CAMPBELL COUNTY & MUNICIPAL PLANNING & ZONING COMMISSION

SUBDIVISION REGULATIONS

Unincorporated Campbell County

City of Crestview

City of Melbourne

City of Silver Grove

City of Southgate

City of Woodlawn

CAMPBELL COUNTY & MUNICIPAL PLANNING & ZONING COMMISSION

SUBDIVISION REGULATIONS

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CAMPBELL COUNTY & MUNICIPAL PLANNING & ZONING COMMISSION

SUBDIVISION REGULATIONS

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ARTICLE 1

GENERAL PROVISIONS

SECTION 100
Title

These regulations shall be known and may be cited as the "Subdivision Regulations" for the Campbell County & Municipal Planning & Zoning Commission, a joint planning unit within Campbell County, Kentucky.

SECTION 105
Purpose and Authority

These Subdivision Regulations as herein set forth, have been prepared in accordance with the adopted Campbell County Comprehensive Plan to promote the public health, safety, morals, and general welfare of the county; to facilitate orderly and harmonious development and the visual or historical character of the joint planning unit and the community; to provide for the proper arrangement of streets in relation to existing or proposed streets; to provide for adequate and convenient open spaces for vehicular and pedestrian traffic, utilities, access of police and fire fighting apparatus, recreation, light and air, and the avoidance of congestion of the population, and to facilitate the orderly and efficient layout and appropriate use of the land.

These Subdivision Regulations are adopted in accordance with the Kentucky Revised Statutes (KRS) - Chapter 100.

SECTION 110
Jurisdiction

These subdivision regulations shall apply to any and all lands, or portions thereof, that are within the joint planning unit.

SECTION 115
Minimum Standards

In their interpretation and application, the provisions of these subdivision regulations shall be held to be minimum acceptable standards or requirements, adopted for the promotion of the public health, safety, and general welfare. Whenever the requirements of these subdivision regulations conflict with the requirement of any other lawfully adopted rules, regulations, ordinances, orders or resolutions, the most restrictive, or that imposing the higher standards shall govern.

SECTION 120
Conflict

All regulations, resolutions, orders, ordinances, and/or codes, whether in whole or in part, in conflict with or inconsistent with the provisions of these subdivision regulations are hereby repealed to the extent necessary to give these subdivision regulations full force and effect. These subdivision regulations shall become effective from and after the date of their approval and adoption as provided by law.

SECTION 125
Severability Clause
Should any section, subsection, clause, part, or provision of these subdivision regulations be declared by a court of competent jurisdiction to be unconstitutional or invalid, such invalidity shall not affect any other section, subsection, clause, part of provision of these subdivision regulations as they are severable and shall continue to have full force and effect.

SECTION 130
Amendments
Before adoption of these subdivision regulations or any amendments thereto by the planning commission, a public hearing shall be held by the planning commission. A public notice of the time and place of the public hearing shall be given in accordance with KRS 424.

These subdivision regulations, and any and all subsequent amendments hereto, shall take immediate effect and be in full force upon their adoption as provided for in KRS 100.

SECTION 135
Administration
The Administrative Official's authority and responsibilities generally include the following with respect to administering the subdivision regulations:

a) Upon finding that any of the provisions of this order are being violated, he shall notify in writing the person responsible for such violation(s), ordering the action(s) necessary to correct such violation(s).

b) Order, in writing, discontinuance of any illegal work being done, and take any other action authorized by law to ensure compliance with or to prevent violation(s) of these regulations.

c) Interpret the subdivision regulations, including the determination of review processes, plat requirements, and the applicability and substance of design standards, based on interpretation of the stated and implied requirements of the subdivision regulations.

d) Site inspections regarding complaints of violations of these regulations; site inspections of development for compliance with plans approved pursuant to these regulations that are not otherwise inspected by the applicable legislative body; issuance of "Notice of Violations" citations; review of development plans and plats for compliance with the rules, regulations and standards of these regulations.

The Planning Commission's authority and responsibilities generally include the following with respect to governing the subdivision regulations:

a) Review, process, and approve all plans or plats as described in these regulations.

b) Receive and distribute fees collected as a result of subdivision review of various plats and plans and inspection services.

c) Distribute copies of approved plans and plats to various governmental bodies, agencies, including but not limited to public works or public service departments, building department, water and sewer districts, property valuation administrator's office, county clerk's office, and utility companies.

d) Delegate any tasks as specified in these regulations relative to its administration.

The legislative bodies authority and responsibilities generally include the following with respect to governing the subdivision regulations:

a) Perform on-site construction inspections of public improvements in accordance with the approved plans, plats, or drawings.

b) Assure that all public improvements inspected are complete and have been constructed in accordance with the approved plans, plats, or drawings.

c) Receive or hold guarantees and bonds for proper installation of public improvements as described in Section 515 of these regulations.

d) Take action on acceptance for maintenance of public improvements as delineated on final plats approved by the Planning Commission and formally requested by the subdivider, developer or owner of the proposed subdivision.

SECTION 140
Waiver of Subdivision Regulations

Upon request to the Administrative Official, an applicant, developer or property owner may seek a waiver of any subdivision regulation in this document based upon a written request (including a completed application and related fees). The Administrative Official shall review the individual request and may grant a waiver under unusual or extreme circumstances or refer the request to the Planning Commission for action. An action must make a finding of facts to support the granting of the waiver. This finding of facts must include:

1. a) The waiver is not in conflict with the intent and purpose of these Subdivision Regulations, the zoning ordinance and the adopted comprehensive plan; and,
   b) The waiver will not be detrimental to the public welfare.

AND at least one of the following:

2. a) Unusual topographic or exceptional physical conditions exist on the proposed site that are or were not created by actions of the subdivider or anyone on his/her behalf; OR
   b) Strict compliance with these Subdivision Regulations would deprive the subdivider of reasonable use of the land; OR,
   c) The waiver will provide for an innovative design layout of the subdivision.

The Administrative Official shall also inform the Planning Commission, on a regular basis, of the results of all waiver requests.

SECTION 145
Appeals

Any person or entity claiming to be injured or aggrieved by an official action, order, requirement, interpretation, grant, refusal, or decision by the Administrative Official relative to the administration of these subdivision regulations may appeal such decision to the Planning Commission within thirty (30) consecutive calendar days. Such appeal shall follow the procedures and notice requirements for an appeal as stated in Article XVIII of the Zoning Ordinance.

Any person or entity claiming to be injured or aggrieved by any final action of the Planning Commission may appeal from the final action to the Campbell County Circuit Court. Such appeal shall be taken within thirty (30) consecutive calendar days after such action. For purposes of this section, final action shall be deemed to have occurred on the calendar date when the vote is taken to approve or disapprove the matter pending before the body.

SECTION 150
Enforcement

The Subdivision Regulations sets forth a procedure for Planning Commission approval for the subdivision of land. This procedure is stated in KRS 100.277.

(1) All subdivision of land shall receive commission approval.

(2) No person or his agent shall subdivide any land before securing the approval of the planning commission of a plat designating the areas to be subdivided, and no plat of a subdivision of land within the planning unit jurisdiction shall be recorded by the county clerk until the plat has been approved by the commission and the approval entered thereon in writing by the chairman, secretary, or other duly authorized officer of the commission.

(3) No person owning land composing a subdivision, or his agent, shall transfer or sell any lot or parcel of land located within a subdivision by reference to, or by exhibition, or by any other use of a plat of such subdivision, before such plat has received final approval of the planning commission and has been recorded. Any such instrument of transfer or sale shall be void and shall not be subject to be recorded unless the subdivision plat subsequently receives final approval of the planning commission, but all rights of such purchaser to damages are hereby preserved. The description of such lot or parcel by metes and bounds in any contract or instrument of transfer or other document used in the process of selling or transferring same shall not exempt the person attempting to transfer from penalties provided or deprive the purchaser of any rights of remedies he may otherwise have. Provided, however, any person or his agent, may agree to sell any lot or parcel of land located within a subdivision by reference to an unapproved or unrecorded plat or by reference to a metes and bounds description of such lot and any such executory contract of sale or option to purchase may be recorded and shall be valid and enforceable so long as the subdivision of land contemplated therein is lawful and the subdivision plat subsequently receives final approval of the planning commission.

(4) Any street or other public ground which has been dedicated shall not be accepted for maintenance by the legislative body until it has received final plat approval by the planning commission. Any street that has been built in accordance with specific standards set forth in subdivision regulations or by ordinance shall be, by operation of

law, automatically accepted for maintenance by a legislative body forty-five (45) days after inspection and final approval.

(5) Any instrument of transfer, sale or contract that would otherwise have been void under this section and under any of its subsections previously, is deemed not to have been void, but merely not subject to be recorded unless the subdivision plat subsequently receives final approval of the planning commission.

(6) No changes, erasures, modifications or revisions shall be made in any plat of subdivision after final approval has been given by the planning commission and an endorsement is made in writing on the plat, unless the plat is first resubmitted and the changes approved by the planning commission.

SECTION 155
Recording Final Plats

After the final approval of a subdivision plat by the Planning Commission, it shall be recorded at the expense of the subdivider in the office of the county clerk.

SECTION 160
Revocation of Subdivision Plat

(1) Upon application of all persons owning land comprising a subdivision, the planning commission may revoke the approval of a subdivision plat, including all dedications of public facilities, easements and rights-of-way.

(2) Before any plat shall be revoked, all owners shall, as part of their application for revocation, state under oath that no person has purchased a lot shown on the plat.

(3) A revocation shall become effective only upon:
   (a) A notation on the margin of the recorded plat stating that such plat has been revoked and the date of such vote of revocation; such notation shall be signed by the chairman, secretary, or other duly authorized officer of the commission; and,
   (b) A written approval of such revocation filed with the commission, duly signed by each entity to which an offer of dedication of any public or private facility, easement or right-of-way was made on the plat.

(4) The remedy provided in this section is in addition to all other remedies provided by law and shall not impair the right of the commission or any interested party from filing an action in Circuit Court for such relief as may be appropriate.

SECTION 165
Restraint of Subdivision Construction
The Planning Commission shall have the power to apply for an injunction against any type of subdivision construction by the subdivider or the landowner where a subdivision's regulations have been violated.

SECTION 170
Land Sold in Violation of these Subdivision Regulations
When it has been discovered that land has been sold or transferred, or that a contract has been entered into for the sale or transfer of land in violation of the provisions of these subdivision regulations, the owner or owners of record shall file plats of the land in accordance with these subdivision regulations. When land is sold or transferred, or a contract has been entered into for the sale or transfer of land in violation of these subdivision regulations, the land shall be governed by the subdivision regulations both prior to and after the platting of the land by the owner of record as if a plat had been filed in accordance with the provisions of these subdivision regulations. Plats filed pursuant to this section may be filed by the last transferee in the chain of title including holders of deeds which may otherwise be void under KRS 100.277(2).

SECTION 175
Penalties
Pursuant to KRS 100.991, any person or entity who violates any of these subdivision regulations shall, upon conviction, be fined not less than one hundred dollars ($100.00) but not more than five hundred dollars ($500.00) for each conviction. Each day of violation shall constitute a separate offense.

ARTICLE 2

DEFINITIONS

INTERPRETATION OF WORDS AND PHRASES:
For the purpose of these regulations, certain terms, phrases, words, and their derivatives, are herewith defined as follows:

1. The word "person" includes a firm, association, organization, partnership, trust, company, or corporation as well as an individual.

2. Words used in the future tense include the present; words used in the present tense include the future; words used in the singular form include the plural; words used in the plural form include the singular; words used in the masculine include the feminine; words used in the feminine include the masculine.

3. The word "shall" is a mandatory requirement, the word "may" is a permissive requirement, and the word "should" is a preferred requirement.

Administrative Official
Any department, employee, or advisory, elected, or appointed body which is authorized to administer any provision of the zoning regulations, subdivision regulations, and, if delegated, any provision of any housing or building regulation or any other land use control regulation.

American Association of State Highway and Transportation Officials (AASHTO)
AASHTO is a nonprofit, nonpartisan association representing highway and transportation departments in the 50 United States, the District of Columbia, and Puerto Rico.

Access Management
Refers to regulations which promote safe and reasonable access between public and private roads and adjacent land in Campbell County.

Alley
Public right-of-way which affords a secondary means of access to abutting property and which connects between two public streets. An alley is not a street as defined in this article and any lot frontage on an alley may not be used for meeting lot frontage requirements.

Board of Adjustment and Zoning Appeals
An appointed board responsible for hearing appeals of determinations made by the zoning administrator and considers requests for variances and conditional use permits as outlined in the zoning regulations.

Block
A parcel of land within a subdivision that is bounded by streets or bounded by streets and the exterior boundary of the subdivision. For this definition, an alley is not considered a street, but part of the block.

Block Length
The distance between intersections of through streets such as distance being measured parallel to the longest street bounding the block and from right-of-way line to right-of-way line of the two intersecting streets.

Building Inspector
A person employed by the applicable legislative body and registered with the Kentucky Department of Housing, Buildings and Construction per KRS 198B duly authorized representative, whose responsibility it is to inspect items required by these regulations.

Cemetery
A land area used or intended to be used for the purposes of human burial. A cemetery includes, but is not limited to a burial park for earth interment, mausoleum for entombment, columbarium for inurement, burial ground consisting of one or more marked or unmarked graves, and a burial mound or other burial facility.

Certificate
Refers to the required certificate(s) for Final Plat and Conveyance Plat Review in Article 6 of this document.

Certificate of Occupancy
A certificate which must be obtained prior to occupancy of any premises.

Commission
See “Planning Commission”.

Comprehensive Plan
A plan, or any portion thereof, adopted by the Planning Commission in accordance with KRS Chapter 100 which serves as a guide for public and private actions and decisions to assure the development of public and private property in the most appropriate relationships.

Conventional Subdivision
A subdivision which is not designed and developed in accordance with the Open Space Residential Subdivision requirements described in these regulations, but is developed in accordance with the standard subdivision and zoning requirements.

Conveyance Plat
A type of plat used in the minor division of land, which is approved by the Campbell County Planning Commission and recorded in the county clerk's office. A conveyance plat is used to transfer a minor division of land in an expeditious manner without subjecting an applicant to the formal subdivision review process or a major division of land procedure. A conveyance plat may be informally called an "identification" or an "ID" plat.

Control Monument
The physical structure, along with any references or accessories thereto, used to mark the location of a geodetic control point, or local control point.

Covenant
A written promise or pledge which is typically a private restriction that applies to land use matters within certain subdivisions.

Culvert
A transverse drain that channels under a bridge, street, or driveway.

Detention Basin
A dry stormwater detention area that is used to detain stormwater runoff a specified length of time to keep the flow of water from the subject area to that of pre-development flow.

Developer
Synonymous with the term "subdivider" or "applicant." Also see definitions of "owner" and "subdivider."

Easement
A right, distinct from the ownership of the land, to cross property with facilities such as, but not limited to, sewer lines, water lines, and transmission lines, or the right, distinct from the ownership of the land, to reserve and hold an area for drainage, access, or other specified purposes.

Engineer
A licensed Professional Engineer (P.E.) in good standing with the Kentucky State Board of Licensure for Professional Engineers and Professional Land Surveyors. The Engineer responsible for designing the public and private improvements on each plan shall be retained by the applicant or property owner to assure that the improvements are made in accordance with the approved plans by the Planning Commission and with the Campbell County Subdivision Regulations. Also referred to in these regulations as “Professional Engineer” or “Kentucky Licensed Professional Engineer.”

Final Plat
A subdivision plat prepared in accordance with the provisions herein in which said plat is designated to be placed on record with the county clerk after approval by the planning commission.

Flood
A general and temporary condition of partial or complete inundation of normally dry land areas from: (a) the overflow of inland water; (b) the unusual and rapid accumulation of runoff of surface waters from any source; and/or, (c) mud slides which are caused or precipitated by accumulations of water on or underground.

Flood - 100 Year Frequency
The highest level of flooding that, on the average, is likely to occur every 100 years.

Flood Plain or Flood Prone Areas
Any normally dry land area that is susceptible to being inundated by water from any source.

Floodway
The channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the 100 year flood without cumulatively increasing the water surface elevation more than one foot at any point.

Flowline
The transition point between the gutter and the face of the curb. For a cross or valley pan, it is the center of the pan. Where no curb exists, the flowline will be considered the edge of the outside traveled lane.

Geodetic Control Point
Point(s) established to mark horizontal or vertical control positions that are part of the National Geodetic Survey Network.

Geotechnical Engineer
A qualified individual, who is an engineer licensed in the Commonwealth of Kentucky, and who possesses a masters degree in Civil Engineering with a specialty in Geotechnical Engineering from an ABET (Accreditation Board for Engineering & Technology) accredited Civil Engineering Program, or at least three years of documented experience as a practicing geotechnical engineer, and who has a minimum of one year of local geotechnical engineering work experience.

Upon individual requests made to the Geotechnical Group - Cincinnati Chapter ASCE (American Society of Civil Engineers) c/o its current president, the above criteria and requirements may be used by the Campbell County Planning Commission for acceptance onto the List of Qualified/Recognized Geotechnical Engineers as a professional employed by a firm. Prior to authorization of performing any geotechnical engineering work required, individual engineers in responsible charge must be included on the List.

Grading Plan
A temporary plan used in certain cases due to construction time limitations, unique soil conditions, and weather conditions, where an applicant or subdivider may begin to grade a site after approval of a Preliminary Plat, but prior to the submittal of an Improvement Plan and which is subject to the conditions stated in this document (see Section 390).

Homeowners Agreement
A legal document involving agreement among property owners for certain rights and privileges for the use of land. Homeowners Agreements usually involve the joint use of open space, common areas, sidewalks, recreational facilities, driveways, etc. Typically, such Agreements address items such as a legal description of the land area, identifying members of the agreement, explanation of rights and privileges, purpose of the agreement (e.g. access), assessments, maintenance, construction material, utility crossovers, etc.

Homeowners Association (HOA)
An incorporated nonprofit organization operating under recorded land agreements through which: (a) each lot owner is automatically a member; and (b) each lot is subject to a proportional share of the expenses for the organization’s common interests and responsibilities for items such as but not limited to: maintaining common property, open space, landscaping, and other facilities.

Impervious Surface
An area that has been compacted or covered by a layer of material that is highly resistant to infiltration by stormwater. Impervious surfaces include buildings, parking areas, driveways, sidewalks, and graveled areas.

Improvement Plan
The engineering plans showing types of materials and construction details for the physical structures, facilities, and public improvements to be installed in, or in conjunction with, the proposed subdivision (see Section 345).

Inspector
An individual or group of individuals representing a legislative body, public utility, or other organization whose responsibility is to inspect the construction and installation of public improvements.

Joint Planning Unit
The legislative bodies of certain cities and the fiscal court of the county that have entered into an agreement to form a joint planning unit by combining planning operations in order that they may carry out a joint city-county planning program. The Campbell County & Municipal Planning & Zoning Commission is joint planning unit that includes: unincorporated Campbell County and the Cities of Crestview, Melbourne, Silver Grove, Southgate and Woodlawn.

Junction Box
A stormwater manhole that connects two or more drainage pipes. Used where there is a change in direction, change in elevation, or change in size of the pipes.

LEED
An acronym for Leadership in Energy and Environmental Design. The US Green Building Council (USBGC) created LEED. LEED provides building owners and operators a concise framework for identifying and implementing practical and measurable green building design, construction, operations and maintenance solutions.

LEED - Certified
An internationally recognized green building certification system, provided by a third-party verifying that a building or community was designed and built using strategies aimed at improving performance across all the metrics that matter most: energy savings, water efficiency, CO_2 emissions reduction, improved indoor environmental quality, and stewardship of resources and sensitivity to their impacts.

Legislative Body
The elected body of the city or Fiscal Court having territorial jurisdiction over a proposed subdivision, which is responsible for the inspection and acceptance of publicly dedicated subdivision improvements, and which is responsible for the ownership and maintenance of such improvements after dedication pursuant to KRS Chapter 100 (see Section 135).

Local Control Point
Point(s) established to mark horizontal or vertical control positions that are part of a permanent governmental control network other than the National Geodetic Survey Network.

Lot
A portion of a subdivision or other parcel of land intended for transfer of ownership or for building development. "Lots" are the basic unit of a subdivision plan or the smallest division of land owned by someone.

Lot Area
The total area of a horizontal plane bounded by the front, rear, and side lot lines, but not including any area occupied by rights-of-way, the water of any lake, river, or stream, and shall be in one zone.

Lot, Corner
A corner lot is a lot situated at the intersection of two streets and has frontage on both streets.

Lot, Double Frontage
A lot having two or more of its non-adjoining property lines abutting upon a street or streets. A corner lot is not a double frontage lot.

Lot, Flag
An irregularly shaped lot where access is provided from a public street frontage through a narrow (i.e. less than the required lot line frontage) unobstructed access strip (or "panhandle") which is part of the building lot. The building site within a flag lot does not immediately abut a public street, but is located at the terminus of the access strip described herein (see Section 415).

Lot, Interior
A lot other than a corner lot with only one frontage on a deeded and accepted public right-of-way.

Lot Line, Front or Frontage
All the property abutting on one side of the right-of-way of a street, measured along the right-of-way line of the street between intersecting lot lines. In no case, shall the line along an alley be considered as acceptable frontage. In the case of a corner lot or double frontage lot, the common boundary line along the street right-of-way line which the principal or usual entrance to which the main building faces.

Lot Line, Rear
The boundary line of a lot which is opposite the front lot line of such lot. In the case of a triangular shaped lot, for measurement purposes only, a line ten (10) feet in length within the lot parallel to the front lot line. In the case of a corner lot, the rear lot line is the line opposite the front lot line which any structure faces.

Lot Line, Side
Any boundary line of a lot, other than a front lot line or rear lot line.

Lot of Record
A lot which is a part of a subdivision according to a specific recorded plat or survey, the plat of which has been officially approved by the planning commission and recorded in the office of the county clerk. Also means a lot which is part of a subdivision according to a specific recorded plat, survey, or written legal description which is recorded in the office of the county clerk, but did not legally require approval of the planning commission at the time of its recording.

Maintenance Acceptance
Maintenance acceptance follows public dedication whereby a legislative unit accepts a public improvement such as an existing or a future road or a utility for maintenance purposes.

Minor Division of Land
A minor division of land is a procedure which involves the division of land in five (5) buildable lots or less from the parent tract, and where there is no need for public street and utility improvements. A conveyance plat is required for this type of procedure.

Major Division of Land
A major division of land is a procedure, which involves the division of land in six (6) buildable lots or more from the parent tract, and/or where there is a need for either public or private street and utility improvements. A Preliminary Plat, Improvement Plan, and Final Plat are required for this type of procedure.

Monuments
Permanent man-made markers used to mark corners of property boundaries or points of change in street alignment. Monuments must be in accordance with 201 KAR 18.150 (also see Control Monument, Geodetic Control Point and Local Control Point).

Multi-Use Trail
A trail or path that is physically separated from motorized vehicular traffic by an open space or barrier. Sometimes referred to as a combination bicycle/pedestrian path or shared use path, it is designed to be used by a combination of bicyclists, pedestrians, skaters, wheelchair users, joggers, and other non-motorized users.

