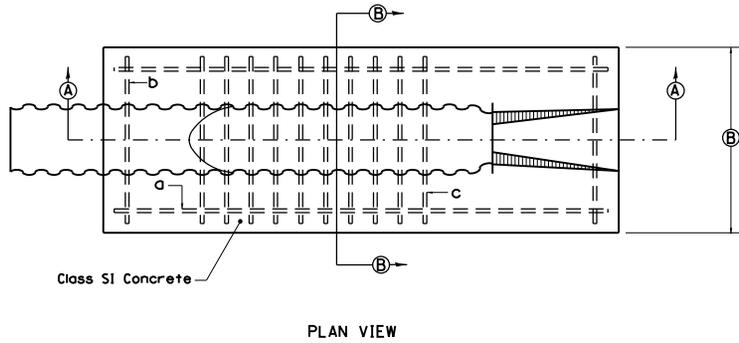
Unless otherwise specified, when the median crossover is to be removed, the Contractor shall be required to saw full-depth along the shoulder line 6' from edge of pavement). The 6' adjacent to the edge of pavement shall remain in place and be used as shoulders. The cost of Sawing shall be included in the Pavement Removal.

Longitudinal joints shall be sawed at a max 12' width. All joints shall be sealed.

TRAFFIC CONTROL STANDARD 701416 IS TO BE USED WITH THIS DETAIL

FILE NAME : District 2 Standard	USER NAME : I007/District 2	DESIGNED - DRAWN -	REVISED - 1-05-16 REVISED - 6-27-14	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REGION 2 / DISTRICT 2 STANDARD	P.A. SITE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
PLOT SCALE = 3/8" = 1'	CHECKED -	REVISED - 8-27-13	SCALE:			SHEET NO. OF SHEETS	STA. TO STA.	FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT	CONTRACT NO.
PLOT DATE = 1/18/2017	DATE -	REVISED - 4-04-11								

BEVELED PIPE & GUARD DETAIL FOR MEDIAN CROSSOVER



12 PIPE REINFORCING SCHEDULE			
Mark Req'd	Bar Size	Length	No.
a	5	110	2
b	5	32	2
c	8	34	10

18 PIPE REINFORCING SCHEDULE			
Mark Req'd	Bar Size	Length	No.
a	5	162	2
b	5	38	2
c	8	40	18

GENERAL NOTES:

Details shown hereon are for the construction of beveled pipe and guard. Alternate designs, methods of construction or materials may be submitted to the Engineer for approval. All methods of construction and materials involved shall conform to current Standard Specifications.

Reinforcing steel used in construction of "Beveled Pipe and Guard" shall be deformed bars meeting the requirements of Article 1006.10 of the Standard Specifications. All steel bars shall be hot-dip galvanized in accordance with ASTM A 123 specifications.

Concrete used in construction of the beveled pipe and guard shall be Class "SI" Concrete.

The corrugated metal pipe shall be cut to fit the 1:8 foreslope. Slots shall be cut into the C.M.P. for placement of the 'b' and 'c' bars. After the foreslope has been placed, the 'b' and 'c' bars shall be fitted into the slots cut in the C.M.P. so they will be in proper position when the concrete collar is poured.

This work shall be paid for at the contract unit price per Each for "Beveled Pipe and Guard", as shown hereon and as directed by the Engineer.

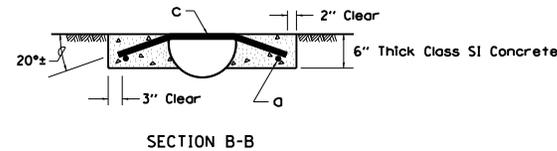
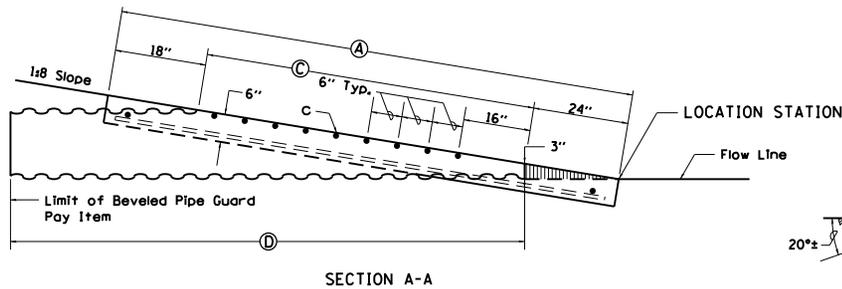
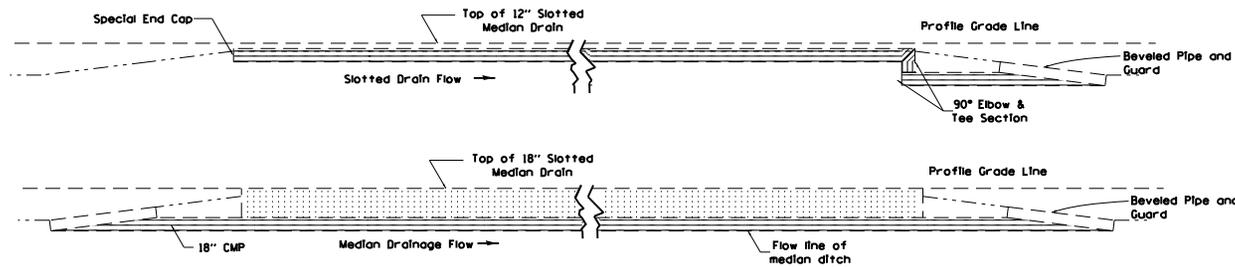


TABLE OF DIMENSIONS				
PIPE SIZE	A	B	C	D
12	9' - 6"	36	6'	10'
18	13' - 10"	42	10' - 4"	14' - 10"

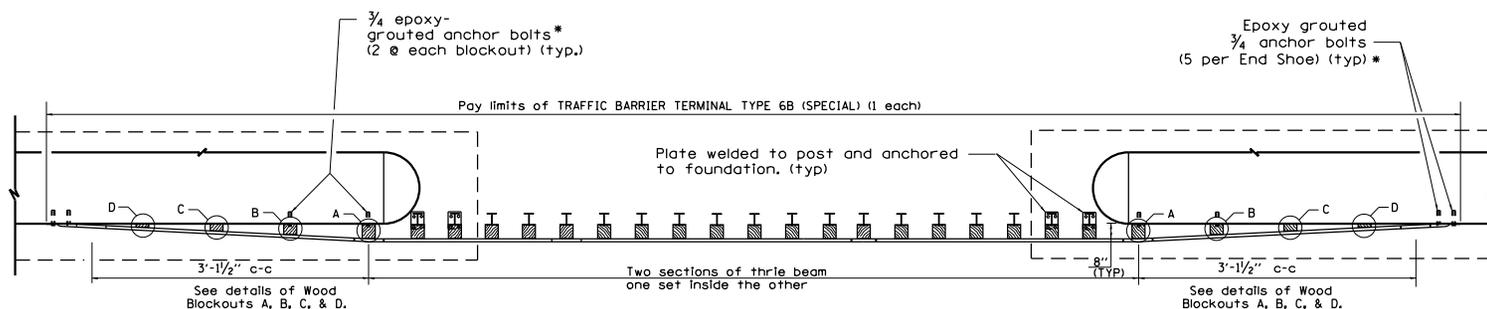
TYPICAL SECTION THRU CENTERLINE OF MEDIAN CROSSOVER



ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

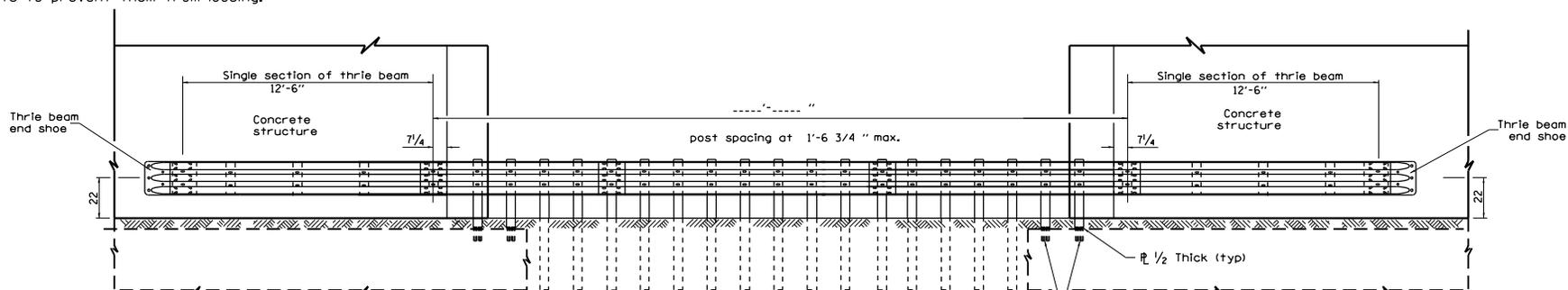
FILE NAME : District 2 Standard	USER NAME : I007/District 2	DESIGNED -	REVISED - 5-27-09	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REGION 2 / DISTRICT 2 STANDARD	P.A. RTEL.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.		
PLOT SCALE = 3/8" = 1' / in.	DRAWN -	CHECKED -	REVISED -			SCALE:	SHEET NO.	OF SHEETS	STA.	TO STA.	FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT
PLOT DATE = 1/18/2017	DATE	REVISIONS	REVISIONS			CONTRACT NO.						

TRAFFIC BARRIER TERMINAL, TYPE 6B (SPECIAL)



PLAN

- With standard washers. After tightening, cut the anchor bolts flush with the nuts and damage the nuts to prevent them from loosening.



ELEVATION

GENERAL NOTES

This work shall be done according to Section 631 of the Standard Specifications and this detail.

See Standard 630001 for details of guardrail not shown.

Thrie beam rail shall be bolted to block-out at all posts.

Posts located above pier foundation shall have plate attached to post and anchored to foundation.

All slope ratios are expressed as units of vertical displacement to units of horizontal displacement (V:H).

All dimensions are in inches unless otherwise shown.

The Traffic barrier Terminal, Type 6B (Special) will be measured for payment, complete in place, in units of each.

This work shall be paid for at the contract unit price per each for TRAFFIC BARRIER TERMINAL, TYPE 6B (SPECIAL).

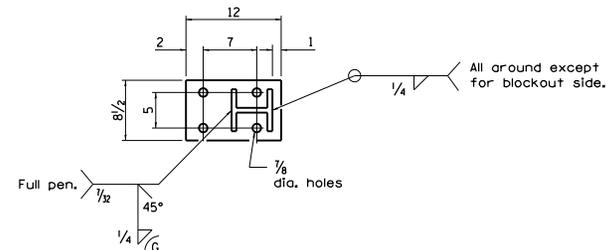
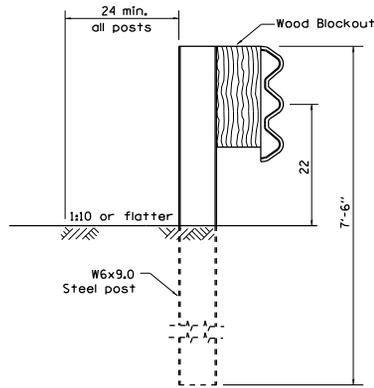


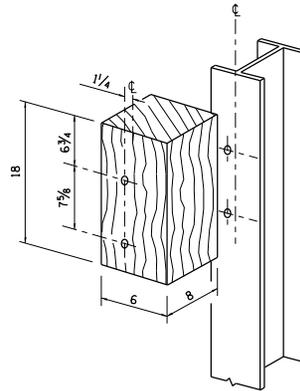
PLATE DETAIL

FILE NAME = District 2 Standard	USER NAME = I007/District 2	DESIGNED -	REVISED - 10-18-11	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REGION 2 / DISTRICT 2 STANDARD	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = 3/8" = 1' - 0"	DRAWN -	REVISED -							
	PLOT DATE = 1/18/2017	CHECKED -	REVISED -							
		DATE	REVISED -							
SCALE: SHEET NO. OF SHEETS STA. TO STA.						FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT CONTRACT NO.				

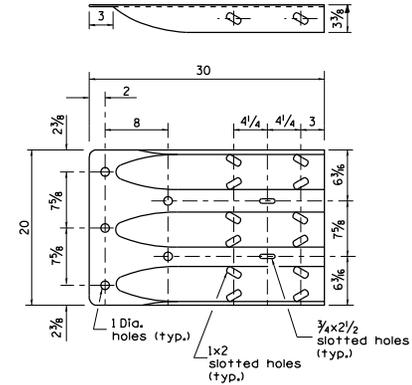
TRAFFIC BARRIER TERMINAL, TYPE 6B (SPECIAL)



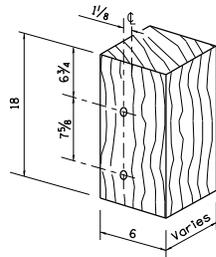
SECTION A-A



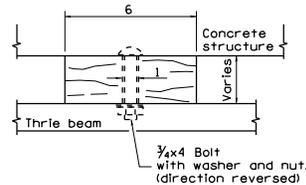
WOOD BLOCKOUT DETAIL



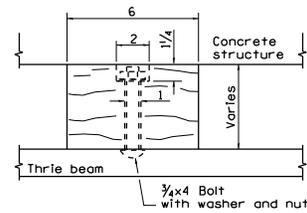
THRIE BEAM END SHOE DETAIL



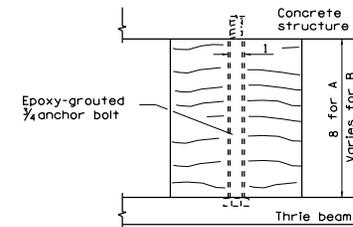
**MODIFIED THICKNESS DETAIL
WOOD BLOCKOUTS A, B, C, & D**



WOOD BLOCKOUT D



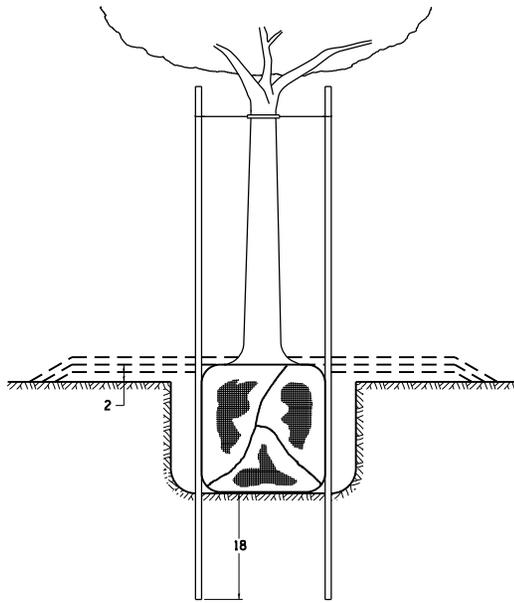
WOOD BLOCKOUT C



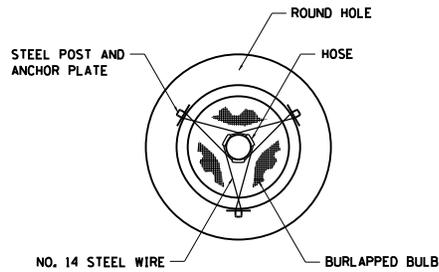
WOOD BLOCKOUT A & B

FILE NAME : District 2 Standard	USER NAME : I007/District 2	DESIGNED -	REVISED - 10-18-11	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REGION 2 / DISTRICT 2 STANDARD	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = 3/8" = 1'-0"	DRAWN -	REVISED -			SCALE: SHEET NO. OF SHEETS STA. TO STA.			FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT
	PLOT DATE = 1/18/2017	CHECKED -	REVISED -							

DETAILS OF PLANTING AND BRACING TREES

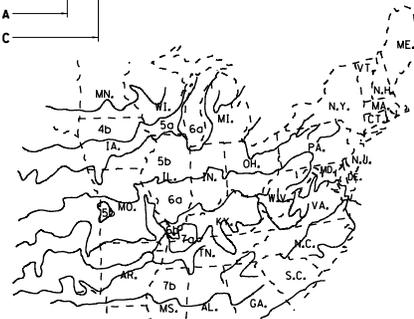
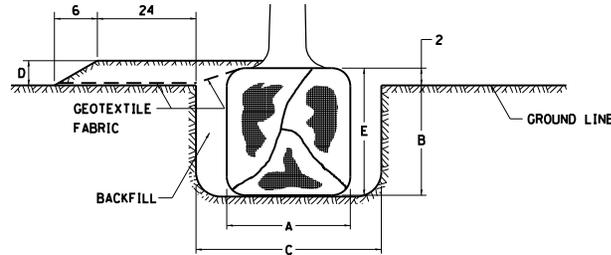


TREES SMALLER THAN 4 1/2 IN DIAMETER



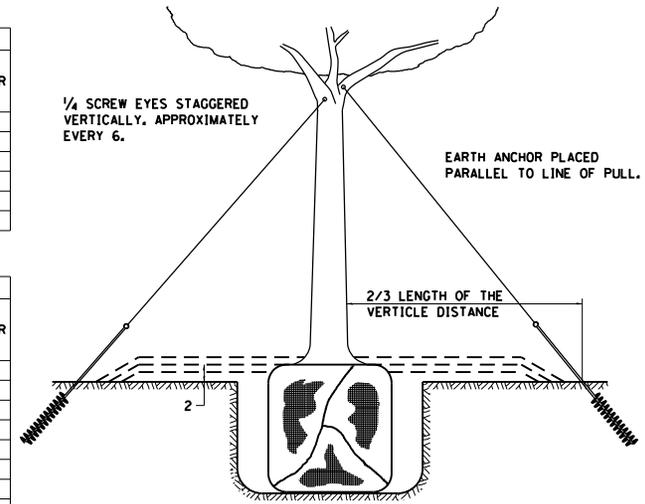
SMALL	A	B	C	D	E	F
TREE SIZE	DIAMETER OF BALL OR ROOT SYS.	DEPTH OF HOLE EXCAVATION	WIDTH OF HOLE EXCAVATION	THICKNESS OF MULCH COVER	DEPTH OF BALL OR ROOT SYS.	VOLUME OF MULCH COVER CU. YDS.
5'-6'	16	10	30	4	12	0.54
5'-6' BB	16	10	30	4	12	0.54
6'-7' BB	18	12	30	4	14	0.54
7'-8' BB	20	11	30	4	13	0.54
8'-10' BB	24	14	36	4	16	0.61
10'-12' BB	26	15	36	4	17	0.61

LARGE	A	B	C	D	E	F
TREE SIZE	DIAMETER OF BALL OR ROOT SYS.	DEPTH OF HOLE EXCAVATION	WIDTH OF HOLE EXCAVATION	THICKNESS OF MULCH COVER	DEPTH OF BALL OR ROOT SYS.	VOLUME OF MULCH COVER CU. YDS.
0-2	20	11	36	4	13	0.61
2-2 1/2 BB	24	14	48	4	16	0.78
2 1/2-3 BB	28	17	48	4	19	0.78
3-3 1/2 BB	32	17	60	4	19	0.96
3 1/2-4 BB	36	20	60	4	22	0.96
4-4 1/2 BB	40	22	72	4	24	1.16
4 1/2-5 BB	44	24	72	4	26	1.16
5-5 1/2 BB	48	27	84	4	29	1.38

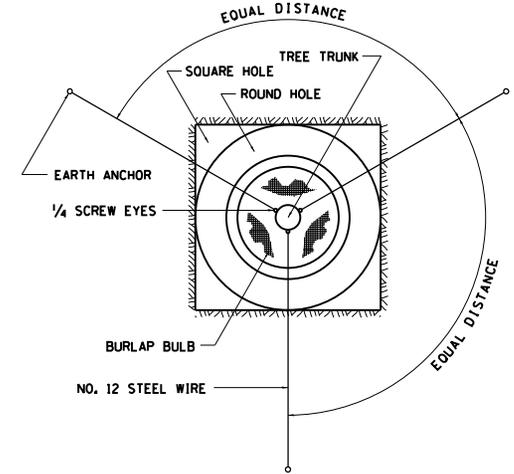


PLANT HARDINESS ZONE MAP

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
PUBLICATION NO. 814



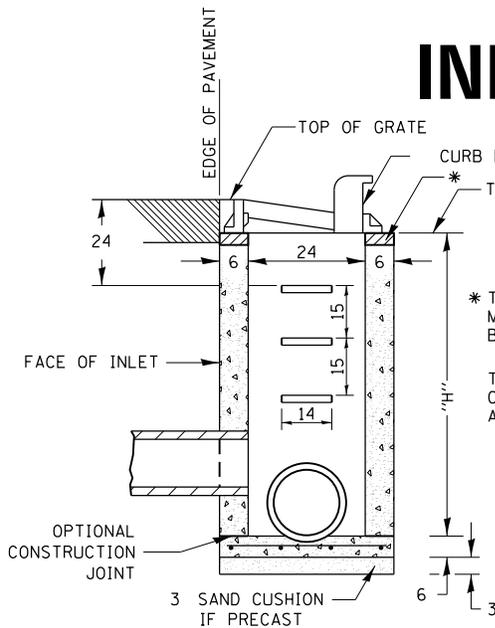
TREES OVER 4 1/2 IN DIAMETER



ALL DIMENSIONS ARE IN INCHES
UNLESS OTHERWISE NOTED.

FILE NAME = District 2 Standard	USER NAME = I00T/District 2	DESIGNED - DRAWN -	REVISED - 10-18-11	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REGION 2 / DISTRICT 2 STANDARD	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = 3/8" = 1' / 8"	CHECKED -	REVISED -							OF SHEETS
	PLOT DATE = 1/18/2017	DATE	REVISED -			SCALE:				STA. TO STA.
										FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT
										CONTRACT NO.

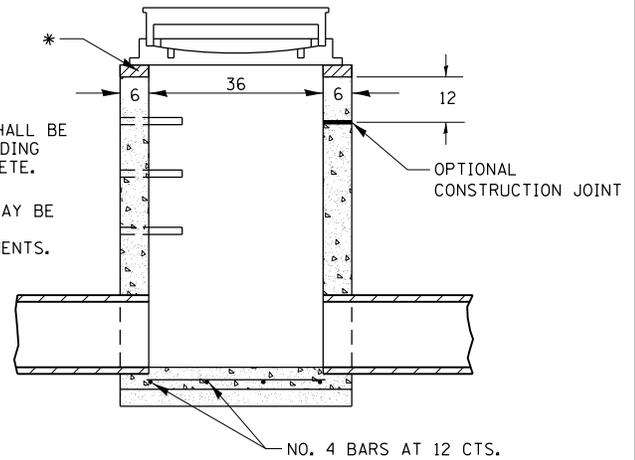
INLETS, SPECIAL



SEC. A-A

* THE WALL ADJUSTMENTS SHALL BE MADE WITH CONCRETE BUILDING BRICK OR CLASS SI CONCRETE.

THE HEIGHT OF THE BOX MAY BE CONSTRUCTED 6 SHORT TO ALLOW FOR FIELD ADJUSTMENTS.



SEC. B-B

NOTES

SEE STANDARD 602701 FOR DETAILS OF STEPS.

EXCEPT AS NOTED HEREON INLET SPECIAL SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 602 OF THE STANDARD SPECIFICATIONS.

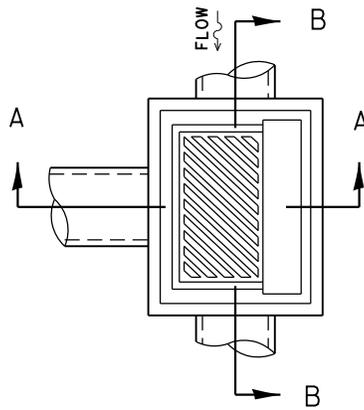
THE SIDE WALLS MAY BE BUILT AS PRECAST SEGMENTED SECTIONS.

ALL VOIDS AROUND PIPE ENTRANCE, BOTH INSIDE AND OUTSIDE, SHALL BE SEALED WITH MORTAR.

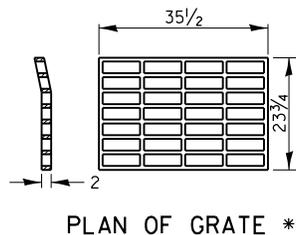
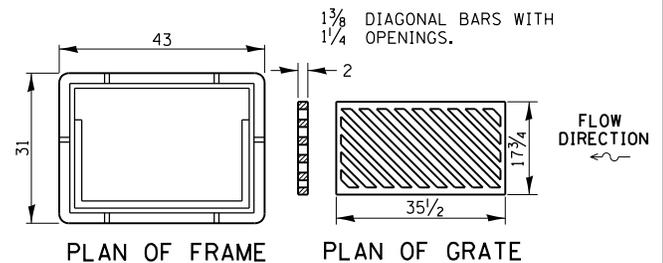
WEIGHT OF CAST IRON FRAME & GRATE = 530 lbs. ± . STEPS SHALL BE OMITTED WHEN DEPTH OF "H" IS LESS THAN 5 ft.

CLASS SI CONCRETE OR PRECAST CONCRETE SHALL BE USED THROUGHOUT. PRECAST CONCRETE SHALL BE IN ACCORDANCE WITH ARTICLES 504.01 THRU 504.05 OF THE STANDARD SPECIFICATIONS EXCEPT THAT CONCRETE STRENGTH SHALL BE 4,000 psi AFTER 28 DAYS.

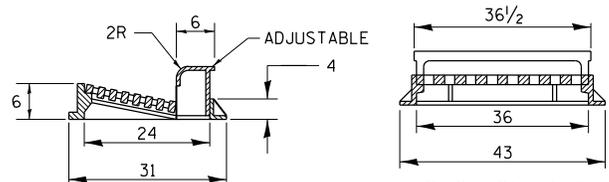
THE CONTRACT UNIT PRICE EACH FOR INLETS, SPECIAL SHALL INCLUDE THE COST OF CONSTRUCTING THE INLET BOX, FURNISHING AND INSTALLING THE FRAME AND GRATE, THE CAST IRON STEPS (IF USED), THE PRECAST FLOOR SLABS, SAND CUSHION (WHEN USED) AND REINFORCEMENT BARS.



DETAIL OF FRAME & GRATE



PLAN OF GRATE *



SECTION A-A

SECTION B-B

* THIS GRATE TO BE USED WITHOUT CURB BOX WHEN INLET IS IN DRIVEWAY.

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

PLOT DATE = 1/18/2017

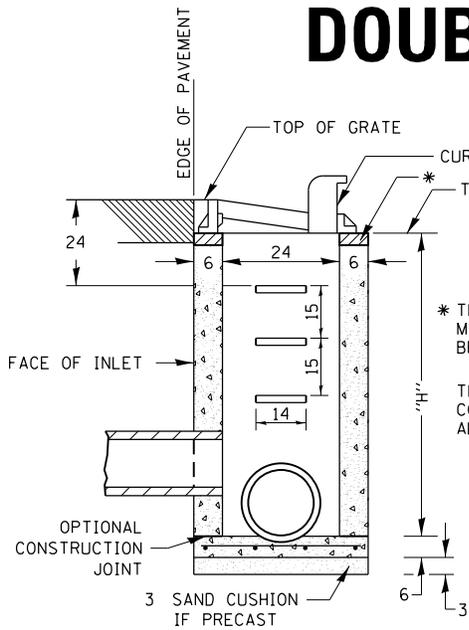
REVISED - 1-05-16
REVISED - 6-27-14
REVISED - 10-13-11

REGION 2 / DISTRICT 2 STANDARD

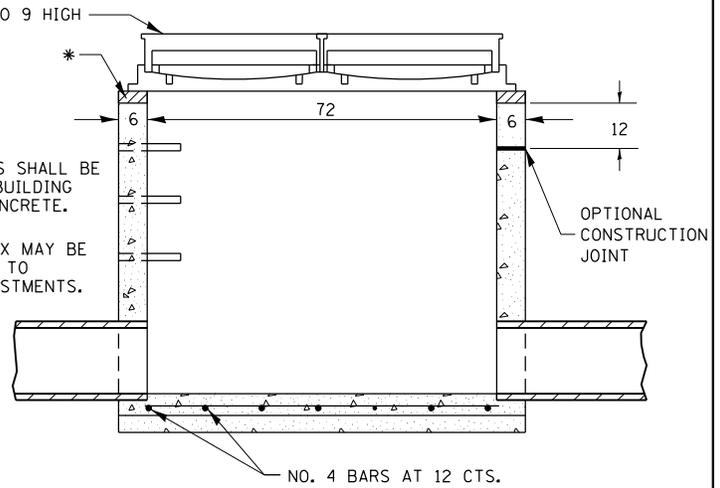
SCALE: 2.0000' / 1" SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CONTRACT NO.				
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

DOUBLE INLET, SPECIAL



SEC. A-A



SEC. B-B

NOTES

SEE STANDARD 602701 FOR DETAILS OF STEPS.

EXCEPT AS NOTED HEREON DOUBLE INLET SPECIAL SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 602 OF THE STANDARD SPECIFICATIONS.

THE SIDE WALLS MAY BE BUILT AS PRECAST SEGMENTED SECTIONS.

ALL VOIDS AROUND PIPE ENTRANCE, BOTH INSIDE AND OUTSIDE, SHALL BE SEALED WITH MORTAR.

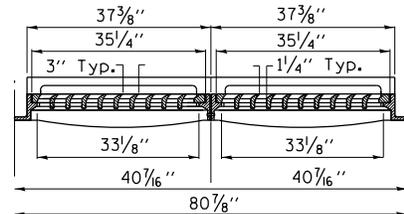
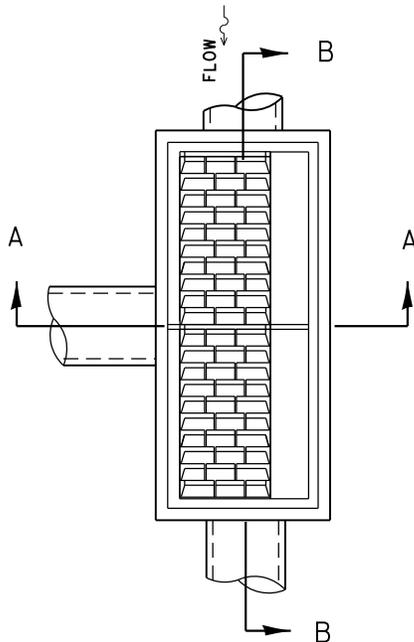
R-3295-2 DOUBLE UNIT OR EQUIVALENT.

STEPS SHALL BE OMITTED WHEN DEPTH OF "H" IS LESS THAN 5 FOOT.

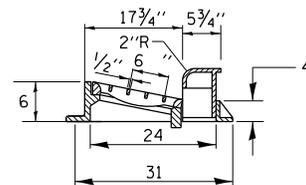
CLASS SI CONCRETE OR PRECAST CONCRETE SHALL BE USED THROUGHOUT. PRECAST CONCRETE SHALL BE IN ACCORDANCE WITH ARTICLES 504.01 THRU 504.05 OF THE STANDARD SPECIFICATIONS EXCEPT THAT CONCRETE STRENGTH SHALL BE 4,000 psi AFTER 28 DAYS.

CLASS SI CONCRETE OR PRECAST CONCRETE SHALL BE USED THROUGHOUT. THE CONTRACT UNIT PRICE EACH FOR INLET SPECIAL SHALL INCLUDE THE COST OF CONSTRUCTING THE INLET BOX, FURNISHING AND INSTALLING THE FRAME AND GRATE, THE STEPS (IF USED), THE PRECAST FLOOR SLABS, SAND CUSHION (WHEN USED) AND REINFORCEMENT BARS.

DETAIL OF FRAME & GRATE



SECTION B-B



SECTION A-A

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

PLOT DATE = 1/18/2017

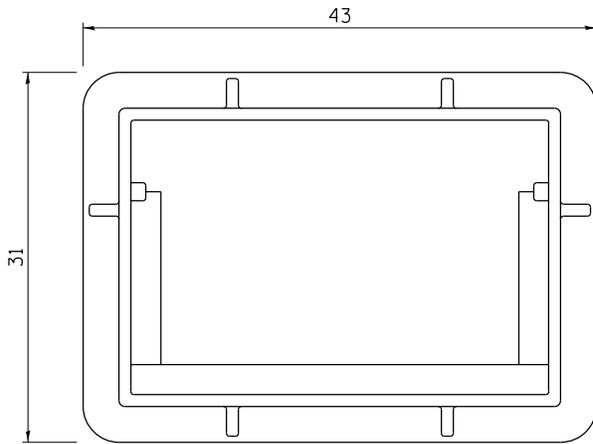
REVISED - 1-05-16
 REVISED - 7-16-15
 REVISED - 10-13-11

REGION 2 / DISTRICT 2 STANDARD

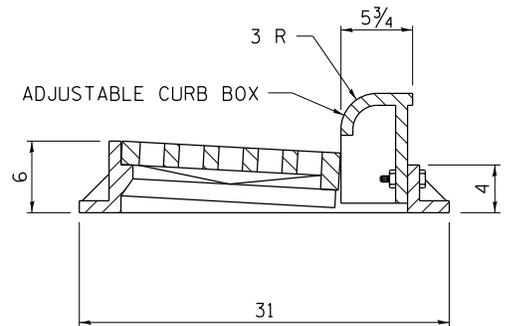
SCALE: 2,0000' / 1" SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CONTRACT NO.				
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

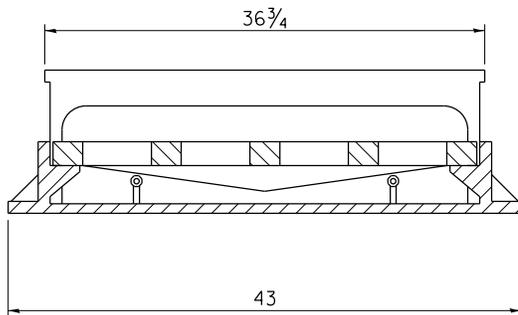
FRAME AND GRATE FOR INLETS, SPECIAL



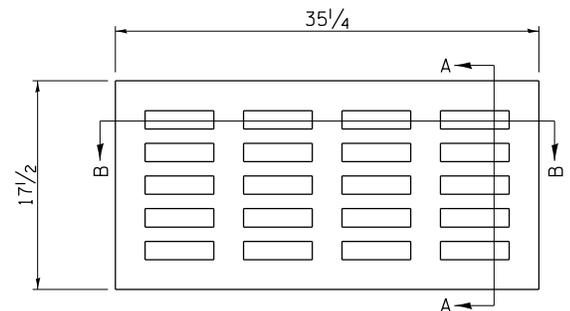
PLAN OF FRAME
WITHOUT GRATE AND CURB BOX



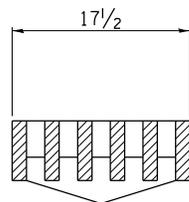
TRANSVERSE SECTION



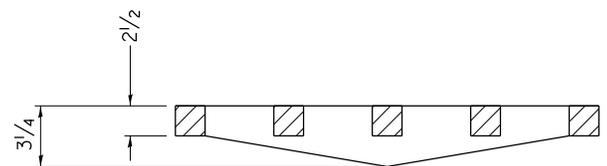
LONGITUDINAL SECTION



PLAN OF GRATE



SECTION A-A



SECTION B-B

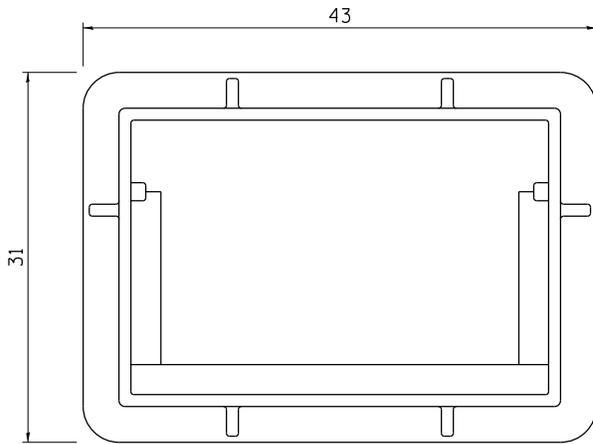
ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

R 3246 OR EQUIVALENT
APPROXIMATE WEIGHT - 495 LBS.

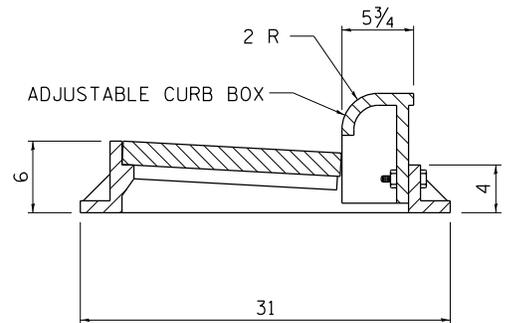
PLOT DATE = 1/18/2017

REVISED - 6-27-14	REGION 2 / DISTRICT 2 STANDARD				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.				
REVISED - 10-13-11													
REVISED -									CONTRACT NO.				
REVISED -					SCALE: 2.0000' / 1" =	SHEET NO.	OF	SHEETS	STA.	TO STA.	FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT	

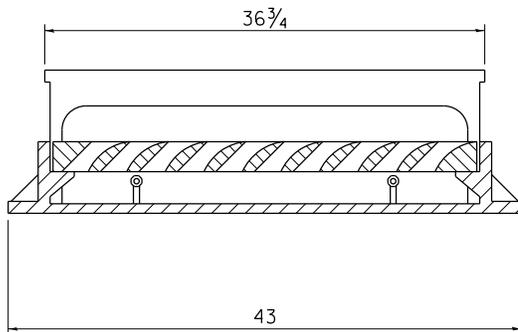
FRAME AND GRATE FOR INLETS, SPECIAL



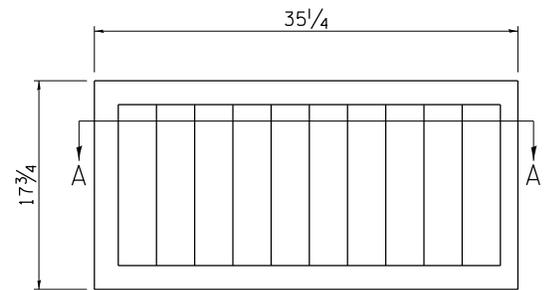
PLAN OF FRAME
WITHOUT GRATE AND CURB BOX



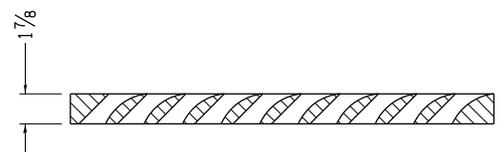
TRANSVERSE SECTION



LONGITUDINAL SECTION



PLAN OF GRATE



SECTION A-A

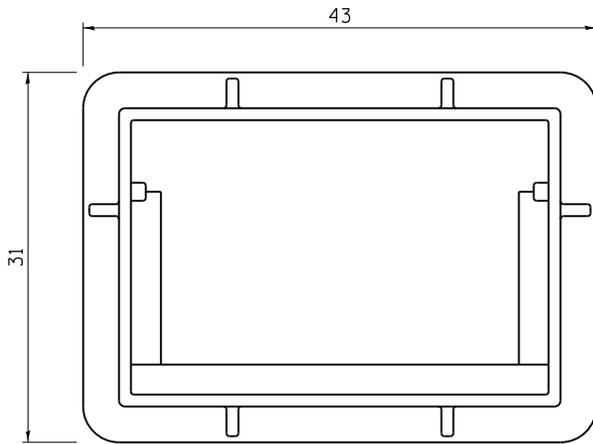
ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

R 3067 OR EQUIVALENT
APPROXIMATE WEIGHT - 465 LBS.

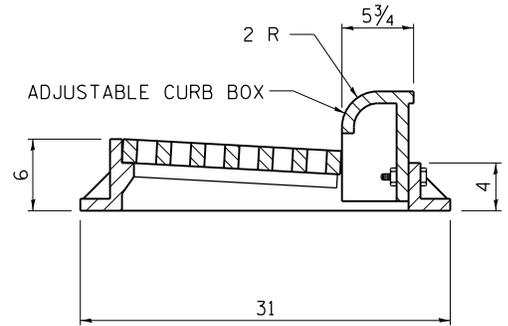
PLOT DATE = 1/18/2017

REVISED - 6-27-14	REGION 2 / DISTRICT 2 STANDARD				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
REVISED - 10-13-11									
REVISED -					CONTRACT NO.				
REVISED -					SCALE: 2.0000' / 1" =	SHEET NO.	OF	SHEETS	STA.

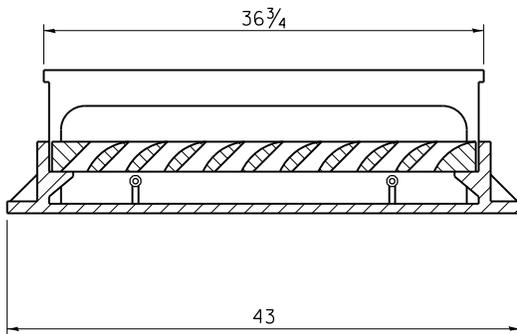
FRAME AND GRATE FOR INLETS, SPECIAL



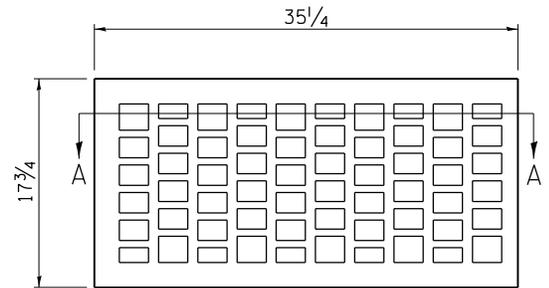
PLAN OF FRAME
WITHOUT GRATE AND CURB BOX



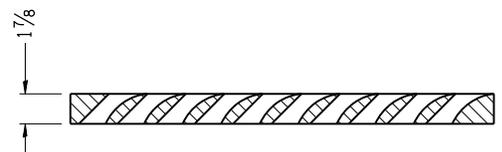
TRANSVERSE SECTION



LONGITUDINAL SECTION



PLAN OF GRATE



SECTION A-A

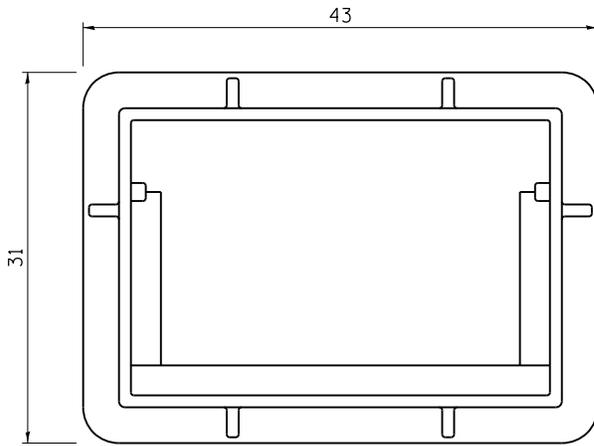
ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

R 3067 OR EQUIVALENT
APPROXIMATE WEIGHT - 490 LBS.

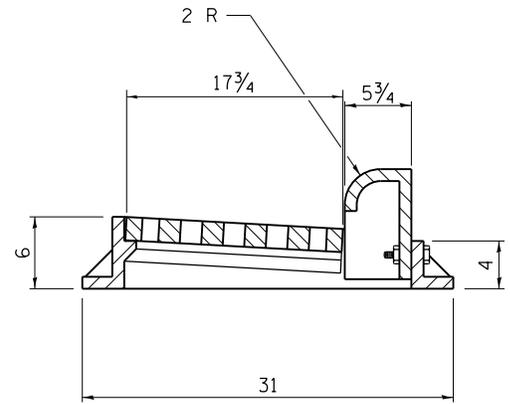
PLOT DATE = 1/18/2017

REVISED - 6-27-14	REGION 2 / DISTRICT 2 STANDARD				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.				
REVISED - 10-13-11									CONTRACT NO.				
REVISED -									FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				
REVISED -					SCALE: 2.0000' / 1" =	SHEET NO.	OF	SHEETS	STA.	TO STA.			

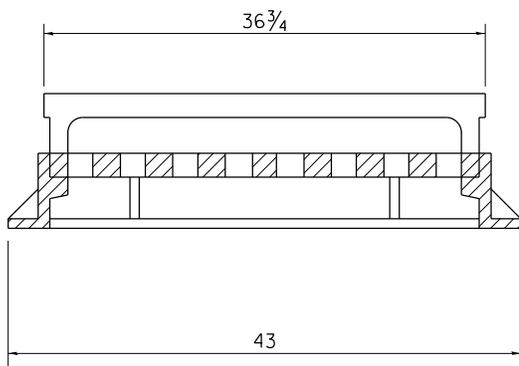
FRAME AND GRATE FOR INLETS, SPECIAL



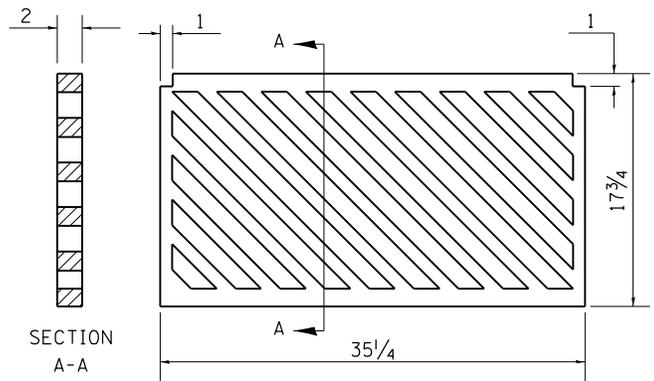
PLAN OF FRAME
WITHOUT GRATE AND CURB BOX



TRANSVERSE SECTION



LONGITUDINAL SECTION



PLAN OF GRATE

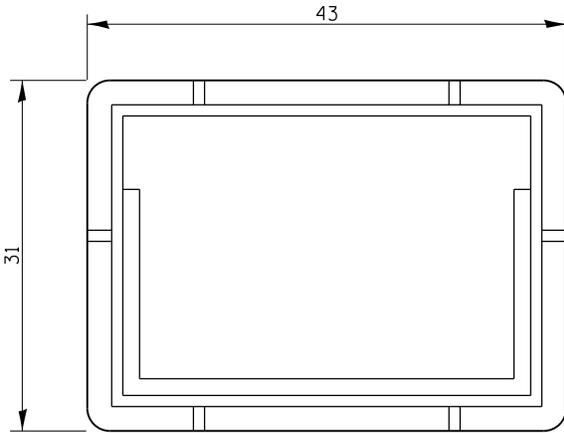
ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

R 3067 OR EQUIVALENT
APPROXIMATE WEIGHT - 510 LBS.

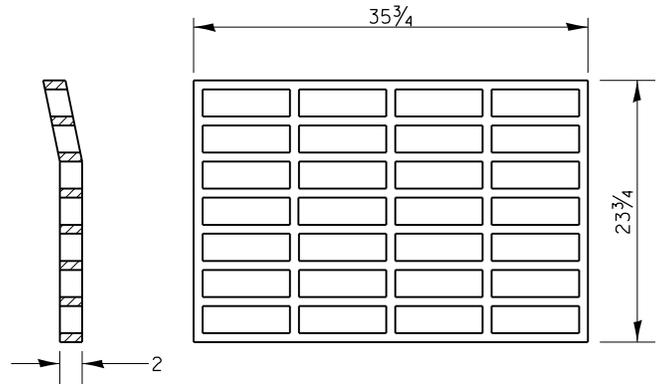
PLOT DATE = 1/18/2017

REVISED - 6-27-14	REGION 2 / DISTRICT 2 STANDARD				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.				
REVISED - 10-13-11									CONTRACT NO.				
REVISED -									FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				
REVISED -					SCALE: 2.0000' / 1" =	SHEET NO.	OF	SHEETS	STA.	TO STA.			

FRAME AND GRATE FOR INLETS, SPECIAL

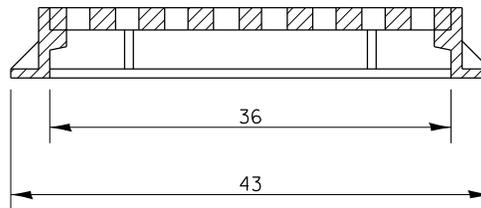


PLAN OF FRAME



PLAN OF GRATE *

* THIS GRATE TO BE USED WITHOUT CURB BOX WHEN INLET IS IN DRIVEWAY.



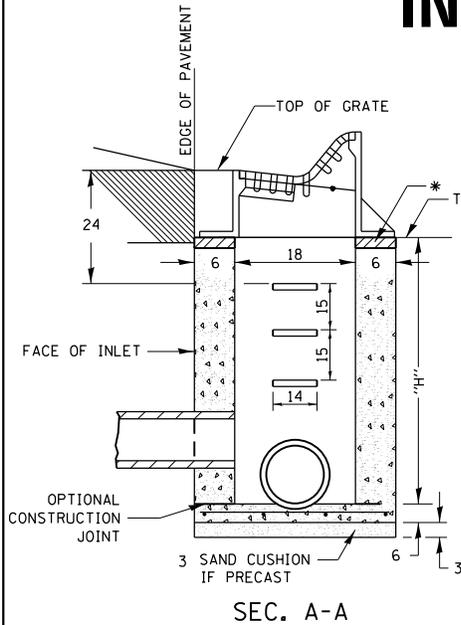
ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

R-3290-A OR EQUIVALENT
APPROXIMATE WEIGHT OF CAST IRON FRAME & GRATE - 530 LBS.

PLOT DATE = 1/18/2017

REVISED - 4-14-15	REGION 2 / DISTRICT 2 STANDARD				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
REVISED - 6-27-14									CONTRACT NO.
REVISED - 10-14-11	SCALE: 2.0000' / 1" =	SHEET NO.	OF	SHEETS	STA.	TO STA.	FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT	

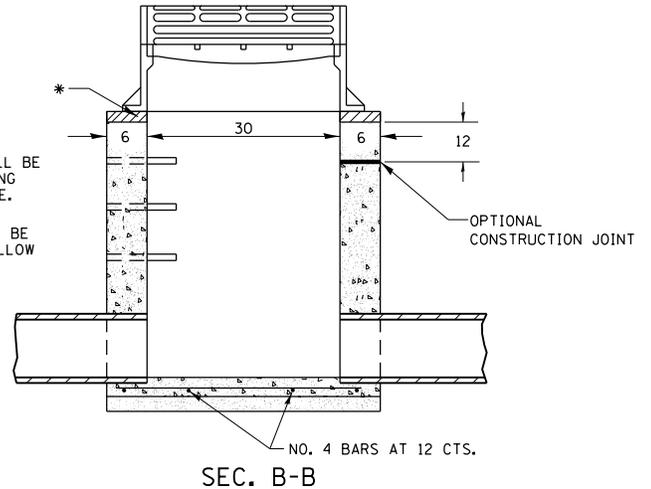
INLETS, SPECIAL, NO. 1



SEC. A-A

* THE WALL ADJUSTMENTS SHALL BE MADE WITH CONCRETE BUILDING BRICK OR CLASS SI CONCRETE.

