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   All Driveways

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5200-C Storm Sewer Outlet Lateral To Stream – Sheet 1 of 2 – Plan View
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6500-A Manufactured Block Retaining Wall For Use With Inlet Or Sidewalk

SECTION 7100 – TREES AND SHRUBS
7100-A Tree Planting
YOUR TAX DOLLARS
AT WORK

PROJECT NAME
GOES HERE
A $1,234,567 CAPITAL PROJECT
SPONSORED BY:
UNIFIED GOVERNMENT (913) 573-5400
CONTRACTOR: CONSTRUCTION ‘R’ US
(913) XXX-XXXX

COUNTY COMMISSIONERS
Name – Mayor/CEO
Comm. At-Large 1 Comm. Distr. 4
Comm. At-Large 2 Comm. Distr. 5
Comm. Distr. 1 Comm. Distr. 6
Comm. Distr. 2 Comm. Distr. 7
Comm. Distr. 3 Comm. Distr. 8

For Projects Scheduled to Last 45 Calendar
Days Or Longer At A Fixed Location

NOTES:

1. Sign Shall Be Black On White Background, Of Durable,
   Weatherproof Construction, With Professional Layout
   & Lettering, Sample Layout Shown, Submit Actual
   Layout To Engineer For Approval.

2. Project Sign Required Only For Work Administered By
   Unified Government Public Works Department.


4. Posts Shall Be Built To Breakaway As Per
   KDDT Standards.
   a. A Skid Mount Is An Acceptable Alternate To
      Buried Post Foundation.

5. Frame & Post & Skids If Used Shall Be 4x6
   Weatherproofed Timbers.

6. Names Of Current Mayor & Commissioners May Be
   Obtained From The UG Commissioners Office: (913) 573-5040

PROJECT SIGN
PUBLIC WORKS DEPARTMENT, ENGINEERING DIVISION
UNIFIED GOVERNMENT
For Spot Repairs or Projects Scheduled to Last Less Than 45 Calendar Days At A Single Site

NOTES:

1. Sign Shall Be Black On White Background, Of Durable, Weatherproof Construction, With Professional Layout & Lettering, Sample Layout Shown, Submit Actual Layout To Engineer For Approval.

2. Project Sign Required Only For Work Administered By Unified Government Public Works Department.


PROJECT SIGN FOR PROJECTS OF SHORT DURATION
PUBLIC WORKS DEPARTMENT, ENGINEERING DIVISION
UNIFIED GOVERNMENT
Neenah (R-1968 Type 36-B)
Cast Iron Adjustable
Monument Box
9.5" Square Top
16.5" Square Base

Concrete Pavement Mix
24" Square Road Cut
Depth To Base Of Box
12" +/−

3.25" Dia Aluminum
Survey Disk Set 2"
Above Base Of Box

6" Dia Post Hole With
12" Dia Flared Base,
Base At 36" Depth
Below Surface Filled
With Concrete

3.75" Dia. x 6" PVC
Collar For Concrete

Compacted Earth Fill

0.75" ID Pipe x 30' Or
30" Aluminum Monument
Set In Concrete

NOTE:
All Work Shall Be Carried Out Under
The Direction Of A Kansas Registered
Professional Land Surveyor, & Subject
To Inspection By U.G. Surveyor.

REPLACEMENT OF GOVERNMENT CORNER MONUMENT IN PAVED AREA
PUBLIC WORKS DEPARTMENT, ENGINEERING DIVISION
UNIFIED GOVERNMENT

UG 1200–A
2008 Edition
NOTES:

1. Renew Aggregate When Mud From
   Tires, Encroachment Of Sub Soil Or Loss
   Of Loose Aggregate Cause Fines To
   Fill More Than 25% Of Surface Voids.

2. Avoid Locating On Steep Slopes Or At
   Curves On Public Roads. If Possible,
   Locate Where Permanent Roads Will
   Eventually Be Constructed.

CONSTRUCTION VEHICLE ENTRY
PUBLIC WORKS DEPARTMENT, ENGINEERING DIVISION
UNIFIED GOVERNMENT

UG 1400-A
2008 Edition
Diversion Dike At Top Of Slope. Grade To Downdrain Or Other Erosion Resistant Release.

Erosion Control Blanket Or Compost Blanket.

Compost Sock Or Other Approved Slope Interrupt.