Open Space and Cluster Subdivisions
Two types of residential subdivisions that are designed and developed in accordance with the Open Space and Cluster Subdivision requirements described in these regulations.

Owner
The person, persons, or other entity having legal title to particular real estate, or such other person, persons, or entity acting on behalf of and with the written permission and authority of the legal title holder, such as a holder of an option or contract to purchase the real estate, or a lessee. In the context of these regulations, "owner" means the person, persons, or entity bearing responsibility for a development review application or proposal, and the term "owner" may be used interchangeably with terms such as applicant, developer, subdivider, owner by option, etc. Also see definitions of "developer" and "subdivider."

Panhandle
See definition of "Lot, Flag" for unobstructed access strip.

Parcel
Synonymous with the term "lot."

Parent Tract
Refers to any existing parcel of land shown as a unit or contiguous units in common ownership. The parent tract may be subdivided in accordance with the requirements of a minor and major division of land.

Patio Home
A detached single family dwelling unit, situated on a typically reduced width lot, with a reduced or no side yard setback on one side of the lot to facilitate better overall use of the lot, and to incorporate some aspects of cluster style developments within Conventional Subdivisions.

Performance Bond or Surety Bond
An agreement by a subdivider or developer with the appropriate city or county government or water and sewer commission/district having jurisdiction for the amount of the estimated construction cost guaranteeing the completion of physical improvements according to plans and specifications within the time prescribed by the subdivider's agreement (see Article 5).

Planned Development
A defined land area to be planned and developed as a single development or an ordered series of developments. A planned development may include a variety of land use types and densities that are characterized by imaginative designs. A planned development's imaginative design shall creatively address architectural design, location of structures, integration of differing land uses, access management, interior vehicular and pedestrian access, stormwater management, landscaping, signage, and the preservation of natural topography, drainage, and vegetation.

Planning Commission
The Campbell County & Municipal Planning & Zoning Commission. A public body in the county empowered to prepare a comprehensive plan, zoning regulations, subdivision regulations, special regulations, and corridor or special area studies. The planning commission is responsible for evaluating proposed land use changes and their conformance with any applicable plans or regulations (see Section 135).

Planning Commission's Staff
Individuals employed by or on behalf of the Planning Commission or related Boards under direct employment or by a contractual agreement.

Plat
A map of a tract, parcel, or subdivision of land prepared in accordance with the requirements specified in these regulations.

Pre-application Meeting
Informal discussions between a developer or individual and the planning staff occurring prior to the submission of an application for action by the Planning Commission. The pre-application meeting allows the planning staff to acquaint the applicant with the applicable procedures and regulations, suggest improvements to a proposed design, encourage the applicant to contact appropriate authorities on the provision of public utility service, and provide the applicant with any pertinent information relating to the proposed application.

Preliminary Plat
A plat of a proposed subdivision prepared in accordance with the provisions herein for presentation to the planning commission for its action (see Section 315).

Private Access Driveway
A privately owned driveway at the side or rear of a lot or lots that affords vehicular access to said lot or lots by a means other than a public street. A private access driveway may be used in instances where due to unique topographical conditions or existing layout of a public road, direct access from an individual lot to the public would be dangerous in terms of traffic safety; in such instances, the frontage on a public street may be used to meet the subdivision and zoning requirements only if the proposed structures face the public road. A private access driveway is not a street as defined in this article and any lot frontage on a private access driveway may not be used for meeting lot frontage requirements (see Section 405).

Project Review Committee
The Committee responsible for the technical evaluation of major subdivision applications required under these regulations. Membership may include, but is not limited to, a representative(s) from the Planning Commission, applicable public works department, applicable water and/or sewer district, applicable county or city engineer, applicable fire district or the Fire Chief's Association, and the Campbell County Building Department. A different project review committee may be formed for any of the legislative bodies served by the Planning Commission.

Public Dedication
Public dedication involves a property owner voluntarily transferring land for public use. Public dedication includes the transfer of land ownership to allow the public access to a street, utility or vacant property. Public dedication does not imply public maintenance.

Public Maintenance
Public maintenance involves the maintenance of utilities and roads by legislative bodies and public utilities. Public street and utility maintenance usually involves the following.

1. Developer files a Preliminary Plat and an Improvement Plan with the Campbell County Planning Commission.

2. Upon approval of the above, the developer may commence construction of project.

3. All public improvements (e.g. street, storm sewer, sanitary sewer and water, et al) must be inspected during the course of construction by the appropriate Inspector in order to demonstrate compliance with approved plats, plans and construction specifications.

4. The streets in a given section shall be accepted for maintenance and dedicated to the appropriate legislative body after a section is completed, provided they, along with the storm sewers, pass the final inspections of the legislative unit. This acceptance shall occur forty-five (45) days from the recording of the final plat if no bond or guarantee is posted. (See Appendix F in Article 6.)

5. Items requiring repair or completion such as sidewalks, street lights, final grading, crack filling, etc. can be done after the street section final plat is approved, provided a performance bond, escrow pledge or irrevocable letter of credit is posted with the appropriate legislative body.

6. Sidewalks fronting all lots determined to not be buildable or readily buildable shall be completed prior to acceptance of the street section or a guarantee posted.

7. If, after one (1) year after acceptance of a street, items against which the bond or pledge was posted have not been completed, the developer will be contacted to complete such items within ninety (90) days. Should the developer not complete said items within ninety (90) days, the appropriate legislative body shall contract to have items completed and charged against the posted bond or pledge. However, if during the one (1) year plus the ninety day period mentioned above, the appropriate legislative body determines any of the items covered by the bond or pledge to be required immediately, due to safety or protection of property under emergency situations, said emergency repairs/improvements shall be completed at once at the expense of the developer or his bond/pledge. A one (1) year

renewal of the bond or pledge is possible by agreement between the legislative body and the developer.

8. A Final Plat shall be signed by an appropriate official from a City or County or public utility upon recommendation from officials conducting such inspection of a public improvement. If a bond or guarantee is posted and public improvements are completed and inspected, the appropriate official representing the City or County shall release the bond or guarantee and amend the Final Plat.

Record Plat
A Conveyance Plat or Final Plat, including a Condominium Property Regime Plat, prepared in accordance with the requirements of these regulations.

Resubdivision
A subdivision which resubdivides a previously recorded subdivision plat, and may include new public improvements.

Retention Basin
A pond or lake that is used to retain stormwater runoff until reaching a level of an overflow device that is designed at a specified elevation.

Right-of-Way
A general term denoting land, property, or interest therein, usually dedicated for such uses as a street, alley or railroad. In addition to the roadway, it normally incorporates the curbs, lawn strips, sidewalks, lighting, and drainage facilities, and may include special features (required by the topography or treatment) such as grade separation, landscaped areas, viaducts, and bridges.

Roads
See definition of "streets" and following street classifications.

Setback Line
See Article VII of the Zoning Regulations for the definitions of "yard depth, front", “yard depth, rear” and “yard width, side” and Article X of the Zoning Regulations for specific requirements.

Sidewalk
A portion of the road right-of-way outside the roadway, or a pathway on private property, which is improved for pedestrian traffic.

Sight Triangle
An area clear of visual obstruction to allow for the safe egress of vehicles from an access point, including an intersecting street, onto a roadway.

Streets
Any vehicular ways except alleys or private access driveways. The following shall be used to classify all streets:

Street, Arterial
Public thoroughfares which serve the major movements of traffic within and through the community. Such roads are defined in the Campbell County Comprehensive Plan.

Street, Cluster Option
A development option for limited access residential streets that includes the types of features outlined in the Cluster Option exhibit in Section 405.F. This includes a means of dissipating or infiltrating storm water thereby decreasing the amount that leaves a street right-of-way during a rain event and can include features such as bioswales, extended detention basins, and stream reclamation.

Street, Collector
Public thoroughfares which serve to collect and distribute traffic primarily from subcollector to arterial streets. Such roads are defined in the Campbell County Comprehensive Plan. Collector streets are designed to serve five hundred (500) or more residential lots or housing units or fifty (50) or more commercial or industrial lots or uses.

Street, Cul-De-Sac
A street having an outlet at one end only and having the other end permanently closed with facilities permitting vehicles to turn around.

Street, Expressway
A divided arterial highway for through traffic with full or partial control of access and generally with grade separations at major intersections.

Street, Freeway
A divided multi-line highway for through traffic with all crossroads separated in grades and with full control of access.

Street, Frontage Road (Service or Access Road)
A street adjacent to a freeway, expressway, or arterial street separated therefrom by a dividing strip and providing access to adjoining properties.

Street, Limited Access Residential
A subcollector or collector street with no direct access for individual lots. Such streets are intended to provide direct and safe circulation within and between developing residential areas and the major street network.

Street, Local
Roadways which are designed to be used primarily for direct access to adjoining properties. A type of street designed to serve less than one hundred (100) residential lots or units.

Street, Private
A privately owned and maintained street that provides access to adjoining property for private users of such property. Lot frontage on an approved private street may be used for meeting lot frontage regulations required by the Zoning Regulations. For the purposes of density calculations, a private street shall constitute the areas of its paved surface and sidewalks or the private right-of-way if designated on the recorded plat (see Section 405).

Street, Public
A public roadway, constructed within the boundaries of an officially dedicated public right-of-way, which affords principal means of access to abutting property. For purposes of density calculations, a public street shall constitute all of the area within the public right-of-way.

Street, Residential Condominium
A publically dedicated local street with a reduced right-of-way width which may be used in residential condominium developments.

Street, Subcollector
A street designed to provide a traffic route from local to collector streets. A type of street designed to serve one hundred (100) to five hundred (500) residential lots or fifty (50) or less commercial or industrial lots or uses.

Street, Urban
A development option available for cul-de-sacs, residential condominium streets, local streets, limited access sub-collector streets, and sub-collector streets which has tighter-knit, urban characteristics by using box curbs, integral sidewalks immediately at the back of the street curb, and narrower pavement width at intersections.

Street Tree
A tree installed in a right-of-way adjacent to a street, or on private property adjacent to a street right-of-way, in accordance with these regulations to improve visual and environmental qualities of a streetscape area (see Section 405 of these regulations).

Subdivider
Any individual, firm, association, syndicate, co-partnership, corporation, trust, governmental agency or any other legal entity commencing proceedings under these regulations, to create a subdivision of land as defined herein for himself or for another. Where the subdivider is other than the Owner(s) of the property, evidence that the Owner(s) is aware of any proposed subdivision shall be provided to the Commission. Also see definitions of "owner" and "developer."

Subdivision (also referred as development or project)
The division of a parcel of land into two or more lots or parcels or tracts for the purpose, whether immediate or future, of sale, lease, or building development, or if a new street is involved, any division of a parcel of land; providing that a division of land for agricultural purposes into lots or parcels of five acres or more and not involving a new street shall not be deemed a subdivision. The term includes resubdivision and when appropriate to the context shall relate to the process of subdivision or to the land subdivided, and also includes the creation of remainder or residual tracts.

Surveyor
A licensed Professional Land Surveyor (PLS) in good standing with the Kentucky State Board of Licensure for Professional Engineers and Land Surveyors. Also referred to in these regulations as “Land Surveyor” or “Kentucky licensed Land Surveyor.”

Tract
A parcel or lot identified by letter or number, the boundaries of which are shown on the recorded subdivision plat. Also means a parcel or lot defined by a legitimately recorded legal description.

Use
The specific purposes for which land and/or a building is designated, arranged, intended, or for which it is or may be occupied or maintained.

Waiver
An exception to the literal requirements of the subdivision regulations that is reviewed and granted by the Zoning Administrator in accordance with Section 140 (also see term "variance").

Watercourse
A natural or man-made channel through which water flows. Sheet drainage or minor swales across lots shall not, for the purposes of these regulations, be considered as watercourses.

Variance
An exception from the literal enforcement of the zoning regulations. The term "variance" is defined in Article VII Definitions of the Zoning Regulations. A variance is reviewed and granted in accordance with the procedures outlined in Article XVIII Board of Adjustment of the Zoning Regulations (also see term "waiver").

Vicinity Map
A drawing located on the plat which sets forth by dimensions or other means, the relationship of the proposed subdivision or use to other nearby developments or landmarks and community facilities and service within the general area in order to better locate and orient the area in question.

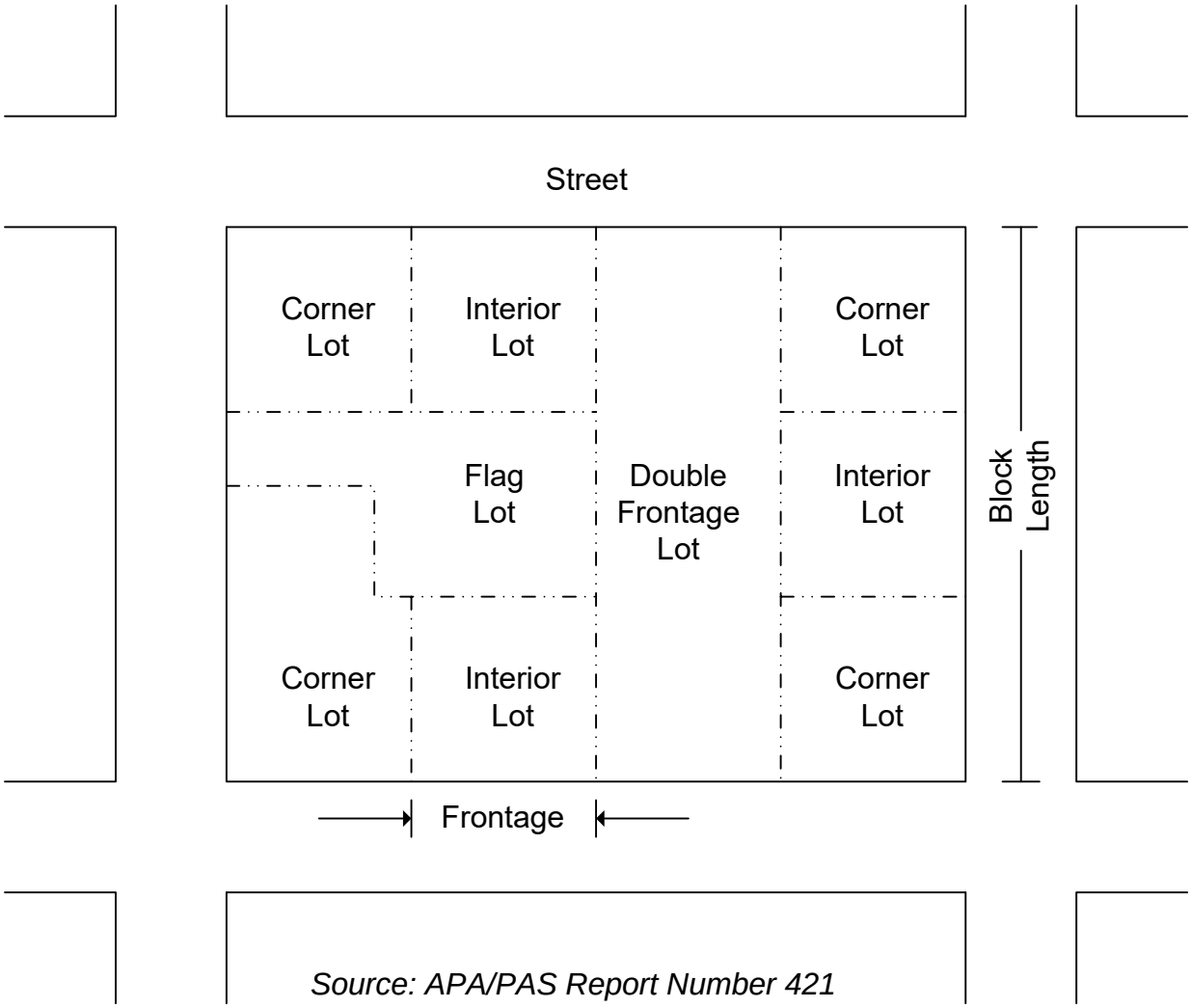
Zoning Regulations
The Zoning Regulations of the legislative unit in which the property resides. The Zoning Regulations may include: the Campbell County Zoning Ordinance, Crestview Zoning Ordinance, Melbourne Zoning Ordinance, Silver Grove Zoning Ordinance, Southgate Zoning Ordinance, Woodlawn Zoning Ordinance and the zoning ordinance of any other city which may become a member of the joint planning unit.

Zoning Administrator
The individual who administers, interprets, and enforces the provisions of the subdivision regulations (see Section 150).

ARTICLE 2

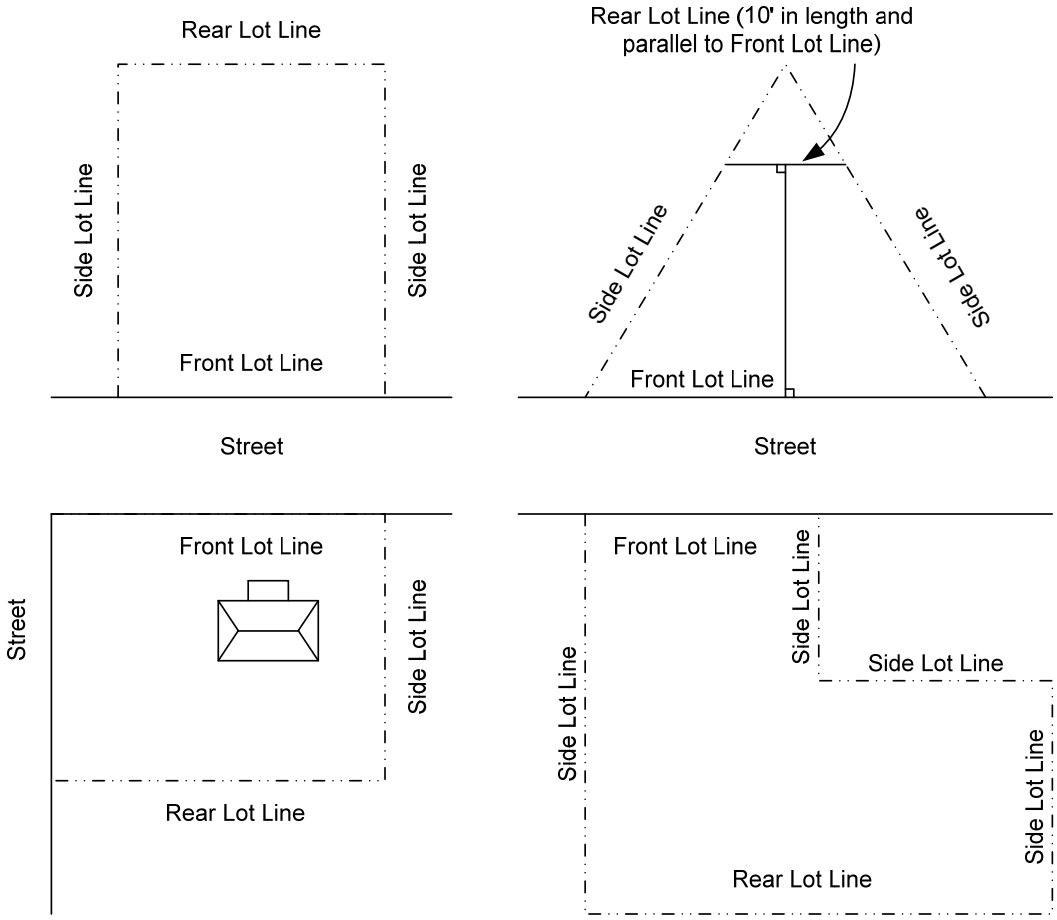
ILLUSTRATIONS

Lots

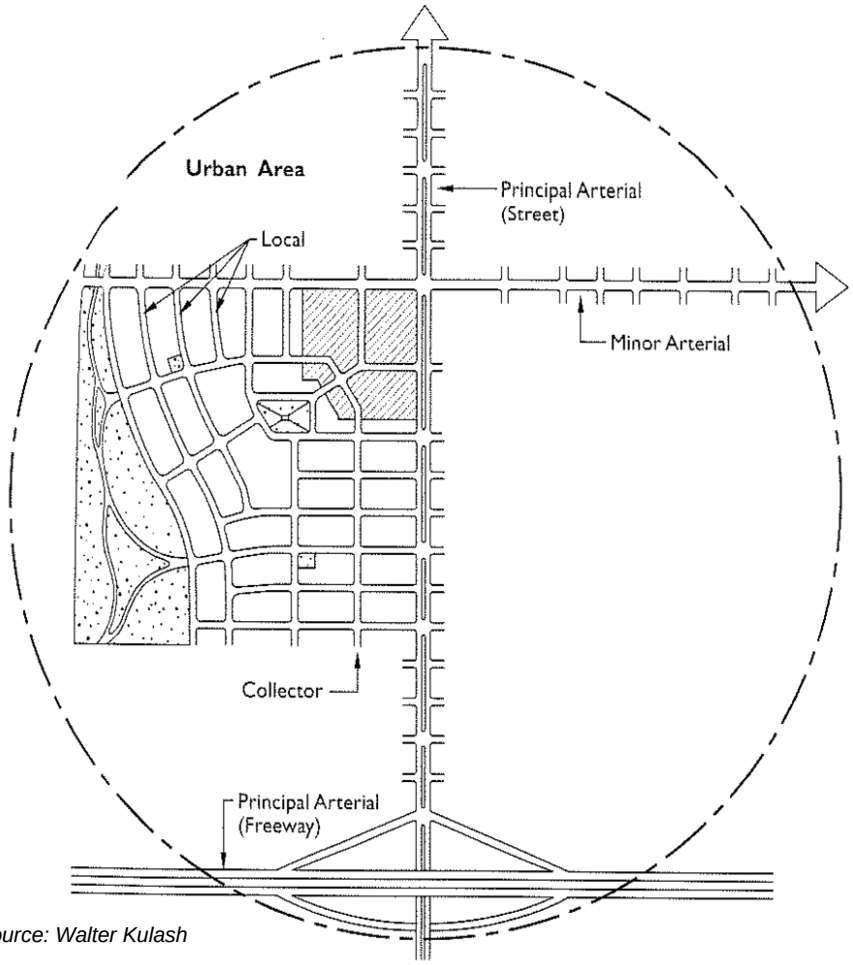


Source: APA/PAS Report Number 421

Lot Lines


Rear Lot Line
Side Lot Line
Side Lot Line
Front Lot Line
Street
Rear Lot Line (10' in length and parallel to Front Lot Line)
Side Lot Line
Side Lot Line
Front Lot Line
Street
Front Lot Line
Street
Side Lot Line
Rear Lot Line
Front Lot Line
Side Lot Line
Side Lot Line
Side Lot Line
Side Lot Line
Rear Lot Line

Street Types



Source: Walter Kulash

ARTICLE 3

PROCEDURE FOR SUBDIVISION APPROVAL

SECTION 300
Summary of the Subdivision Review Procedure

The following articles apply to subdivisions or the divisions of land which are used for commercial, industrial, residential, or other types of uses. The subdivision of land can occur in two forms. The first form involves a minor division of land (conveyance plat) as outlined in the Definitions section of this document. A minor division of land involves the division of five (5) buildable lots or less from the parent tract, since January 1, 1982, including any remainder or residual tract(s), and is located along an existing public street. The minor division of land involves no widening or extension of a public or private street, and no public utility improvements. A conveyance plat may also be used to record casual sales or the transfer of property from one owner to another. If an applicant or property owner originally used the conveyance plat or minor division of land procedure, but then decided to create more than five buildable lots from the parent tract, then he or she shall be required to follow the major division of land procedure.

