

CHAPTER 25: RIGHT-OF-WAY (ROW) DESIGN AND CONSTRUCTION STANDARDS AND PRIVATE SITE DESIGN REQUIREMENTS

- 25.00 Introduction and Administration**
- 25.01 Sanitary Sewer Standards**
- 25.02 Driveway and Sidewalk Standards**
- 25.03 Street Pavement Replacement**
- 25.04 Construction Near City Trees**
- 25.05 ROW Utilization Plan for ROW Work Zones and Storage Areas**
- 25.06 Parking Meter Space Rental**
- 25.07 ROW Permitting, Insurance, and Bonding Requirements**
- 25.08 Private Site Design Requirements**
- 25.09 Standard Attachments**

**CHAPTER 25: RIGHT-OF-WAY CONSTRUCTION STANDARDS
AND PRIVATE SITE DESIGN REQUIREMENTS**

25.00 INTRODUCTION AND ADMINISTRATION

- A. Purpose:** The purpose of this chapter is to establish procedures and specifications for construction, repair or reconstruction of driveway approaches and sidewalk, repair or construction of sanitary and storm sewers, excavation work under street pavement, any other work occupying the City right-of-way, and any private site work.
- B. Scope:** This chapter shall apply to all persons, contractors, utility companies, and units of governments working within the corporate limits of the City of Champaign. The requirements of this chapter also apply to the 1-1/2 mile extra territorial jurisdiction for individual sanitary connections and permits.
- C. Responsibility:** It is the responsibility of all persons, contractors, utility companies, and units of government subject to these regulations to comply with the procedures and specifications described. Those found in violation are subject to penalty as provided for in the Municipal Code.
1. *Permits, Bonding and Insurance:* No person shall install, connect or replace any private or public sewer, construct any driveway access, create or alter any sidewalk, perform any excavation, or in general alter or occupy the public right-of-way in any way without first obtaining all necessary approvals and permits, and inspection approvals from the City Right-of-Way Inspector.
 2. *Sanitary Service Sewer Ownership and Maintenance:* Ownership and maintenance of the sanitary service line from the foundation line of the building up to and including the wye connection to the sanitary main is the responsibility of the owner of the property being served.
- D. Referenced Standards:** All such work shall be performed in accordance with Chapters 29 and 30 of the Municipal Code of the City of Champaign (City Code), together with other applicable City and outside agency requirements. In the event of a conflict between standards not found in the City Code or Manual of Practice and those found in said Code and Manual, the City Code and Manual of Practice standards shall govern. The most current versions of the following standards shall govern:
1. Municipal Code of the City of Champaign (City Code)
 2. Urbana-Champaign Sanitary District (USCD) Sewer Use Regs (Ordinance 600)
 3. Joint Sanitary Sewer Standards (SSS) compiled by the Urbana & Champaign Sanitary District and Affiliated Communities, most recent edition.
 4. Standard Specifications for Water and Sewer Main Construction (SSWSMC) in Illinois, published jointly by the Illinois Society of Professional Engineers, Consulting Engineers Council of Illinois, Illinois Chapter of the American Public Works Association, Illinois Municipal League and the Associated General Contractors of Illinois, most recent edition.
 5. Standard Specifications for Road and Bridge Construction--IDOT
 6. BOCA National Plumbing Code
 7. Illinois Compiled Statutes
 8. Illinois Administrative Code particularly: Title 35: Environmental Protection, Subtitle C: Water Pollution, Chapter II: Environmental Protection Agency, Part 370: Illinois Recommended Standards for Sewage Works (IRSSW)

**CHAPTER 25: RIGHT-OF-WAY CONSTRUCTION STANDARDS
AND PRIVATE SITE DESIGN REQUIREMENTS**

25.01 SANITARY SEWER STANDARDS

The sanitary sewer standards listed in this chapter focus mainly on individual service sewers (service laterals) and new manholes for specific properties. For other requirements, refer to Chapter 18 – Sanitary Sewer Systems.

- A. Design Requirements:** In general, detailed design shall meet the design criteria set forth in Chapter 18 – Sanitary Sewer Systems of this Manual and all other governing standards. In case of conflict between the standards in this manual and other applicable standards, those in this manual shall govern. The following requirements shall be adhered to:
1. *Existing System Capacity:* Where new sewers are proposed to discharge into the City's existing sanitary sewer system and UCSD interceptors, it is the responsibility of the developer of the new sewer to demonstrate that the City sewers downstream of the point of connection have adequate reserve hydraulic capacity to accept the proposed flow without surcharging during periods of peak flow. The capacity determination shall extend to the point of connection of the City collector sewer to the UCSD interceptor.
 2. *Proposed Flow:* Proposed flow for domestic sewage discharge shall be determined in accordance with Subpart C, Section 370.310 of the IRSSW except that the peaking factor shall be 4.0 in all instances. Proposed flow for commercial and industrial sewage discharge shall be based on projected population equivalents for proposed facilities.
 3. *Sewer alignment* shall be linear (straight line) from the building foundation to connection to the sewer main wherever possible. Sewer main alignment shall be per Chapter 18 of this Manual and locations of all utilities shall be governed by Chapter 15 – General Utility Location Requirements.
 4. *Depth:* All sewers shall have minimum cover of 42 in. to finished grade at all locations.
 5. *Service Laterals:* All sanitary services (service laterals) shall comply with the UCSD Joint Sanitary Sewer Standards Section 120 (see Appendix A). Note that the minimum size of a service is 4 in., but that larger services or multiple services may be required for an intensive use.
 6. *Manholes:* Manholes shall comply with IRSSW Section 370.330 and SSS Section 110.
- B. Construction and Material Requirements:** Construction and materials shall meet the criteria set forth in Chapter 18 – Sanitary Sewer Systems of this Manual and all other governing standards. Per Chapter 18, materials shall meet the requirements of the SSS (see Appendix A), Subpart C of the IRSSW of the SSWSMC. In case of conflict between the standards in this manual and other applicable standards, those in this manual shall govern. The following requirements shall also be adhered to:
1. *Sewers and Service Laterals:* Allowable pipe materials for service laterals include solid wall gasketed polyvinyl chloride (PVC) SDR 26 (per ASTM D3034), gasketed PVC truss pipe (per ASTM D2680), extra strength vitrified clay (ASTM C700), and ductile iron (AWWA C150). Other materials and trenchless construction shall be

**CHAPTER 25: RIGHT-OF-WAY CONSTRUCTION STANDARDS
AND PRIVATE SITE DESIGN REQUIREMENTS**

approved on a case by case basis by the Executive Director of the UCSD and the City Engineer. See also Section 120 of the SSS.

2. *Connections to Sewer Mains:* Connections to sewer mains that are smaller than 12 in. diameter shall be done by removing a limited amount of the sewer main and inserting a wye connection with approved couplings as specified in Section 140 of the SSS. Connections to manholes or pipes 12 in. and larger in diameter shall be made by core drilling the existing pipe / manhole and installing a flexible connector assembly such as KOR n SEAL® by NPC Inc., or approved equal. See Standard Attachments 25.01 (a), 25.01 (c), and 25.01 (d).
 - a. *Wye Connections:* “Wyes” for sewer service lateral connections must be made of the same material as the main line piping and comply with the appropriate provisions of the “Standard Specifications” (SSWMC) and shall be encased in granular material as specified. Concrete encasement is not allowed (see Standard Attachment 25.01(h) & 25.01(i)).
 - b. *Pipe Couplings:* Pipe couplings shall be installed in accordance with Section 143 of the SSS (see Appendix A). They shall be made of elastomeric polyvinyl chloride, and shall be specifically sized to fit the outer diameter of the pipes being joined and shall have stainless steel take-up clamps to fit the appropriate outer diameter of the couplings. The entire connection shall be encased in the appropriate granular backfill as specified. The use of concrete collars to couple sanitary sewer pipe shall not be allowed.
 - c. *Connections to Lined Sewers:* Where new service lateral connections must be made to sewer piping that has been lined, specially designed connectors shall be provided. The liner shall be carefully cut as recommended by the manufacturer of the connector using a core drill or hole saw as applicable and installing a flexible connector assembly such as Inserta Tee, Kor-N-Tee, or approved equal.
 - d. *Sewer Lining and Pipe Bursting Materials:* The material and method used for sewer relining and pipe bursting shall be reviewed on a case by case basis and subject to approval by the City Engineer.
3. *New Sanitary Manholes:* Sanitary manholes shall meet the requirements of Section 370.330 of the IRSSW, Section 32 of the SSWSMC, and Section 110 of the SSS and the Standard Drawings for “City of Champaign Sanitary Sewer Manhole Detail” and “External Manhole Chimney Seal” (see Standard Attachment 25.01 (e) for a copy of this detail).
 - a. *Finished Elevation:* The top of all manhole rims shall be set 2 in. above the finished ground surface in unpaved areas and flush with the pavement in paved areas. Castings shall be set in full beds of mortar in paved areas and full beds of mastic in unpaved areas.
 - b. *Manhole Fall:* Minimum fall through a sanitary manhole from inlet pipes to outlet pipe shall be 0.1 ft. and the maximum shall be 2 ft., 0 in. Where the fall is in excess of 2 ft., 0 in., an external drop type manhole shall be required per SSWSMC.
 - c. *Manhole Joints:* Only rubber “O” ring joints shall be allowed.

**CHAPTER 25: RIGHT-OF-WAY CONSTRUCTION STANDARDS
AND PRIVATE SITE DESIGN REQUIREMENTS**

- d. **Chimney Seals:** External Chimney Seals are required on all new manholes as per Standard Attachment 25.01(e). Internal chimney seals may be used only for existing manhole adjustment or rehabilitation at locations with a paved surface when approved by the City Engineer. All chimney seals shall seal the entire chimney and the joint between the casting and the masonry.
 - e. **Adjusting Rings:** In addition to precast concrete adjusting rings, injection molded high density HDPE plastic adjusting rings may be allowable upon approval of the City Engineer.
 - f. **Castings:** Castings shall be Neenah R-1713 provided with Type B self-sealing, covers, or approved equal. The word "SANITARY" shall be cast in the lid.
 - g. **Steps:** Manhole steps are not allowed (steps may be installed for construction purposes and removed upon completion).
4. **Bedding and Backfill:** Granular bedding and haunching shall be required on all pipes. These materials shall meet the requirements of Section 20 of the SWSMC, Sections 1003 and 1004 of IDOT, and Sections 130 and 150 of the SSS, except that for PVC pipe bedding, only IDOT gradations CA-16, FA-5, FA-6, or FA-10 shall be used. The use of IDOT gradations FA-5, FA-6, and FA-10 as bedding material is not acceptable where there are wet trench conditions. Where PVC pipe is used, it shall be bedded, haunched, and backfilled to 1 ft. over the top of the pipe with selected granular backfill material, CA-16, FA-5, FA-6, or FA-10. Any excavation that encroaches within 2 ft. of the edge of pavement on an arterial street (back curb, sidewalk, etc.) shall be entirely backfilled with flowable fill (CLSM) per Chapter 18 and the SSS. IDOT grade trench backfill material may be used for backfill zone on all other streets. See Section 25.03B. of this chapter.
5. **Cleanouts:** Cleanouts shall be required on sanitary sewer service laterals within 5 ft. of the outside of the building foundation and at a maximum of 100 ft. intervals thereafter for 4 in. diameter laterals in direct line with the building drain and sewer, and intervals not exceeding 150 ft. for 6 in. diameter laterals from a previous upstream cleanout or "wye". Cleanouts should also be installed immediately upstream of a directional change in excess of 45 degrees, excluding wyes (see Standard Attachment 25.01(f), Standard Sanitary Cleanout Details).
6. **Minimum Cover:** The minimum cover for sanitary sewer service laterals shall be 42 in. from the finished ground surface to the top of the pipe at any location.
7. **Locate Service Laterals:** The location of the end of new service laterals that are terminated at the property line for future use shall be marked with a wood post (4 in. x 4 in.) extending a minimum of 1 ft., 0 in. above the finished ground surface. This location shall be at the right-of-way line if the sewer is located in the right-of-way and at the easement line if the sewer is located in an easement.

25.02 DRIVEWAY AND SIDEWALK CONSTRUCTION STANDARDS

The general requirements for driveway and sidewalk construction are as follows:

- A. Permits:** Before any driveway or sidewalk can be constructed, a permit must be obtained (see Standard Attachment 25.04(a)), in addition to the proper amount of insurance. Contact the Engineering Division, 702 Edgebrook Drive, during permit hours of 7:30-8:30AM and 1:00-2:00PM. For insurance and bond requirements, refer to

CHAPTER 25: RIGHT-OF-WAY CONSTRUCTION STANDARDS AND PRIVATE SITE DESIGN REQUIREMENTS

Insurance and Bond Specification Sheets in Standard Attachments 25.04(b) through 25.04(f).

- B. Permit Fee Schedule:** All permit fees are subject to change. Current fees are outlined in Section 19-8.15.2 of the Municipal Code of the City of Champaign.
- C. Specifications Applicable to Driveways and Sidewalks:** All construction shall conform to the applicable provisions of the current edition of the Standard Specifications for Road and Bridge Construction in Illinois, the City Code and this manual. In the event of a conflict between those standards, the standards in this manual and the City Code shall govern.
- 1. Width:** All sidewalks shall have a minimum width of 5 ft., or shall match existing sidewalk width, whichever is greater. Ramps shall have a width of 5 ft. face to face of any side curbs. All driveways shall have a minimum width of 10 ft. at the right-of-way line. Curb cut lengths shall be kept to the minimum needed for good design. Residential driveways shall not exceed 24 ft. wide at the tangent to the curb radii (at the throat), and commercial / industrial shall not exceed 35 ft. wide unless called for by design approved by the City Engineer. If the throat width of a driveway exceeds 16 ft., a longitudinal control joint is required. Driveway width and throat depth shall also conform to the requirements of Chapter 9 – Vehicular Access Control.
 - 2. Thickness and Length:** Driveway sidewalks shall be replaced to a minimum thickness of 6 in. across driveway approaches and extend to the nearest joint, a minimum of 12 in. either side of the driveway approach. Other sidewalk locations within right-of-way shall have a minimum thickness of 6 in. or as required by City Code. Thickness for driveways serving commercial or industrial areas shall be designed for the proposed vehicle use. The driveway standard requires the driveway sidewalk to be a separately constructed strip from the rest of the approach. Driveway sidewalk for large commercial or industrial driveways may be constructed monolithically with the driveway, but they shall be designed to have the appearance of a thru sidewalk that meets Public Right-of-Way Accessibility Guidelines (PROWAG) requirements via grooving or other means.
 - 3. Materials:** Driveways shall be constructed of portland cement concrete conforming to the IDOT mix design criteria in the current edition of the "Standard Specifications for Road and Bridge Construction." Only IDOT approved mix designs from approved ready mix plants are allowed. The minimum required compressive strength is 3500 psi in 14 days. Maximum slump of all concrete work is 4 in. Air entrainment shall be 5-8%.
 - 4. Subgrade:** The subgrade for all sidewalks and driveways shall be free of all vegetation, debris, and loose material and it shall be tamped or rolled until thoroughly compacted. Dry subgrade shall be moistened with water just before the concrete is placed. Overly wet or organic materials shall be removed and replaced with granular material (sand or gravel) as conditions warrant. Sidewalk and driveway subgrade shall be compacted sufficiently to prevent future settlement under the loading of a fully loaded building materials delivery truck.
 - 5. Conduits:** In areas of the City where streetlights exist, driveway conduits may be required. In such instances, a conduit of not less than 2 in. inside diameter, capped on each end, and of material of sufficient strength (schedule 40 PVC is acceptable) for the particular location and purpose and any necessary handholes shall be placed in or under all driveways for the purpose of placing, connecting, or maintaining cables for electrical service to the City street lighting system. Where the proposed

**CHAPTER 25: RIGHT-OF-WAY CONSTRUCTION STANDARDS
AND PRIVATE SITE DESIGN REQUIREMENTS**

driveway is located contiguous to an existing driveway, the conduit shall be extended under or through the existing driveway.

6. *Slopes:* All sidewalks shall be constructed to meet current PROWAG standards. All sidewalks shall have a straight cross slope from the property side towards the street side of approximately 1/4 in. per ft., i.e. 1-1/4 in. cross slope is required for a 5 ft. sidewalk. Sidewalks and ramps shall be constructed having a longitudinal slope no greater than 1 in. per ft.
7. *Grade:* All walks shall be reasonably level, which in some instances may require filling or cutting of earth. The top of the walk shall, in general, conform to the contour of ground after the aforementioned leveling procedure has been completed.
8. *Joints:* All walks shall be provided with 3/4 in. expansion joints placed where the sidewalk abuts the curb. All structures located within sidewalk pavement shall be surrounded with a minimum 3/4 in. thick expansion joint. A 3/4 in. expansion joint material shall be placed where the driveway approach meets the gutter and where the driveway approach meets the sidewalk.
9. *Sidewalk Ramps:* Whenever a sidewalk repair or replacement is made between the intersection of the sidewalk and the street intersection curb (where no ramp / curb opening exists), such curb shall also be removed and a sidewalk ramp installed.
10. *Forms:* Side forms for sidewalks and driveways shall be of lumber of not less than 2 in. nominal thickness or of steel of equal rigidity. They shall be held securely in place by stakes or braces with the top edges true to line of grade. Depth of forms shall be the same as the required concrete thickness (min. 6 in.).
11. *Inspections:* The forms and grading necessary to complete the construction of the walk or driveway shall be inspected and approved by a representative of the Engineering Division before the concrete is placed. In the absence of the contractor, the City Inspector may leave tape (yellow, if approved, and red, if not approved) on a conspicuous location. The City reserves the right to require pavement cores to verify pavement thickness or removal and replacement at the owner's expense if a sidewalk or approach is poured without approval.
12. *Finishing:* All sidewalks and driveway approaches shall be placed, finished, and cured as required by the Standard Specifications for Road and Bridge Construction in Illinois. After the concrete is placed, it shall be struck off and finished to a true and even surface with floats and trowels. After the water sheen has disappeared, the surface shall be given a final finish by brushing, at right angles to the sidewalk or driveway, with a soft-bristled push broom. Care shall be taken to not use too much water during the brushing / finishing process. Curing and protection from hot and cold weather shall be as required by the IDOT Standard Specification.
13. *Panel Size and Scoring:* The surface of all sidewalks shall be divided into panels by grooved joints constructed at right angles with the sidewalk. These grooves shall be a minimum of 1 in. deep, between 1/8 in. and 1/4 in. wide. The grooves shall be edged with an edging tool having a 1/4 in. radius. Sawed grooves shall not be allowed. The groove pattern on replacement slabs should match the existing pattern. The standard spacing between grooved joints in areas where

**CHAPTER 25: RIGHT-OF-WAY CONSTRUCTION STANDARDS
AND PRIVATE SITE DESIGN REQUIREMENTS**

sidewalk did not previously exist shall be 5 ft. No slab shall be longer than 6 ft. nor less than 4 ft.