Not To Exceed 10'

Deposition Area 4 To 20'

Silt Fence Or Compost Berm

Vertical Scale Exaggerated

⚠ Steep Slope Protection Applies To All Slopes Steeper Than 15%.
DIVERSION DIKE
PUBLIC WORKS DEPARTMENT, ENGINEERING DIVISION
UNIFIED GOVERNMENT
COMPOST BERM AND COMPOST Sock
PUBLIC WORKS DEPARTMENT, ENGINEERING DIVISION
UNIFIED GOVERNMENT
Existing Contour

Install Silt Fence Level With Contour Return End Uphill

3 Staples In Top 8"

Flow

6"

Alternate Install Fabric 6" Into Trench Backfill & Compact. Use Trench Method Only For Inaccessible Areas, Short Runs Or Rocky Soil.

3 Staples In Top 8"

Flow

Fabric Sliced 6" Into Ground By Slicer.

Stakes @ 4' In Ponded Areas. Stakes @ 8' On Sloping Runs.
SLOPE DRAIN
PUBLIC WORKS DEPARTMENT, ENGINEERING DIVISION
UNIFIED GOVERNMENT

Note: For Temporary Erosion Control Only
**Erosion Protection Standard.** Where stormwater flow is:
1. Concentrated flow (yard swale), then stabilize swale per detail on this page.

2. Sheet flow entering the site from an undisturbed area, then no additional protection is required.

3. Sheet flow entering the site from a disturbed area, then install perimeter flow control. Perimeter flow control may be compost sock, silt fence, 6 foot width of sod, 10 foot width of undisturbed native cover, or rocked construction entrance.

4. Sheet flow exiting the site, then install perimeter flow control to slow the velocity. See notes for definition of perimeter flow control.

**MINIMUM EROSION CONTROL FOR SINGLE FAMILY RESIDENTIAL LOT**

PUBLIC WORKS DEPARTMENT, ENGINEERING DIVISION

UNIFIED GOVERNMENT

UG 1400–G
2008 Edition
Typical Dimensions & Materials

3/8" Synthetic Rope
Yellow Or High Visibility Orange
Preferred Colors

Clove Hitch Or Quick Release
Alternate

Post; Driven Into Ground:
- T-Post
- 1” Dia. Steel Rod, #8 Rebar
- 2” Dia. Wood Post
- Or Equivalent Stability.

If Vehicle Strikes Occur, Add Orange
Flagging Or Replace Rope Barrier
With Construction Fence.

Quick Release Alternate to Clove Hitch

Note: Quick Release Alternate Must Be Kept
Taught Throughout Placement. Not For
Use On End Posts.

ROPE BARRIER
PUBLIC WORKS DEPARTMENT, ENGINEERING DIVISION
UNIFIED GOVERNMENT
Emergency Overflow Channel, See Project Plans For Location & Elevation

"Clean Out Required" Marker, See Project Plans For Elevation

Spillway Elevation, See Project Plans For Elevation

Embankment As Constructed, See Project Plans For Elevation

Seed Top & Downstream Face Of Embankment Mulch With Erosion Control Blanket

Minimum Embankment Height After Settlement, See Project Plans For Elevation

Control Water Surface

See Sheet 2 Of 2

Storage Volume, See Project Plans For Contours

SECTION THROUGH EMBANKMENT AND BASIN CONTROLS

NO SCALE

SEDIMENT BASIN OUTLET, SHEET 1 OF 2
PUBLIC WORKS DEPARTMENT, ENGINEERING DIVISION
UNIFIED GOVERNMENT
NOTES:

1. See Project Plans Or Design Guidelines For Diameter Of Pipes And Size And Number Of Dewatering Holes.


3. The Riser Shall Have A Base Attached With Sufficient Weight And Size To Prevent Flotation Or Over-Turning Of The Riser.

SEDIMENT BASIN OUTLET, SHEET 2 OF 2
PUBLIC WORKS DEPARTMENT, ENGINEERING DIVISION
UNIFIED GOVERNMENT
NOTES:
1. If Rock Is Encountered Contact Engineer To Verify & Define Upper Limit Of Rock. See Individual Utility Requirements For Over excavation.
2. Shore Or Slope Sides Of Excavation. OSHA Has Additional Requirements For Excavations.
3. Thickness Of Lifts Must Match Compaction Methods.
Initial Backfill Allowable Materials

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<td>No</td>
<td>Yes</td>
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<tr>
<td>Open Areas, Rigid Pipes, Depths to 30’</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>Open Area, Flexible Pipe, Depths to 30’</td>
<td>Yes</td>
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See Section 2100 For Definition Of Stone Fill & Select Fill

Bedding Depth Below Pipe

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<td>4”</td>
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<td>9”</td>
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<tr>
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<td>6”</td>
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Concrete Encasement Minimum 6” Beyond Outer Wall Of Pipe. Form or Cast Against Trench Wall. Reinforcing Steel Shall Be two #6 Bar for Pipe Up To 8” Dia; Four #6 Bar for 10” Through 24” Dia; & as Approved By the Engineer for Larger Than 24”.