The second form involves a major division of land or six (6) or more buildable lots from the parent tract, including any remainder or residual tract(s), and/or subdivisions which include public utilities and/or public or private streets. The review procedure for a major division of land involves a preliminary plat, improvement plan, and a final plat. If, however, the division of land of six (6) or more buildable lots does not require any public utility or public street improvements, the developer will only be required to submit a Preliminary Plat and a Final Plat for review and approval. Finally, even if the developer is beyond the minor division of land or the five (5) buildable lot requirement, then the developer shall follow the requirements of a major division of land.

A) Minor Division of Land - The subdivider or applicant submits a Conveyance Plat to the Planning Commission for review and approval based upon the requirements in Section 375 of this document. Once approved, the subdivider or applicant may then proceed to record the conveyance plat in the County Clerk's office. If the new owner of the property intends to build a structure, then he or she may then proceed to obtain a zoning permit for each tract in the subdivision from the Planning Commission staff and a building permit from the Campbell County Building Inspection Department.

B) Major Division of Land - The subdivider or applicant submits a Preliminary Plat to the Campbell County Planning Commission staff for review and recommendation. The Campbell County Planning Commission's staff shall review and take action either to approve or disapprove a Preliminary Plat within thirty (30) days unless the time limitation is waived by agreement between the Campbell County Planning Commission and the developer. The Preliminary Plat shall also be reviewed by the Project Review Committee who shall advise the Planning Commission's staff. If the Preliminary Plat is disapproved, the applicant or developer may appeal the decision before the full Planning Commission within thirty (30) days of such denial.

MINOR DIVISION OF LAND	MAJOR DIVISION OF LAND
5 buildable lots or less from the parent tract No street improvements or extensions No public utility improvements	6 buildable lots or more from the parent tract Street improvements or extensions to public or private streets Public utility improvements
	Preliminary Plat
	Improvement Plan (not required when private streets are the only subdivision improvement involved or when no public street or utility improvements are involved)
Conveyance Plat	Final Plat

After the Preliminary Plat is approved, the subdivider submits an Improvement Plan to the Planning Commission for Staff review and recommendation. The Planning Commission's staff shall review and take action either to approve or disapprove the Improvement Plan within thirty (30) days unless the time limitation is waived by agreement between the developer and the Planning Commission. The Improvement Plan shall also be reviewed by the Project Review Committee who shall advise the Planning Commission's staff. If the Improvement Plan is disapproved, the applicant or developer may appeal the decision before the full Planning Commission within thirty (30) days. Once the Preliminary Plat and Improvement Plan are approved by the Planning Commission, the subdivider or applicant may commence grading of the site and construct utilities and streets, subject to review, inspection and approval of federal, state and local government agencies for such public utilities.

Once construction work has commenced in a subdivision or proposed subdivision and the public improvements (e.g. streets, sanitary sewer lines, storm sewer lines and water lines, etc.) are completely installed or near completion and inspected, a Final Plat shall be

submitted to the Planning Commission for review and action. Such public improvements shall be completed and inspected prior to Final Plat action by the Planning Commission. Consequently, no lot in an existing or proposed subdivision can be sold or transferred until a Final Plat has been reviewed and approved by the Planning Commission and signed by an officer of the Planning Commission (Chairman, Vice-Chairman, or the Temporary Presiding Officer), or designated staff, and recorded in the Campbell County Clerk's office.

The only exception to the above paragraph is when a written agreement or guarantee such as a surety (e.g. a performance bond from an insurance company or a financial institution) or cash deposit (e.g. certified check or escrow agreement) is submitted with a Final Plat application before the Planning Commission (see Article 5 of the Subdivision Regulations) in order to cover the cost of completing the public improvements. The written agreement or guarantee is payable to the legislative body and/or the appropriate water and/or sewer commission/district.

Such agreements or guarantees can only be used when a substantial amount of the public improvements (e.g. grading and construction work related to sanitary sewers, storm sewers, water lines and streets) of the subject phase or section of the Improvement Plan are installed and inspected. Specifically, a minimum of seventy-five percent (75%) of all public improvements (e.g. grading and construction work related to sanitary sewers, storm sewers, water lines and streets) and a minimum seventy-five percent (75%) of public street pavement (measured in lineal feet) shall be installed before a guarantee or agreement for the remaining public improvements can be used and approved by the appropriate legislative unit and filed in conjunction with a Final Plat application before the Planning Commission. The seventy-five percent (75%) of all public improvements is based upon the dollar amount of improvements installed per section or phase divided by the total cost of the improvements of the proposed platted section of the subdivision. The seventy-five percent (75%) figure shall be certified by the subdivider's design engineer with the appropriate documentation. Specific criteria and terms used in written agreements or guarantees are explained in Article 5 of the Subdivision Regulations. This Article also includes the procedure for submittal and examples.

In relation to Improvement Plan Review and Final Plat Review by the Planning Commission, a total of one building and zoning permit per section or phase of an existing or proposed subdivision may be issued in the name of the developer of the subdivision if the Improvement Plan for the same section of the subdivision has been approved by the Planning Commission. For more than one lot for subdivisions, a Final Plat shall be approved and recorded for the same section or phase of the subdivision. The developer or applicant shall then proceed to obtain a zoning permit for each structure in the subdivision from the Planning Commission staff and a building permit from the Campbell County Building Department. Final Plat approval or disapproval by the Planning Commission shall occur within a ten (10) working-day time period.

As previously stated, if a subdivider or applicant proposes to develop a subdivision with private roads and no public utilities (e.g. sanitary sewer, storm sewer and water mains) are either planned in the near future and are not located in the general vicinity, then the applicant will be required to submit a Preliminary Plat and Final Plat to the Planning Commission for review and approval. In addition, the applicant shall be required to submit detailed street and grading plans with the Preliminary Plat based upon the requirements of Section 345 (j&l) and Section 390 of this document. Any proposed private streets shall be one hundred (100%) percent completed (per section or phase), inspected for

compliance with the approved Preliminary Plat and the requirements of Section 405.O, and accepted by the Planning Commission prior to approval of a Final Plat. No bonds or other such guarantees shall be accepted to allow the filing of a Final Plat prior to the completion of any private road. If a proposed subdivision already has frontage on a publicly dedicated street and no new street will be constructed or extended, then the applicant is only required to show the elevation of the public road, the location of right-of-way, and the pavement width.

C) Resubdivision of a Previously Recorded Lot - If a subdivider or applicant wishes to resubdivide a previously recorded lot that is currently recorded on a Final Plat into two (2) or more buildable lots, then the applicant shall submit an amended Final Plat and if the resubdivision is for a non-buildable lot from an existing lot, then the applicant shall submit a conveyance plat for review and approval by the Planning Commission. If a subdivider or applicant wishes to resubdivide a previously recorded lot that is not recorded on a Final Plat, and the proposed resubdivision does not require the Major Division of Land procedure described herein, then the subdivider or applicant shall submit a Conveyance Plat for review and approval by the Planning Commission.

D) Remainder or Residual Tracts or Lots - The creation of a remainder or residual tract is a subdivision pursuant to these regulations and KRS 100.111, except when the land involved is for an agricultural use as defined by said statute. Remainder or residual tracts are not required to be platted and given a new legal description when the parent tract is subdivided; however, sufficient evidence must be provided to demonstrate that any remainder or residual tract is a buildable lot per the applicable zoning regulations and subdivision regulations when the plat for the subdivision of the parent tract is submitted to the Planning Commission for review. Otherwise, the remainder or residual tract must be platted as a non-buildable lot on the same plat document as the other lot(s) which is (are) being subdivided from the parent tract. One remainder or residual tract may be created per record plat, in addition to any future subdivision phases which are shown on an approved Preliminary Plat.

SECTION 305
Advisory Meeting with Planning Commission Staff

Prior to application for Major Division of Land review and approval before the Planning Commission, each applicant, property owner, or developer is required to have a pre-application meeting with the Planning Commission's staff and Project Review Committee. This dialogue shall occur within ninety (90) days of submitting the formal Preliminary Plat application. This meeting is intended to familiarize the subdivider with the current regulations and to ascertain the location of any planned projects which may affect the property being considered for subdivision. This would also include a review of the topography of the area to determine where potential street connections to adjoining property should occur as well as calculate the approximate number of dwelling units the connecting road will serve in the future so as to assist in the capacity design of that road. At this stage the subdivider and Planning Commission staff should discuss all suitable development options. This step does not require a formal application or filing of a plat with the Planning Commission. The subdivider or applicant is encouraged, however, to prepare a plat or plan so that the Planning Commission will have the maximum amount of information available for review purposes.

Revision of Previously Approved Preliminary Plats and Improvement Plans

In certain cases, a developer or applicant may find it necessary to make changes to the

arrangement, size, number, or location of individual lots, streets, or utilities. These changes are usually recognized by the Planning Commission's Staff in the subdivision review process. In general, the Preliminary Plat, Improvement Plan, and Final Plat shall be similar in design and shall follow the same general development concepts. Depending on whether the changes are major or minor in nature, the Planning Commission may request that a developer or applicant submit a revised Preliminary Plat and/or Improvement Plan for Planning Commission action or for its files. It is the responsibility of the developer or property owner of the subdivision to submit any revised Preliminary Plat or Improvement Plan to the Planning Commission and to the affected utility company/organization or legislative body. For changes proposed to an approved Preliminary Plat and/or Improvement Plan, the Planning Commission's staff will determine if the proposed changes are major or minor in nature in terms of overall impact of the subdivision phase on the adjoining properties and community facilities. The changes will include, but not be limited to, number of lots, lot and street configurations, grading and drainage design, utilities and street construction. Minor changes may be reviewed and approved by the Planning Commission's staff without an additional formal review procedure. Major changes shall be reviewed through the normal application procedures.

Revocation of Subdivision Plat

Revocation of a previously approved Subdivision Plat shall be permitted only in accordance with KRS 100.285 (also see Section 160).

SECTION 310

Preliminary Plat Review Procedure

A) After meeting informally with the Planning Commission's Staff as required in Section 305, the subdivider shall, prior to the making of any improvements, prepare a Preliminary Plat for review and approval by the Planning Commission.

B) A subdivider or applicant shall file an application and submit sixteen (16) copies of a Preliminary Plat of the proposed subdivision to the Planning Commission.

IN ADDITION, COPIES OF THE PRELIMINARY PLAT ARE RECOMMENDED TO BE SUBMITTED TO THE FOLLOWING APPROPRIATE ORGANIZATIONS OR AGENCIES:

1. legislative body(ies) or their representative;
2. public/private utilities (water, sewer, electric, telephone, gas, cable, etc.);
3. state highway department or county/city public works department;
4. fire department or district;
5. soil conservation service; and,
6. local or state health board.

Action or comments received by the legislative bodies, the public/private utilities, or other agencies is not required for Planning Commission action. The purpose of this recommendation is to begin coordination of reviews and to seek input from the various organizations or agencies in order to keep revisions to the Preliminary Plat and subsequent reviews at a minimum. Any comment from an outside agency shall be received within a two-week period.

C) The Planning Commission Staff shall review and take action to approve or deny the submitted application based upon the requirements stated in these Subdivision

Regulations.

SECTION 315
Preliminary Plat Requirements

The Preliminary Plat shall meet the minimum acceptable design standards and the general applicable regulations for the construction of public improvements as set forth in this document and shall contain the following information:

A. The proposed subdivision plat shall be drawn to scale of not less than one (1) inch equals one hundred (100) feet. A graphic and written scale shall be noted on the plat along with the date of the plat and north arrow.

B. The proposed subdivision name and the name(s) and address(es) of the owner, developer and the name, address, and seal of a Kentucky licensed Professional Engineer, and/or licensed Professional Land Surveyor responsible for designing the plat. A Preliminary Plat must be designed by both a Kentucky licensed Professional Engineer and a licensed Professional Land Surveyor if the subdivision proposal involves public infrastructure improvements. If no infrastructure improvements are involved, a Preliminary Plat must be designed by a licensed Professional Land Surveyor.

C. A vicinity map showing the proposed location of the subdivision in relation to major or minor roads in the area. The vicinity map shall have an approximate scale.

D. All proposed uses including the type of housing (e.g. single-family attached or detached, townhouses, duplexes, etc.) or other uses in the subdivision and any public dedication or reservation of land. In the case of residential subdivisions, the plat shall indicate if the entire subdivision or if specific sections of the subdivision will utilize an Open Space or Cluster Residential Subdivision design as outlined in Article 4 of these regulations.

   For residential subdivisions, the plat shall indicate if the proposed development is proposed as an Open Space or Cluster Subdivision, which follows the process described in these regulations. Materials shall be submitted which demonstrate compliance with the applicable Open Space or Cluster Subdivision requirements.

E. Acreage of land to be subdivided, the total number of lots, and if applicable, the approximate number of acres in open space or other public uses.

F. Existing contours with intervals of not more than five (5) feet to reflect the current topography of the proposed subdivision with elevations based on mean sea level (U.S.G.S. Datum). Also, the current elevations on adjoining streets or roads shall be indicated to determine proper access management.

   Identify all landscaped areas within a public street right-of-way along with maintenance of such features. If landscaped islands are proposed, drainage facilities are required. Any fencing required by Section 408.A or landscape treatment required by Section 408.B of these regulations shall be shown or noted. Any trees required (per Section 405.T, Appendix S Street Trees and/or for new dwellings subject to the Zoning Permit procedure) shall be shown or noted.

G. Boundary lines of the land to be subdivided in heavy solid lines, including lengths and bearings. The following existing features within 100 feet of the subdivision boundary shall

be indicated: all existing buildings, cemeteries, (see Article 4 Design Standards), historical landmarks or features, railroads, bridges, all private/public utility facilities and easements, the present zoning classification, both on the land to be subdivided and on the adjoining land, and the names of adjacent subdivisions and all street rights-of-way. All existing topography and water courses (creeks, rivers, swales, drainage ditches, etc.) within 200 feet of the subdivision boundary shall be indicated. The names of the property owners of all adjoining unsubdivided properties shall be noted. If the proposed subdivision is an additional section of an existing subdivision, the plat shall show the numbering of all adjoining sections and lots.

H. Information pertaining to the proposed and existing public/private utility layouts (e.g. storm and sanitary sewer, water, gas, telephone, electric, cable, etc.) based upon existing and proposed service lines. If applicable, location of all detention/retention areas (see Section 425, Design Standards). The preliminary utility layout for the subdivision shall define the location and direction of flow of each stormwater and sanitary sewer, and the location of each water line. Telephone, electrical, and cable service should be noted as being installed underground or overhead.

For proposed subdivisions or developments containing more than 200 acres or 200 single-family lots or 500 multi-family or single-family attached units or combination thereof, an overall plan for sanitary sewer, storm sewer, and water service shall be required regardless of ownership or if the proposed subdivision is developed in phases or sections.

I. Names, locations, and widths of proposed streets (see Section 405 Design Standards). The applicant shall state whether the proposed streets will be public or private. Also, any existing easements shall be shown along with other open spaces or reservation of land. Lots shall be numbered and the lot sizes shall be noted on the plat. For all subdivisions that involve private roads and no public improvements (public streets, storm or sanitary sewers, water mains, etc.), detailed street and grading plans based upon the requirements of Sections 345 (k and m) and Section 390 of this document shall be provided.

J. Approximate boundaries of 100 year flood plain using the National Flood Insurance Program (NFIP) maps. The reference maps are available at the Planning Commission's office. The plat shall show all flood-prone areas. Also, a map using the current U.S. Geological Survey data shall be included to demonstrate the drainage basins upstream and downstream from the development.

K. Reference to the existing soil types of the site or proposed subdivision. The location and identification of soil types can be found in the Soil Survey of Boone, Kenton, and Campbell Counties, Kentucky. This document and soil mapping are available at the Planning Commission's office. If other data is used, it shall be certified by a professional geotechnical engineer (see Article 2 - Definitions Section). The soil types shall be listed on the Preliminary Plat in order to determine any potential environmental impact as a result of building or public improvement construction on each soil type.

For subdivisions planned with individual sanitary septic tank systems, it is recommended that the applicant contact local and state health officials regarding the permit process and preliminary soil testing.

L. A digital copy of the Preliminary Plat if the plat was computer generated (in CAD, DWG, DXF or other format subject to approval from the Administrative Official).

SECTION 320
Preliminary Plat Approval

A) The subdivider shall file the completed Preliminary Plat application with the Planning Commission's staff during normal business hours. The Planning Commission's staff shall indicate its approval or disapproval within thirty (30) days from the date of filing, unless such time is extended by agreement between the Planning Commission and the subdivider. If a request is denied, the reasons for denial shall be provided to the subdivider in writing. The basis for action shall be conformance with the applicable requirements of the Zoning Regulations and the Subdivision Regulations.

B) Approval of the Preliminary Plat by the Planning Commission shall not constitute acceptance of the Improvement Plan or Final Plat.

C) The approval of the Preliminary Plat shall be in effect for two (2) years from the approval date unless an Improvement Plan for at least one (1) section of the subdivision is submitted for review and approval. As each section of a subdivision is approved and developed, the approval of the Preliminary Plat will be extended for a two year period beyond each approved section or phase. A two (2) year extension of approval of a Preliminary Plat is possible through an application to and action by the Administrative Official. Any deviation from or changes made to the approved Preliminary Plat shall be submitted to the Planning Commission for review and approval by the Staff. The Planning Commission shall distribute the approved copies to the appropriate organizations.

SECTION 340
Improvement Plan Review Procedure

A) The applicant is encouraged to have a pre-application meeting with the Planning Commission's Staff. After meeting informally with the Planning Commission's Staff, the subdivider or applicant shall, prior to the construction and installation of any utilities or roads or grading of any parcel, prepare and submit an Improvement Plan for review and action by the Planning Commission's staff. In general, the Improvement Plan shall be consistent with the approved Preliminary Plat.

B) The property owner, developer, or applicant may file an application and submit an Improvement Plan to the Planning Commission's staff at any time during normal business hours. The staff will review each plan and have thirty (30) days from date of receipt to take action on a submitted Improvement Plan unless the time limitation is waived by agreement between the developer and the Planning Commission. If the Commission's staff approves the plan then the applicant may proceed with construction.

The applicant shall submit ten (10) copies of an Improvement Plan of the proposed subdivision to the Planning Commission's Staff. Copies of the submitted Improvement Plan may then be forwarded by the Planning Commission's Staff to the appropriate public/private utility companies, legislative bodies, state or county highway/road department, soil conservation service or other pertinent body in order to seek input and coordinate reviews. Action or comments received from the above organizations is not required for Planning Commission approval.

SECTION 345

Improvement Plan Requirements

The Improvement Plan shall provide the minimum acceptable design and improvement standards which are required as a precondition to development or in conjunction with development for lots, streets, utilities, and other physical elements in the subdivision. Based upon the information and design plans of the subdivision, the Planning Commission may request additional information on any of the following requirements in order to clarify design issues. The Improvement Plan shall be designed by a Kentucky licensed Professional Engineer and installed in accord with these and other applicable regulations, and shall contain the following information:

a) The proposed name of the subdivision or development. In no case shall the name of a proposed subdivision duplicate or be similar to an existing subdivision in Campbell County unless it is an extension or expansion of the existing subdivision.

b) Names and addresses of owner or developer of the subdivision and the Kentucky licensed Professional Engineer responsible for the design of all improvements. The plan shall be certified with the seal of the engineer.

c) A vicinity map showing the proposed location of the subdivision in relation to roads in the area, and the boundaries of the phase or phases under review relative to the entire subdivision. The vicinity map shall have an approximate scale.

d) The plan shall be to a scale of one inch (1") is equal to fifty (50) feet and the submitted drawing shall be a 24" X 36" sheet size unless another scale is approved by Staff. On large lots, this scale may be used to show just the graded portion of the lots and improvements. A graphic and a written scale shall be on each sheet of the plan.

e) The date shall be on the cover or first sheet of the plan, and a north arrow shall be on all sheets of the plan.

f) The boundary of the subdivision or section of subdivision under review shall be indicated by a heavy, solid line on one sheet of the plan at a standard scale to show the location of section under review with other sections of the subdivision. All subdivision boundary lines shall be labeled with the bearing and distance.

g) Location, right-of-way width, and name of all existing and recorded streets, railroads, public and private utility rights-of-way or easements (including drainage easements); water courses (creeks, rivers, swales, drainage ditches, etc.); public parks and open spaces; buildings (labeled as "to remain" or "to be removed"); corporation, county and state lines; cemeteries (see Article 4 Design Standards) and other historical landmarks or features. Drainage easements not planned to be piped shall be labeled "surface drainage easement."

h) Location and sizes of all existing utility facilities (public and private) within or adjacent to the subdivision or development area. Location and width of all public or private sidewalks, including ownership and maintenance of private sidewalks and pathway systems.

i) Location and identification of all existing zoning districts within or adjoining the subdivision or project area. If used for residential purposes, the type of housing shall be stated on the Improvement Plan. The plan shall also indicate if the proposed subdivision is an Open Space or Cluster Subdivision.

j) Existing contours with intervals of not more than two feet (2') shall be clearly marked with elevation based on mean sea level (U.S.G.S. Datum) and location and description of the benchmark used.

k) Location, right-of-way and pavement width, and name of all proposed streets and other public utility right-of-ways or easements. Show striping of street lanes on roads with more than two lanes. Also, show location of street lights and submit detail of a typical light fixture. A typical detail drawing, which depicts the classification of the proposed street shall be shown on the Improvement Plan. Where divided entrances are proposed, detail plans shall be submitted for review and approval. Note signage located at the temporary dead end of streets that are planned to continue through a development and connect with an adjoining property or another roadway to inform the public of a future street connection. Proposed street names shall not duplicate or too closely approximate phonetically, the name of any other street in Campbell County. Street stations and PVI's shall be labeled on the centerline of proposed streets and correspond to profiles of said street. (See Design Standards Section 405)

   For full width Portland cement concrete streets, the Engineer shall submit a project specific detailed method for prevention of street creep. The design for prevention shall be included within the drawing/details of the specific application submitted. Each submittal will be reviewed by the future street owner to assure that the method is acceptable to prevent creep.