14. *Finished Pavement Saw Cuts:* Unless otherwise specified, all saw cut joints in curb, gutter, and pavement shall be cut at a depth of 1/4 thickness to allow for aggregate interlock (for example, 6 in. thick = cut of 1-1/2 in.).
15. *Backfill:* After the concrete has set up and cured, 24 hours after placement, the forms may be removed and the spaces along the edges of the walk shall be backfilled immediately thereafter to the required elevation (1/2 in. below the top of walk) and the surface shall be neatly graded.
16. *Curing:* The wetted burlap method, layer of visquine, or properly applied curing compound, will be used for curing and winter protection shall be provided (for concrete less than 72 hours old, when temperature is 32 F or lower) as required by Illinois Standard Specifications for Road and Bridge Construction.
17. *Design:* Design for all driveway approaches shall be approved by a representative of the Engineering Division prior to issuance of a permit.
18. *Closing Drive Approaches:* Existing drive approaches and curb cuts not being utilized for new construction must be removed. In areas where a barrier curb is the standard at the street, the curb and gutter at the approach must be removed and a new barrier curb or similar style and dimensions must be constructed.
19. *New Drive Approaches:* New driveway approaches shall be constructed in accordance with Standard Attachments 25.02(a) through 25.02(d). *Note: Existing barrier curb shall be back sawed per Standard Attachment 25.02(b) instead of total removal.*

D. Specifications Applicable to Ramps That Provide Vehicular Access to Underground and Above Ground Parking Facilities: All construction shall conform to the Municipal Code of the City of Champaign.

1. *Number of Ramps:*
 - a. Sites with parking facilities that provide twenty-five (25) or fewer parking spaces shall have, at a minimum, one (1) access ramp that is 10 ft. or greater in width.
 - b. Sites with parking facilities that provide twenty-six (26) or more parking spaces shall have, at a minimum, one (1) access ramp that is 18 ft. or greater in width to facilitate two-way traffic. Sites with parking facilities that provide twenty-six (26) or more parking spaces may have two (2) or more one-way access ramps that are 10 ft. or greater in width, in lieu of one (1) access ramp that is 18 ft. or greater in width..
2. *Width:* Ramp widths shall be measured from face to face of any side curbs, walls or structures, and shall be the width of actual driving surface. On sites providing twenty-six or more parking spaces, ramps less than 18 ft. in width shall be posted for one-way traffic. On sites where a single ramp less than 18' ft. wide is allowed, signage shall be posted warning drivers of potential oncoming ramp traffic.
3. *Landing Area:* All ramps shall have a landing area at a maximum slope of 6%. The landing area shall have a minimum length of 10 ft. measured from the intersection of the ramp and the property line of the site.

**CHAPTER 25: RIGHT-OF-WAY CONSTRUCTION STANDARDS
AND PRIVATE SITE DESIGN REQUIREMENTS**

4. *Slope:* Excluding the landing area, the maximum slope of the ramp shall not exceed 12%. Vertical curves shall be used to provide smooth transitions at all changes in slope.
5. *Sight Distance:* All ramps shall have adequate sight stopping distance to ensure public safety. All ramps shall have at least 10 ft. sight triangles along right-of-way lines, through which drivers can see pedestrians in the right-of-way. All sight clear zones are to be extended from 1 ft. to 9 ft. above the nearest edge of sidewalk. The site clear zones are illustrated in attachment 25.08 (d). Elements shall be included in the site design that will prevent vehicular traffic from traveling through the sight clear zones.
6. *Minimum Height:* The current Building Code minimum height requirement for parking structures of 7 ft. shall apply to parking ramps.

25.03 STREET PAVEMENT REPLACEMENT

This work shall consist of replacement of street pavement after an excavation has been made for either new construction or a repair.

- A. **Materials:** Materials shall conform to the current IDOT edition of "Standard Specifications for Road and Bridge Construction."
- B. **Construction Requirements:** All disturbed street pavement areas shall be replaced in accordance with the most current edition of the IDOT Standard Specifications. All excavations within the right-of-way, on local or collector streets that encroach within 2 ft. of the pavement (street or sidewalk) shall be backfilled flowable fill (CLSM) at a compressive strength of 100 to 200 psi or granular trench backfill meeting IDOT gradation requirements placed in uniform layers not exceeding 6 in. thick (loose measure) and compacted to 95% of Standard Proctor. For arterial streets, CLSM will be required for backfill of all excavations in or encroaching within 2 ft. of pavements.
- C. **Pavement Repairs/Replacement:** At a minimum, and except as otherwise provided herein, the performance of material used in new pavement shall meet or exceed that of the pavement being replaced. When removing pavement, full depth saw cuts shall be made and a 3 ft. shelf of subgrade shall be maintained on pavement sides of any excavation. Pavement repairs for any work shall conform to Section 442 of the Standard Specifications for Road and Bridge Construction, with the following exceptions and additions.
 1. *Required Permit:* Any work in the public right-of-way requires a permit and a description of that work shall be submitted in writing to the right-of-way inspector.
 2. *Minimum Thickness:* If the pavement being replaced did not meet current standards for new pavement construction, it must be replaced to current standards including requirements for pavement thickness (concrete pavement minimum thickness is 8 inches, non-reinforced; bituminous pavement minimum thickness is 10 inches.)
 3. *Concrete Pavement Repair:* All concrete patches shall be a IDOT Class B patch. One-inch deformed reinforcing bars shall be substituted for smooth dowels at any new mid-panel joint. Smooth dowel bars shall be used at any pre-existing contraction joint. Pre-existing contraction joints shall be replaced with an appropriate grooving tool. Concrete patch width shall coincide with the edge of full panels and shall have a

**CHAPTER 25: RIGHT-OF-WAY CONSTRUCTION STANDARDS
AND PRIVATE SITE DESIGN REQUIREMENTS**

minimum longitudinal distance of 6 feet. In large cuts, full panels shall be removed and replaced.

4. *Full Depth Bituminous or Composite Pavement Repair:* An acceptable alternative to a full depth, 10-inch, multi-layer bituminous repair, is to construct a minimum of an 8-inch concrete base course, overlaid with a 2-inch hot-mix asphalt surface course; or construct a minimum 8-inch PCC patch with integral black dye.
5. *Oil and Chip:* Oil and chip pavements shall be replaced with an 8-inch CA-6 compacted crushed stone base course, overlaid with a 3-inch hot-mix asphalt surface course.
6. *Brick Streets:* Brick streets shall be re-laid with original brick pavers on a one-inch sand cushion over a new 6-inch concrete base course. Sand shall be deposited over and between laid pavers and vibrated into place with a vibrating plate compactor. Damaged pavers shall be replaced with matching replacement pavers.
7. *Pavement Removal:* All pavement removals shall be accomplished with a full depth saw cut. A minimum 3-foot bench shall be maintained on all sides of an open excavation. Subgrade shall be compacted to the satisfaction of the right-of-way inspector and, if necessary, repaired with granular backfill as instructed by the inspector.
8. *Road Closure:* Any road closure shall be coordinated with the City of Champaign right-of-way inspector at least 72 hours in advance.

- D. Pavement Surface Restoration:** All pavement markings shall be replaced with the same type of material as removed. Efforts should be made to match standards in Chapter 12. If half of any marking is removed, the entire markings shall be removed and replaced. Installation shall be per MUTCD.

25.04 CONSTRUCTION NEAR CITY TREES

This section outlines the protection and separation requirements for construction in the vicinity of City trees. City trees are those trees that are located within the right-of-way. See Chapter 24 – Subdivision Street Tree Standards for expanded requirements on new tree planting within the right-of-way in new subdivisions.

- A. Tree Protection Barriers:** It is the responsibility of the contractor to protect all public trees located on the public right-of-way adjacent to work sites. Trees shall be isolated from all construction activities by erecting chain link fence barriers around any trees that may be subject to construction damage prior to the start of any work. Plastic snow fence is not acceptable. The dimensions of tree protection barriers shall be as follows:
1. Small trees (0-6 in. diameter) shall be protected by erecting protective tree fence the maximum width of the parkway and lengthwise 5 ft. from the center of the tree on each side of the tree. See Standard Attachment 25.03(a), Figure 1 - Small trees.
 2. Medium to large trees (7 in. and greater diameter) shall be protected in a manner determined by the Forestry Supervisor. In no case shall the protective device be closer than 10 ft. from the centerline of the tree except in those portions bordered by the public sidewalk or curb, in which case the protective device shall be offset

CHAPTER 25: RIGHT-OF-WAY CONSTRUCTION STANDARDS AND PRIVATE SITE DESIGN REQUIREMENTS

1 ft. wherever possible. See Standard Attachment 25.03(a), Figure 2 - Medium to large trees.

- B. Material or equipment storage near trees prohibited:** Soil, excavated material, gravel, crushed aggregate, concrete or any type of construction materials shall not be temporarily stored or deposited at the base of trees or within the drip line of trees. Vehicles or construction equipment of any type shall not drive, park or pass over the root zones of trees unless such movement is unavoidably necessary for the construction of the proposed improvements. Failure to adequately protect trees during construction will result in fines or a stop-work order. Costs for repair or replacement resulting from construction damage will be borne by the contractor.
- C. Underground utility installations:** All installations of underground utilities on the public right-of-way are subject to approval by the City. Any installations that may affect parkway trees due to underground conflicts are subject to the review and approval of the City Forestry Supervisor. Open trenching in the root zone area of a public tree is prohibited except in cases where trenching falls outside the root zone of the tree involved. Utility installation on the public right-of-way should follow the guidelines listed in Standard Attachment 25.03(b), Figure 4. When auguring is required, the distance of the tunnel from the face of the tree is determined by the diameter of the tree at 4-1/2 ft. In no case shall the tunnel be less than 2 ft. in depth.
- D. Excavation within tree root zone:** Cutting roots is unavoidable in trenching and excavation operation within the tree root zone. Generally, the root zone lies within the drip line of the trees, but may extend beyond the drip line for some trees. When roots are encountered in excavation, it is necessary that all exposed roots be cut cleanly to promote wound closure and regeneration. The cuts shall be a clean vertical cut at the proper root located nearer the tree trunk. The cut shall be made by hand digging around the root and cutting with a chain saw, hand saw, lopper, or other similar method. Ripping, shredding, chopping or tearing will not be permitted. Alternatively, a root saw such as a Vermeer Model V1550, or approved equal, may be used to cut roots prior to excavation. Use of a backhoe, axe, hatchet, pick axe, machete, or knife will not be permitted.
- E. Pre-Construction pruning:** Clearance pruning to avoid conflicts with construction equipment will be done by City Forestry Crews upon request. Requests for pruning should be received a minimum of 1 month before the start of construction. If requests are received later, the contractor will be required to hire a certified arborist, approved by the Forestry Supervisor, to complete pruning.
- F. Tree Removal:** If it is necessary to remove a City tree, the contractor shall bear the cost of removal and shall reimburse the City for the replacement value of the tree in accordance with *The Guide for Plant Appraisal*, and its successor publication, as published by the International Society of Arboriculture.

25.05 ROW UTILIZATION PLAN FOR ROW WORK ZONES AND STORAGE AREAS

A. Traffic Control Plan:

1. *General:* A traffic control plan is necessary when traffic must be moved through or around road or street construction, maintenance operations, utility work, material storage, etc. and may pose a significant risk to the public. The proper implementation of work zone traffic control is of great importance and is necessary to protect the public safety. The requirements for traffic control vary

CHAPTER 25: RIGHT-OF-WAY CONSTRUCTION STANDARDS AND PRIVATE SITE DESIGN REQUIREMENTS

widely based upon the work activity, level of traffic, severity and duration of the work, and jurisdiction of roadway.

2. *Responsibility:* It is the responsibility of the contractor doing the work to develop a temporary traffic control plan, coordinate road closures, and distribute press releases as required by this manual. All traffic control plans shall be submitted for review by the right-of way inspector.
 3. *Standards:* The Manual of Uniform Traffic Control Devices (MUTCD) is the governing standard for work zone traffic control. See Part 6: (Temporary Traffic Control) of the MUTCD for the expanded requirements for work zone traffic control in the City of Champaign. Note that the standards include addressing access for bicyclists and pedestrians, including those with disabilities.
- B. Pedestrian Access Plan:** In Campustown, Downtown, and Midtown, ROW work zone permit recipients shall maintain protected pedestrian corridors either through or directly adjacent to ROW work zones. It is the responsibility of the contractor doing the work to develop a temporary pedestrian access plan. All pedestrian access plans shall be submitted for review by the right-of way inspector.
- C. ROW Construction Schedule:** The contractor doing the work shall provide a detailed construction schedule for the ROW occupancy. The schedule shall take into consideration all activity within the ROW including but not limited to demolition, construction related deliveries, and construction activity within the ROW and on private property. It is the responsibility of the contractor doing the work to develop a ROW construction schedule. All ROW construction schedules shall be submitted for review by the right-of way inspector. The right-of-way inspector shall be notified of changes to the ROW construction schedule.
- D. Permit Parking within ROW Work Zones:** Only vehicles and equipment associated with the permitted construction shall be allowed to park within the ROW work zone. Passenger size vehicles including contractor superintendent trucks are not authorized to park within ROW work zones unless they meet the following conditions:
1. The sides of the vehicle are marked with signage that clearly identifies the general contractor, subcontractor, or supplier (this requirement only applies to a vehicle parked on the public street), and;
 2. The vehicle displays a parking permit issued by the City of Champaign Public Works Department. The number of ROW work zone parking permits issued to the ROW work zone permit recipient will be determined based upon the approved ROW construction schedule. There is no additional fee for the ROW work zone parking permits.
- E. Unauthorized Vehicles within ROW Work Zones:** Passenger vehicles not meeting the requirements of the previous section will be considered illegally parked and will be subject to a fine of \$250. The ROW work zone permit recipient shall display a minimum of two (2) signs per figure 25.05



Figure 25.05

25.06 PARKING METER SPACE RENTAL

- A. Introduction:** This is designed to assist contractors, utilities and businesses and answer any questions they might have with the rental of parking meters. The City of Champaign will provide durable parking meter covers for the purpose of temporarily reserving metered parking spaces as a convenience during periods of unusual loading / unloading problems, repairs, remodeling, and other like activities. Spaces may be reserved for the amount of time reasonably necessary to complete the work activities. Meter bags are not intended to be used merely as a means of reserving permanent parking for customers or employees.
- B. Rental Fee:** The current rental fee for each bag is \$10 per day for each single meter and \$20 for each double meter. Rental must be paid in advance. Rates are subject to change, and contractors shall check with the City's Parking Programs Division at the time of the project to verify rates.

**CHAPTER 25: RIGHT-OF-WAY CONSTRUCTION STANDARDS
AND PRIVATE SITE DESIGN REQUIREMENTS**

- C. Coverage of Meter Head(s):** Meter Patrol will make every attempt to cover parking meter heads when given at least a 24-hour notice prior to coverage date. A blue vinyl bag designed to fit over single or double-headed parking meters is used to reserve the parking space(s). Each cover has grommet holes near the base to allow for locking the bag to the meter. The rental of meter bags may be limited in loading zone areas. A 24-hour notice must be given for any additional day(s) rental.
- D. Removal of Meter Cover(s):** Meter Patrol will be responsible for the removal of cover(s) from all meters. Meter covers will be removed from all meter heads at the end of the contract date unless prior notice is given to Parking Programs Division, telephone 351-4477.
- E. Frequently Asked Questions:**
1. *Loading Zones: What can they be used for?* Loading Zones are to be used for loading and unloading of equipment and tools. Loading zones are not designed as a means of permanent parking for work vehicles.
 2. *If I choose not to rent a meter bag do I still have to feed the meter?* Yes. All meters must be fed and will be enforced by Meter Patrol. All restrictions, i.e., time zone enforcement, prohibited parking must be obeyed.
 3. *Am I allowed to block the sidewalk, handicapped parking, alley or street?* In some cases, yes. However, a separate permit must be obtained from the City Engineering Division.
 4. *Where am I allowed to park without having to rent meter bags or pay for meters?* The City offers parking at an hourly rate in Lot J, located at 6th and Green Street. The University of Illinois and Mass Transit District (MTD) also offer shuttle service to and from lots located near the Assembly Hall. Contact either one for further information. Also, free parking is available throughout the City on many City streets. However, parking rules and regulations must be obeyed at all times.
 5. *What if my job site requires the usage of dumpsters?* The usage of dumpsters may be permissible at meters and in loading zone areas. However, a permit must be obtained from Engineering and meter bag cover(s) must be rented.
 6. *How can my company go about the temporary removal of a meter head on an extended job site?* After obtaining a permit from City Engineering, removal of meter head(s) is permissible. Companies must pay monies lost from the daily usage of these meters. This amount will be calculated by the Supervisor of the Parking Programs Division. Once the permit is obtained, City personnel will supervise the removal of the meter(s).
 7. *What if an unauthorized vehicle is parked at a meter that I have rented?* If an unauthorized vehicle is parked at your meter, you are responsible for making towing arrangements. The vehicle will be subject to tow and owner of vehicle will receive a ticket for prohibited parking.
- F. Champaign Municipal Code, Section 33-78, Parking Meter Covers, Fees:**
1. The City shall provide and make available for rent parking meter covers for the purpose of temporarily reserving metered parking spaces. The use of such reserved parking spaces shall be limited to persons engaged in construction, repairs, remodeling, loading, unloading, and the like with respect to property

**CHAPTER 25: RIGHT-OF-WAY CONSTRUCTION STANDARDS
AND PRIVATE SITE DESIGN REQUIREMENTS**

adjacent to or near the reserved spaces. The parking spaces shall be reserved only for periods of time for the reasonably expeditious prosecution and completion of work related to the construction, repair, remodeling, loading, unloading, and the like.