SANITARY AND STORM SEWER BEDDING
PUBLIC WORKS DEPARTMENT, ENGINEERING DIVISION
UNIFIED GOVERNMENT

UG 2100-B
2008 Edition
STEP 1: Build Earth Platform

STEP 2: Excavate Trench & Place Pipe

platform for exposed pipe installation
Public works department, engineering division
Unified government
Concrete Paving Mix Adjust Thickness To Match Existing Pavement Subgrade Except Base Must Be Min 6" & Need Not Exceed 12".

Trench Backfill Per Detail Utility Trench.

Undisturbed Subgrade At Overcut

Pavement Joint, Normally At Lane Line.

FLAG NOTES:
⚠️ Minimum Overcut Shall Be 1.0 Foot, Overcut Shall Be A Single Rectangle Oriented Parallel & Perpendicular to the Travel Lanes.
⚠️ No Load Transfer Devices Are Required At Overcut Joint.

LEGEND

Excavation

Overcut

SHEET NOTES:
1. Streets With Brick Base & Asphalt Overlay Shall Be Patched Per Asphalt Pavement Patch Details.
2. Refer To Specification For Asphalt & Concrete Mix, Tack, Placement, And Compaction Requirements.

ASPHALT PAVEMENT PATCH
PUBLIC WORKS DEPARTMENT, ENGINEERING DIVISION
UNIFIED GOVERNMENT

UG 2250–A
2008 Edition
Concrete Paving Mix Adjust
Thickness To Match Existing Pavement Subgrade Except Base Must Be Min 6”

Trench Backfill Per Detail Utility Trench.

Undisturbed Subgrade At Over Cut

2” Asphalt Surface Course

Failed Existing Pavement

PAVEMENT X-SECTION

* At UG Engineer’s Instruction
Use 6” Minimum Flush Filled Concrete Paving Mix.

**

FLAG NOTES:

⚠️ To Maximum Extent Permitted By Pavement Condition, Locate A Saw Cut Between 6” & 2’-0” Of The Excavation. For Remainder Of Pavement Edge, Remove Dislodged Pavement Fragments With Minimum Disruption To Remaining Fragments. Any Shape Of Pavement Patch Acceptable In Failed Pavements.

SHEET NOTES:


2. Refer To UG Standard Specifications For Asphalt & Concrete Mix & Tack, Placement & Compaction Requirements.

LEGEND

Excavation

Pavement Patch

PAVEMENT PATCH IN FAILED PAVEMENTS
PUBLIC WORKS DEPARTMENT, ENGINEERING DIVISION
UNIFIED GOVERNMENT

UG 2250–B
2008 Edition
Concrete Paving Mix
Adjust Thickness To Match
Existing Pavement Subgrade
Except New Pavement Must
Be Min. 8” & Need
Not Exceed 14”.
Trench Backfill Per
Utility Trench Detail

Dowels & Tiebars
Per Concrete
Pavement Joint
Details

Existing
Pavement

Undisturbed
Subgrade At
Overcut

PAVEMENT X-SECTION

6’ Min

Longitudinal
Joints

Transverse Joint

---

FLAG NOTES:

⚠️ Minimum Longitudinal Overcut In
Mid-Panel Shall Be 1.0 Foot.

⚠️ Minimum Transverse Overcut 0.0 Foot.

⚠️ Where Minimum Longitudinal Overcut
Would Result In Remaining Panel
Less Than 10’ Long Between Cut
& Transverse Joint Or Shrinkage
Crack, Then Replace Panel To
Transverse Joint Or Shrinkage
Crack.

⚠️ Patches Shall Extend From One
Longitudinal Joint To Another.
No Additional Overcut Is Required.

⚠️ Where Patch Crosses Longitudinal
Joint, Patch May Stagger Only If
Stagger Is Greater Than 6 Feet.

⚠️ Transverse Joint Dowels & Longitudinal
Joint Tie Bars (Including Curb Tie
Bars) Shall Be Installed Per Details
For Concrete Pavement Joint Layout &
 Patching.

---

SHEET NOTES:

1. Streets With Brick Driving
Surface Shall Be Patched Per
Asphalt Pavement Patch Details.

2. If Asphalt Overlay Covers
More Than 80% Of The Panels
Surrounding The Cut, Then
Restore Per Asphalt Pavement
Patch Details.

3. Refer To UG Standard Specifications
For Concrete Mix, Curing Requirements,
And For Minimum Strength For
Opening To Traffic.

4. Pavement Thickness And Finish
Shall Match Thickness Of
Adjacent Panels Except New
Pavement Shall Not Be Less
Than 8” Thick, Nor Greater
Than 14” Thick.