   The Engineer can include strategies within the street, driveways, or both. If, however, the driveway construction becomes part of the strategy, assurances will be required to insure compliance by future builders; or driveway prevention techniques included with street construction (construct portions of drives in advance).

l) Proposed location and identification number of all lots with the distances of all proposed lot lines noted and the areas in terms of square feet. If Open Space or Cluster Subdivision lots are proposed, the design of such lots shall follow Section 402 of these regulations. The proposed drainage of individual lots will be indicated by arrows showing the water flow off the lot. (See Design Standards Section 425).

m) Profile of each proposed street with finish grades (including adequate extensions, where necessary, beyond the proposed subdivision or development or section) including all existing and proposed underground public utility crossings with catch basins, junction boxes, and manholes and existing private utility crossings including gas, electricity, and telephone. Horizontal scale shall be same as the plan scale, and vertical scale not less than one inch (1") equal to ten feet (10') unless approved by the Planning Commission Staff. Stationing shall be labeled and correspond to the plan view. (See Design Standards

Section 405)

n) Location of proposed sanitary, storm water, and water resource systems, including all facilities relating thereto such as manholes, pump stations, sewerage plants, catch basins, junction boxes, headwalls, water valves, fire hydrants. Detention/retention areas or ponds shall be clearly identified with the 100 year storm elevation labeled. Detailed drawings of all overflow facilities shall be shown. All stormwater and sanitary sewer facilities (catch basins, junction boxes, headwalls, manholes) shall be numbered and correspond to those facilities on profiles as described in paragraph "q" of this section. Connection to existing facilities shall be shown and labeled. Responsibility of maintenance of any detention/retention areas shall be noted on the Improvement Plan. If applicable, a copy of a Kentucky Division of Water Stormwater General Permit shall be submitted. (See Design Standards Section)

o) Show boundaries of Buffer Zones along designated creeks as defined in Section 425.

p) Location and identification of any drainage facility (i.e. man made dams) or natural feature (i.e. lake or pond) on the site or within one hundred feet (100') of the subdivision or development boundary which has or could have a significant impact on drainage or siltation control.

q) Profiles of all proposed stormwater and sanitary sewer pipelines, and facilities including percent grade, pipe diameters, material of pipe, pipe lengths, and invert elevations. Profiles shall also show all existing and proposed public utility (water, storm and sanitary sewer) crossings, and all existing private utility (gas, electric, telephone) crossings. The facilities (catch basins, junction boxes, headwalls, manholes) shall be numbered and correspond to those facilities as described in paragraph "n" of this section. Hydraulic grade lines shall be shown for all storm water systems. Detail drawings of all detention/retention overflow and controlling facilities including valves shall be shown. Connections to existing pipelines or facilities shall be shown and labeled.

r) Design calculations for all drainage facilities including detention/ retention basins, sediment basins, storm water pipelines and drainage channels. Calculations must include flows, hydraulic grade elevations, mean velocities, etc., and be approved and signed by a Kentucky licensed Professional Engineer (see Design Standards Section).

s) Proposed finished contours with intervals of not more than two feet (2'), shall be clearly labeled and be related to the existing contours. Maximum grade for any excavated (cut or fill) slopes shall be 2 ½:1 (2 ½ feet horizontal for each 1 foot vertical), and the design slope shall be labeled on the plan. Engineered slopes may be steeper upon report by a geotechnical engineer (see Article 2 - Definitions Section) and approved by the Planning Commission. For all residential subdivisions, the top of foundation at the first floor elevation and drainage arrows shall be labeled for each building lot. Disturbed limits shall be clearly identified on the submitted plan and in the field.

If a grading plan of the proposed subdivision or section thereof was approved under Section 390 of the Regulations, then a copy of that approved plan shall be submitted with the proposed Improvement Plan.

t) The names of adjacent subdivisions and all street rights-of-way within two hundred (200) feet of the subdivision boundary and the names of the property owners of all adjoining unsubdivided properties. If the proposed subdivision is an additional section of an existing subdivision, the plan shall show the numbering of all adjoining sections and lots.

u) Reference to the type of street and a typical cross-section detail as noted in the current City or County or State Street Specifications.

v) The minimum building setback lines as stated in the current Zoning Regulations shall be shown on each lot.

w) Label lots in the proposed subdivision or development that are intended to be dedicated or temporarily reserved for public use, or to be reserved by deed covenant for use of all property owners in the subdivision, and the conditions (if any) of such dedication or reservation. The applicant shall provide information regarding any dedication of public lands, restrictive covenants on non-development areas, or conservation easements.

Identify all landscaped areas within a proposed public street right-of-way along with an easement and maintenance responsibility of such features. If landscaped islands are proposed, drainage facilities are required, and a detail of the island shown and labeled. Any fencing required by Section 408.A or landscape treatment required by Section 408.B of these regulations shall be shown with explanatory notes or details provided. Any trees required per Appendix S Street Trees for new dwellings subject to the Zoning Permit procedure shall be shown or noted.

x) Location of ALL erosion and sediment control facilities shall be shown on the plan, with detail drawings of each type of facility being used. The detailed soil erosion techniques or features may be referenced on the plan in accordance with the Street, Storm, and Sidewalk Specifications and submitted Best Management Practice document. All excavated slopes shall be seeded and mulched immediately upon completion of grading of that particular slope, and right-of-ways shall be seeded and mulched within sixty (60) days of the Planning Commission's approval of the final plat of that section.

y) A statement regarding the intent to create a Homeowners Association (HOA) and intended maintenance for HOA owned or controlled improvements.

z) Additional documentation or information such as geotechnical studies may be required by the Planning Commission if an applicant is proposing to make improvements on property located near or in areas classified as hillsides by Section 9.23 "Hillside Development Controls" of the Zoning Regulations or along roads that have known landslides. Areas which are classified as hillsides are subject to the requirements of the Hillside Development Controls section through the Preliminary Plat and Improvement Plan procedures, and Grading Plan procedure if applicable.

aa) For subdivisions planned with individual sanitary septic tank systems, it is recommended that the applicant contact local and state health officials regarding the permit process and preliminary soil testing.

bb) A digital copy of the Improvement Plan if the plan was computer generated (in CAD, DWG, DXF or other format subject to approval from the Administrative Official).

SECTION 350
Improvement Plan Approval

A) The subdivider shall file the completed Improvement Plan application with the Planning Commission's Staff during normal business hours. The Planning Commission's Staff shall indicate its approval or disapproval of the Improvement Plan within thirty (30) days from the date of filing unless time is extended by agreement between the Planning Commission and the subdivider. If a request is denied, the reasons for denial shall be provided to the subdivider in writing. The basis for action shall be conformance with the applicable requirements of the Zoning Regulations and the Subdivision Regulations.

B) Approval of the Improvement Plan by the Planning Commission shall not constitute acceptance of the Final Plat. Approval of the Improvement Plan also shall not be construed as acceptance or agreement to accept any proposed improvement intended to be dedicated to public use.

C) The Improvement Plan shall become null and void after two (2) years from the date of approval, unless a substantial amount of construction of significant improvements in the subdivision are made and include the following: utility installation, road construction, or extensive excavation. In addition, acceptance of a bond or guarantee will be interpreted by the Planning Commission as having met the requirements of construction of significant improvements. A two (2) year extension of approval of an Improvement Plan is possible through an application to and action by the Administrative Official. Any deviation from or changes made to the approved Improvement Plan shall be submitted to the Planning Commission for review and approval by the Staff. The Planning Commission shall distribute the approved copies to the appropriate organizations.

SECTION 355
Final Plat Review Procedure

A) The Final Plat shall, in general, conform to the approved Preliminary Plat and Improvement Plan, and if desired by the developer, it may constitute only that portion of the approved Improvement Plan which the applicant proposes to record and develop at the time, provided however, that such portion conforms to all requirements of these regulations. If an applicant or property owner originally used the conveyance plat or minor division of land procedure, but then decided to create more than five buildable lots from the parent tract, then he shall be required to submit a Preliminary Plat and a Final Plat only if no public improvements are planned or required.

B) The Campbell County Planning Commission's Staff will review the Final Plat application. The subdivider or applicant shall submit three (3) copies of the original plat or drawing and file an application form. Once the Staff review has been completed, a revised drawing shall be submitted for review and approval by the Staff. Ten (10) copies and the original plat or drawing of the revisions shall be submitted to the Campbell County Planning Commission for signature. Once approved by the Staff, the Chairman, Vice-Chairman, Temporary Presiding Officer, or designated staff of the Planning Commission will sign the plat. The application and Final Plat shall be submitted during the regular business hours of the Planning Commission.

SECTION 360
Final Plat Requirements

The Final Plat shall conform to the requirements as follows, and to the current minimum standards as stated by the Kentucky Revised Statutes (K.R.S. 322).

A) The proposed name of the subdivision or development, as established by the Improvement Plan. Also, names of adjacent property owners and recorded subdivisions with section or phase number. All Final Plats shall be drawn on an 18" X 24" fixed line mylar.

B) Location of the proposed subdivision or development, whether in the incorporation limits of a city or in the unincorporated area of Campbell County.

C) Group Number as established and published by the Campbell County Clerk's Office.

D) Name(s) and address(es) of the owner or developer of the subdivision and the Kentucky licensed Professional Land Surveyor or surveying firm responsible for survey and lot design of the subdivision.

E) Date, north arrow, and graphic or written scale. The scale shall not be less than one inch (1") equal to fifty feet (50'), except subdivision or developments with lots having a minimum area of eighty thousand (80,000) square feet which shall not be less than one inch (1") equal to one hundred feet (100).

F) Boundary of the subdivision or section thereof, with bearings and distances based on the field traverse that has an accuracy in accordance with 201 KAR 18.150.

G) Area in acres of the subdivision or section of the subdivision and area in acres of each lot that is over one (1) acre.

H) Location and right-of-way width of all streets and easements which are to be dedicated or reserved for public or private use.

I) Names of streets within or adjacent to the subdivision, and private streets shall be labeled.

J) Centerline curve data for the right-of-way of the streets and easements with the data to include: central angle and radius, arc, length, long chord and tangent distances.

K) Numbered lots whose boundaries are described by bearing and distance for each tangent course, and proper curve data (as given above) for curve courses. Lot corners that are within curved street sections, shall have a reference tie to the tangent line of that centerline curve. Also, if any lots were subject to a conveyance plat, those lots shall be noted with dashed lines and referenced by deed book and page number. If clustered residential lots are proposed, design of such lots shall follow Section 402 of this document.

L) All corners of the lots within the subdivision or section thereof shall be monumented and shown, including notation as whether were found or set, and the type of monument used in accordance with 201 KAR 18.150 (See Section 381).

M) Location of areas to be dedicated for public use and with the planned use clearly indicated.

Areas intended to be reserved for common use but not dedicated to public use shall be identified by a lot number and treated as a private lot. Lots to be conveyed to the proper legislative body for detention purposes shall be labeled and the deed of transfer shall be executed. A statement shall appear on the Final Plat that clearly describes the ownership and maintenance responsibilities for any public or non-public common areas.

N) The following statement shall appear on the Final Plat unless noted in the form of a deed restriction by the developer of a subdivision.

"Building setbacks will be determined by current applicable zoning regulations or districts."

The applicant shall also submit copies of any deed restrictions on the design of housing units within Open Space and Cluster Subdivisions to demonstrate compliance with the requirements of Section 402. This information should address design items such as landscaping, roof styles, porches, size and placement of housing units, orientation of entryways, location and orientation of garages, and the location of any off-street public parking spaces.

O) When the subdivision is being developed under Planned Unit Development (PUD) Overlay Zone or Residential Cluster Development (RCD) Overlay Zone of the Zoning Regulations, the date of approval of the Concept Development Plan shall be entered on the plat along with all restrictions and conditions, which are a part of the Concept Development Plan approval, shall be recorded in the Miscellaneous Book in the Clerk's office.

P) Certificate and seal of the Kentucky licensed Professional Land Surveyor, who is responsible for the survey that the plat represents (Appendix A).

Q) A signed and notarized certificate of the owner(s) indicating adoption of the plat and dedication of the streets, easements, and any other public areas (Appendix B). This certificate shall be signed prior to the plat being signed by an officer of the Planning Commission or at a minimum the application form for Final Plat review shall bear the signature of the property owner. When a parcel adjoins either an existing or proposed arterial, collector, subcollector or local public street, one half the right-of-way as prescribed by Section 405 shall be dedicated and shown on the plat. This right-of-way is measured from the centerline.

R) Reference to the current Deed Book(s) and Page Number(s) as to the transfer to the current owner(s) of all property that is a part of the subdivision or section thereof. If the reference is of more than one tract, the tract line with current deed references shall be shown on the plat.

S) Certificate of approval of the Planning Commission (Appendix C).

T) Reserved blank space for the Campbell County Clerk’s recording stamp (Appendix D).

U) Certificate of the approval of public streets, storm sewer line(s), public water and sanitary sewer lines(s) by the appropriate agency or legislative body, if applicable (Appendix F). This also includes executing a written agreement or guarantee to cover the cost of properly installing the proposed improvements.

V) A final copy of any Homeowners Agreement document which deals with the future

maintenance of sidewalks, streets, open areas, recreational lands, street lighting, private utilities, and other items. At a minimum, the Homeowners Agreement document should include membership names, fee or dues structure, estimated cost for future maintenance items, a detailed list of maintenance items, a budget description and a description of ownership boundaries.

W) For subdivisions which involve on-site individual septic tank sewage disposal systems, this statement shall appear on the Final Plat.

"Plat approval for building development and/or alteration of existing systems on each lot is contingent upon the issuance of a sewage construction permit and inspection by the local and/or state health board or district."

X) For subdivisions which involve private on-site sanitary sewage treatment plants, the following statement shall be placed on the Final Plat.

"The sanitary sewer lines and the sewage treated at the plant will be owned and operated by. The sanitary sewer lines will be maintained by and the sewage treatment plant will be maintained by."

Y) Show the location and dimensions of a cemetery if it exists on the site, and the required 30 foot exclusive cemetery easement (see Article 4 Design Standards).

Z) The following statement shall appear on the plat:

"This plat shall be void if not filed with the Campbell County Clerk for recording purposes within two (2) years of Planning Commission approval."

AA) A record drawing of all public improvements, including location and surface and invert elevations of all accessible structures and final elevation of the bottom of all detention basins/retention ponds, shall be submitted to the Planning Commission with the submittal of the Final Plat.

BB) A digital copy of the Final Plat and record drawing of public improvements if the plat and record drawing were computer generated (in CAD, DWG, DXF or other format subject to approval from the Administrative Official).

SECTION 365
Final Plat Approval

A) Approval or disapproval shall occur within ten (10) working days from the date of submittal. Once reviewed and approved by Staff, the Chairman, Vice-Chairman, Temporary Presiding Officer, or designated employee of the Planning Commission will sign the approved copies and original drawing. If a request is denied, the reasons for denial shall be provided to the subdivider in writing. The basis for action shall be conformance with the applicable requirements of the Zoning Regulations and the Subdivision Regulations.

B) Upon Planning Commission approval, the owner shall forward a copy of the Final Plat will be forwarded to the Property Valuation Administration (PVA). The owner shall forward the original drawing to the Campbell County Clerk's office.

C) Approval of the Final Plat by the Planning Commission shall not constitute the acceptance by the appropriate legislative body of the public dedication or maintenance of any street or other facility nor shall it imply acceptance by the Campbell County Clerk for recording purposes.

D) A Final Plat shall be recorded in the Campbell County Clerk's office within one (1) year from the date of the Planning Commission's approval or else the Final Plat shall become void.

SECTION 370
Conveyance Plat Review Procedure

A) The provisions for Conveyance Plat Review and approval are intended to provide a convenient and expeditious process for the conveyance or transfer of land in a minor division of land from the parent tract as described in Section 300 of this document.

B) A Conveyance Plat can be used in situations where there is a minor division of land of five (5) buildable lots or less from the parent tract, since January 1, 1982, and when no public street improvements or utility improvements, nor the construction or upgrade of private streets, are required. Each lot intended for building or development purposes must still meet the minimum standards in each zoning district as stated on the Zoning Map and in the Zoning Regulations. This type of plat is intended to allow the division of a single buildable lot (maximum 5 lots) from a large tract for building purposes and for the casual sales of property, including the sale of property for non-buildable lots, when the imposition of the full subdivision procedure would be unnecessary.

C) Conveyance Plats may be submitted at any time to the Planning Commission for Staff review and approval by the Chairman, Vice-Chairman, Temporary Presiding Officer, or designated staff of the Planning Commission. Two (2) copies shall be required for submittal and an application. The application and Conveyance Plat may be submitted during the regular business hours of the Planning Commission.

SECTION 375
Conveyance Plat Requirements

Conveyance Plats are intended to graphically represent the information of a boundary survey of property that is to be subdivided and thus reviewed by the Planning Commission. The Plat shall conform to the following requirements and conform to the minimum standards in the Kentucky Revised Statutes (K.R.S. 322).

A) Date, north arrow, and standard engineering scale: not less than 1"=200' unless approved by the Planning Commission Staff. Plats may not be larger than 8-1/2" x 14".

B) Name, address and seal of the Kentucky licensed Professional Land Surveyor responsible for the survey plat preparation and the Land Surveyor's Certificate (Appendix A).

C) Boundary of the parcel and subdivision of that parcel, including bearings and distances of each tangent course, and all necessary data for curve courses. The traverse that the

boundary is depended on shall be in accordance with 201 KAR 18.150, and if requested by the Commission, closure documentation shall be submitted in addition to the plat.

D) Area in acres (accuracy of 0.001 acre) of the parcel; and remainder parcel if entire parent tract was surveyed.

E) Bearing and distance to a reference tie which may be the intersection of two dedicated right-of-ways, recorded subdivision corner, primary control network monument (i.e. state plane coordinates), or a corner to the parent tract that the parcel is a division from.)

F) Location and names of public or private right-of-ways that adjoin the boundary.

G) Encroachments discovered in the course of the survey.

H) Names and recording information of adjoining property owners and/or recorded subdivisions with section or phase number.

I) Current, legible vicinity map with an accurate scale.

J) Group number as established and published by the Campbell County Clerk's Office.

K) Statement by the applicant on whether the transfer will be used or is being used for building or non-building purposes (Appendix E).

L) Description of all monumentation, including notation as whether found or set, and the type of monument used in accordance with 201 KAR 18.150 (See Section 381).

M) When a parcel adjoins either an existing or proposed arterial, collector, subcollector or local public street, one half the right-of-way as prescribed by Section 405 shall be dedicated and shown on the plat. This right-of-way is measured from the centerline. A signed and notarized certificate of the owner(s) indicating dedication of this right-of-way shall be on the plat. A statement of dedication shall be on the plat (Appendix E).

N) Certificate for Planning Commission approval (Appendix E).

O) Show the location and dimensions of a cemetery if it exists on the site, and the required 30 foot exclusive cemetery easement (Article 4 Design Standards).

P) The following statement shall appear on the plat.

"This plat shall be void if not filed with the Campbell County Clerk for recording purposes within six (6) months of Planning Commission approval."

Q) A digital copy of the Conveyance Plat if the plat was computer generated (in CAD, DWG, DXF or other format subject to approval from the Administrative Official).

SECTION 380
Conveyance Plat Approval

A) Approval or disapproval shall occur within ten (10) working days from the date of submittal. Once reviewed and approved by Staff, the Chairman, Vice-Chairman, Temporary Presiding Officer, or designated employee of the Campbell County Planning Commission will sign the approved copies. If a request is denied, the reasons for denial shall be provided to the subdivider in writing. The basis for action shall be conformance with the applicable requirements of the Zoning Regulations and the Subdivision Regulations.

B) Upon approval by the Planning Commission, a copy of the Conveyance Plat will be retained by the Planning Commission. The remaining copies will be returned to the applicant or applicant's surveyor.

C) Approval of the Conveyance Plat by the Planning Commission shall not constitute the acceptance or recording of the plat in the County Clerk's office.

D) A Conveyance Plat shall be recorded in the Campbell County Clerk's office within two (2) years from the date of the Planning Commission's approval or else the Conveyance Plat shall become void.

SECTION 381
Monumentation

All monumentation for a proposed subdivision or development shall be in accordance with 201 KAR 18.150 with regard to material, size, shape, identification and minimum accuracies. All corners of the lots within the subdivision or section of, including individual lots, shall be monumented and shown, including notation as whether found or set, and the type of monument. Set monuments shall be placed prior to recording of plat. Setting of control within the streets (centerline pk's or x- notches, curb notches, etc.) may be used in lieu of lot front corner monuments prior to plat recording, but monuments must be set prior to issuance of "Final Occupancy Permit". All street control must be shown and labeled on plat.

SECTION 382
Condominium Property Regime Plats

In accordance with the Horizontal Property Law (KRS 381.805-381.910), whenever a developer, the sole owner, or the co-owners of a building or buildings constructed or to be constructed, expressly declare, through the recordation of a master deed or lease, a condominium property regime may be established. Once the property is submitted to the condominium property regime, a unit in the building(s) may be individually conveyed and may be the subject of ownership possession or sale and other acts as if it were sole and entirely independent of the other units in the building(s) of which they form a part and the corresponding individual titles and interest shall be recordable. It is the purpose of the condominium property regime plat to provide a process whereby two or more apartments, townhouses, rooms, office spaces, or other units in existing or proposed buildings or structures may be subdivided and offered or proposed to be offered for sale in accordance with requirements as established by these regulations. In order to be processed as a condominium property regime plat, the following requirements must be met in addition to other requirements of the subdivision regulations and applicable sections of KRS 381.805 to 381.910:

1. The proposed condominium project does not require Preliminary Plat, Improvement Plan

and Final Plat Reviews and public utilities are already in place.

2. The proposed condominium project will not involve the subdivision and conveyance of land with any unit within the condominium property regime for which other processes are available.

3. If condominiums are being proposed as part of Final Plat Review, the applicable regulations of this section shall apply.

Submission of Condominium Property Regime Plats

The developer shall submit to the Planning Commission ten (10) copies of the Final Plat drawing prepared in accordance with Article 2 of these subdivision regulations. In addition to other requirements of these regulations, the Final Plat shall show the location of the building or buildings proposed for the condominium project. Simultaneously, with the submission of the Final Plat, there shall be attached ten (10) copies of a set of floor plans of the building or buildings in accord with KRS 381.835 bearing the certification of a registered architect or professional engineer.

At this time, the following information shall be filed with the Planning Commission:

1. Application for Condominium Property Regime Plat Approval: An application form provided by the Commission, shall be submitted at the time of filing for Condominium Property Regime Plat approval.

2. Master Deed or Lease: One (1) copy of the master deed or lease, in accord with the requirements of KRS 381.835 to 381.837.

3. Condominium Property Regime Plat Fees: Plat fees shall be submitted the same as for Final Plats, in accord with Article 1 of these regulations.

4. A digital copy of the Condominium Property Regime Plat if the plat was computer generated (in CAD, DWG, DXF or other format subject to approval from the Administrative Official).

Prior to the construction of a planned condominium development, the following review procedures shall be followed:

1. Public improvements associated with a condominium development (public water mains, sanitary sewer mains, etc.) shall be reviewed through the Improvement Plan procedure.

2. Private improvements associated with a condominium development (placement and height of buildings, parking improvements, etc.) shall be reviewed through the Site Plan procedure as described in the Zoning Regulations. The Site Plan application and any necessary Improvement Plan application shall be submitted for review concurrently. A Preliminary Plat application is not required if the proposal does not involve the creation of tracts of land, construction of public streets, and/or the dedication of right- of-way. With the exception of setback requirements along internal public rights-of-way, the overall development site for multi-building condominium developments (versus individual buildings or lots within the overall development site) shall be evaluated for compliance with the applicable density/ intensity, setback, and parking requirements outlined in the Zoning Regulations.

Processing of Condominium Property Regime Plats

The Planning Commission shall review the condominium property regime plats for conformance to the applicable requirements of Article 3 of these subdivision regulations and KRS 381.805 to 381.910. If approved and signed by an officer of the Planning Commission, the original condominium property regime plats shall be recorded simultaneously with the master deed or lease in the County Clerk's office as required by Campbell County.