THE HEIGHT OF THE BOX MAY BE CONSTRUCTED 6 SHORT TO ALLOW FOR FIELD ADJUSTMENTS.



SEC. B-B

NOTES

SEE STANDARD 602701 FOR DETAILS OF STEPS.

EXCEPT AS NOTED HEREON INLET SPECIAL SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 602 OF THE STANDARD SPECIFICATIONS.

THE SIDE WALLS MAY BE BUILT AS PRECAST SEGMENTED SECTIONS.

ALL VOIDS AROUND PIPE ENTRANCE, BOTH INSIDE AND OUTSIDE, SHALL BE SEALED WITH MORTAR.

STEPS SHALL BE OMITTED WHEN DEPTH OF "H" IS LESS THAN 5 FOOT.

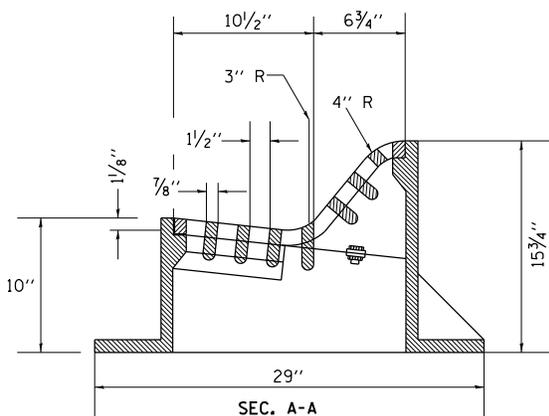
BOTH INLET SPECIAL NO. 1 SHALL DRAIN VERTICALLY TO THE ACROSS ROAD CULVERT LOCATED BENEATH.

CLASS SI CONCRETE OR PRECAST CONCRETE SHALL BE USED THROUGHOUT. PRECAST CONCRETE SHALL BE IN ACCORDANCE WITH ARTICLES 504.01 THRU 504.05 OF THE STANDARD SPECIFICATIONS EXCEPT THAT CONCRETE STRENGTH SHALL BE 4,000 psi AFTER 28 DAYS.

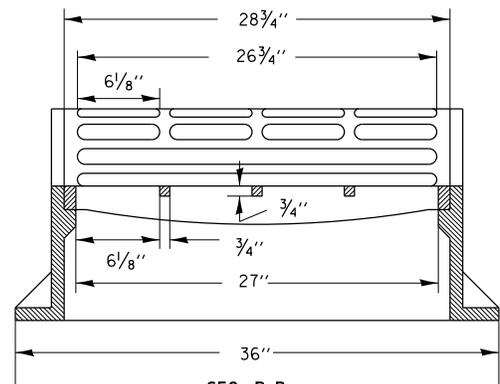
THE CONTRACT UNIT PRICE EACH FOR INLETS, SPECIAL, NO.1 SHALL INCLUDE THE COST OF CONSTRUCTING THE INLET BOX, FURNISHING AND INSTALLING THE FRAME AND GRATE, THE STEPS (IF USED), THE PRECAST FLOOR SLABS, SAND CUSHION (WHEN USED) AND REINFORCEMENT BARS.

FRAME AND GRATE * R-3503-B OR EQUIVALENT

DETAIL OF FRAME & GRATE



SEC. A-A



SEC. B-B

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

PLOT DATE = 1/18/2017

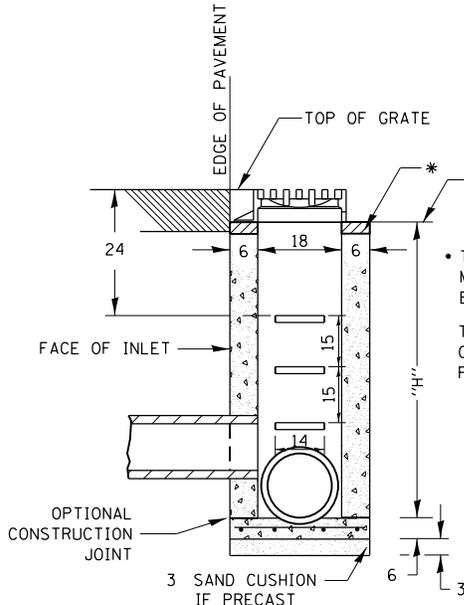
REVISED - 1-05-16
REVISED - 6-27-14
REVISED - 10-14-11
REVISED -

REGION 2 / DISTRICT 2 STANDARD

SCALE: 2.0000' / 1" SHEET NO. OF SHEETS STA. TO STA.

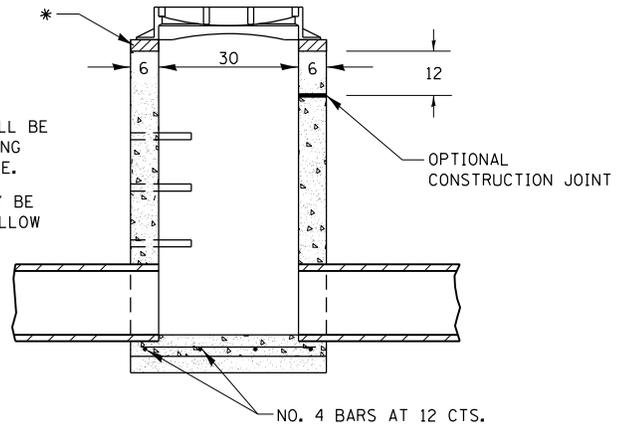
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CONTRACT NO.				
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

INLETS, SPECIAL, NO. 2



SEC. A-A

• THE WALL ADJUSTMENTS SHALL BE MADE WITH CONCRETE BUILDING BRICK OR CLASS SI CONCRETE.
THE HEIGHT OF THE BOX MAY BE CONSTRUCTED 6 SHORT TO ALLOW FOR FIELD ADJUSTMENTS.



SEC. B-B

NOTES

SEE STANDARD 602701 FOR DETAILS OF STEPS.

EXCEPT AS NOTED HEREON INLET SPECIAL SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 602 OF THE STANDARD SPECIFICATIONS.

THE SIDE WALLS MAY BE BUILT AS PRECAST SEGMENTED SECTIONS.

ALL VOIDS AROUND PIPE ENTRANCE, BOTH INSIDE AND OUTSIDE, SHALL BE SEALED WITH MORTAR.

STEPS SHALL BE OMITTED WHEN DEPTH OF "H" IS LESS THAN 5 FEET.

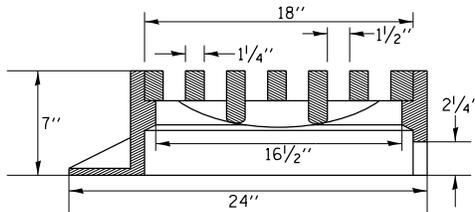
INLET SPECIAL NO. 2 SHALL MATCH THE EXISTING STORM SEWER AS SHOWN ON THE PLANS.

CLASS SI CONCRETE OR PRECAST CONCRETE SHALL BE USED THROUGHOUT. PRECAST CONCRETE SHALL BE IN ACCORDANCE WITH ARTICLES 504.01 THRU 504.05 OF THE STANDARD SPECIFICATIONS EXCEPT THAT CONCRETE STRENGTH SHALL BE 4,000 PSI AFTER 28 DAYS.

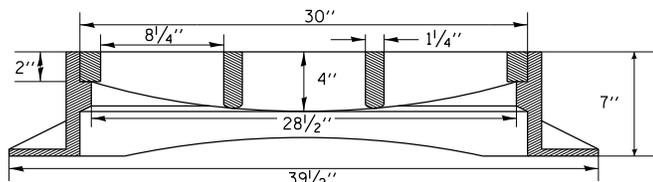
THE CONTRACT UNIT PRICE EACH FOR INLETS, SPECIAL, NO.2 SHALL INCLUDE THE COST OF CONSTRUCTING THE INLET BOX, FURNISHING AND INSTALLING THE FRAME AND GRATE, THE STEPS (IF USED), THE PRECAST FLOOR SLABS, AND CUSHION (WHEN USED) REINFORCEMENT BARS, AND REMOVAL OF ANY EXCESS STORM SEWER.

FRAME AND GRATE * R-3461 OR EQUIVALENT

DETAIL OF FRAME & GRATE



SEC. A-A



SEC. B-B

PLOT DATE = 1/18/2017

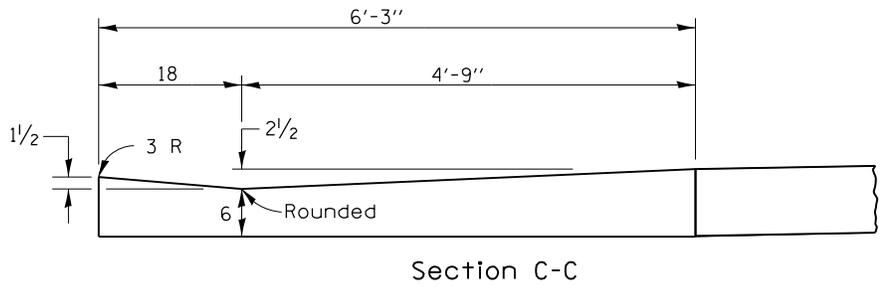
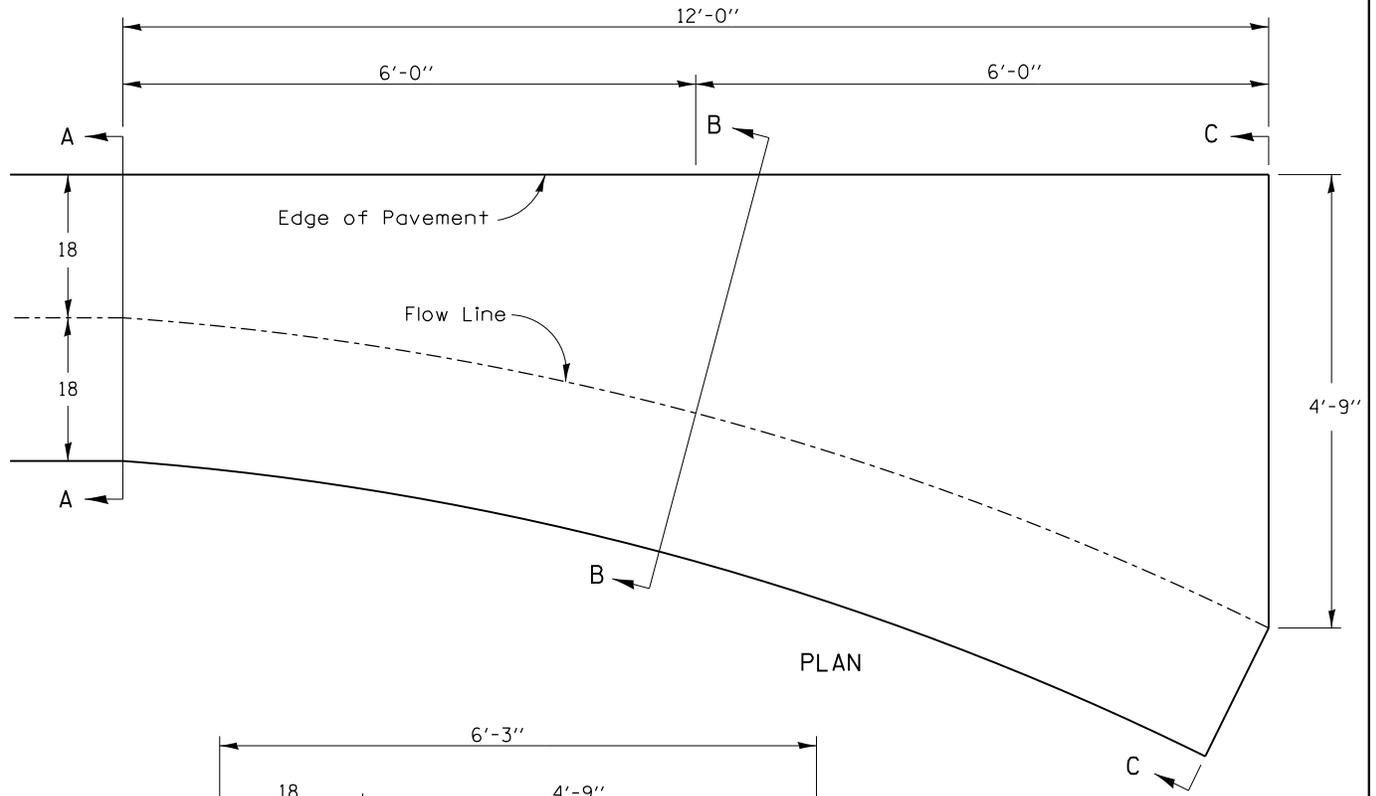
REVISED - 1-05-16
REVISED - 6-27-14
REVISED - 10-14-11
REVISED -

REGION 2 / DISTRICT 2 STANDARD

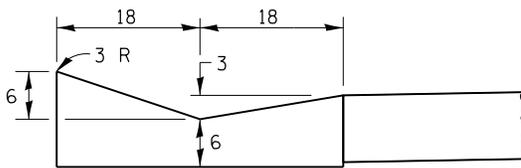
SCALE: 2,000' / 1" SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CONTRACT NO.				
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

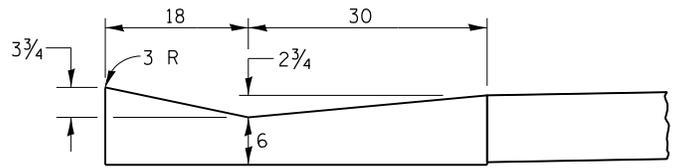
STANDARD INLET FOR TYPE A GUTTER (SPECIAL)



- QUANTITY -
Section A-A to C-C
1.2 Cu. Yds.
Class SI Concrete



Section A-A



Section B-B

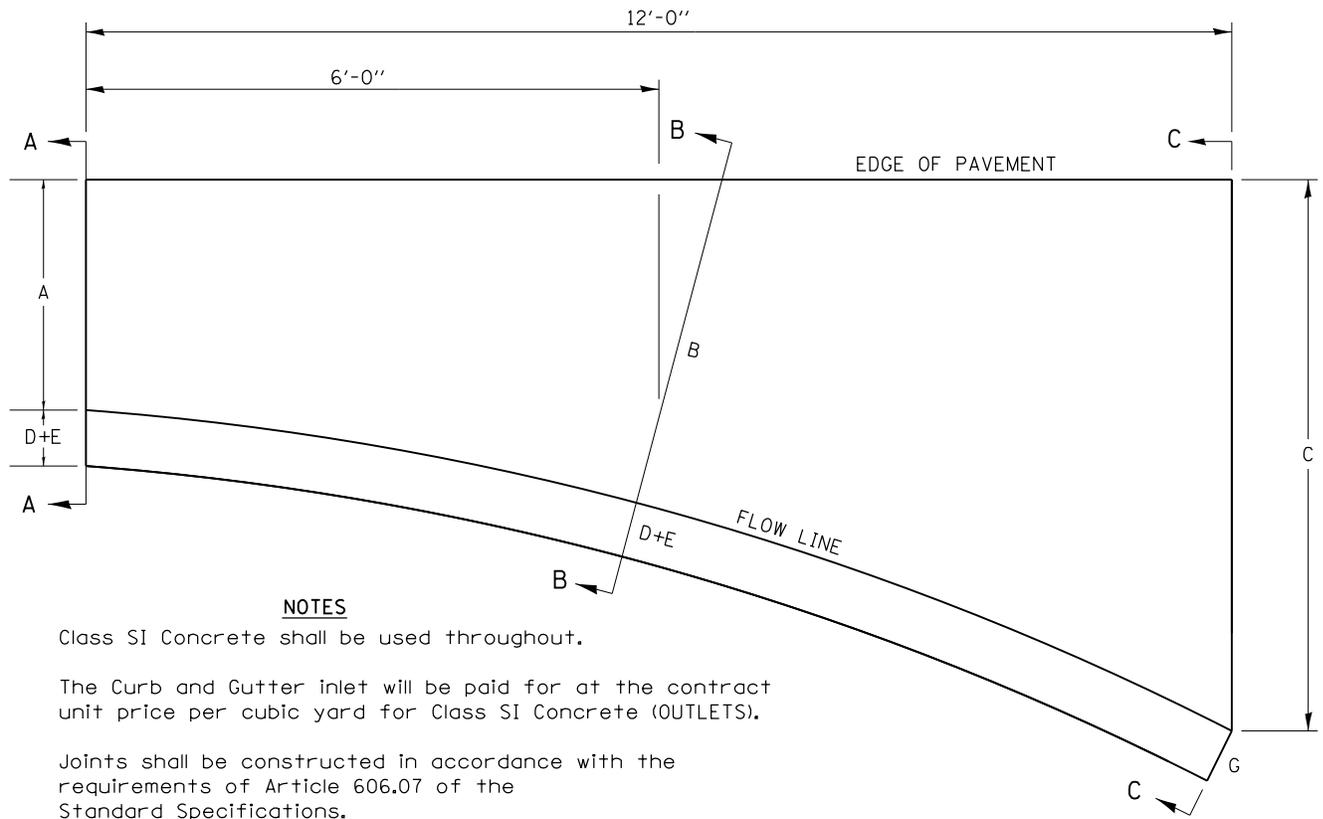
Class SI Concrete shall be used throughout.
The gutter inlet will be paid for at the contract
unit price per cubic yard for Class SI Concrete (OUTLETS)

ALL DIMENSIONS ARE IN INCHES UNLESS
OTHERWISE NOTED.

PLOT DATE = 1/18/2017

REVISED - 12-04-13	REGION 2 / DISTRICT 2 STANDARD				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.		
REVISED -											
REVISED -					CONTRACT NO.						
REVISED -					SCALE: 2,0000' / 1" =	SHEET NO.	OF SHEETS	STA. TO STA.	FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT	

STANDARD INLET FOR CURB & GUTTER



NOTES

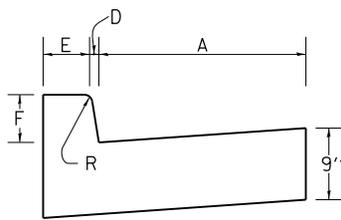
Class SI Concrete shall be used throughout.

The Curb and Gutter inlet will be paid for at the contract unit price per cubic yard for Class SI Concrete (OUTLETS).

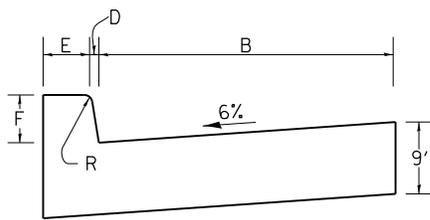
Joints shall be constructed in accordance with the requirements of Article 606.07 of the Standard Specifications.

When curb and gutter is constructed adjacent to flexible pavement, a 1" expansion joint shall be installed at construction joints.

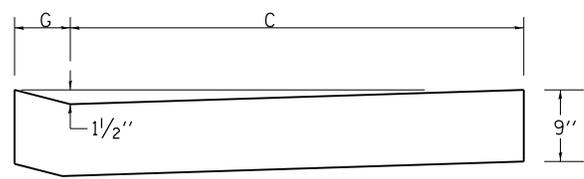
All dimensions are in inches unless otherwise noted.



SECTION A-A



SECTION B-B



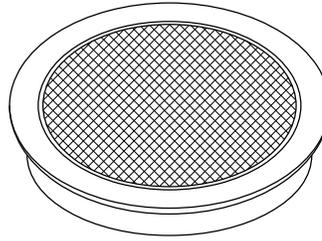
SECTION C-C

TYPE OF CURB & GUTTER	TABLE OF DIMENSIONS									CONCRETE QUANTITY A-A TO C-C (CU YDS)
	A	B	C	D	E	F	G	R		
B-6.06	6	15	4'	1	6	6	7	1	0.87	
B-6.12	12	18.25	4'	1	6	6	7	1	0.95	
B-6.18	18	27.25	4' 9"	1	6	6	7	1	1.18	
B-6.24	24	32.4	4' 9"	1	6	6	7	1	1.30	
M-4.06	6	17.8	3' 9"	4	3	4	7	3	0.75	
M-4.12	12	18.25	4'	4	3	4	7	3	0.91	
M-4.18	18	27.25	4' 9"	4	3	4	7	3	1.14	
M-4.24	24	32.4	4' 9"	4	3	4	7	3	1.25	
M-6.06	6	17.8	3' 9"	6	2	6	8	3	0.86	
M-6.12	12	18.25	4'	6	2	6	8	2	0.96	
M-6.18	18	27.25	4' 9"	6	2	6	8	2	1.20	
M-6.24	24	32.4	4' 9"	6	2	6	8	2	1.30	

PLOT DATE = 1/18/2017

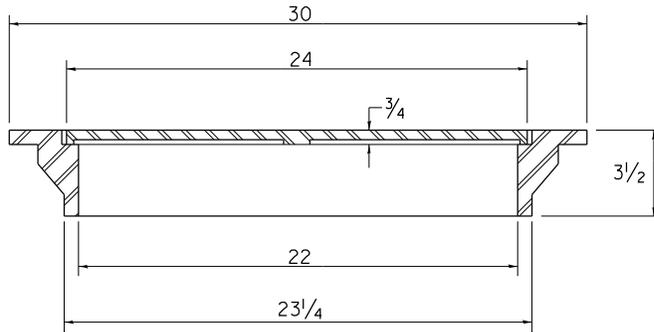
REVISED - 11-12-14	REGION 2 / DISTRICT 2 STANDARD				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.				
REVISED - 8-27-13													
REVISED - 10-10-06									CONTRACT NO.				
REVISED -					SCALE: 2,000' / 1" =	SHEET NO.	OF	SHEETS	STA.	TO STA.	FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT	

FIELD TILE JUNCTION VAULTS 2' AND 3' DIA.

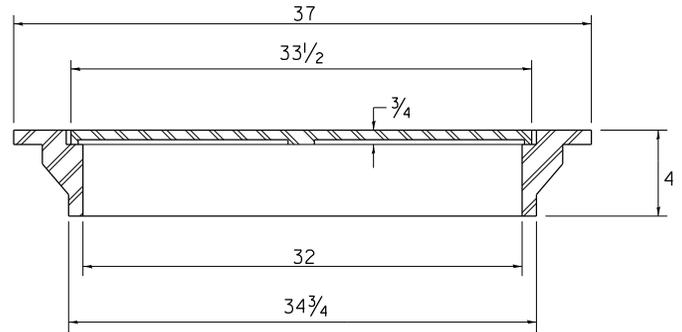


FRAME & LID FOR
2' VAULT

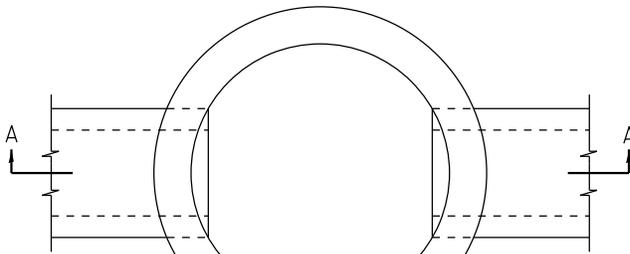
FRAME & LID FOR
3' VAULT



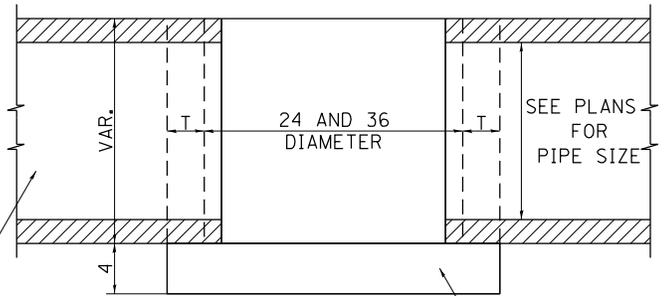
TOTAL WEIGHT: 146 LBS.



TOTAL WEIGHT: 280 LBS.



PLAN



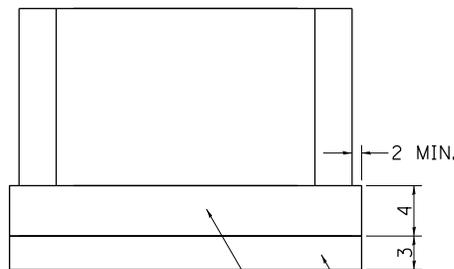
CAST-IN-PLACE CONCRETE

SECTION A-A

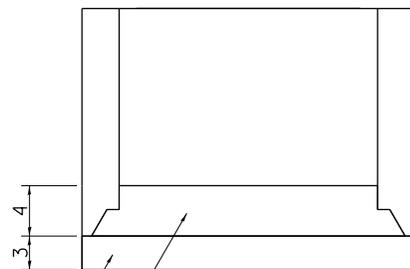
ALTERNATE MATERIALS FOR WALLS	T
BRICK MASONRY	8
CAST-IN-PLACE CONCRETE	6
CONCRETE MASONRY UNIT	5
PRECAST REINFORCED CONCRETE SECTION	3

NOTE: THE FRAME AND LID IS REQUIRED ON ALL JUNCTION VAULTS.

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.



PRECAST REINFORCED
CONCRETE SLAB



PREFABRICATED CONCRETE SLAB,
WHEN THE PRECAST REINFORCED
CONCRETE SECTION ALTERNATE
IS USED.

ALTERNATE METHODS

PLOT DATE = 1/18/2017

REVISED - 6-27-14
REVISED - 10-14-11
REVISED -
REVISED -

REGION 2 / DISTRICT 2 STANDARD

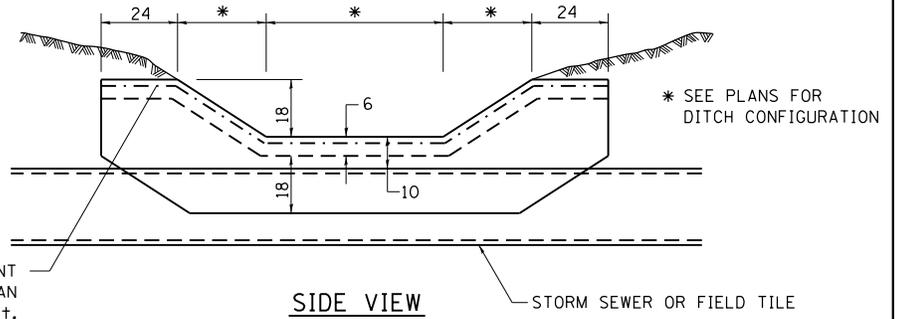
SCALE: 2.0000' / 1" SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CONTRACT NO.				
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

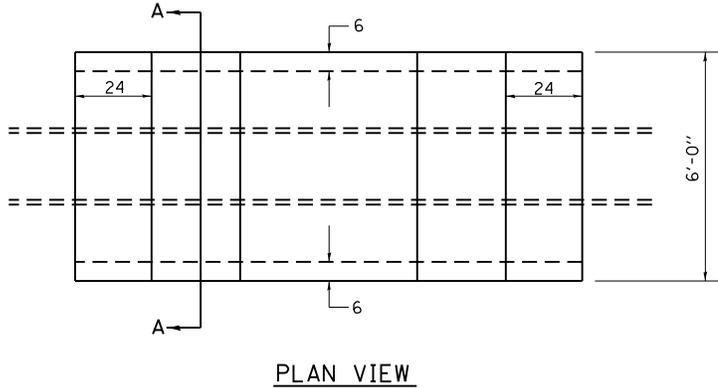
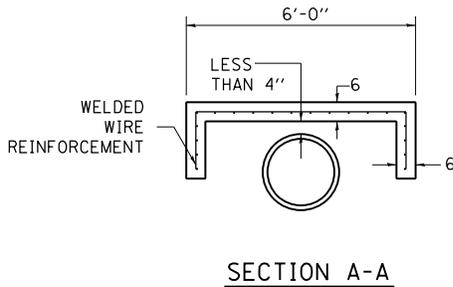
TREATMENT OF FIELD TILE SYSTEMS UNDER DITCHES

PAVED DITCH

TO BE USED IF COVER OVER THE PIPE AT THE BOTTOM OF THE DITCH IS LESS THAN 10 inches

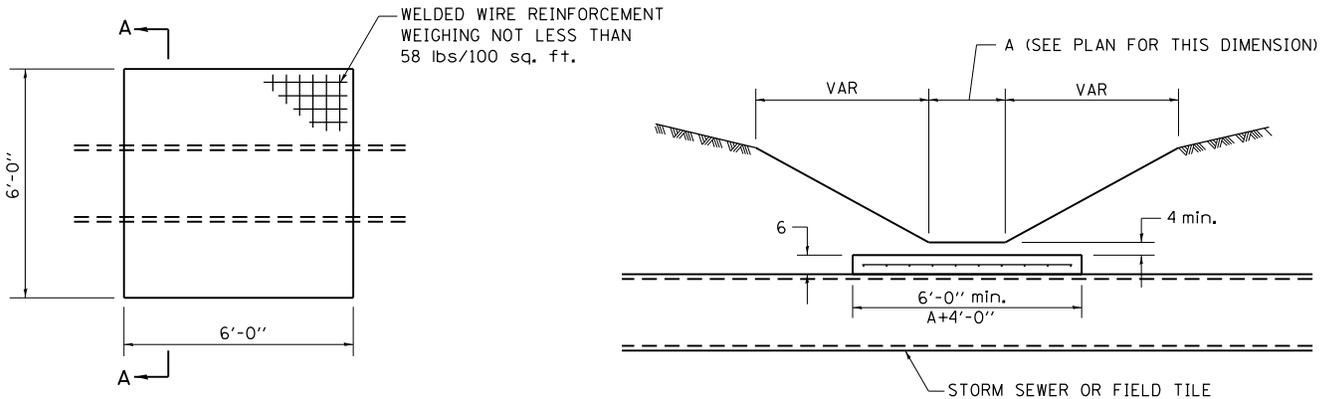


WELDED WIRE REINFORCEMENT WEIGHING NOT LESS THAN 58 lbs./100 sq. ft.



CONCRETE SLAB

TO BE USED IF COVER OVER THE PIPE AT THE BOTTOM OF THE DITCH IS 10 INCHES TO 24 INCHES



NOTES

THIS WORK SHALL BE DONE IN ACCORDANCE WITH ARTICLE 611.04 OF THE STANDARD SPECIFICATION.

THE CONCRETE SLAB AND PAVED DITCH WILL BE PAID FOR AT THE CONCRETE UNIT PRICE PER CUBIC YARD FOR MISCELLANEOUS CONCRETE.

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

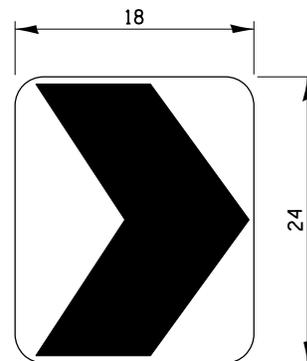
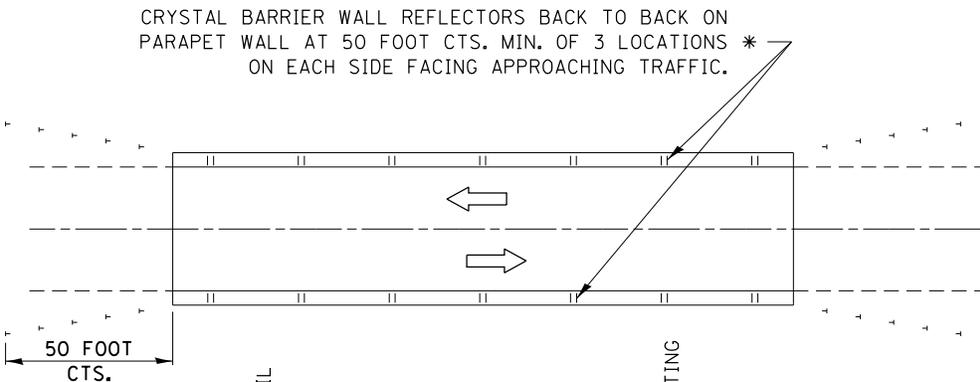
PLOT DATE = 1/18/2017

REVISED - 1-05-16	REGION 2 / DISTRICT 2 STANDARD				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
REVISED - 10-14-11									
REVISED -									
REVISED -	SCALE: 2,000' / 1" =	SHEET NO.	OF	SHEETS	STA.	TO STA.	CONTRACT NO.		
					FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			

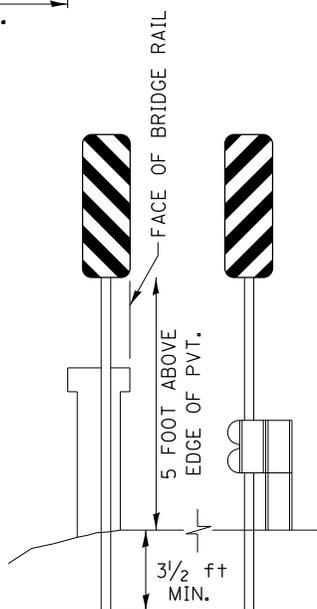
SIGN PANEL – TYPE 1 (SPECIAL)

SIGN LAY OUT FOR NARROW BRIDGES ON TWO-WAY ROADWAYS
(WHERE THE BRIDGE IS LESS THAN 24 WIDER THAN THE ROADWAY SURFACE.)

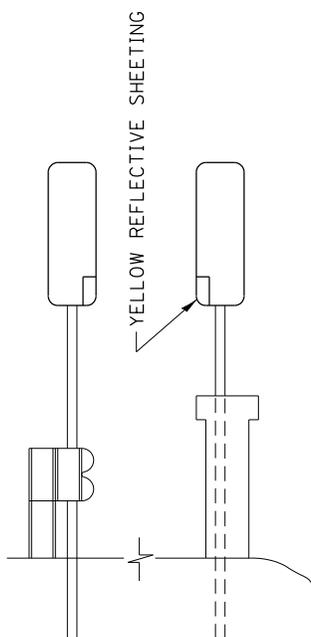
CRYSTAL BARRIER WALL REFLECTORS BACK TO BACK ON
PARAPET WALL AT 50 FOOT CTS. MIN. OF 3 LOCATIONS *
ON EACH SIDE FACING APPROACHING TRAFFIC.



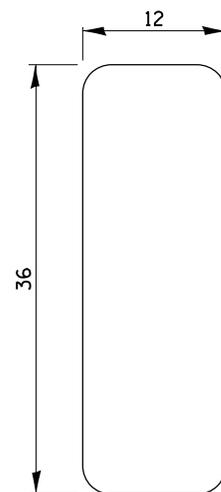
TYPICAL CHEVRON



FRONT VIEW



BACK VIEW



TYPICAL SIGN

NOTES

STRIPES ON THE FACE OF THE SIGN SHALL SLOPE TOWARDS THE EDGE OF PAVEMENT ON BOTH SIDES OF THE ROADWAY.

WHEN THE GUARDRAIL IS PRESENT THE DISTANCE FROM THE EDGE OF THE SIGN SHALL BE POSITIONED WITH THE FACE OF THE GUARDRAIL, AS SHOWN.

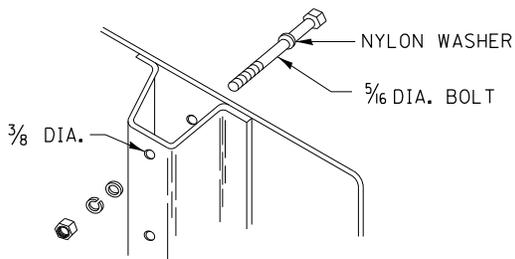
ALL MOUNTING HARDWEAR SHALL BE ALUMINUM, STAINLESS STEEL, OR ZINC OR CADMIUM PLATED STEEL AND SHALL BE INCLUDED TO THE COST OF THE INSALLATION.

PLACEMENT OF CHEVRON ALIGNMENT SIGNS ALONG THE 25 TO 1 TAPER WILL CONFORM TO THE DEPARTMENT OF TRANSPORTATION'S STANDARDS MANUAL UNDER THE SECTION FOR GUARDRAIL PLACEMENT.

ALL LEFT SIDE MARKERS SHALL BE OMITTED FOR FOUR-LANE, TWO-WAY BRIDGE APPLICATIONS.

* REFER TO THE BUREAU OF TRAFFIC'S SPECIFICATIONS.

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.



NOTE: MINIMUM OF TWO BOLTS PER POST REQUIRED.

DETAIL OF MOUNTING SIGN TO POST

PLOT DATE = 1/18/2017

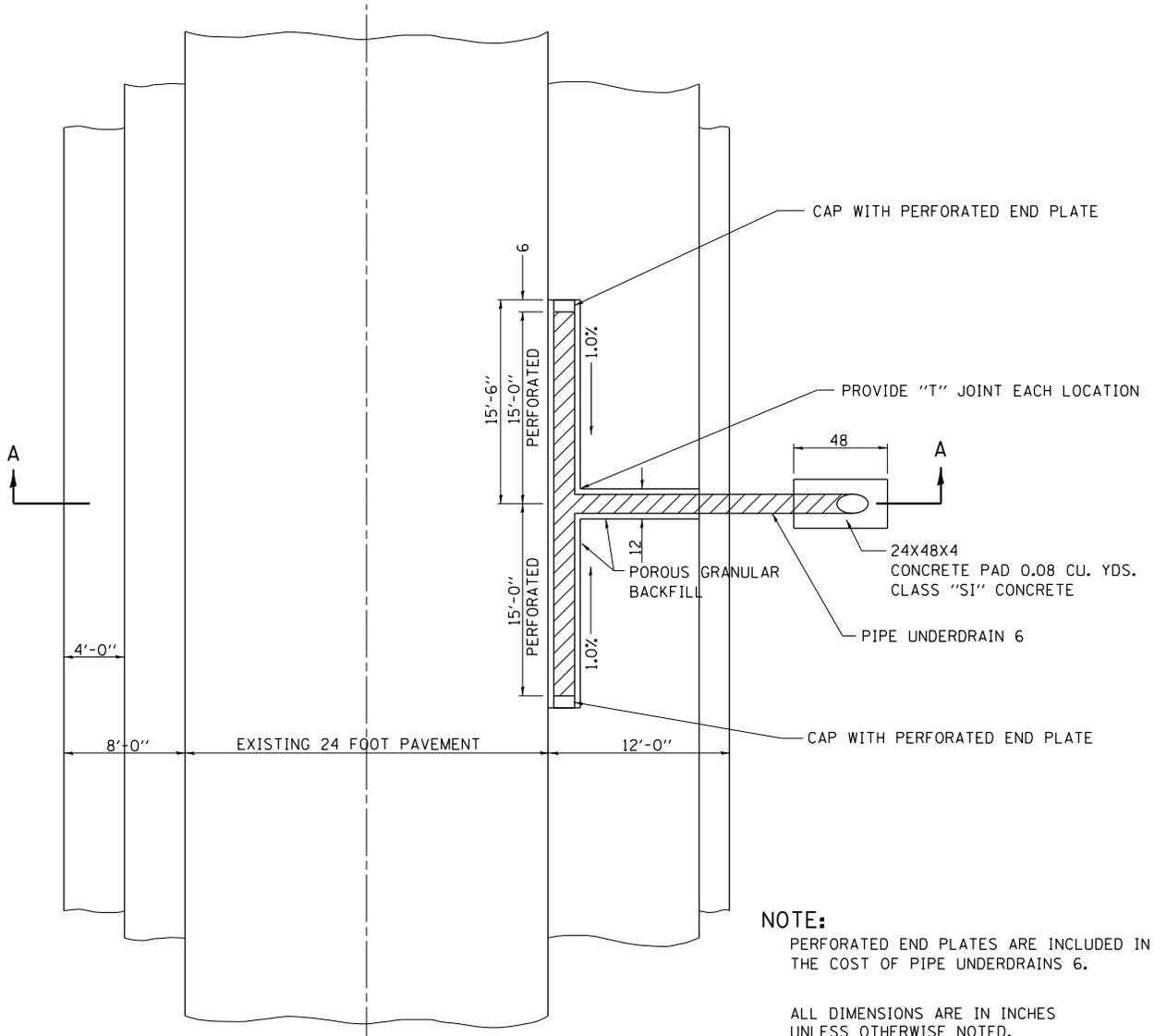
REVISED - 6-27-14
REVISED - 10-14-11
REVISED -
REVISED -

REGION 2 / DISTRICT 2 STANDARD

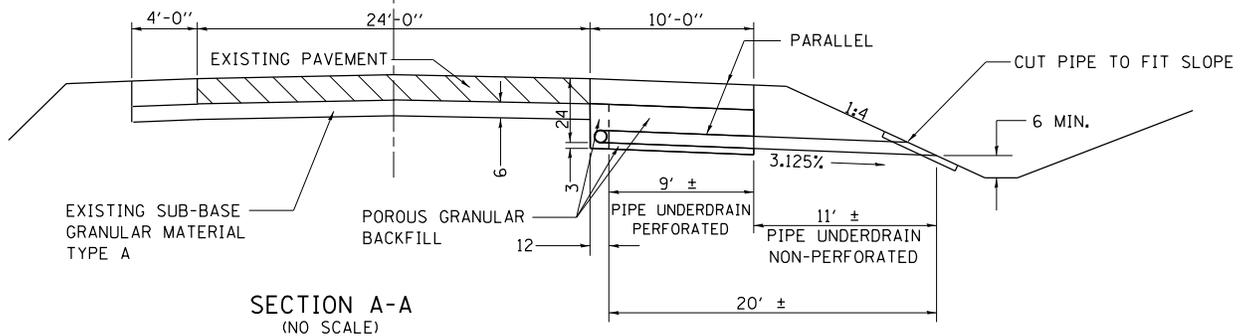
SCALE: 2,0000 ' / 1" SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CONTRACT NO.				
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

SPECIAL DRAINAGE OUTLET



NOTE:
 PERFORATED END PLATES ARE INCLUDED IN THE COST OF PIPE UNDERDRAINS 6.
 ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.



PLOT DATE = 1/18/2017

REVISED - 1-05-16
 REVISED - 10-14-11
 REVISED -
 REVISED -

REGION 2 / DISTRICT 2 STANDARD

SCALE: 2,000' / 1" SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CONTRACT NO.				
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

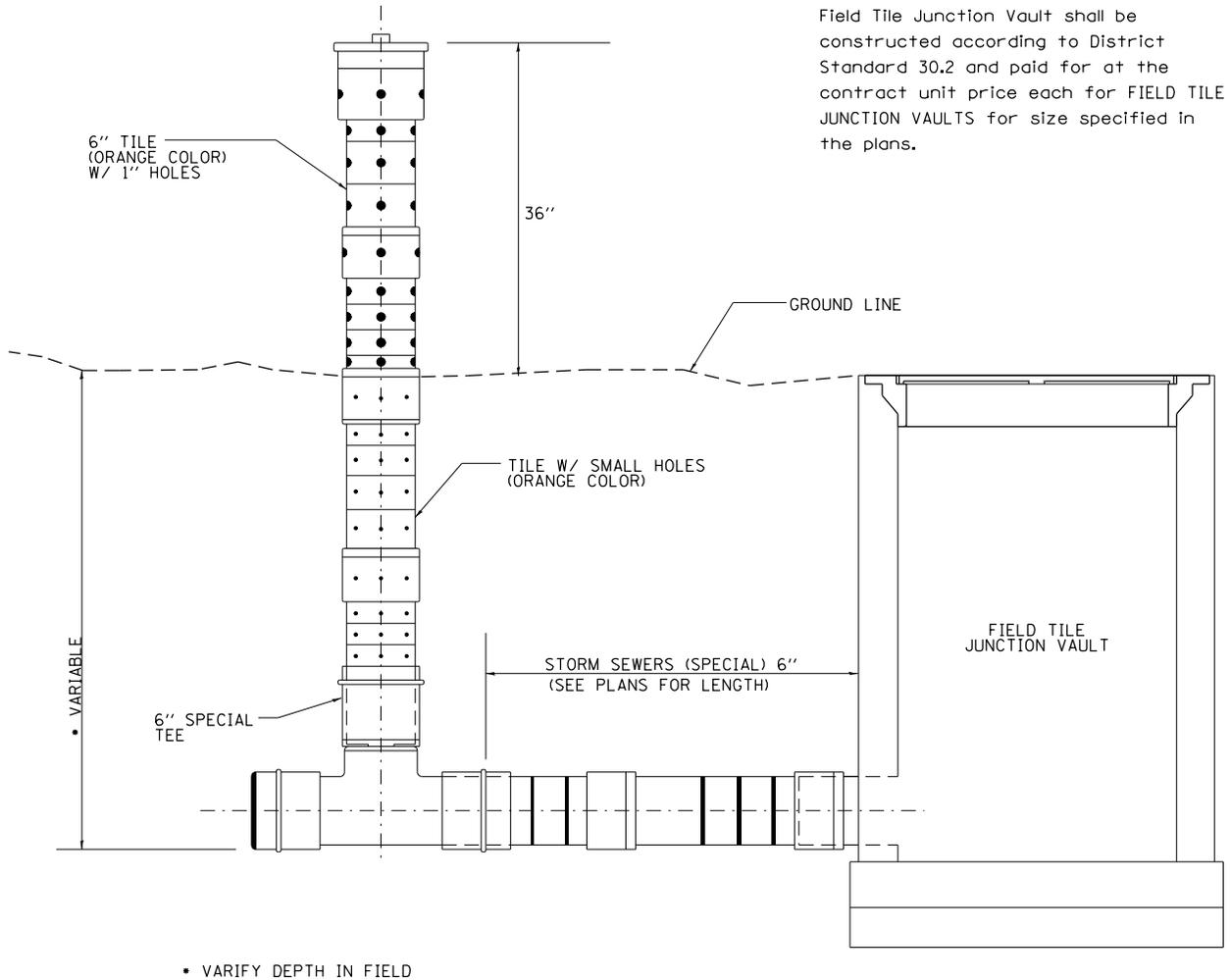
INLET STAND PIPE

Inlet Stand Pipe

Inlet Stand Pipe shall be included in the contract unit price per FOOT for STORM SEWERS (SPECIAL) 6". Which shall include the following items--one 36" above ground section with 1" holes, one variable depth below ground section with small holes, one 6" tee section, collars (if needed) and end caps (if needed) as directed by the engineer.

Storm Sewer shall be paid for at the contract unit price per foot for STORM SEWERS (SPECIAL) 6". According to Article 611.04.

Field Tile Junction Vault shall be constructed according to District Standard 30.2 and paid for at the contract unit price each for FIELD TILE JUNCTION VAULTS for size specified in the plans.



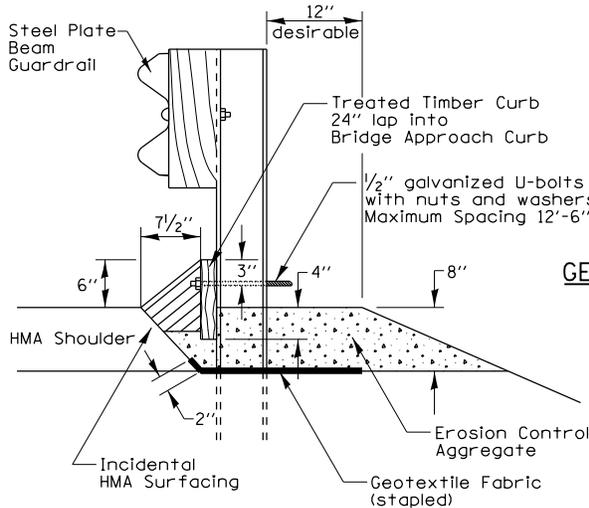
PLOT DATE = 1/18/2017

REVISED - 10-14-11	REGION 2 / DISTRICT 2 STANDARD				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
REVISED -									CONTRACT NO.
REVISED -	SCALE: 2,000' / 1" =	SHEET NO.	OF	SHEETS	STA.	TO STA.	FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT	

GUARDRAIL EROSION CONTROL TREATMENTS

GENERAL NOTES: EROSION CONTROL CURB

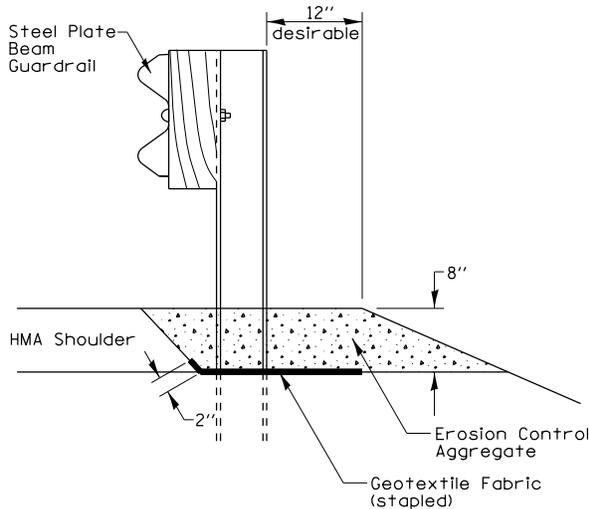
1. This work shall consist of grading as needed, installing hardware, 2" x 10" treated timber boards and incidental hot-mix asphalt surfacing in front of steel plate beam guardrail in accordance with plan details.
2. Timber shall be treated in accordance with Article 1007.12 Waterborne preservatives "asa" and "cca" shall have a minimum retention of 0.40 lbs./cu. ft.
3. This work will be paid for at the contract unit price per foot for EROSION CONTROL CURB (pay code Z0020800).