5. Overcut Edges Shall Be Saw
Cut Full Depth. Damaged Edges
Shall Be Recut.

---

LEGEND

Excavation

Overcut

---

CONCRETE PAVEMENT PATCH

PUBLIC WORKS DEPARTMENT, ENGINEERING DIVISION

UNIFIED GOVERNMENT

UG 2250–C
2008 Edition
FLAG NOTES:

⚠️ When 3 Or More Patches Over The Same Utility, Whether As Part Of The Current Repair Or A Previous Repair, Are Separated By An Average Center-To-Center Distance Of 25 Feet Or Less The Mill And Overlay Requirement Shall Be Applicable. Intermediate Gaps Of Greater Than 25 Feet Shall Be Incorporated In The Merge Patch As Long As The Average c–c Distance Requirement Is Met.

⚠️ Minimum 2" Depth Mill & Overlay Full Width Of All Lanes Multiple Patches Encroach. Overlay Shall Be Placed By Paving Machine. Terminal Header Shall Align Across All Lanes To Be Over Laid.

EXCEPTIONS TO THIS RULE WILL BE AT THE ENGINEER’S DISCRETIONS. FACTORS TO BE CONSIDERED ARE:

A. The Condition Of The Unpatched Pavement. The Worse The Unpatched Pavement, The Less Need To Merge The Patch. Failed Pavements May Not Require Any Merging Of Patches.

B. Alignment Of The Multiple Patches. The Closer The Patches Are To The Wheel Path, The Greater The Need To Merge Patches.

C. The Total Number Of Multiple Patches. The Greater The Number Of Patches, The Greater Need To Merge The Patches.

D. The Average & Maximum Distance Between Multiple Patches. The Greater The Average Or Maximum distance, The Less Need To Merge Patches.

E. The Location Of Lane Lines And Pavement Joints. Preference Given To Merging Patches In The Same Lane.

PATCH MERGING – CASE 1
PUBLIC WORKS DEPARTMENT, ENGINEERING DIVISION
UNIFIED GOVERNMENT
FLAG NOTES:

⚠️ If Standard Overcut Would Be Less Than 2' From The Curb And Gutter, Then Extend The Patch To The Gutter Line.

⚠️ Merge Every Existing Patch Whose Edge Is Less Than 9’ From A Rectangle Drawn Around The Standard Overcut And All Closer Patches That Meet The Same Requirement. This Is A Recursive Determination With No Set Limit Of Intermediate Patches.

Exceptions To This Rule Will Be At The Engineer’s Discretion. Factors To Be Considered Are:

A. The Surface Texture And Structural Soundness Of The Existing Patch. The Better The Existing Patch, The Less Need To Merge The Patch.


C. The Continuity Of The Existing Patch To The Standard Overcut. The Greater The Number Of Intervening Patches, The Less The Need To Join The Patch.

⚠️ Merged Patch Shall Be Full Depth Pavement Replacement Or 2” Mill And Overlay At Engineer’s Discretion. Overlay Shall Be Placed By Paving Machine. Factors To Be Considered Are:


E. The Location Of Lane Lines And Pavement Joints. Preference Given To Merging Patches In The Same Lane.

LEGEND

.standard overcut
.existing patch
.area of merged patch

 PATCH MERGING – CASE 2
PUBLIC WORKS DEPARTMENT, ENGINEERING DIVISION
UNIFIED GOVERNMENT
**EXPANSION JOINT**

Space Expansion Joints As Shown On Project Drawings.

1 1/8" x 18" Capped Dowel.
Joint Filler and Sealant.
1" Expansion Clearance
Alternate Working & Fixed Ends of Dowels
Epoxy Coating, 7 to 13 Mil, On Working End & Within 2" Of Joint On Fixed End.

**TRANSVERSE JOINT AT PATCH**

Saw Cut Or Form 1 1/4" Deep.
1 1/8" x 18" Dowel, 3 @ 12" Centered On Each Wheel Track For Patch. Vert And Horiz Alignment Supports Required.
Grease This End
Saw Cut.
Drill Hole, Epoxy Or Grout Filled.

**TRANSVERSE JOINT NEW PAVEMENT**

Spacing of Transverse Joint As Shown On Project Drawings; 15" If Not Shown.

1 1/8" x 18" Dowel; 12" Centers, Continuous Across Joint for New Construction; Vert And Horiz Alignment Supports Required. 3 @ 12" Centered On Each Wheel Track For Patch.

**CONTROL JOINT DIMENSIONS**

Note: Joints In Sidewalks Or Driveways Me Be Tooled As An Alternate To Saw Cutting. Tooled Joints Do Not Require Sealant.

D/3
If Kerf Is ≤ 1/8", Then No Sealant Is Required.
If Kerf > 1/8", Then Seal Control Joint.