2. There shall be a rental fee of Ten Dollars (\$10) for single meter head covers and a rental fee of Twenty Dollars (\$20) for double meter head covers per day, or part of a day, per cover, payable in advance for the entire period for which the covers are issued and remain outstanding. Rates are subject to change and shall be verified with the City Parking Programs Division.
3. It shall be unlawful for any person to use parking meter covers not obtained from the City.
4. It shall be unlawful for any person to park in reserved meter parking spaces without having reserved such spaces in accord with the provisions of this section.

G. TOWING OF UNAUTHORIZED VEHICLES FROM RESERVED METERED PARKING SPACES – INDEMNIFICATION:

The following signed statement is required when renting spaces:

I understand that as a condition of the City of Champaign reserving a parking space for my use, through the use of a parking meter cover or other signage, I am responsible for and will arrange for towing of vehicles trespassing in the parking space(s) reserved by me.

I agree to indemnify and hold harmless the City of Champaign and its officers, agents and employees against any and all claims for damage to property or injuries to any person or persons, including property and employees of the City of Champaign, and shall indemnify and hold harmless the City of Champaign from any and all claims, demands, suits, actions or proceedings of any kind or nature, of or by anyone whosoever, arising out of negligent or willful, intentional acts or omissions to act by the undersigned, or any contractors, agents or employees of the undersigned in connection with the towing or removal of vehicles trespassing in parking spaces reserved for me.

25.07 RIGHT-OF-WAY PERMITTING, INSURANCE AND BONDING REQUIREMENTS

Permits, proof of insurance and bond is required for contractors doing work in the City of Champaign right-of-way. The specific requirements and permit forms are as outlined in the City Code and are listed in Standard Attachment 25.04(a) through 25.04(f).

25.08 PRIVATE SITE DESIGN REQUIREMENTS

- A. Introduction:** In order to protect the public safety, the public right-of-way, and property of adjacent owners, the following site design and construction guidelines shall be followed.
- B. Grading and Drainage Requirements:** Per the 1998 City of Champaign Storm Water Management Guidelines, a Grading and Drainage Permit must be obtained from the City Grading and Drainage Inspector at the Engineering Division of Public Works. All grading and drainage operations shall conform to the 1998 City of Champaign Stormwater Regulations (see attached copy in Appendix B), and Permit requirements are as follows:

**CHAPTER 25: RIGHT-OF-WAY CONSTRUCTION STANDARDS
AND PRIVATE SITE DESIGN REQUIREMENTS**

1. *Requirement of a Grading and Drainage Permit:* A grading and drainage permit is required for all new construction and renovations which are not in a floodplain (see Standard Attachment 25.05(a1) & 25.05(a2) for a copy of the Permit Application), except that a permit is not required for the following:
 - a. Excavation or fill less than 50 CY, with less than a 4 ft. cut, disturbing less than 5000 SF surface
 - b. Any interior remodeling
 - c. Additions, exterior remodeling, or accessory structures smaller than 500 SF which disturb less than 2000 SF on the site
 - d. Demolition
 - e. Accessory items with minimal impact on drainage like sidewalks, playground equipment, small patios or decks, athletic fields with minimal grading work

2. *Grading and Drainage Plan:* A grading and drainage plan must be submitted together with the permit application. The information required on the grading and drainage plan is as follows (*note: most of this data can usually be found on the subdivision plans*).
 - a. Lot corner elevations
 - b. Building pad elevations
 - c. Lowest finished floor elevation
 - d. Surface water flow patterns
 - e. Statement that the project “is” or “is not” within 100 ft. of a 100-year floodplain
 - f. If the project is within 100 ft. of a 100-year floodplain, the boundaries and elevation of the floodplain must be indicated, and the lowest floor of any habitable building must be at least 1 ft. above the 100-year flood elevation

3. *Required Design Calculations:* Stormwater design calculations shall be submitted with any commercial or industrial site development. The calculations shall include the following information:
 - a. Lot area in acres
 - b. Existing impervious area in acres and the corresponding percentage of total area
 - c. Proposed impervious area in acres and the corresponding percentage of total area
 - d. Summary of site conditions vs. threshold for detention in accordance with Section 29.5-4.04 of the City Code/Stormwater Regulations (See Appendix B of this Manual)
 - e. Detention waiver request and basis (fee in lieu of detention, nearby regional detention, infill development with no net gain, etc.)
 - f. On site storm sewer sizing calculations – 10-year design based on Chapter 19 of this Manual

4. *Development within the Floodplain:* Development within the floodplain is very tightly restricted. Even when the flood plain line intersects only the corner of a lot there are floodplain procedures that must be followed. If there is any question regarding the possibility of a nearby flood plain impacting the work, call the Grading and Drainage Inspector at the City Engineering Division.

CHAPTER 25: RIGHT-OF-WAY CONSTRUCTION STANDARDS AND PRIVATE SITE DESIGN REQUIREMENTS

- C. Site Plan Requirements:** As part of the building permit process, all building projects other than internal remodels require the submittal of a site plan together with the building plans showing sanitary and storm sewer details together with plan view drawings. These drawings are usually submitted to the Building Safety Division for distribution. The grading and drainage plan requirement may be combined with this site plan. All vehicular entrances, utility connections, and site grading information shall be shown. Private parking lots and entryways shall contain surface water to a minimum depth of 4 in. prior to overland release from site. Paved areas shall be contained entirely with barrier curb and gutter and be drained by an onsite storm sewer system unless other methods are approved. Site plans shall satisfy the checklist requirements as shown in Standard Attachment 25.06(b1) & 25.06(b2).

25.09 STANDARD ATTACHMENTS

The following attachments provide additional guidance for private side design and construction. Where applicable, these standards should be followed and incorporated into project plans and specifications.

Standard Attachment Number 25.01(a1), 25.01(a2), 25.01(a3), 25.01(b1), 25.01(b2), 25.01(c) and 25.01(d) —KOR-n-SEAL Detail Drawings

Standard Attachment Number 25.01(e)—City Standard Manhole Detail

Standard Attachment Number 25.01(f) through 25.01(j)—City Misc. Sanitary Details

Standard Attachment Number 25.02(a) through 25.02(d)—City Driveway Details

Standard Attachment Number 25.03(a) through 25.03(b)—City Street Tree Details

Standard Attachment Number 25.04(a) through 25.04(f2)—Permitting Bonding and Insurance Forms

Standard Attachment Number 25.05(a1) through 25.05(a2)—Grading and Drainage Permit Forms

Standard Attachment Number 25.06(b1) through 25.06(b2)—Site Plan Checklist

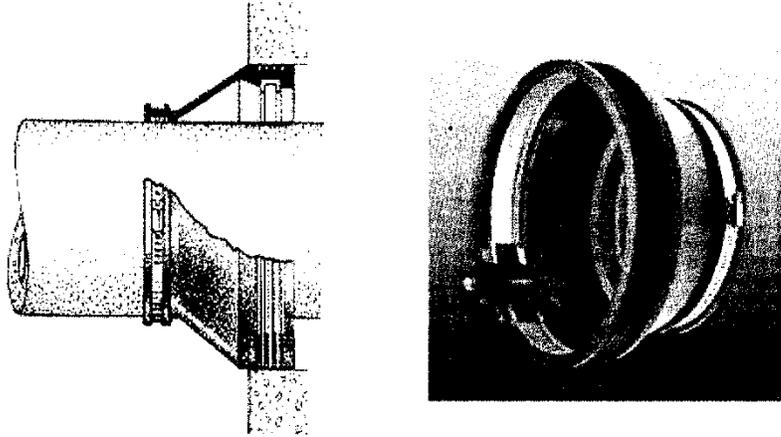
Standard Attachment Number 25.07(a)—Sidewalk Ramp Policy for the City of Champaign

Standard Attachment Number 25.07(b)—PVC Specifications for Sanitary Sewers

Standard Attachment Number 25.08(a1) through 25.08(a3)—Details for Ramps That Provide Vehicular Access to Underground and Above Ground Parking Facilities

Standard Attachment Number 25.09(a1) through 25.09(a2)—IDOT Class B Patch Detail 442101-07

Flexible Pipe-to-Manhole Connectors



The NPC Kor-N-Seal[®] pipe to manhole connector was introduced over 25 years ago and is the most widely used flexible connector in sanitary sewer applications throughout the world. Kor-N-Seal connectors meet or exceed ASTM C-923 specifications.

[Click here for Kor-N-Seal Installation Instructions](#)

The tables below list the sizes available for the Kor-N-Seal I and Kor-N-Seal II connectors. All dimensions are in inches.

KOR-N-SEAL I: CONNECTORS FOR PIPE DIAMETERS 1"-18"			
Nominal Hole Size	Model No.	Pipe O.D. Range	Hole Size Range
7"	S106-7SWP	1.80 - 4.80	6.995 - 7.055
7"	S106-7WP	3.50 - 4.50	6.995 - 7.055
8"	S106-8SWP	4.20 - 6.40	7.995 - 8.055
7"	S106-7ST	1.80 - 4.80	6.995 - 7.055
7"	S106-7T	3.50 - 4.50	6.995 - 7.055
8"	S106-8ST	4.20 - 6.40	7.995 - 8.055
8"	S106-8T	5.10 - 5.90	7.995 - 8.055
10"	S406-10AWP	6.00 - 6.75	10.000 - 10.200
10"	S406-10WP	7.50 - 8.20	10.000 - 10.200
10 1/2"	S406-10.5AWP	6.00 - 6.75	10.500 - 10.700
10 1/2"	S406-10.5WP	7.50 - 8.70	10.500 - 10.700
10"	S406-10AT	6.00 - 6.75	10.055 - 10.145
10"	S406-10T	7.50 - 8.40	10.055 - 10.145
10 1/2"	S406-10.5AT	6.00 - 6.75	10.525 - 10.615
10 1/2"	S406-10.5T	7.50 - 8.90	10.525 - 10.615

**CHAPTER 25: RIGHT-OF-WAY CONSTRUCTION STANDARDS
AND PRIVATE SITE DESIGN REQUIREMENTS**

12"	S406-12CWP	6.00 - 7.00	12.000 - 12.200
12"	S406-12BWP	6.25 - 7.50	12.000 - 12.200
12"	S406-12AWP	7.50 - 9.00	12.000 - 12.200
12"	S406-12WP	9.00 - 10.20	12.000 - 12.200
12"	S406-12CT	6.00 - 7.00	12.040 - 12.130
12"	S406-12BT	6.25 - 7.50	12.040 - 12.130
12"	S406-12AT	7.50 - 9.00	12.040 - 12.130
12"	S406-12T	9.00 - 10.50	12.040 - 12.130
12"	S106-12BWP	5.75 - 7.00	12.000 - 12.200
12"	S106-12AWP	7.00 - 8.50	12.000 - 12.200
12"	S106-12WP	8.25 - 9.75	12.000 - 12.200
12"	S106-12BT	5.75 - 7.00	12.040 - 12.130
12"	S106-12AT	7.00 - 8.50	12.040 - 12.130
12"	S106-12T	8.25 - 9.75	12.040 - 12.130
14"	S106-14AWP	9.50 - 11.25	14.000 - 14.200
14"	S106-14AT	9.50 - 11.25	14.025 - 14.115
16"	S106-16BWP	9.50 - 11.25	15.950 - 16.150
16"	S106-16AWP	11.25 - 13.00	15.950 - 16.150
16"	S106-16WP	13.00 - 14.20	15.950 - 16.150
16"	S106-16BT	9.50 - 11.25	15.975 - 16.070
16"	S106-16AT	11.25 - 13.00	15.975 - 16.070
16"	S106-16T	13.00 - 14.20	15.975 - 16.070
20"	S106-20BWP	14.00 - 15.50	19.950 - 20.100
20"	S106-20AWP	15.50 - 17.00	19.950 - 20.100
20"	S106-20WP	17.00 - 18.15	19.950 - 20.100
22"	S106-22WP	17.75 - 19.25	21.950 - 22.100
24"	S106-24WP	19.60 - 21.10	23.950 - 24.100

KOR-N-SEAL II: CONNECTORS FOR PIPE 15" OR GREATER			
Nominal Hole Size	Model No.	Pipe O.D. Range	Hole Size Range
18"	S206-18L	15.000 - 15.625	17.98 - 18.13
22"	S206-22	17.625 - 19.000	21.98 - 22.13
22"	S206-22L	19.000 - 19.625	21.98 - 22.13
24"	S206-24A	18.000 - 19.500	23.98 - 24.13
24"	S206-24	19.625 - 21.000	23.98 - 24.13
24"	S206-24L	21.000 - 21.625	23.98 - 24.13
26"	S206-26	21.625 - 23.000	26.00 - 26.20

**CHAPTER 25: RIGHT-OF-WAY CONSTRUCTION STANDARDS
AND PRIVATE SITE DESIGN REQUIREMENTS**

26"	S206-26L	23.000 - 23.625	26.00 - 26.20
28"	S206-28	23.625 - 25.000	28.00 - 28.20
28"	S206-28L	25.000 - 25.625	28.00 - 28.20
30"	S206-30	25.625 - 27.000	30.00 - 30.20
30"	S206-30L	27.000 - 27.625	30.00 - 30.20
32"	S206-32	27.625 - 29.000	32.00 - 32.20
32"	S206-32L	29.000 - 29.625	32.00 - 32.20
34"	S206-34	29.625 - 31.000	34.00 - 34.20
34"	S206-34L	31.000 - 31.625	34.00 - 34.20
36"	S206-36	31.625 - 33.000	36.00 - 36.20
36"	S206-36L	33.000 - 33.625	36.00 - 36.20
38"	S206-38	33.625 - 35.000	38.00 - 38.20
38"	S206-38L	35.000 - 35.625	38.00 - 38.20
40"	S206-40	35.625 - 37.000	40.00 - 40.20
40"	S206-40L	37.000 - 37.625	40.00 - 40.20
42"	S206-42	37.625 - 39.000	42.00 - 42.20
42"	S206-42L	39.000 - 39.625	42.00 - 42.20
44"	S206-44	39.625 - 41.000	44.00 - 44.20
44"	S206-44L	41.000 - 41.625	44.00 - 44.20
46"	S206-46	41.625 - 43.000	46.00 - 46.20
46"	S206-46L	43.000 - 43.625	46.00 - 46.20
48"	S206-48	43.625 - 45.000	48.00 - 48.20
48"	S206-48L	45.000 - 45.625	48.00 - 48.20
50"	S206-50	45.000 - 45.625	50.00 - 50.25
50"	S206-50L	45.625 - 47.000	50.00 - 50.25
52"	S206-52	47.000 - 47.625	52.00 - 52.25
52"	S206-52L	47.625 - 49.000	52.00 - 52.25
54"	S206-54	49.000 - 49.625	54.00 - 54.25
54"	S206-54L	49.625 - 51.000	54.00 - 54.25

NPC Kor-N-Seal Pipe-to-Manhole Connector Technical Specification

Scope:

This specification describes the function of the NPC Kor-N-Seal pipe-to-manhole connector, its principle of operation, and the component materials that constitute the Kor-N-Seal connector, and their physical properties.

Product Application:

NPC Kor-N-Seal connectors are designed and manufactured to meet or exceed the requirements of ASTM C-923 "Standard Specification for Resilient Connectors Between Reinforced Concrete Manhole Structures, Pipes and Laterals". This specification requires the connector to provide a watertight seal under the following conditions:

- 10 PSI (23 feet head) of groundwater pressure
- Minimum 7 Degrees of pipe articulation in any direction
- Radial loading test of 150 pounds per inch diameter of pipe

Principle of Operation:

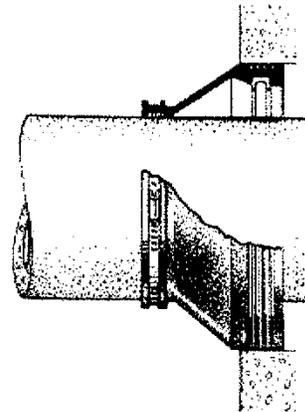
The Kor-N-Seal connector creates a watertight seal between the pipe and manhole by first sealing to the inside of the cored or formed hole in the manhole and then sealing to the outside of the pipe. See illustration at right.

The seal at the inside of the manhole is created by the stainless steel Korband. The Korband is located inside of the end of the Kor-N-Seal connector that fits into the manhole. Once the Kor-N-Seal connector is located in the manhole, the diameter of the Korband is increased. This compresses the Kor-N-Seal connector against the inside wall of the hole in the manhole creating a watertight seal at the manhole.

The seal at the outside of the pipe is created by the stainless steel pipe clamp(s). The pipe clamp is located on the outside of the Kor-N-Seal connector. Once the pipe has been positioned in the connector the diameter of the pipe clamp is decreased. This compresses the Kor-N-Seal connector against the outside wall of the pipe creating a watertight seal at the pipe.

Reference the Kor-N-Seal Recommended Installation Instructions for a detailed explanation of the preparation and installation of the Kor-N-Seal connector.

Materials:



**CHAPTER 25: RIGHT-OF-WAY CONSTRUCTION STANDARDS
AND PRIVATE SITE DESIGN REQUIREMENTS**

The Kor-N-Seal connector consists of a rubber seal, a stainless steel Korband assembly, and a stainless steel pipe clamp. The properties of each of these components are listed below.

Rubber Seal- The rubber seal is made from a resilient rubber compound, which conforms to ASTM C923. The physical properties of the rubber are listed in the following table.