**TYPICAL SECTION
WITH EROSION CONTROL CURB**

GENERAL NOTES: GUARDRAIL AGGREGATE EROSION CONTROL

1. This work shall consist of furnishing and installing, Geotextile Fabric and staples, and furnishing, placing and shaping crushed aggregate around and behind Steel Plate Beam Guardrail posts in accordance with Plan Details.
2. Before placing the aggregate and the Geotextile Fabric, weeds and grass shall be removed from the area to be covered.
3. After the area has been prepared, and in a dry condition, the Geotextile Fabric shall be placed with a 12" minimum overlay. A knife cut for guardrail post installation is necessary.
4. The aggregate shall be deposited, compacted and shaped by either mechanical or hand methods, in a manner reasonably true to line and grade.
5. The Contractor shall have the option of placing the guardrail before or after the Geotextile Fabric and aggregate are in place. If the guardrail is placed after the Geotextile Fabric and aggregate, then any voids must be filled and the aggregate returned to line and grade.
6. Materials shall meet following requirements:
 - A. The crushed aggregate shall be CA1 gradation in accordance with Article 1004.01 of the Standard Specifications.
 - B. The aggregate shall meet class D quality requirements as outlined in Article 1004.01 of the Standard Specifications with the following exceptions:
 - 1) Revise the maximum allowable percentage of weighted average loss when the material is subjected to 5 cycles of the Sodium Sulfate Soundness Test from 25% as shown under class D of the quality chart in Article 1004.01(b) of the Standard Specifications to 40%.
 - 2) Revise the maximum allowable percentage of wear as determined by the Los Angles Abrasion Method from 45% as shown under as shown under class D of the quality chart in Article 1004.01(b) of the Standard Specifications to 65%.
 - 3) The sum of the percentage of weighted average loss when the material is subjected to 5 cycles of the Sodium Sulfate Soundness Test; and the percentage of wear as determined by the Los Angles Abrasion Method, shall not exceed 95%.
 - C. The Geotextile Fabric shall be nonwoven fabric in accordance with Article 1080.02 of the Standard Specifications.
7. This work will be paid for at the contract unit price per ton for GUARDRAIL AGGREGATE EROSION CONTROL (pay code Z0001002).

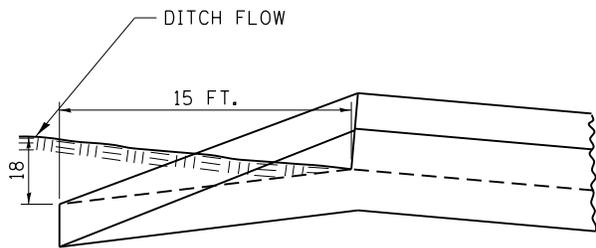
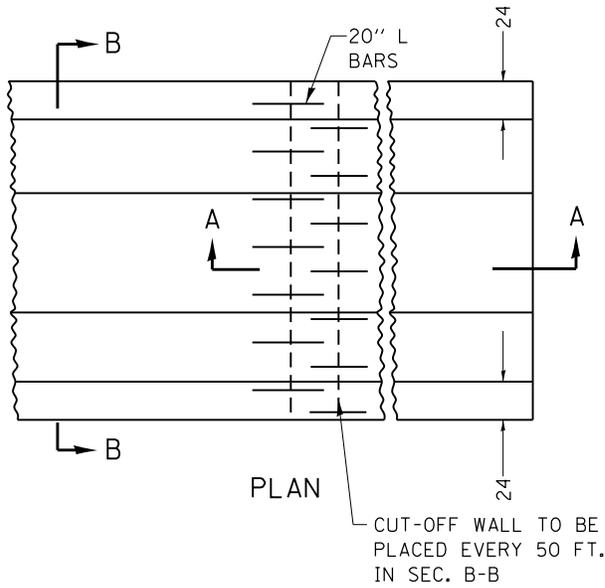
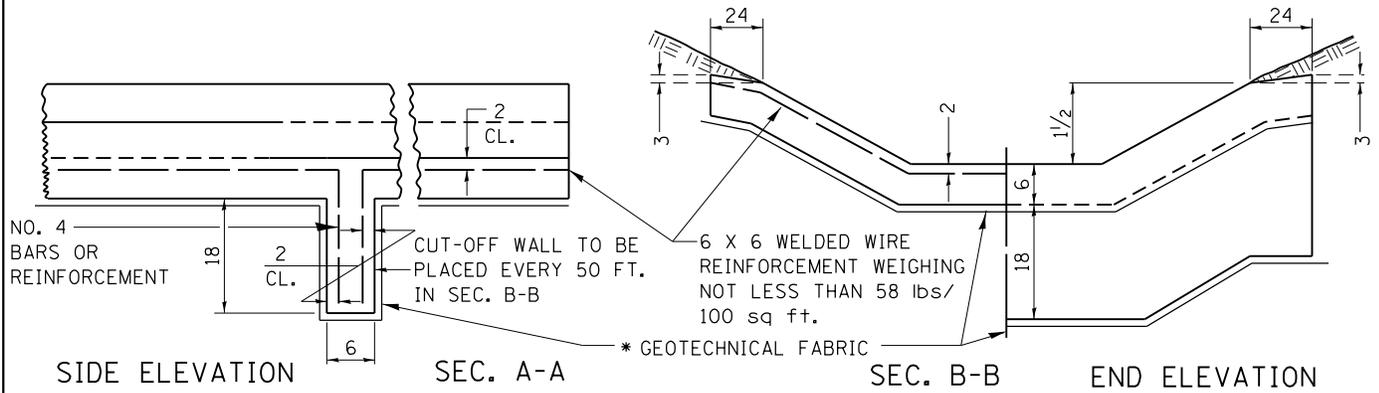


**TYPICAL SECTION
WITHOUT EROSION CONTROL CURB**

PLOT DATE = 1/18/2017

REVISED - 1-05-16	REGION 2 / DISTRICT 2 STANDARD			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.			
REVISED - 10-14-11											
REVISED -				CONTRACT NO.							
REVISED -				SCALE: 2,000' / 1" =	SHEET NO.	OF	SHEETS	STA.	TO STA.	FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT

PAVED DITCH (SPECIAL)



SIDE ELEVATION SHOWING METHOD OF BURYING UP STREAM AND DOWN STREAM END OF PAVED DITCH.

(SEE NOTE)

NOTES:

CLASS SI CONCRETE SHALL BE USED THROUGHOUT.

WELDED WIRE REINFORCEMENT SHALL BE 6 X 6 MESH, NO. 4 GAUGE, 58 lbs/100 sq ft, CONFORMING TO THE REQUIREMENTS OF A.S.T.M. A1064.

1/2" PREMOULDED JOINT FILLER SHALL BE PLACED AT THE JUNCTION OF PAVED DITCH WITH ANY OTHER STRUCTURE.

CUT-OFF WALLS SHALL BE CONSTRUCTED MONOLITHICALLY WITH THE PAVED DITCH.

AT THE OPTION OF THE CONTRACTOR, NO. 4 L 20 REINFORCING BARS PLACED AT 12 CENTERS LONGITUDINALLY IN PAVED DITCH AND VERTICALLY IN CUT-OFF WALLS IN LIEU OF THE WELDED WIRE FABRIC.

THE SOIL PLACED OVER THE 24 FLATTENED SECTION OF THE DITCH SHALL BE TAMPED FIRMLY. THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE FOR PAVED DITCH.

PAVED DITCH SHALL BE CONSTRUCTED IN ACCORDANCE WITH ARTICLES 606.01 THROUGH 606.13.

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

* THE GEOTECHNICAL FABRIC IS INCLUDED IN THE PAVED DITCH.

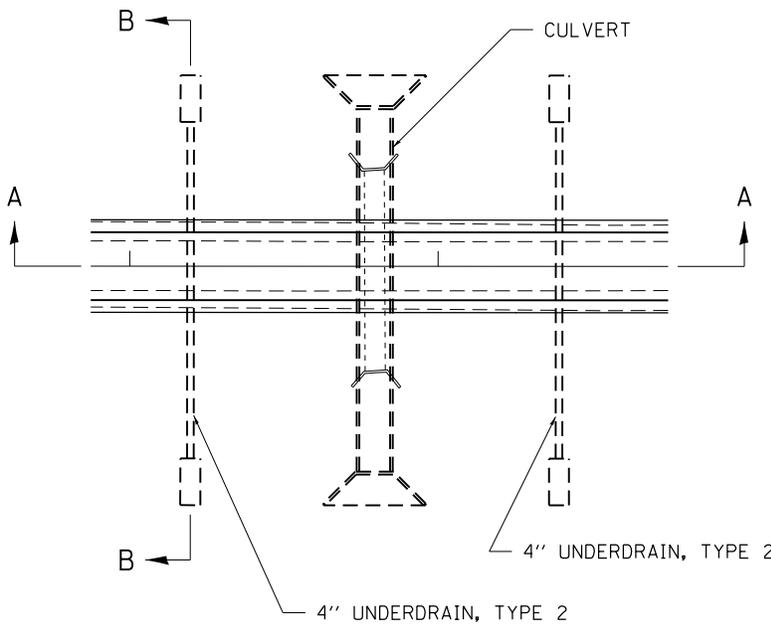
BASIS OF PAYMENT

PAVED DITCH (SPECIAL) WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER FOOT MEASURED IN PLACE INCLUDING THE COST OF FURNISHING AND PLACING THE JOINT FILLER, THE WELDED WIRE REINFORCEMENT OR THE NO. 4 REINFORCING BARS, AND THE NECESSARY EXCAVATION AND DISPOSAL OF SURPLUS MATERIALS.

PLOT DATE = 1/18/2017

REVISED - 1-05-16	REGION 2 / DISTRICT 2 STANDARD				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.			
REVISED - 10-14-11									CONTRACT NO.			
REVISED -									FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	
REVISED -	SCALE: 2,000' / 1"	SHEET NO.	OF	SHEETS	STA.	TO STA.						

UNDERDRAIN FOR ACROSS ROAD (AR) CULVERTS



NOTES:

IN SAG CONDITIONS INSTALL PIPE UNDERDRAINS, TYPE 2, ON BOTH SIDES OF CULVERT.

ON HIGHWAY GRADES GREATER THAN 2% INSTALL PIPE UNDERDRAINS, TYPE 2, ON THE HIGH SIDE OF THE CULVERT.

THIS WORK SHALL BE COMPLETED ACCORDING TO SECTION 601 OF THE STANDARD SPECIFICATIONS.

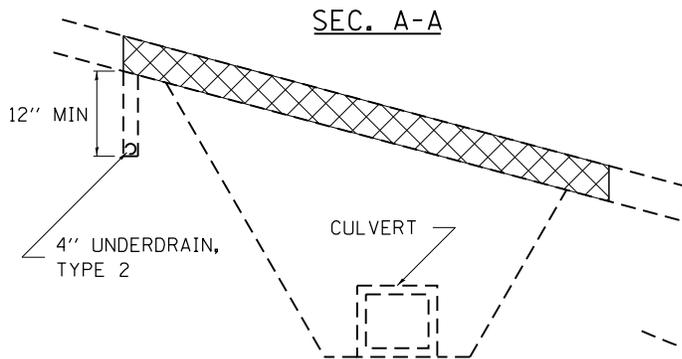
THE UNDERDRAIN SHALL EXTEND UNTIL INTERSECTING WITH THE SIDE SLOPES. THE PIPES SHALL DRAIN INTO CONCRETE HEADWALLS. (SEE ARTICLE 601.05 OF THE STANDARD SPECIFICATIONS AND HIGHWAY STANDARD 601101).

THE UNDERDRAIN SHALL BE A MINIMUM OF 12" BELOW THE EXISTING PAVEMENT.

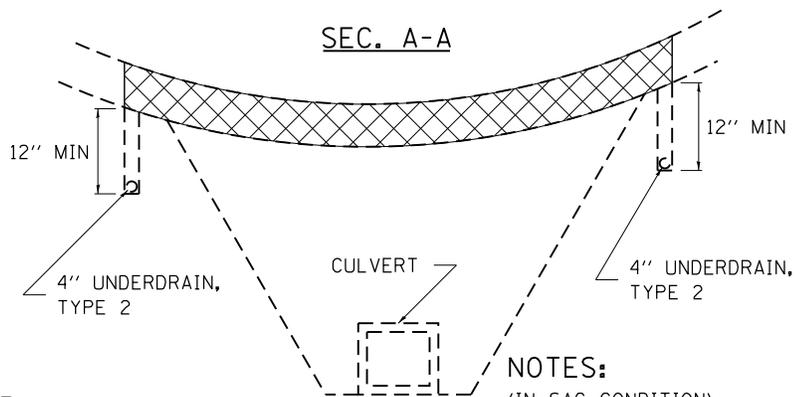
PIPE UNDERDRAINS WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER FOOT FOR PIPE UNDERDRAINS, TYPE 2, 4".

CONCRETE HEADWALLS WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER EACH FOR CONCRETE HEADWALLS FOR PIPE DRAINS.

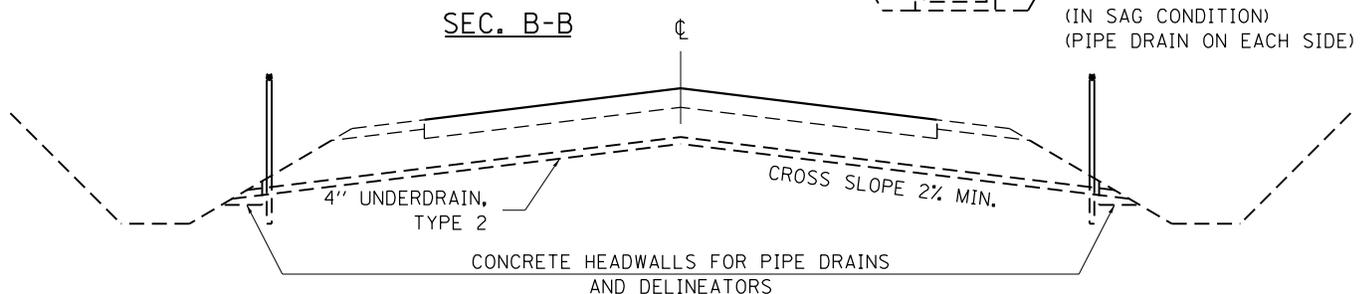
A DELINEATOR SHALL BE PLACED AT EACH CONCRETE HEADWALL. THESE BE PAID FOR AT THE CONTRACT UNIT PRICE PER EACH FOR DELINEATORS.



NOTES:
(HIGHWAY GRADE GREATER THAN 2%)



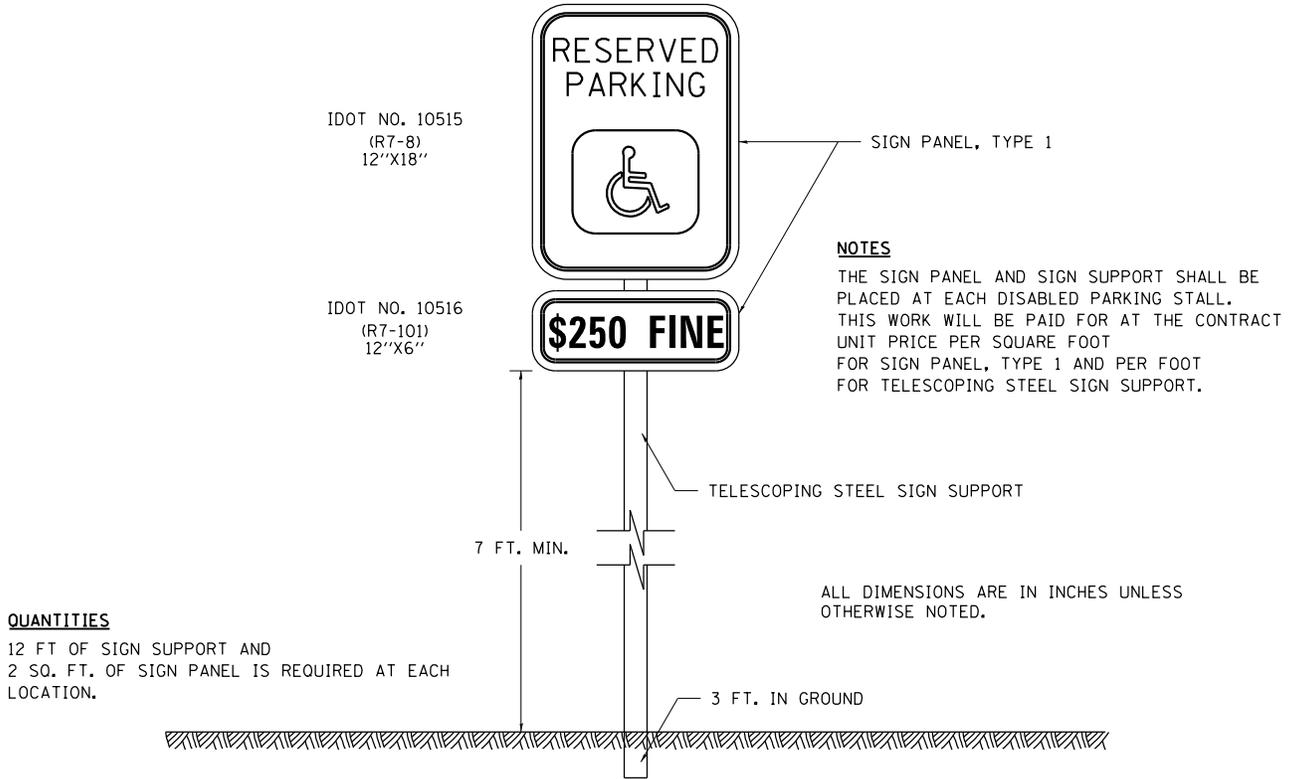
NOTES:
(IN SAG CONDITION)
(PIPE DRAIN ON EACH SIDE)



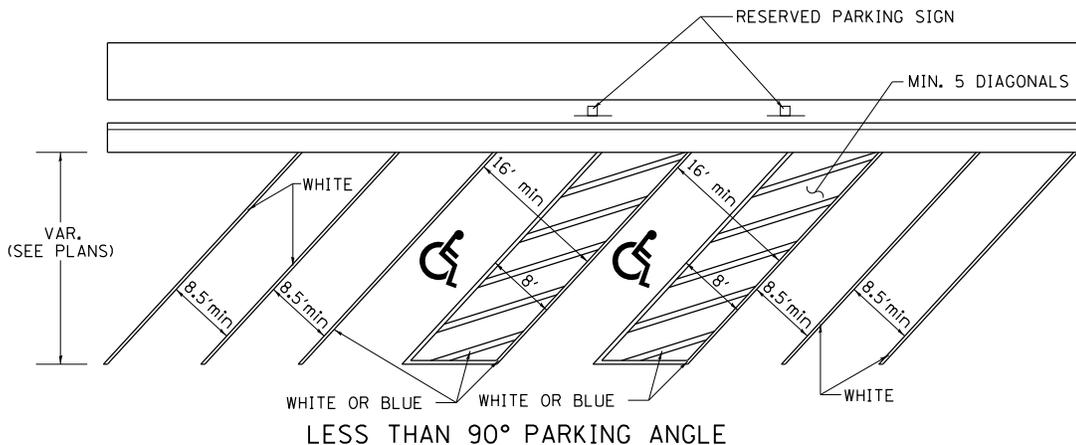
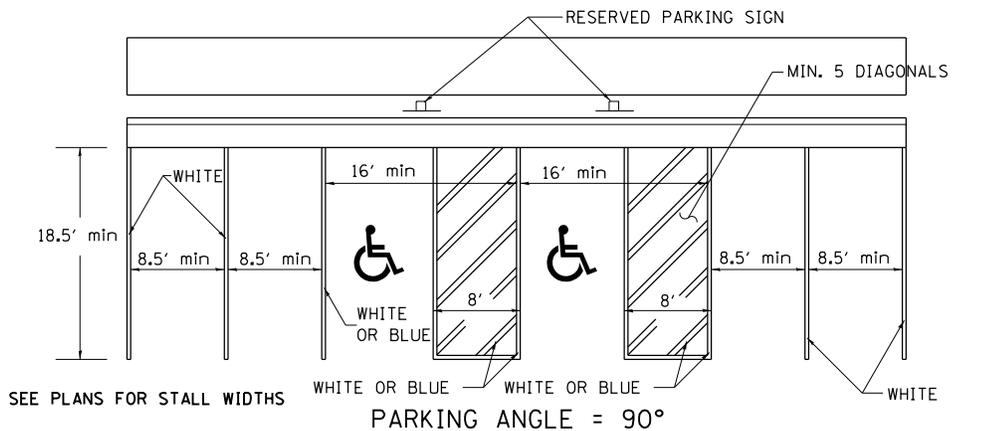
PLOT DATE = 1/18/2017

REVISED - 7-13-16	REGION 2 / DISTRICT 2 STANDARD				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.		
REVISED - 1-05-16											
REVISED - 6-27-14					CONTRACT NO.						
REVISED - 7-05-12					SCALE: 2,000' / 1" =	SHEET NO.	OF SHEETS	STA. TO STA.	FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT	

RESERVED PARKING SIGN DETAIL



DISABLED PARKING STRIPING

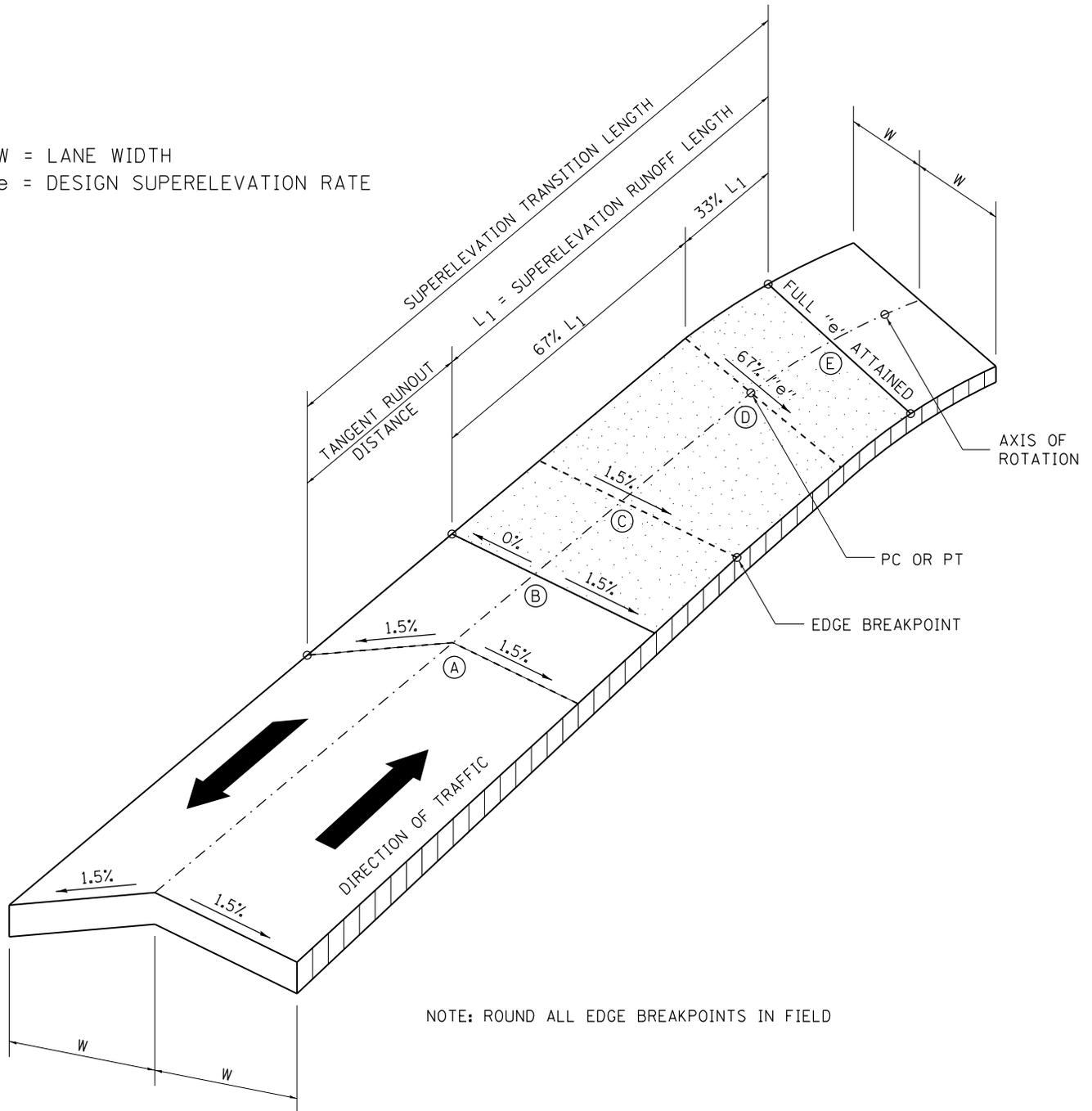


PLOT DATE = 1/18/2017

REVISED - 1-05-16	REGION 2 / DISTRICT 2 STANDARD			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
REVISED - 6-27-14				CONTRACT NO.				
REVISED - 10-14-11	SCALE: 2,000' / 1" =	SHEET NO.	OF SHEETS	STA.	TO STA.	FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT	

SUPERELEVATION TRANSITION ON TWO-LANE HIGHWAY

W = LANE WIDTH
 e = DESIGN SUPERELEVATION RATE



NOTE: ROUND ALL EDGE BREAKPOINTS IN FIELD

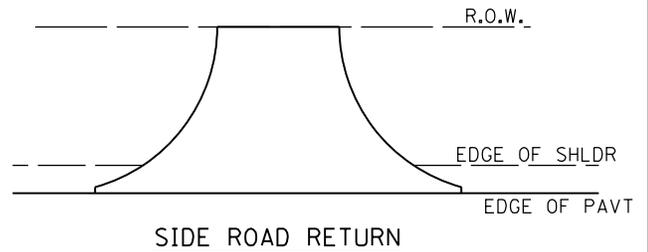
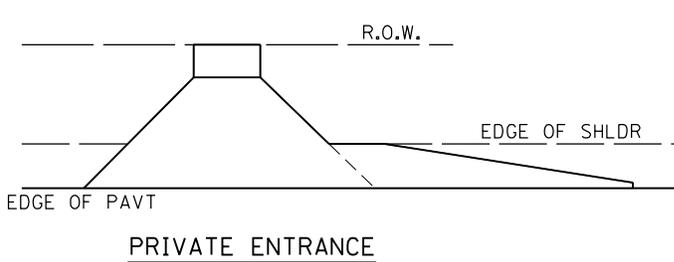
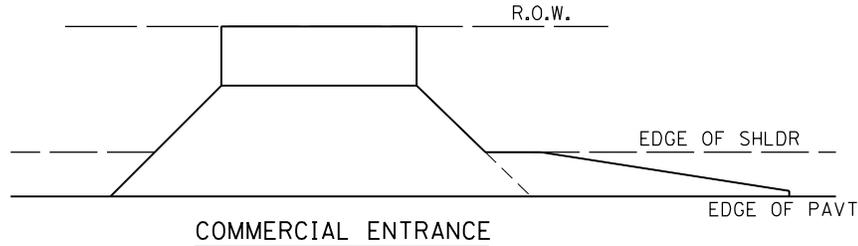
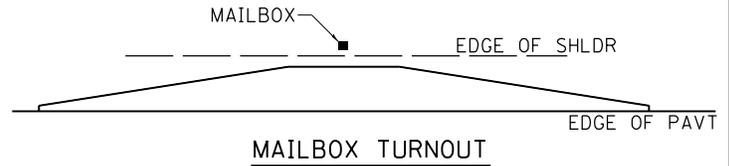
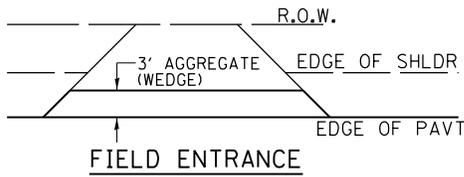
TRANSITION CURVE TABLE

CURVE PI STA.	SUPERELEVATION "e"	W	SUPERELEVATION TRANSITION LENGTH	TANGENT RUNOUT DISTANCE	SUPERELEVATION RUNOFF LENGTH

PLOT DATE = 1/18/2017

REVISED - 11-09-06	REGION 2 / DISTRICT 2 STANDARD	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
REVISED -						
REVISED -			CONTRACT NO.			
REVISED -		SCALE: 2,000' / 1" SHEET NO. OF SHEETS STA. TO STA.	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	

HOT-MIX ASPHALT APPROACHES & MAILBOX RETURNS FOR SINGLE LIFT (SMART) RESURFACING PROJECTS

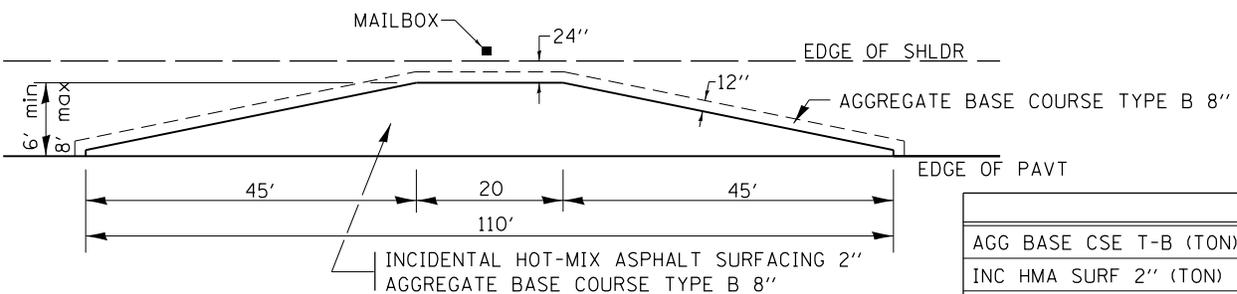


NOTE: EXISTING HMA PE's, CE's, SR's, & MB TURNOUTS
Place 1 1/2" Incidental Hot-Mix Asphalt Surfacing on entrance to conform to the existing configuration.

EXISTING AGG. PE's & CE's
Place 2" Incidental Hot-Mix Asphalt Surfacing on existing entrance to conform to the present configuration.

EXISTING AGG. SIDEROADS
Place 3" Incidental Hot-Mix Asphalt Surfacing on sideroad to conform to the present configuration.

EXISTING AGG. MAILBOX TURNOUTS
Existing Agg. Mailbox Turnouts shall be constructed as shown below.



	6'	8'
AGG BASE CSE T-B (TON)	24.5	31.1
INC HMA SURF 2" (TON)	7.3	9.8
BIT PRIME COAT (POUND)	120	161

PLOT DATE = 1/18/2017

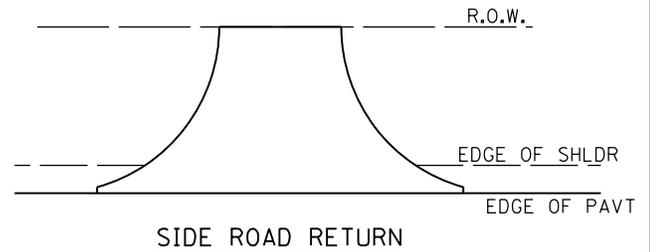
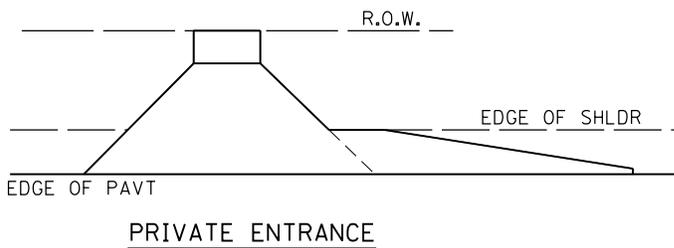
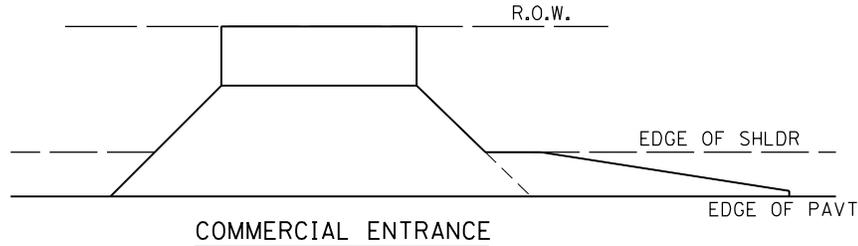
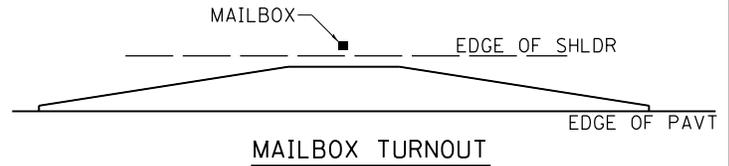
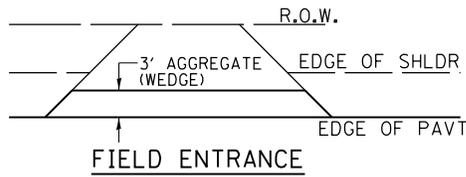
REVISED - 1-05-16
REVISED - 7-21-15
REVISED - 10-21-08
REVISED -

REGION 2 / DISTRICT 2 STANDARD

SCALE: 2,000' / 1" SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CONTRACT NO.				
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			

HOT-MIX ASPHALT APPROACHES & MAILBOX RETURNS FOR TWO LIFT (3P) RESURFACING PROJECTS

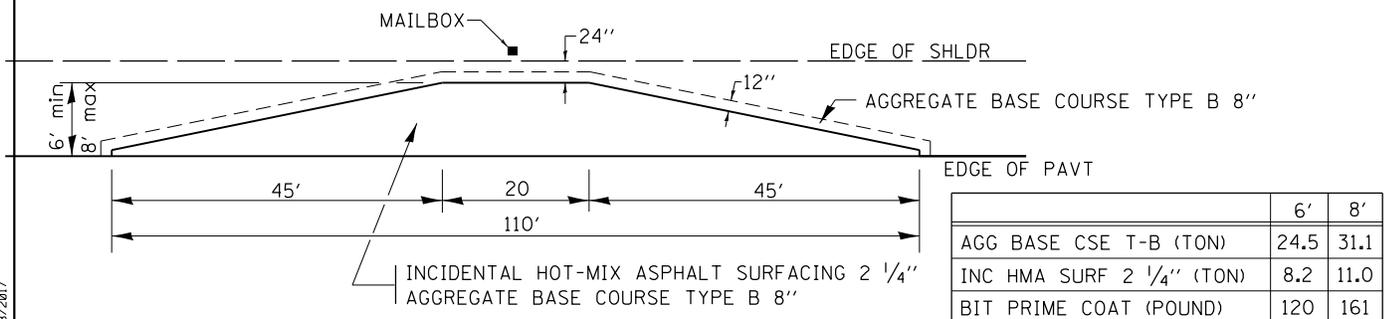


NOTE: EXISTING HMA PE's, CE's, SR's, & MB TURNOUTS
Place 2 1/4" Incidental Hot-Mix Asphalt Surfacing on entrance to conform to the existing configuration.

EXISTING AGG. PE's & CE's
Place 2 1/4" Incidental Hot-Mix Asphalt Surfacing on existing entrance to conform to the present configuration.

EXISTING AGG. SIDEROADS
Place 3" Incidental Hot-Mix Asphalt Surfacing on sideroad to conform to the present configuration.

EXISTING AGG. MAILBOX TURNOUTS
Existing Agg. Mailbox Turnouts shall be constructed as shown below.



	6'	8'
AGG BASE CSE T-B (TON)	24.5	31.1
INC HMA SURF 2 1/4" (TON)	8.2	11.0
BIT PRIME COAT (POUND)	120	161

PLOT DATE = 1/18/2017

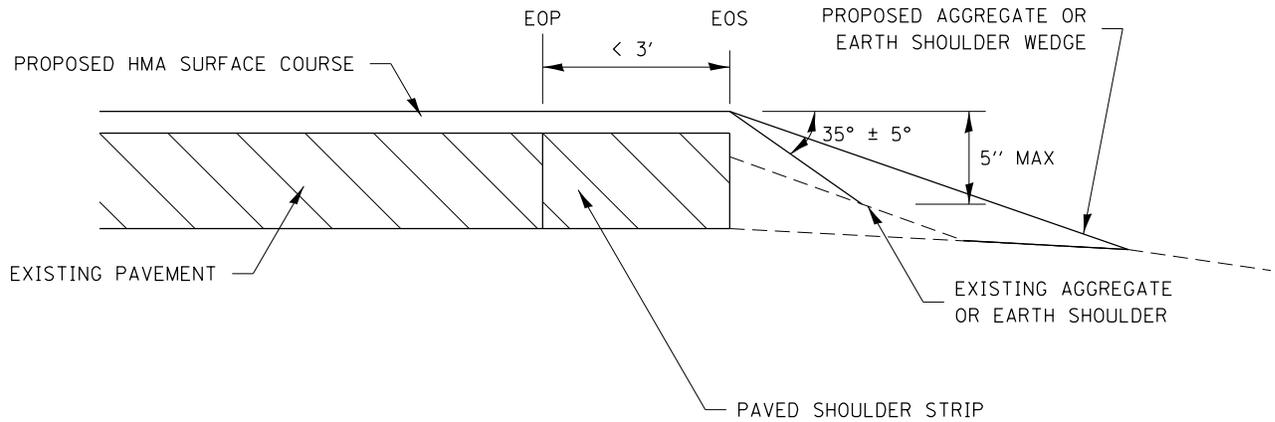
REVISED - 1-05-16
REVISED - 7-21-15
REVISED - 6-27-14
REVISED - 10-21-08

REGION 2 / DISTRICT 2 STANDARD

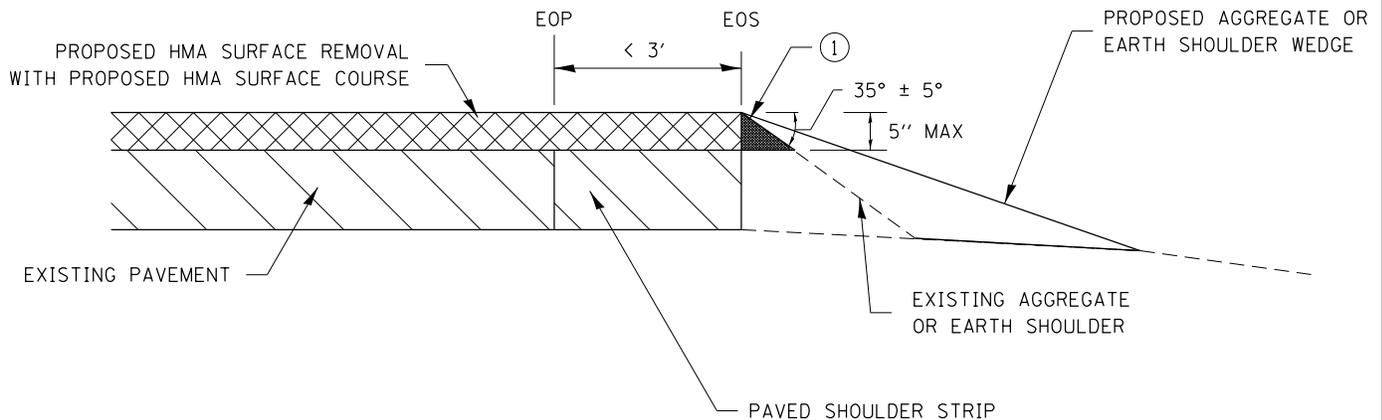
SCALE: 2,000' / in. SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CONTRACT NO.				
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

SAFETY EDGE (SMART PROJECT)



NO MILLING: ADJACENT SHOULDER FLUSH WITH OR LOWER THAN EXISTING PAVEMENT



MILLING: WITH ADJACENT SHOULDER FLUSH WITH OR HIGHER THAN MILLED SURFACE

NOTES : THE DEVICE WHICH FORMS THE SAFETY EDGE SHALL BE MOUNTED ON THE PAVER SCREED AGAINST THE END GATE AND SHALL BE REMOVABLE OR BE ABLE TO BE LIFTED WHEN NOT IN USE. THE DEVICE SHALL BE DESIGNED TO MAINTAIN CONTACT WITH SURFACE OF THE SHOULDER AND ALLOW AUTOMATIC TRANSITION TO CROSS ROADS, DRIVEWAYS AND OBSTRUCTIONS. THE DEVICE SHALL ALSO CONSTRAIN THE HMA MATERIAL AND INCREASE THE CONSOLIDATION OF THE EXTRUDED PROFILE. THE USE OF A CONVENTIONAL SINGLE PLATE STRIKE-OFF WILL NOT BE ALLOWED.

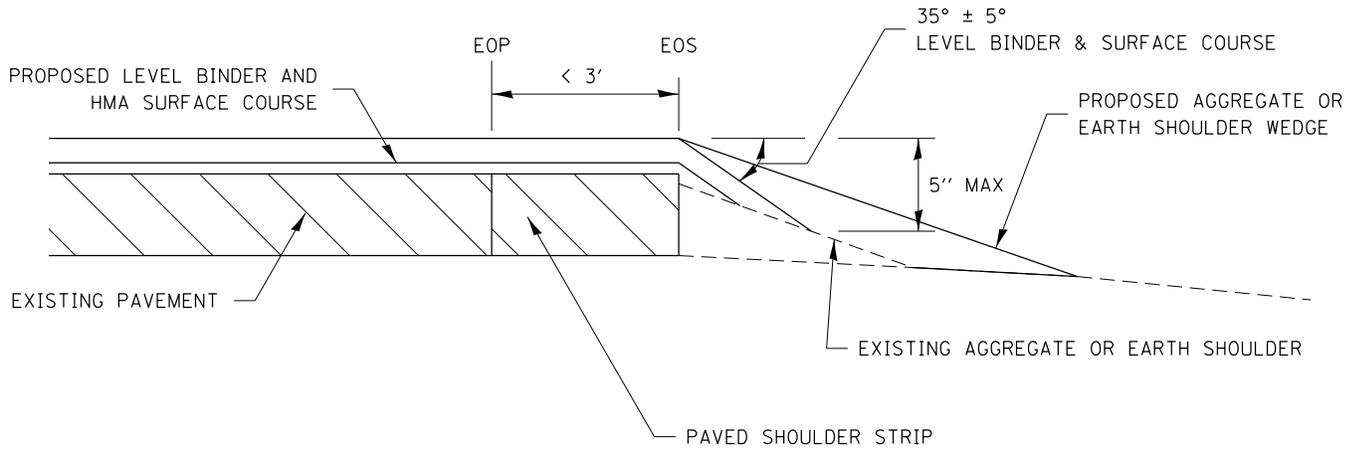
① PRIOR TO THE PLACEMENT OF THE HMA SAFETY EDGE, IF THE ADJACENT AGGREGATE OR EARTH SHOULDER IS HIGHER THAN THE MILLED SURFACE, THE AREA REQUIRED FOR PLACEMENT OF THE SAFETY EDGE SHALL BE BROUGHT FLUSH WITH THE MILLED SURFACE IN A MANNER APPROVED BY THE ENGINEER. THIS WORK SHALL BE CONSIDERED INCLUDED IN THE CONTRACT UNIT PRICE PER TON FOR HOT-MIX ASPHALT SURFACE COURSE OF THE TYPE SPECIFIED.

ROLLERS WILL NOT BE ALLOWED ON THE SLOPED FACE OF THE SAFETY EDGE.

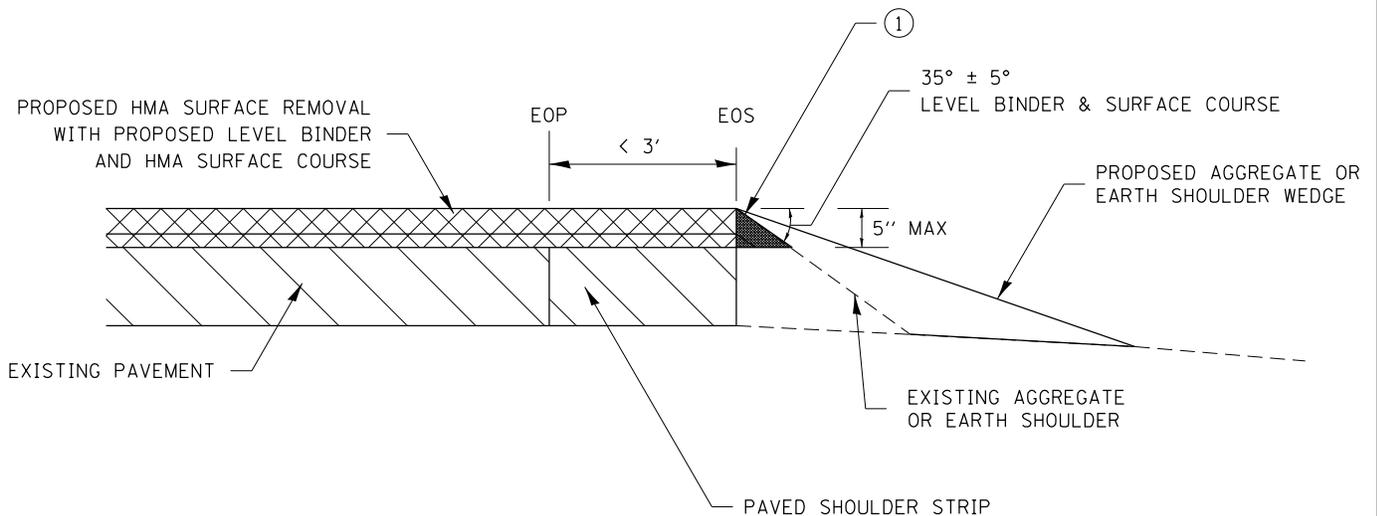
PLOT DATE = 1/18/2017

REVISED - 1-05-16	REGION 2 / DISTRICT 2 STANDARD			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.		
REVISED - 10-11-13										
REVISED -				CONTRACT NO.						
REVISED -				SCALE: 2,0000' / 1" =	SHEET NO.	OF	SHEETS	STA.	TO STA.	FED. ROAD DIST. NO.

SAFETY EDGE (3P PROJECTS)



NO MILLING: ADJACENT SHOULDER FLUSH
WITH OR LOWER THAN EXISTING PAVEMENT



MILLING: WITH ADJACENT SHOULDER FLUSH
WITH OR HIGHER THAN MILLED SURFACE

NOTES : THE DEVICE WHICH FORMS THE SAFETY EDGE SHALL BE MOUNTED ON THE PAVER SCREED AGAINST THE END GATE AND SHALL BE REMOVABLE OR BE ABLE TO BE LIFTED WHEN NOT IN USE. THE DEVICE SHALL BE DESIGNED TO MAINTAIN CONTACT WITH SURFACE OF THE SHOULDER AND ALLOW AUTOMATIC TRANSITION TO CROSS ROADS, DRIVEWAYS AND OBSTRUCTIONS. THE DEVICE SHALL ALSO CONSTRAIN THE HMA MATERIAL AND INCREASE THE CONSOLIDATION OF THE EXTRUDED PROFILE. THE USE OF A CONVENTIONAL SINGLE PLATE STRIKE-OFF WILL NOT BE ALLOWED.

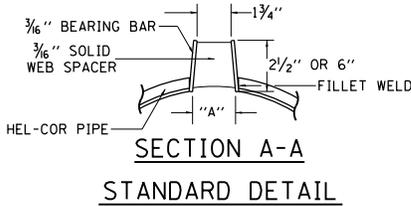
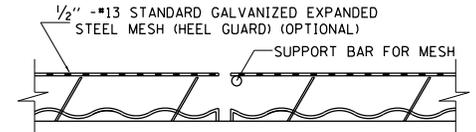
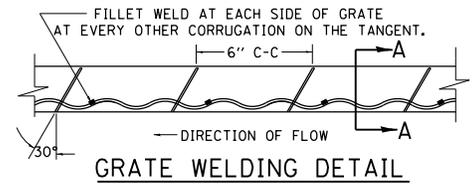
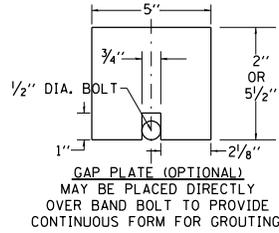
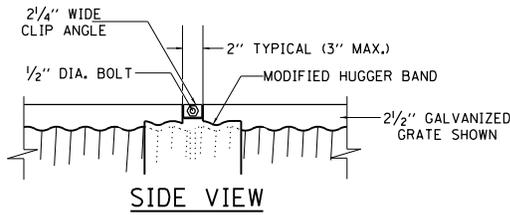
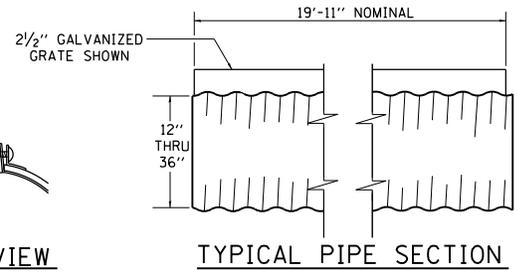
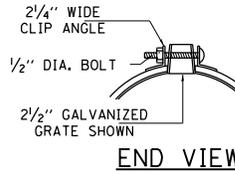
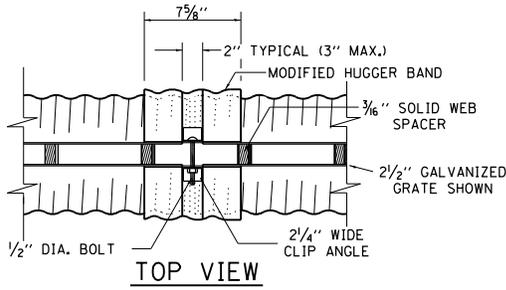
① PRIOR TO THE PLACEMENT OF THE HMA SAFETY EDGE, IF THE ADJACENT AGGREGATE OR EARTH SHOULDER IS HIGHER THAN THE MILLED SURFACE, THE AREA REQUIRED FOR PLACEMENT OF THE SAFETY EDGE SHALL BE BROUGHT FLUSH WITH THE MILLED SURFACE IN A MANNER APPROVED BY THE ENGINEER. THIS WORK SHALL BE CONSIDERED INCLUDED IN THE CONTRACT UNIT PRICE PER TON FOR HOT-MIX ASPHALT SURFACE COURSE OF THE TYPE SPECIFIED.

ROLLERS WILL NOT BE ALLOWED ON THE SLOPED FACE OF THE SAFETY EDGE.

PLOT DATE = 1/18/2017

REVISED - 1-05-16	REGION 2 / DISTRICT 2 STANDARD			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
REVISED - 10-11-13									
REVISED -				CONTRACT NO.					
REVISED -				SCALE: 2,0000' / 1" =	SHEET NO.	OF SHEETS	STA.	TO STA.	FED. ROAD DIST. NO.

SLOTTED DRAIN PIPE FOR TYPE A GUTTER (SPECIAL)



GAGE OF PIPE	DIAMETER OF PIPE					
	12"	15"	18"	24"	30"	36"
16	X	X	X	X	X	X
14	X	X	X	X	X	X
12	N.A.	N.A.	N.A.	N.A.	X	X

GRATE TYPE	"A"	
VERT	2-1/2"	1-3/4"
VERT	6"	1-3/4"
TRAP	2-1/2"	2-1/4"
TRAP	6"	3"

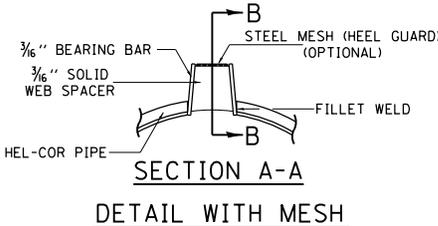
VERT = VERTICAL
TRAP = TRAPIZOIDAL

SLOTTED DRAIN NOTES

- GRATING IS AVAILABLE IN DEPTHS OF 2 1/2" AND 6".
- VERTICAL GRATING (STRAIGHT SIDES) WITH VERTICAL SPACERS IS ALSO AVAILABLE.
- FOR 6" VERTICAL & TRAPIZOIDAL REQUIREMENTS, THE SLOTTED DRAIN BAND MAY BE FURNISHED WITH THE 4" TECHCO BAND ANGLE.
- DIMENSIONS ARE SUBJECT TO MANUFACTURING TOLERANCES.
- REFERENCE CONTECH BAND MANUAL DWG. NO. 1008466 FOR BAND DETAILS.