**TIED LONGITUDINAL CONSTRUCTION JOINT**

Place Longitudinal Joint Where Shown On The Project Drawing; At Lane Lines If Not Shown.

#4 x 2' - 0" Tie Bar: 2' - 6" Centers.

**KEY SHAPE**

1/2" 1" 1/2"
CONCRETE PAVEMENT JOINT LAYOUT AND PATCHING
PUBLIC WORKS DEPARTMENT, ENGINEERING DIVISION
UNIFIED GOVERNMENT

Dowels In Dowel Basket At Transverse Joints
Deformed Tiebars At Longitudinal Joint (Lane Line)
Deformed Tiebars At Curb Joint.
Space Joints To Eliminate Wire Mesh, 15' Typical, Or As Shown On The Project Drawings.
NEW CONSTRUCTION

3 @ 1-1/8" x 18" Dowels In Each Wheel Track
Deformed Tiebars At Curb And Lane Line.
Length As Marked By Engineer, 6' Minimum.
TRANSVERSE CONTROL JOINT REPAIR

Cut Tiebars. Do Not Reinstall.
3 @ 1-1/8" x 18" Dowels In Each Wheel Track
Length As Marked By Engineer, 6' Minimum.
TRANSVERSE EXPANSION JOINT REPAIR
NOTE:
Broom Finish Shall Be Used For All Curb & Gutter.

CURB AND GUTTER SECTIONS
PUBLIC WORKS DEPARTMENT, ENGINEERING DIVISION
UNIFIED GOVERNMENT
Curb Repair

(Where Adjacent Pavement Is To Remain In Place)

Bottom Of Curb To Match Subgrade Or Base Course Cross Slope.

Base Overrun As Required For Contractor’s Method Of Placement, Min 3”

Leave Surface Rough

Formed Edge

As Required For Forms 4”-12” Typ.

Surface Mix Asphalt

Existing Asphalt Pavement

Saw Cut Pavement

Cast Conc. Base Against Saw Cut

Conc. Base May Be Cast At Same Time As Curb Or Separately

Subgrade For Repair: Remove Loose Earth, Stabilize Soft Spots, Level With Aggregate Bedding And Trim To Subgrade Elevation.

Curb For New Pavement

(For New Mainline Pavement & Repairs Where Adjacent Pavement Is Replaced)

NOTES: Installation Details Shown on This Sheet for Standard Curb Apply to All Typical Curb Sections.

Curb and Gutter Installation (Asphalt Streets)

Public Works Department, Engineering Division

Unified Government
Saw Cut Edge. If Slab To Remain Is Damaged Or Chipped Excessively During Removal Of Curb, Engineer May Require Replacement Of Pavement Panel.

Existing Concrete Pavement

Existing Base

Drill And Epoxy #4 x 2’-0” Tie Bars @ 2’-6” C.C.

Subgrade For Repair: Remove Loose Earth Stabilize Soft Spots, Level With Aggregate Bedding And Trim To Subgrade Elevation.

CURB REPAIR
(Where Adjacent Pavement Is To Remain In Place)

Base Overrun As Required For Contractor’s Method Of Placement, Min 3”

#4 x 2’-0” Tie Bars @ 2’-6” C.C.

New Concrete Pavement

4” Base Course, AB-3 Continuous Through Mainline Pavement And C&G

Thicken Curb Section To Match Mainline Slab

CURB FOR NEW CONCRETE PAVEMENT
(For New Mainline Pavement & Repairs Adjacent To Pavement Slabs Should Be Replaced)

NOTES: Installation Details Shown on This Sheet for Standard Curb Apply to All Typical Curb Sections.

CURB AND GUTTER INSTALLATION (CONCRETE STREETS)
PUBLIC WORKS DEPARTMENT, ENGINEERING DIVISION
UNIFIED GOVERNMENT
TRANSLATION

MAINTAIN MIN. 1% SLOPE PAST RAMP
2' X 4' DETECTABLE WARNING PANEL

RAMP (ENLARGEMENT)
NOTE: RAMP IS 6" THICK CONCRETE.

MATCH STREET
SLOPE
12:1 MAX

ROW

CENTER OF CURB RETURN
LIMITS FOR CURB RAMP CONSTRUCTION

CORNER

MAXIMUM CROSS SLOPE ON 4' WIDE ACCESSIBLE ROUTE IS 1%
PREFERRED LOCATION OF C8=ON TANGENT

LEGEND:
L: LANDING: SLOPE 1% TOWARD FLOWLINE & 0 TO 2% ACROSS WIDTH OF LANDING.
R: RAMP: MAXIMUM 8.3% SLOPE IN DIRECTION OF TRAVEL, CROSS SLOPE 0 TO 2%.
T: TRANSITION: MAXIMUM 10% SLOPE IN ANY DIRECTION, WHEN ADJACENT TO APPROACH WALK.
DW: DETECTABLE WARNING PANELS.