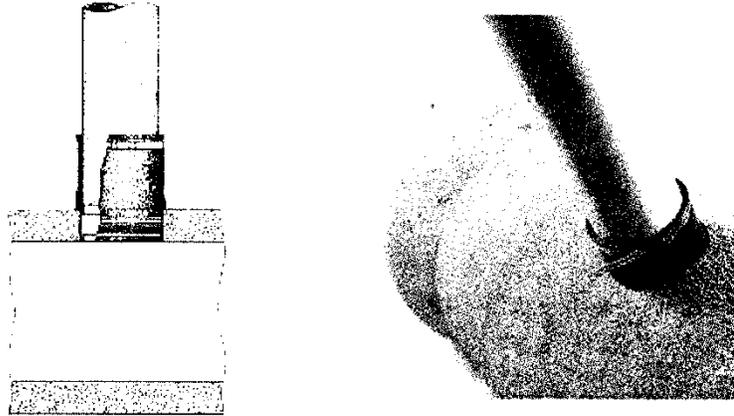
Test	ASTM Method	Test Requirements	Rubber Performance
Chemical Resistance: 1N Sulfuric Acid 1N Hydrochloric Acid	D 534, at 22° C for 48 hrs.	No weight loss No weight loss	No weight loss No weight loss
Tensile Strength	D 412	1200 psi, min.	1580 psi
Elongation at Break	N/A	350%, min.	500%
Hardness	D 2240 (Shore A Durometer)	±5 From the manufacturer's specified hardness	48 ± 5
Accelerated Oven Aging	D 573, 70± 1° C for 7 Days	Decrease of 15%, max, of original tensile strength Decrease of 20%, max, of elongation	10.1% tensile decrease 14.0% elongation decrease
Compression Test	D 395, Method B, at 70° C for 22 hours	Decrease of 25%, max, of original deflection	13% decrease
Water Absorption	D 471 Immerse 0.75 by 2 inch specimen in distilled water at 70° C for 48 hours	Increase of 10%, max, of original by weight	0.8% increase
Ozone Resistance	D 1171	Rating 0	Rating 0
Low-Temp. Brittle Point	D 746	No fracture at minus 40° C	No fracture at minus 40° C
Tear Resistance	D 624, Method B	200 lbf/in., min.	Greater than 210 lbf/in.

Korband Assembly- The Korband Assembly is manufactured from 304 series non-magnetic stainless steel, which conforms to ASTM C923 and ASTM A167. The physical properties of 304 stainless steel are listed in the table below.

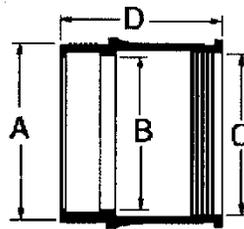
Pipe Clamp- The pipe clamp is manufactured from 304 series non-magnetic stainless steel, which conforms to ASTM C923 and ASTM A167. The physical properties of 304 stainless steel are listed in the following table.

Physical Property	304 Stainless Steel
Tensile Strength (minimum)	75,000 psi
Yield Strength (minimum)	30,000 psi
Elongation in 2 inches (minimum)	40%

Lateral Pipe-to-Pipe Connectors



The NPC Kor-N-Tee® pipe to pipe connector is specifically for lateral connections in concrete pipe. It provides an economical, flexible, watertight seal that can be installed quickly and easily without complete pipe excavation and disruption of the bedding. Kor-N-Tee connectors meet or exceed ASTM C-923 specifications.



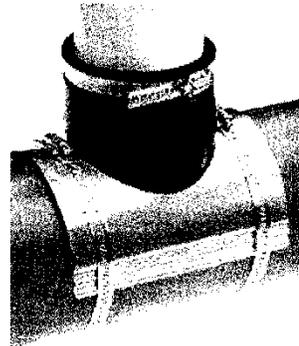
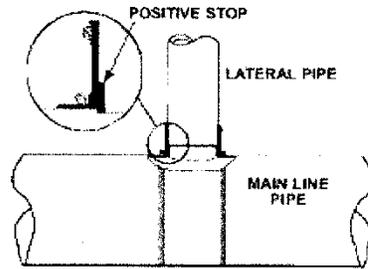
The table below lists the sizes available for the Kor-N-Tee connector, along with the minimum I.D. and wall thickness required for the concrete pipe.

All dimensions are in inches.

Model No.	Lateral Pipe O.D. Range	Nominal Hole Size "A"	Shoulder I.D. "B"	"C"	"D"	Minimum Pipe I.D.	Minimum Pipe Wall Thickness
S006-5	4.125 - 4.800	4.960 - 5.010	4.000	4.500	6.0	12	2.00
S006-6	5.125 - 5.625	5.960 - 6.010	5.000	5.500	6.0	12	2.00
S006-7B	5.825 - 6.375	6.995 - 7.055	5.937	6.250	6.0	12	2.00
S006-7A	6.750 - 7.750	6.995 - 7.055	6.062	7.625	6.0	12	2.00
S006-9A	8.000 - 8.750	8.990 - 9.050	8.000	8.500	6.5	18	2.25
S006-9	8.500 - 9.875	8.990 - 9.050	8.000	9.625	8.0	18	2.25
S006-11	10.000 - 10.750	11.025 - 11.115	10.000	10.500	7.0	21	2.50

**CHAPTER 25: RIGHT-OF-WAY CONSTRUCTION STANDARDS
AND PRIVATE SITE DESIGN REQUIREMENTS**

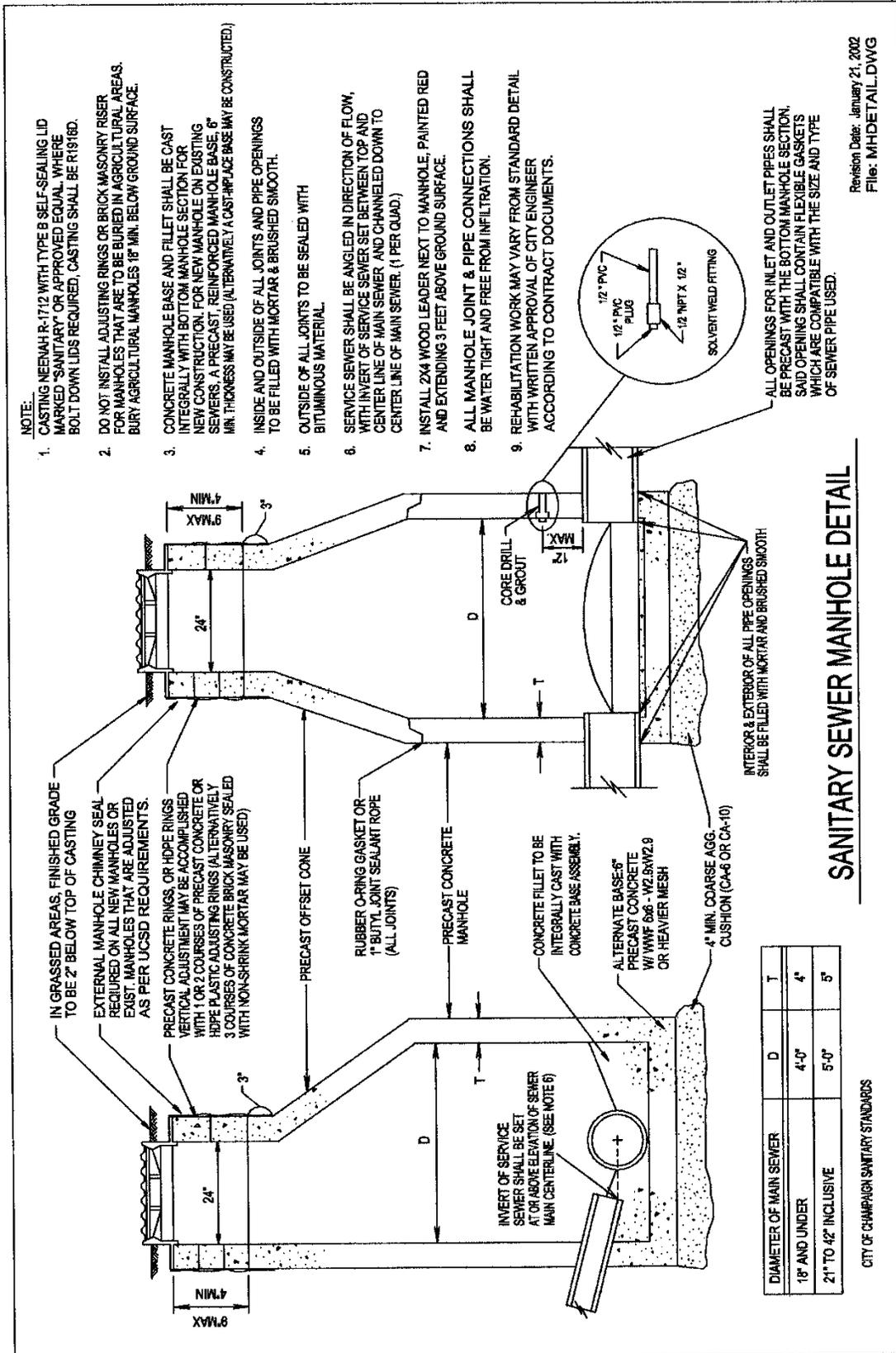
Lateral Pipe-to-Pipe Connectors



The NPC Kor-N-Tee[®] Saddle pipe to pipe connector is specifically designed for lateral connections in smooth wall pipe. It provides an economical, flexible, watertight seal that can be installed quickly and easily without complete pipe excavation and disruption of the bedding. Kor-N-Tee connectors meet or exceed ASTM C-923 specifications.

Model No.	Lateral Pipe O.D. Range Inches	Main Line Pipe O.D. Range Inches	Main Line Pipe Cored Hole Diameter Inches
SJ-4A	4.1 - 4.6	6 - 26	5
SJ-6A	6.1 - 7.0	8 - 26	7
SJ-8A	8.1 - 9.0	6 - 26	9

**CHAPTER 25: RIGHT-OF-WAY CONSTRUCTION STANDARDS
AND PRIVATE SITE DESIGN REQUIREMENTS**



SANITARY SEWER MANHOLE DETAIL

DIAMETER OF MAIN SEWER	D	T
18" AND UNDER	4'-0"	4'
21" TO 42" INCLUSIVE	5'-0"	5'

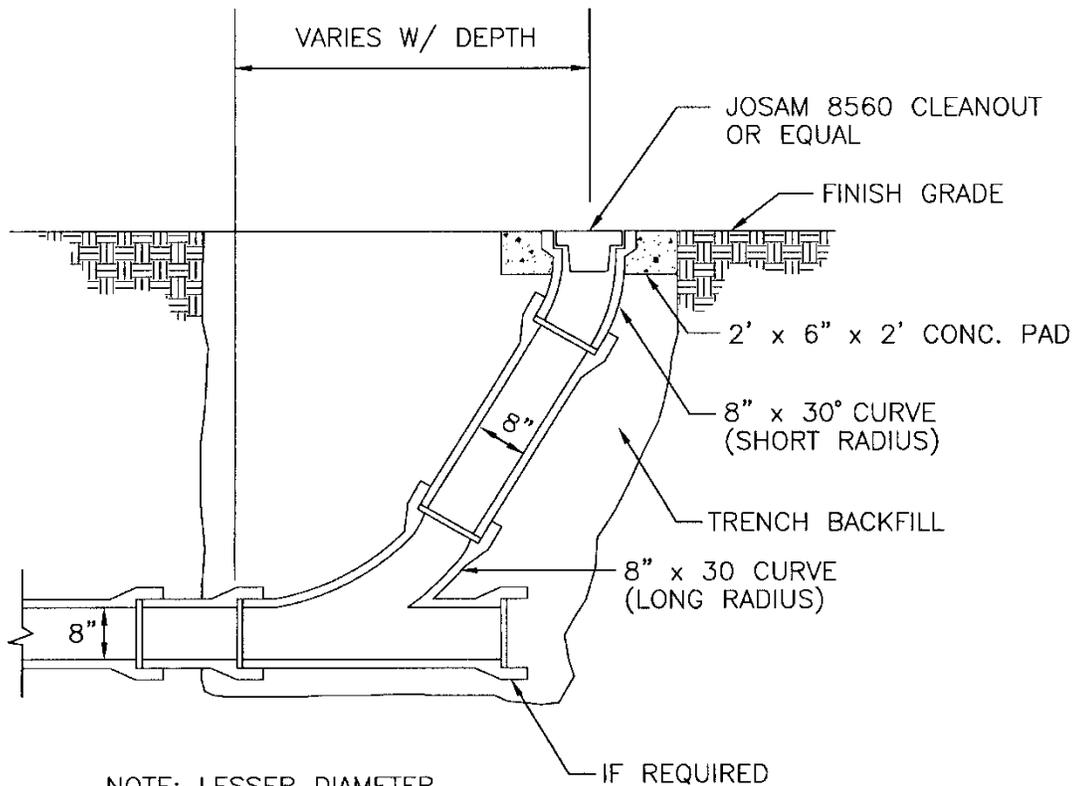
CITY OF CHAMPAIGN SANITARY STANDARDS

Revision Date: January 21, 2002
File: MHDETAIL.DWG

STANDARD ATTACHMENT 25.01(e)

CHAPTER 25: RIGHT-OF-WAY CONSTRUCTION STANDARDS
AND PRIVATE SITE DESIGN REQUIREMENTS

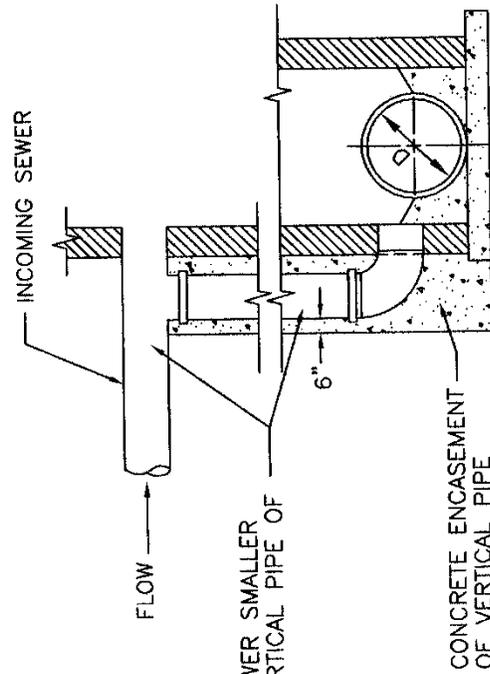
SANITARY CLEANOUT
TYPICAL CROSS SECTION
FOR CLAY PIPE



NOTE: LESSER DIAMETER
PIPE WOULD REQUIRE
DIFFERENT SIZE CLEANOUT

 City of Champaign PUBLIC WORKS DEPARTMENT Engineering Division PH 217-351-4466 FAX 217-352-5100 702 Edgebrook Drive Champaign, IL 61820 E-MAIL: publicworks@ci.champaign.il.us		DRAWING TITLE: Sanitary Cleanout Typical Cross Section for Clay Pipe
DRAWN: DC APPROVED: WRW	DATE: 1-21-2002 CAD FILE: CLEANOUT.DWG	

DROP MANHOLE CONNECTION



FOR INCOMING SEWER SMALLER THAN 12" USE VERTICAL PIPE OF SAME DIAMETER.

NOTE: TO BE USED IN CONJUNCTION WITH TYPE "A" MANHOLES WHERE SEWER ENTERS 2'-0" OR MORE ABOVE LOWEST INVERT.

NOTE: THIS DETAIL APPLIES TO INCOMING SEWERS OF 18" DIAMETER OR LESS.



DRAWN BY: JKW

FILE: MANHOLE.DWG

DATE: 1-25-02

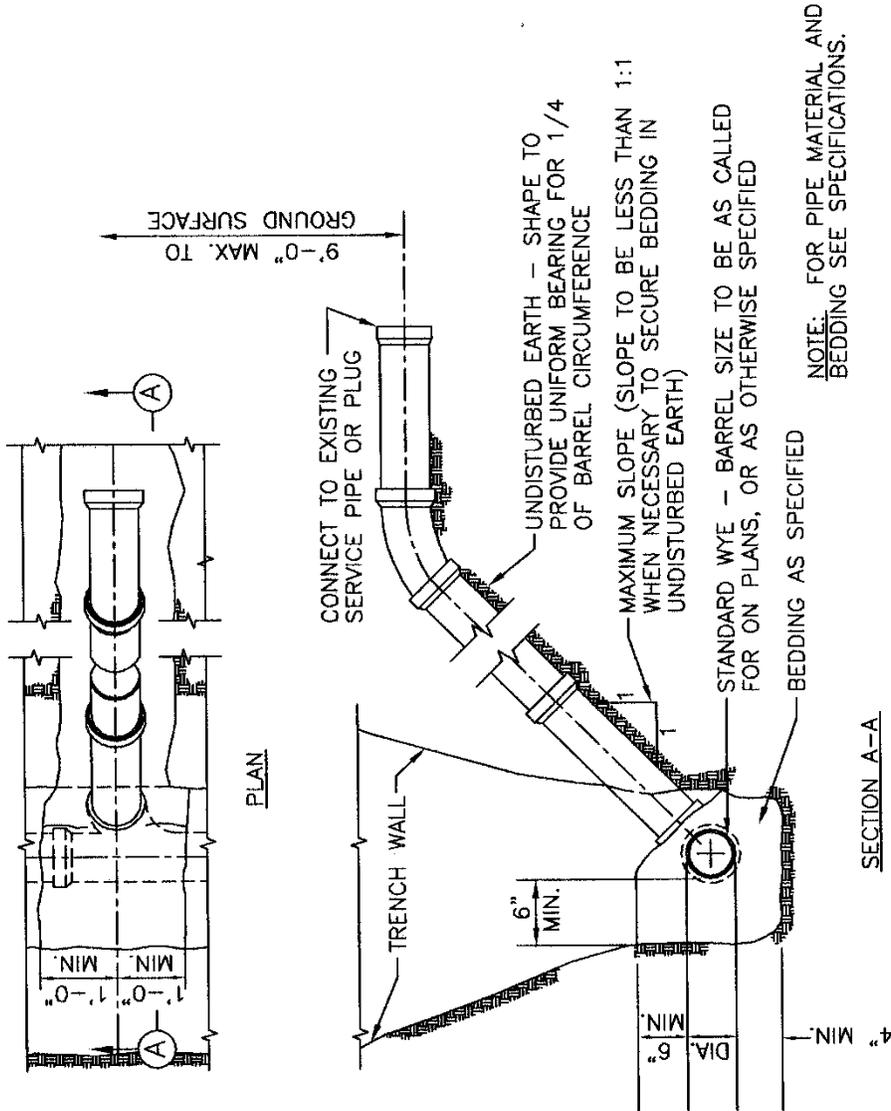
SCALE: NONE

TITLE:

DROP MANHOLE CONNECTION DETAIL

Standard Attachment 25.01(g)

TYPICAL RISER FOR SERVICE LATERAL

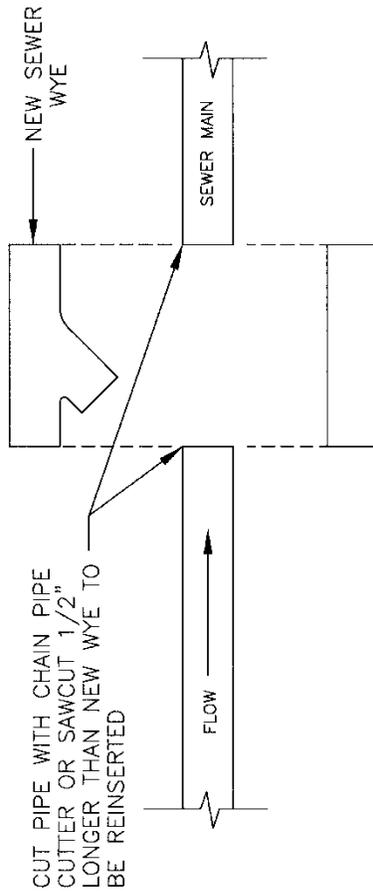


	DRAWN BY: RLH	DATE: 1-4-02	TITLE: TYPICAL RISER FOR SERVICE LATERAL
	FILE: RISER.DWG	SCALE: NONE	

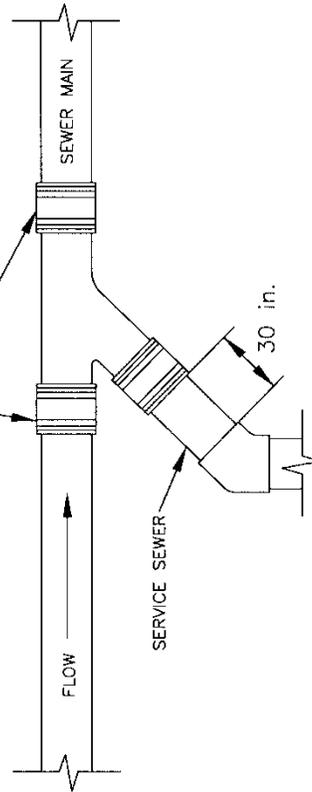
Standard Attachment 25.01(h)

**CHAPTER 25: RIGHT-OF-WAY CONSTRUCTION STANDARDS
AND PRIVATE SITE DESIGN REQUIREMENTS**

SANITARY SEWER WYE – INSTALLATION



MISSION COUPLING OR APPROVED EQUAL SHALL CONFORM TO ASTM C-425 FOR CLAY PIPE OR ASTM EQUIVALENT STANDARD FOR ALTERNATE PIPE MATERIALS



NOTES:

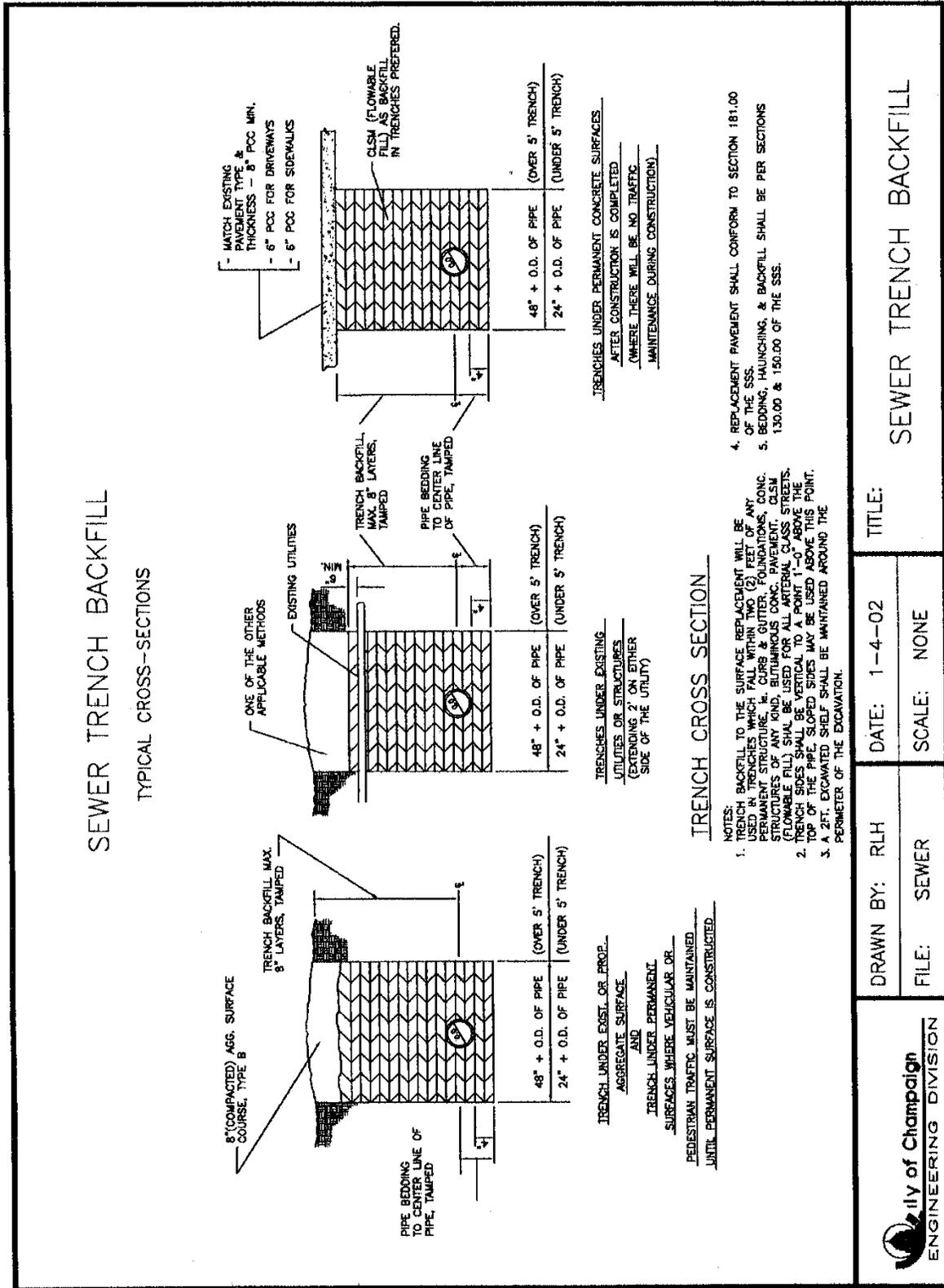
1. PVC MATERIAL SHALL NOT BE ALLOWED IN THE SEWER MAIN.
2. BEDDING MATERIAL FOR THE WYE SHALL BE CRUSHED AGGREGATE WITH A GENERAL SIZE RANGE OF 1/4" TO 3/4"
3. CONNECTIONS TO SEWER MAINS THAT ARE SMALLER THAN 12" IN DIAMETER SHALL BE DONE BY REMOVING A LIMITED AMOUNT OF THE SEWER MAIN AND INSERTING A WYE CONNECTION WITH APPROVED COUPLINGS AS SPECIFIED IN SECTION 140.0 OF THE (SSS). CONNECTIONS TO MANHOLES OR PIPES 12" AND LARGER IN DIAMETER SHALL BE MADE BY CORE DRILLING THE EXISTING PIPE/MANHOLE AND INSTALLING A FLEXIBLE CONNECTOR ASSEMBLY SUCH AS KOR n SEAL BY NPC INC., OR APPROVED EQUAL (SEE STANDARD ATTACHMENT 25.01).

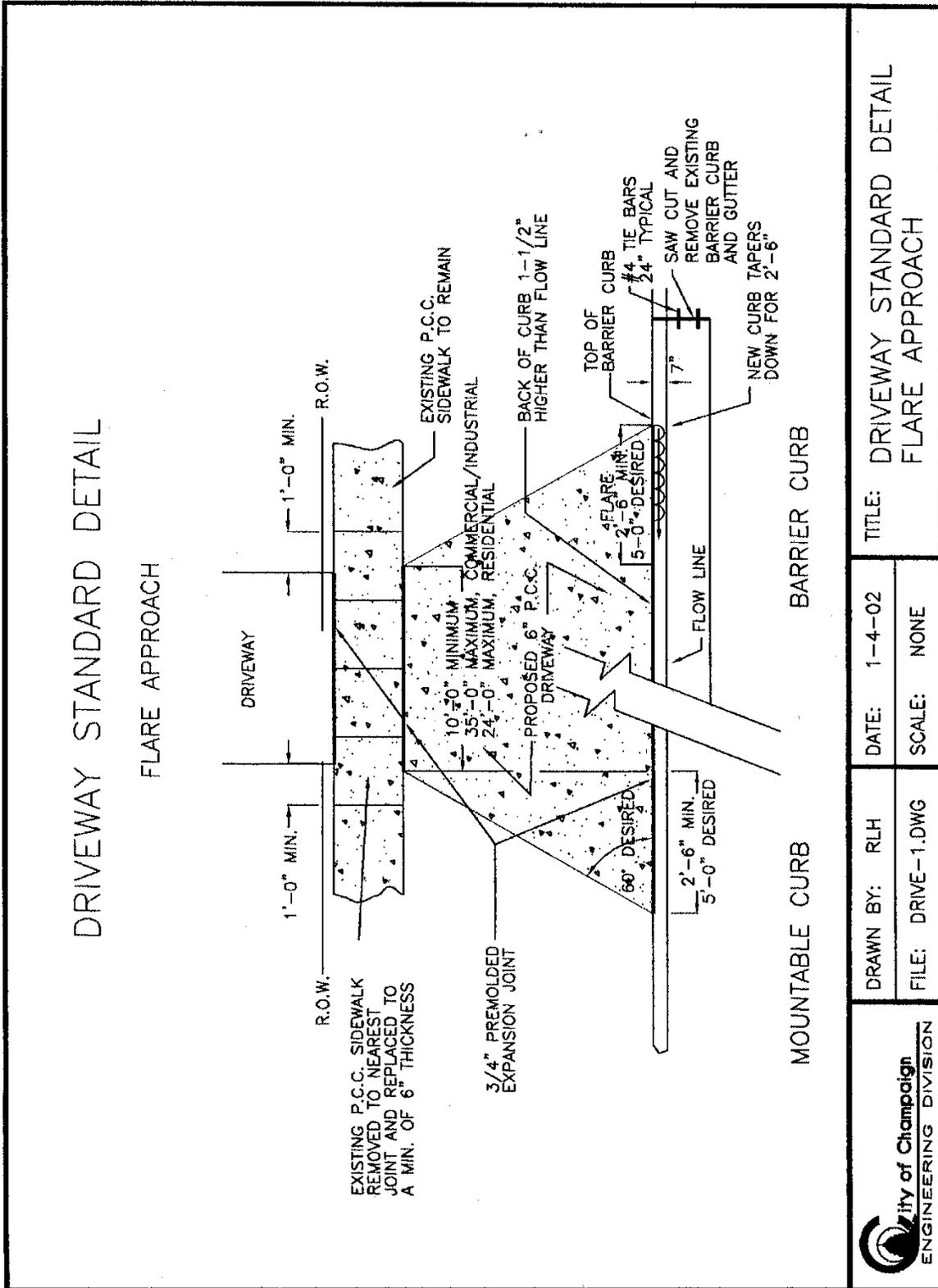
	DRAWN BY: DC	DATE: 1-30-02	TITLE: SANITARY SEWER WYE – INSTALLATION
	FILE: SEWREP.DWG	SCALE: NONE	

Standard Attachment 25.01(i)

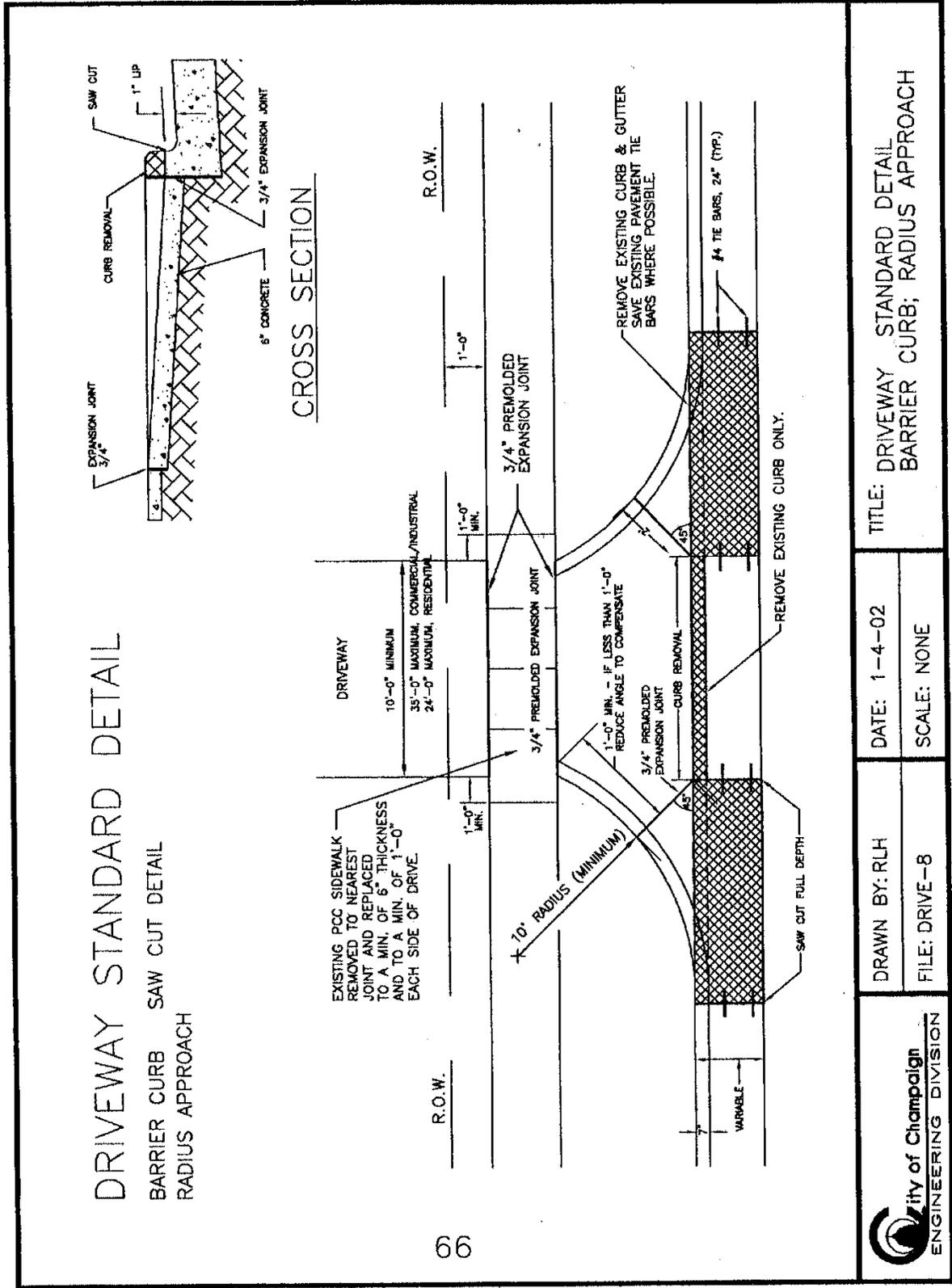
Standard Attachment 25.01(i)

CHAPTER 25: RIGHT-OF-WAY CONSTRUCTION STANDARDS
AND PRIVATE SITE DESIGN REQUIREMENTS



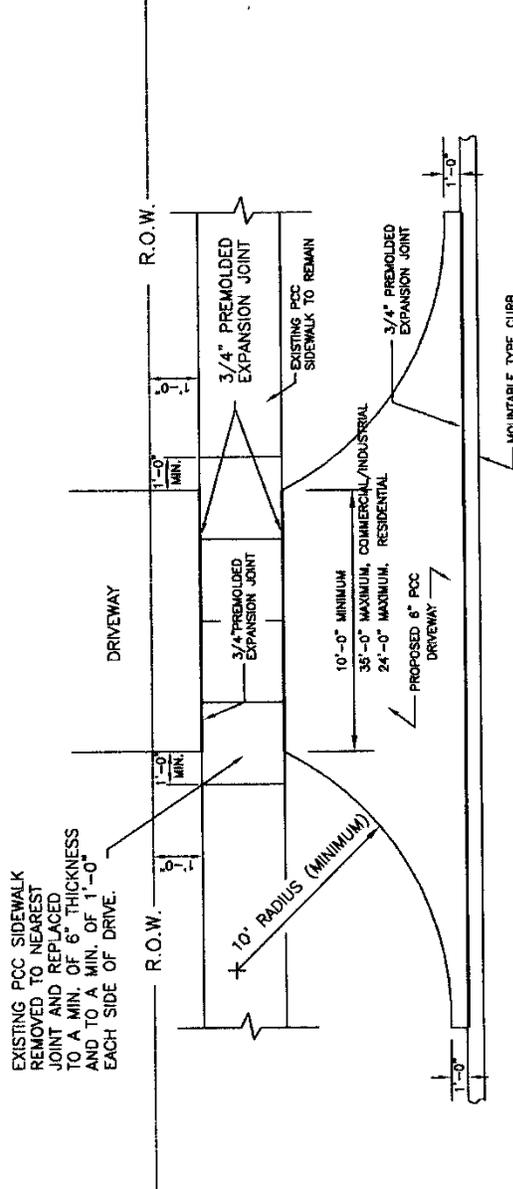


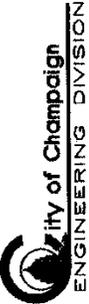
	DRAWN BY: RLH	DATE: 1-4-02	TITLE: DRIVEWAY STANDARD DETAIL
	FILE: DRIVE-1.DWG	SCALE: NONE	FLARE APPROACH