SECTION 385

Grading Plan Review Procedure

A) An application for a Grading Plan may be submitted after approval of a Preliminary Plat but before the submittal of an Improvement Plan. The Grading Plan shall be limited in its scope to grading and storm sewer work. The Grading Plan shall not include final engineered drawings for streets, water lines, and sanitary sewer lines.

B) The subdivider or applicant shall submit ten (10) copies of the completed Grading Plan to the Planning Commission during normal business hours. Grading Plan applications are reviewed and approved by the Planning Commission's staff.

C) Once the Grading Plan has been approved by the Planning Commission, the subdivider or applicant has one (1) year from the date of the approved Grading Plan to begin and to complete the work as stated in the Grading Plan or the Plan shall become null and void.

SECTION 390

Grading Plan Requirements

Upon the approval of the Preliminary Plat, the developer of a proposed subdivision or property owner may submit a Grading Plan of the proposed subdivision or section thereof for review by the Commission's Staff. Based upon the submitted grading plan, the Planning Commission may request utility information from other phases of a subdivision if it impacts the site under review. The grading plan shall be designed by a Kentucky licensed Professional Engineer and installed in accord with these and other applicable regulations, and shall contain the following information:

a) The name of the proposed subdivision or development.

b) Names and addresses of owner or developer of the subdivision and the Kentucky licensed Professional Engineer, responsible for all of the improvements. The plan shall be certified with the seal of the Engineer.

c) A vicinity map showing the proposed location of the subdivision in relation to major or minor roads in the area, and the boundaries of the phase or phases under review relative to the entire subdivision. The vicinity map shall have an approximate scale.

d) The plan shall be to a scale of not less than one inch (1") equal to fifty feet (50'). On large lots, this scale may be used to show just the graded portion of the lots and improvements. A graphic and written scale shall be placed on each sheet of the plan.

e) The date shall be on the cover or first sheet of the plan, and a north arrow shall be on all sheets of the plan.

f) The boundary of the subdivision or section of subdivision under review shall be indicated by a heavy, solid line on one sheet of the plan at a standard scale to show the location of section under review with other sections of the subdivision. All subdivision boundary lines shall be labeled with the bearing and distance.

g) Location, right-of-way width, and name of all existing or recorded streets, railroads, and public and private utility easements (including drainage easements), public parks and open spaces; buildings (labeled "to remain" or "to be removed"); incorporation, county and state lines; cemeteries (see Article 4 design standards) and other historical landmarks or natural features.

h) Location and size of all existing utilities (public and private) within or adjacent to the subdivision or project area.

i) Existing contours with intervals of not more than two feet (2') shall be clearly marked with elevations based on mean sea level (U.S.G.S. Datum) and location and description of benchmark used.

j) A general location of any proposed streets and detailed plans of any storm sewer facilities to be installed at time of grading. (See Design Standards Section 425.)

k) Show boundaries of Buffer Zones along designated creeks as defined in Section 425.

l) Proposed finished contours with intervals of not more than two feet (2') shall be clearly labeled, and related to existing contours. Maximum grade for any excavated (cut or fill) slopes shall be 2 ½:1 (2 ½ feet horizontal for each 1 foot vertical), and the design slope shall be labeled on the plan. Engineered slopes may be steeper upon report by a geotechnical engineer (see Article 2 - Definitions Section) and approved by the Planning Commission. For all residential subdivisions, the front door floor elevation and drainage arrows shall be labeled for each building lot. For open space subdivisions, a detailed drainage plan shall be included for all building lots. Disturbed limits shall be clearly identified on the submitted plan and in the field.

m) Location of erosion and sediment control facilities shall be shown on the plan, with detail drawings of each type of facility being used. The detailed soil erosion techniques or features may be referenced on the plan in accordance with the Street and Storm Drainage Construction Specifications and submitted Best Management Practice document. All excavated slopes shall be seeded and mulched immediately upon completion of grading of that particular slope, and right-of-ways shall be seeded and mulched within sixty days (60) of the Planning Commission's approval of the final plat of that section.

n) Additional documentation or information such as geotechnical studies may be required by the Planning Commission if an applicant is proposing to make improvements on property located near or in areas classified as hillsides by Section 9.23 "Hillside Development Controls" of the Zoning Regulations. Areas which are classified as hillsides are subject to the requirements of the Hillside Development Controls section through the Preliminary Plat and Improvement Plan procedures, and Grading Plan procedure if applicable.

o) A digital copy of the Grading Plan if the plan was computer generated (in CAD, DWG, DXF or other format subject to approval from the Administrative Official).

SECTION 395
Grading Plan Approval

A) Approval or disapproval shall occur within ten (10) working days from the date of submittal. If a request is denied, the reasons for denial shall be provided to the owner in writing. The basis for action shall be conformance with the applicable requirements of the Zoning Regulations and the Campbell County Subdivision Regulations.

B) The Grading Plan will not serve as a replacement or substitute for the Improvement Plan.

C) Once the Grading Plan has been approved by the Planning Commission, the subdivider or applicant has one (1) year from the date of the approved Grading Plan to begin and complete the work as stated in the Grading Plan or the Grading Plan shall become null and void.

ARTICLE 4

DESIGN STANDARDS FOR SUBDIVISION REVIEW

SECTION 400
Introduction

The following design standards are intended to assist a developer or property owner in creating a subdivision and meeting the purposes of subdivision regulations. These standards are to be used in preparing a Preliminary Plat, Improvement Plan, Grading Plan, Final Plat and Conveyance Plat. The design standards generally conform to the "Goals and Objectives" section of the Campbell County Comprehensive Plan.

The purpose of these standards is to establish minimum design and improvement standards which will be required as a pre-condition to development or in conjunction with development for lots, streets, utilities, and other physical elements of a subdivision or development. The developer's engineer (Kentucky Registered) shall design these aspects of the subdivision or development and the Campbell County Planning Commission's Staff shall review them.

These design standards also present the opportunity for a developer or property owner to choose one of three types of residential subdivision layout within an existing zoning district as described in Section 402. The developer or property owner has the option of following either a Conventional, Open Space, or Cluster Subdivision layout; however, it is recommended that the latter two options be discussed with Planning Commission Staff before application to insure that the proposed subdivision meets the applicable requirements.

THE DESIGN AND CONSTRUCTION OF STREETS AND WATER, SANITARY SEWER, AND STORM WATER UTILITIES SHALL BE IN ACCORDANCE WITH THE CURRENT CITY/COUNTY STREET, STORMWATER AND SIDEWALK SPECIFICATIONS AND THE APPROPRIATE WATER AND SANITARY SEWER SPECIFICATIONS. A COPY OF THE CURRENT CITY/COUNTY STREET, STORM, AND SIDEWALK SPECIFICATIONS IS PART OF THIS DOCUMENT AND IS LOCATED IN THE REAR OF THIS DOCUMENT.

SECTION 402
Open Space, Cluster and Conventional Residential Subdivision Design

A. Subdivision Name

Subdivision names shall not duplicate or too closely approximate phonetically the name of any other subdivision or development in Campbell County unless it is an extension or expansion of an existing subdivision. The name of a subdivision shall follow the same name during each subdivision review stage. Changes to subdivision names can only occur at the Preliminary Plat and Improvement Plan review stages upon Planning Commission approval. If an existing subdivision name is being proposed to change and the Final Plat for the subdivision and phase or section is recorded in the Clerk's office, the developer of the subdivision or applicant shall follow the revocation requirements as set forth in KRS 100.285. The Planning Commission shall approve all subdivision names.

B. Open Space and Cluster Residential Subdivisions

These regulations are intended to provide for the development of residentially and agriculturally zoned property in Open Space or Cluster Residential Subdivisions as an alternative to Conventional Subdivisions. A Conventional Subdivision generally covers the entire buildable portion of a site with residential lots. Both Open Space and Cluster Residential Subdivisions permit the same overall gross density of total dwelling units per total acres and the same permitted uses as a Conventional Subdivision under the existing zoning district, however lot dimension and setback requirements are less restrictive. This permits greater unit per acre net densities on portions of the site and permits the same maximum number of dwelling units as would be permitted under a Conventional Subdivision. Both types of subdivision designs may enable more dwelling units than could normally be achieved for a Conventional Subdivision. Open Space Residential Subdivisions are permitted under certain standards within the A-1 and R-RE zoning districts. Cluster Residential Subdivisions are permitted under certain standards within the R-1A, R-1B, R-1C, R-1CC, R-1D, R-1DD, R-1E, R-1F, R-1G, R-1Gh, and R-1H zoning districts. The remnant land not designated as building lots is required to be left undeveloped, and must serve the purpose of effective buffering, passive recreation, protection of significant vegetation, significant historic preservation or scenic qualities.

The potential applicant should advise Planning Commission staff at pre-application meetings for Preliminary Plat Review if he/she intends to submit a plan designed to meet the Open Space or Cluster Residential Subdivision requirements. This will affect the dimensional standards and open space standards which the proposed subdivision will be required to meet. A subdivision designed under either of these two options will also likely result in a greater built density than most Conventional subdivision designs for the same site. The Open Space Residential Subdivision is permitted in relatively low density zoning districts, and is generally intended to promote a rural character. Therefore, a three step process is described in these regulations to make sure the proposed development meets the intent of conserving open space and benefitting individual home sites. The Cluster Residential Subdivision is intended to allow the clustering of dwelling units within the more dense residential zoning districts to enable cohesive, visible, and accessible open space that noticeably affects the character of the subdivision and addresses the impacts of the increased density on portions of the site.

Open Space Residential Subdivisions (within A-1 and R-RE Zoning Districts)

The intent of permitting Open Space Residential Subdivisions within the Subdivision and Zoning Regulations is to preserve open space in Campbell County while permitting smaller lots with narrower frontages, better topography, and larger buildable area in the A-1 and R-RE zoning districts. Flexibility in street and right-of-way width and sidewalk requirements for genuine Open Space Residential Subdivisions are addressed in the Campbell County Subdivision Regulations, while lot dimension and building setback requirements are addressed in Zoning Regulations.

Instead of the conventional subdivision design process where the site is initially engineered, a joint design process occurs where staff and the applicant work collaboratively to prepare an Open Space Subdivision design. This is achieved through a three step process which includes meetings between the applicant and Planning Commission staff. The Open Space Subdivision design process is not required in any zoning district and is purely voluntary on the part of the property owner and/or developer. Certain design standards specified below are required for the subdivision to be approved as an Open Space Subdivision. If these standards cannot be met, the proposed lots within the subdivision must meet minimum conventional lot sizes and other dimensional standards of the applicable zoning district(s) and be reviewed as a conventional subdivision.

The three step design approach described below is to be used for Open Space Subdivision applications:

Step One - Identifying Primary and Secondary Conservation Areas

This step consists of identifying the land that should be permanently protected as private open space, which includes the Primary and Secondary Conservation Areas. Primary Conservation Areas include constrained lands (including inundated or flood prone areas and areas of slope greater than 20% - see Figure 31.1), river and stream corridors, and any areas within the Developmentally Sensitive Future Land Use Classification as described in the Campbell County Comprehensive Plan text (i.e., existing slope of twenty percent or greater for a height of 20 meters or more; 1 meter = 39.37 inches). The exact extent of the Developmentally Sensitive area is determined by site analysis and not from the general Future Land Use map. Secondary Conservation Areas (see Figure 31.2) include amenity-forming features of the property such as mature woodlands, greenways, trails, prime farmland, hedgerows, individual free-standing trees or tree groups, wildlife habitats and travel corridors, historic sites and structures, historic stone fences, cemeteries, scenic viewsheds, stream buffer areas, etc.

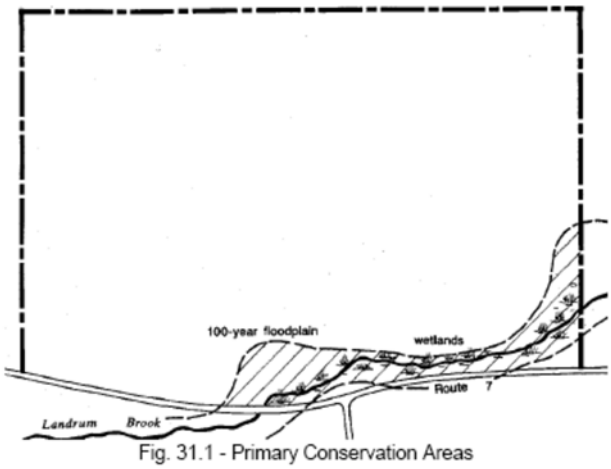


Fig. 31.1 - Primary Conservation Areas

Step Two - Identifying Potential Development Areas

After determining these conservation elements, the remaining part of the property provides an estimate of the Potential Development Area (see Figure 31.3). In an Open Space Subdivision, the number of permitted units is based on the overall total site acreage multiplied by the permitted density in the zoning district(s).

Step Three - Locating Streets, Lot Lines and Housing Sites

This step involves locating and drawing in the streets, lot lines and housing sites within the Potential Development Area so that the views of the open space from each house are maximized and access to open space is maximized (Figure 31.4 and 31.5). The number of houses permitted is calculated by the gross site density permitted within the zoning district(s) for the entire site.

Standards

The following standards must be met by an Open Space Subdivision design:

1. Layout:
   - Individual building lot frontage must be on the interior road network.
   - Each residential dwelling unit shall have a view of functional open space from the front or rear of the unit.
   - The development shall contain central, visible, and accessible open space.
   - Open space must be connected throughout the development by sidewalk or path.
   - Maintain view of open space from the existing main road into the site. The design shall buffer views of the dwelling units, particularly rear elevations, from the existing thoroughfare.
   - Provide entry treatment, including natural vegetation buffering as preferable to berming, along the property frontage.
   - Adjacent to existing single family residential units, Open Space Subdivision building setbacks from the development boundary must mirror the required minimum setbacks of the existing adjacent zoning district.
   - Wet stormwater retention areas may qualify for open space for the purposes of density calculation if properly designed to accommodate recreation.

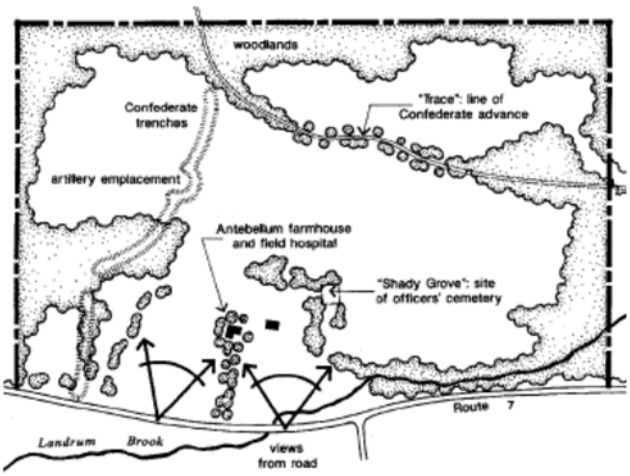


Fig. 31.2 - Secondary Conservation Areas

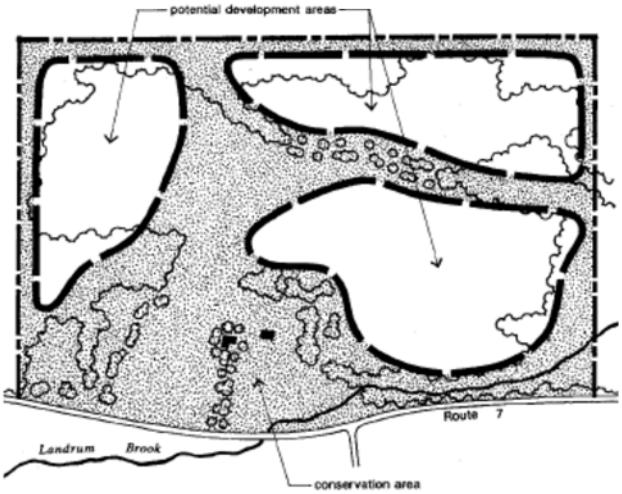


Fig. 31.3 - Potential Development Areas

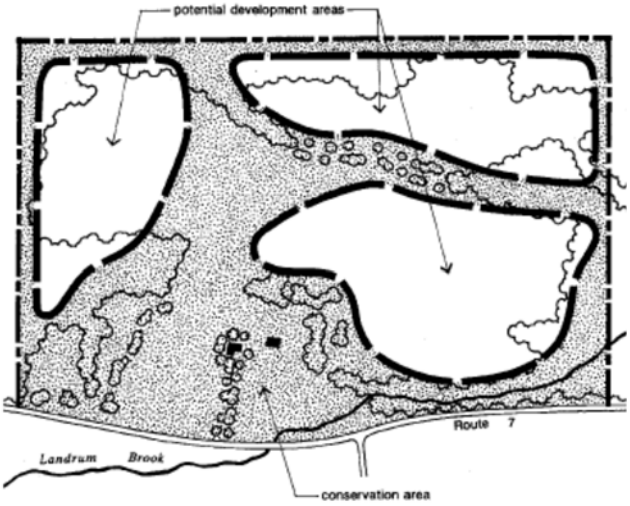


Fig. 31.4 - Locating Housing Sites

- Sidewalks are required on one side of any street with residential lots fronting on it. Proper pedestrian crossings must be provided where sidewalks switch sides of a street. A path or trail can be substituted for a sidewalk requirement if demonstrated to serve the same function. Trails and paths that substitute for a sidewalk must meet all disabilities requirements and standards.
- Undevelopable or undesirable areas shall not constitute open space areas for an Open Space Subdivision if they do not serve such a function. It is the responsibility of the developer to demonstrate that the open space areas can serve one of the required uses, and is not just an attempt to increase density by accounting for undevelopable or undesirable land.
- The use of native tree and grass vistas and buffers is encouraged as an alternative to higher maintenance landscaping and ornamental plantings.
- Conserve a stream setback as outlined in these regulations, or as guided by the Campbell County Conservation District based on stream classification.

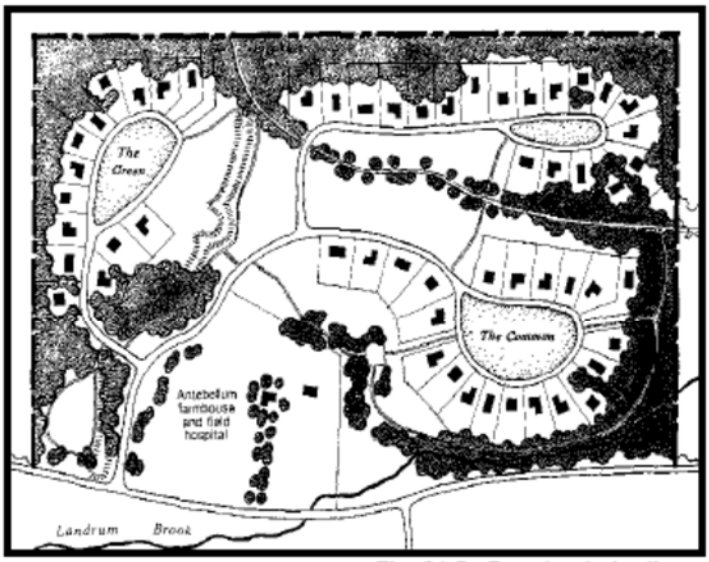


Fig. 31.5 - Drawing in lot lines.
Illustrations from Conservation Design For Subdivisions by Randall Arendt (1996).

2. Gross Density: Any Open Space residential subdivision shall be developed within the maximum permitted intensity of total dwelling units per total acreage (total acreage of the size divided by the minimum lot area [per the Zoning Regulations]). Open Space subdivision design may allow a developer to attain the full permitted density on a site under the existing zoning whereas normal site constraints and infrastructure needs typically result in a lower gross density potential for a conventional subdivision design.

3. Net Density: The maximum density of a portion of a Conventional or Open Space Residential Subdivision shall be governed by the minimum lot sizes/areas permitted in the zoning district as described in the Zoning Regulations.

4. Minimum Size of Open Space Residential Subdivision: Open Space subdivisions shall incorporate a minimum of six contiguous lots which is consistent with the definition of a major division of land within the Campbell County Subdivision Regulations.

5. Open Space Areas: All subdivisions are encouraged to provide non-development areas for the purpose of preserving open space. Open Space Subdivisions are required to provide a combination of Primary and Secondary open space that totals at least forty percent (40%) of the total site. The proposed open space areas shall be treated as permanent open space, and cannot be developed in the future. Open space areas shall be functional in terms of providing realistic areas that provide for passive recreation, scenic views, protection of significant vegetation, significant historic preservation, private cemeteries, or effective buffering. These areas can be used for pasture land, crops, and tree production. Related recreation structures and agricultural outbuildings are permitted in the open space area. They also can serve the septic leach area needs of an Open Space Subdivision upon review and approval of the appropriate regulating agency. Utility easements are permitted to be located within Secondary

Conservation Areas, but not in Primary Conservation Areas. It is particularly important during Step 1 of the design process to make sure open space suits this objective and does not result in inaccessible, invisible perimeter strips that create maintenance issues. If the proposed development cannot meet the minimum percentage open space requirement for Primary and Secondary open space, pocket parks or stormwater retention/detention areas can qualify when designed as suitable private or Homeowner's Association (HOA) recreation space. At a minimum, private pedestrian access to the open space areas shall be provided.

The open space portions of any subdivision shall be clearly designated during subdivision review, and referenced in a Certificate of Land Use Restriction filed at the Campbell County Clerk's office. They shall be protected from development by an appropriate private restrictive covenant, scenic or conservation easement, or homeowner's agreement. The ownership and responsibility for continued maintenance of the open space areas is also required. These documents shall be submitted at the Final Plat review, and shall demonstrate long term financial stability of the proposed HOA.

Cluster Residential Subdivisions (within R-1A, R-1B, R-1C, R-1CC, R-1D, R-1DD, R-1E, R-1F, R-1G, R-1Gh, and R-1H Zoning Districts)

Design Concepts

The intent of Cluster Residential Subdivisions is to provide highly visible and functional open spaces within residential subdivisions, and to allow the developer flexibility in lot size and dimensions to achieve these objectives. This type of subdivision will often allow the developer to build higher dwelling unit densities than normally experienced under conventional subdivision design by using reduced lot size and setback requirements.

A Cluster Residential Subdivision will incorporate amenity-forming features of the property such as mature woodlands, stream valleys, trails, meadows, hedgerows, groups of prominent trees, notable wildlife habitats, historic sites and structures, historic stone fences, cemeteries, scenic views, etc. to provide interconnected, usable open space. In the design of the proposed subdivision, these types of features will be examined as to their connections within the site as well as to adjacent existing or future development if agreed to by the property owner.

Standards The following standards must be met by a Cluster Residential Subdivision design:

1. Layout:

- Individual building lot access must be on the proposed development's interior road network.
- The development shall contain visible, and accessible private open space that makes a visual difference at street level. Small, fragmented open spaces are not desirable.
- Open space is recommended to be connected throughout the development by sidewalks and/or paths.
- Stream buffer areas and groundwater infiltration areas may provide an opportunity for the developer to achieve mitigation credits for use on the subject site or another site as arranged with the pertinent agencies.
- Open space should be designed to coordinate with adjacent parcels and future development if agreed to by the neighboring property owner.
- Wet stormwater retention areas and lakes may qualify for open space for the purposes of density calculation if properly designed to accommodate recreation.