ADA RAMP FOR NEW CONSTRUCTION
PUBLIC WORKS DEPARTMENT, ENGINEERING DIVISION
UNIFIED GOVERNMENT

UG 4100-F
2008 Edition
DRIVEWAY LAYOUT, SHEET 1 OF 2

GENERAL

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Where Pedestrian Easement Does Not Allow Accessible Route At Top Of Entrance Slab, Accessible Route Shall Lay Between Sloped Portions Of The Entrance Slab.

ACCESSIBLE ROUTE ALIGNED WITH SIDEWALK

DRIVEWAY LAYOUT, SHEET 2 OF 2
FOR ADA ACCESSIBILITY
PUBLIC WORKS DEPARTMENT, ENGINEERING DIVISION
UNIFIED GOVERNMENT
NOTE:
Applies To Single Family & Duplex Lots. Multifamily Entries Shall Conform To Commercial Driveway Standards.
Alternate Granular Surfacing Permissible For Drives Over 100 Feet

Pavement On Lot: Concrete Or Asphalt Per Owner’s Design

Pavement In ROW: 6 Inches of Concrete Mix Per Tech. Prov. 4 Inches Aggregate Base

40' (Min)

25' (Max)

Handicap Access, Minimum 3', Max. Cross Slope 2%, Continuous Accessible Connection With Sidewalk

Driveway Dimensions & Materials, Sheet 4 of 6
Long Driveway on Residential Lots
Public Works Department, Engineering Division
Unified Government

UG 4100-L
2008 Edition
DRIVEWAY DIMENSIONS & MATERIALS, SHEET 5 OF 6
COMMERCIAL / INDUSTRIAL DRIVEWAY
PUBLIC WORKS DEPARTMENT, ENGINEERING DIVISION
UNIFIED GOVERNMENT

ROW
Cross Street

Pavement In ROW:
8 Inches Concrete Mix Per Tech. Prov.
4 Inches Aggregate Base

R. 10' (Min For Commercial)
R. 15' (Min For Industrial)
25' (Max)

Industrial
35' (Max)

Commercial
30' (Max)

Pavement On Lot:
Asphalt Or Concrete Per Owner’s Design

40' (Min)
No Part Of The Drive Or Return Shall Cross A Line Originating At The Corner Formed By The R.O.W. Line & The Side Lot Line & Drawn Perpendicular To The Street Center Line

Set Back As Required By Zoning

ROW

Street

DRIVEWAY DIMENSIONS & MATERIALS, SHEET 6 OF 6 SIDE PROPERTY LINE SETBACK ALL DRIVEWAYS
PUBLIC WORKS DEPARTMENT, ENGINEERING DIVISION
UNIFIED GOVERNMENT
UG 4100–N 2008 Edition
Cover Shall Match Elevation & Slope Of Adjacent Finished Pavement. In Lawn Areas Cover Shall Be Level & 1/2" Above Adjacent Lawn. In Open Fields And Unimproved Land Cover Shall Be 12" Above Adjacent Ground.

Grade Rings Shall Have Keyed Joints. 2 Required For New Construction 4" Min 12" Max. Maximum 18" For Resetting Cover For Street Overlay.

Reinforcement Shall Meet ASTM C 478 For Precast Sections.

Base Dimensions Shown Are Minimums.

Bases Shall Be 2" Thicker For Depths Greater Than 30 Feet.

REINFORCED PRECAST BASE UNREINFORCED CAST IN PLACE BASE

NOTES:
1. Risers, Cones & Grade Rings Shall Conform To ASTM C 478. Use Concentric Cones Unless Otherwise Directed.

2. All New Sanitary Manholes Shall Be Vacuum Tested.

Invert Shaping Requirements
Apply To All Manholes,
Junction Boxes, & Inlets.

"U" Shaped
Channel Match
Lower 1/2 Of Pipe.
Depth = 3/4 Pipe Dia.

INVERT SHAPING

Alternate Clamping
Type Shoe For Precast
Base. Submit Cut
Sheet For Approval.

SANITARY SEWER PIPE JOINT WATERSTOP

1"x 1" Keyway
3/8 " O-Ring Waterstop
For Cast In Place Base.

Julian Heat Date
6 – Gussets 5/8"
Taper To 3/8"

"MADE IN USA"
On Top Of Ring

STANDARD MANHOLE COVER (SANITARY)

1"Ø Lifting Hole In
Every Other Gusset.