MANUFACTURING TOLERANCES

- VERTICAL BOW ± 3/8"
- HORIZONTAL BOW ± 5/8"
- TWIST ± 1/2"



(TRAPEZOIDAL GALVANIZED GRATE SHOWN)

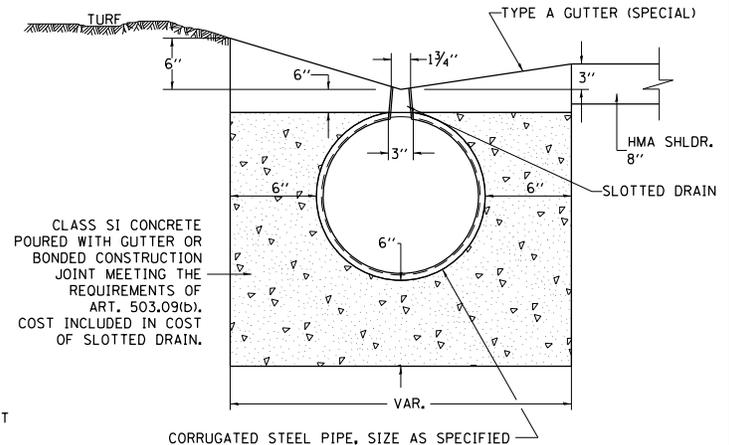
NOTES

CLASS SI CONCRETE SHALL BE USED THROUGHOUT.

THE SLOTTED DRAIN SHALL BE CORRUGATED PIPE CULVERT WITH INTEGRAL SLOTTED DRAINS. BEFORE PLACING THE CONCRETE ADJACENT TO THE PIPE, THE SLOT SHALL BE COVERED BY EITHER THIN, FLAT METAL SHEETING OR BY A BOARD NOTCHED TO FIT OVER THE GRATE BARS. THIS COVERING MUST FIT CLOSELY IN THE SLOT TO PREVENT ENTRY OF CONCRETE INTO THE PIPE. PAVING OVER THE SLOTTED DRAIN WILL THEN BE ONE CONTINUOUS OPERATION OVER THE PROTECTED DRAIN, THE PROTECTION FOR THE DRAIN SLOT SHALL THEN BE REMOVED, THE PIPE SHALL DRAIN INTO THE SIDE OF THE INLET. THE OPENING WHERE THE SLOT IS REMOVED SHALL BE COVERED TO PREVENT CONCRETE FROM ENTERING THE PIPE.

THE CORRUGATED STEEL PIPE USED IN THE SLOTTED DRAIN SHALL MEET THE REQUIREMENTS OF AASHTO M-36/ASTM A 760. THE CMP SHALL BE GALVANIZED OR ALUMINIZED STEEL TYPE 2. STEEL GRATING SHALL MEET THE GALVANIZING REQUIREMENTS OF AASHTO M-111. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER FOOT FOR SLOTTED DRAIN PIPE, AND SHALL INCLUDE ELBOWS.

USE APPROVED END CAP TO PREVENT CONCRETE ENTRY INTO THE PIPE DURING GUTTER CONSTRUCTION ON THE UPSTREAM END OF PIPE.



ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

PLOT DATE = 1/18/2017

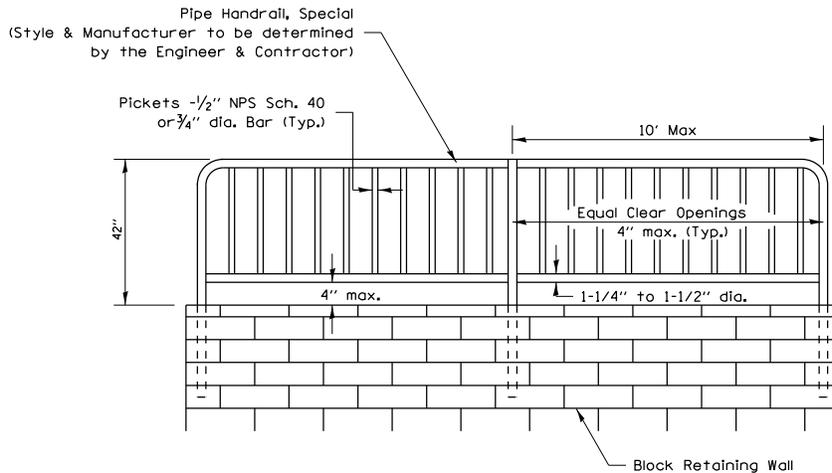
REVISED - 1-05-16
REVISED - 6-27-14
REVISED - 10-14-11
REVISED -

REGION 2 / DISTRICT 2 STANDARD

SCALE: 2.0000' / 1" SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CONTRACT NO.				
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

PIPE HANDRAIL, SPECIAL - FOR RETAINING WALLS



PIPE HANDRAIL, SPECIAL - FOR RETAINING WALL
(See details for installation options)

Notes:

Gripping surfaces shall be uninterrupted by construction elements, or obstructions.

Ends of handrail shall be rounded.

Handrail shall not rotate within their fittings.

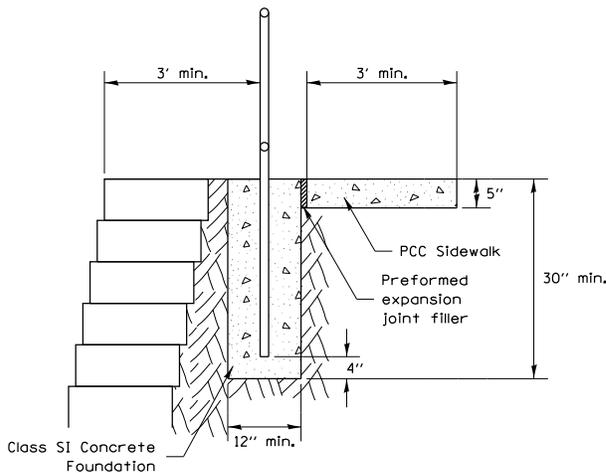
Handrail shall conform to Section 509 with the exception that all pipe and connections shall be welded galvanized or aluminum according to Article 1006.30, or 1006.34.

The diameter of the gripping surface of the handrail shall be 1-1/4" to 1-1/2"

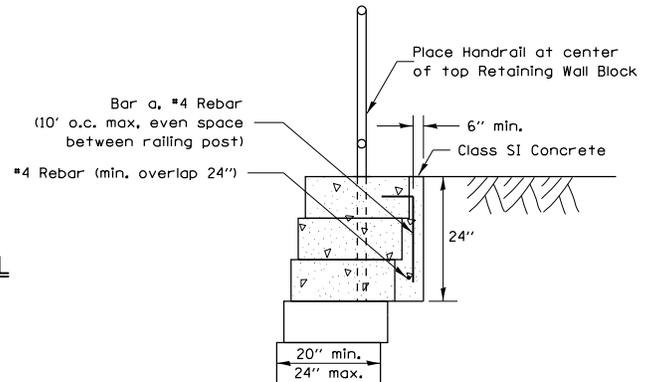
Handrail required when wall height difference is 4' or greater

Drilling of blocks will be necessary for reinforcement placement.

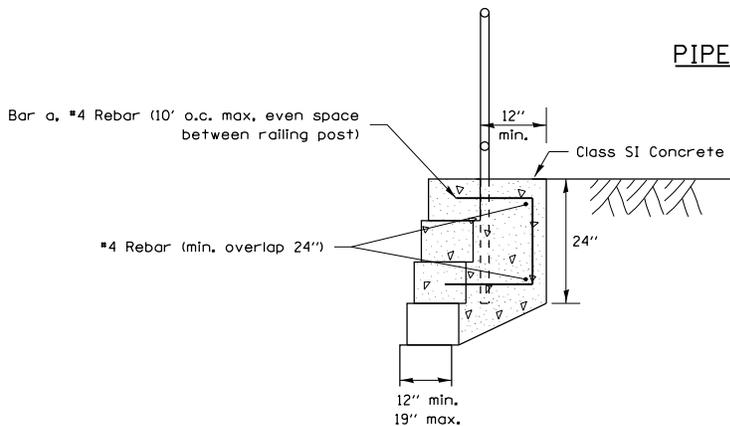
This work shall consist of furnishing and erecting Handrails as listed above and according to this detail. This work shall be paid for at the contract UNIT price per FOOT for PIPE HANDRAIL, SPECIAL.



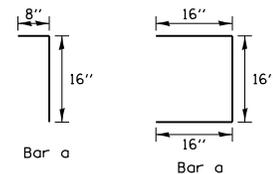
PIPE HANDRAIL, SPECIAL - FOR RETAINING WALL
(Option 1)



PIPE HANDRAIL, SPECIAL - FOR RETAINING WALL
(Option 2-Block depth greater than 20")



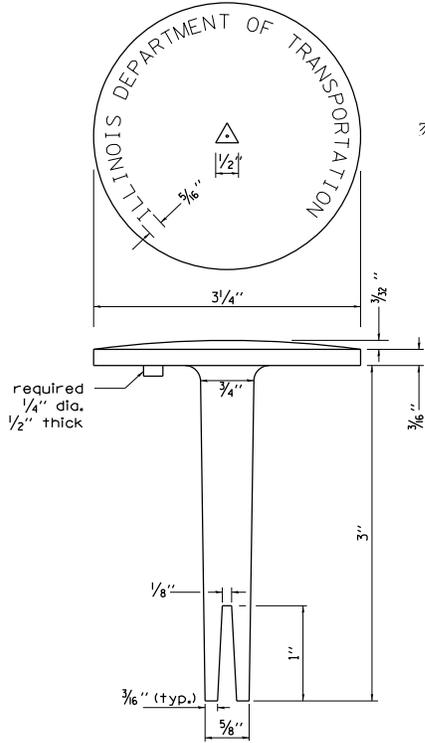
PIPE HANDRAIL, SPECIAL - FOR RETAINING WALL
(Option 3 - Block depth 12" to 19")



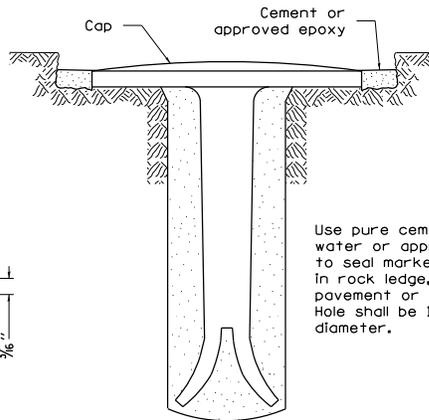
PLOT DATE = 1/18/2017

REVISED - 1-05-16	REGION 2 / DISTRICT 2 STANDARD				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
REVISED - 12-03-14					SCALE: 2.0000' / in. SHEET NO. OF SHEETS STA. TO STA.				CONTRACT NO.
REVISED - 2-01-10									FED. ROAD DIST. NO.
REVISED -									

PERMANENT SURVEY MARKERS, TYPE II

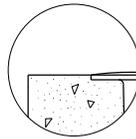


BRASS OR ALUMINUM TABLET



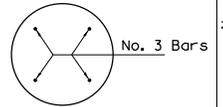
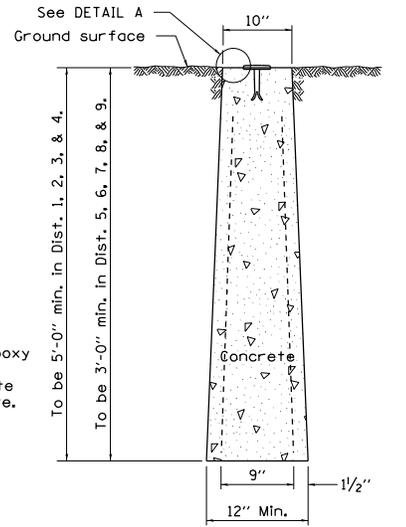
Tablet constructed in rock ledge or concrete.

TYPE II



DETAIL A

Use pure cement and water or approved epoxy to seal marker tablet in rock ledge, concrete pavement or structure. Hole shall be 1/2" diameter.



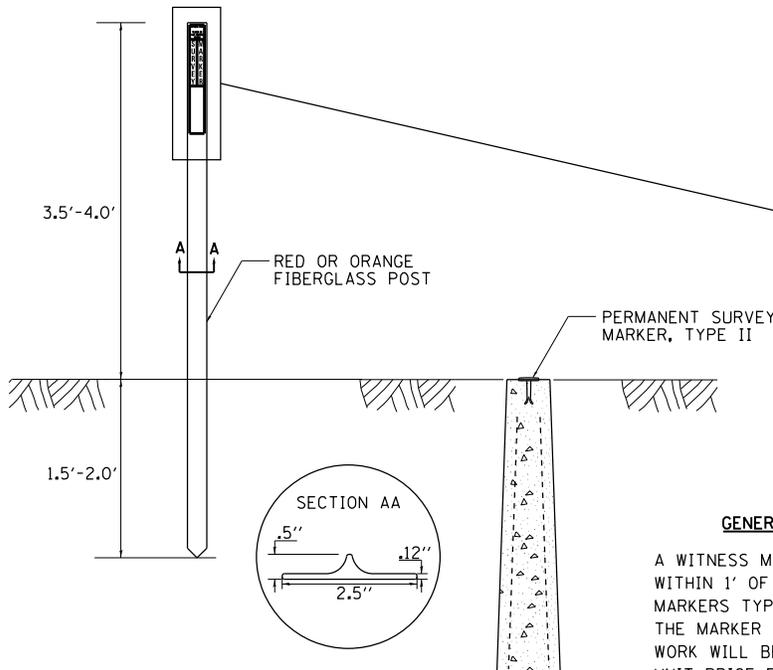
TYPE II

CAST-IN-PLACE MARKER

No. 3 bars to be 30" for 36" min. & 3'-6" for 4'-0" min.

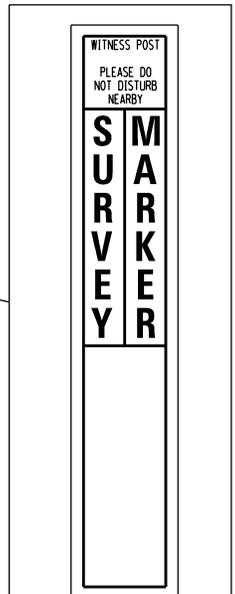
ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

WITNESS MARKER FOR PERMANENT SURVEY MARKERS, TYPE II



GENERAL NOTES

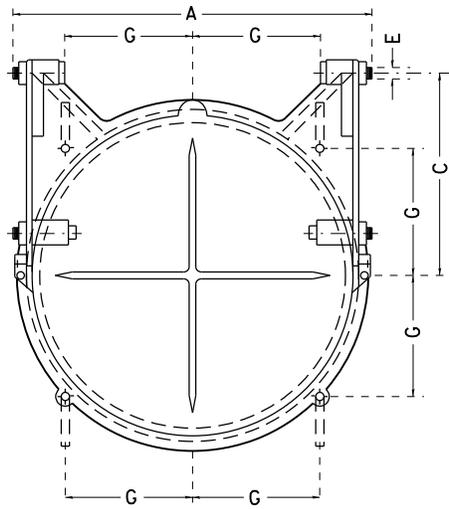
A WITNESS MARKER SHALL BE INSTALLED WITHIN 1' OF ALL PERMANENT SURVEY MARKERS TYPE II EXCEPT IN AREAS WHERE THE MARKER IS IN THE SIDEWALK. THIS WORK WILL BE INCLUDED TO THE CONTRACT UNIT PRICE PER EACH FOR PERMANENT SURVEY MARKERS, TYPE II.



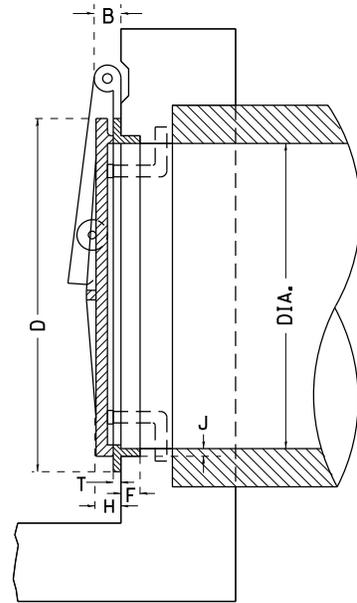
PLOT DATE = 1/18/2017

REVISED - 6-27-14	REGION 2 / DISTRICT 2 STANDARD				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
REVISED - 10-14-11									
REVISED -					CONTRACT NO.				
REVISED -	SCALE: 2,000' / 1" =	SHEET NO.	OF	SHEETS	STA.	TO STA.	FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT	

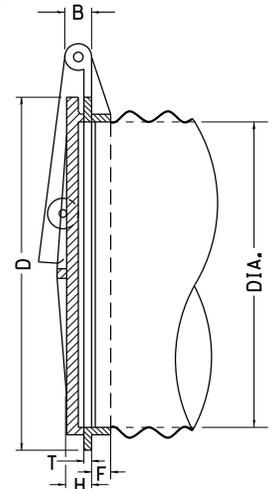
AUTOMATIC FLAP GATE



FRONT ELEVATION



SECTION



SECTION SHOWING METHOD OF APPLICATION TO CORRUGATED METAL PIPE

IT IS INTENDED THAT THE AUTOMATIC FLAP GATES SHALL BE A COMMERCIAL PRODUCT PRODUCED BY A RELIABLE MANUFACTURER. THE GATE MAY BE MADE OF CAST IRON, CAST STEEL OR OTHER SUITABLE MATERIALS. THE DESIGN MAY DIFFER FROM THE DRAWING IF IT WILL WORK IN A SATISFACTORY, TROUBLE FREE MANNER AND WILL WITHSTAND THE WATER PRESSURE AT THE INSTALLATION LOCATION. THE GATE SHALL BE APPROVED BY THE ENGINEER.

THE SIZE OF AUTOMATIC FLAP GATES SHALL REFER TO THE DIAMETER OF THE OUTLET PIPE OR OPENING.

THIS WORK SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR FLAP GATE OF THE SIZE SPECIFIED AND SHALL INCLUDE ALL MATERIALS AND COMPLETE INSTALLATION.

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

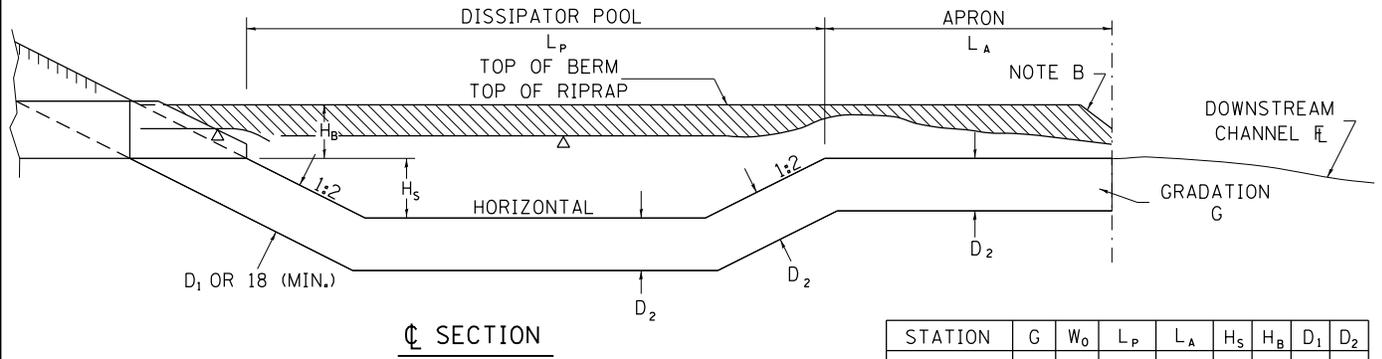
TABLE OF DIMENSIONS

DIAM	A	B	C	D	E	F	G	H	J	T
8	10 ³ / ₄	1 ³ / ₈	5 ¹ / ₁₆	10	¹ / ₂	1 ¹ / ₈	3 ⁹ / ₁₆	1 ¹ / ₄	³ / ₈	³ / ₈
10	12 ³ / ₄	1 ³ / ₈	7 ¹ / ₈	12 ¹ / ₄	¹ / ₂	1 ¹ / ₈	4 ³ / ₈	1 ¹ / ₂	¹ / ₂	⁷ / ₁₆
12	14 ³ / ₄	1 ³ / ₈	8 ¹ / ₂	14 ¹ / ₂	¹ / ₂	1 ¹ / ₈	5 ¹ / ₈	1 ¹ / ₂	¹ / ₂	¹ / ₂
14	17 ¹ / ₄	1 ³ / ₈	9 ⁷ / ₈	16 ³ / ₄	¹ / ₂	1 ¹ / ₄	5 ¹⁵ / ₁₆	1 ¹ / ₂	¹ / ₂	⁹ / ₁₆
15	17 ³ / ₄	1 ³ / ₈	10 ⁵ / ₈	17 ³ / ₄	¹ / ₂	1 ¹ / ₄	6 ¹ / ₄	1 ¹ / ₂	¹ / ₂	⁹ / ₁₆
16	19 ¹ / ₄	1 ³ / ₈	11 ¹ / ₄	18 ³ / ₄	¹ / ₂	1 ¹ / ₄	6 ⁵ / ₈	1 ¹ / ₂	¹ / ₂	⁹ / ₁₆
18	22 ¹ / ₄	2	12 ⁵ / ₈	21	³ / ₄	1 ⁹ / ₁₆	7 ⁷ / ₁₆	1 ³ / ₄	⁹ / ₁₆	⁹ / ₁₆
20	24 ³ / ₄	2	14 ¹ / ₈	23 ³ / ₄	³ / ₄	1 ³ / ₈	8 ¹ / ₄	1 ³ / ₄	⁵ / ₈	⁵ / ₈
21	25 ¹ / ₄	2	14 ⁷ / ₈	24 ¹ / ₄	³ / ₄	1 ³ / ₈	8 ⁹ / ₁₆	1 ³ / ₄	⁵ / ₈	⁵ / ₈
24	28 ¹ / ₄	2	17	27 ¹ / ₂	³ / ₄	1 ¹ / ₂	9 ³ / ₄	1 ³ / ₄	⁵ / ₈	⁵ / ₈
30	35 ¹ / ₄	2 ¹ / ₂	20 ¹ / ₂	34	1	1 ⁹ / ₁₆	12	2	1 ¹ / ₁₆	⁵ / ₈
36	41 ¹ / ₂	2 ¹ / ₂	25	40 ⁷ / ₈	1	2 ¹ / ₁₆	14 ⁷ / ₁₆	2 ¹ / ₄	1 ¹ / ₈	¹¹ / ₁₆
42	47 ¹ / ₂	2 ¹ / ₂	29 ³ / ₄	47	1	2 ⁵ / ₁₆	16 ⁵ / ₈	2 ¹ / ₄	1 ¹ / ₈	³ / ₄
48	53 ¹ / ₂	2 ¹ / ₂	34	54	1	2 ³ / ₄	19 ¹ / ₁₆	2 ¹ / ₄	1 ³ / ₈	³ / ₄
54	60 ³ / ₄	2 ¹ / ₂	38	62 ¹ / ₄	1 ¹ / ₄	2 ³ / ₄	22	3	1 ¹ / ₂	⁷ / ₈
60	67	2 ¹ / ₂	42	68 ¹ / ₂	1 ¹ / ₄	2 ³ / ₄	24 ¹ / ₄	3	1 ¹ / ₂	¹⁵ / ₁₆
66	73 ³ / ₈	2 ¹ / ₂	47	75	1 ¹ / ₄	2 ⁷ / ₈	26 ¹ / ₂	3	1 ¹ / ₂	1
72	79	2 ¹ / ₂	51	82	1 ¹ / ₄	3	29	3	1 ¹ / ₂	1
78	86	2 ¹ / ₂	55 ¹ / ₄	88 ³ / ₄	1 ¹ / ₄	3 ¹ / ₂	31 ³ / ₈	3	1 ⁵ / ₈	1 ¹ / ₈
84	92 ¹ / ₂	3 ¹ / ₂	59 ¹ / ₂	95 ¹ / ₂	1 ¹ / ₂	3 ¹ / ₂	33 ³ / ₄	3	1 ³ / ₄	1 ¹ / ₄

PLOT DATE = 1/18/2017

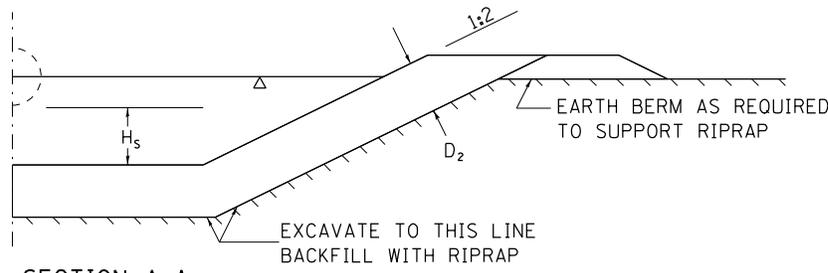
REVISED - 10-14-11	REGION 2 / DISTRICT 2 STANDARD				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
REVISED -					CONTRACT NO.				
REVISED -					FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				
REVISED -	SCALE: 2,0000' / 1" =	SHEET NO.	OF	SHEETS	STA.	TO STA.			

RIPRAPPED CULVERT ENERGY BASIN



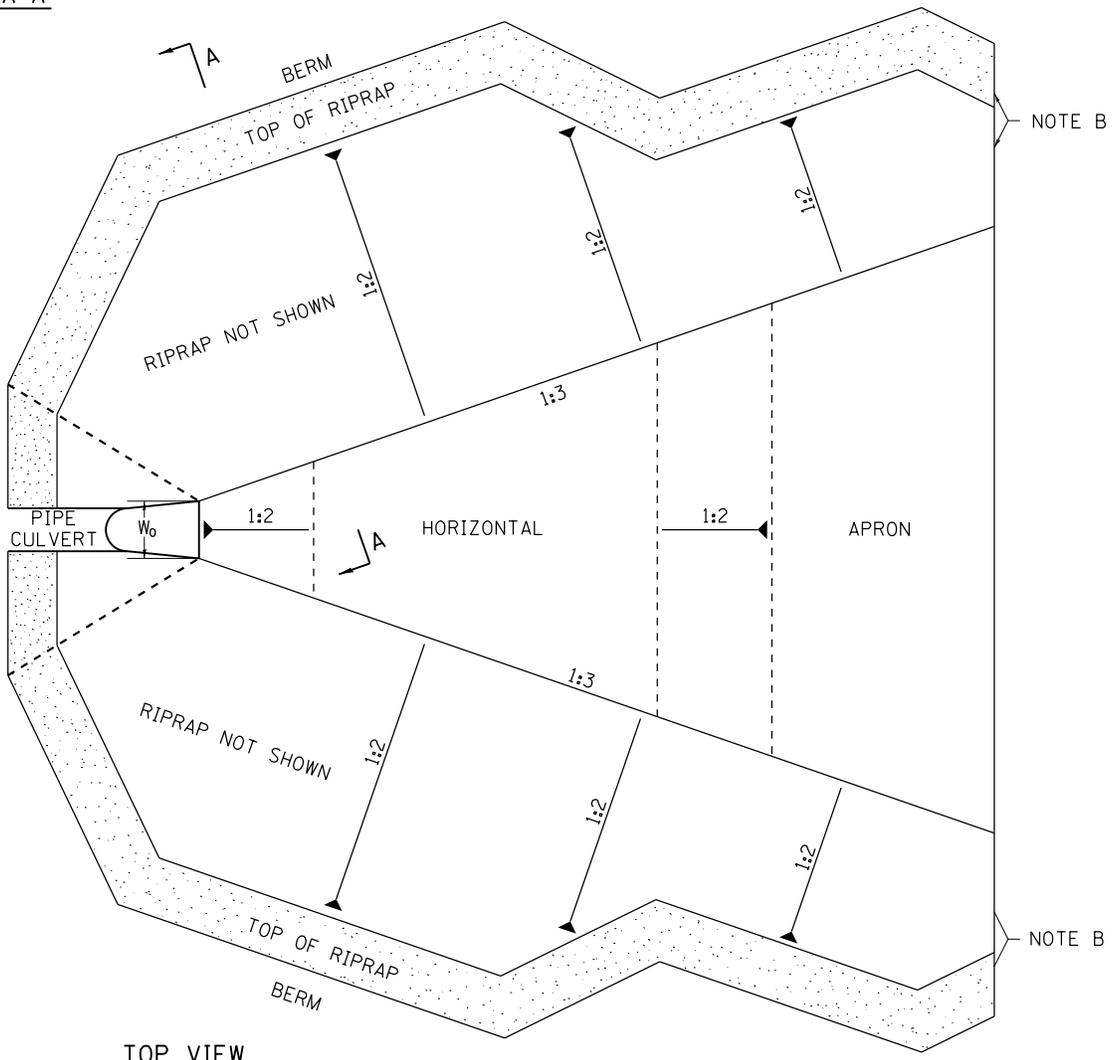
SECTION

STATION	G	W ₀	L _P	L _A	H _S	H _B	D ₁	D ₂



SECTION A-A

NOTE B: WARP BASIN TO CONFORM TO NATURAL STREAM CHANNEL.



TOP VIEW

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

PLOT DATE = 1/18/2017

REVISED - 1-05-16
REVISED - 10-14-11
REVISED -
REVISED -

REGION 2 / DISTRICT 2 STANDARD

SCALE: 2,000' / 1" SHEET NO. OF SHEETS STA. TO STA.

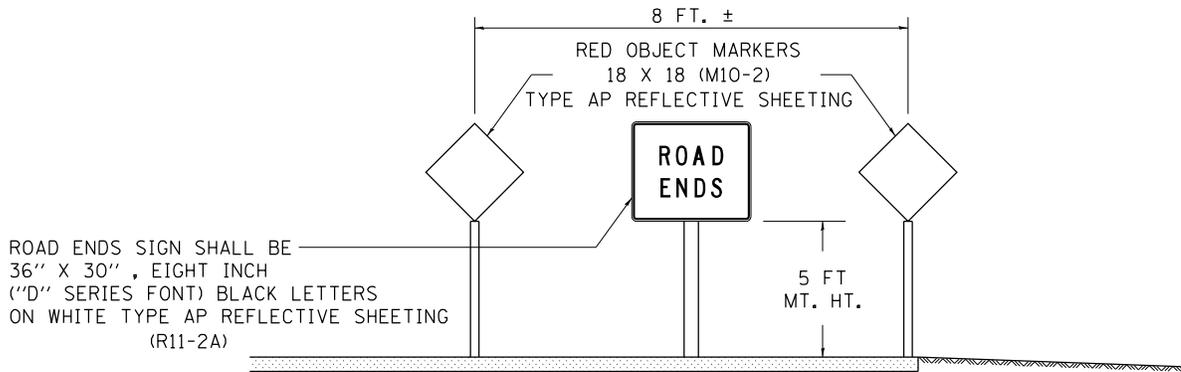
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CONTRACT NO.				
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			

TERMINATION OF DEAD END ROADS

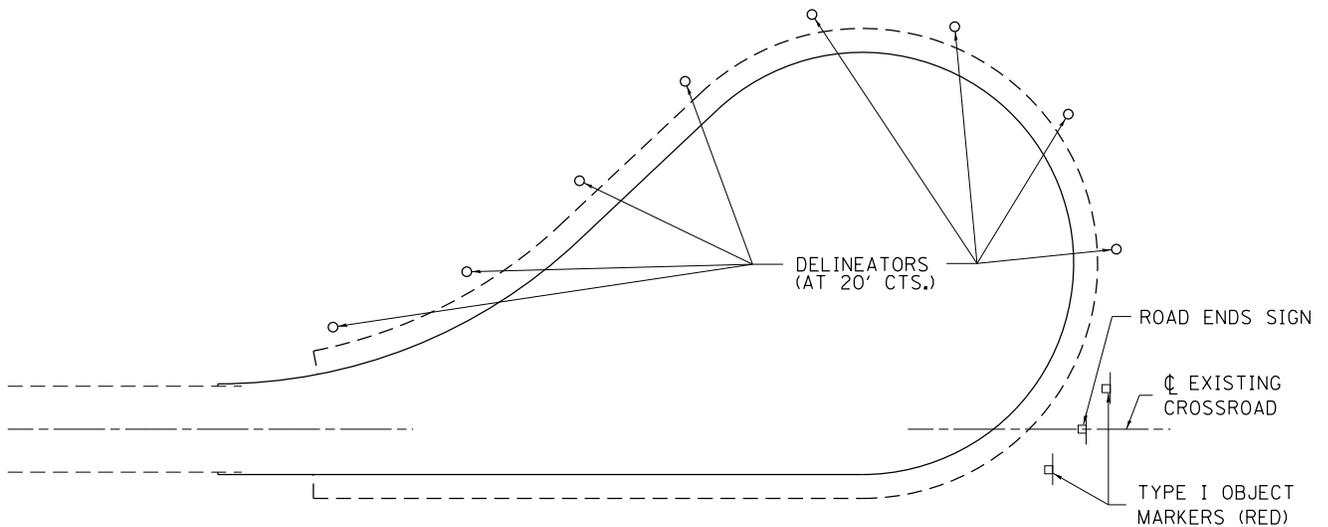
NOTES: A "NO OUTLET" (36"x36" YELLOW) SIGN SHALL BE ERECTED SLIGHTLY BEYOND THE LAST ROAD INTERSECTING THE ROAD WITH NO OUTLET. IF THIS INTERSECTION IS MORE THAN 1500 FT FROM TERMINATION POINT, OR IF SIGHT DISTANCE TO THE CLOSURE IS LESS THAN 500 FT, A ROAD ENDS 500 FT (WB-16) SIGN SHALL BE ERECTED 500 FT IN ADVANCE OF THE TERMINATION OF THE ROAD. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER EACH FOR "TERMINATION OF DEAD END ROADS" WHICH PRICE SHALL INCLUDE ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY TO INSTALL THE SIGNS AND DELINEATORS.

USE 4X6 WOOD POSTS INSTALLED IN ACCORDANCE WITH SECTION 730 OF STANDARD SPECIFICATIONS FOR TRAFFIC CONTROL ITEMS. USE APPLICABLE PARTS OF STANDARD 720001 FOR SIGN MOUNTING.

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.



TERMINATION SIGNING



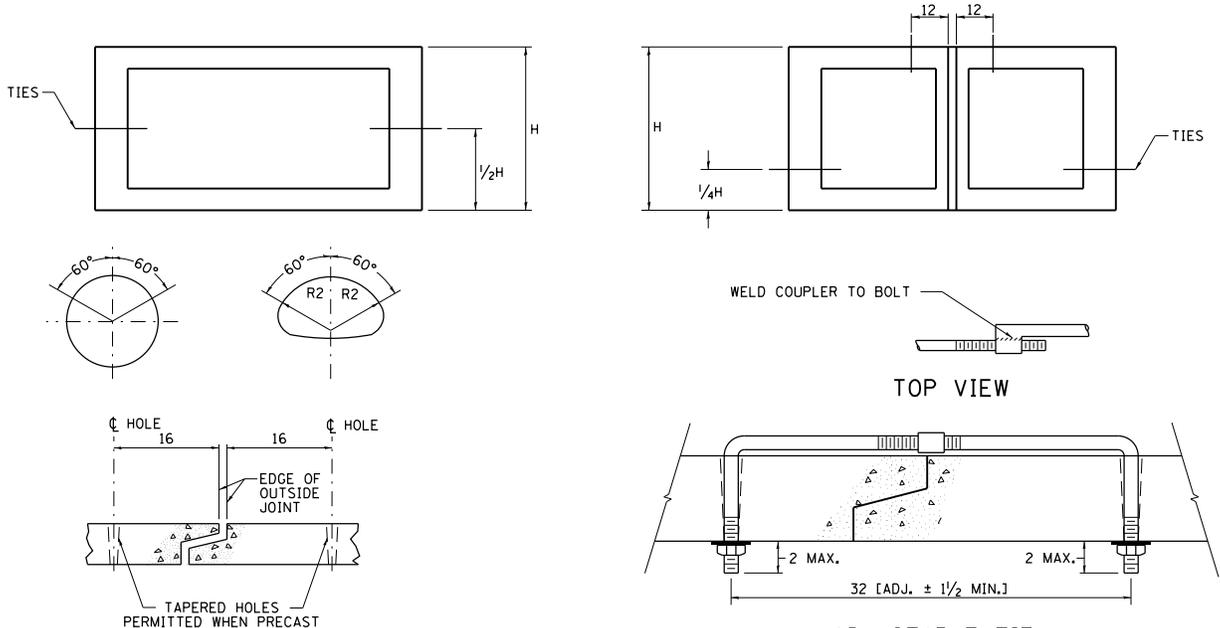
TRAFFIC CONTROL
TYPICAL CUL-DE-SAC

PLOT DATE = 1/18/2017

REVISED - 11-12-14	REGION 2 / DISTRICT 2 STANDARD				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
REVISED - 10-14-11									
REVISED -					CONTRACT NO.				
REVISED -					SCALE: 2,000' / 1" =	SHEET NO.	OF	SHEETS	STA.

MECHANICAL JOINTS FOR CONCRETE PIPE AND BOX CULVERTS

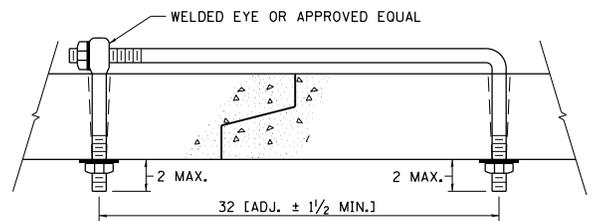
THE CULVERT TIES SHALL BE INCLUDED IN THE COST OF THE CONCRETE PIPE CULVERTS OR THE PRECAST CONCRETE BOX CULVERT. THE MECHANICAL TIES SHALL BE ON THE OUTSIDE OF THE CULVERT. THE NUTS AND WASHERS SHALL BE PLACED ON THE INSIDE OF OF THE CULVERT AND COVERED WITH MASTIC JOINT SEALER CONFORMING TO SECTION 1055 IN THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.



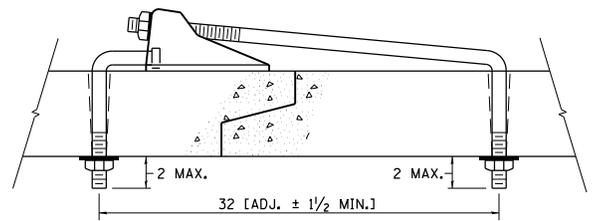
PLACEMENT OF HOLES		
BOX CULVERT FEET	PIPE SIZE INCHES	THREAD DIAMETER
	12	3/8 ROLLED THREADS (SEE NOTE 4)
	15	
	18	
	21	
	24	
	27	
3x2 3x3 4x2 4x3 4x4 5x3 5x4 5x5 6x * 7x * 8x * 9x * 10x *	30	3/4 CUT OR ROLLED
	33	
	36	
	42	
	48	
	54	
	60	
	66	
	72	
	78	
11 X * AND GREATER	84	1 CUT OR ROLLED
	90	
	96	
	102	
	108	
AND GREATER	120	1 1/4
	132	
	138	
	AND GREATER	

NOTES:

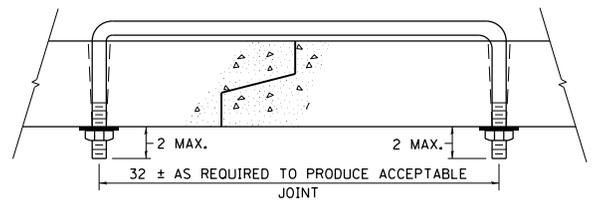
- Holes shall be cast-in or drilled 16 from outside edge of joint.
- Nuts and washers are not required on inside of 27 diam. pipe or less.
- Ties are not required for bell pipe 24 and smaller. On other sizes tie may be inserted from inside.
- Cut threads may be used if washer and nut are used.
- Pipe size listed is inside diam. of round pipe or equivalent diam. of pipe arch or elliptical.
- Galvanizing of ties is required.
- All dimensions are in inches unless otherwise noted.



EYE BOLT TIE



CANOPY TIE

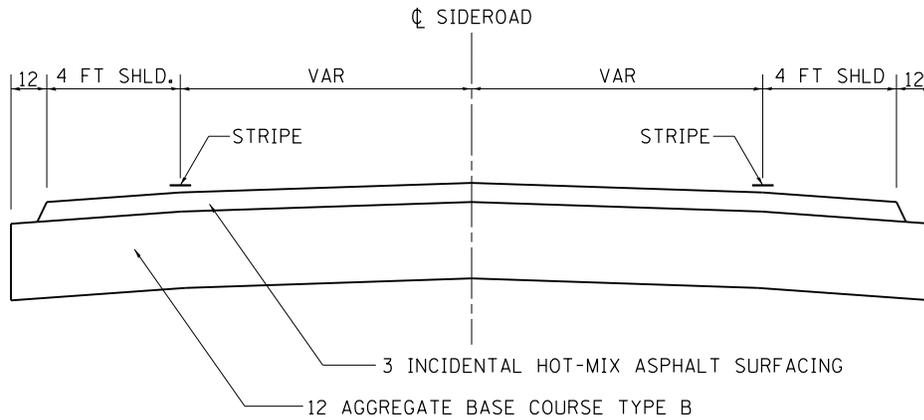
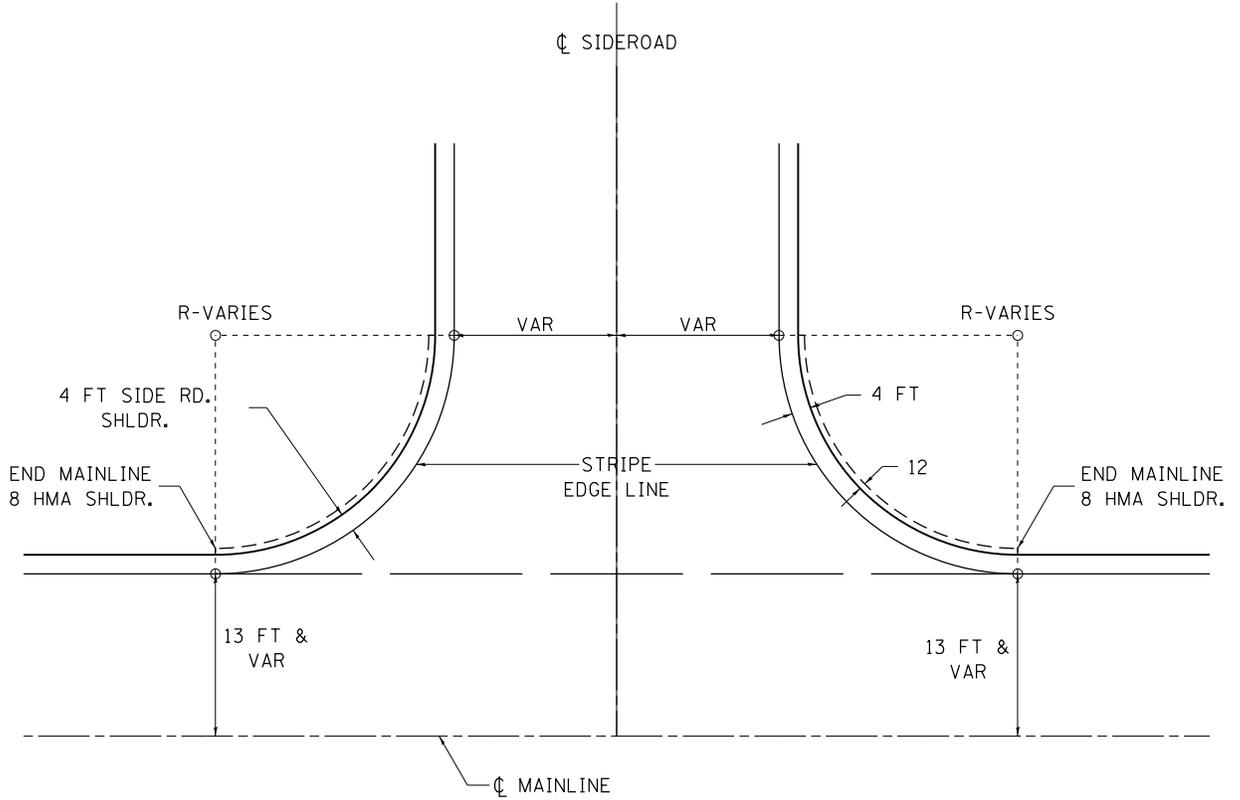


U BOLT TIE

PLOT DATE = 1/18/2017

REVISED - 1-05-16	REGION 2 / DISTRICT 2 STANDARD				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.				
REVISED - 11-12-14									CONTRACT NO.				
REVISED - 10-14-11									FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				
REVISED -					SCALE: 2,0000' / 1" =	SHEET NO.	OF	SHEETS	STA.	TO	STA.		

TYPICAL AGGREGATE BASE SIDEROAD

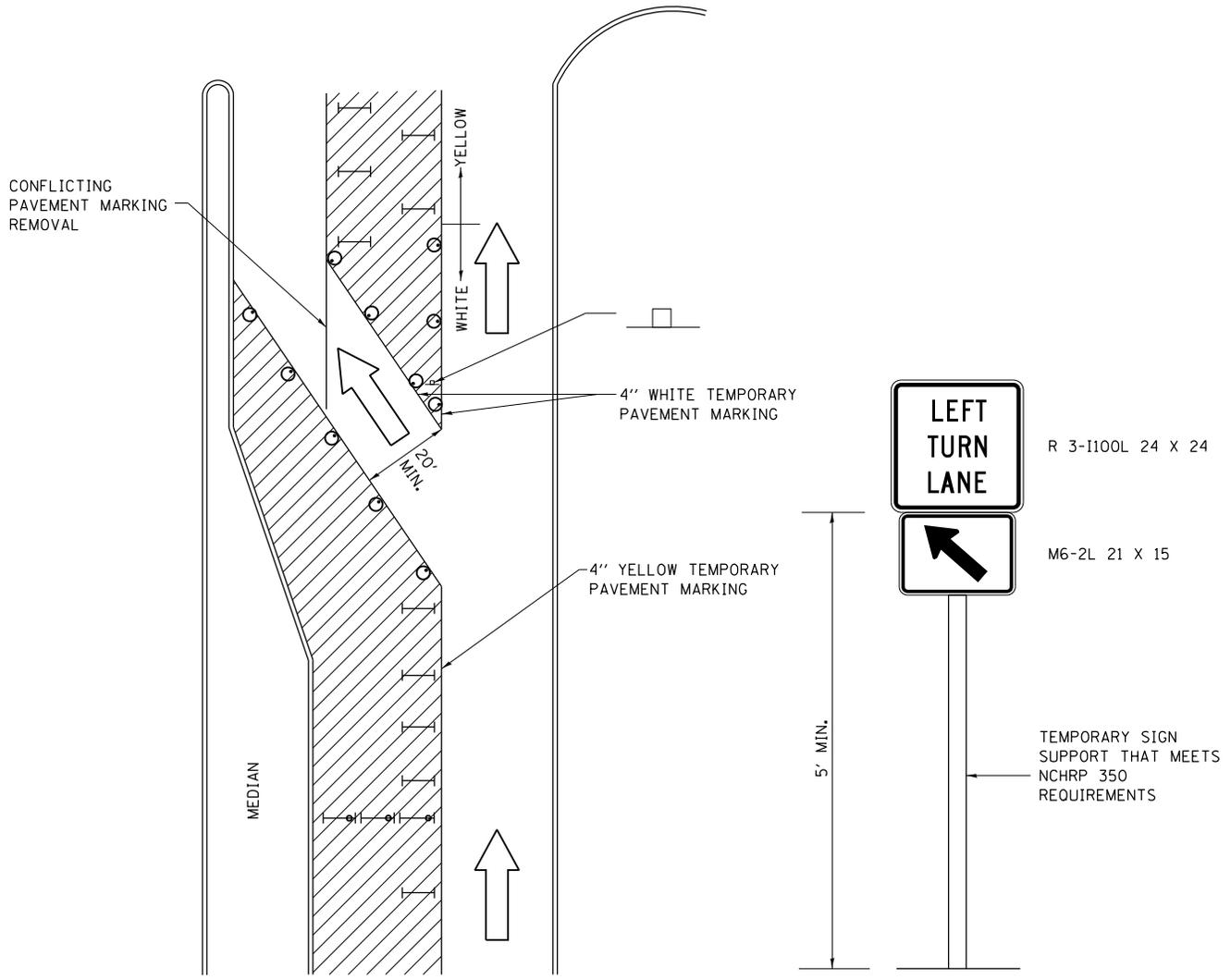


ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

PLOT DATE = 1/18/2017

REVISED - 10-14-11	REGION 2 / DISTRICT 2 STANDARD				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
REVISED -									
REVISED -					CONTRACT NO.				
REVISED -					SCALE: 2,000' / 1" = 1"	SHEET NO.	OF SHEETS	STA. TO STA.	FED. ROAD DIST. NO.

TRAFFIC CONTROL AND PROTECTION AT TURN BAYS (TO REMAIN OPEN TO TRAFFIC)



LEGEND

- WORK AREA
- LANE OPEN TO TRAFFIC
- TYPE I OR II BARRICADE OR DRUM WITH FLASHING BURNING LIGHT
- DRUM OR BARRICADE WITH STEADY BURN LIGHT
- SIGN (SEE DETAIL)
- TYPE I OR II CHECK BARRICADE WITH STEADY LIGHT BURN

GENERAL NOTES

CONES MAY BE SUBSTITUTED FOR BARRICADES OR DRUMS AT HALF THE SPACING DURING DAY OPERATIONS. CONES SHALL BE A MINIMUM OF 28 IN HEIGHT.

STEADY BURNING LIGHTS WILL NOT BE REQUIRED ON BARRICADES OR DRUMS FOR DAY OPERATIONS. ALL LIGHTS WILL BE MONODIRECTIONAL.

TEMPORARY PAVEMENT MARKING SHALL BE PLACED THROUGHOUT THE BARRICADED AREA OF EACH BAY WHERE THE CLOSURE TIME IS GREATER THAN FOURTEEN DAYS.