- A sidewalk is required on each side of the street with residential lot frontage. Proper pedestrian crossings must be provided where sidewalks switch sides of a street. A path or trail can be substituted for a sidewalk requirement if demonstrated to serve the same function. Substituted trails and paths must meet all disabilities requirements and standards.
- Undevelopable, undesirable, or inaccessible areas shall not constitute open space areas for an Open Space or Cluster Residential Subdivision if they do not serve as a usable open space, a prominent green vista, or buffer from an adjacent site or thoroughfare. It is the responsibility of the developer to demonstrate that the open space areas can serve one of the required uses listed below, and is not just an attempt to increase density by accounting for undevelopable or undesirable land.
- The use of native tree and grass vistas and buffers is encouraged as an alternative to higher maintenance landscaping and ornamental plantings.
- There is no minimum front yard setback requirement on local streets when lots are rear-loaded, otherwise the front setback specified in the Zoning Ordinance is required to safely allow vehicle parking between the public sidewalk and the house. The front yard setback must vary by at least 5 feet from house to house to create a staggered appearance to the streetscape.
- Side yard setbacks must be sufficient to allow adequate drainage provisions, especially between houses. The use of temporary construction easements to ensure proper drainage, fence construction, and similar items may be necessary.
- There is no minimum rear yard setback requirement, with the following exception: the rear setback of lots located along the perimeter of the subdivision must meet the larger minimum rear setback requirement of either the site zoning district or the zoning district of the adjacent property. Depending on adjoining uses and close proximity, an additional landscape buffer may be required.
- Open Space at the perimeter of a Cluster Residential Subdivision qualifies toward the Minimum Open Space Area Percentage only if it is oriented to serve the subdivision and of sufficient width. Fence and landscaping details are required in these instances.
- Extra vehicle parking in the form of mid-street islands, “eyebrows”, or similar method is required when overall density of the site exceeds three dwelling units per acre.
- A 25 foot street pavement with parking is required for all local streets, cul-de-sacs, and courts, although a waiver may be considered to allow a narrower court when it serves six or less lots and additional off-street parking is provided beyond that required for each dwelling unit.
- At Improvement Plan stage, the developer must provide documentation of the organizational and financial viability of the home owner’s association, including a proposed budget for review by the Planning Commission staff.
- A portion of the proposed open space shall be designed to provide for stormwater infiltration and for future low cost maintenance native grass or rain garden areas. The developer can pursue a stormwater credit or wetland mitigation credit for natural infiltration areas.

2. Gross Density: In a Cluster Residential Subdivision, the number of permitted dwelling units on a site is based on the zoning density allowed for the total acreage of the site. It is calculated by multiplying the number of units permitted per acre in the existing zoning district by the total site acreage. Cluster Residential subdivision design may allow a developer to attain a greater overall density on a site under the existing zoning whereas normal site constraints and infrastructure needs typically result in a lower gross density potential for a conventional subdivision design.

3. Net Density: The maximum density of a portion of a Cluster Residential Subdivision shall be governed by the minimum lot sizes/areas permitted in the zoning district as described in the Zoning Regulations.

4. Minimum Size of Cluster Residential Subdivision: Cluster Residential Subdivisions shall be a minimum of 20 acres.

5. Open Space Areas: All subdivisions, including conventional design, are encouraged to provide non-development areas for the purpose of preserving open space. Cluster Residential Subdivisions are required to provide at least forty percent (40%) of the total site as open space. The proposed open space areas shall be treated as permanent open space, and can not be developed in the future. Open space areas shall be functional in terms of providing realistic areas that provide for passive recreation, scenic views, protection of significant vegetation, significant historic preservation, private cemeteries, wetland mitigation, stream mitigation, or effective buffering. These areas can be used for pasture land or cropland. Recreation structures and utility easements are permitted in the open space areas. It is particularly important during Step 1 of the design process to make sure open space suits the objectives of this article and does not result in inaccessible, invisible perimeter strips that create maintenance issues.

   A Cluster Residential Subdivision offers flexibility in lot size and building setbacks, and to help address this impact, it must include a minimum 30% of the total area of the site as open space, and provide at least two of the four open space types described below. More than one of each type can be provided in the subdivision to help reach the minimum open space area on the site. Ponds and groundwater recharge areas can be counted toward the required open space percentage. Dry detention and wet retention areas can also be counted if they are “extended” basins with an increased capacity and perimeter vegetated recharge areas. Typical dry detention basins do not count toward the required open space percentage. Street trees must be of a large canopy variety suitable for this climate and acceptable to the owner of the street, and measure three inches in caliper size when installed. Playground minimum specifications shall meet National Recreation Standards for the proposed number of dwelling units/population within the development.

   For the purposes of this article, four main types of open space are considered to meet the development impacts:

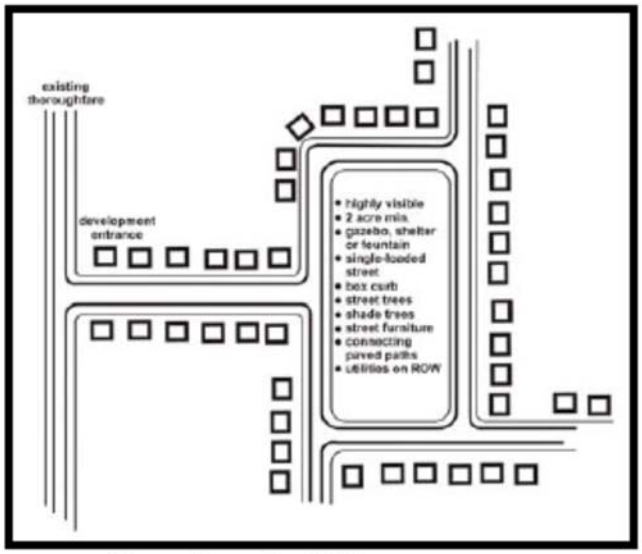
   Open Space
   Village, corner, side, and court green(s)
   Neighborhood corner park(s)
   Green boulevard street(s)

Open Space

A linear, non-fragmented area established along a natural corridor, such as a stream valley, or along a manmade feature such as an old roadway converted to a recreational use, or along a fence row or other connecting feature. Open Space may be a part of a future network that provides recreational, transportation, ecological, and property value benefits. A Cluster Residential Subdivision will have a minimum of thirty percent (30%) open space if trails are not constructed through the usable length of the planned open space, while the subdivision can have a minimum of twenty percent (20%) open space if the developer commits to building paved connecting trails throughout the open space. Main spine trails should be ten feet wide, while intra-development connecting trails should be eight feet wide. This open space type is required in the subdivision design when a suitable stream valley, meadow, or tree pattern exists, or the site forms part of a planned or existing trail network. Connections to sidewalks within developments must contain a wide or flared shape to the parcel to avoid narrow strips between houses, and must contain entry features such as landscaping, decorative fencing, planted mounds, lighting, and/or decorative trailhead signage. Suitable existing vegetation areas that will be retained can be applied toward the 30% (20% with trail construction) required open space. Construction/installation of the parks must be complete no later than when the development is 75% complete/final platted. Following are three examples of open space that meet the intent of these regulations:

Village Green

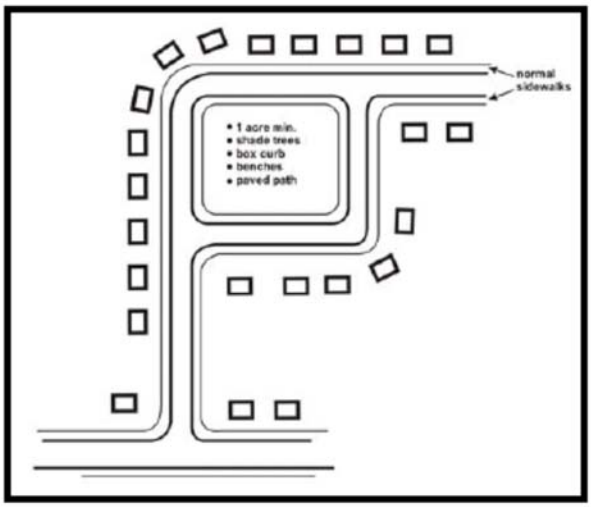
This feature is a formal two-acre minimum community landscaped island and tree plantings within the center of a street or offset open space within an entrance or major street of the development. It shall include as a minimum: an open shelter type structure such as a gazebo, a fountain or similar focal point, single-loaded street with sidewalk around the perimeter, box curb design, street trees around the perimeter, and appropriate paved pedestrian access to the structure(s). The emphasis should be on a grass commons type of area with shade trees rather than landscaping that is expensive to maintain. No utility boxes, manhole lids or similar should be located in the Green. One example of a Village Green is attached:



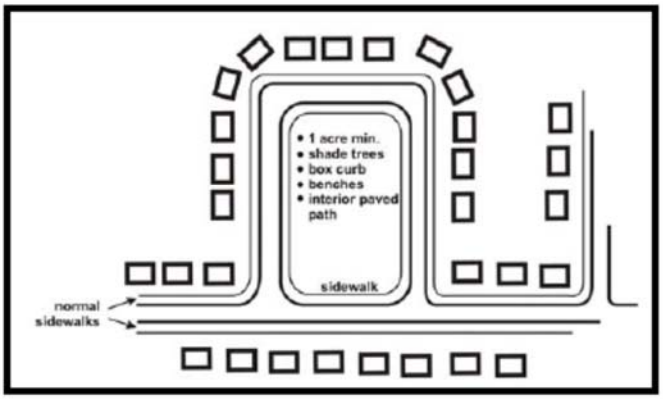
Drawing 1 - Village green

Corner, Side, and Court Greens

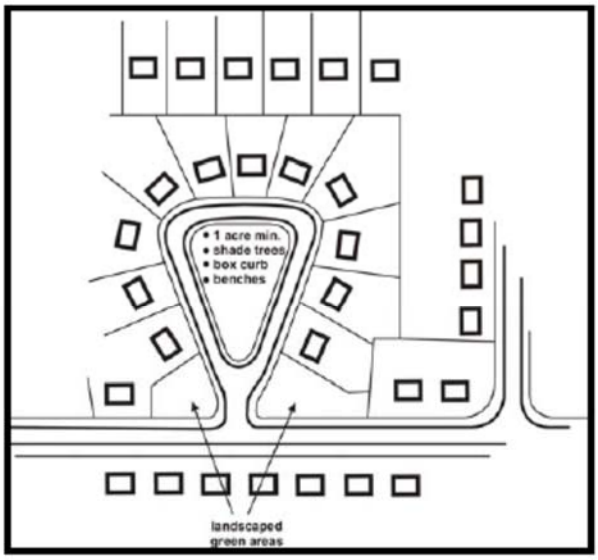
These features can be smaller than the formal Village Green and can occur within the back streets of a development. They include shade trees, benches, paved connecting paths, box curbs at the street. Groundwater recharge can be designed into these features. No utility boxes, manhole lids or similar should be located in these areas.



Drawing 2 - Corner green



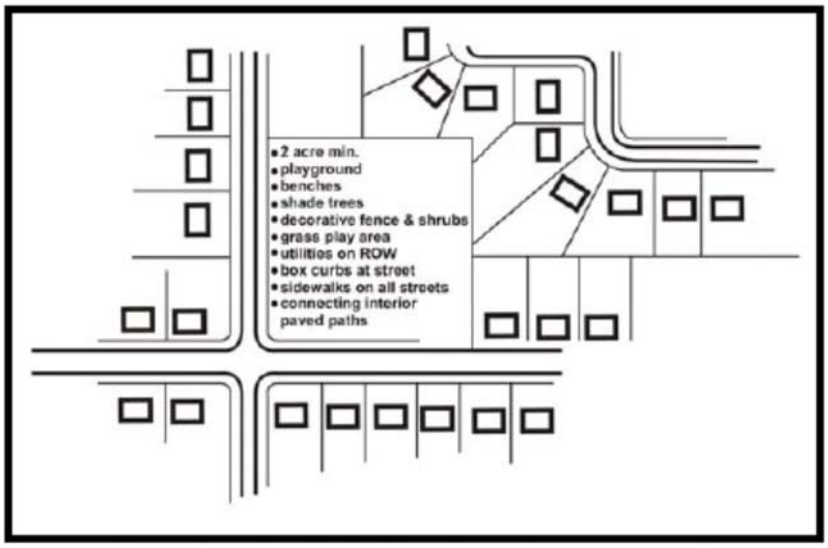
Drawing 3 - Side green



Drawing 4 - Side green

Neighborhood Corner Park

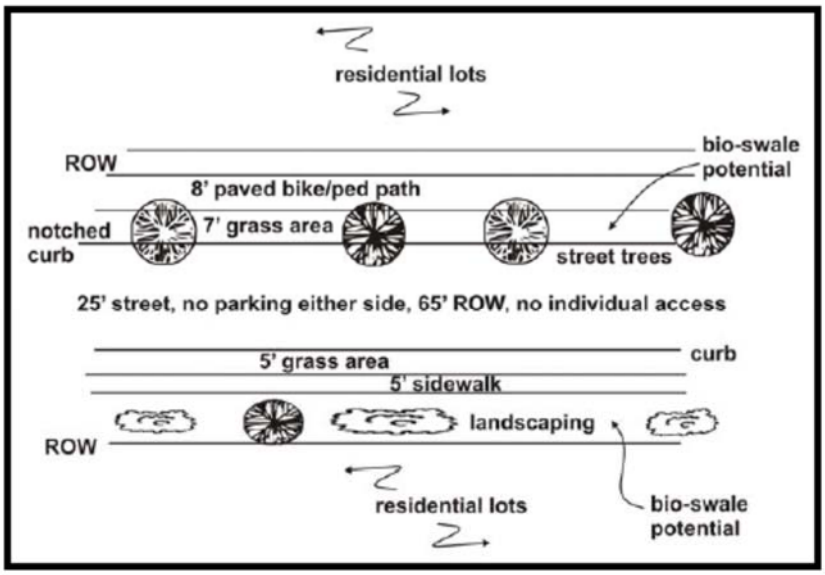
This type of open space is a two-acre minimum neighborhood style park that is highly visible within the residential fabric. It shall contain as a minimum: a significant playground facility, a sidewalk along the adjacent streets, paved pedestrian paths to serve the playground, benches, and shade tree plantings. The adjacent street contains box curbs along the park. Decorative fence is required along all adjoining residential lots.



Drawing 5 - Neighborhood corner park

Green Boulevard Street

This option contains a minimum 65 foot wide right of way which has landscaping, and pedestrian/bike routes on both sides of the roadway. The street contains no individual driveway access. Streetscape improvements are required and must be detailed. These shall include as a minimum: street trees or trees near the right-of-way edge, decorative fence or berms, and wider grass areas than on a typical subdivision streetscape. The green areas along this street need to be HOA maintained, however, the developer can receive open space credit for the entire right-of-way of the subject street including the street area itself.



Drawing 6 - Green boulevard street

The open space portions of any subdivision shall be clearly designated during subdivision review, and clearly described with use restrictions referenced on a Final Plat filed at the Campbell County Clerk's office. They shall be protected from development by an appropriate restrictive covenant, scenic or conservation easement, public dedication, or homeowner's agreement. The ownership and responsibility for continued maintenance of the open space areas is also required. HOA documents shall be submitted at the Improvement Plan and Final Plat review stages, and shall demonstrate long term financial stability of the proposed HOA.

SECTION 405
Street Design

A) Street Names - Proposed streets, which are in alignment with other existing streets, shall bear the names of existing streets unless separated by an intersecting collector or arterial street, or a legislative or fire district boundary. In no case shall the name of a proposed street duplicate an existing street name, irrespective of the use of the suffix street, road, lane, avenue, boulevard, way, place, or court, nor shall a proposed street name phonetically approximate the name of any existing or approved street name in Campbell County. Proposed street names are added to a master list or index in order to reserve these names when the Preliminary Plat is approved. Street names on Improvement Plans and Final Plats shall follow the approved names listed on the Preliminary Plat unless approved through a subsequent review by the Administrative Official. If street names are changed in comparison with the approved Preliminary Plat, then a revised Plat shall be submitted within thirty days of the name changes reflecting the approved changes for the Planning Commission's and the appropriate legislative unit's files.

Street names on previously recorded plats can be changed but only if a subdivider or applicant formally requests it from the appropriate legislative body for a public street or from the Campbell County Planning Commission for a private street. The Final Plat shall also be amended to reflect the new street name.

B) Building/House Addresses - Building/House addresses shall be assigned by the Administrative Official once a final plat has been approved by the Planning Commission and upon an application for a Zoning Permit from the Planning Commission and a building permit from the Campbell County Planning, Zoning & Building Department. Temporary addresses may be assigned for permits issued prior to approval of a Final Plat pursuant to Section 300(b) of these regulations.

C) Transportation Management Regulations - All subdivision proposals shall follow the requirements of Appendix "T" Transportation Management Regulations of the Subdivision Regulations. Appendix "T" describes in detail Transportation Management Regulations, which include classification of roadways, minimum spacing of driveways, minimum corner clearance of driveways, minimum sight distances, maintaining capacity of roadways, design of access points (e.g. number, location, coordination, consolidation, and spacing), turning lanes, frontage roads, the review procedure and waiver of requirements.

D) Street Lights - When required by the applicable legislative body, the subdivider or developer of the subdivision will provide street lighting poles, accessories, and the necessary easements, at the subdivider's expense, and in accordance to the specifications of the applicable legislative body and appropriate utility company. The design of the street light shall be subject to review and approval by the Administrative Official. In general, street lights shall be placed at strategic locations and distances to

assure safe pedestrian and vehicular traffic. Distances between street lights will be based upon lot sizes and street configuration and the appropriate legislative body. The ownership and maintenance of street lights may be given to the appropriate legislative body only after inspection has occurred and such dedication has taken place through final plat approval by the legislative body or a similar agreement has been made between the subdivider or developer of the subdivision and the appropriate legislative body. Street lights are required by the City of Crestview, City of Melbourne, City of Silver Grove, City of Southgate, and City of Woodlawn in all subdivisions. Street lights are also required for all major residential subdivisions and all non-residential subdivisions located within unincorporated Campbell County.

In unincorporated Campbell County only, a subdivider or developer of a minor residential subdivision shall provide the necessary easements for future street lights with private ownership and maintenance in accordance or agreement with the appropriate utility company.

E) Street or Road Classification - The developer or subdivider is encouraged to meet with the Planning Commission Staff to determine the design requirements of proposed streets based upon the classification of road networks in the Comprehensive Plan. In addition, a property owner may be required to publicly dedicate land for street right-of-way in order to upgrade existing arterial, collector, subcollector, or local roads and bring them into conformance with the Comprehensive Plan road classification and street design specifications. (See Item I).

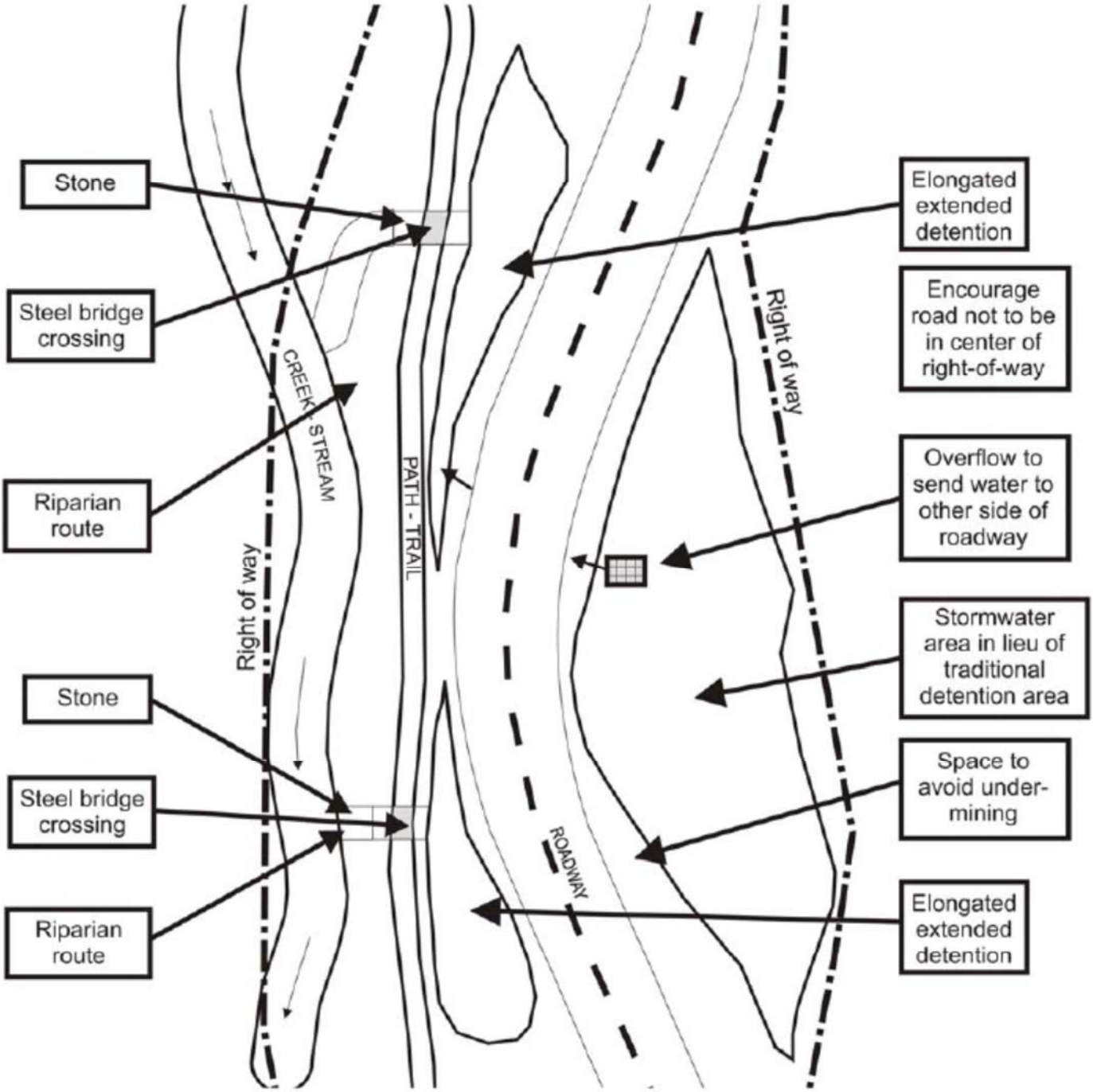
F) Public Right-of-Way Width - The minimum width of right-of-way for a public street, measured from lot line to lot line, shall be as follows (See Definitions Section for type of street):

			Conventional Subdivision	Open Space Cluster Subdivisions
1.		Major Arterial Streets	80 feet	80 feet
2.		Minor Arterial Streets	80 feet	80 feet
3.		Collector Streets	60 feet	60 feet
3.	a.	Limited Access Collector Street	50 feet	50 feet
		*With Cluster Option	variable,60 feet min.	variable, 60 feet min.
4.		Sub-Collector Streets+	50 feet	50 feet
4.	a.	Limited Access Sub-Collector Street+	50 feet	50 feet
		*With Cluster Option	variable,60 feet min.	variable, 60 feet min.
5.		Local Streets+	50 feet	50 feet
6.		Residential Condominium Street+	26 feet	26 feet
7.		Cul-de-sacs+	50 feet	42 feet
8.		Alley	30 feet	30 feet

\+ Urban Street section may be opted for these street types per the current City/County street specifications. The urban Street section is only permitted when mail will be delivered to a central, cluster mailbox or to individual boxes mounted on the buildings themselves. Individual curbside mailboxes are not permitted with this option.