2 Concealed
Pickslots

"Storm" or
"Sanitary" Inserts

STANDARD MANHOLE DETAIL, SHEET 2 OF 3
PUBLIC WORKS DEPARTMENT, ENGINEERING DIVISION
UNIFIED GOVERNMENT

NOTE:
1. Furnished With Machined
Horizontal Bearing Surface.
Material: Gray Cast Iron ASTM
A-48, Class 35B.
Weight: Frame 225 Lbs.
Cover 135 Lbs.
Finish: No Paint

Revised on 7/30/2012
23 1/8" on the MH lid was changed to 23 1/4"
Cover Shall Match Elevation & Slope Of Adjacent Finished Pavement. In Lawn Areas Cover Shall Be Level & 1/2" Above Adjacent Lawn. In Open Fields And Unimproved Land Cover Shall Be 12" Above Adjacent Ground.

Grade Rings Shall Have Keyed Joints. 2 Required For New Construction 4" Min 12" Max. Maximum 18" For Resetting Cover For Street Overlay.

Minimum 8" Slab Shall Support HS20 Loading With One Foot Of Cover.

Use Flat Top Only On Manholes 6' Or Less In Depth.

FLAT TOP MANHOLE, SHALLOW INSTALLATION

4' I.D.

12" Min

7' Clear To Bench

Large ID Manhole Or Junction Box

Deep Manholes & Junction Boxes May Be Stepped To A 4' Inner Diameter @ 7'-0" Clear Above The Bench Elevation. Opening Of Reducer Shall Be Centered On The Flow Channel.

BARREL REDUCTION FOR DEEP MANHOLES

STANDARD MANHOLE DETAIL, SHEET 3 OF 3
PUBLIC WORKS DEPARTMENT, ENGINEERING DIVISION
UNIFIED GOVERNMENT
Inside Drops Are Not Allowed

For Rigid Pipe, Extend Cradle To 1st Joint Past Point Where Trench Reaches Allowable Width.

Concrete Encasement

6" Min.

Drop Pipe Shall Be Same Diameter & Material As Main.

Upper Limit for Encasement for PVC Drop Pipe and Main Remainder of Backfill Shall Be Granular Material.

DROP MANHOLE DETAIL
PUBLIC WORKS DEPARTMENT, ENGINEERING DIVISION
UNIFIED GOVERNMENT

UG 5000–D
2008 Edition
6 - Ø1" ANCHOR HOLES
4 - 3/4" HEX-HEAD BOLTS, STAINLESS STEEL WASHER & NEOPRENE WASHER FOR WATER TIGHT
2 CONCEALED PICKSLOTS
4 - GUSSETS 1" TAPER TO 3/4"
1 7/16" LETTERS

NOTES:
1. FURNISHED WITH MACHINED HORIZONTAL BEARING SURFACE.
2. FURNISHED WITH T-GASKET.

MATERIAL: CAST GRAY IRON ASTM A-48, CLASS 35B
FINISH: NO PAINT
WEIGHT: FRAME 310 LBS. COVER 195 LBS.

BOLT-DOWN MANHOLE DETAIL
PUBLIC WORKS DEPARTMENT, ENGINEERING DIVISION
UNIFIED GOVERNMENT

UG 5000-E
2008 Edition
PLUNGE POOL FOR OUTLET IN LINE WITH STREAM
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UNIFIED GOVERNMENT

ISOMETRIC VIEW

Length & Width Per Project Drawings

Downstream Channel

Top of Rock 0 to 1.0 feet below Pipe Outlet

PROFILE (AA)

Riprap for Upslope Protection and Shaped to Downstream Channel

Filter Course

NO SCALE
TOE WALL FOR FLARED END SECTION
PUBLIC WORKS DEPARTMENT, ENGINEERING DIVISION
UNIFIED GOVERNMENT
Peak Location Varies: Near but not necessarily at outer bank of system. Important to maintain smooth curve in horizontal alignment.

Channel behind peak: Provide rock barrier to height of peak at downstream limit and each 70'. Otherwise leave area to fill in through natural siltation or sloughing.

Riprap @ 3/4 ft. Light 18. Adjust to form continuous peak @ 1 - 1 1/2 ft. Above base flow water surface.

Trim sand bar to maintain base of riprap at least 1' below base flow water surface.

NO SCALE

STORM SEWER OUTLET LATERAL TO STREAM, SHEET 2 OF 2
TOE BANK PROTECTION
PUBLIC WORKS DEPARTMENT, ENGINEERING DIVISION
UNIFIED GOVERNMENT
NOTE:
Top Bank Of Transition Channel & End Embankment To Be A Minimum Of 6" Above Rigid Lip.
NOTE:
Rigid Lip May Be 6"x6" Staked Timber Ties, 6"x6"
Cast In Place Concrete Strip, Or 4"x3" Articulated
Concrete Edging Blocks.
Heavy Duty Casting Deeter
# 1305, Or Equal. Total
Weight 330#. Lettering
Per Casting Detail. Center
Cover Casting at Back of Lid.