DRIVEWAY STANDARD DETAIL

MOUNTABLE CURB RADIUS APPROACH



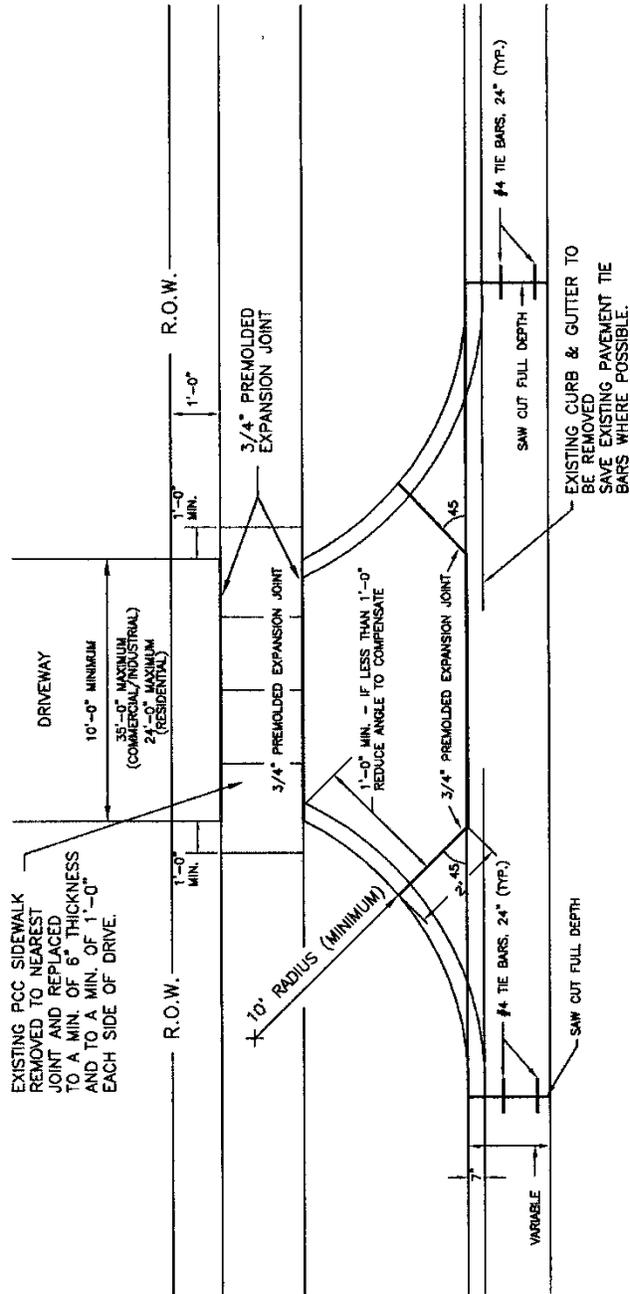
	DRAWN BY: RLH	DATE: 1-4-02	TITLE: DRIVEWAY STANDARD DETAIL
	FILE: DRIVE-6.DWG	SCALE: NONE	MOUNTABLE CURB ; RADIUS APPROACH

Standard Attachment 25.02(c)

DRIVEWAY STANDARD DETAIL

BARRIER CURB RADIUS APPROACH

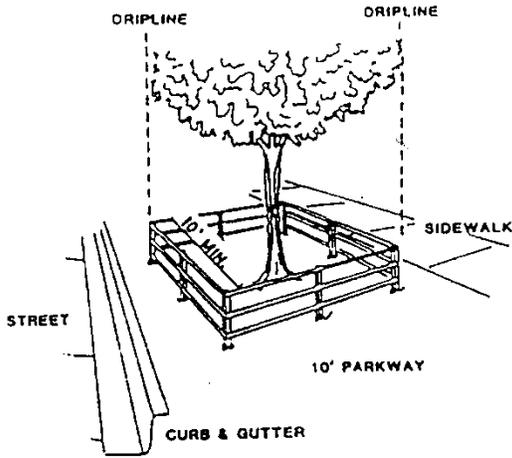
(LESS THAN 10' FROM BACK OF CURB TO SIDEWALK)



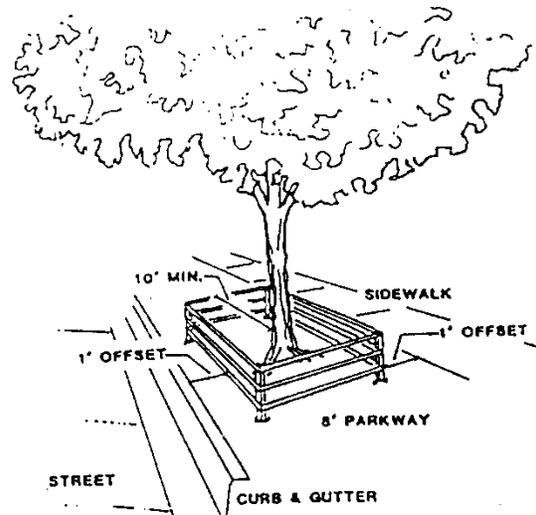
	DRAWN BY: SL	DATE: 1-09-2002	TITLE: DRIVEWAY STANDARD DETAIL
	FILE: DRIVE-3	SCALE: NONE	BARRIER CURB; RADIUS APPROACH

Standard Attachment 25.02(d)

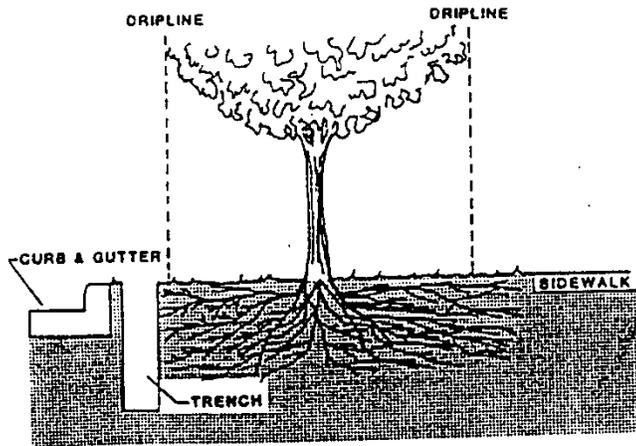
**CHAPTER 25: RIGHT-OF-WAY CONSTRUCTION STANDARDS
AND PRIVATE SITE DESIGN REQUIREMENTS**



**FIGURE 1 - SMALL TREES
MINIMUM FENCING REQUIREMENTS**



**FIGURE 2 - MEDIUM TO LARGE TREES
MINIMUM FENCING REQUIREMENTS**



**FIGURE 3 - SMALL TREES
TRENCHING REQUIREMENTS**

CHAPTER 25: RIGHT-OF-WAY CONSTRUCTION STANDARDS
AND PRIVATE SITE DESIGN REQUIREMENTS

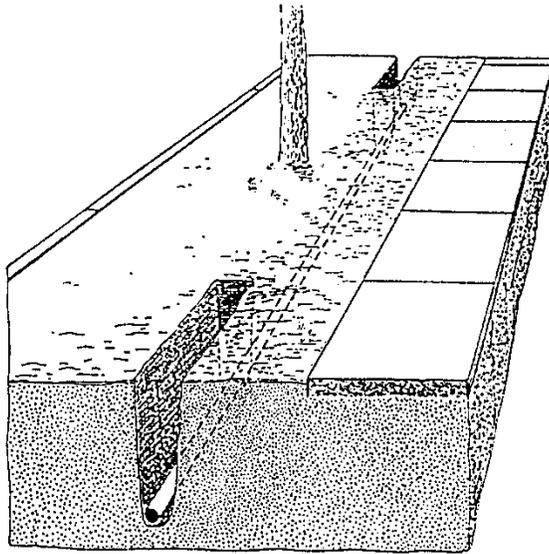


FIGURE 4
TRENCHING AND TUNNELING
TO PREVENT ROOT DAMAGE

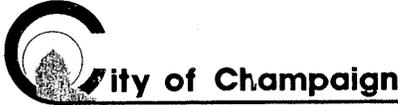
SPECIFICATION: Tree root zones shall be protected by augering in the manner described hereafter:

TREE DIAMETER (INCHES)

- 0 - 2 - Auger 2 feet from face of tree in all directions if trench will be located within or intersect this radius.
- 3 - 4 - Auger 3 feet from face of tree in all directions if trench will be located within or intersect this radius.
- 5 - 9 - Auger 6 feet from face of tree in all directions if trench will be located within or intersect this radius.
- 10 - 14 - Auger 10 feet from face of tree in all directions if trench will be located within or intersect this radius.
- 15 - 19 - Auger 12 feet from face of tree in all directions if trench will be located within or intersect this radius.
- 19 - over - Auger 15 feet from face of tree in all directions if trench will be located within or intersect this radius.

The minimum depth of auger within the root zone, as described below, shall be 24 inches below the soil surface. No trenching within the root zone of the tree as described shall be permitted.

CHAPTER 25: RIGHT-OF-WAY CONSTRUCTION STANDARDS
AND PRIVATE SITE DESIGN REQUIREMENTS



SEWER EXTENSION AND RIGHT-OF-WAY ENCROACHMENT PERMIT
NON-TRANSFERABLE NON-REFUNDABLE

PERMIT NO.

PERMIT EXPIRATION

APPLICANT: _____ DATE: _____

LOCATION(S): _____

CURRENT INSURANCE CERTIFICATE ON FILE: CURRENT MAINTENANCE BOND ON FILE:

PERMIT ISSUED FOR:

- STORM SEWER (IB)* X 20.00 = _____
- SANITARY SEWER (IB)* X 20.00 = _____
- DRIVEWAY APPROACH (I)* X 10.00 = _____
- SIDEWALK/EA. 100' (I)* X 5.00 = _____
- R.O.W. EXCAVATION (IB)* X 20.00 = _____
- R.O.W. OCCUPANCY (I)* X 0.00 = _____

TOTAL FEE PAID: _____

OTHER CONDITIONS: *INSURANCE REQUIRED (I)
INSURANCE AND BOND REQUIRED (IB)

- UCSD PERMIT REQUIRED IEPA PERMIT REQUIRED DRIVEWAY PLANS ATTACHED
- DRIVEWAY STANDARD SPECIFICATION NO: _____ SIDEWALK RAMP REQUIRED
- EXCAVATION DIAGRAM ATTACHED TRAFFIC CONTROL REQUIRED
- ADDITIONAL REQUIREMENTS: All unused Curb Cut openings must be closed per

Council Bill No. 2000-3, City Of Champaign Municipal Code Section 30-80.

I HEREBY AGREE to perform all construction work which is the subject of this Permit in accordance with the most recent edition of the Standard Specifications for Water and Sewer Main Construction in Illinois for Sanitary Sewers, the Standard Specifications for Road and Bridge Construction in Illinois, and any approved plans and specifications attached hereto, in accordance with all other applicable local, state, and federal laws, ordinances, rules and regulations; and I understand that this is not a permit to perform any tunnel work, unless stated in writing by authority of the City Engineer. I further agree to perform all construction work which is the subject of this Permit in accordance with the safety practices set out in the aforementioned Standard Specifications and the applicable local, state, and federal laws, ordinances, rules and regulations, including the Occupational Safety and Health Act.

CONTRACTOR

FOR CITY ENGINEER

CITY OF CHAMPAIGN ENGINEERING 702 EDGEBROOK DR. CHAMPAIGN, ILL. 61820 (217) 351-4466

Homeowner's Affidavit Form

AFFIDAVIT

I _____ do hereby swear that I am either the sole owner, or owner in Joint Tenancy or owner in Tenancy in Common, of the property located at _____ in the City of Champaign, Illinois.

I also do hereby swear that said property will be occupied only by myself and my family, and that said property is not for Rent or Sale at this time and to the best of my knowledge will not be for Rent or Sale in the near future.

This statement is being made for the purpose of obtaining a/an permit to do _____ work at the above mentioned property by myself.

I also understand that falsification of the above statement may result in prosecution for fraud.

Date:

Signature:

Witness:
(Notary Desired)

Date:

**CHAPTER 25: RIGHT-OF-WAY CONSTRUCTION STANDARDS
AND PRIVATE SITE DESIGN REQUIREMENTS**

Certificate of Insurance

This is to certify that STATE FARM FIRE AND CASUALTY COMPANY, Bloomington, Illinois
 STATE FARM GENERAL INSURANCE COMPANY, Bloomington, Illinois

has in force for OWNER'S NAME Name of Policyholder

OWNER'S ADDRESS Address of Policyholder

location of operations OWNER'S ADDRESS

the following coverages for the periods and limits indicated below.

POLICY NUMBER	TYPE OF INSURANCE	POLICY PERIOD (eff./exp.)	LIMITS OF LIABILITY																												
(NUMBER)	<input checked="" type="checkbox"/> Comprehensive General Liability	(DATE)	<input checked="" type="checkbox"/> Dual Limits for: <table border="0"> <tr> <td></td> <td align="right">BODILY INJURY</td> </tr> <tr> <td>Each Occurrence</td> <td>\$ 300,000</td> </tr> <tr> <td>Aggregate</td> <td>\$ 300,000</td> </tr> <tr> <td></td> <td align="right">PROPERTY DAMAGE</td> </tr> <tr> <td>Each Occurrence</td> <td>\$ 300,000</td> </tr> <tr> <td>Aggregate*</td> <td>\$ 300,000</td> </tr> </table> <input type="checkbox"/> Combined Single Limit for: <table border="0"> <tr> <td></td> <td align="right">BODILY INJURY AND PROPERTY DAMAGE</td> </tr> <tr> <td>Each Occurrence</td> <td>\$ _____</td> </tr> <tr> <td>Aggregate</td> <td>\$ _____</td> </tr> </table> CONTRACTUAL LIABILITY LIMITS (if different than above) <table border="0"> <tr> <td></td> <td align="right">BODILY INJURY</td> </tr> <tr> <td>Each Occurrence</td> <td>\$ _____</td> </tr> <tr> <td></td> <td align="right">PROPERTY DAMAGE</td> </tr> <tr> <td>Each Occurrence</td> <td>\$ _____</td> </tr> <tr> <td>Aggregate</td> <td>\$ _____</td> </tr> </table>		BODILY INJURY	Each Occurrence	\$ 300,000	Aggregate	\$ 300,000		PROPERTY DAMAGE	Each Occurrence	\$ 300,000	Aggregate*	\$ 300,000		BODILY INJURY AND PROPERTY DAMAGE	Each Occurrence	\$ _____	Aggregate	\$ _____		BODILY INJURY	Each Occurrence	\$ _____		PROPERTY DAMAGE	Each Occurrence	\$ _____	Aggregate	\$ _____
	BODILY INJURY																														
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	BODILY INJURY AND PROPERTY DAMAGE																														
Each Occurrence	\$ _____																														
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	BODILY INJURY																														
Each Occurrence	\$ _____																														
	PROPERTY DAMAGE																														
Each Occurrence	\$ _____																														
Aggregate	\$ _____																														
	<input type="checkbox"/> Manufacturers' and Contractors' Liability																														
	<input checked="" type="checkbox"/> Owners', Landlords' and Tenants' Liability																														
The above insurance includes (applicable if indicated by <input checked="" type="checkbox"/>)	<input type="checkbox"/> PRODUCTS - COMPLETED OPERATIONS <input checked="" type="checkbox"/> OWNERS' OR CONTRACTORS' PROTECTIVE LIABILITY <input type="checkbox"/> CONTRACTUAL LIABILITY																														
POLICY NUMBER	TYPE OF INSURANCE	POLICY PERIOD (eff./exp.)																													
	<input type="checkbox"/> Watercraft Liability																														
	<input type="checkbox"/>																														
	<input type="checkbox"/>																														
	<input type="checkbox"/> Workmen's/Workers' Compensation-Coverage A <input type="checkbox"/> Employer's Liability-Coverage B		Coverage A STATUTORY Coverage B \$ _____																												

*Aggregate not applicable if Owners', Landlords' and Tenants' Liability Insurance excludes structural alterations, new construction or demolition.

THE CERTIFICATE OF INSURANCE IS NOT A CONTRACT OF INSURANCE AND NEITHER AFFIRMATIVELY NOR NEGATIVELY AMENDS, EXTENDS OR ALTERS THE COVERAGE APPROVED BY ANY POLICY DESCRIBED HEREIN.

NAME AND ADDRESS OF PARTY TO WHOM
CERTIFICATE IS ISSUED

CITY OF CHAMPAIGN
702 EDGEBROOK DRIVE
CHAMPAIGN, ILLINOIS 61820

JULY 8, 1987
Date
INSURANCE AGENT
Signature of Authorized Representative

Title

**CHAPTER 25: RIGHT-OF-WAY CONSTRUCTION STANDARDS
AND PRIVATE SITE DESIGN REQUIREMENTS**

ACORD™ CERTIFICATE OF LIABILITY INSURANCE		DATE (MM/DD/YY) 03/28/01
PRODUCER Insurance Agency	THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.	
INSURED	INSURERS AFFORDING COVERAGE	
	INSURER A:	Insurance Co
	INSURER B:	
	INSURER C:	
	INSURER D:	
	INSURER E:	

COVERAGES

THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. AGGREGATE LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS
A	GENERAL LIABILITY	CLP 793	04/01/01	04/01/02	EACH OCCURRENCE \$ 1,000,000
	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY				FIRE DAMAGE (Any one fire) \$ 300,000
	CLAIMS MADE <input type="checkbox"/> OCCUR <input checked="" type="checkbox"/>				MED EXP (Any one person) \$ 10,000
	GEN'L AGGREGATE LIMIT APPLIES PER: POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC <input type="checkbox"/>				PERSONAL & ADV INJURY \$ 1,000,000
					GENERAL AGGREGATE \$ 2,000,000
					PRODUCTS - COMP/OP AGG \$ 2,000,000
A	AUTOMOBILE LIABILITY	BAP 793	04/01/01	04/01/02	COMBINED SINGLE LIMIT (Ea accident) \$ 1000000
	<input checked="" type="checkbox"/> ANY AUTO				BODILY INJURY (Per person) \$
	<input type="checkbox"/> ALL OWNED AUTOS				BODILY INJURY (Per accident) \$
	<input type="checkbox"/> SCHEDULED AUTOS				PROPERTY DAMAGE (Per accident) \$
	<input checked="" type="checkbox"/> HIRED AUTOS				AUTO ONLY - EA ACCIDENT \$
<input checked="" type="checkbox"/> NON-OWNED AUTOS	OTHER THAN EA ACC \$				
					AUTO ONLY: AGG \$
A	EXCESS LIABILITY	CXS 7 933	04/01/01	04/01/02	EACH OCCURRENCE \$ 5,000,000
	<input checked="" type="checkbox"/> OCCUR <input type="checkbox"/> CLAIMS MADE				AGGREGATE \$
	DEDUCTIBLE \$				\$
	RETENTION \$				\$
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY	WC-793	04/01/01	04/01/02	<input checked="" type="checkbox"/> WC STATU-TORY LIMITS <input type="checkbox"/> OTH-ER
					E.L. EACH ACCIDENT \$ 500,000
					E.L. DISEASE - EA EMPLOYEE \$ 500,000
					E.L. DISEASE - POLICY LIMIT \$ 500,000
A	Inland Marine	CLP 793	04/01/01	04/01/02	Contractor Blanket Equipment

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/EXCLUSIONS ADDED BY ENDORSEMENT/SPECIAL PROVISIONS

THE CITY OF CHAMPAIGN, IT'S OFFICERS AND EMPLOYEES ARE NAMED AS ADDITIONAL INSURED ON GL, UMBRELLA, AUTO LIABILITY AND BUILDERS RISK ON A PRIMARY AND CON-TRIBUTORY BASIS.