* Variable right-of-way width for including formal bio-swale or stormwater infiltration areas into street corridor design requires the approval of both the Administrative Official and the respective city or county engineer. The right-of-way may be required to be wider than normal requirements depending on the extent of improvements. As a minimum, the project will need to provide for the features indicated in the following figure.

Illustrative Example of Variable Right-of-Way (per note section in Item 405 F above)



3' minimum required between right-of-way and path-trail

NOTE: Generally, signs (other than publicly maintained street identification signs and traffic control signs), mailboxes (other than those with a breakaway design), walls, fences, privately owned utilities including drains, sprinkler systems and other encroachments shall not be located in public street right-of-ways. Specific permission must be granted by the appropriate legislative body in order for these encroachments to be placed in a public right-of-way. Additional right-of-way width will be required for limited access sub-collector streets and limited access collector streets when necessary to accommodate facilities such as utilities, turn lanes, bike lanes or paths, and amenities such as benches, bus stops, and street trees.

G) Additional Right-of-Way - Subdivisions or developments that adjoin existing City and County street rights-of-way shall dedicate additional right-of-way to meet a 50 foot minimum right-of-way width if it does not exist for local or sub-collector streets and a 60 foot minimum right-of-way if it does not exist for collector or arterial streets, or for State street rights-of-way. The entire right-of-way shall be provided where any part of the subdivision or development is on both sides of the existing street; and one half of the right-of-way shall be provided, as measured from the centerline for subdivisions or developments that is located only on one side of the existing street.

H) Pavement Width

1. No public street shall be constructed except in conformance with the minimum pavement widths as follows: (See Definitions Section for type of street)

		Conventional Subdivision	Open Space and Cluster Subdivisions
1.	Major Arterial Streets	48 feet*	48 feet*
2.	Minor Arterial Streets	36 feet*	36 feet*
3.	Collector Streets	30 feet*	30 feet*
3. a.	Limited Access Collector Street	24 feet	24 feet*
4.	Sub-Collector Streets+	28 feet**	24 feet*
4. a.	Limited Access Sub-Collector Street+	24 feet*	24 feet*
5.	Local Streets+	25 feet**	25 feet**
6.	Residential Condominium Street+	24 feet	24 feet
7. a.	Cul-de-sacs+	25 feet**	25 feet* #
7. b.	Cul-de-sacs in residential subdivisions when average lot size is one acre or larger	22 feet*	20 feet* ^
8.	Alley	20 feet***	20 feet***

* No parking permitted and no driveway access to the collector, sub-collector street, or limited access street.

** No parking permitted on one side of street.

*** No parking permitted on either side of an alley.

\+ Urban Street section may be opted for these street types per the current City/County street specifications.

\# Cluster Subdivisions only.

^ Open Space Subdivisions only.

2. Construction of Required Pavement Width on Existing Streets

(a) Where the pavement width of such existing street is less than that required by these regulations. The Planning Commission, before requiring street improvements along the property of such street in each case, shall conduct an individual analysis as to whether it is reasonable to require the street improvements based on the anticipated burden of development. Before requiring street improvements, the Planning Commission shall find:

(1) That it is reasonable to require the street improvements be provided, based on the anticipated burden of the new development on the existing street.

(2) The need for street improvements us reasonably necessitated by the nature of the proposed development; and

(3) That it is reasonable for the developer to bear the street improvement costs based on the nature of the development.

Upon a finding of all provisions of Section 2(a) (1)-(3) above, and that requiring street improvements is appropriate, the Planning Commission shall require the subdivider to construct the required pavement width along the property on such street; OR, to deposit sufficient funds within an escrow account, maintained by the Campbell County Fiscal Court, to accomplish the street improvements contemplated by this ordinance. The entire pavement width shall be provided where any part of the subdivision or development is on both sides of the existing street; and one half of the pavement width shall be provided, as measured from the centerline, for subdivision or development that is located only on one side of the existing street.
If the Planning Commission cannot make the findings required by Section 2(a)(1)-(3) above, then it shall not require that street improvements be made or an escrow of funds be deposited as a condition to plat approval.

(b) If the Planning Commission does make the finding in Section (2)(a) above and street improvements are appropriate, immediate street improvements or an escrow deposit shall be a condition precedent to plat approval notwithstanding the fact that the contemplated improvements may be made at a subsequent time when other contiguous properties may likewise be improved.

(c) To determine whether to require immediate street improvements or to require a deposit of funds within an escrow account, the Planning Commission shall make one of the findings below:

(1) Before requiring immediate street improvements pursuant to this section, the planning commission shall find as follows:

(aa) The applicant has dedicated the appropriate required right-of-way width for future improvements as required by this ordinance;

(bb) Requiring the applicant to make necessary street improvements at present time would not be detrimental to the public safety and is not impractical because of:

[a] The current condition of the street at issue; and/or

[ii] The current condition of the existing storm water sewer system; and/or

[iii] The ratio of proposed lots to street frontage demonstrates a reasonably anticipated need for future street improvement in view of a consideration of the reasonably anticipated, future burden the development will have upon the existing street.

(d) Before permitting the payment of an escrow deposit pursuant to this section as opposed to immediate road improvements, the planning commission shall find as follows:

(1) Requiring the applicant to make necessary road improvements at present time would be detrimental to the public safety or is impractical because of:

[a] The current condition of the road at issue; and/or

[b] The current condition of the existing storm water sewer system; and/or

[c] The ratio of proposed lots to road frontage demonstrates a reasonably anticipated need for future road improvement in view of a consideration of the reasonably anticipated, future burden the development will have upon the existing road.

(cc) The escrow payment is a sufficient amount to accomplish the required road improvements for the present application, and;

(dd) The escrow payment amount has been determined by a duly registered professional engineer at the applicant's expense, and approved by the Planning Commission or Administrative Official. The cost estimate shall have supporting written data and be based on the amount determined to be reasonably necessary to complete all of the public improvements required to be constructed, including a ten (10) percent contingency.

l) Street Grades - Grades of both public and private streets in proposed subdivisions or developments shall not be greater than as follows: (See Definitions Section for type of street.) Grades shall not be less than one and one-half percent (1.5%) on any street.

1.	Major Arterial Streets …….	7 percent
2.	Minor Arterial Streets …….	7 percent
3.	Collector Streets …….	10 percent
3. a.	Limited Access Collector Street ……	10 percent
4.	Sub-Collector Streets …….	10 percent
4. a.	Limited Access Sub-Collector Street …	10 percent
5.	Local Streets …….	12 percent
6.	Residential Condominium Street ……..	12 percent
7.	Cul-de Sacs …….	12 percent
8.	Alley ……..	12 percent

These maximum grades may be modified by the Commission where extreme topographic conditions exist or in the interest of good site planning.

J) Horizontal Curves - Central angles of horizontal curves shall be kept to a minimum unless there is sufficient radius length to minimize the severity of the curve. At no time shall the radius of the centerline of a proposed street be less than two hundred feet (200') for collector streets, and one hundred feet (100') for local streets, except at intersections or divided roadways.

The tangent distance between horizontal curves of proposed street centerlines shall not be less than one hundred feet (100') for any arterial and any collector streets.

K) Vertical Curves - Any change in grade of proposed streets shall be transitioned by a vertical curve. The minimum length for a vertical curve shall be thirty (30) times the absolute value of the algebraic difference of the grades (in percent) of the two tangents for crest curves and thirty five (35) times the absolute value for sag curves in sub-collector and collector streets. The minimum length for a vertical curve shall be ten (10) times the absolute value of the algebraic difference of the grades (in percent) of the two tangents in local streets, cul-de-sacs, and alleys.

L) Intersections - The two centerlines of proposed streets at their intersection shall be as nearly to a right angle as possible and that angle at no time shall be less than eighty (80) degrees. For residential subdivisions, the radius of the curve at the intersection of the two right-of-way lines shall not be less than twenty feet (20'), and for the intersection of the two pavement edges, the radius curve shall not be less than twenty-five (25) feet.

For industrial and commercial subdivisions, the radius of the curve at the intersection of the two right-of-way lines shall not be less than forty feet (40'), and for the intersection of two pavement edges, the radius curve shall not be less than forty-five feet (45'). The Campbell County Planning Commission may, in certain situations, increase the minimum radii based upon existing road conditions and traffic patterns. (See Street and Storm Drainage Construction Specifications.)

There shall be no greater than four basic street legs at any proposed intersection unless the intersection is divided. Merging lanes, deceleration lanes, "Y" intersections, etc. are considered as being parts of one street leg or approach.

Proposed intersections with existing streets shall not be closer than one hundred and twenty five feet (125') to an intersection of two existing streets as measured from intersection point to intersection point.

M) Cul-de-Sacs Streets - Proposed cul-de-sac streets designed to have a permanently closed end shall not be more than twelve hundred feet (1200') long for industrial, commercial or Conventional Residential Subdivisions, as measured from the intersection of the centerlines of the cul-de-sac and the intersecting street (from station 0+00 of the cul-de-sac street). This type of street serves twenty-five (25) residential lots or units or less. Residential subdivision with cul-de-sacs more than nine hundred feet (900') from an intersection shall be built with a radius equal to a commercial/industrial design. For residential subdivision cul-de-sac with commercial/industrial design, up to an eight feet radius may be substituted with a clear zone. Clear zones are not required to be paved but must be graded to align with the street/cul-de-sac. Clear zones must remain free of obstacles including sidewalks, landscaping and other fixtures. The Planning Commission may require the connection of streets internal to a subdivision to facilitate connectivity.

N) Temporary Dead-End Streets and Street Connections to Adjoining Tracts or Areas - Dead-end streets of a temporary nature and street connections with adjoi Revised June 11, 2014 tracts shall be required by the Commission. Reasons for this include subdivision, the staging of development, the opportunity for reasonable access alternatives to adjoining tracts, the necessity of providing through connections between collector or arterial streets, to distribute traffic patterns by providing alternative routes, and to provide convenient and efficient access for emergency vehicles, street maintenance, school buses, postal delivery, and other essential services. The street connection with adjoining property shall be constructed upon Final Plat recording of seventy five percent (75%) of the subdivision lots as approved on the Preliminary Plat, or if a contributing street in the subdivision is within 300 feet of the connection to the adjoining property.

The Commission shall consider the following criteria for requiring street connections to adjoining property:

1. The adjoining land must be compatible with the subject development as determined by the current zoning and/or the Future Land Use Map as specified in the current Comprehensive Plan.

2. Street connections to adjoining properties will not be required if significant grading (as determined by the County Engineer or applicable City Engineer) and/or the construction of a bridge would be necessary to make such connections.

3. Future desired transportation patterns as described by the current Comprehensive Plan and special funding projects recommended in the Transportation Plan shall be considered. The Planning Commission may require a subdivision to include or extend a Limited Access Residential Street in areas that are recommended as Suburban Residential density or greater on the adopted Future Land Use Map without existing or committed through-streets subject to no individual lot access. The Comprehensive Plan, adopted Transportation Plan or Thoroughfare Plan, and planned street connections between properties shall be considered in determining this requirement. This provision is intended to avoid subdivision streets with direct lot frontage serving as connections between traffic generating development areas and the major street network.

4. Subdivisions required to provide sub collector or collector streets (as described in the street classification table in Article 6) shall be required to provide for connection of such streets to other collector or arterial streets or connection to adjoining lands.

5. The Planning Commission may require the connection of local streets to adjoining tracts or areas in order to prevent the local street from becoming a cul-de-sac street which exceeds the maximum length permitted for a cul-de-sac street.

6. Proposed connections to the existing street system will be consistent with the existing conditions and the design of adjoining streets.

7. All temporary dead-end streets that will continue onto adjoining property or connect with another roadway will have a sign posted at the temporary dead end that informs the public of the planned street connection.

8. All temporary dead-end streets will be terminated with a temporary turn-around. Storm water flow at a temporary dead-end shall be managed in accordance with the requirements stated herein.

9. In instances where a street connection cannot be constructed all the way to a shared property line due to grading or other construction feasibility issues until development occurs on an adjoining tract, the connection shall be constructed as far as practical toward the property line. The developer shall deposit the cash amount plus contingency with the applicable legislative body for the estimated costs of the remaining street construction to the property line. The developer shall be responsible for constructing the remaining street segment when the adjoining tract develops, or for making arrangements to cause the construction to occur at that time.

O) Private Streets or Roads

1. The Planning Commission is required to make findings as to why it is approving a private street.

2. Private streets are permitted only in the following zoning districts:
   Agricultural Cluster Development Overlay (ACD) Zone
   River Recreation/Conservation (R/CO) Zone
   Planned Unit Development (PUD) Zone
   Residential Cluster Development (RCD) Zone
   Residential Zoning Districts as part of an Open Space or Cluster Subdivision

3. Private streets may only consist of cul-de-sacs or local streets. Any newly proposed private street that will dead end shall terminate with a T turn-around or a cul-de-sac. Street grades shall meet the requirements in Section 405.I. Street names for private streets shall be proposed and approved through the Preliminary Plat process. Signage for private streets shall be installed, by the developer, in accordance with the policies of the applicable legislative body prior to Final Plat approval. Sidewalks shall be provided along private streets or roads in accordance with Section 405.Q for conventional subdivisions and Section 402 for Open Space and Cluster Residential Subdivisions.

4. The developer shall submit a copy of an agreement to maintain the private street (i.e. maintenance agreement) to the Planning Commission or its Duly Authorized Representative for review and approval concurrently with submission of the final

plat. This maintenance agreement shall be filed with the County Clerk, and this maintenance agreement shall acknowledge that the legislative body will not be involved with any maintenance responsibilities for the private street. A note shall be placed on the final plat for the subdivision referencing the maintenance agreement and indicating the street as “PRIVATELY MAINTAINED”.

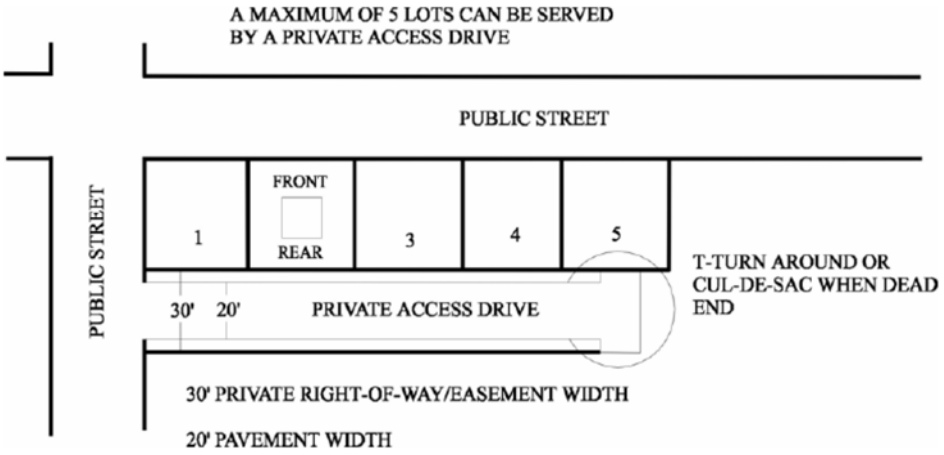
5. Minimum Width & Surface Material for Private Streets per Zoning Classification:

5a. In the ACD Zone only, the private street must be a minimum of 20 feet in width and may be surfaced with gravel. Streets must be centered within a deeded access easement with a minimum width of 30 feet and which connects directly to a publicly maintained street. There must be a private agreement for maintenance of the private street. None of the newly created lots can be a flag lot. Newly proposed private streets in the ACD zone may serve no more than five (5) buildable lots plus one (1) remainder parent tract.

5b. In the R/CO Zone only, the private street must be a minimum of 20 feet in width and may be surfaced with gravel. Streets must be centered within a deeded access easement with a minimum width of 30 feet and which connects directly to a publicly maintained street. There must be a private agreement for maintenance of the private street. None of the newly created lots can be a flag lot. Newly proposed private streets in the R/CO zone may serve no more than five (5) buildable lots.

5c. In all other permitted zones within this section, the private street must be a minimum of 18 feet in width and surfaced with cement or asphalt. Streets must be centered within a deeded access easement with a minimum width of 30 feet and which connects directly to a publicly maintained street. There must be a private agreement for maintenance of the private street. None of the newly created lots can be a flag lot. Newly proposed private streets may serve no more than five (5) buildable lots.

P) Private Access Driveway - Private access driveways shall conform to the same pavement width, right-of-way width, and construction standards as set forth in these regulations for publicly dedicated alleys. A private access driveway that dead ends shall terminate with a T turn-around or a cul-de-sac. Such driveway shall be owned and maintained by one or more private property owners and shall only serve a maximum of five lots. The easement or right-of-way for a private access driveway shall be indicated on the Final Plat. A copy of a Homeowners Agreement to maintain the drive shall be submitted to the Planning Commission at Final Plat Review. All private access driveways, including driveways within flag lot panhandles, shall be located at a minimum five (5) feet from the adjoining property lines.



Q) Sidewalks - All proposed residential, commercial, industrial and office subdivisions or developments hall be constructed according to the standards as follows:

Residential Subdivisions - Sidewalks shall be provided in residential subdivisions with an average density of greater than one dwelling unit per acre according to the following:

1.	Collector Streets	Sidewalks Both Sides
1.a.	Limited Access Collector Street	Sidewalks Both Sides
	Sub-Collector Streets	Sidewalks Both Sides
2.	Limited Access Sub-Collector Street	Sidewalks Both Sides
3.	Local Streets	Sidewalks Both Sides
4.	Residential Condo Street	Sidewalks Both Sides
5.	Cul-de Sacs	Sidewalks One Side (Both Sides for Urban Street Option)
6.	Alley	No Sidewalks Permitted within Min. 30' R/W, Sidewalk Permittted on One Side When R/W is increased to 40'

Sidewalks shall only be required on one side of the street when the overall average density is between one dwelling unit per acre and one dwelling unit per two acres. For residential subdivisions with an overall average density of one dwelling unit per two or more acres, no sidewalks are required.*

Commercial and Office Subdivisions - Sidewalks shall be provided on both sides of all streets.

Industrial Subdivisions - Sidewalks shall be provided on one side of each street*.

**When provided on one side of a street, sidewalks shall be constructed on the water main side of the street, unless approved by the Commission's Administrative Official and engineer.*

Sidewalks shall be constructed of Portland cement concrete on compacted subgrade and have a minimum depth of four inches (4"), except at driveways, the minimum depth shall be five inches (5") in residential zones. In commercial or industrial zones, driveways shall have the same depth as the road leading to the parking area. Sidewalks shall be located four feet (4')from the curb or the edge of the pavement and shall be at least four feet (4') in width along local streets and cul-de-sacs; shall be located five feet (5') from the curb or edge of pavement and five feet (5') in width when located along arterial, collector, and sub-collector streets; and shall be located immediately at the back of curb and a minimum of five (5') in width when located along urban streets. At intersections and pedestrian crosswalks, wheelchair ramps shall be installed (see City/County Street Specifications for location and design of sidewalks). The design and location of sidewalks in a Planned Development may vary in accordance with an approved Concept Development Plan.

Sidewalks shall be installed by the developer of the subdivision or the builder of each structure as each lot is developed. In cases where sidewalk improvements have not been completed along platted but undeveloped lots, such sidewalk improvements shall be completed by the owner of the lot(s) in question within one (1) year from the date when ninety (90) percent of the individual lots within the phase or section as final platted have

been developed. Sidewalk construction shall be subject to inspection by the appropriate legislative body.

R) Multi-Use Trails - A path for joint use by bicycles and pedestrians may be provided within public street rights-of-way or parks and other open spaces in accordance with the following standards:

1. When a multi-use trail is provided in a street right-of-way, it shall be provided only on subcollector or collector (including limited access streets), or arterial streets that: have no vehicular access points for individual lots; and, that connect between other subcollector or collector (including limited access streets) and/or arterial streets, or connect between another subcollector, collector, or arterial street and a public facility such as a school, park, library, etc. Multi-use trails may also be provided in parks and open spaces.

2. When a multi-use trail is provided in a street right-of-way, it shall be provided on one side of the street. When a multi-use trail is provided in a right-of-way, a sidewalk is not required on the other side of the street as per Section 405.Q.

3. The required width for a multi-use trail shall be ten (10) feet when provided along a roadway and there is no sidewalk on the opposite side of the road. Eight (8) feet is permitted when: a multi-use trail is provided along a roadway and a sidewalk is provided on the opposite side of the road; the trail acts as a connecter between a subdivision or residential area to one of the trails described above; or when it serves a reserved open space or HOA area as part of a subdivision. Multi-use trails shall be separated from the roadway by a green strip at least five feet (5') wide except as needed at crossing locations. Multi-use trails shall be paved in accordance with the requirements of the appropriate legislative body. At intersections and pedestrian cross-walks, wheelchair ramps shall be installed (see City/County Street Specifications for location and design of sidewalks).

4. Traffic control signage and safety measures shall be installed along the path and shall be consistent with AASHTO Guide for the Development of Bicycle Facilities and meet the requirements of the respective city or county engineer.

S) Street Paving and Street Signage - Street paving for proposed subdivisions or developments shall be carried out in conformance with the current City/County street specifications and the provisions stated in this document. Street signage installation, maintenance and replacement shall be the responsibility of the appropriate legislative body.

T) Street Trees – Street trees are required by the City of Crestview, City of Silver Grove, City of Southgate, and City of Woodlawn in all residential subdivisions. Street trees are also required for all residential subdivisions located within unincorporated Campbell County. The City of Melbourne does not require street trees in residential subdivisions. Street trees are recommended in all non-residential subdivisions. Street trees, when provided, shall be installed in accordance with Appendix S, the current City/County street specifications, and shall not be located in a manner that would conflict with either underground or overhead utility lines, easements, or street signs. No trees shall be located within one hundred feet (100') of an intersection. The minimum width of street rights-of-way which are planned to include street trees shall be increased a minimum of 10 feet

above the minimum requirements stated in Section 405.F "Public Right-of-Way Width." The spacing and arrangement of street trees shall be subject to approval by the Planning Commission's staff. Street tree species, other than those listed in Appendix S, shall be subject to approval by the Planning Commission's staff.

U) Safety-Traffic Calming - In certain situations, traffic calming measures or improvements may be required to be incorporated into street design in order to assure traffic and pedestrian safety. Such measures shall be approved by the appropriate legislative unit. Maintenance of such a measure shall be identified on the Improvement Plan and Final Plat. If such measures are included in the proposed street design, the specifications for these measures shall be submitted by an applicant as part of the Improvement Plan Review. These measures include but are not limited to the following: traffic circles, roundabouts, raised crosswalks and intersections, speed humps, lane closures, diagonal diverters, median barriers, forced turn islands, textured pavement, rotaries, chokers, neckdowns, etc.