#4 Longitudinal As Shown,
Both Mats

#4 Bar Encircling Opening,
Both Mats

LID PLAN VIEW

Traverse Bar #4 @ 6"
Ctrs, W/ 180° Bend
2 1/2" R
1 #4 Bar @ Nose
5 #4 Bar Bottom Mat
2 #4 Bar Bottom Mat

SECTION AA

2 Concealed Picks
6 Gussets 5/8"
Taper To 7/16"

1" Dia. Lifting Hole
In Every Other
Gusset.

NOTE:
1. Furnished With Machined
Horizontal Bearing Surface.
Material: Gray Cast Iron ASTM
A-48, Class 35B.
Weight: Frame 110 Lbs.
Cover 135 Lbs.
Finish: No Paint

STANDARD CURB INLET CASTING (STORM)

CURB INLET DETAIL, SHEET 2 OF 4
PUBLIC WORKS DEPARTMENT, ENGINEERING DIVISION
UNIFIED GOVERNMENT

UG 5500-B
2008 Edition
#4 Bars At 12" Centers (Both Ways) (All Walls)
Horizontal Bars Continuous Around Corners. Lap 16 Inches.

Base To Box Connection For Precast Box Embed Box 4" Minimum Into Base Concrete.

Concrete Base

Precast Box Cast In Place Box

Concrete Invert To Spring Line Of Outlet Pipe When Inlet Serves As Junction Box. When Inlet Is Terminal Point On Storm Sewer Slope Invert @ 1:12 To Outlet Pipe.

1 1/2" Cl. (Typical)
6" Wall (Typical)

4" Min. 10" Max

4" Min. 10" Max

8" Min.

12" Min.

6" Min.

Base To Box Connection For Cast In Place 3 1/2" x 1 1/2" Keyway (All Sides)

NOTES:
For Street Grades Up To 4% Tip Precast Box To Match Street Grade. For Grades Greater Than 4% Order Box With Appropriate Slope Across Top.

Precast Base May Be Used For Construction Of New Sewer Line But Shall Not Be Used For Replacement Of Existing Inlets.

Steps Not Required.
For Cast In Place Box, Place Pipe First &
Cast Wall To Fully Bond With Pipe.
# 4 @ 12" Both Ways Continue Reinforcing Steel Through Step Back Section.

18" Min.

Slope To Drain

3½" x 1½" Key

18" Min.

Front & Side Wall May Be Cast In Place Or May Be Cut From Precast Box. If Cut Tie To Cast In Place Back Wall W/#4 Tie Bars @ 12" C.C. Min., 6" Deep Epoxy Filled Drill Hole.

Existing Utility

6" Min.

Backfill W/Sand

6" Min.

Form Both Faces of Back Wall Pour Bench As Slab On Grade.

NOTES:

See Curb Inlet Detail For Other Requirements.

For Use Only When Approved By Engineer To Avoid Conflict With An Existing Utility.
PLAN VIEW

NOTE: FIELD INLET IS A SIDE OPENING INLET LOCATED AWAY FROM PAVEMENT & SURROUNDED BY VEGETATED EARTH.

SECTION A–A

INSTALL CONCRETE THROAT IN ORIENTATION CALLED FOR ON PLANS

FIELD INLET
PUBLIC WORKS DEPARTMENT, ENGINEERING DIVISION
UNIFIED GOVERNMENT

UG 5500–F
2008 Edition

NOTE:
Tops Cast Monolithic With Boxes Are Acceptable.
MANUFACTURED BLOCK RETAINING WALL
FOR USE WITH INLET OR SIDEWALK
PUBLIC WORKS DEPARTMENT, ENGINEERING DIVISION
UNIFIED GOVERNMENT
Remove the soil at the top of the rootball to expose the root flare. Plant with the root flare level with the surrounding soil.

Stake trees, shrubs do not require staking.

Sun cover for trunk 2'-0" min.

Bark mulch 3" thick taper to 0" @ trunk.

Place dike for water retention.

Scarify sides in clay soil if excavation causes glaze.

Planting mix backfill to 1/2 depth of pit—saturate—compact by hand pressure complete fill—saturate completely.

Holes shall be three times the width and the same depth as the root ball. If excavation method glazes the soil on the sides of the pit, the side shall be thoroughly scratched to remove glaze. Engineer shall approve locations of pits; minimum 24-hour notification is required.

Depth of planting pit equal to height of root ball.

Diameter of planting pit equal to 3 times diameter of root ball.

Remove wire & burlap from root ball.