THIS APPLICATION ALSO APPLIES WHEN WORK IS BEING PERFORMED IN THE RIGHT LANE(S) AND THE RIGHT TURN BAY IS TO REMAIN OPEN. UNDER THIS CONDITION, "RIGHT TURN LANE" R3-100 24 X 24 AND M6-2R 21 X 15 SHALL BE USED.

THESE CONTROLS SHALL SUPPLEMENT MAINLINE TRAFFIC CONTROL FOR LANE CLOSURES. LONGITUDINAL DIMENSIONS MAY BE ADJUSTED TO FIT FIELD CONDITIONS.

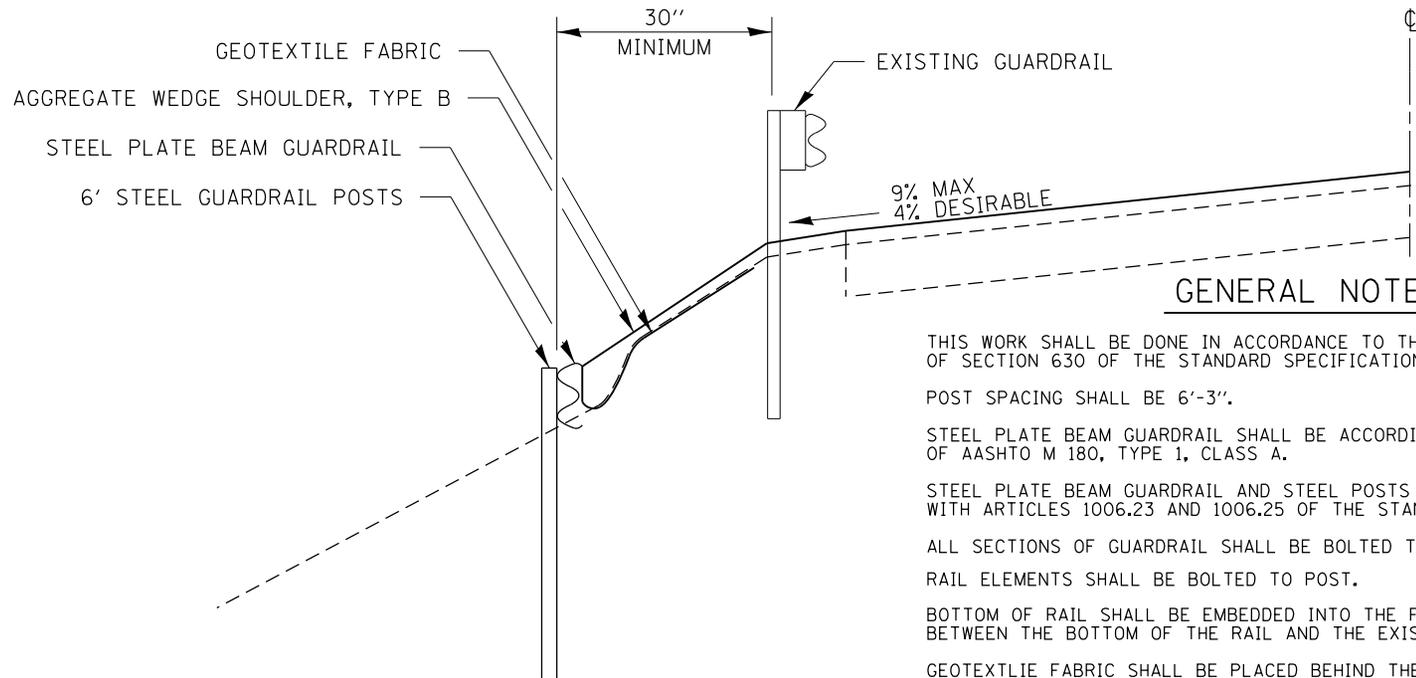
TRAFFIC CONTROL AND PROTECTION AT TURN BAYS (TO REMAIN OPEN TO TRAFFIC) SHALL BE INCLUDED IN THE COST SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

PLOT DATE = 1/18/2017

REVISED - 10-14-11	REGION 2 / DISTRICT 2 STANDARD			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
REVISED -								
REVISED -				CONTRACT NO.				
REVISED -	SCALE: 2,000' / 1" =	SHEET NO. OF SHEETS	STA. TO STA.	FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			

PERIMETER EROSION BARRIER, SPECIAL



GENERAL NOTES

THIS WORK SHALL BE DONE IN ACCORDANCE TO THE APPLICABLE PORTIONS OF SECTION 630 OF THE STANDARD SPECIFICATIONS.

POST SPACING SHALL BE 6'-3".

STEEL PLATE BEAM GUARDRAIL SHALL BE ACCORDING TO THE REQUIREMENTS OF AASHTO M 180, TYPE 1, CLASS A.

STEEL PLATE BEAM GUARDRAIL AND STEEL POSTS SHALL BE IN ACCORDANCE WITH ARTICLES 1006.23 AND 1006.25 OF THE STANDARD SPECIFICATIONS.

ALL SECTIONS OF GUARDRAIL SHALL BE BOLTED TOGETHER.

RAIL ELEMENTS SHALL BE BOLTED TO POST.

BOTTOM OF RAIL SHALL BE EMBEDDED INTO THE FORESLOPE UNTIL NO GAP EXISTS BETWEEN THE BOTTOM OF THE RAIL AND THE EXISTING GROUND.

GEOTEXTILE FABRIC SHALL BE PLACED BEHIND THE RAIL ELEMENT AND ON THE GROUND BEHIND THE EXISTING GUARDRAIL BEFORE PLACING THE AGGREGATE WEDGE SHOULDERS. THE INSTALLATION AND MATERIAL FOR GEOTEXTILE FABRIC SHALL BE ACCORDING TO SECTION 210 OF THE STANDARD SPECIFICATIONS.

AT LOCATIONS WHERE THERE ARE GAPS UNDER THE RAIL ANOTHER RAIL ELEMENT SHALL BE PLACED BELOW THE FIRST RAIL AND BOLTED TO IT. THE ADDITIONAL RAIL ELEMENTS WILL BE PAID AT THE CONTRACT UNIT PRICE PER FOOT FOR STEEL PLATE BEAM GUARD RAIL, TYPE A (SPECIAL).

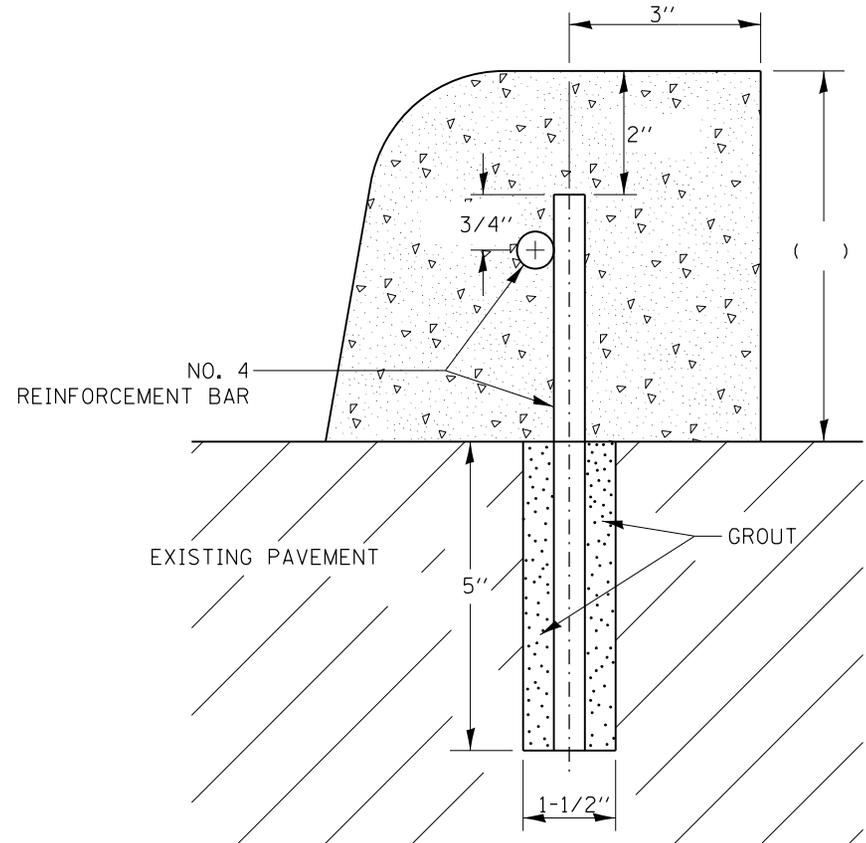
STEEL PLATE BEAM GUARDRAIL, 6' STEEL GUARDRAIL POSTS, AND GEOTEXTILE FABRIC SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER FOOT FOR PERIMETER EROSION BARRIER, SPECIAL.

AGGREGATE SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER TON FOR AGGREGATE WEDGE SHOULDER, TYPE B.

PLOT DATE = 1/18/2017

REVISED - 1-05-16	REGION 2 / DISTRICT 2 STANDARD				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
REVISED - 9-16-11									
REVISED -					CONTRACT NO.				
REVISED -					SCALE: 1.5455' / 1" =	SHEET NO. OF SHEETS	STA. TO STA.	FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT

CONCRETE CURB (SPECIAL)



CONCRETE CURB (SPECIAL) SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 606 OF THE STANDARD SPECIFICATIONS, SUPPLEMENTAL SPECIFICATIONS, STANDARD 606001 AND THIS DRAWING.

CLASS SI CONCRETE SHALL BE USED THROUGHOUT.

HOLES 1-1/2"Ø AND 5" DEEP SHALL BE DRILLED IN THE EXISTING CONCRETE PAVEMENT AT 5'-0" CENTERS. NO. 4 REINFORCEMENT BARS () LONG SHALL BE GROUTED IN THE HOLES AND A NO. 4 REINFORCEMENT BAR SHALL BE INSTALLED LONGITUDINALLY IN THE CURB.

JOINTS OF A TYPE SIMILAR TO THAT IN THE UNDERLYING PAVEMENT (EXPANSION OR CONTRACTION) SHALL BE INSTALLED IN THE CONCRETE CURB IN ALIGNMENT WITH THE JOINTS IN THE PAVEMENT.

THE COST OF ALL MATERIALS AND LABOR REQUIRED TO INSTALL THE JOINTS AND REINFORCEMENT BARS IN THE CURB SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOOT FOR CONCRETE CURB (SPECIAL).

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

PLOT DATE = 1/18/2017

REVISED - 6-27-14	REGION 2 / DISTRICT 2 STANDARD				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
REVISED - 9-16-11									
REVISED -					CONTRACT NO.				
REVISED -	SCALE: 1.5455' / in.	SHEET NO.	OF	SHEETS	STA.	TO STA.	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT

CONCRETE CURB (SPECIAL) 11.4

CONCRETE CURB (SPECIAL) (ADJACENT TO RESURFACING)

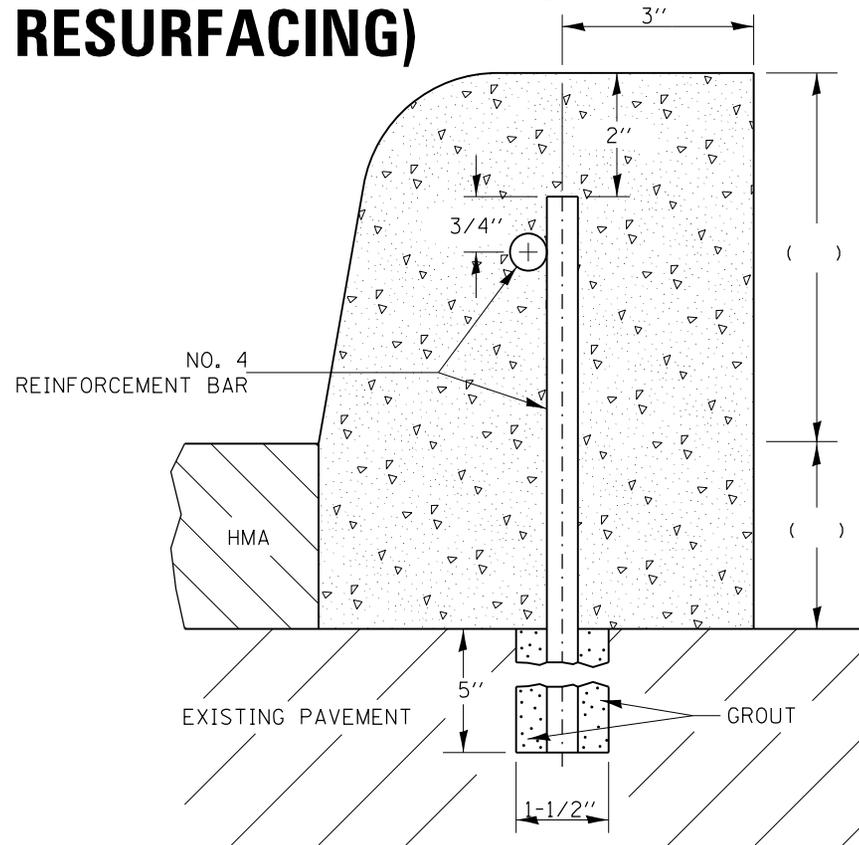
CONCRETE CURB (SPECIAL) SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 606 OF THE STANDARD SPECIFICATIONS, SUPPLEMENTAL SPECIFICATIONS, STANDARD 606001 AND THIS DRAWING.

CLASS SI CONCRETE SHALL BE USED THROUGHOUT.

HOLES 1-1/2"Ø AND 5" DEEP SHALL BE DRILLED IN THE EXISTING CONCRETE PAVEMENT AT 5'-0" CENTERS. NO. 4 REINFORCEMENT BARS () LONG SHALL BE GROUTED IN THE HOLES AND A NO. 4 REINFORCEMENT BAR SHALL BE INSTALLED LONGITUDINALLY IN THE CURB.

JOINTS OF A TYPE SIMILAR TO THAT IN THE UNDERLYING PAVEMENT (EXPANSION OR CONTRACTION) SHALL BE INSTALLED IN THE CONCRETE CURB IN ALIGNMENT WITH THE JOINTS IN THE PAVEMENT.

THE COST OF ALL MATERIALS AND LABOR REQUIRED TO INSTALL THE JOINTS AND REINFORCEMENT BARS IN THE CURB SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOOT FOR CONCRETE CURB (SPECIAL).



ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

PLOT DATE = 1/18/2017

REVISED - 6-27-14	REGION 2 / DISTRICT 2 STANDARD				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
REVISED - 9-16-11									
REVISED -					CONTRACT NO.				
REVISED -					SCALE: 1.5455' / in.	SHEET NO. OF SHEETS	STA. TO STA.	FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT

COMBINATION CONCRETE CURB & GUTTER, TYPE , SPECIAL

COMBINATION CONCRETE CURB AND GUTTER, TYPE SPECIAL SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 606 OF THE STANDARD SPECIFICATIONS, SUPPLEMENTAL SPECIFICATIONS, STANDARD 606001 AND THIS DRAWING.

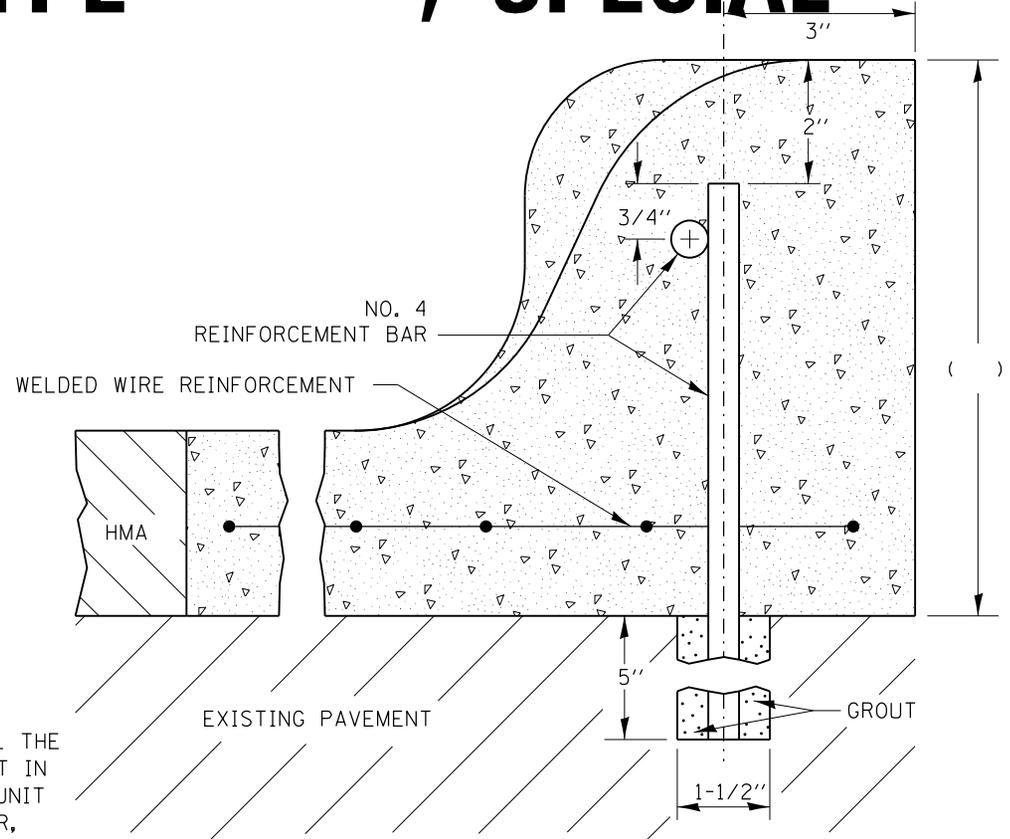
HOLES 1-1/2" Ø AND 5" DEEP SHALL BE DRILLED IN THE EXISTING CONCRETE PAVEMENT AT 5'-0" CENTERS. NO. 4 REINFORCEMENT BARS " LONG SHALL BE GROUTED IN THE HOLES AND A NO. 4 REINFORCEMENT BAR SHALL BE INSTALLED LONGITUDINALLY IN THE CURB.

JOINTS OF A TYPE SIMILAR TO THAT IN THE UNDERLYING PAVEMENT (EXPANSION OR CONTRACTION) SHALL BE INSTALLED IN THE CONCRETE CURB AND GUTTER IN ALIGNMENT WITH THE JOINTS IN THE PAVEMENT.

GUTTER FLAG 12" OR GREATER IN WIDTH SHALL BE REINFORCED WITH WELDED WIRE REINFORCEMENT, 6 x 6 MESH NO. 4 WIRE, NOT WEIGHING LESS THAN 58 lbs/100 sq. ft.

THE COST OF ALL MATERIALS AND LABOR REQUIRED TO INSTALL THE JOINTS, REINFORCEMENT BARS AND WELDED WIRE REINFORCEMENT IN THE CURB AND GUTTER SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE PER FOOT FOR COMBINATION CONCRETE CURB AND GUTTER, TYPE , SPECIAL.

CLASS SI CONCRETE SHALL BE USED THROUGHOUT.



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REVISED - 1-05-16	REGION 2 / DISTRICT 2 STANDARD				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
REVISED - 9-16-11					CONTRACT NO.				
REVISED -	SCALE: 1.5455' / in.	SHEET NO.	OF	SHEETS	STA.	TO STA.	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT
REVISED -									

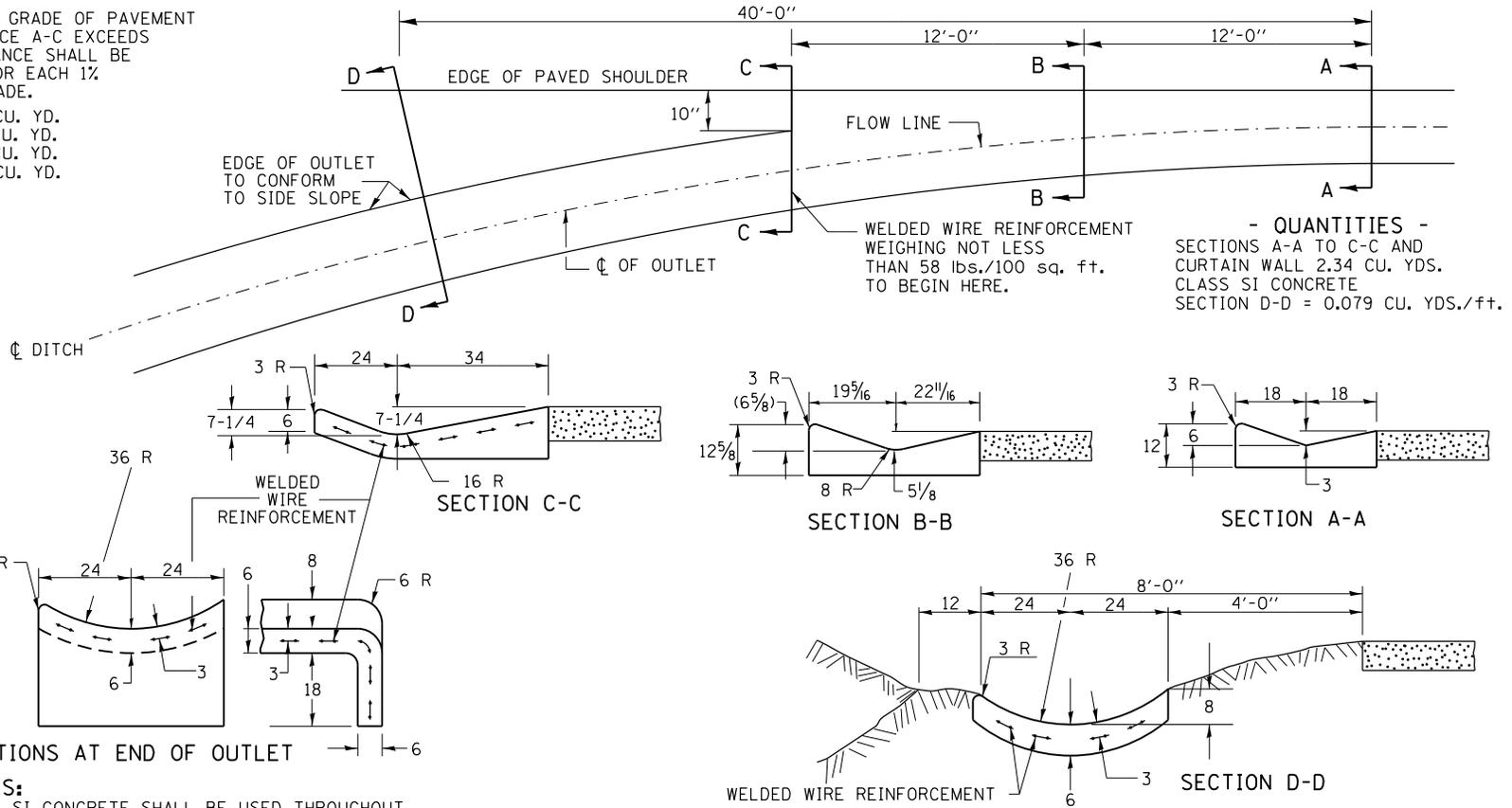
COMBINATION CONCRETE CURB & GUTTER, TYPE , SPECIAL 13.4

GUTTER OUTLET ADJACENT TO STABILIZED SHOULDER

NOTE:

IF THE AVERAGE GRADE OF PAVEMENT FOR THE DISTANCE A-C EXCEEDS 2%, THIS DISTANCE SHALL BE INCREASED 6' FOR EACH 1% INCREASE IN GRADE.

3 1/2	30'	2.93 CU. YD.
4 1/2	36'	3.51 CU. YD.
5 1/2	42'	4.10 CU. YD.
6 1/2	48'	4.68 CU. YD.



- QUANTITIES -
SECTIONS A-A TO C-C AND CURTAIN WALL 2.34 CU. YDS. CLASS SI CONCRETE.
SECTION D-D = 0.079 CU. YDS./ft.

NOTES:

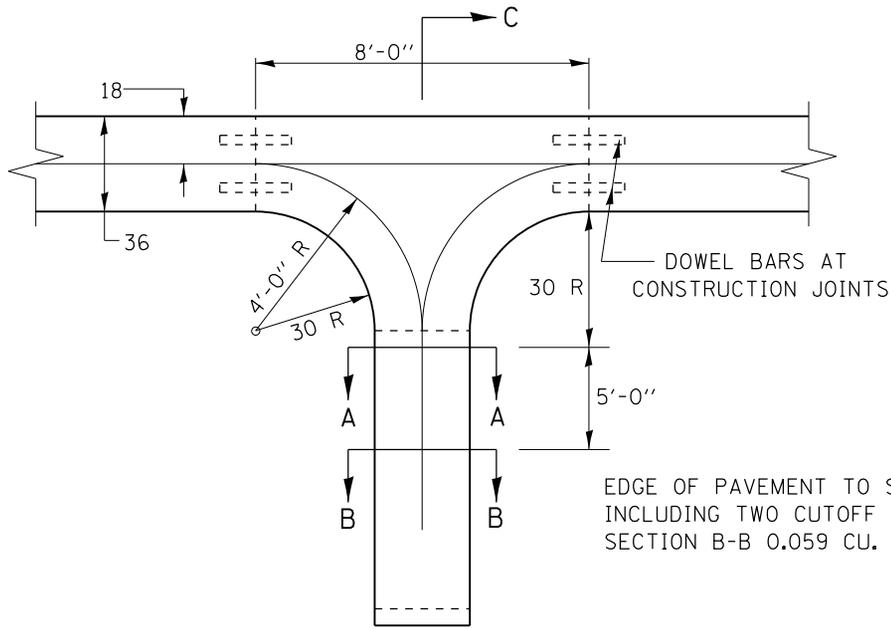
CLASS SI CONCRETE SHALL BE USED THROUGHOUT. THE GUTTER OUTLET WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER CU. YD. FOR CLASS SI CONCRETE (OUTLETS), WHICH PRICE SHALL INCLUDE THE COST OF THE WELDED WIRE REINFORCEMENT

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

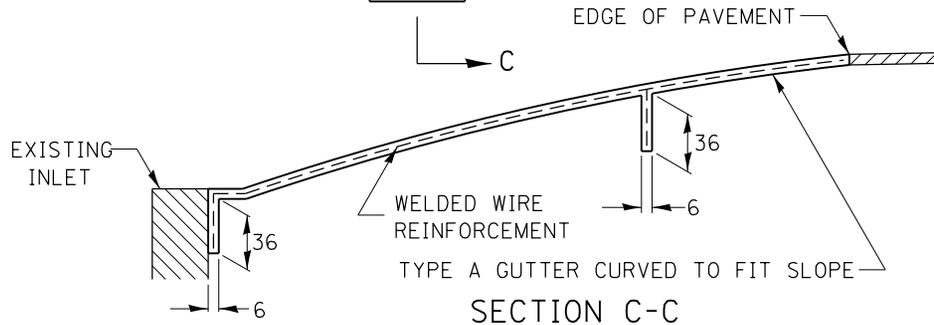
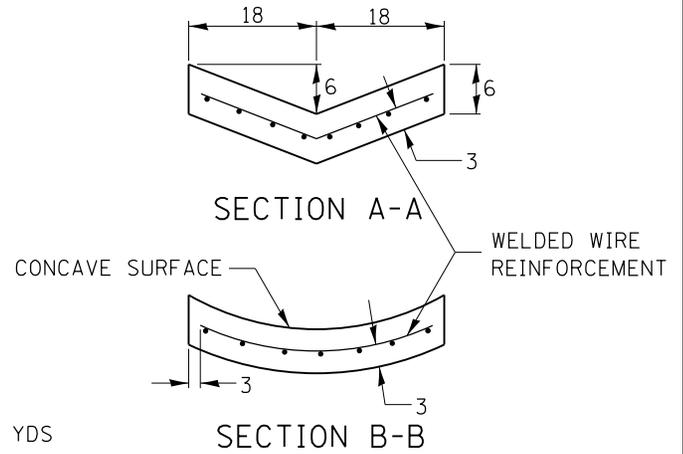
PLOT DATE = 1/18/2017

REVISED - 1-05-16	REGION 2 / DISTRICT 2 STANDARD				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.			
REVISED - 9-30-11									CONTRACT NO.			
REVISED -									FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	
REVISED -	SCALE: 1.5455' / in.	SHEET NO.	OF	SHEETS	STA.	TO STA.						

CONCRETE GUTTER, TYPE A, WITH FLUME



EDGE OF PAVEMENT TO SECTION A-A INCLUDING TWO CUTOFF WALLS 1.02 CU YDS
SECTION B-B 0.059 CU. YD./FT.



SECTION C-C

NOTES:
CLASS SI CONCRETE SHALL BE USED THROUGHOUT. THE GUTTER SHALL BE TIED TO ITS FLUME AS SHOWN. THE FLUME SHALL BE REINFORCED WITH WELDED WIRE REINFORCEMENT HAVING A WEIGHT OF AT LEAST 58 lbs/100 sq. ft.. WITH 6 x 6 MESH, NO. 4 WIRE. FLUME SHALL ALSO HAVE TWO CUTOFF WALLS AS SHOWN. COST OF FLUME PORTION INCLUDING ALL MATERIALS AND LABOR SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER CU. YD. FOR CLASS SI CONCRETE (OUTLET).

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

PLOT DATE = 1/18/2017

REVISED - 1-05-16	REGION 2 / DISTRICT 2 STANDARD				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
REVISED - 6-27-14					CONTRACT NO.				
REVISED - 9-30-11									
REVISED -	SCALE: 1.5455' / in.	SHEET NO.	OF	SHEETS	STA.	TO STA.	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT

CATCH BASIN OR INLETS TO BE ADJUSTED OR RECONSTRUCTED

(DETAILS FOR CURB & GUTTER REPLACEMENT)

CONCRETE CURB AND GUTTER SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 606 OF THE STANDARD SPECIFICATIONS, SUPPLEMENTAL SPECIFICATIONS, STANDARD 606001 AND THIS DRAWING.

CLASS SI CONCRETE SHALL BE USED THROUGHOUT. A HOLE 1-1/2 IN DIAMETER AND 9 DEEP SHALL BE DRILLED IN THE EXISTING CONCRETE CURB AS SHOWN. A 1-1/4 X 18 SMOOTH DOWEL BAR SHALL BE GROUTED IN THE HOLE LONGITUDINALLY.

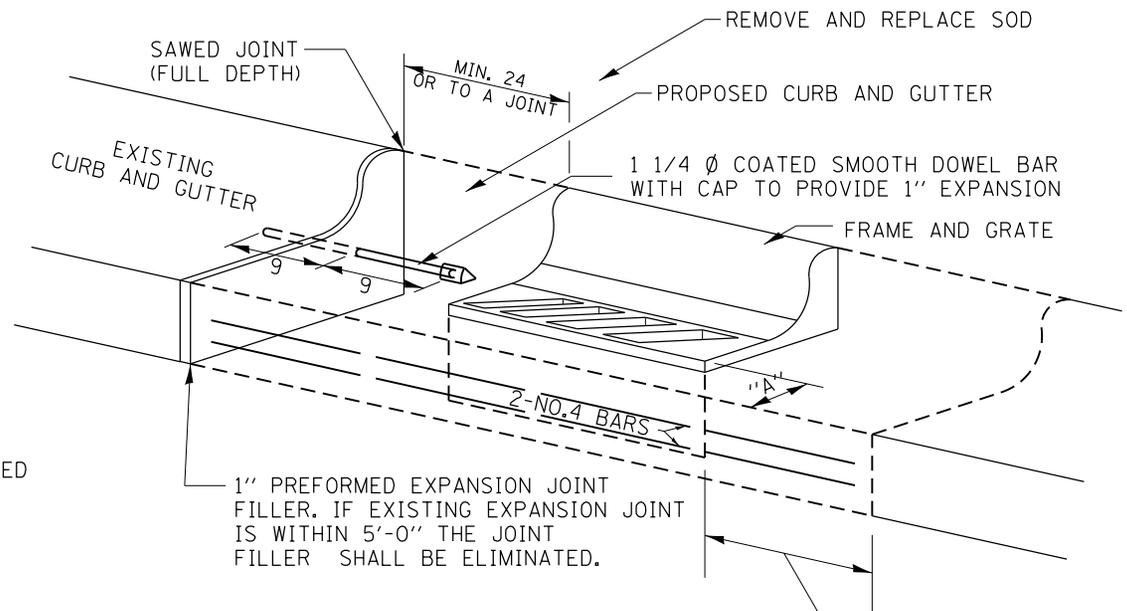
JOINTS OF A TYPE SIMILAR TO THAT IN THE UNDERLYING PAVEMENT (EXPANSION OR CONTRACTION) SHALL BE INSTALLED IN THE CONCRETE CURB IN ALIGNMENT WITH THE JOINTS IN THE PAVEMENT.

THE PROPOSED CONFIGURATION OF THE CURB AND GUTTER SHALL MATCH THAT REMOVED.

THE LOCATION OF THE DOWEL BAR SHALL BE DETERMINED BY THE ENGINEER.

ALL EXISTING TIE BARS IN EDGE OF PAVEMENT SLAB THRU REPLACEMENT AREA SHALL BE CUT OFF.

THE WORK SHALL BE DONE IN ACCORDANCE WITH SECTION 602 OF THE STANDARD SPECIFICATIONS AND INCLUDES THE REMOVAL AND REPLACEMENT OF SOD, CONCRETE PAVEMENT AND/OR CURB AND GUTTER ADJACENT TO CATCH BASINS OR INLETS TO BE ADJUSTED OR RECONSTRUCTED AND SHALL BE INCLUDED IN THE PAY ITEM OF CATCH BASINS OR INLETS TO BE ADJUSTED OR RECONSTRUCTED AS SPECIFIED.



WHEN "A" IS GREATER THAN 2', 2-NO. 4 BARS SHALL BE PLACED AS SHOWN.

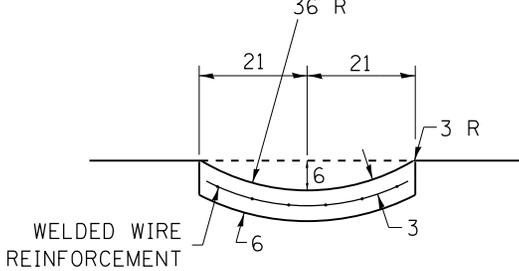
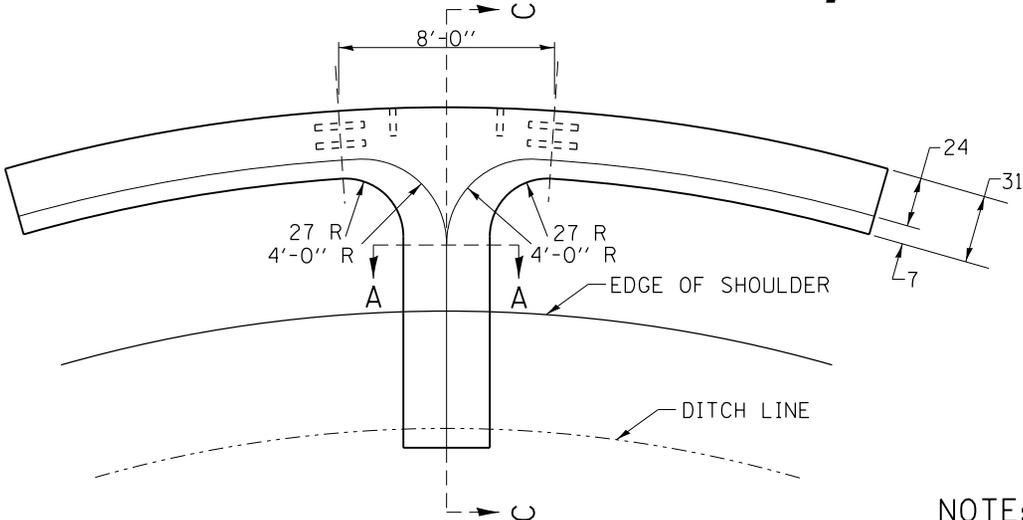
SAME REPAIR AS INDICATED ON OTHER SIDE OF FRAME AND GRATE.

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PLOT DATE = 1/18/2017

REVISED - 9-30-11	REGION 2 / DISTRICT 2 STANDARD				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
REVISED -									
REVISED -					CONTRACT NO.				
REVISED -					SCALE: 1.5455' / in.	SHEET NO. OF SHEETS	STA. TO STA.	FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT

CURB AND GUTTER OUTLET, SPECIAL



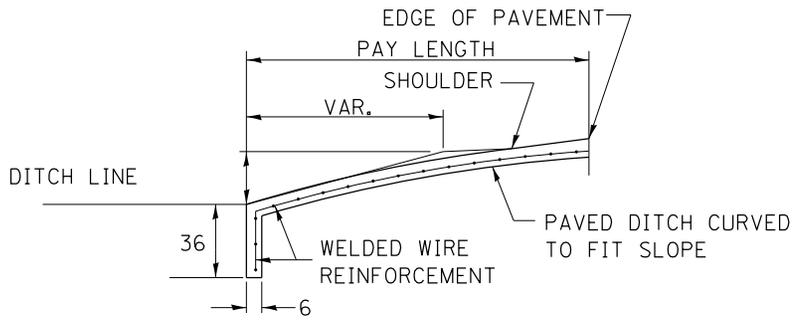
QUANTITY OF CONCRETE
SECTION A-A = 0.07 CU.YD./FT.
8' SECTION OF CURB & GUTTER UP TO
SECTION A-A = 0.75 CU.YD.

SECTION A-A

NOTE:

CLASS SI CONCRETE SHALL BE USED THROUGHOUT. CURB AND GUTTER OUTLET SHALL BE TIED TO PAVEMENT SLAB WITH 2 TIE BARS, 30 LONG - 30 CENTERS. OUTLET SHALL BE TIED TO CURB AND GUTTER AT CONTRACTION JOINTS AS SHOWN. GUTTER OUTLET AND PAVED DITCH SHALL BE REINFORCED WITH WELDED WIRE REINFORCEMENT HAVING A WEIGHT OF AT LEAST 58 lbs/100 sq. ft. WITH 6 x 6 MESH, NO. 4 WIRE. COST TO BE INCLUDED IN THE UNIT PRICE PER CUBIC YARD FOR CLASS SI CONCRETE (OUTLET).

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

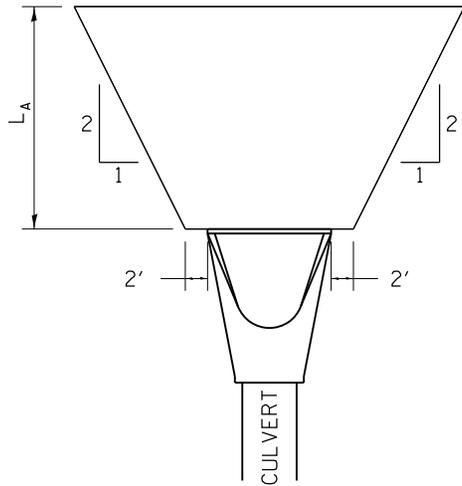


SECTION C-C

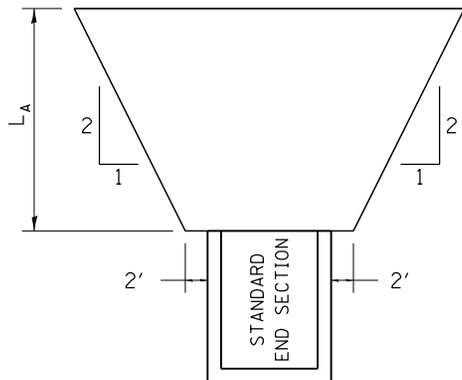
PLOT DATE = 1/18/2017

REVISED - 1-05-16	REGION 2 / DISTRICT 2 STANDARD				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
REVISED - 9-30-11					CONTRACT NO.				
REVISED -					FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				
REVISED -	SCALE: 1.5455' / in.	SHEET NO.	OF SHEETS	STA.	TO STA.				

RIPRAP AT END SECTIONS



FLARED END SECTION

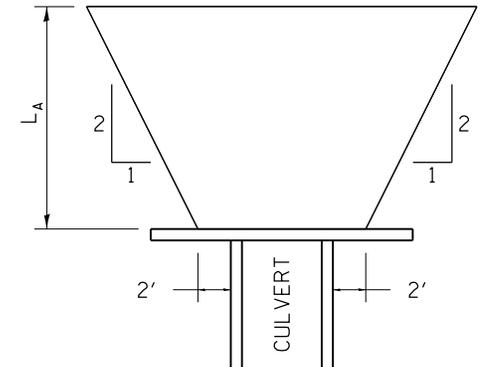


STANDARD END SECTION

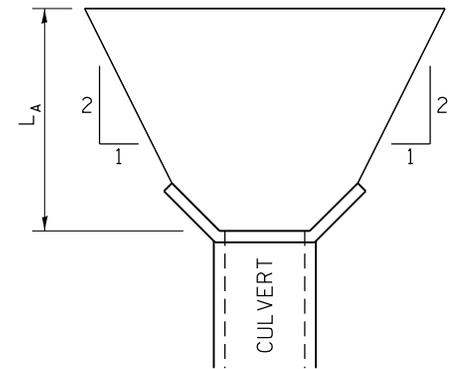
L_A = APRON LENGTH (ft)

IF THE CULVERT OUTLETS INTO A DEFINED CHANNEL, RIPRAP BANK TO BANK FOR LENGTH (L_A).

STANDARD END SECTION:
542001 (PIPE), 542011 (ELLIPTICAL)
DISTRICT STANDARD 10.1 (BOX).



CULVERT WITH HEADWALL

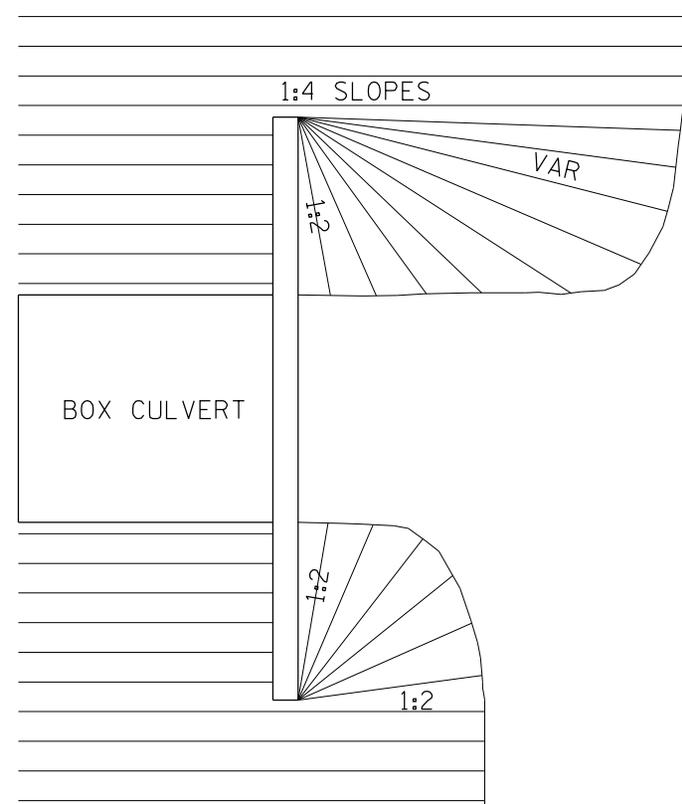
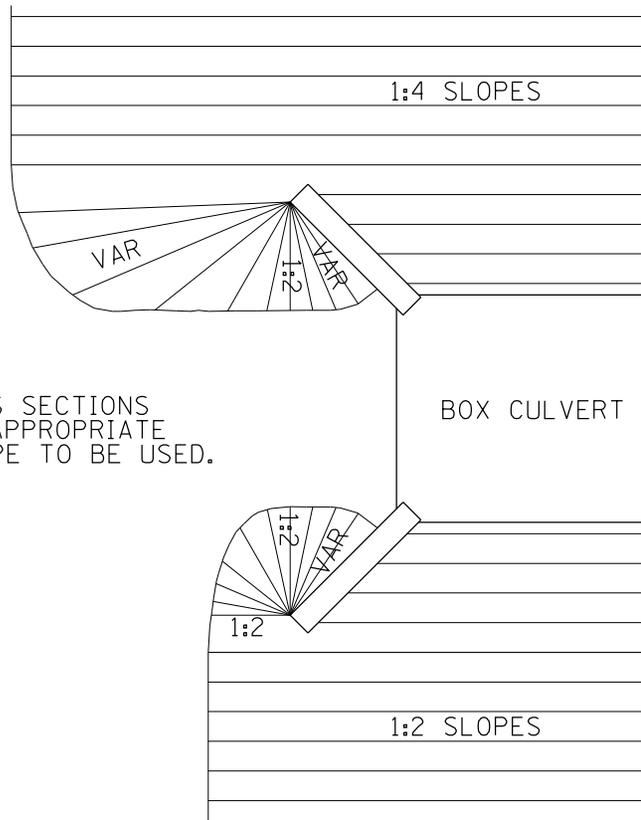


CULVERT WITH WING WALLS

PLOT DATE = 1/18/2017

REVISED - 7-13-16	REGION 2 / DISTRICT 2 STANDARD				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.			
REVISED - 11-12-14									CONTRACT NO.			
REVISED - 2-10-14					SCALE: 1.5455' / in.	SHEET NO.	OF	SHEETS	STA.	TO STA.	FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT
REVISED -												

GRADING AROUND WINGWALLS



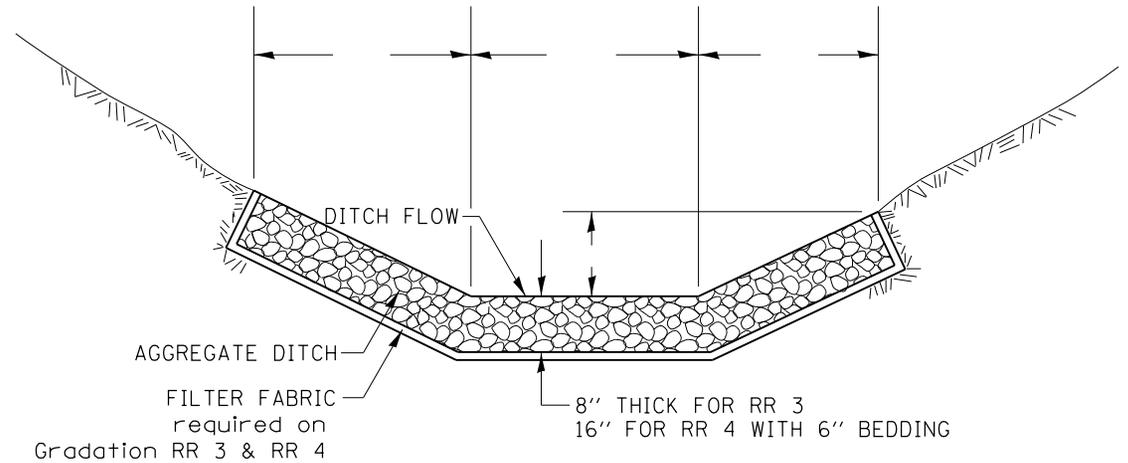
NOTES

SEE CROSS SECTIONS FOR THE APPROPRIATE FRONTSLOPE TO BE USED.

PLOT DATE = 1/18/2017

REVISED - 5-27-09	REGION 2 / DISTRICT 2 STANDARD				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
REVISED -									
REVISED -					CONTRACT NO.				
REVISED -					SCALE: 1.5455' / in.	SHEET NO.	OF	SHEETS	STA.

AGGREGATE DITCH FOR FLEXIBLE DITCH LINING



THIS WORK SHALL BE DONE IN ACCORDANCE WITH SECTION 281. AGGREGATE DITCH WILL BE MEASURED FOR PAYMENT IN PLACE AND THE AREA COMPUTED IN SQUARE YARDS OF ACTUAL SURFACE AREA.

AGGREGATE DITCH WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE YARD FOR STONE RIPRAP CLASS A3 OR STONE RIPRAP CLASS A4 THE FILTER FABRIC SHALL BE ACCORDING TO SECTION 282. FILTER FABRIC WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE YARD FOR FILTER FABRIC.

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

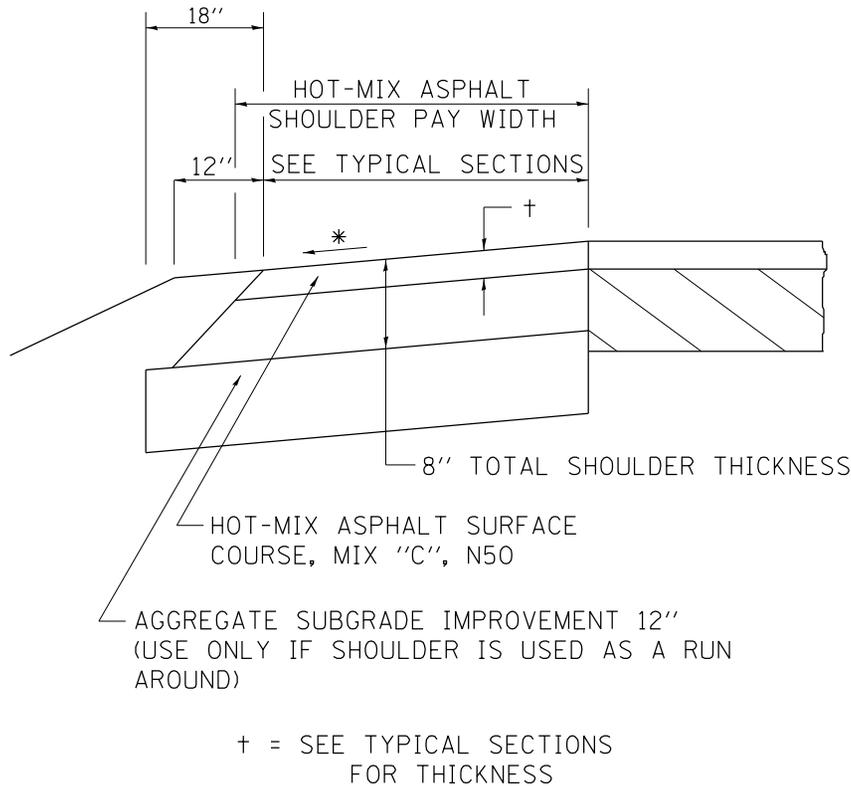
PLOT DATE = 1/18/2017

REVISED - 7-05-12	REGION 2 / DISTRICT 2 STANDARD				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
REVISED -									
REVISED -					CONTRACT NO.				
REVISED -					SCALE: 1.5455' / in.	SHEET NO.	OF	SHEETS	STA.