CERTIFICATE HOLDER City of Champaign Public Works Division 702 Edgebrook Dr. Champaign IL 61820	ADDITIONAL INSURED; INSURER LETTER: <u>A</u>	CANCELLATION SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING INSURER WILL ENDEAVOR TO MAIL <u>30</u> DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO DO SO SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE INSURER, ITS AGENTS OR REPRESENTATIVES. AUTHORIZED REPRESENTATIVE Jerry Cox <i>Jerry Cox</i>
---	--	---

Indemnity and Maintenance Bond Form

No. (1)

INDEMNITY AND MAINTENANCE BOND

KNOW ALL MEN BY THESE PRESENTS, that we
(2)
as principal, and _____ (3)

,
as surety, are held and firmly bound unto the City of Champaign, Illinois, in the penal sum of TEN THOUSAND DOLLARS to be paid to the said City of Champaign, Illinois, for the payment of which well and truly to be made, we bind ourselves, our heirs, executors, administrators, and other successors in interest, jointly and severally, firmly by these presents.

The condition of this obligation is such that:

WHEREAS, the City of Champaign has granted to the principal permission to
(4)
requiring an excavation or trench in a paved or unpaved public street, alley or public ground in the City of Champaign for sewer, drain, water, gas, steam pipes or for any other purposes.

NOW, THEREFORE, the condition of the above obligation is that the principal shall:

(1) indemnify, defend, save, and keep harmless the City of Champaign from all accidents and damage caused by any negligence, either in the execution or protection of the work, from any unfaithful or inadequate work performed by the principal, and from the defective nature of the materials or from violations of any of the provisions of the ordinances of the City applicable to such work,

(2) restore and maintain the surface of any paved or unpaved street, alley or public ground removed by the principal in making an excavation or trench in as good condition as it was before being removed, for twelve (12) months after such removing, and shall repair such surface of paved or unpaved street, alley, or public ground, where ditches or trenches have settled, when required by the City Engineer and in such manner as the City Engineer may direct,

(3) comply with the construction and safety practices of the Standard Specifications for Road and Bridge Construction in Illinois, adopted by the Division of Traffic, State of Illinois, and

(4) shall complete or cause to be completed, within two (2) years from the date of acceptance of this bond, in accordance with the applicable plans, specifications and ordinances or other regulations, the above described work requiring an excavation or trench.

**CHAPTER 25: RIGHT-OF-WAY CONSTRUCTION STANDARDS
AND PRIVATE SITE DESIGN REQUIREMENTS**

Dated this ___ day of (5), 20__.

Principal

(6) (Seal)

Dated this ___ day of (7), 20__.

Surety

(8) (Seal)

Subscribed and sworn to before me

this ___ day of (9), 20__.

Notary Public

(10) (Seal)

INSTRUCTIONS FOR FILLING OUT THIS FORM:

1. Policy number to be assigned by the Insurance Company or Bonding Agency.
2. Name of company.
3. Name of surety company
4. Description of work. Example: Perform sewer excavation and related construction work.
5. Date principal signs form.
6. Signature of principal of company in (2).
7. Date surety company signs form.
8. Signature of individual representing surety company in (3).

Summary of Insurance Requirements

The limits of liability for insurance coverages required by Champaign City Code shall be not less than the following:

FOR DRIVEWAYS, SIDEWALKS, EXCAVATION and SEWER WORK

Comprehensive general liability and automobile liability:	Contractor: (each occurrence)	Contractor: (aggregate)	Homeowner (doing own work)
--	----------------------------------	----------------------------	-------------------------------

Bodily Injury:	500,000	1,000,000	300,000
Property Damage:	500,000	1,000,000	300,000

NOTE: Certificate of Insurance shall have the City of Champaign named as an additional insured.

Changes of cancellation of insurance shall not be effective until 15 days after the City Engineer has received notice of such change or cancellation from the insurance company.

Insurance limit requirements may be increased depending upon the nature of the proposed work.

FOR EXCAVATION AND SEWER WORK ONLY

Indemnity and Maintenance Bond is required in the amount of \$10,000.

**CHAPTER 25: RIGHT-OF-WAY CONSTRUCTION STANDARDS
AND PRIVATE SITE DESIGN REQUIREMENTS**

Building Safety
Engineering

Revenue Account Number
02-0000-00000-0000-339

Permit No. _____

Receipt No. _____

GRADING & DRAINAGE PERMIT APPLICATION

The Champaign City Council has enacted an ordinance (Municipal Code Section 29.5) requiring stormwater drainage to be accounted for on most development activities. The City Engineer is to approve all grading and drainage work above certain thresholds.

TO BE COMPLETED BY APPLICANT	
Applicant: _____	Date: _____
Phone #: _____	Subdivision Name & Lot #: _____
Address of development: _____	
Type of development: _____	
Square feet of impervious area (Commercial only): _____	
Note: See back of sheet for list of items which must be submitted with this form.	

- Grading & Drainage plan received.
- Grading & Drainage permit fee amount, \$ _____

Permit fee schedule, effective April 1, 1998:

- 1 & 2 family new construction and additions -- **\$50**
- Commercial new construction and additions, with total impervious area under 15,000 SF -- **\$200**
- Commercial, with total impervious area between 15,000 SF and 75,000 SF -- **\$400**
- Commercial new construction and additions, with total impervious area over 75,000 SF -- **\$600**
- Construction in flood fringe, take above rates x 1.5
- Construction in floodway, take above rates x 2.0

- Other permits/approvals received: IDNR/OWR _____
Army Corps _____
IEPA _____
Other _____

- Engineering calculations and support data received _____

- Other conditions met _____

- G & D plan approved By _____ Date _____

- Site inspection By _____ Date _____

- Final Approval By _____ Date _____

**CHAPTER 25: RIGHT-OF-WAY CONSTRUCTION STANDARDS
AND PRIVATE SITE DESIGN REQUIREMENTS**

1. Information required on the G & D plan includes (most of this information can be found on the subdivision plans or interpolated from them) :
 - a. Lot corner elevations.
 - b. Building pad elevations and adjacent building pad elevations. (shall be 6" +/- above or below adjacent building pad elevations and 1 to 3 feet above the back of curb)
 - c. Lowest finished floor elevation.
 - d. Surface water flow patterns.
 - e. Statement that the project is (is not) within 100 feet of a 100 year floodplain.
 - f. If the project is within 100 feet of a 100 year floodplain, the boundaries (if on the site) and elevation of the floodplain must be indicated, and the lowest floor of any habitable building must be at least 1 foot above the 100 year flood elevation.

2. All new construction and renovations which are not in a floodplain require a Grading and Drainage permit before work starts, except a permit is not required for:
 - a. Excavation or fill less than 50 CY, with less than a 4 foot cut, disturbing less than 5000 SF of plant cover.
 - b. Any interior remodeling.
 - c. Additions, remodeling, or accessory structures smaller than 500 SF which disturb less than 2000 SF on the site.
 - d. Demolition.
 - e. Accessory items with minimal impact on drainage like:
 - Sidewalks
 - Playground equipment
 - Decks
 - Small patios
 - Athletic fields
 - Etc.

3. Development within a floodplain is much more tightly restricted. If you are working within a floodplain, call Engineering at 351-4466 for details. If you don't know whether or not you are within a floodplain, call Engineering.

4. All unused curb cut openings must be closed per council bill No. 2000-3, City of Champaign Municipal Code Section 30-80.

**CHAPTER 25: RIGHT-OF-WAY CONSTRUCTION STANDARDS
AND PRIVATE SITE DESIGN REQUIREMENTS**

Site Plan Review Checklist Jan., 2002

Page 2 of 2

Standard Attachment 2508 (b2)

ROW Requirements

- 47 Are there any private pipes, conduits, other items, occupying the ROW?
- 48 Are all adjacent utilities shown? (Such as sanitary & Storm sewer mains, etc.)
- 49 Are there City (ROW) trees that will be impacted by the construction?
- 50 Has the City Forester been contacted regarding impacted City (ROW) trees?
- 51 Are unused existing curb cuts shown to be closed?
- 52 Has adequate permanent traffic control been shown?
- 53 Has a work zone traffic control plan been approved?
- 53 Is Staging Area shown on Site plan?

Yes	No	N/A

Permitting and Insurance Requirements

- 54 Approved Driveway Permit Application?
- 55 Approved Sewer Connection Permit Application?
- 56 Approved Storm Connection Permit Application?
- 57 Approved Sump Pump Connection Permit Application?
- 58 Approved Sidewalk Construction Permit Application?
- 59 Approved ROW Excavation Permit Application?
- 60 Approved ROW Occupancy Permit Application?
- 61 Approved Grading and Drainage Connection Permit Application?
- 62 Is Homeowner's Affidavit Form Included?
- 63 Is an approved Certificate of Insurance on file?
- 64 Is Indemnity and Maintenance Bond form on file?

Yes	No	N/A

Sidewalk Ramps

COUNCIL BILL NO. 87-43

A RESOLUTION

ESTABLISHING A SIDEWALK RAMP POLICY FOR THE CITY OF CHAMPAIGN

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF CHAMPAIGN, ILLINOIS,
as follows:

Section 1. That whenever a curb repair or replacement is made at a location where a street intersection curb meets a City sidewalk, a sidewalk ramp shall be installed.

Section 2. That whenever a new sidewalk that meets a street intersection curb is constructed, at least one ramp per corner of an intersection shall be constructed.

Section 3. That whenever a City sidewalk repair or replacement is made between the intersection of the sidewalk and the street intersection curb, such curb shall also be removed and a sidewalk ramp installed.

Section 4. That when deteriorated sidewalk ramps are replaced, the replacement sidewalk ramp shall meet the current design standards.

Section 5. That the Public Works Director may require ramps at special locations based on a finding of need.

Section 6. That the Public Works Director may waive the requirement for a ramp as specified herein if, in his sole discretion, special site-specific engineering and traffic safety considerations warrant such a waiver.

Section 7. That Sections 1 and 6 of this resolution shall be codified in Appendix A to the Champaign Municipal Code, 1985, entitled "City Council Policies."

Section 8. That the City Clerk is directed to send a copy of this resolution to the City Attorney, Public Works Director, and City Engineer.

COUNCIL BILL NO. 87-43

PASSED: March 3, 1987

APPROVED: Robert Dodd, Mayor

ATTEST: Jody Campbell, City Clerk

APPROVED AS TO FORM: Mary Ann Midden, Asst. City Attorney

PVC Specifications for Sanitary Sewers

TO: All Sewer Contractors

SUBJECT: Polyvinylchloride (PVC) Pipe for Sanitary Sewer Service Line Use

Dear Contractor:

At its November 4, 1986 regular meeting, the City Council passed Bill No. 86-288, An Ordinance Amending Section 29-21 of the Municipal Code. Discretionary authority has been given to the City Engineer to approve use of various material types for sewer construction. As of November 4, 1986, PVC pipe will be permitted for use in the City of Champaign under the following conditions:

1. Used for sanitary sewer service lines only.
2. Pipe material shall be ASTM 3034 designation minimum. If a designation is shown on the pipe, it shall be SDR 35 or thicker. In all cases the type or designation shall be legibly stamped on the pipe itself.
3. Pipe may be laid on bottom of trench if the trench forms the bed for the pipe. If there is not solid and continuous bearing, granular bedding (sand or stone) shall be placed in the trench bottom to establish pipe grade. Granular bedding shall be placed to center of pipe and no higher prior to City Engineer inspection and approval.
4. Granular backfill to 6" above the top of pipe minimum shall be placed and compacted in one lift (bedding sand or A-10 stone).

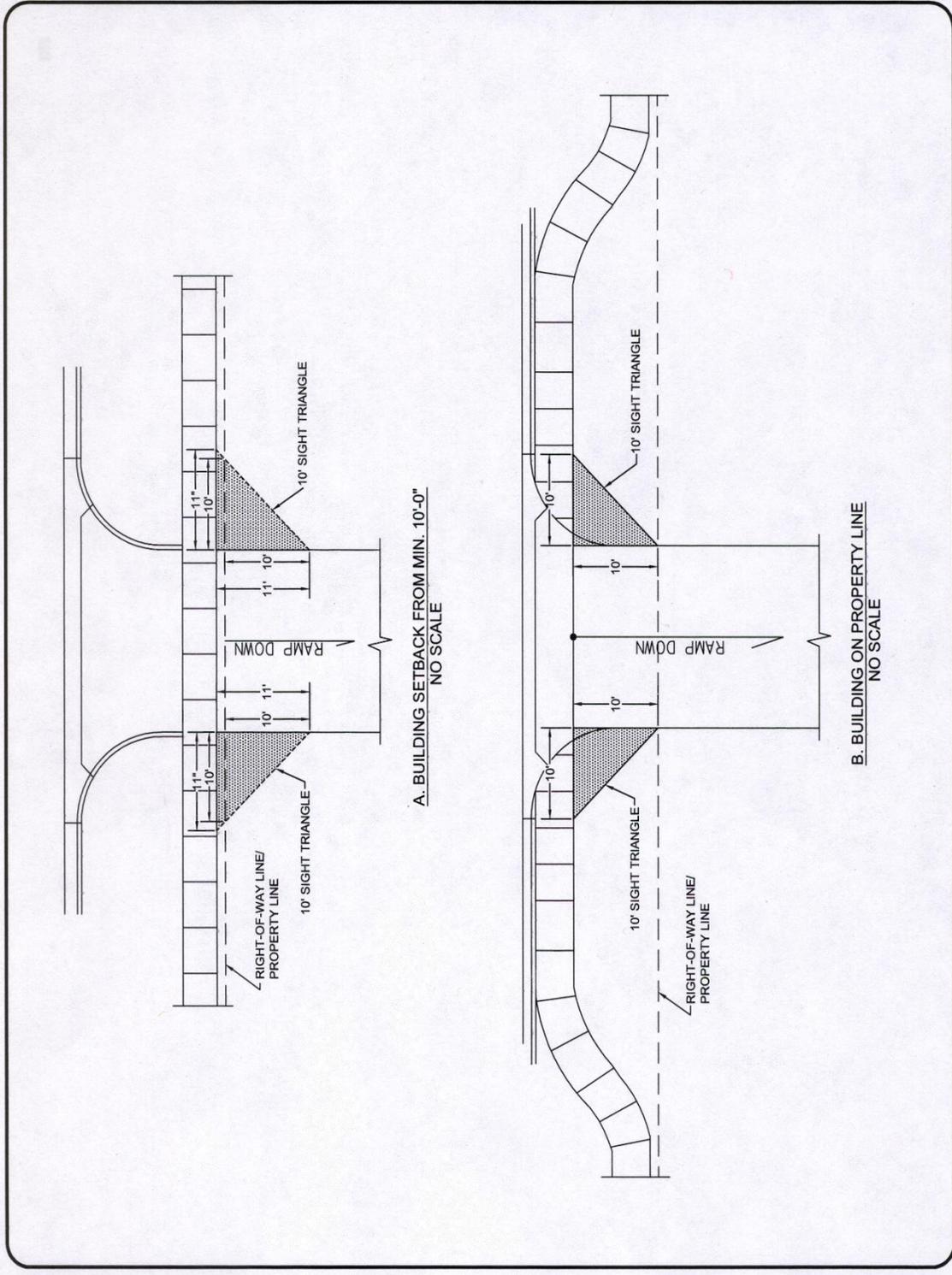
The contractor shall contact the City Engineer's office for the required inspection prior to placement and compaction of granular backfill 6" above the top of the pipe. The City Engineer reserves the right to inspect the granular backfill prior to replacement of excavated earth materials in trench.

Allowing the use of PVC pipe will certainly result in more connection of different pipe material types. Such connections shall be made with either "mission" or "fernco" adaptor couplings of appropriate size. Use of any other adaptor coupling will require easement of the entire joint in concrete.

If you have any questions regarding the use of PVC pipe please call. Clay and ductile iron are still acceptable pipe materials as in the past.

**CHAPTER 25: RIGHT-OF-WAY CONSTRUCTION STANDARDS
AND PRIVATE SITE DESIGN REQUIREMENTS**

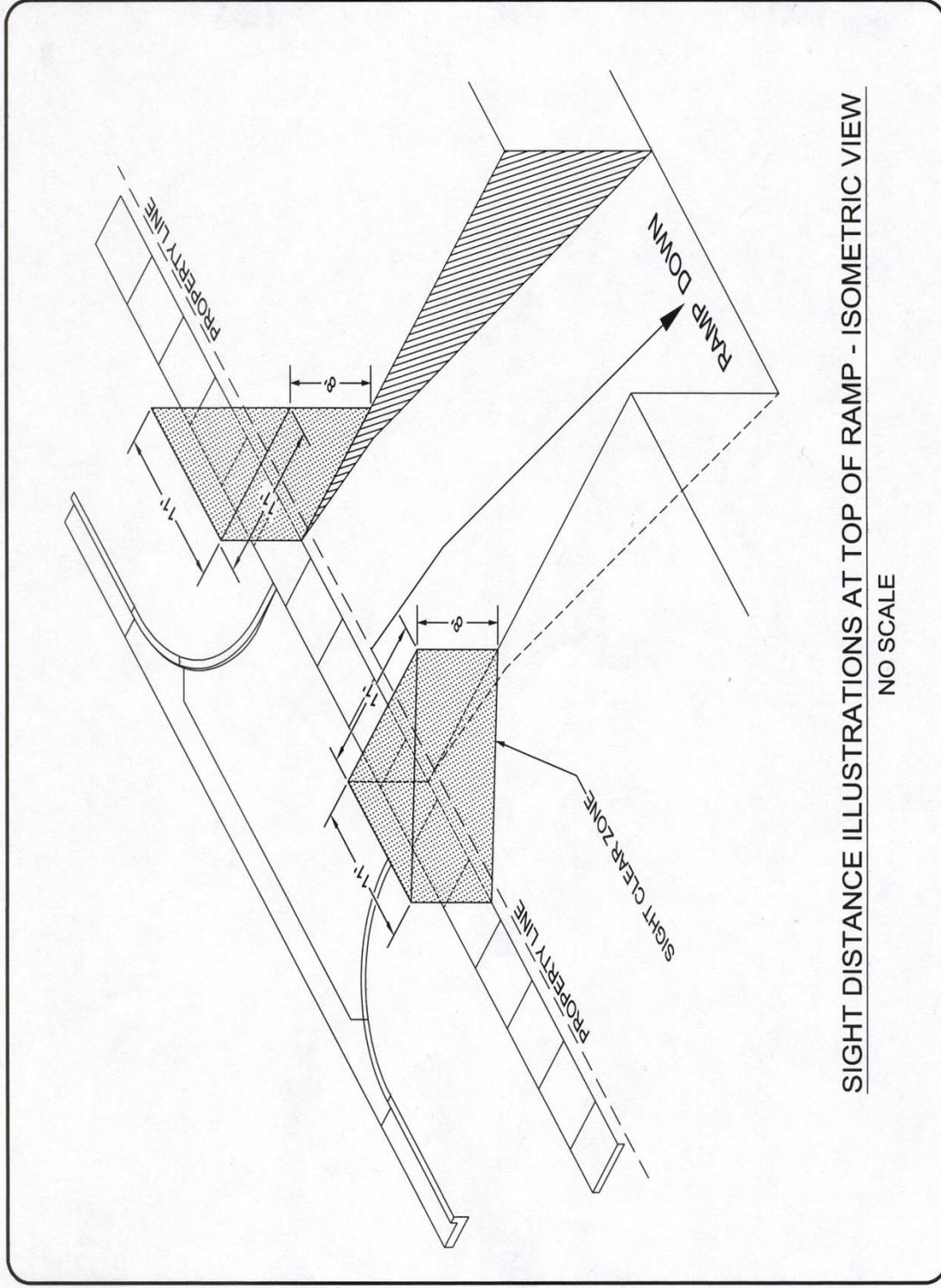
<p>MANUAL OF PRACTICE Attachment 25.09(d)</p>	 <p>CITY OF CHAMPAIGN PUBLIC WORKS DEPARTMENT Engineering Division 702 Edgebrook Drive Champaign, IL 61820 PH 217-403-4710 FAX 217-403-4755 E-MAIL: publicworks@ci.champaign.il.us</p>	<p>DRAWING TITLE: Sight Distance Illustrations at Top of Ramp - Plan View</p>	<p>PREPARATION DATE: 2-8-2005</p> <p>REVISIONS:</p> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:10%;">2-18-2005</td> <td style="width:10%;">DC</td> <td style="width:10%;">DRAWN:</td> </tr> <tr> <td>7-27-2005</td> <td>TV</td> <td>CHECKED:</td> </tr> <tr> <td></td> <td>RW</td> <td>APPROVED:</td> </tr> </table> <p>CAD FILE: 25.09D PLAN VIEW.DWG EXTERNAL REF. FILES:</p>	2-18-2005	DC	DRAWN:	7-27-2005	TV	CHECKED:		RW	APPROVED:	<p>SHEET 1 of 3 sheet(s)</p>
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	RW	APPROVED:											



Attachment 25.08 (a1)

**CHAPTER 25: RIGHT-OF-WAY CONSTRUCTION STANDARDS
AND PRIVATE SITE DESIGN REQUIREMENTS**

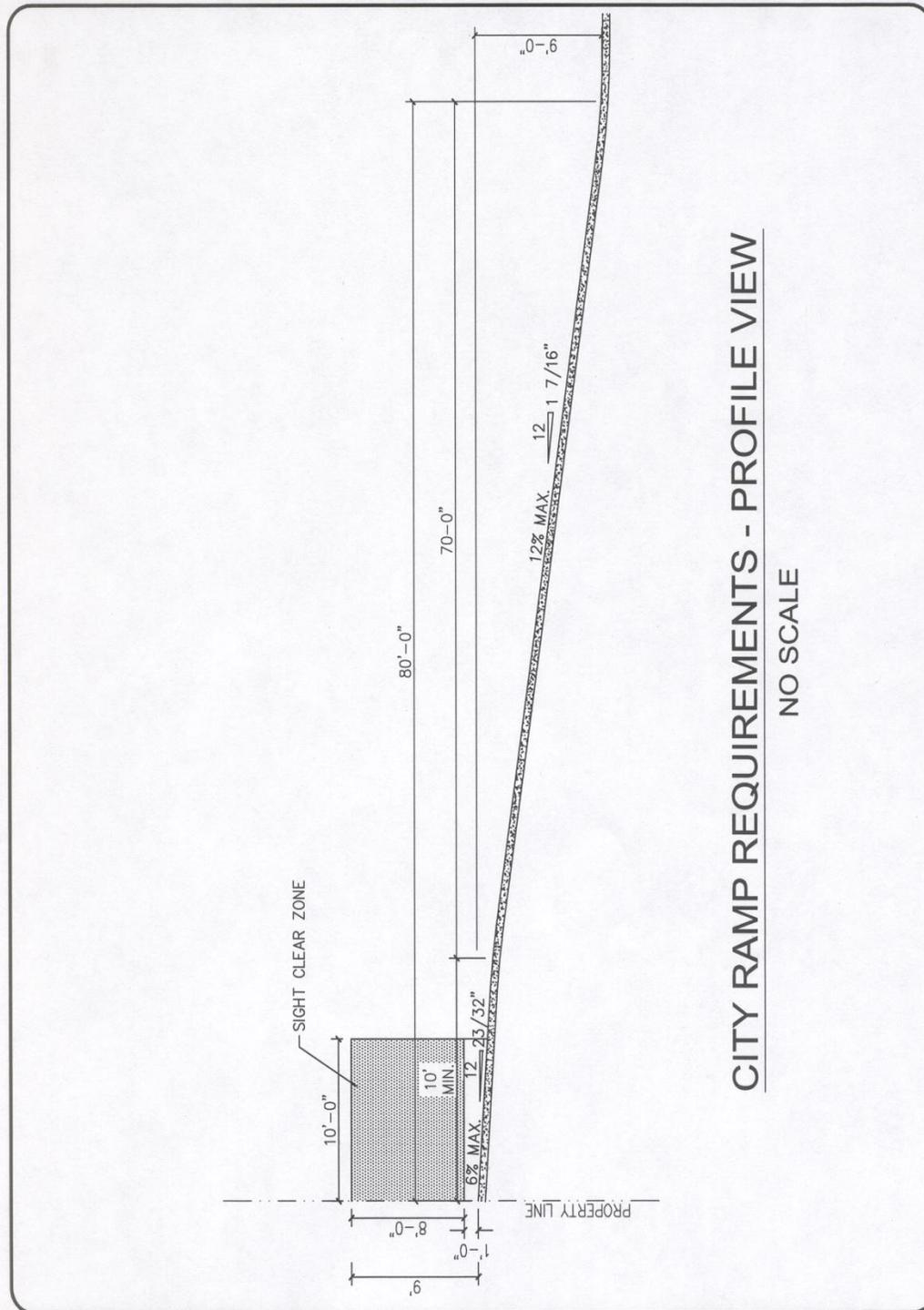
<p>MANUAL OF PRACTICE Attachment 25.09(d)</p>	 NO SCALE	<p>CITY of CHAMPAIGN PUBLIC WORKS DEPARTMENT Engineering Division 702 Edgebrook Drive Champaign, IL 61820 PH: 217-403-4710 FAX: 217-403-4750 E-MAIL: publicworks@ci.champaign.il.us</p>	<p>DRAWING TITLE: Sight Distance Illustrations at Top of Ramp - Isometric View</p>	<p>PREPARATION DATE: 2-8-2005</p>	<p>REVISIONS:</p> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:5%;">2-18-2005</td> <td style="width:15%;">DC</td> </tr> <tr> <td>7-27-2005</td> <td>IV</td> </tr> </table>	2-18-2005	DC	7-27-2005	IV	<p>DRAWN: DC CHECKED: IV APPROVED: RW</p>	<p>CAD FILE: 25.09 ISOMETRIC VIEW.DWG EXTERNAL REF. FILES:</p>	<p>SHEET 2 of 3 sheet(s)</p>
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7-27-2005	IV											



Attachment 25.08 (a2)

**CHAPTER 25: RIGHT-OF-WAY CONSTRUCTION STANDARDS
AND PRIVATE SITE DESIGN REQUIREMENTS**

<p>MANUAL OF PRACTICE Attachment 25.09(d)</p>	 <p>City of CHAMPAIGN PUBLIC WORKS DEPARTMENT Engineering Division 172 Edgemoor Drive Champaign, IL 61820 PH: 217-403-4710 FAX: 217-403-4755 E-MAIL: publicworks@ci.champaign.il.us</p>	<p>DRAWING TITLE: City Ramp Requirements- Profile View</p>	<p>PREPARATION DATE: 2-9-2005</p> <p>REVISIONS:</p> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:10%;">2-18-2005</td> <td style="width:90%;">7-27-2005</td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </table> <p>DRAWN: DC CHECKED: TV APPROVED: RW</p> <p>CAD FILE: 25.09D PLAN VIEW.DWG</p> <p>EXTERNAL REF. FILES:</p>	2-18-2005	7-27-2005				
2-18-2005	7-27-2005								
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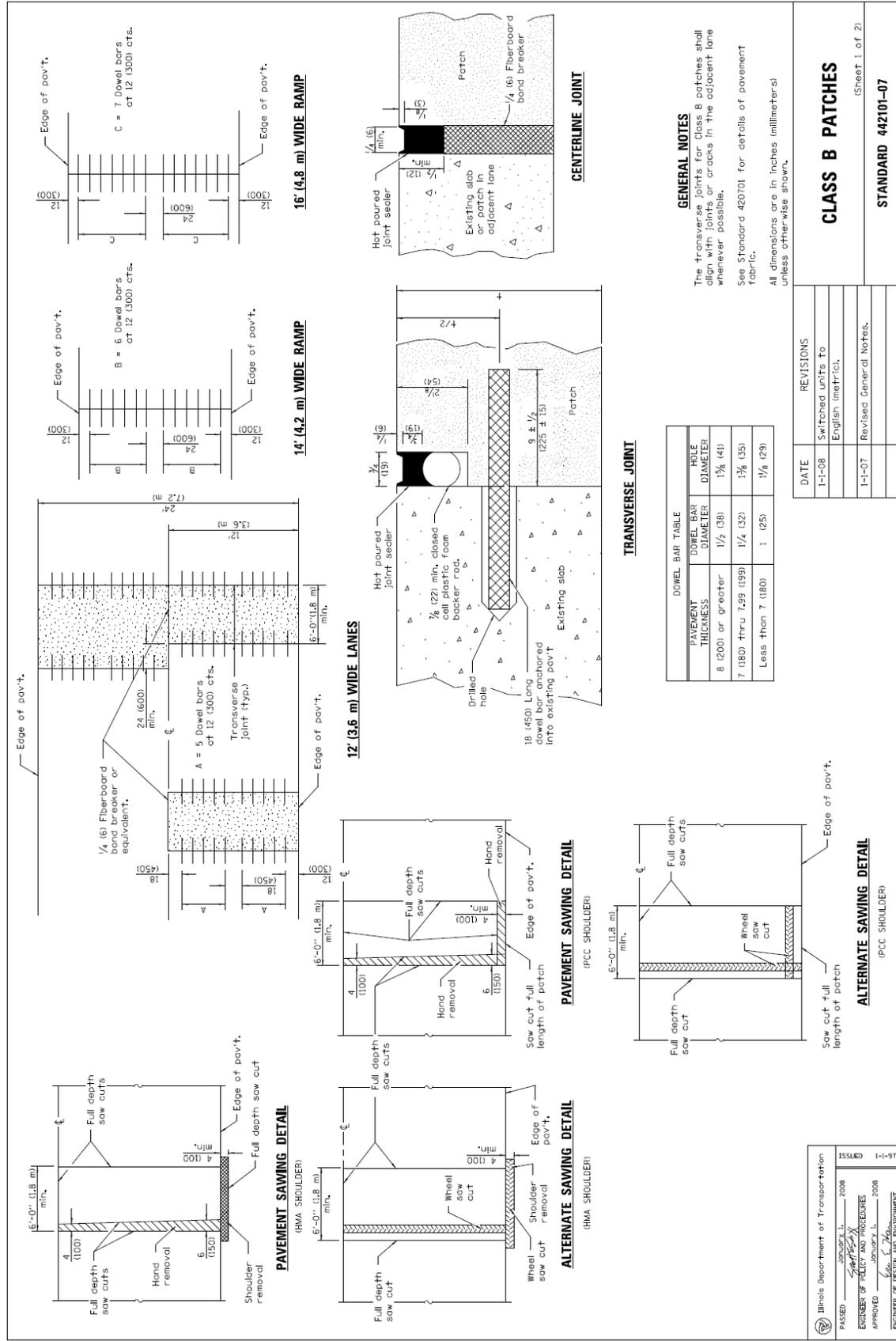


CITY RAMP REQUIREMENTS - PROFILE VIEW

NO SCALE

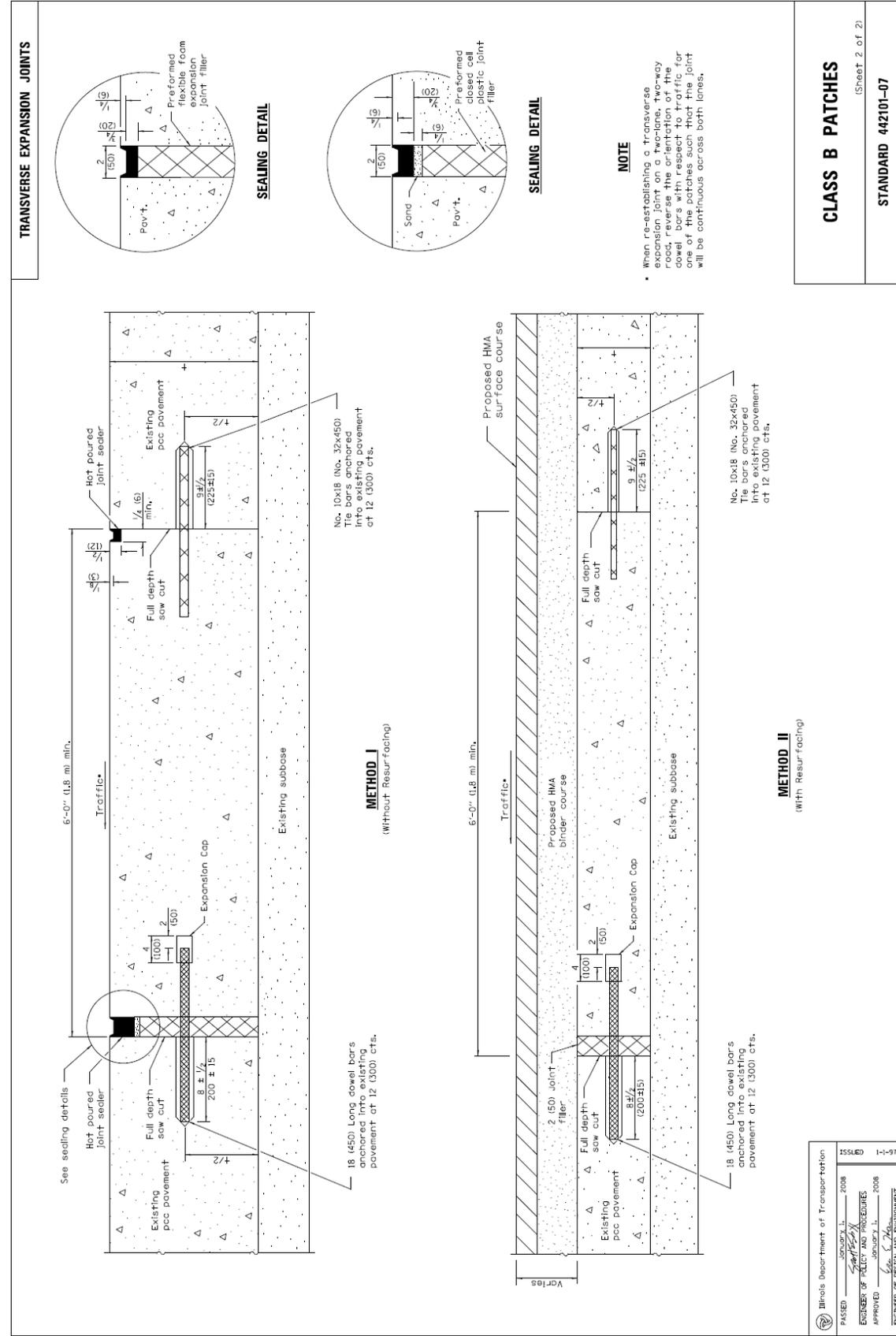
Attachment 25.08 (a3)

CHAPTER 25: RIGHT-OF-WAY CONSTRUCTION STANDARDS AND PRIVATE SITE DESIGN REQUIREMENTS



Attachment 25.09 (a1)

**CHAPTER 25: RIGHT-OF-WAY CONSTRUCTION STANDARDS
AND PRIVATE SITE DESIGN REQUIREMENTS**



Attachment 25.09 (a2)