AGGREGATE DITCH FOR FLEXIBLE DITCH LINING

21.4

HOT-MIX ASPHALT SHOULDER



GENERAL NOTES

THE HOT-MIX ASPHALT SHOULDER SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 482 EXCEPT THE TOP LIFT SHALL BE HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50. THE WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER TON FOR HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50 AND SQUARE YARD FOR HOT-MIX ASPHALT SHOULDERS OF THE THICKNESS SPECIFIED.

USE HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50. WHEN RESURFACING EXISTING HOT-MIX ASPHALT SHOULDERS. THE THICKNESS IS SHOWN ON THE TYPICAL SECTIONS. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER TON FOR HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50.

REMOVAL OF MATERIAL FOR PLACEMENT OF THE HOT-MIX ASPHALT SHOULDER TO BE PAID FOR IN UNITS FOR EXCAVATING AND GRADING EXISTING SHOULDERS OR IN CUBIC YARDS FOR EARTH EXCAVATION OR EARTH EXCAVATION WIDENING.

* 4% WHEN MAINLINE IS ON TANGENT. FOR CROSS SLOPE ON SUPERELEVATION SECTION, SEE HIGHWAY STANDARD 482001 OR 482006.

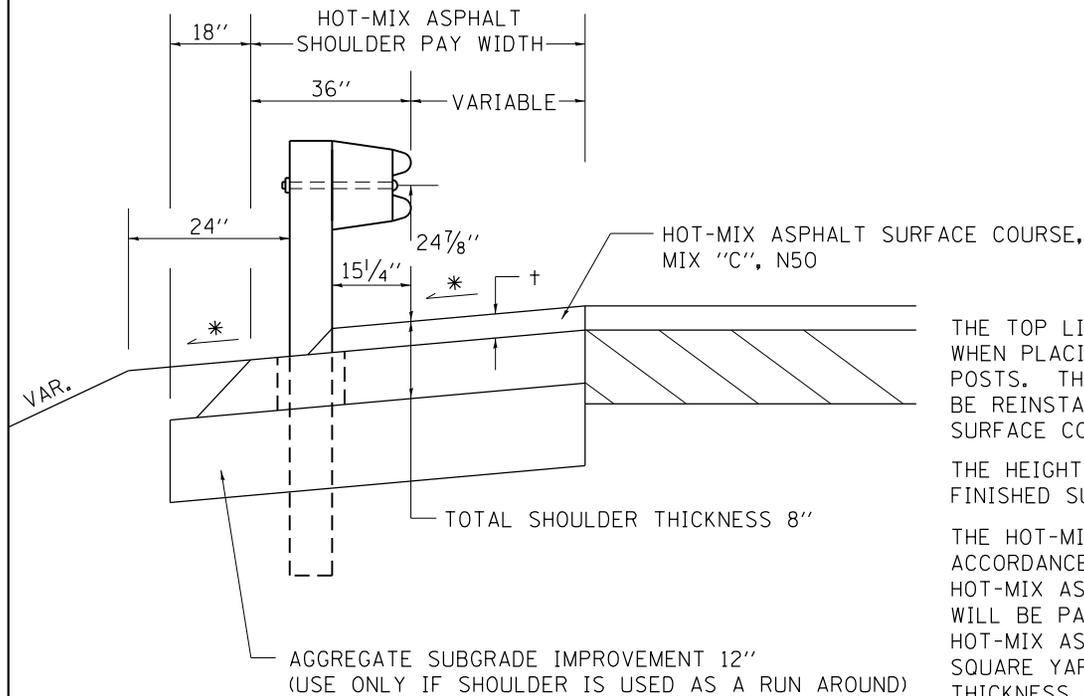
PLOT DATE = 1/18/2017

REVISED - 1-05-16	REGION 2 / DISTRICT 2 STANDARD				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
REVISED - 3-13-13									
REVISED -					CONTRACT NO.				
REVISED -					SCALE: 1.5455' / in.	SHEET NO.	OF	SHEETS	STA.

HOT-MIX ASPHALT SHOULDER

22.4

DETAIL OF HOT-MIX ASPHALT SHOULDER AT GUARDRAIL



† = SEE TYPICAL SECTIONS FOR THICKNESS

GENERAL NOTES

THE TOP LIFT SHALL NOT BE PLACED BEHIND THE GUARDRAIL POSTS. WHEN PLACING THE TOP LIFT THE RAIL MUST BE REMOVED FROM THE POSTS. THE POST SHALL NOT BE REMOVED. THE RAIL ELEMENT SHALL BE REINSTALLED WITHIN 72 HOURS OF THE COMPLETION OF THE SURFACE COURSE.

THE HEIGHT OF THE GUARDRAIL SHALL BE SET $24\frac{7}{8}$ " FROM THE FINISHED SURFACE.

THE HOT-MIX ASPHALT SHOULDER SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 482 EXCEPT THE TOP LIFT SHALL BE HOT-MIX ASPHALT SURFACE COURSE, MIXTURE C, N50. THE WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER TON FOR HOT-MIX ASPHALT SURFACE COURSE, MIXTURE "C", N50 AND SQUARE YARD FOR HOT-MIX ASPHALT SHOULDERS OF THE THICKNESS SPECIFIED. THE REMOVAL & REINSTALLATION OF THE GUARDRAIL WILL BE INCLUDED IN THE COST OF THE HOT-MIX ASPHALT SURFACE COURSE, MIXTURE C, N50.

* 4% WHEN MAINLINE IS ON TANGENT. FOR CROSS SLOPE ON SUPERELEVATED SECTION, SEE HIGHWAY STANDARD 482001 OR 482006.

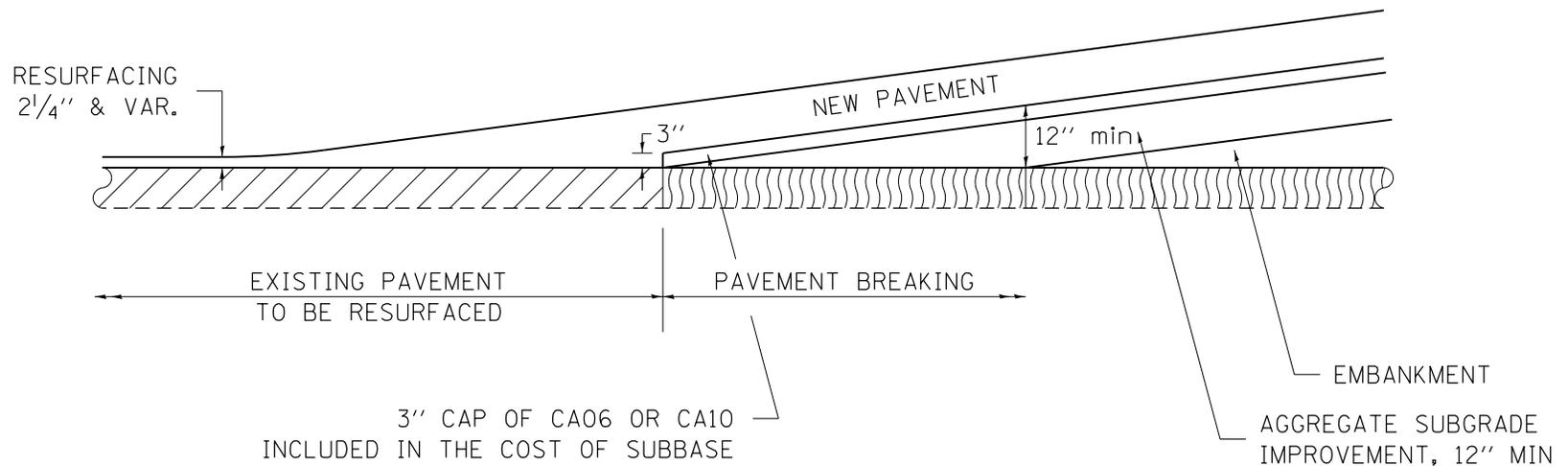
PLOT DATE = 1/18/2017

REVISED - 1-05-16	REGION 2 / DISTRICT 2 STANDARD				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
REVISED - 6-27-14									
REVISED - 8-27-13					CONTRACT NO.				
REVISED - 3-13-13					SCALE: 1.5455' / in.	SHEET NO.	OF SHEETS	STA. TO STA.	FED. ROAD DIST. NO.

DETAIL OF HOT-MIX ASPHALT SHOULDER AT GUARDRAIL

23.4

PAVEMENT BREAKING DETAIL

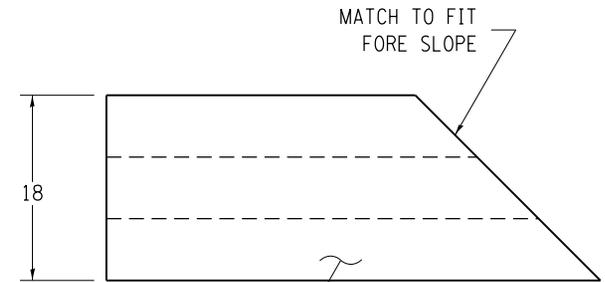
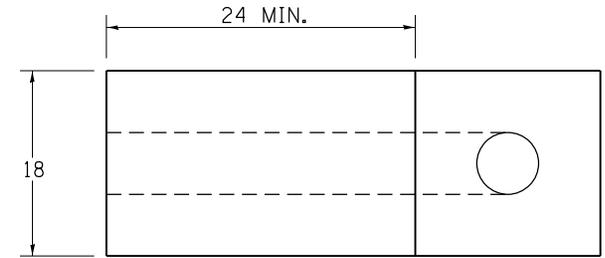
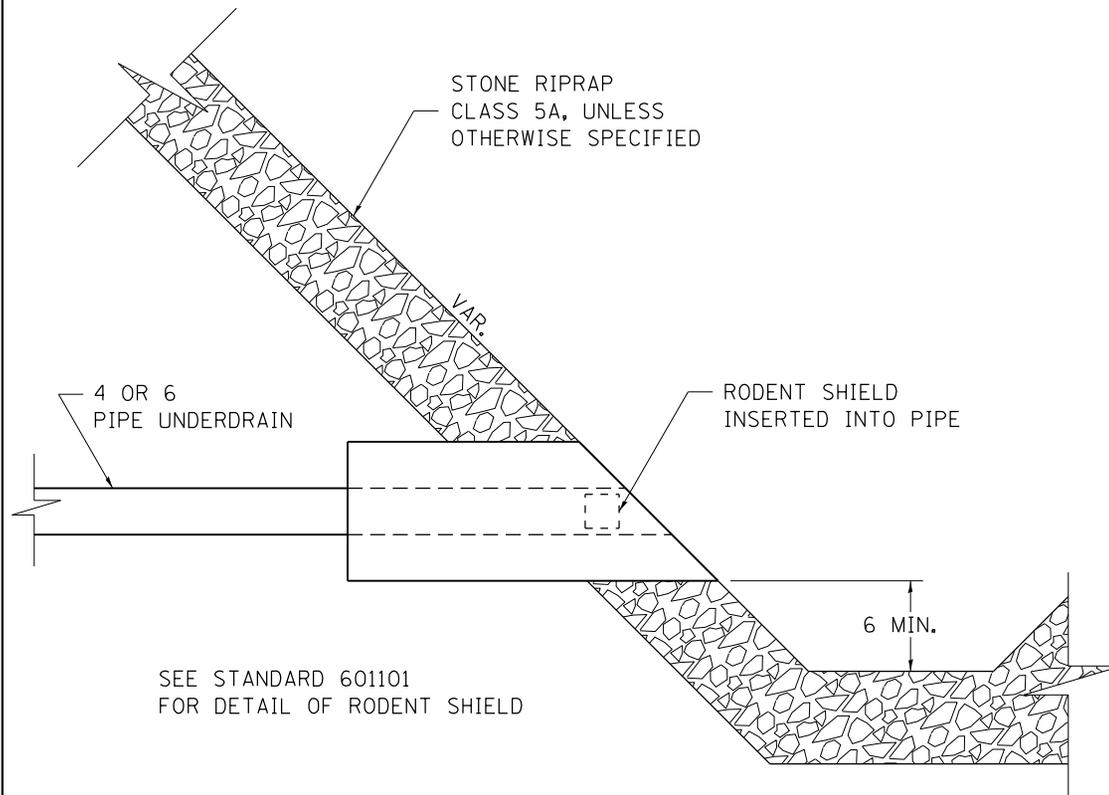


PLOT DATE = 1/18/2017

REVISED - 3-19-13	REGION 2 / DISTRICT 2 STANDARD				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.			
REVISED -												
REVISED -									CONTRACT NO.			
REVISED -					SCALE: 1.5455' / in.	SHEET NO.	OF	SHEETS	STA.	TO STA.	FED. ROAD DIST. NO.	ILLINOIS

PAVEMENT BREAKING DETAIL 24.4

CONCRETE HEADWALLS FOR PIPE DRAINS



CLASS SI CONCRETE

ALL DIMENSIONS ARE IN INCHES UNLESS
OTHERWISE NOTED.

PLOT DATE = 1/18/2017

REVISED - 11-12-14	REGION 2 / DISTRICT 2 STANDARD				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
REVISED - 10-03-11									
REVISED -					CONTRACT NO.				
REVISED -					SCALE: 1.5455' / in.	SHEET NO.	OF	SHEETS	STA.

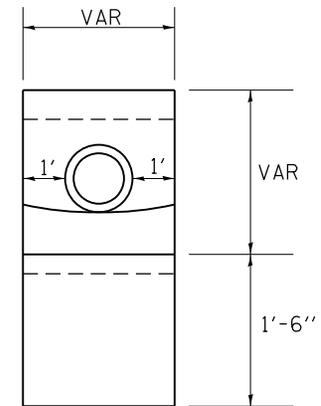
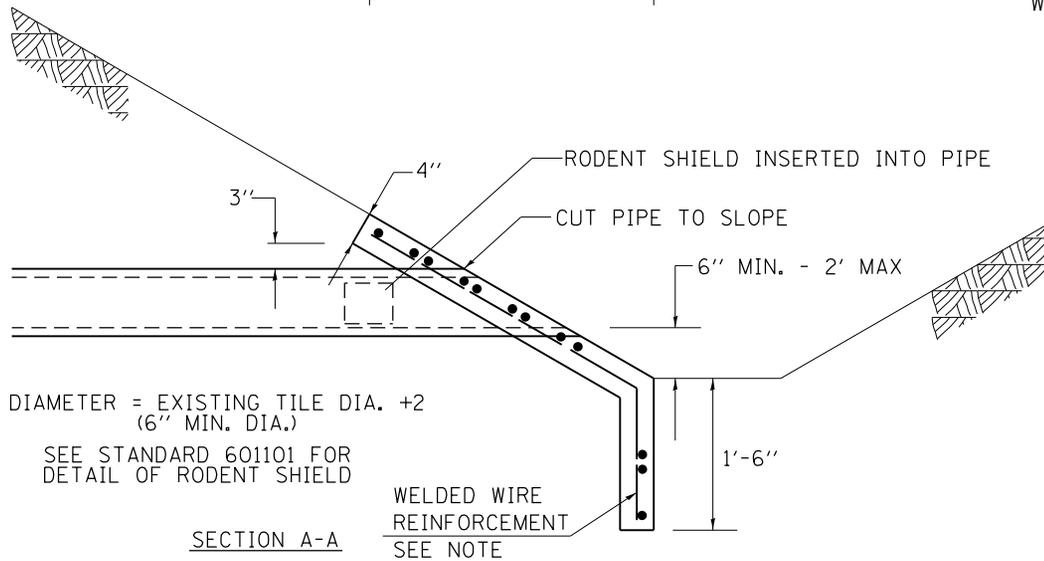
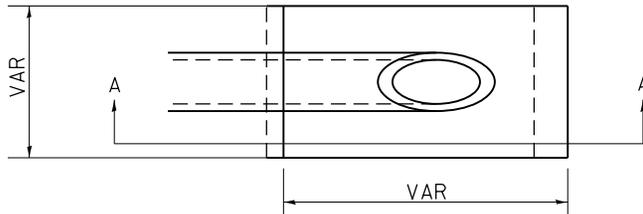
CONCRETE HEADWALLS FOR PIPE DRAINS

27.4

CAST-IN-PLACE REINFORCED CONCRETE END SECTIONS

NOTES

1. ANY STORM SEWER OR FIELD TILE OUTLET INTO A DITCH SHALL HAVE A HEADWALL BUILT IN ACCORDANCE WITH THIS DETAIL.
2. COST OF FURNISHING AND INSTALLING WELDED WIRE REINFORCEMENT SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE EACH OF THE SIZE SPECIFIED. WELDED WIRE REINFORCEMENT TO WEIGH NOT LESS THAN 58 lbs/100 sq. ft.



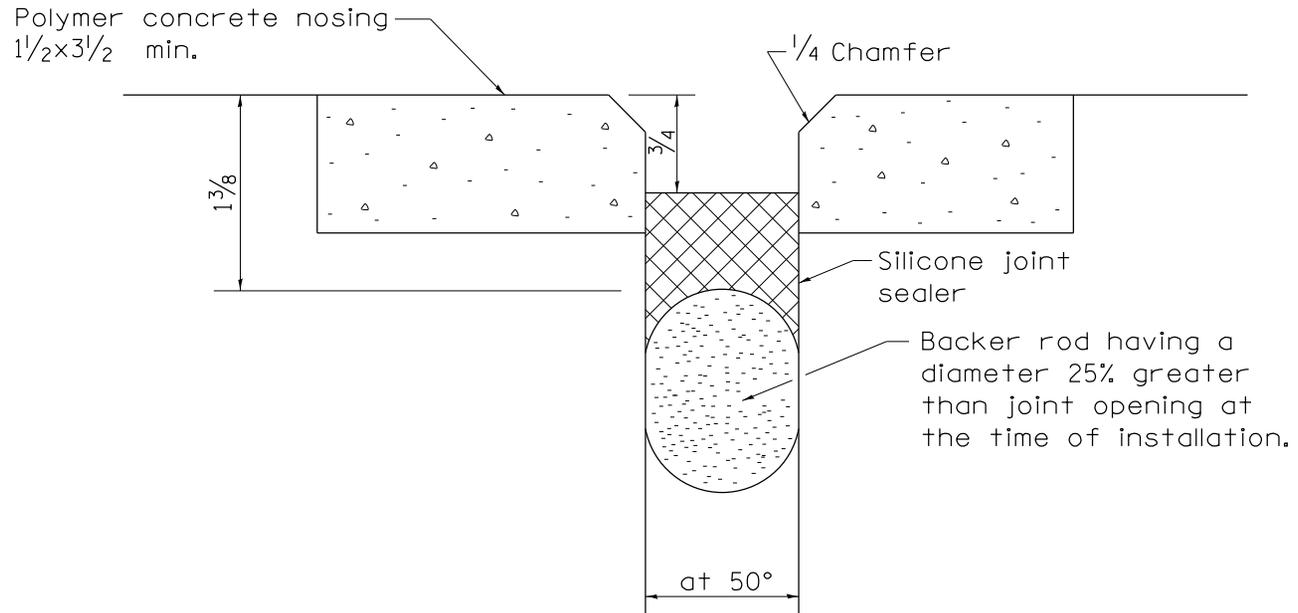
PLOT DATE = 1/18/2017

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REVISED - 10-09-12									CONTRACT NO.	
REVISED -					FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT			
REVISED -	SCALE: 1.5455' / in.	SHEET NO.	OF	SHEETS	STA.	TO STA.				

CAST-IN-PLACE REINFORCED CONCRETE END SECTIONS

28.4

SILICONE JOINT SEAL (CONCRETE DETAILS)

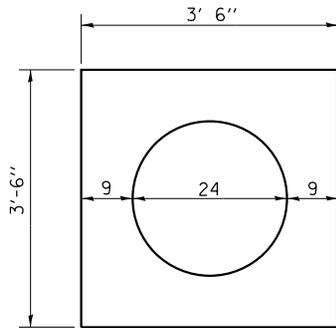


ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

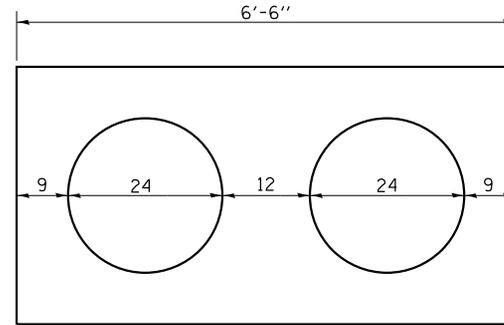
PLOT DATE = 1/18/2017

REVISED - 10-03-11	REGION 2 / DISTRICT 2 STANDARD				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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REVISED -					CONTRACT NO.				
REVISED -					SCALE: 1.5455' / in.	SHEET NO.	OF	SHEETS	STA.

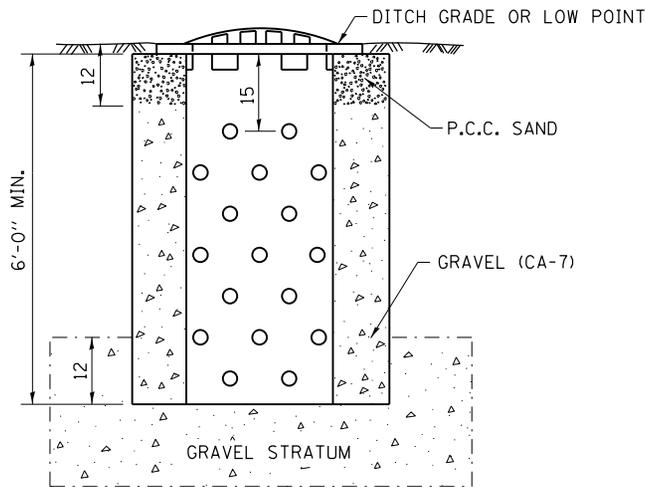
STONE WELLS, SPECIAL



PLAN
SINGLE STONE WELL



PLAN
DOUBLE STONE WELL



NOTE:

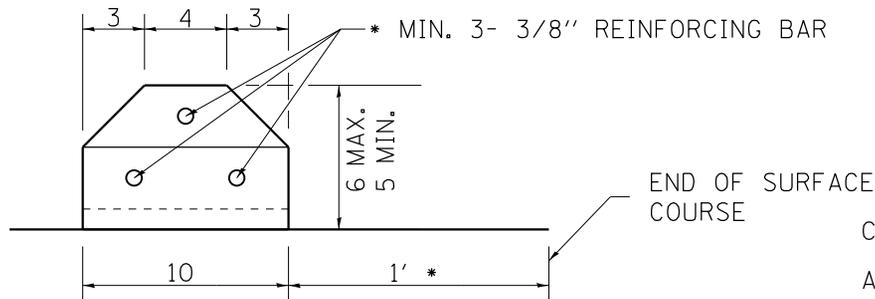
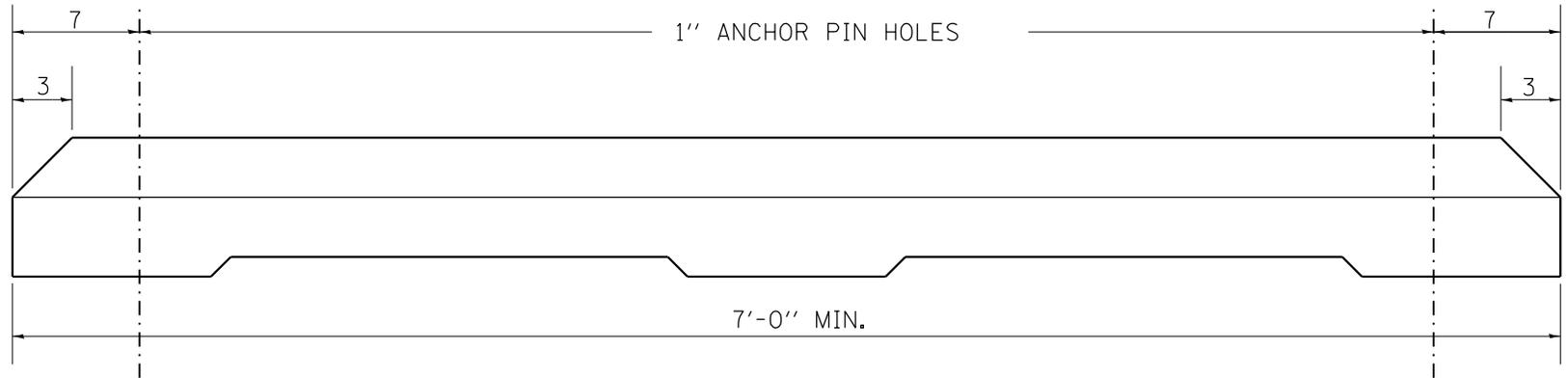
THE INSIDE LINER OF THE STONE WELL SHALL BE A 24 CORRUGATED METAL PIPE OF THE SAME QUALITY AS SPECIFIED FOR PIPE CULVERTS, TYPE I. THE PERFORATIONS SHALL BEGIN 15 FROM THE TOP OF THE STONE WELL AT THE RATE OF 4 HOLES PER SQUARE FOOT. THE SIZE OF THE HOLES SHALL NOT BE LESS THAN 5/16 OR MORE THAN 5/8 DIAMETER. DOUBLE STONE WELL TO BE PAID FOR AS TWO (2) STONE WELLS. STANDARD GRATE TYPE 8 (STD. 604036) WILL BE USED. THE CONTRACT UNIT PRICE FOR STONE WELLS, SPECIAL SHALL INCLUDE ALL MATERIALS AND LABOR FOR THE COMPLETE IN PLACE STONE WELL.

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

PLOT DATE = 1/18/2017

REVISED - 6-27-14	REGION 2 / DISTRICT 2 STANDARD				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
REVISED - 10-03-11									CONTRACT NO.
REVISED -					FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
REVISED -	SCALE: 1.5455' / in.	SHEET NO.	OF	SHEETS	STA.	TO STA.			

PARKING BLOCKS



* OR AS DIRECTED BY THE ENGINEER.

GENERAL NOTES

CLASS SI CONCRETE SHALL BE USED THROUGHOUT.

ANCHOR PINS SHALL BE 3/4 DIAMETER, 36 LONG.

THE COST OF THE MATERIAL, LABOR AND EQUIPMENT NECESSARY TO INSTALL THE PARKING BLOCKS WITH ANCHOR PINS SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE PER EACH FOR PARKING BLOCKS.

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

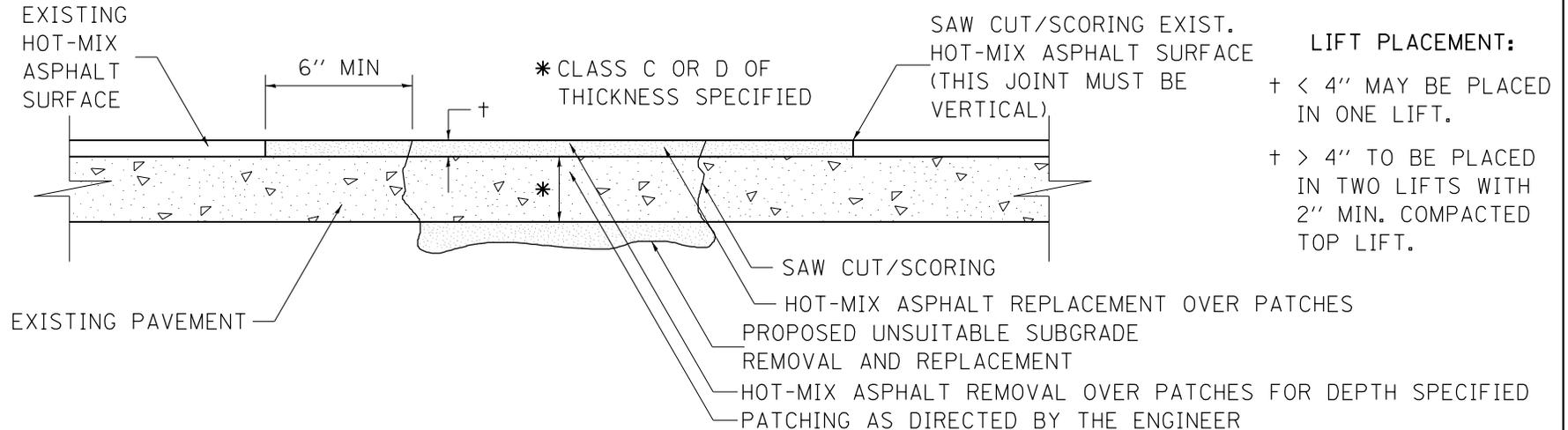
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REVISED -										
REVISED -										
REVISED -										
SCALE: 1.5455' / in.	SHEET NO.	OF	SHEETS	STA.	TO STA.	CONTRACT NO.				
						FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

PARKING BLOCKS

31.4

PAVEMENT PATCHING FOR HOT-MIX ASPHALT SURFACED PAVEMENT



SEQUENCE OF CONSTRUCTION:

1. REMOVE THE EXISTING HOT-MIX ASPHALT SURFACE.
2. RESIDENT ENGINEER WILL DETERMINE IF LOCATION IS TO BE PATCHED OR TO ONLY REPLACE HOT-MIX ASPHALT SURFACE.
3. REMOVE AND REPLACE FULL DEPTH PATCHES AT LOCATIONS DIRECTED BY THE ENGINEER.
4. REPLACE HOT-MIX ASPHALT SURFACE OVER FULL DEPTH PATCHES AND AT LOCATIONS OF HOT-MIX ASPHALT SURFACE REMOVAL.

GENERAL NOTES:

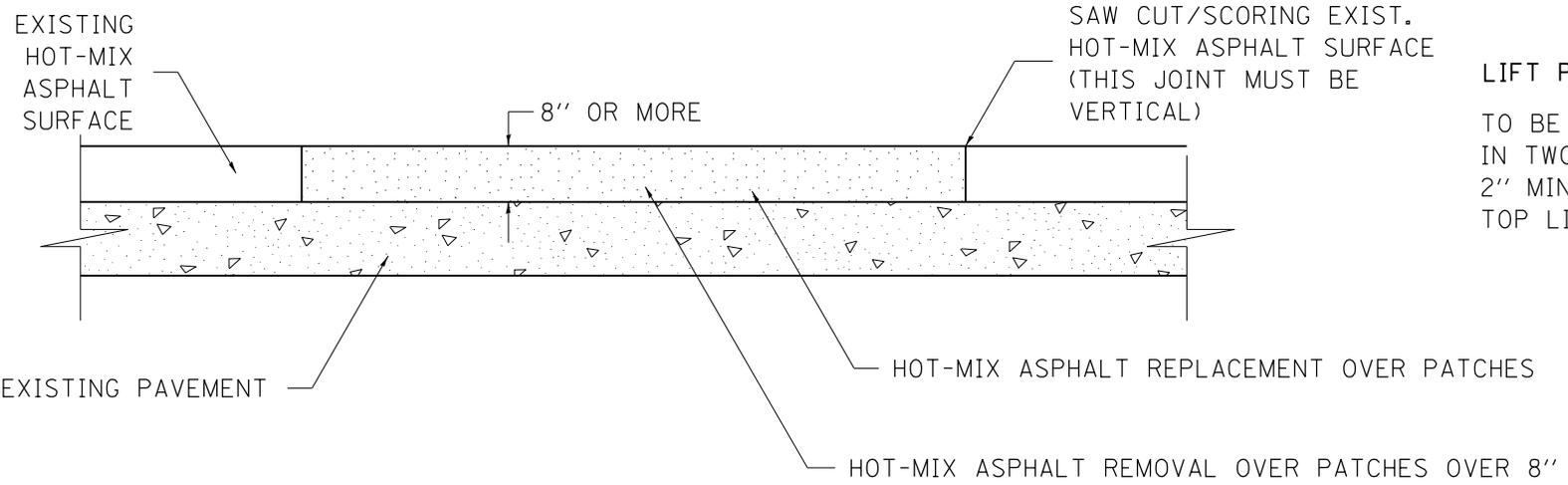
1. FOR BASIS OF PAYMENT: SEE THE RECURRING SPECIAL PROVISION "PATCHING WITH HOT-MIX ASPHALT OVERLAY REMOVAL".

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

PLOT DATE = 1/18/2017

REVISED - 10-03-11	REGION 2 / DISTRICT 2 STANDARD				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
REVISED -									
REVISED -									
REVISED -									
SCALE: 1.5455' / in.	SHEET NO.	OF	SHEETS	STA.	TO STA.	CONTRACT NO.			
						FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	

PAVEMENT PATCHING DETAIL



LIFT PLACEMENT:
 TO BE PLACED
 IN TWO LIFTS WITH
 2" MIN. COMPACTED
 TOP LIFT.

SEQUENCE OF CONSTRUCTION:

1. REMOVE THE EXISTING HOT-MIX ASPHALT SURFACE.
2. REPLACE HOT-MIX ASPHALT SURFACE.

GENERAL NOTES:

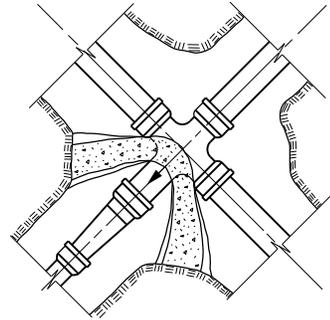
1. FOR BASIS OF PAYMENT: SEE THE RECURRING SPECIAL PROVISION "PATCHING WITH HOT-MIX ASPHALT OVERLAY REMOVAL".

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

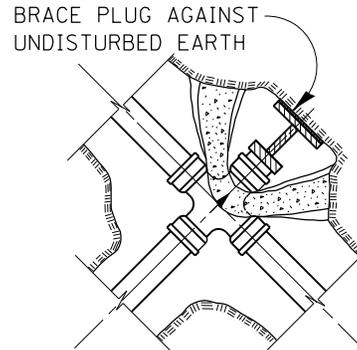
PLOT DATE = 1/18/2017

REVISED - 10-03-11	REGION 2 / DISTRICT 2 STANDARD				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
REVISED -									
REVISED -					CONTRACT NO.				
REVISED -					SCALE: 1.5455' / in.	SHEET NO.	OF	SHEETS	STA.

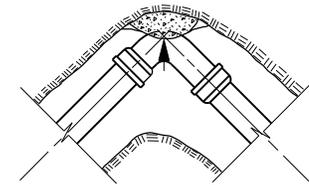
THRUST BLOCK DETAILS



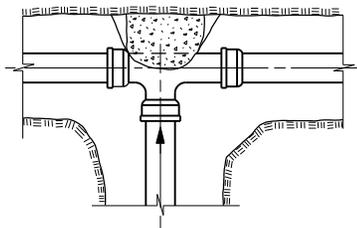
REDUCING CROSS



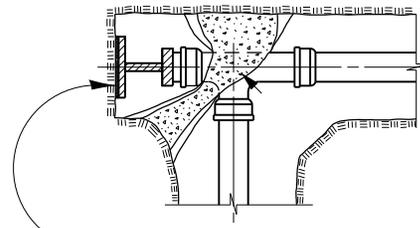
PLUGGED CROSS



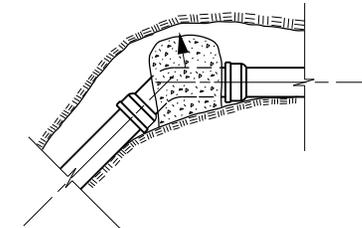
90° ELBOW



TEE



PLUGGED TEE



VERTICAL BEND

NOTES:
 ALL BLOCKS TO BEAR AGAINST UNDISTURBED EARTH.
 ARROWS INDICATE DIRECTION OF THRUST.
 ALL BLOCKS TO BE CLASS SI CONCRETE.
 ALL FITTINGS SHOWN IN PLAN EXCEPT VERTICAL BEND.

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

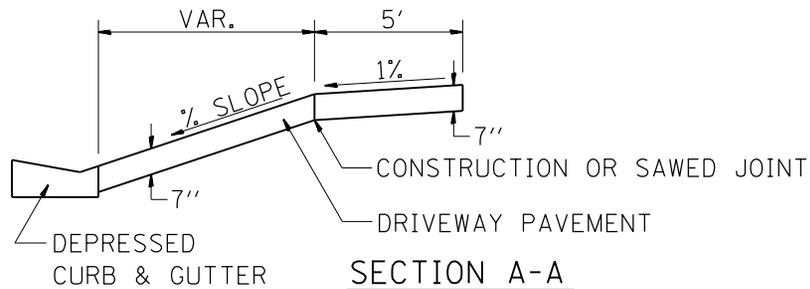
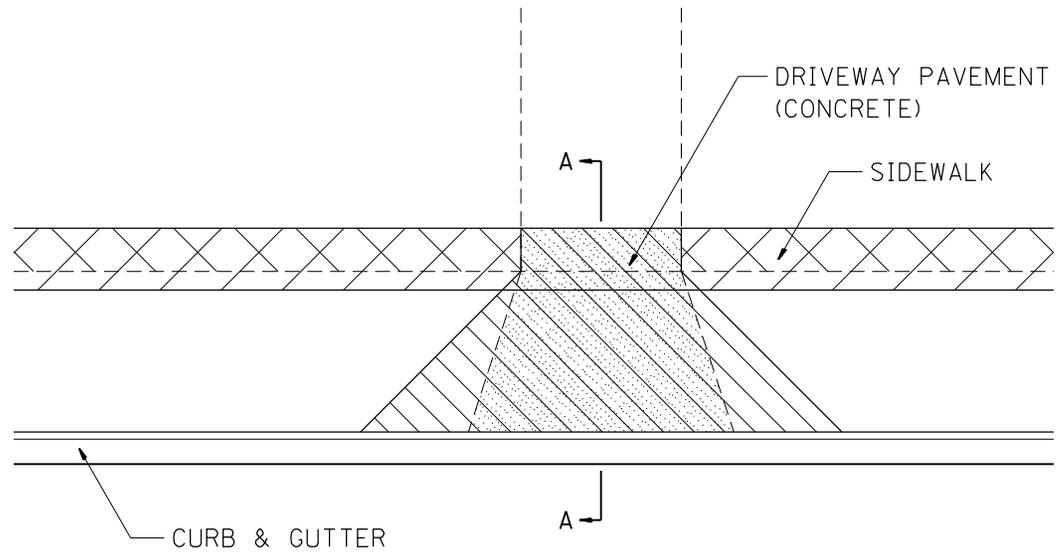
PLOT DATE = 1/18/2017

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REVISED -									CONTRACT NO.
REVISED -	SCALE: 1.5455' / in.	SHEET NO.	OF	SHEETS	STA.	TO STA.	FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT	

SIDEWALK AND DRIVEWAY PAVEMENT PAY AREAS

PAY FOR AS

-  SIDEWALK REMOVAL
-  DRIVEWAY PAVEMENT REMOVAL
-  PCC SIDEWALK 5
-  PCC DRIVEWAY PAVEMENT 7



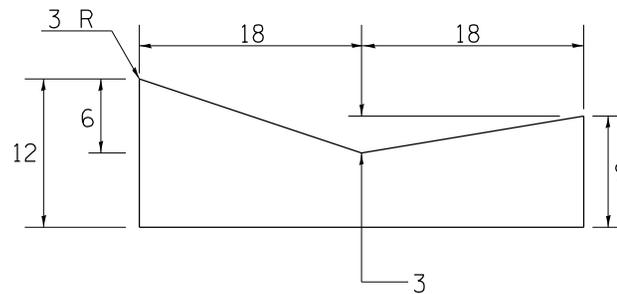
FOR DETAILS ON DIMENSIONS AND GRADES, SEE DISTRICT STANDARD 25.1 OR PLANS.

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

PLOT DATE = 1/18/2017

REVISED - 6-27-14	REGION 2 / DISTRICT 2 STANDARD				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
REVISED - 10-03-11					CONTRACT NO.				
REVISED -	SCALE: 1.5455' / in.	SHEET NO.	OF SHEETS	STA.	TO STA.	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	

CONCRETE GUTTER, TYPE A (SPECIAL)



NOTES:

THIS WORK SHALL BE DONE IN ACCORDANCE WITH THIS DETAIL AND STANDARD 606101
 THIS WORK SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER FOOT FOR
 CONCRETE GUTTER, TYPE A (SPECIAL).

ALL DIMENSIONS ARE IN INCHES UNLESS
 OTHERWISE NOTED.

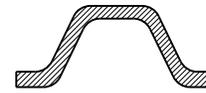
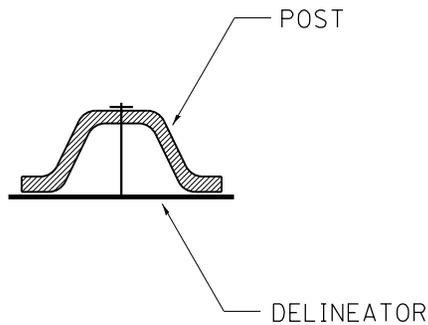
PLOT DATE = 1/18/2017

REVISED - 10-03-11	REGION 2 / DISTRICT 2 STANDARD				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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REVISED -					CONTRACT NO.				
REVISED -					SCALE: 1.5455' / in.	SHEET NO.	OF	SHEETS	STA.

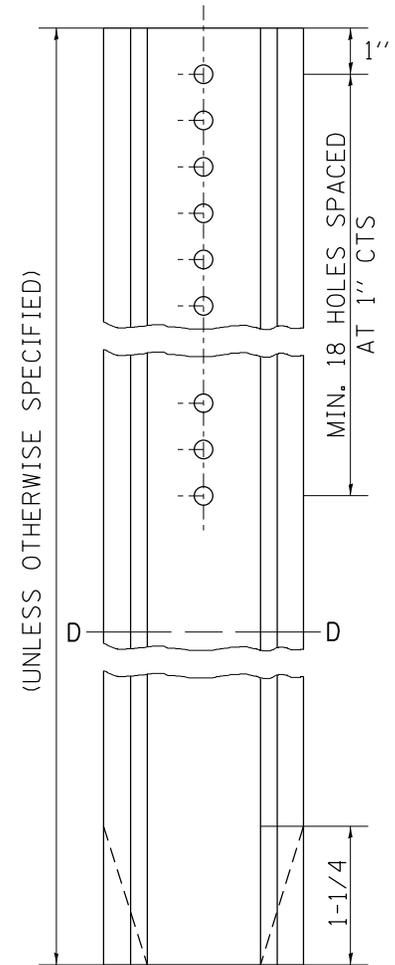
CONCRETE GUTTER, TYPE A (SPECIAL) 36.4

DELINEATOR AND POST ORIENTATION

↑
DIRECTION OF
TRAFFIC



SECTION D-D



DELINEATORS SHALL BE INSTALLED ACCORDING TO STANDARD 635001 EXCEPT THAT THE POST SHALL BE ROTATED 180°. THE POST WILL HAVE THE WIDE SIDE FACING TRAFFIC AND THE DELINEATOR ATTACHED AS SHOWN ABOVE.

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

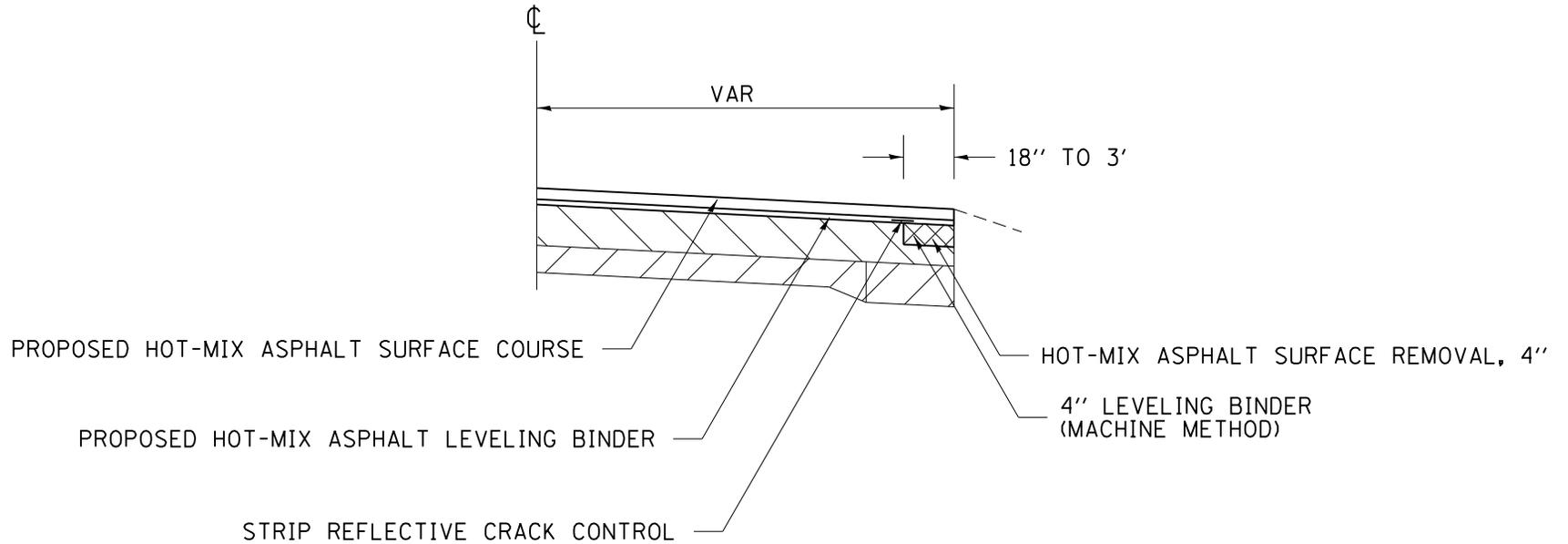
PLOT DATE = 1/18/2017

REVISED - 10-03-11	REGION 2 / DISTRICT 2 STANDARD				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.				
REVISED -									CONTRACT NO.				
REVISED -									FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			
REVISED -					SCALE: 1.5455' / in.	SHEET NO.	OF	SHEETS	STA.	TO STA.			

DELINEATOR AND POST ORIENTATION

37.4

EDGE OF PAVEMENT REPAIR



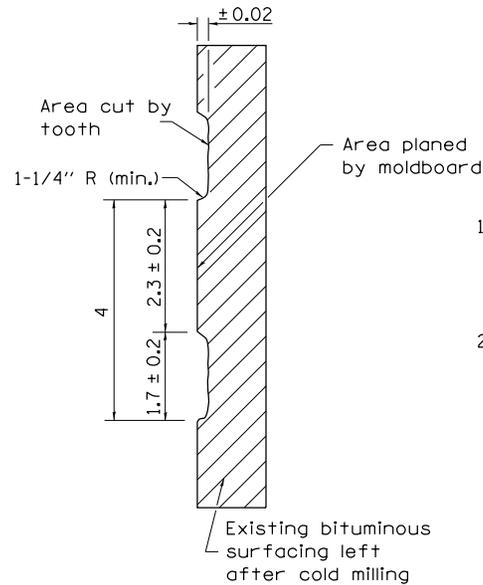
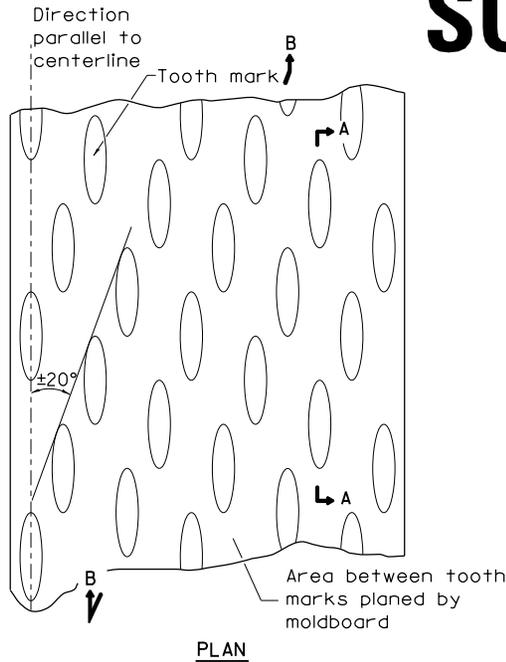
PLOT DATE = 1/18/2017

REVISED - 4-04-11	REGION 2 / DISTRICT 2 STANDARD				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
REVISED -									
REVISED -					CONTRACT NO.				
REVISED -					SCALE: 1.5455' / in.	SHEET NO.	OF SHEETS	STA. TO STA.	FED. ROAD DIST. NO.

EDGE OF PAVEMENT REPAIR

38.4

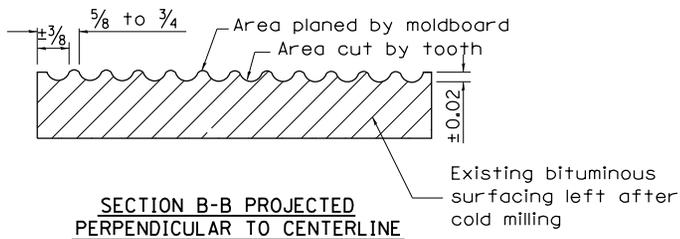
REQUIRED COLD MILLED SURFACE TEXTURE



NOTES

1. Cold Milling shall consist of two processes: Cutting with carbide teeth mounted on a rotating drum, and planing with a moldboard mounted immediately behind the cutting drum.
2. Other similar patterns will be acceptable if they consist of a smooth, flat, planed surface interspersed with a pattern of discontinuous longitudinal striations.

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.



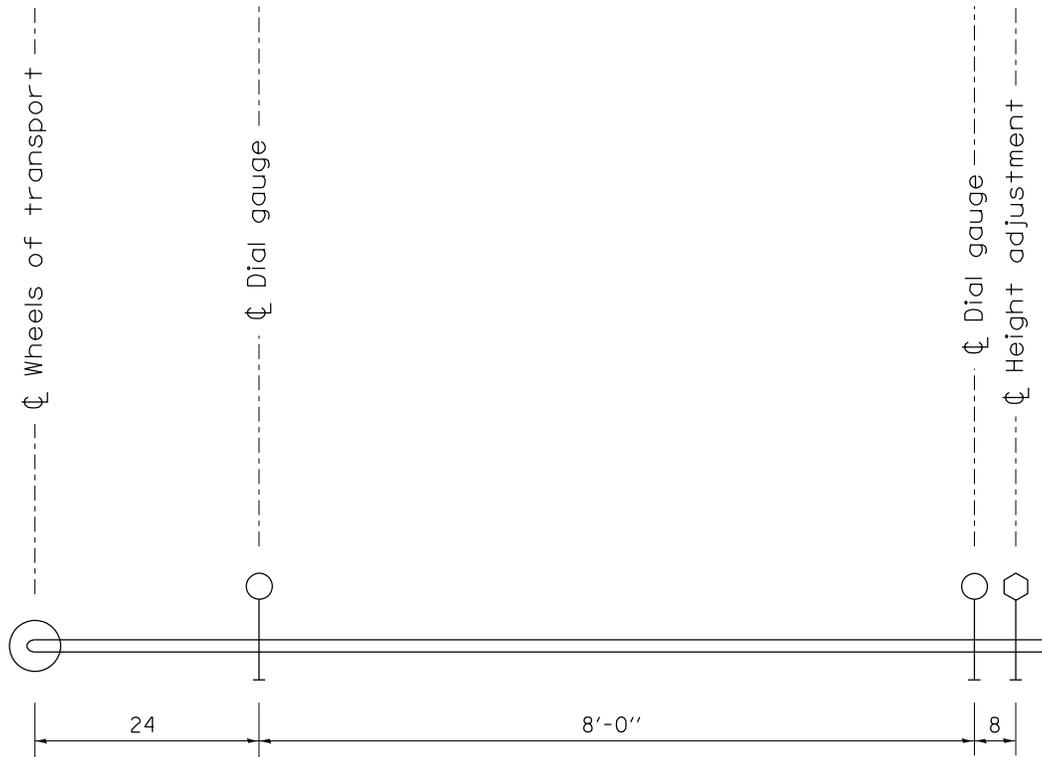
PLOT DATE = 1/18/2017

REVISED - 10-03-11	REGION 2 / DISTRICT 2 STANDARD				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
REVISED -									
REVISED -									
REVISED -									
SCALE: 1.5455' / in.	SHEET NO.	OF	SHEETS	STA.	TO STA.	CONTRACT NO.			
						FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	

REQUIRED COLD MILLED SURFACE TEXTURE

43.4

SLAB MOVEMENT DETECTION DEVICE



ELEVATION

NOTES

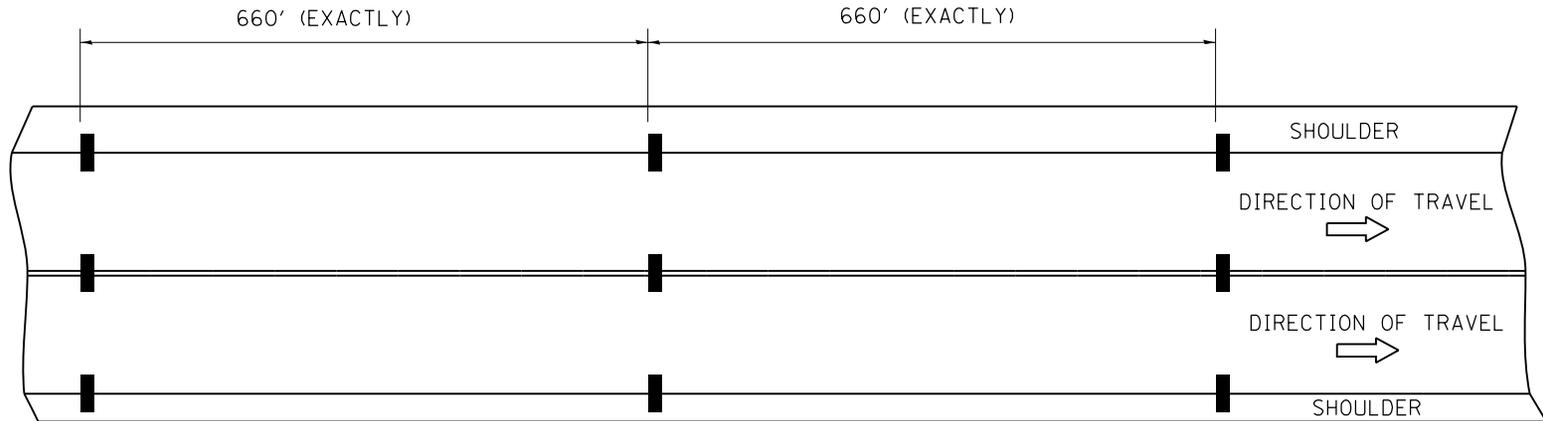
Dial gauges shall be spring loaded in order to measure both extension and compression.

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

PLOT DATE = 1/18/2017

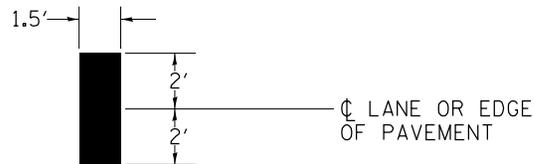
REVISED - 10-03-11	REGION 2 / DISTRICT 2 STANDARD				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
REVISED -									
REVISED -					CONTRACT NO.				
REVISED -	SCALE: 1.5455' / in.	SHEET NO.	OF	SHEETS	STA.	TO STA.	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT

AERIAL SPEED CHECK ZONES



USE THERMOPLASTIC PAVEMENT MARKINGS MEETING THE REQUIREMENTS OF SECTION 782 OF THE STANDARD SPECIFICATIONS.

PAVEMENT MARKING DETAIL



POLICE AERIAL SPEED CHECK ZONES

ESTABLISHED ZONES AND NEW ZONES REQUESTED BY THE ILLINOIS STATE POLICE SHALL BE MARKED CONSISTENT WITH THE REQUIREMENTS OF SECTION 3B.21 OF THE MUTCD. WHEN NEW ZONES ARE PLACED IT WILL BE NECESSARY TO HAVE A REPRESENTATIVE OF THE STATE POLICE PRESENT SO THAT THE ACCURACY OF THE MEASUREMENT CAN BE ATTESTED TO IN COURT.

ILLINOIS STATE POLICE

DISTRICT 1 STERLING 815/632-4010 CARROLL, LEE, OGLE, WHITESIDE
 DISTRICT 7 EAST MOLINE 309/752-4915 HENRY, ROCK ISLAND
 DISTRICT 16 PECATONICA 815/239-1152 BOONE, JO DAVIESS, STEPHENSON, WINNEBAGO

BASIS OF PAYMENT:

THIS WORK SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER FOOT FOR AERIAL SPEED CHECK MARKING.

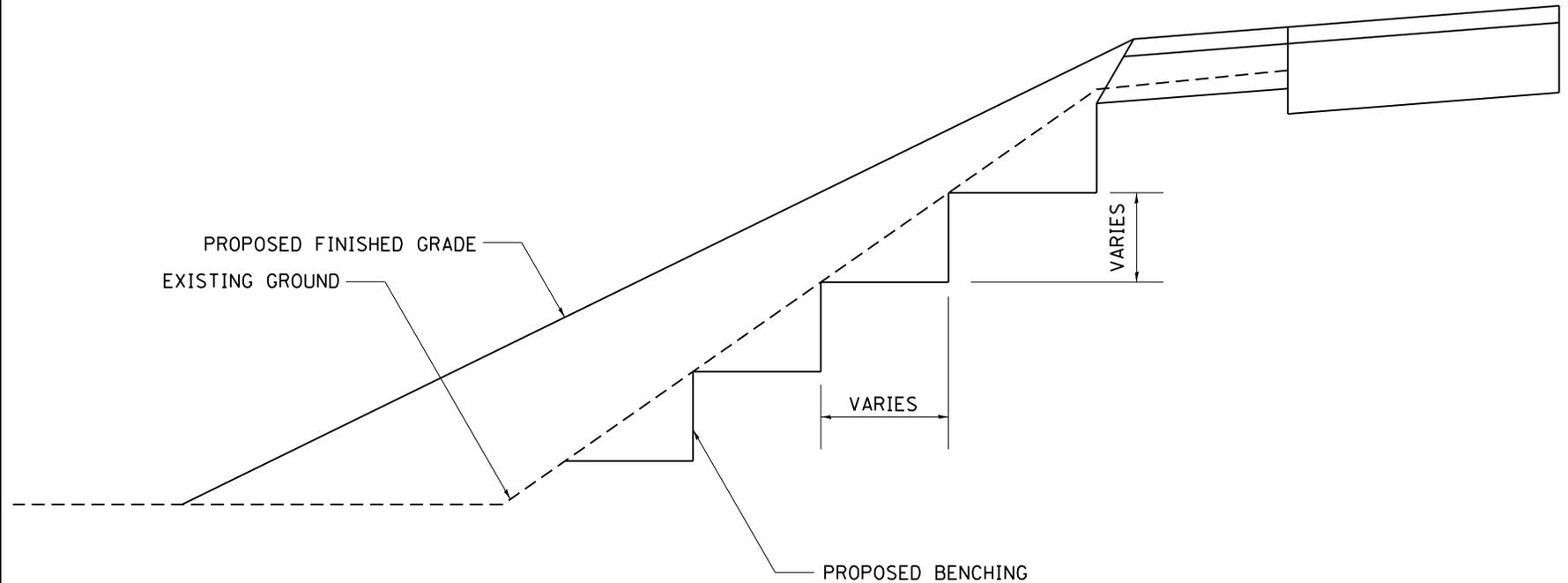
PLOT DATE = 1/18/2017

REVISED - 1-05-16	REGION 2 / DISTRICT 2 STANDARD				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
REVISED - 6-27-14									
REVISED - 8-27-13					CONTRACT NO.				
REVISED - 10-03-11					SCALE: 1.5455' / in.	SHEET NO.	OF	SHEETS	STA.

AERIAL SPEED CHECK ZONES

46.4

TYPICAL BENCHING ON EXISTING EMBANKMENT



PLOT DATE = 1/18/2017

REVISED - 2-22-06	REGION 2 / DISTRICT 2 STANDARD				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
REVISED -									
REVISED -					CONTRACT NO.				
REVISED -	SCALE: 1.5455' / in.	SHEET NO.	OF	SHEETS	STA.	TO STA.	FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT	

TYPICAL BENCHING ON EXISTING EMBANKMENT

50.4

LAND SECTION & REFERENCE MARKERS

REFERENCE MARKER & LAND SECTION MARKER

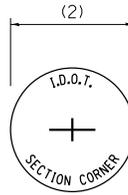
FLUSH OR BELOW SURFACE

NO. 5 REINFORCING BAR
3'-6" LONG

SECTION



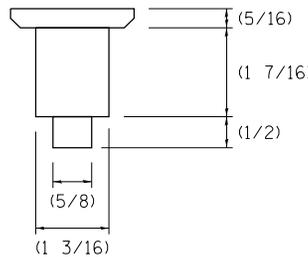
R.O.W. CAP



SECTION CORNER CAP

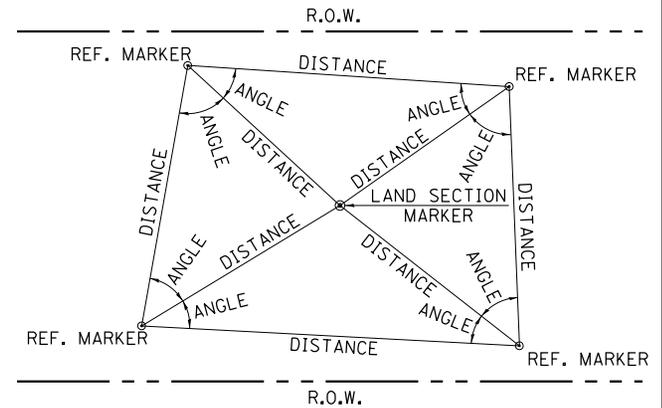


SECTION CORNER TIE POINT CAP



CAP DETAIL

METHOD OF REFERENCING MARKERS



METHOD OF REFERENCING POINTS

REFERENCE MARKERS SHALL BE USED TO TIE IN PERMANENT LAND SECTION AND 1/4 SECTION CORNERS. WHERE LAND SECTION MARKERS FALL IN THE SHOULDERS OR GRAVEL SURFACES, THE TOP OF THE BAR SHALL BE KEPT 3" BELOW THE SURFACE. LAND SECTION MARKERS LOCATED IN TRAFFIC LANES SHALL BE REPLACED BY CORE DRILL AND RESETTING PIN.

ALUMINUM CAPS SHALL BE PLACED ON TOP OF THE REINFORCEMENT BAR. THERE ARE 3 TYPES OF CAPS, ONE FOR THE RIGHT-OF-WAY CORNERS, ONE FOR THE SECTION CORNERS AND ONE FOR THE SECTION CORNER TIE POINTS. THE CAPS WILL BE SUPPLIED BY THE SURVEYOR WHO IS RESPONSIBLE FOR MONUMENTING CORNERS.

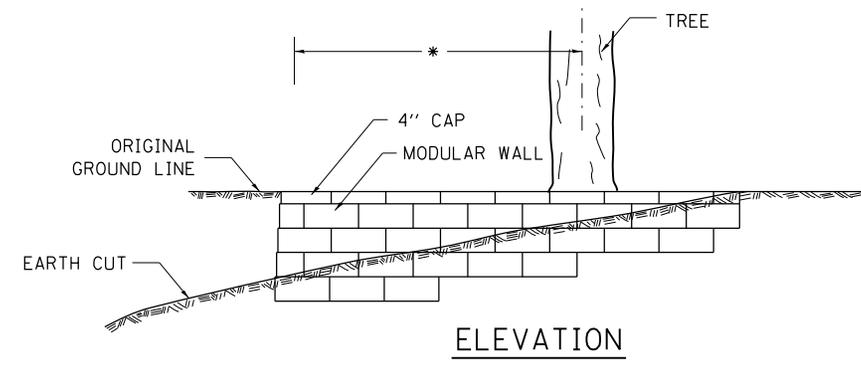
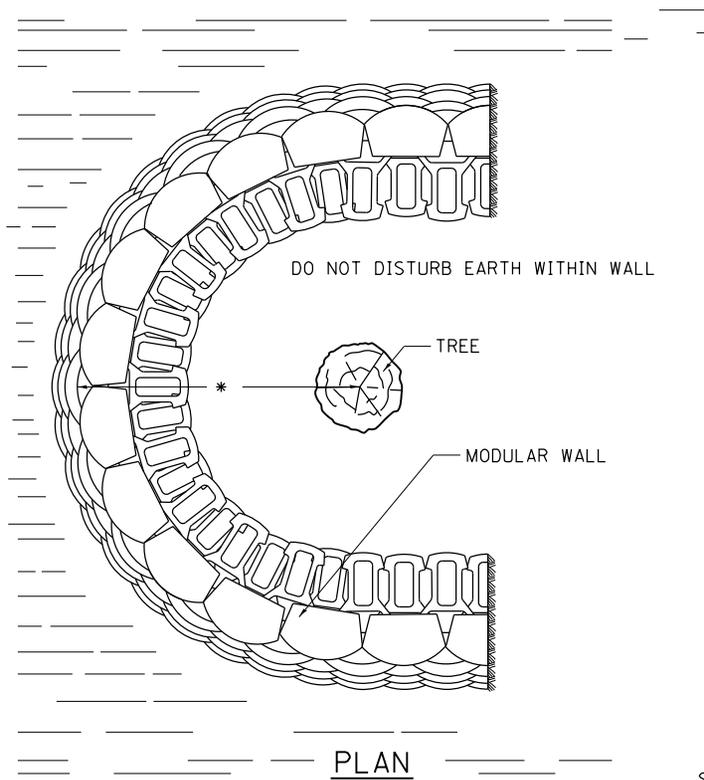
- USE INSTRUMENT TIES TO NEARBY LAND-MARKS (STEEPLES, TOWERS, SILOS, ETC...)
- IN CULTIVATED FIELDS, SET 28" OR MORE BELOW GROUND SURFACE.
- IN FENCE LINE OR PROTECTED AREA SET TOP AT GROUND LEVEL SO AS NOT TO BE DISTURBED BY MOWING.

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

PLOT DATE = 1/18/2017

REVISED - 3-05-10	REGION 2 / DISTRICT 2 STANDARD				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
REVISED -									CONTRACT NO.
REVISED -	SCALE: 1.5455' / in.	SHEET NO.	OF	SHEETS	STA.	TO STA.	FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT		

TREE WALL



HEIGHT OF WALL DEPENDENT ON SLOPE OF THE CUT.

* THE RADIUS OF THE TREE WALL SHALL BE DETERMINED BY MULTIPLYING 6 BY THE DIAMETER OF THE TREE, WITH A MAXIMUM OF A 12 FOOT RADIUS.

USE 8" HIGH BLOCKS EXCEPT WHEN HEIGHT OF WALL IS LESS THAN 24", THEN 4" HIGH BLOCKS SHALL BE USED.

NOTES

SPECIAL CARE SHALL BE TAKEN BY THE CONTRACTOR NOT TO DISTURB THE EARTH OR THE ROOTS WITHIN THE PROPOSED TREE WALL.

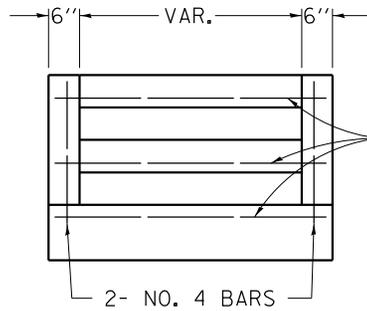
THESE TREE WALLS SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT FOR "SEGMENTAL CONCRETE BLOCK WALL" INCLUDED IN THIS SHALL BE THE FACE OF THE WALL THAT ARE BURIED.

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

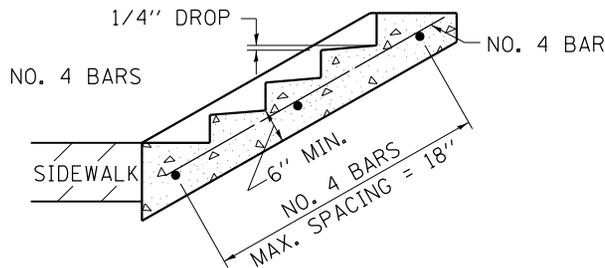
PLOT DATE = 1/18/2017

REVISED - 10-03-11	REGION 2 / DISTRICT 2 STANDARD				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
REVISED -					SCALE: 1.5455' / in. SHEET NO. OF SHEETS STA. TO STA.				CONTRACT NO.
REVISED -	SCALE: 1.5455' / in. SHEET NO. OF SHEETS STA. TO STA.								FED. ROAD DIST. NO.
REVISED -					SCALE: 1.5455' / in. SHEET NO. OF SHEETS STA. TO STA.				

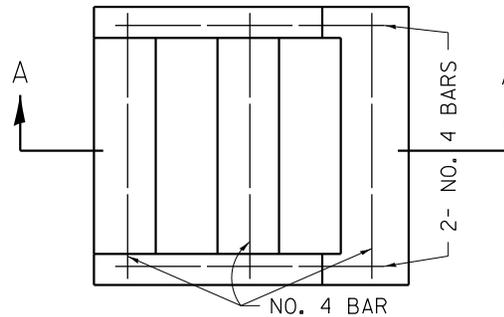
DETAIL OF CONCRETE STEPS



END ELEVATION



SECTION A-A



PLAN

TABLE OF TREADS & RISERS		
SLOPE	TREAD	RISER
1:2	12"	6"
1:3	15"	5"
1:4	17"	4 1/4"

WHERE SLOPES FALL BETWEEN THOSE SHOWN IN THE TABLE ABOVE, THE STAIR RAIL SHOULD FIT THE SLOPE AND THE TREAD IN INCHES x THE RISER IN INCHES SHOULD BE BETWEEN 72 AND 78.

EXAMPLE:

FOR A 1:4 SLOPE USE $y = \text{RISER HEIGHT}$ $4y^2 = 75''$.
 SOLVING $y^2 = \frac{75''}{4}$, $y = 4.3''$ (USE 4 1/4'' FOR CONVENIENCE.)
 TREAD WOULD THEN BE $4 \frac{1}{4}'' \times 4 = 17''$

COST OF REINFORCEMENT BARS SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER LBS FOR REINFORCEMENT BARS.

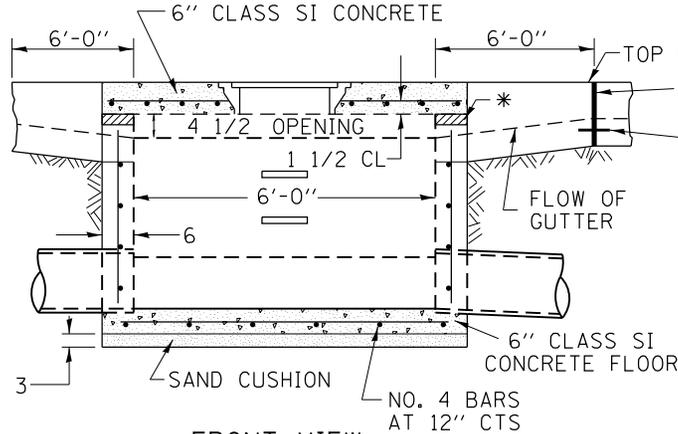
CLASS SI CONCRETE SHALL BE USED THROUGHOUT, WHICH SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER CUBIC YARD FOR CONCRETE STEPS

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

PLOT DATE = 1/18/2017

REVISED - 8-27-13	REGION 2 / DISTRICT 2 STANDARD				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.			
REVISED - 10-03-11												
REVISED -									CONTRACT NO.			
REVISED -					SCALE: 1.5455' / 1"	SHEET NO.	OF	SHEETS	STA.	TO STA.	FED. ROAD DIST. NO.	ILLINOIS

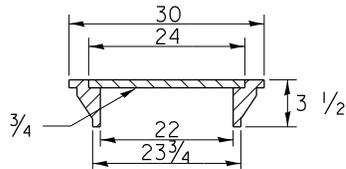
INLETS, SPECIAL, NO. 3



FRONT VIEW

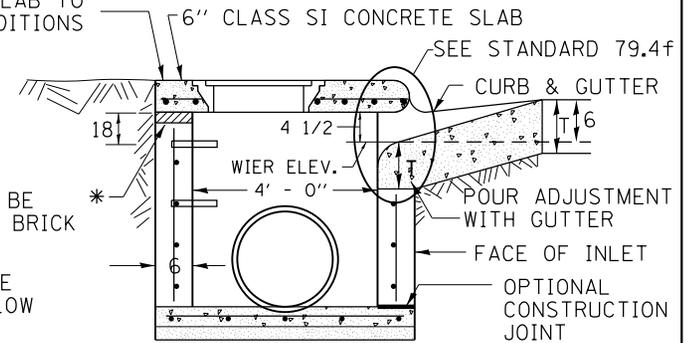
SEE STANDARD 602701 FOR DETAILS OF STEPS.
 1" PREFORMED EXPANSION JOINTS AS SHOWN SHALL BE PROVIDED ON EACH SIDE OF INLET.
 CLASS SI CONCRETE OR PRECAST CONCRETE SHALL BE USED THROUGHOUT.
 THE SIDE WALLS MAY BE BUILT AS PRECAST SEGMENTAL SECTIONS.
 REINFORCEMENT FOR INLETS, SPECIAL, NO. 3 SHALL BE ACCORDING TO DISTRICT STANDARD 79.4g

LIGHT WEIGHT MANHOLE CASTING



TOTAL WEIGHT 160 LBS.

SLOPE TOP SLAB TO MATCH FINAL CONDITIONS

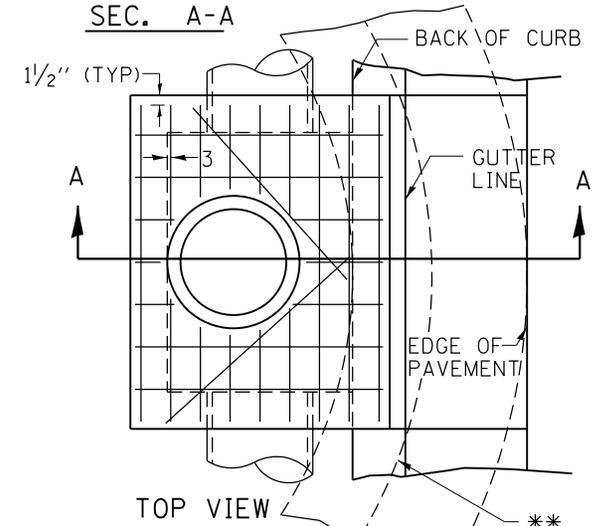


SEC. A-A

STEPS AT 12 TO 16 CTS.
 * THE WALL ADJUSTMENTS SHALL BE MADE WITH CONCRETE BUILDING BRICK OR CLASS SI CONCRETE.
 THE HEIGHT OF THE BOX MAY BE CONSTRUCTED 6" SHORT TO ALLOW FOR FIELD ADJUSTMENTS.
 ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

NOTES

STEPS SHALL BE OMITTED WHEN DEPTH OF INLET IS LESS THAN 5 FOOT
 THE INLET SHALL BE CAST IN PLACE OR PRECAST.
 EXCEPT AS NOTED HEREON INLETS, SPECIAL, NO. 3 SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 602 OF THE STANDARD SPECIFICATIONS.
 THE CONTRACT UNIT PRICE EACH FOR INLET SPECIAL NO. 3 SHALL INCLUDE THE COST OF FURNISHING AND INSTALLING THE FRAME, LID, REINFORCEMENT BARS, FLOOR AND TOP SLABS, CAST IRON STEPS (IF USED).
 THE CURB AND GUTTER WILL BE PAID FOR SEPARATELY AND WILL BE MEASURED THROUGH THE INLET.
 THE CURB AND GUTTER ADJACENT TO AND 6 FOOT ON EITHER SIDE OF THE INLET SHALL BE CONSTRUCTED AS SHOWN WITH NO ADDITIONAL COMPENSATION FOR THE TRANSITION.
 ALL PIPE UNDERDRAIN CONNECTIONS WHEN SPECIFIED SHALL BE DONE IN ACCORDANCE WITH ART. 601 OF THE STANDARD SPECIFICATIONS. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER (FOOT) FOR PIPE UNDERDRAINS, TYPE 2 OR PIPE UNDERDRAINS (SPECIAL) OF THE DIAMETER SPECIFIED WHICH PRICE SHALL INCLUDE THE CA7 OR CA16 AND THE CONNECTION TO THE INLET.



TOP VIEW

** WHEN INLET IS CONSTRUCTED IN RETURN, THE TOP OF SLAB SHALL CONFORM TO THE RADIUS OF THE RETURN.

PLOT DATE = 1/18/2017

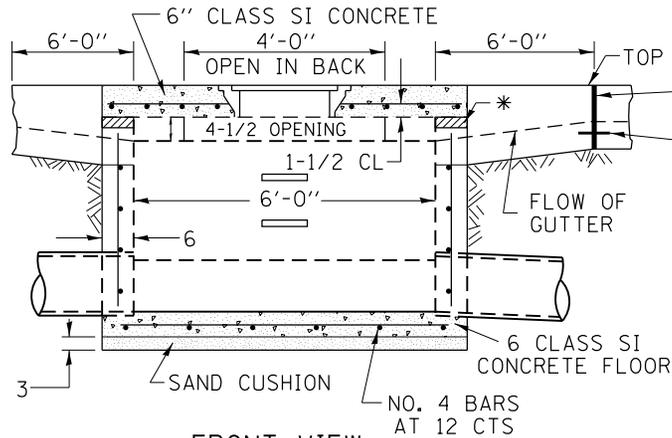
REVISED - 1-05-16
REVISED - 8-27-13
REVISED - 10-03-11
REVISED -

REGION 2 / DISTRICT 2 STANDARD

SCALE: 1.5455' / in. SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CONTRACT NO.				
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

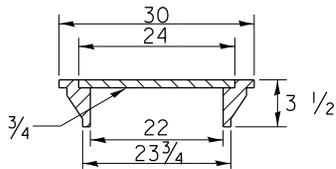
INLETS, SPECIAL, NO. 4



FRONT VIEW

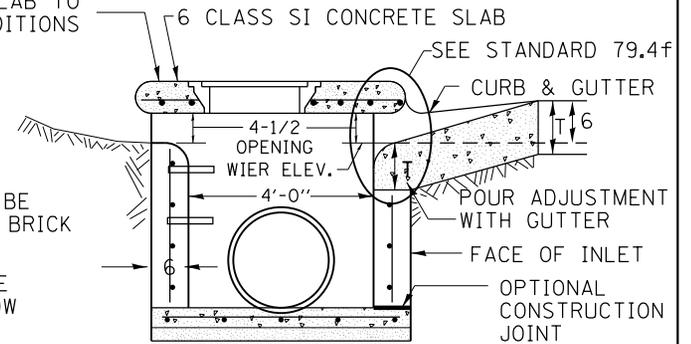
SEE STANDARD 602701 FOR DETAILS OF STEPS.
 1" PREFORMED EXPANSION JOINTS AS SHOWN SHALL BE PROVIDED ON EACH SIDE OF INLET.
 CLASS SI CONCRETE OR PRECAST CONCRETE SHALL BE USED THROUGHOUT.
 THE SIDE WALLS MAY BE BUILT AS PRECAST SEGMENTAL SECTIONS.
 REINFORCEMENT FOR INLETS, SPECIAL, NO. 4 SHALL BE ACCORDING TO DISTRICT STANDARD 79.4g

LIGHT WEIGHT MANHOLE CASTING

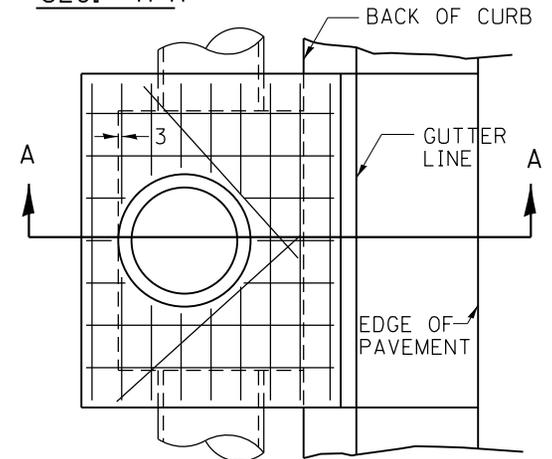


TOTAL WEIGHT 160 LBS.

SLOPE TOP SLAB TO MATCH FINAL CONDITIONS



SEC. A-A



TOP VIEW

STEPS AT 12 TO 16 CTS.
 * THE WALL ADJUSTMENTS SHALL BE MADE WITH CONCRETE BUILDING BRICK OR CLASS SI CONCRETE.
 THE HEIGHT OF THE BOX MAY BE CONSTRUCTED 6 SHORT TO ALLOW FOR FIELD ADJUSTMENTS.

NOTES

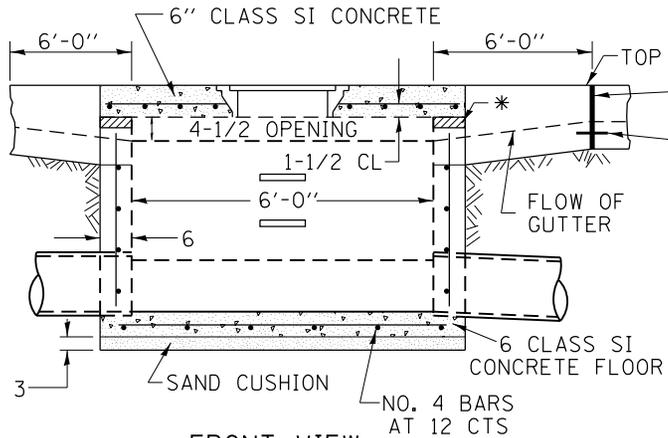
STEPS SHALL BE OMITTED WHEN DEPTH OF INLET IS LESS THAN 5 FOOT
 THE INLET SHALL BE CAST IN PLACE OR PRECAST.
 EXCEPT AS NOTED HEREON INLETS, SPECIAL, NO. 4 SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 602 OF THE STANDARD SPECIFICATIONS.
 THE CONTRACT UNIT PRICE EACH FOR INLET SPECIAL NO. 4 SHALL INCLUDE THE COST OF FURNISHING AND INSTALLING THE FRAME, LID, REINFORCEMENT BARS, FLOOR AND TOP SLABS, CAST IRON STEPS (IF USED).
 THE CURB AND GUTTER WILL BE PAID FOR SEPARATELY AND WILL BE MEASURED THROUGH THE INLET.
 THE CURB AND GUTTER ADJACENT TO AND 6 FOOT ON EITHER SIDE OF THE INLET SHALL BE CONSTRUCTED AS SHOWN WITH NO ADDITIONAL COMPENSATION FOR THE TRANSITION.
 ALL PIPE UNDERDRAIN CONNECTIONS WHEN SPECIFIED SHALL BE DONE IN ACCORDANCE WITH ART. 601 OF THE STANDARD SPECIFICATIONS. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER (FOOT) FOR PIPE UNDERDRAINS, TYPE 2 OR PIPE UNDERDRAINS (SPECIAL) OF THE DIAMETER SPECIFIED WHICH PRICE SHALL INCLUDE THE CA7 OR CA16 AND THE CONNECTION TO THE INLET.

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

PLOT DATE = 1/18/2017

REVISED - 1-05-16	REGION 2 / DISTRICT 2 STANDARD				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
REVISED - 8-27-13					CONTRACT NO.				
REVISED - 10-04-11					FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
REVISED -	SCALE: 1.5455' / in.	SHEET NO.	OF	SHEETS	STA.	TO STA.			

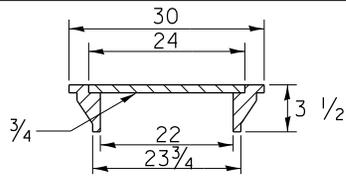
INLETS, SPECIAL, NO. 5



FRONT VIEW

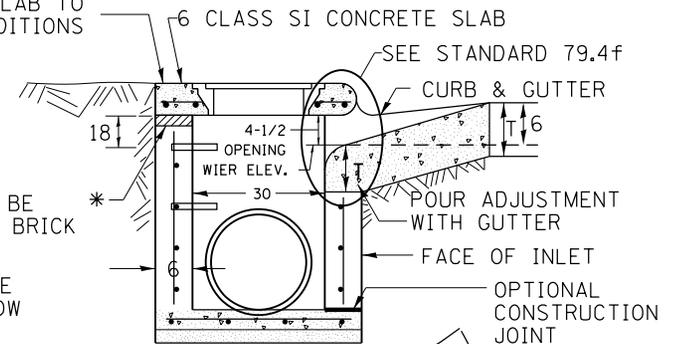
SEE STANDARD 602701 FOR DETAILS OF STEPS.
 1" PREFORMED EXPANSION JOINTS AS SHOWN SHALL BE PROVIDED ON EACH SIDE OF INLET.
 CLASS SI CONCRETE OR PRECAST CONCRETE SHALL BE USED THROUGHOUT.
 THE SIDE WALLS MAY BE BUILT AS PRECAST SEGMENTAL SECTIONS.
 REINFORCEMENT FOR INLETS, SPECIAL, NO. 5 SHALL BE ACCORDING TO DISTRICT STANDARD 79.4g

LIGHT WEIGHT MANHOLE CASTING

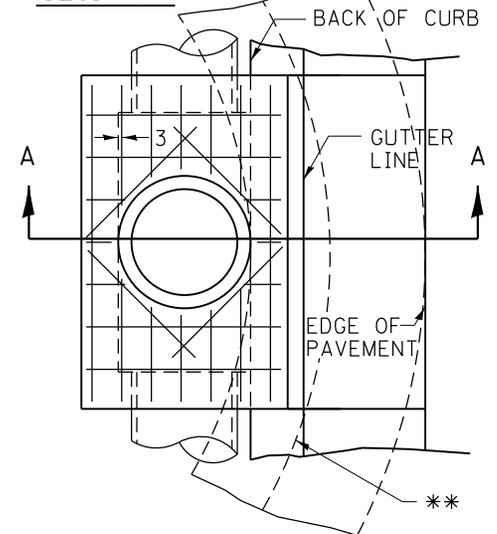


TOTAL WEIGHT 160 LBS.

SLOPE TOP SLAB TO MATCH FINAL CONDITIONS



SEC. A-A



STEPS AT 12 TO 16 CTS.
 * THE WALL ADJUSTMENTS SHALL BE MADE WITH CONCRETE BUILDING BRICK OR CLASS SI CONCRETE.
 THE HEIGHT OF THE BOX MAY BE CONSTRUCTED 6 SHORT TO ALLOW FOR FIELD ADJUSTMENTS.
 ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

NOTES

STEPS SHALL BE OMITTED WHEN DEPTH OF INLET IS LESS THAN 5 FOOT
 THE INLET SHALL BE CAST IN PLACE OR PRECAST.
 EXCEPT AS NOTED HEREON INLETS, SPECIAL, NO. 5 SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 602 OF THE STANDARD SPECIFICATIONS.
 THE CONTRACT UNIT PRICE EACH FOR INLET SPECIAL NO. 5 SHALL INCLUDE THE COST OF FURNISHING AND INSTALLING THE FRAME, LID, REINFORCEMENT BARS, FLOOR AND TOP SLABS, CAST IRON STEPS (IF USED).
 THE CURB AND GUTTER WILL BE PAID FOR SEPARATELY AND WILL BE MEASURED THROUGH THE INLET.
 THE CURB AND GUTTER ADJACENT TO AND 6 FOOT ON EITHER SIDE OF THE INLET SHALL BE CONSTRUCTED AS SHOWN WITH NO ADDITIONAL COMPENSATION FOR THE TRANSITION.
 ALL PIPE UNDERDRAIN CONNECTIONS WHEN SPECIFIED SHALL BE DONE IN ACCORDANCE WITH ART. 601 OF THE STANDARD SPECIFICATIONS. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER (FOOT) FOR PIPE UNDERDRAINS, TYPE 2 OR PIPE UNDERDRAINS (SPECIAL) OF THE DIAMETER SPECIFIED WHICH PRICE SHALL INCLUDE THE CA7 OR CA16 AND THE CONNECTION TO THE INLET.

** WHEN INLET IS CONSTRUCTED IN RETURN, THE TOP OF SLAB SHALL CONFORM TO THE RADIUS OF THE RETURN.

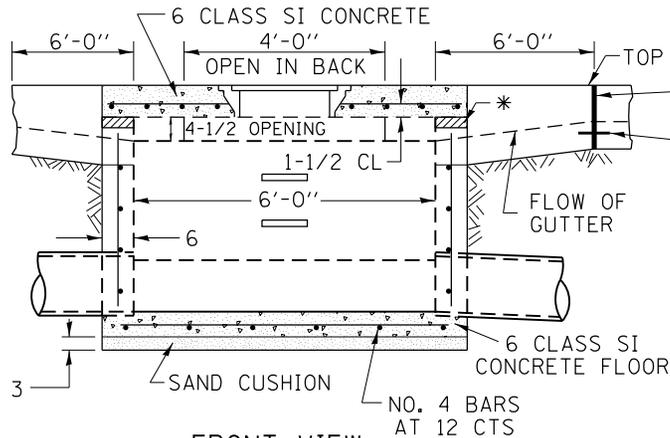
PLOT DATE = 1/18/2017

REVISED - 1-05-16
REVISED - 8-27-13
REVISED - 10-04-11
REVISED -

REGION 2 / DISTRICT 2 STANDARD				
SCALE: 1.5455' / in.	SHEET NO.	OF	SHEETS	STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	
CONTRACT NO.				

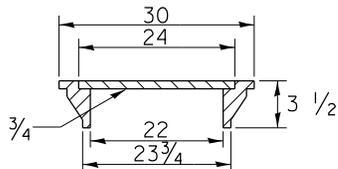
INLETS, SPECIAL, NO. 6



FRONT VIEW

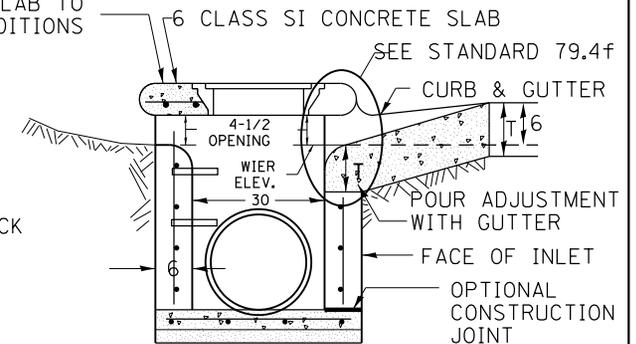
SEE STANDARD 602701 FOR DETAILS OF STEPS.
 1" PREFORMED EXPANSION JOINTS AS SHOWN SHALL BE PROVIDED ON EACH SIDE OF INLET.
 CLASS SI CONCRETE OR PRECAST CONCRETE SHALL BE USED THROUGHOUT.
 THE SIDE WALLS MAY BE BUILT AS PRECAST SEGMENTAL SECTIONS.
 REINFORCEMENT FOR INLETS, SPECIAL, NO. 6 SHALL BE ACCORDING TO DISTRICT STANDARD 79.4g

LIGHT WEIGHT MANHOLE CASTING



TOTAL WEIGHT 160 LBS.

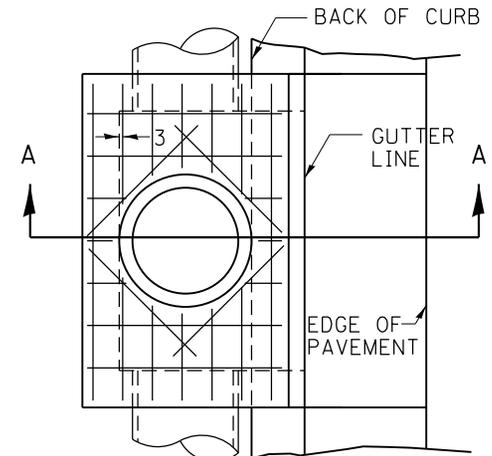
SLOPE TOP SLAB TO MATCH FINAL CONDITIONS



SEC. A-A

NOTES

STEPS SHALL BE OMITTED WHEN DEPTH OF INLET IS LESS THAN 5 FOOT
 THE INLET SHALL BE CAST IN PLACE OR PRECAST.
 EXCEPT AS NOTED HEREON INLETS, SPECIAL, NO. 6 SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 602 OF THE STANDARD SPECIFICATIONS.
 THE CONTRACT UNIT PRICE EACH FOR INLET SPECIAL NO. 6 SHALL INCLUDE THE COST OF FURNISHING AND INSTALLING THE FRAME, LID, REINFORCEMENT BARS, FLOOR AND TOP SLABS, CAST IRON STEPS (IF USED).
 THE CURB AND GUTTER WILL BE PAID FOR SEPARATELY AND WILL BE MEASURED THROUGH THE INLET.
 THE CURB AND GUTTER ADJACENT TO AND 6 FOOT ON EITHER SIDE OF THE INLET SHALL BE CONSTRUCTED AS SHOWN WITH NO ADDITIONAL COMPENSATION FOR THE TRANSITION.
 ALL PIPE UNDERDRAIN CONNECTIONS WHEN SPECIFIED SHALL BE DONE IN ACCORDANCE WITH ART. 601 OF THE STANDARD SPECIFICATIONS. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER (FOOT) FOR PIPE UNDERDRAINS, TYPE 2 OR PIPE UNDERDRAINS (SPECIAL) OF THE DIAMETER SPECIFIED WHICH PRICE SHALL INCLUDE THE CA7 OR CA16 AND THE CONNECTION TO THE INLET.



TOP VIEW

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

PLOT DATE = 1/18/2017

REVISED - 1-05-16
REVISED - 8-27-13
REVISED - 10-05-11
REVISED -

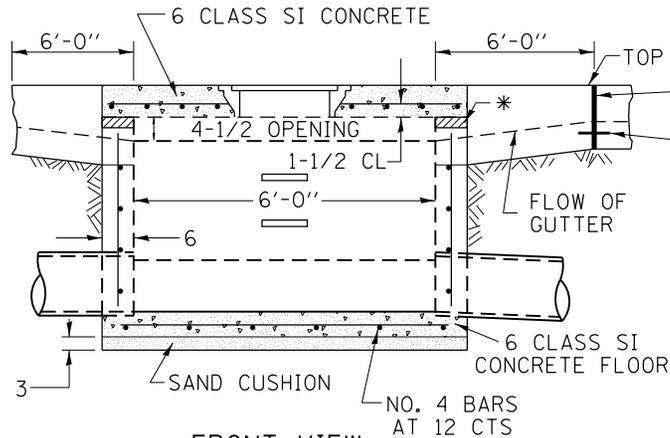
REGION 2 / DISTRICT 2 STANDARD				
SCALE: 1.5455' / in.	SHEET NO.	OF	SHEETS	STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CONTRACT NO.				
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

INLETS, SPECIAL, NO. 6

79.4c

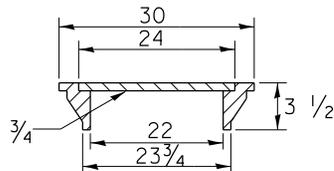
INLETS, SPECIAL, NO. 7



FRONT VIEW

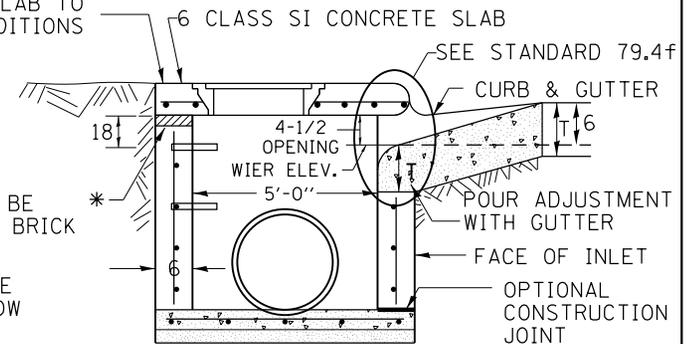
SEE STANDARD 602701 FOR DETAILS OF STEPS.
 1" PREFORMED EXPANSION JOINTS AS SHOWN SHALL BE PROVIDED ON EACH SIDE OF INLET.
 CLASS SI CONCRETE OR PRECAST CONCRETE SHALL BE USED THROUGHOUT.
 THE SIDE WALLS MAY BE BUILT AS PRECAST SEGMENTAL SECTIONS.
 REINFORCEMENT FOR INLETS, SPECIAL, NO. 7 SHALL BE ACCORDING TO DISTRICT STANDARD 79.4h

LIGHT WEIGHT MANHOLE CASTING

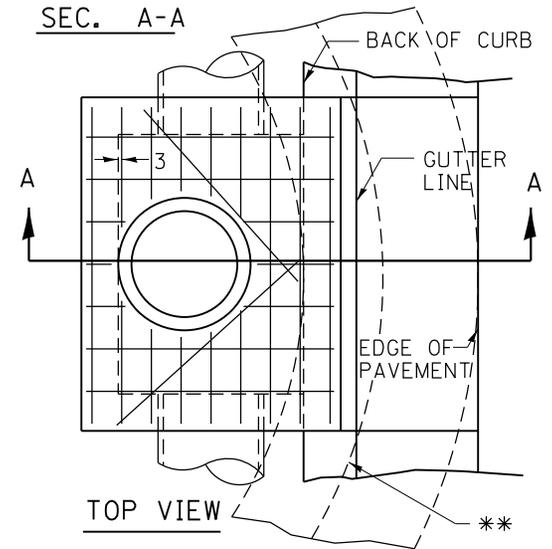


TOTAL WEIGHT 160 LBS.

SLOPE TOP SLAB TO MATCH FINAL CONDITIONS



SEC. A-A



TOP VIEW

STEPS AT 12 TO 16 CTS.

* THE WALL ADJUSTMENTS SHALL BE MADE WITH CONCRETE BUILDING BRICK OR CLASS SI CONCRETE.

THE HEIGHT OF THE BOX MAY BE CONSTRUCTED 6 SHORT TO ALLOW FOR FIELD ADJUSTMENTS.

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

NOTES

STEPS SHALL BE OMITTED WHEN DEPTH OF INLET IS LESS THAN 5 FOOT

THE INLET SHALL BE CAST IN PLACE OR PRECAST.

EXCEPT AS NOTED HEREON INLETS, SPECIAL, NO. 7 SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 602 OF THE STANDARD SPECIFICATIONS.

THE CONTRACT UNIT PRICE EACH FOR INLET SPECIAL NO. 7 SHALL INCLUDE THE COST OF FURNISHING AND INSTALLING THE FRAME, LID, REINFORCEMENT BARS, FLOOR AND TOP SLABS, CAST IRON STEPS (IF USED).

THE CURB AND GUTTER WILL BE PAID FOR SEPARATELY AND WILL BE MEASURED THROUGH THE INLET.

THE CURB AND GUTTER ADJACENT TO AND 6 FOOT ON EITHER SIDE OF THE INLET SHALL BE CONSTRUCTED AS SHOWN WITH NO ADDITIONAL COMPENSATION FOR THE TRANSITION.

ALL PIPE UNDERDRAIN CONNECTIONS WHEN SPECIFIED SHALL BE DONE IN ACCORDANCE WITH ART. 601 OF THE STANDARD SPECIFICATIONS. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER (FOOT) FOR PIPE UNDERDRAINS, TYPE 2 OR PIPE UNDERDRAINS (SPECIAL) OF THE DIAMETER SPECIFIED WHICH PRICE SHALL INCLUDE THE CA7 OR CA16 AND THE CONNECTION TO THE INLET.

** WHEN INLET IS CONSTRUCTED IN RETURN, THE TOP OF SLAB SHALL CONFORM TO THE RADIUS OF THE RETURN.

PLOT DATE = 1/18/2017

REVISED - 1-05-16
REVISED - 8-27-12
REVISED - 10-05-11
REVISED -

REGION 2 / DISTRICT 2 STANDARD

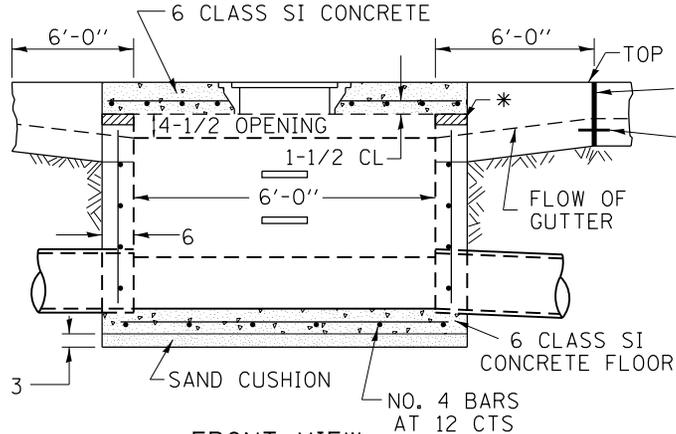
SCALE: 1.5455' / in. SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CONTRACT NO.				
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

INLETS, SPECIAL, NO. 7

79.4d

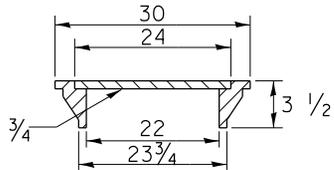
INLETS, SPECIAL, NO. 8



FRONT VIEW

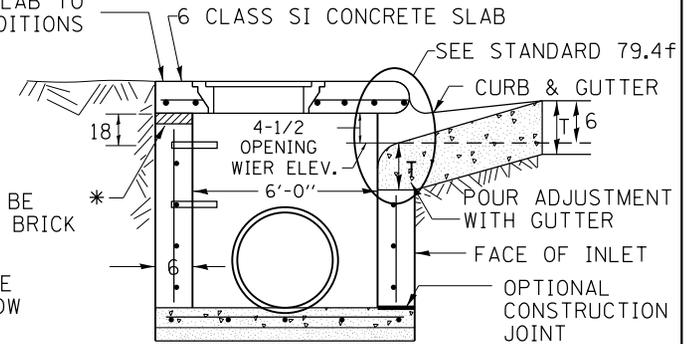
SEE STANDARD 602701 FOR DETAILS OF STEPS.
 1" PREFORMED EXPANSION JOINTS AS SHOWN SHALL BE PROVIDED ON EACH SIDE OF INLET.
 CLASS SI CONCRETE OR PRECAST CONCRETE SHALL BE USED THROUGHOUT.
 THE SIDE WALLS MAY BE BUILT AS PRECAST SEGMENTAL SECTIONS.
 REINFORCEMENT FOR INLETS, SPECIAL, NO. 8 SHALL BE ACCORDING TO DISTRICT STANDARD 79.4h

LIGHT WEIGHT MANHOLE CASTING



TOTAL WEIGHT 160 LBS.

SLOPE TOP SLAB TO MATCH FINAL CONDITIONS

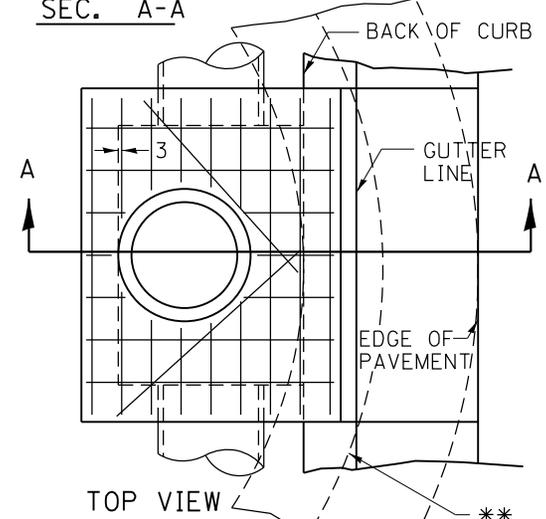


SEC. A-A

STEPS AT 12 TO 16 CTS.
 * THE WALL ADJUSTMENTS SHALL BE MADE WITH CONCRETE BUILDING BRICK OR CLASS SI CONCRETE.
 THE HEIGHT OF THE BOX MAY BE CONSTRUCTED 6 SHORT TO ALLOW FOR FIELD ADJUSTMENTS.
 ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

NOTES

STEPS SHALL BE OMITTED WHEN DEPTH OF INLET IS LESS THAN 5 FOOT
 THE INLET SHALL BE CAST IN PLACE OR PRECAST.
 EXCEPT AS NOTED HEREON INLETS, SPECIAL, NO. 8 SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 602 OF THE STANDARD SPECIFICATIONS.
 THE CONTRACT UNIT PRICE EACH FOR INLET SPECIAL NO. 8 SHALL INCLUDE THE COST OF FURNISHING AND INSTALLING THE FRAME, LID, REINFORCEMENT BARS, FLOOR AND TOP SLABS, CAST IRON STEPS (IF USED).
 THE CURB AND GUTTER WILL BE PAID FOR SEPARATELY AND WILL BE MEASURED THROUGH THE INLET.
 THE CURB AND GUTTER ADJACENT TO AND 6 FOOT ON EITHER SIDE OF THE INLET SHALL BE CONSTRUCTED AS SHOWN WITH NO ADDITIONAL COMPENSATION FOR THE TRANSITION.
 ALL PIPE UNDERDRAIN CONNECTIONS WHEN SPECIFIED SHALL BE DONE IN ACCORDANCE WITH ART. 601 OF THE STANDARD SPECIFICATIONS. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER (FOOT) FOR PIPE UNDERDRAINS, TYPE 2 OR PIPE UNDERDRAINS (SPECIAL) OF THE DIAMETER SPECIFIED WHICH PRICE SHALL INCLUDE THE CA7 OR CA16 AND THE CONNECTION TO THE INLET.



TOP VIEW

** WHEN INLET IS CONSTRUCTED IN RETURN, THE TOP OF SLAB SHALL CONFORM TO THE RADIUS OF THE RETURN.

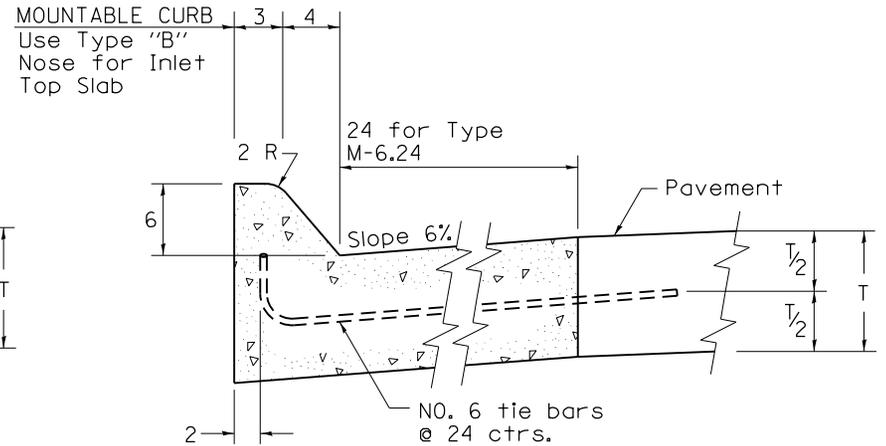
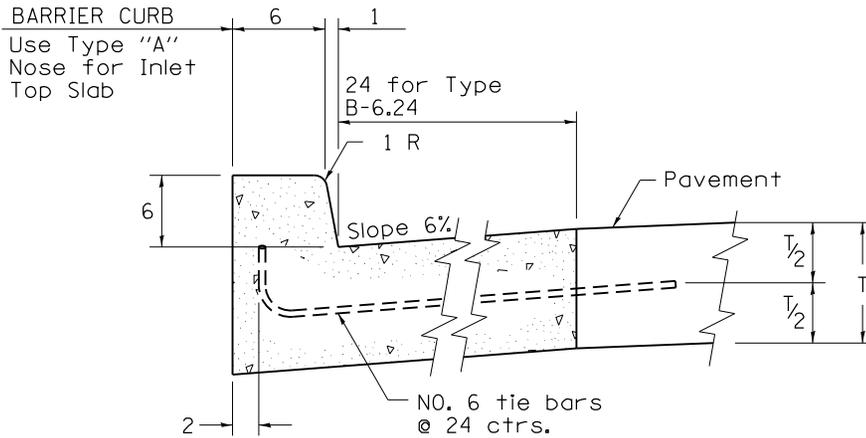
PLOT DATE = 1/18/2017

REVISED - 1-05-16
REVISED - 8-27-13
REVISED - 10-05-11
REVISED -

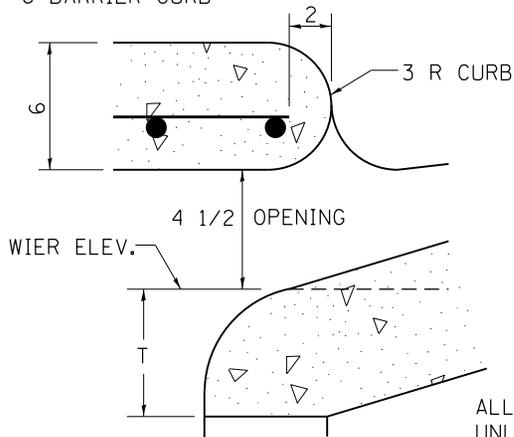
REGION 2 / DISTRICT 2 STANDARD				
SCALE: 1.5455' / in.	SHEET NO.	OF	SHEETS	STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CONTRACT NO.				
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

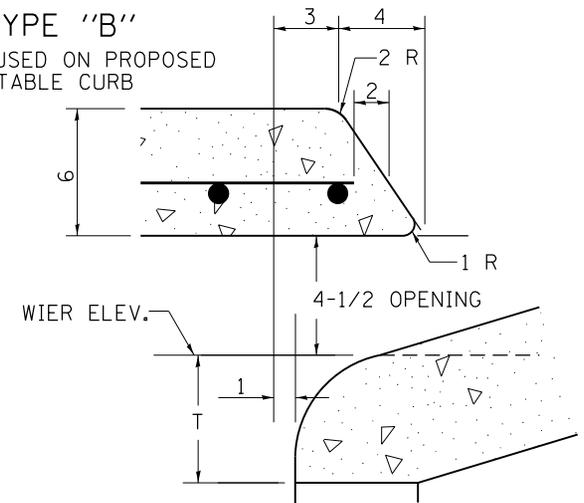
NOSE TYPE FOR INLET TOP SLAB



TYPE "A"
TO BE USED ON EXISTING OR PROPOSED
6 BARRIER CURB



TYPE "B"
TO BE USED ON PROPOSED
6 MOUNTABLE CURB



ALL DIMENSIONS ARE IN INCHES
UNLESS OTHERWISE NOTED.

PLOT DATE = 1/18/2017

REVISED - 4-14-15
REVISED - 10-05-11
REVISED -
REVISED -

REGION 2 / DISTRICT 2 STANDARD

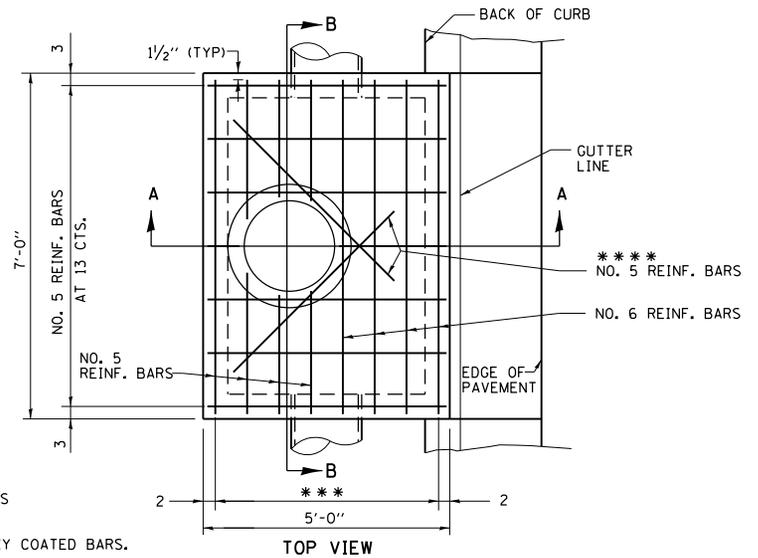
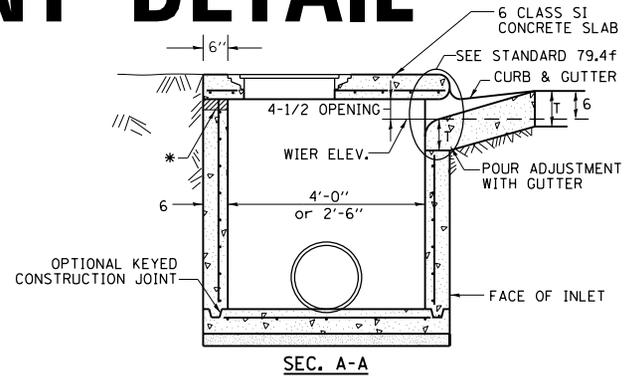
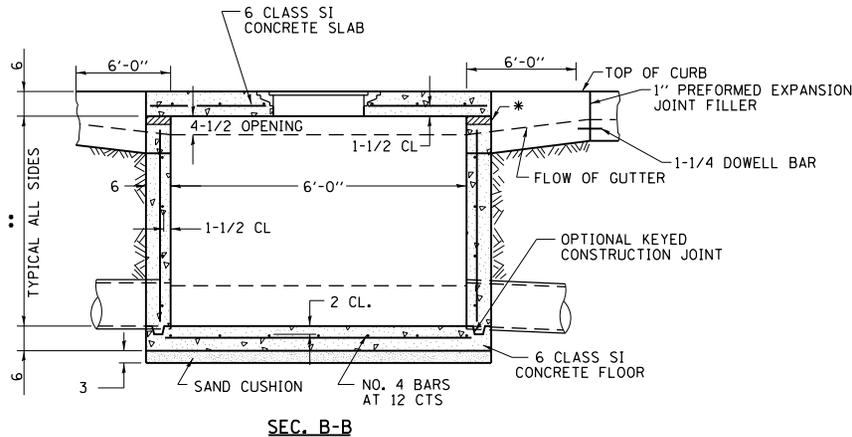
SCALE: 1.5455' / in. SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CONTRACT NO.				
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

NOSE TYPE FOR INLET TOP SLAB

79.4f

INLETS, SPECIAL, NO. 3, 4, 5, 6 REINFORCEMENT DETAIL



* THE WALL ADJUSTMENTS SHALL BE MADE WITH CONCRETE BUILDING BRICK OR CLASS S1 CONCRETE.

THE HEIGHT OF THE BOX MAY BE CONSTRUCTED 6" SHORT TO ALLOW FOR FIELD ADJUSTMENTS.

- ** 4'-0" TO 8'-0" - NO. 5 REINF. BARS AT 12 CTS. E.W.
- 8'-0" TO 13'-0" - NO. 5 REINF. BARS AT 10 CTS. E.W.
- 13'-0" TO 15'-0" - NO. 5 REINF. BARS AT 8 CTS. E.W.

- *** 7 SPA. AT 8" INLET SPECIAL # 3, 4
- 5 SPA AT 7-5/8" INLET SPECIAL # 5, 6

- **** 2 REBARS FOR INLET SPECIAL 3 & 4 @ 65"
- 4 REBARS FOR INLET SPECIAL 5 & 6 @ 24"

NOTES

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

TOP SLAB REINFORCEMENT TO BE EPOXY COATED BARS.

PLOT DATE = 1/18/2017

REVISED - 4-13-16
REVISED - 8-27-13
REVISED - 10-05-11
REVISED -

REGION 2 / DISTRICT 2 STANDARD

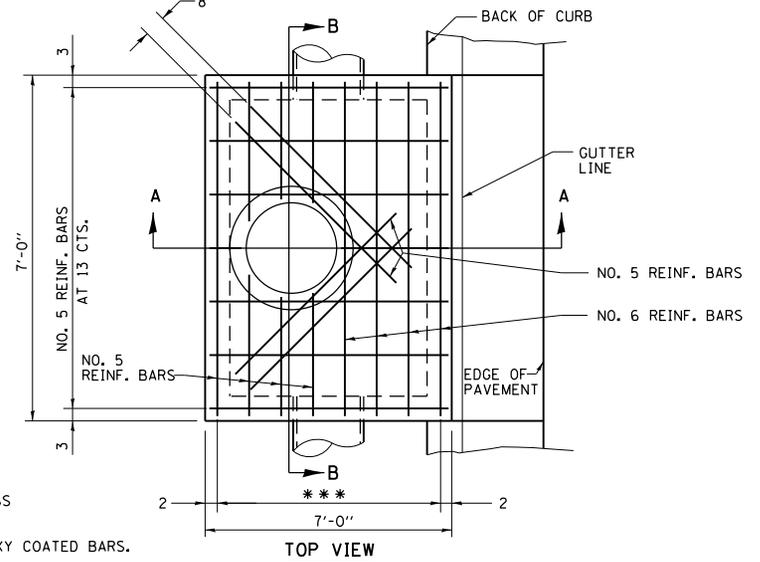
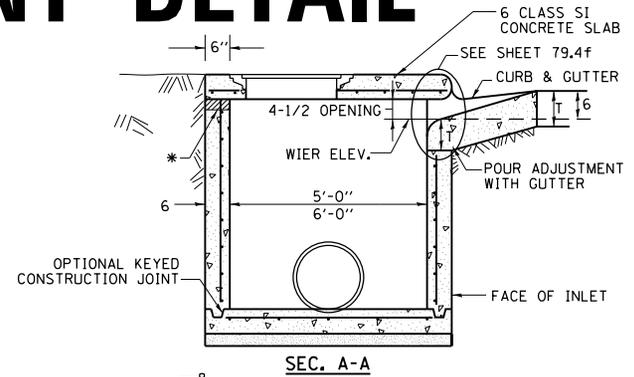
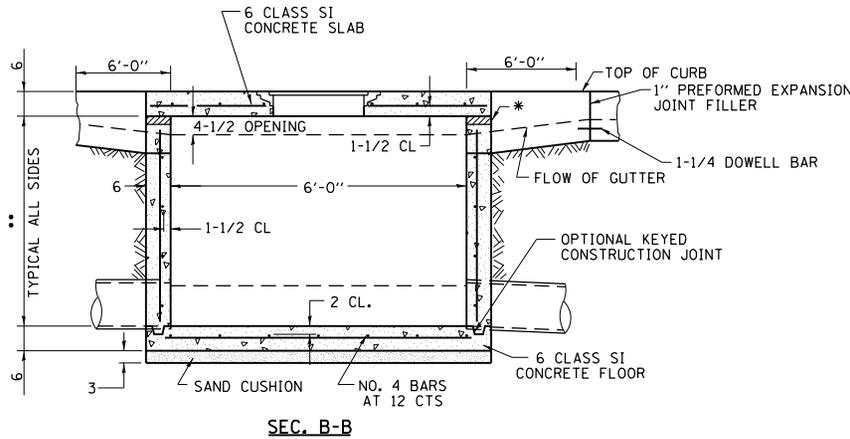
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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

INLETS, SPECIAL, NO. 3, 4, 5, 6 REINFORCEMENT DETAIL

79.4g

INLETS, SPECIAL, NO. 7 & 8 REINFORCEMENT DETAIL



* THE WALL ADJUSTMENTS SHALL BE MADE WITH CONCRETE BUILDING BRICK OR CLASS SI CONCRETE.

THE HEIGHT OF THE BOX MAY BE CONSTRUCTED 6" SHORT TO ALLOW FOR FIELD ADJUSTMENTS.

- ** 4'-0" TO 8'-0" - NO. 5 REINF. BARS AT 12 CTS. E.W.
- 8'-0" TO 13'-0" - NO. 5 REINF. BARS AT 10 CTS. E.W.
- 13'-0" TO 15'-0" - NO. 5 REINF. BARS AT 8 CTS. E.W.

*** NO. 5 REINFORCEMENT BARS 10 SPA @ 8"

NOTES

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

TOP SLAB REINFORCEMENT TO BE EPOXY COATED BARS.

PLOT DATE = 1/18/2017

REVISED - 4-13-16
REVISED - 8-27-13
REVISED - 10-05-11
REVISED -

REGION 2 / DISTRICT 2 STANDARD

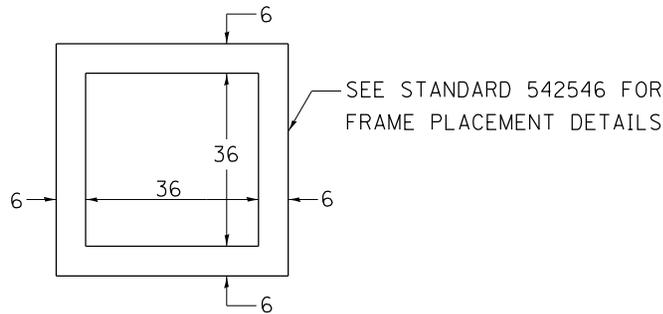
SCALE: 1.5455' / in. SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

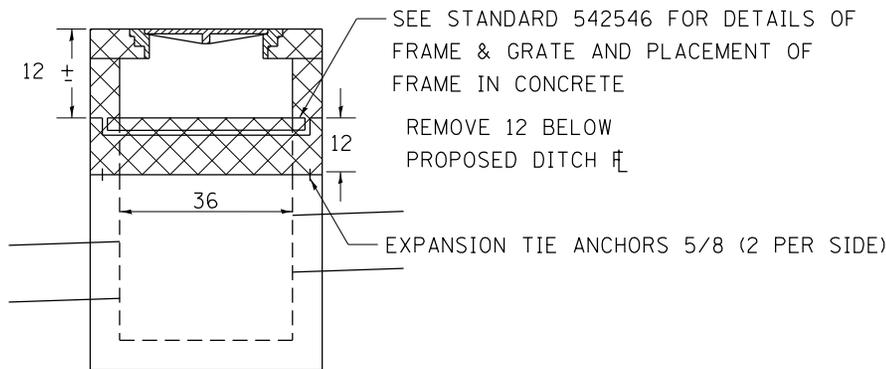
INLETS, SPECIAL, NO. 7 & 8 REINFORCEMENT DETAIL

79.4h

INLETS TO BE RECONSTRUCTED WITH NEW STANDARD 542546 FRAME AND GRATE



PLAN VIEW



NOTES:

THIS WORK SHALL BE DONE IN ACCORDANCE WITH STANDARD 542546 AND THIS DETAIL.

CLASS SI CONCRETE SHALL BE USED THROUGHOUT. THE PROPOSED TOP CAN BE CAST IN PLACE OR PRECAST.

THE EXISTING FRAME & GRATE SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR.

THE CONCRETE SHALL BE REMOVED BY DRILLING, CHIPPING, SAWING, OR OTHER METHOD APPROVED OF BY THE ENGINEER.

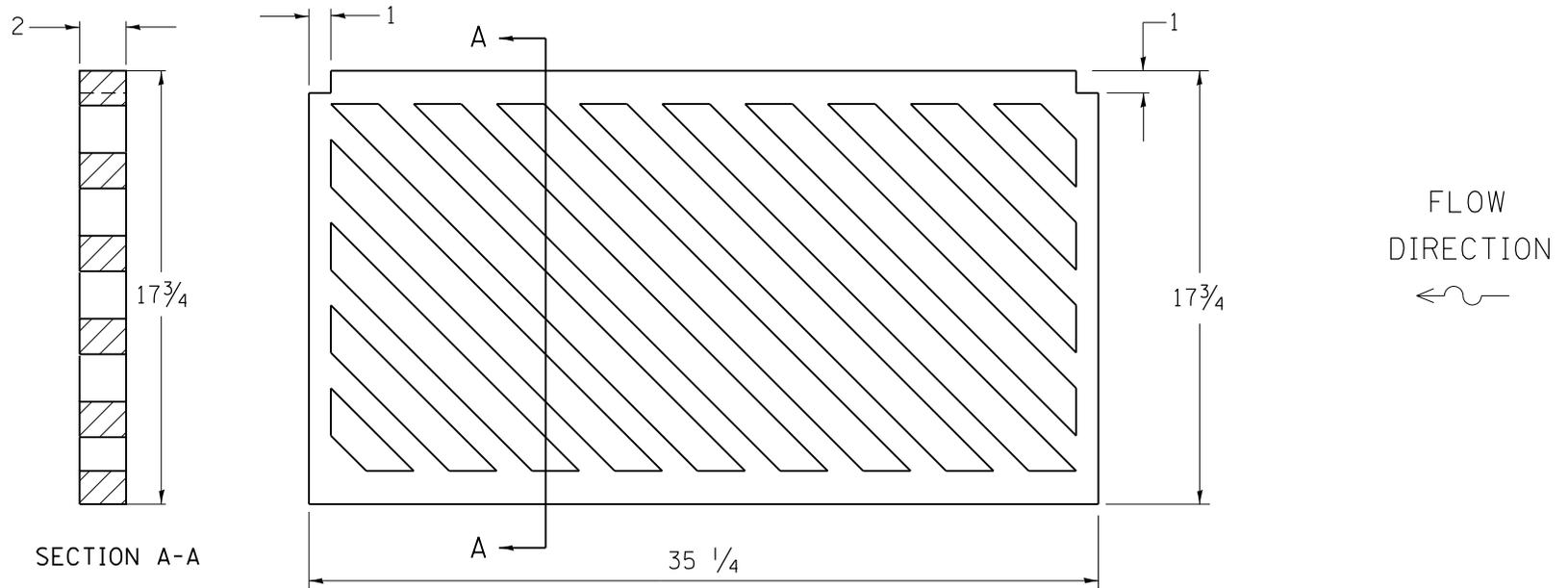
THIS WORK SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR INLETS TO BE RECONSTRUCTED WITH NEW STANDARD 542546 FRAME AND GRATE WHICH SHALL INCLUDE REMOVING THE FRAME & GRATE & CONCRETE, EXPANSION TIE ANCHORS, CLASS SI CONCRETE, AND FURNISHING & INSTALLING FRAME & GRATE (EITHER STEEL OR DUCTILE IRON).

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

PLOT DATE = 1/18/2017

REVISED - 10-05-11	REGION 2 / DISTRICT 2 STANDARD				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
REVISED -									
REVISED -					CONTRACT NO.				
REVISED -					SCALE: 1.5455' / in.	SHEET NO.	OF	SHEETS	STA.

GRATE, SPECIAL



ALL DIMENSIONS ARE IN INCHES
UNLESS OTHERWISE NOTED.

PLAN VIEW OF CAST IRON GRATE

1-3/8 DIAGONAL BARS WITH
1-1/4 OPENINGS

NOTES

THE CONTRACTOR SHALL FIELD CHECK
THE SIZE OF THE EXISTING GRATE
BEFORE ORDERING THE NEW GRATE
TO INSURE THE CORRECT SIZE.

THIS WORK SHALL BE PAID FOR AT THE
CONTRACT UNIT PRICE PER EACH FOR
SPECIAL GRATE NO. 1.

THE EXISTING GRATES ARE TO BE SALVAGED
AND TO BECOME THE PROPERTY OF THE _____.

PLOT DATE = 1/18/2017

REVISED - 10-05-11	REGION 2 / DISTRICT 2 STANDARD				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
REVISED -									CONTRACT NO.
REVISED -	SCALE: 1.5455' / in.	SHEET NO.	OF	SHEETS	STA.	TO STA.	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT

GRATE SPECIAL

83.4

TYPICAL MEDIAN CROSSOVER CLOSURE

(WITH EMERGENCY OPENING)

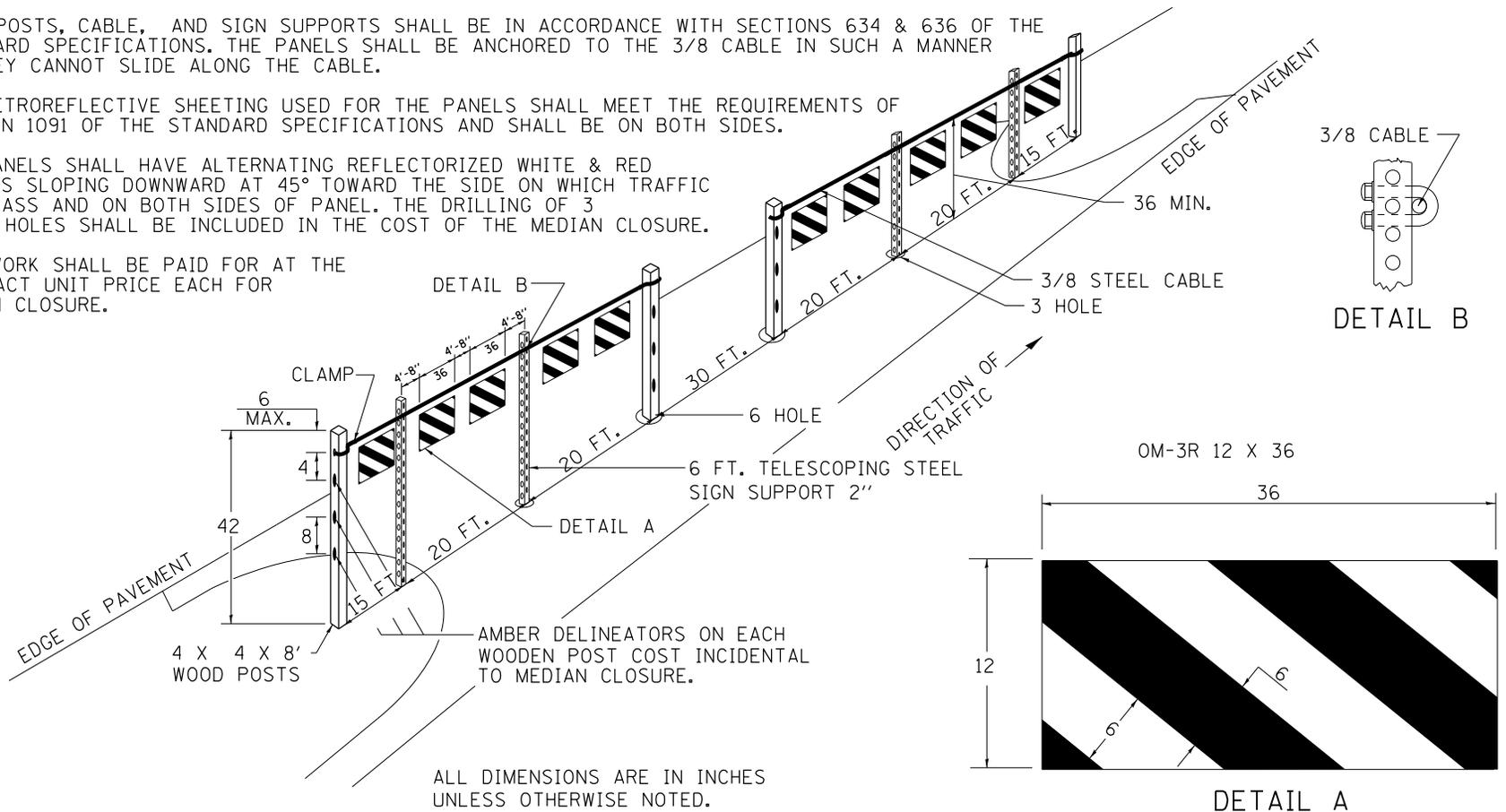
GENERAL NOTES

WOOD POSTS, CABLE, AND SIGN SUPPORTS SHALL BE IN ACCORDANCE WITH SECTIONS 634 & 636 OF THE STANDARD SPECIFICATIONS. THE PANELS SHALL BE ANCHORED TO THE 3/8 CABLE IN SUCH A MANNER SO THEY CANNOT SLIDE ALONG THE CABLE.

THE RETROREFLECTIVE SHEETING USED FOR THE PANELS SHALL MEET THE REQUIREMENTS OF SECTION 1091 OF THE STANDARD SPECIFICATIONS AND SHALL BE ON BOTH SIDES.

ALL PANELS SHALL HAVE ALTERNATING REFLECTORIZED WHITE & RED STRIPES SLOPING DOWNWARD AT 45° TOWARD THE SIDE ON WHICH TRAFFIC WILL PASS AND ON BOTH SIDES OF PANEL. THE DRILLING OF 3 AND 6 HOLES SHALL BE INCLUDED IN THE COST OF THE MEDIAN CLOSURE.

THIS WORK SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR MEDIAN CLOSURE.



ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

PLOT DATE = 1/18/2017

REVISED - 1-05-16
REVISED - 1-17-12
REVISED -
REVISED -

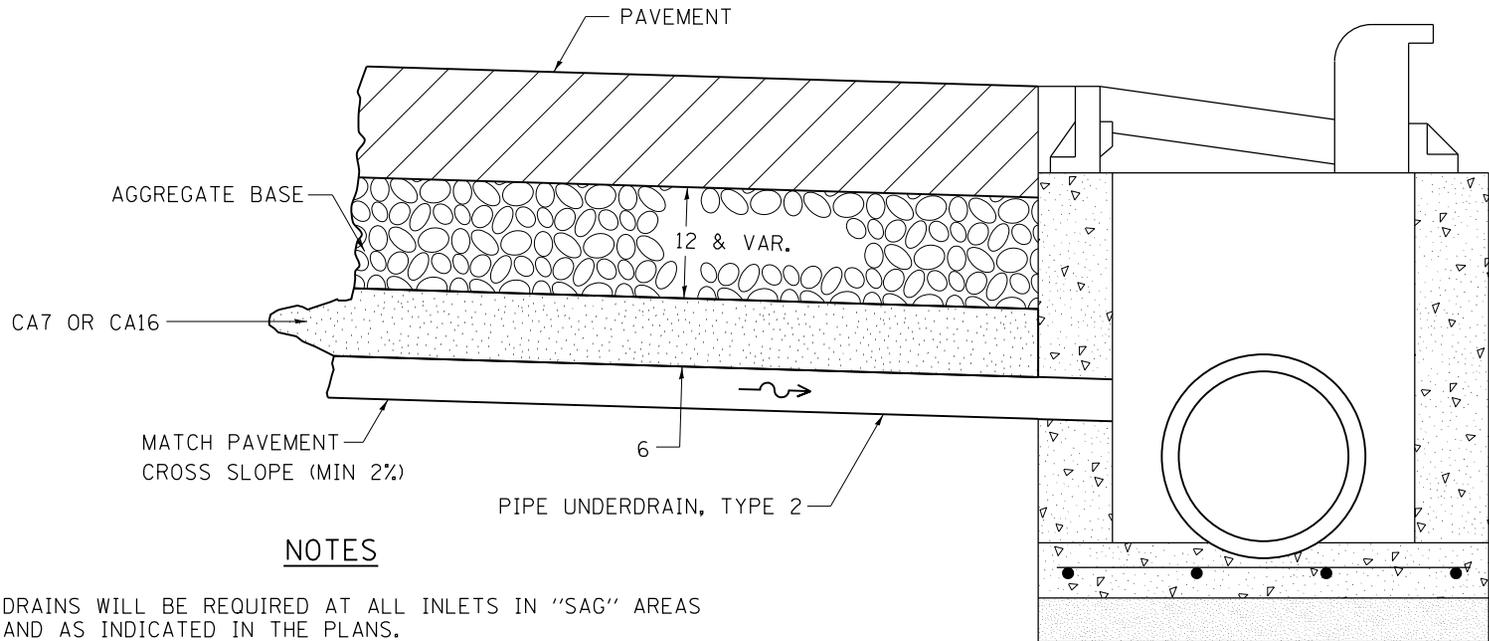
REGION 2 / DISTRICT 2 STANDARD

SCALE: 1.5455' / in. SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CONTRACT NO.				
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

TYPICAL MEDIAN CROSSOVER CLOSURE (WITH EMERGENCY OPENING) 87.4

DRAIN FOR AGGREGATE BASES IN URBAN AREAS



NOTES

DRAINS WILL BE REQUIRED AT ALL INLETS IN "SAG" AREAS AND AS INDICATED IN THE PLANS.

THIS WORK SHALL BE COMPLETED ACCORDING TO SECTION 601 OF THE STANDARD SPECIFICATIONS.

THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER FOOT FOR PIPE UNDERDRAINS, TYPE 2 OF THE DIAMETER SPECIFIED WHICH PRICE SHALL INCLUDE THE CA7 OR CA16 AND THE CONNECTION TO THE INLET.

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

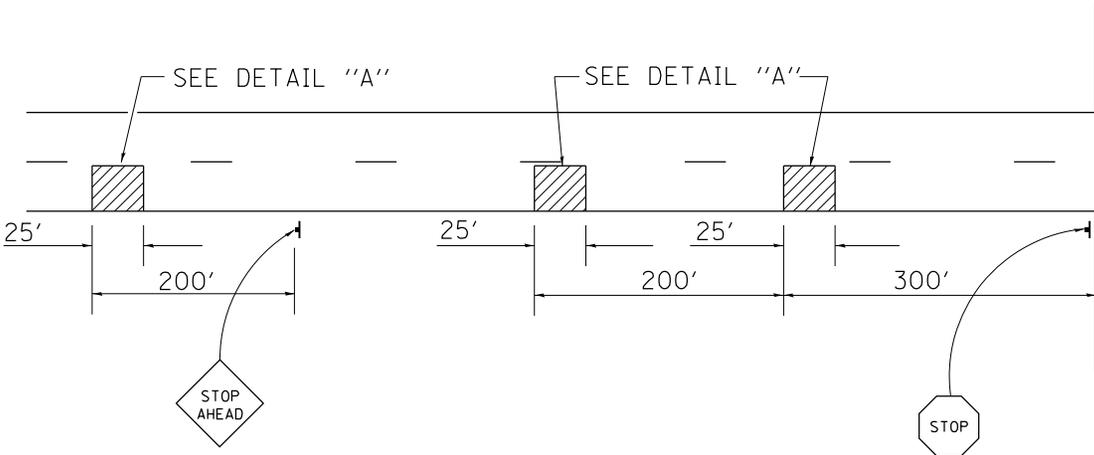
PLOT DATE = 1/18/2017

REVISED - 1-05-16	REGION 2 / DISTRICT 2 STANDARD				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
REVISED - 10-05-11									
REVISED -					CONTRACT NO.				
REVISED -	SCALE: 1.5455' / in.	SHEET NO.	OF	SHEETS	STA.	TO STA.	FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT	

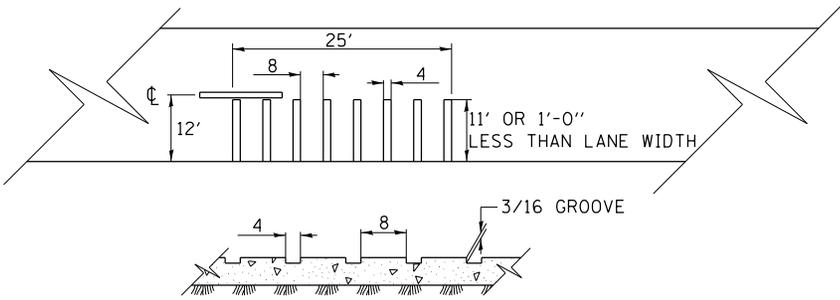
DRAIN FOR AGGREGATE BASES IN URBAN AREAS

88.4

RUMBLE RESURFACING



GROOVED



DETAIL "A"

NOTES

THE GROOVES SHALL BE CONSTRUCTED WITH A MILLING MACHINE CAPABLE OF COLD MILLING THE EXISTING SURFACE IN THE PATTERN SHOWN.

RUMBLE RESURFACING SHALL BE MEASURED FOR PAYMENT IN PLACE AND THE AREA COMPUTED IN SQUARE YARDS. THE LENGTH SHALL BE THE DISTANCE FROM OUTSIDE EDGE TO OUTSIDE EDGE OF THE GROOVE WHICH WILL BE APPROXIMATELY 25'. THE WIDTH SHALL BE 1' LESS THAN LANE WIDTH.

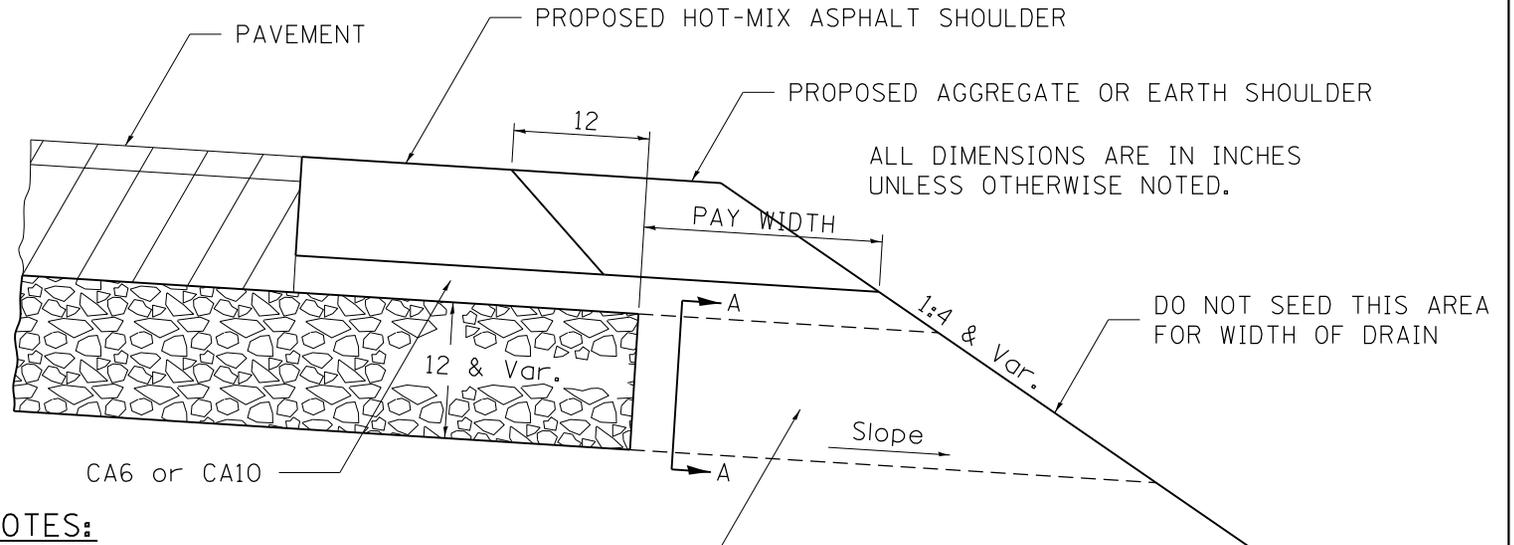
RUMBLE STRIPS SHALL BE CONSTRUCTED AS SHOWN AND PAID FOR PER SQUARE YARD AS RUMBLE RESURFACING.

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

PLOT DATE = 1/18/2017

REVISED - 10-05-11	REGION 2 / DISTRICT 2 STANDARD				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
REVISED -									
REVISED -									
REVISED -									
SCALE: 1.5455' / in.	SHEET NO.	OF	SHEETS	STA.	TO STA.	CONTRACT NO.			
						FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	

DRAIN FOR AGGREGATE BASE COURSE



ALL DIMENSIONS ARE IN INCHES
UNLESS OTHERWISE NOTED.

DO NOT SEED THIS AREA
FOR WIDTH OF DRAIN

NOTES:

The rock outlets shall be constructed using CA7 and will be paid for at the contract unit price per CUBIC YARD for FRENCH DRAINS. The thickness shall be the same as the adjacent sub-base material as noted on the plans and shall include the cost of the filter fabric. The Rock outlets will be measured in CU YD, the width being 36 by the length shown above. The cost of the CA6 or CA10 under the shoulder shall be included in the contract unit price per SQ. YD. for AGGREGATE SUBGRADE IMPROVEMENT of the thickness specified. The fabric to be used shall conform to the Geotechnical Fabric For French Drains

ROCK OUTLET AT ALL LOW POINTS TO BE 36 WIDE AND EXTEND TO FORESLOPE



SECTION A-A

NOTE: Slope same as shoulder with 2% min.

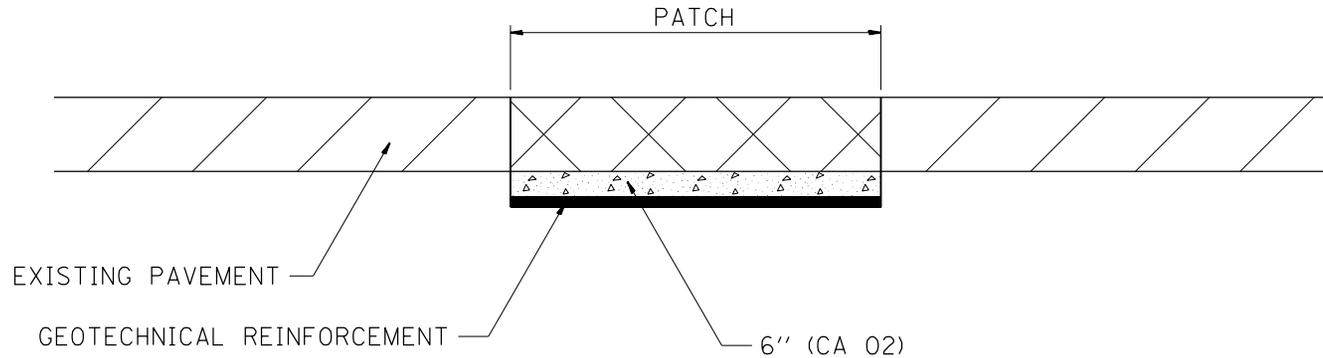
PLOT DATE = 1/18/2017

REVISED - 8-27-13	REGION 2 / DISTRICT 2 STANDARD				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
REVISED - 10-09-12									
REVISED -					CONTRACT NO.				
REVISED -	SCALE: 1.5455' / in.	SHEET NO.	OF	SHEETS	STA.	TO STA.	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT

DRAIN FOR AGGREGATE BASE COURSE

96.4

SUBGRADE REPLACEMENT



NOTES:

THE CA 02 SHALL BE COMPACTED IN A MANNER APPROVED BY THE ENGINEER. IF THE MOISTURE CONTENT OF THE MATERIAL IS SUCH THAT COMPACTION SATISFACTORY TO THE ENGINEER CANNOT BE OBTAINED, SUFFICIENT WATER SHALL BE ADDED SO THAT SATISFACTORY COMPACTION CAN BE OBTAINED.

THE CA 02 SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER CU YD FOR AGGREGATE SUBGRADE IMPROVEMENT WHICH SHALL ALSO INCLUDE ALL EARTH EXCAVATION.

THE GEOTECHNICAL REINFORCEMENT WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQ YD FOR GEOTECHNICAL REINFORCEMENT.

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

PLOT DATE = 1/18/2017

REVISED - 3-13-13	REGION 2 / DISTRICT 2 STANDARD				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
REVISED -									
REVISED -					CONTRACT NO.				
REVISED -					SCALE: 1.5455' / in.	SHEET NO. OF SHEETS	STA. TO STA.	FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT

SUBGRADE REPLACEMENT

97.4

TYPICAL MEDIAN CROSSOVER CLOSURE

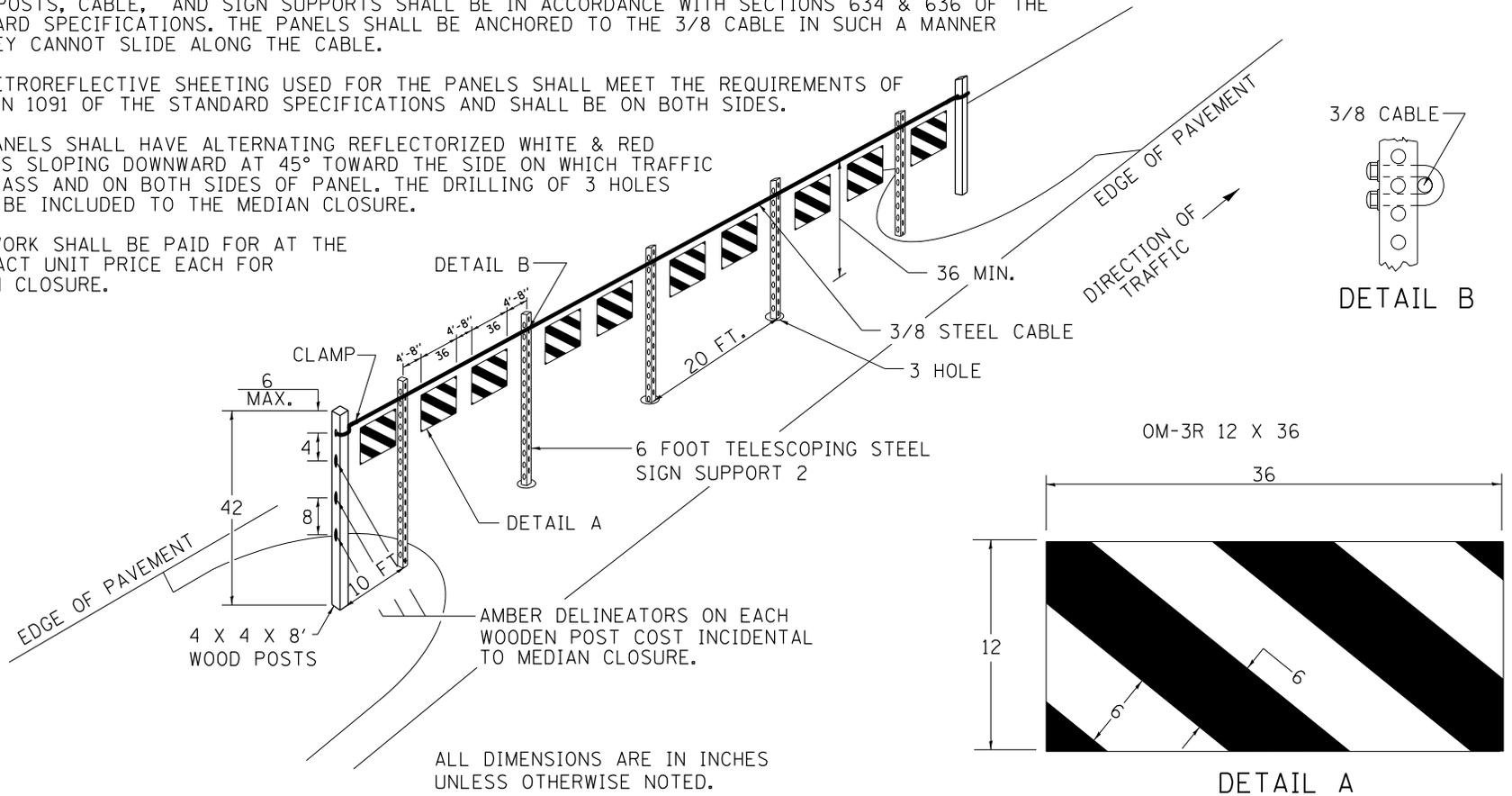
GENERAL NOTES

WOOD POSTS, CABLE, AND SIGN SUPPORTS SHALL BE IN ACCORDANCE WITH SECTIONS 634 & 636 OF THE STANDARD SPECIFICATIONS. THE PANELS SHALL BE ANCHORED TO THE 3/8 CABLE IN SUCH A MANNER SO THEY CANNOT SLIDE ALONG THE CABLE.

THE RETROREFLECTIVE SHEETING USED FOR THE PANELS SHALL MEET THE REQUIREMENTS OF SECTION 1091 OF THE STANDARD SPECIFICATIONS AND SHALL BE ON BOTH SIDES.

ALL PANELS SHALL HAVE ALTERNATING REFLECTORIZED WHITE & RED STRIPES SLOPING DOWNWARD AT 45° TOWARD THE SIDE ON WHICH TRAFFIC WILL PASS AND ON BOTH SIDES OF PANEL. THE DRILLING OF 3 HOLES SHALL BE INCLUDED TO THE MEDIAN CLOSURE.

THIS WORK SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR MEDIAN CLOSURE.



PLOT DATE = 1/18/2017

REVISED - 1-05-16
REVISED - 1-16-12
REVISED -
REVISED -

REGION 2 / DISTRICT 2 STANDARD

SCALE: 1.5455' / in. SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CONTRACT NO.				
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

TYPICAL MEDIAN CROSSOVER CLOSURE

98.4