SECTION 408
Perimeter Requirements

A) Required Fencing
<<This section intentionally left blank.>>

B) Landscaping Along Collector and Arterial Roads
When a proposed residential subdivision abuts a major or minor arterial or collector road, landscape buffering shall be located along the rear and corner side yard property lines which adjoin said road. The landscape buffer area shall include earthen berming, consistent decorative fencing, hedging, evergreen or deciduous plant materials or combination thereof which are high enough at maturity to screen the adjoining lot areas at a height of at least six (6) feet.

SECTION 410
Blocks

The arrangement of blocks shall be such as to provide for convenient access, circulation, control and safety of traffic. Intersecting streets which determine block length and width shall be provided at such intervals which include existing street patterns, topography, and requirements for safe and convenient vehicular and pedestrian circulation.

Blocks of proposed subdivisions or developments shall not be less than two hundred and forty feet (240') nor more than twelve hundred feet (1200') in length.

SECTION 415
Lot Arrangement and Sizes
The size, shape, and arrangement of lots in proposed subdivisions or developments shall be such as set forward in the current Zoning Regulations and these subdivision regulations. Rectangular shaped lots shall be encouraged in all commercial, industrial and residential zones. Extremely irregularly shaped lots shall be avoided. Consideration of additional lot depth should be made when lots adjoin railroads, major utility easements, commercial or industrial areas, or other conflicting land uses.

Side lot lines shall be as close to right angles with the street centerline as possible, or radial to curve street centerlines. Lot lines not at right angles with the street centerline, and lot lines intersecting with curved right-of-ways shall have a reference tie to the tangent line of that centerline curve. Lot lines of a subdivision, should display an organized and uniform development pattern.

A) Lot Size - The minimum size of a lot in a proposed subdivision or development depends on the current zoning district that said subdivision or development or section thereof lies in. The minimum size for the respective zone is contained in the current Zoning Regulations.

B) Land Adjoining Arterial and Collector Streets - The subdivision of new lots on land with a minimum lot size of less than 80,000 square feet, which adjoin arterial and/or collector streets shall be platted in a manner which necessitates vehicular access to be provided from a secondary street, alley, or private access driveway and not arterial or collector streets. A plat note shall be provided on the record plat which states that vehicular access is prohibited from the arterial or collector street in question.

C) Irregular Lots - Irregular lots which include corner lots, double frontage lots, flag lots and lots that have irregular shape and size because of topography or vegetation shall conform to the minimum requirements of the applicable zoning ordinance. Corner lots shall have the minimum lot frontage required by the applicable zone on both streets. Driveways on corner lots shall be located at the building line farthest from the intersection. Double frontage lots shall be avoided except where essential to provide separation of a residential development from arterial streets or to overcome specific disadvantages of topography and orientation.

D) Flag Lots - Flag lots shall only be permitted in those locations where because of existing geometric, topographic, or other natural features, it would be impractical to extend a public street as determined by the Planning Commission or Planning Commission's Staff. Flag lots shall have a panhandle extending directly to a publicly dedicated street for the purpose of access.

All flag lots in residential zones shall meet the following standards:

Each flag lot shall have a minimum of twenty-five feet (25') of frontage on a publicly dedicated street for the purpose of access. Flag lots shall have a panhandle with a uniform and consistent width with a maximum length of three hundred fifty feet (350') from a publicly dedicated street.

For minor divisions of land, the maximum number of flag lots permitted shall not exceed two lots within the subdivision.

For major divisions of land, the maximum number of flag lots permitted shall not exceed fifteen percent (15%) of the total number of lots for the subdivision. For a major division, no more than two contiguous flag lots shall be permitted.

A driveway must be located within the panhandle of the deeded property for a flag lot, except in the A-1 or R-RE zones. In the A-1 or R-RE zones only, the driveway may be located within an access easement across one intervening lot between the street and the flag lot provided the following conditions are met:

The access easement is at least twenty feet (20') wide; and,

The access easement serves no more than two lots in addition to the one intervening lot on which it is located; and,

An appropriate agreement to assure the perpetual maintenance of the driveway shall be filed with the record plat or access easement declaration.

Also, the driveway for a flag lot shall be located at a minimum of five (5') feet from each lot line, unless otherwise approved by the Planning Commission and/or its Administrative Official.

The minimum lot area and setback requirements for the flag lot(s) shall be two and one-half (2½) times the requirements of the Zoning Regulations.

All flag lots in non-residential zones shall meet the following standards:

Each flag lot shall have a minimum of thirty feet (30') of frontage on a publicly dedicated street for the purpose of access. Flag lots shall have a panhandle with a uniform and consistent width with a maximum length of three hundred fifty feet (350') from a publicly dedicated street.

The maximum number of flag lots permitted shall not exceed fifteen percent (15%) of the total number of lots for the subdivision. No more than two contiguous flag lots shall be permitted.

A driveway must be located within the panhandle of the deeded property for a flag lot. Also, the driveway for a flag lot shall be located at a minimum of five (5') feet from each lot line, unless otherwise approved by the Planning Commission and/or its Administrative Official. In the case of two contiguous flag lots, a deeded strip of land that is at least fifteen feet (15') wide is required for each lot with a common unobstructed access easement for a shared driveway to the public street.

The minimum lot area requirements for the flag lot(s) shall be two and one-half (2½) times the requirements of the Zoning Regulations. The minimum setback requirements for the flag lot(s) shall be two (2) times the requirements of the Zoning Regulations or fifty feet (50') whichever is greater.

E) Lot Frontage, Width and Depth - All lots in a subdivision shall have the minimum frontage on a public or private street as stated for their respective zone under the current Zoning Regulations.

The maximum depth of a lot shall not be greater than four (4) times the width of the lot, except for flag lots and lots which contain over five (5) acres of area. Exceptional individual site conditions may require variation from these requirements as determined by the Planning Commission and/or its Administrative Official.

F) Cemeteries - An applicant, property owner or developer has the option either to (1) preserve an existing private family cemetery and develop around it or (2) relocate an existing cemetery. In relocating a private family cemetery, an applicant, property owner or developer shall be required to follow applicable local and state laws, which include KRS 381.720 through KRS 381.750 and KRS 381.750 and coordinate with the Kentucky Office

of Vital Statistics. In preserving a cemetery, while at the same time developing a parcel, an applicant, property owner or developer has the following options:

1. Transfer the existing cemetery as part of a buildable lot. Ownership and maintenance of the cemetery would be transferred to the individual lot owner.

2. Make the existing cemetery a separate lot. Ownership and maintenance of the cemetery would be transferred by written agreement to either a subdivision Homeowners Association, the developer of the subdivision, a local legislative unit, or an historical organization.

If a private family cemetery exists on a parcel of land and the exact location of grave sites is not determined, a developer or property owner, these requirements shall be followed if a developer or property owner wishes to preserve an existing cemetery, while at the same time subdivide their property. These regulations mentioned below apply only to private family cemeteries and not to active cemeteries maintained and administered by an existing cemetery board, sexton, church, or other formal organization.

1. No construction or disturbance of any type shall occur within 30 feet of an existing private family cemetery regardless of adjoining property lines or land ownership. This 30 foot building limitation is also required regardless of whether the cemetery is part of a building lot and is being conveyed as a separate lot. Also, this setback limitation may result in combining lots or making larger lots in the area where the cemetery is located. The 30 foot limitation is in the form of an exclusive cemetery easement. Cemetery boundaries shall be determined by an applicant's professional archaeologist from the list of archaeologists approved by the Kentucky Heritage Council. The Administrative Official shall review the work and information of the archaeologist. The archaeologist shall be responsible for determining the approximate boundaries of the cemetery and providing information on the history of the cemetery. The Administrative Official will be responsible for monitoring the field work of the archaeologist and reviewing the final report. Maps included in the final report must (1) portray the location and orientation of graves within the cemetery and (2) depict the location and orientation of the cemetery relative to the site and at least three nearby recognized landmarks such as public roads or benchmarks visible on a USGS map. The final report must also describe the field and archival methods and results used to document the cemetery, including any genealogical information gathered in the process. Two copies of the final report shall be submitted to the Administrative Official.

2. Existing cemetery fences and walls shall be maintained and repaired for security reasons, prior to any other site work or disturbance.

3. If a cemetery exists and a property owner or developer wishes to build on the lot where the cemetery is located, or if proposed to be a separate lot the property owner or developer is required to erect a new permanent fence (if one does not exist) surrounding the cemetery. The new permanent fence shall be made of a material which is compatible to the material of the proposed new structure(s) (e.g. stone fence, brick fence and wooden picket fence) and should also fit in with the character of the existing cemetery and surrounding residences or buildings. If a portion of an original fence or wall remains, and it is a compatible material (as above, and including cast iron fencing), the permanent fence or wall shall be

properly repaired using the same material. If the existing fence is an inappropriate material (e.g. chain link fence, barbed wire fence, or farm fence), it should be replaced with a new fence made of an appropriate material. Although the permanent fence must be erected as soon as practical, a temporary fence (e.g., orange snow fencing, wire fence) must be erected and maintained at all times during site development and construction before the permanent fence or wall is constructed.

4. Weeds shall be removed from a cemetery on a routine basis during both site development and after construction is completed.

5. Grass shall be mowed on a routine basis.

6. All ironwork and stonework shall be inspected for damage. Repairs shall be made by the owner of the property.

7. Other planting or foliage shall be pruned and be generally left in its natural state.

8. All other debris or trash shall be removed from the cemetery during both site development and after construction is completed.

9. A statement by the property owner, applicant or developer shall be made on the site plan or subdivision plan regarding permanent cemetery ownership and maintenance.

10. A Certificate of Land Use Restriction and a deed restriction shall be recorded in the Campbell County Clerk's office acknowledging the location, size, ownership and permanent maintenance responsibility of a cemetery. This information shall also be recorded on a Final Plat for a subdivision if not yet recorded.

11. Public access shall be provided to the existing cemetery with a minimum 5 foot recorded ingress-egress pedestrian access easement. Also, public and private streets shall be designed or located to provide access to an existing cemetery.

12. If no sign or marker is existing for the cemetery, a metal sign which displays the name and date(s) of the cemetery shall be installed. This sign shall have a maximum area of six (6) square feet and a maximum height of five (5) feet.

13. Under KRS 381.755, only the Campbell County Fiscal Court has the authority to issue an order or resolution authorizing the relocation of a cemetery in Campbell County. In some instances, the Kentucky Office of Vital Statistics may also approve the relocation of graves. Where cemetery relocation or the relocation of graves will occur, the property owner or developer shall notify the Administrative Official, in writing, by supplying to the Administrative Official copies of all State and local applications and permits during the relocation procedure.

SECTION 420

Water and Sanitary Sewer, Private Utilities and Property Used for Public Purposes

The following shall be the minimum standards for utilities (with the exception of storm water drainage See Section 425). These standards are minimum requirements and more stringent local, county, state, or federal regulations may apply. In general, water and sanitary sewer service should be designed to tie into a public system. It is recommended that utility construction does not occur until permission has been granted by the appropriate utility company or organization.

A) Water Systems and Fire Hydrants - Connection into either an existing or planned public water supply system shall be required if the system is sufficient or can be expanded in order to provide an adequate amount of water to a proposed subdivision. Where appropriate, water supply lines shall be designed to loop back to existing or proposed systems. Fire hydrants shall be provided in all subdivisions where public water systems are provided. Fire hydrants should be located with a maximum spacing of 500 feet, as measured along the street right-of-way. Fire hydrants should be located no further than 250 feet from any building site, as determined by the applicable setbacks set forth by the Zoning Regulations if the specific building footprint is unknown at the time of platting, with the exception that additional hydrants are not required to serve a flag lot if a hydrant is located within 100 feet of the vehicular entrance to the flag lot. Where existing public water mains that have existing fire hydrants are to serve a proposed subdivision and no public water main construction is necessary, no additional fire hydrants are required. In Clustered Residential Subdivisions, additional fire hydrants may be required by the Planning Commission due to restricted roadway width and density of development, including those that utilize existing public water mains with existing fire hydrants. Fire hydrants shall be designed and constructed in accordance with the Campbell County Street, Storm and Sidewalk Specifications and the appropriate water district specifications. Public water supply systems shall be designed and constructed in accordance with the Campbell County Street, Storm and Sidewalk Specifications. Individual on-site water supply systems (wells and cisterns) shall be constructed in accordance with the current Standards and Specifications of the state or local health department/district.

B) Sanitary Sewer Systems - Connection into either an existing or planned public sanitary sewer system shall be required if the system is sufficient or can be expanded in order to accommodate the additional flow from the proposed subdivision. Sanitary sewer systems shall be designed and constructed in accordance with the Campbell County Street, Storm and Sidewalk Specifications. Private lateral lines may only occupy the lot it is serving, except where approved by the appropriate utility. Where package sewage treatment plants are proposed, the sewage collection system shall be designed for ultimate connection to the public system. Individual septic tank systems and package treatment plants shall be constructed in accordance with the current standards and specification of the state and local health department/district. No sanitary sewage treatment plant for any subdivision shall be located nearer than two hundred (200') feet to any residence. In calculating this distance, the applicant can specify the location of any residence to be constructed on lots affected by the treatment plant or the Commission shall calculate this distance based upon the minimum set back and side yard requirements of the particular zone district.

C) Private Utilities - Private utilities such as electric, telephone, natural gas, and cable television shall be placed underground, in the street right-of-way, or within platted easements, and must be constructed per applicable standards and specifications, which includes inspections by the appropriate legislative units, permit requirements and compaction requirements. In addition, a fifteen foot (15') wide utility easement shall be provided along all public street rights-of-way, with the exception of alley rights-of-way.

D) Property Used for Public Purposes - In the development of large subdivisions, the Campbell County Planning Commission or appropriate legislative body may investigate the impact of such development on existing parks, open space, schools, public facilities, streets, and other public uses. If it is determined that the proposed development severely impacts the community, the appropriate legislative body may negotiate with the subdivider, developer, or owner of the proposed subdivision to acquire property for potential public dedication and future public use either through donation, contract purchase, or lease arrangement. The acquired property may then be used for public purposes by serving the subdivision residents only or both the subdivision and neighboring populations.

SECTION 425

Storm Water Management, Drainage and Residential Lot Grading

Storm sewer systems are designed to collect and convey storm water runoff from street inlets, runoff control structures, and other locations where the accumulation of storm water is unsafe. No storm sewer shall be permitted to run into a sanitary sewer system within a proposed subdivision. In general, the post-development peak rates of storm water runoff discharged from the boundary of the subdivision should be equal to or less than pre-development peak rates. Storm water runoff from a site or subdivision shall not adversely impact natural drainage from an uphill drainage basin or to a downhill drainage basin or adjacent properties. The property owner shall be responsible for storm water drainage facilities located on private property where runoff will be principally collected within that property and be minimally discharged over a larger area before the storm water naturally drains on adjacent properties. For isolated areas of the subdivision, where increased runoff may leave the boundary, downstream conditions must be considered to ensure that the increased runoff will not adversely impact existing drainage patterns.

All subdivision development within Campbell County must be designed and constructed per the Campbell County Subdivision Regulations. All subdivision development must also comply with the rules and regulations of Sanitation District No. 1.

Unless otherwise required by Sanitation District No. 1, all publically maintained storm sewer systems shall be designed for peak flows calculated on the ten year (10 yr.) storm frequency. Overflows shall be designed on the one hundred year (100 yr.) storm frequency. No living area shall be affected by the one hundred year (100 yr.) storm. Safety swales shall be designed to carry all runoff away from any residential structure.

Basic Design Criteria for a Storm Drainage System

Per Sanitation District No. 1 Standards.

Basic Design Criteria for Storm Water Drainage Channels, Water Courses, and Erosion Control

Per Sanitation District No. 1 Standards.

Basic Design Criteria for Stormwater Runoff Control Facilities

Per Sanitation District No. 1 Standards.

Detention Basins/Retention Ponds – Standards and Specifications

Per Sanitation District No. 1 Standards.

Residential Lot Grading and Drainage

A) Lot Grading - Lot grading shall be accomplished as follows: Within the limits of the public right-of-way adjacent to street pavements, all final grading for grass strip, sidewalk, and yards to the building structure, shall comply with minimum and maximum grades in accord with typical sections for streets as shown in the current city/county street specifications. For lots that drain toward the street, the areas between the right-of-way line and the curb shall be graded so that water drains to the street at a minimum grade of 1 inch per foot (approximately 8 percent) except where sidewalks are required (see Typical Sections). All grading behind the street shall be done in a fashion that does not allow ponding of water adjacent to the paved street. For lots that drain away from the street, the area between the right-of-way line and the curb shall be graded so that water drains away from the street at a minimum grade of ½ inch per foot (approximately 4 percent) except where sidewalks are required (see Typical Sections). Lot areas outside of the limits of the building structure shall be graded per the detail in the current Campbell County Street, Storm, and Sidewalk Specifications.

Building Elevation: All Zoning Permit applications shall be consistent with the subdivision Improvement Plan in relation to the lot grading. The Zoning Permit application requires the difference in elevations between the street curb at the center of the driveway and the basement floor, first floor, and lowest opening (if applicable.) The difference in the elevations shall be consistent with the elevations of the grading on the Improvement Plan.

Temporary Driveway: All residential lots shall have a single point access and a temporary driveway of crushed stone with fabric placed in the location of the permanent driveway. The temporary driveway shall be constructed after completion of foundation. It shall be a minimum of three inches (3") in depth with a separation fabric and a minimum of ten feet (10') in width. All construction traffic to the site must utilize the temporary driveway and shall not drive on any other portion of the lot without prior approval of the city/county inspector.

Top Soil: If grading results in the stripping of top soil, top soil shall be uniformly spread over the lots as grading is finished. Temporary silt barriers should be installed around stock-piled top soil for erosion and sediment control.

Trees: As many trees as can be reasonably utilized in the final development plan shall be retained and the grading adjusted to the existing grade of the trees where practicable.

B) Swales - Swales carry surface runoff from roofs, yards, and other areas to the rear of lots or along common property lines to streets or other drainage areas to prevent ponding of water near building structures or other portions of the lot. Surface drainage swales shall have a minimum grade of two (2) percent and shall be constructed so that the surface water will drain onto a street, storm inlet, or natural drainage area. Swales for handling lot drainage shall be constructed as a part of final lot grading and be seeded and mulched or sodded as soon as possible to prevent erosion.

C) Roof and Subsurface Drains - Roof downspouts, footing or foundation drains shall be discharged onto the same parcel of land from which the water is generated. Roof downspouts shall terminate onto a splash block or if a sidewalk is blocking the flow, within two feet (2') of the lower edge of the walk. All subsurface drains including sump pumps shall be constructed toward the rear of the lot. No subsurface drain shall outlet nearer than two feet (2') to a property line and twenty feet (20') to the right-of-way line. If a collection system was approved by Sanitation District No. 1, sump pump drains may be connected to the system.

D) Buffer Zone - To help protect natural channels and streams within a development, there shall be Buffer zones placed over these areas. These Buffer Zones shall coincide with the Buffer Zones as defined in the Kentucky Division of Water Permit KYR10. A copy of the application for this permit with the SWPPP shall be submitted to the Planning Commission. Upon approval of the application, a copy of the approval shall also be submitted. The location of these zones shall be shown on the Improvement Plan. The location of the zone shall be field staked prior to any clearing or grading in the vicinity of the zone.

Maintenance of Retention/Detention Areas

In all non-residential subdivisions, the owner of each lot and/or the developer shall be responsible for properly maintaining each retention/detention area in order for such facility to function according its design and purpose. Maintenance for the detention/retention areas shall be noted on the Improvement Plan, including access roads.

In residential subdivisions, all Detention Basins shall be deeded to Sanitation District No. 1 or the appropriate legislative body and the area shall be shown and labeled as a Non-buildable Lot on the Final Plat. The deed shall be prepared by the developer and transferred to Sanitation District No. 1 or the appropriate legislative body after recording of the Final Plat. For any Retention ponds, only the appropriate easements around inlets structures and outlet structures, and a retention easement over the area of the hundred year (100 yr.) storm event shall be dedicated to Sanitation District No. 1 or the appropriate legislative body. The area of the pond or lake shall be owned and maintained by the adjoining residents. This maintenance shall include maintaining the shoreline and removing sedimentation, and shall be included in the Subdivision's Restricted Covenants.

SECTION 430

Soil Erosion and Slope Control

The developer of a proposed subdivision or development shall be required to submit to the Commission's staff, on behalf of the Commission, a detailed plan for erosion and/or sedimentation control for review and approval. The plan shall contain proposed methods for slope stabilization, erosion control and water pollution abatement and shall be reviewed by the

Commission's staff and Sanitation District No. 1. The Commission shall require that such a plan or part thereof be submitted with the Improvement Plan and Grading Plan.

A) Prior Grading or Disturbed Site - No Improvement Plan and/or Grading Plan may be approved where the site has been graded, stripped, excavated, devegetated or otherwise disturbed so that slipping, erosion and/or water pollution has or may reasonably be expected to occur until such conditions are corrected to the satisfaction of the Commission.

B) Soil Survey - The current "Soil Survey of Boone, Campbell and Kenton Counties, Kentucky" issued by the United States Department of Agriculture, Soil Conservation Service in cooperation with the Kentucky Agricultural Experiment Station is hereby made a part of these regulations and will be used for informational and reference purposes.

C) Erosion Control Measures - Must be per the current Kentucky Best Management Practices for Construction Activities.

ARTICLE 5

PROCEDURE FOR INSPECTIONS FEES AND ENFORCEMENT

SECTION 500
Construction Inspections

Inspections relative to the construction and installation of public improvements such as sanitary sewer, storm sewer, water, streets, driveway aprons and sidewalks shall be made by the appropriate utility company, water and sewer commission or district, public works/service department, building department, legislative body, or other representative. This inspection also includes soil erosion as it relates to public improvement construction and lot grading. Inspectors are authorized to inspect all work done and all materials furnished. Such inspection, including final inspection, may extend to all or any part of the work and to the preparation, fabrication, or manufacture of the materials to be used. The inspector shall not be authorized to revoke, alter, or waive any requirements of the approved Improvement Plan drawings and specifications, but is authorized to call the attention of the contractor, any failure of the work or materials to conform to the approved improvement drawings and specifications. Any proposed change in the approved plan and specifications shall be approved by the Planning Commission.

The contractor shall notify the appropriate inspector(s) in advance and in accordance with departmental procedures and at least twenty-four (24) hours prior to the time when the work is to begin on each phase of construction, such as embankments, subgrades, water system, storm and sanitary sewer systems and street paving, sidewalks, including all related testing. The inspector shall begin inspection at the time of construction and maintain inspection as the work progresses on each phase of the project until all construction is complete. Further, and during the time of construction, any work determined by the inspector not to conform to the requirements of the approved improvement plans, drawings, and specifications shall be suspended and corrected, prior to proceeding with that phase of the project.

Any work which cannot be determined to conform with the approved improvement plans, drawings, and specifications, shall be referred to the design engineer for revision and/or modification and decided upon by the Planning Commission.

SECTION 505
Subdivider and/or Contractor Construction Responsibilities

The subdivider and/or contractor shall have available on the project, at all times, a copy of all approved plans and specifications. The subdivider's and/or contractor's superintendent shall be capable of reading and thoroughly understanding the plans and specifications and he or she shall receive instructions from the inspector. A superintendent shall always be present regardless of the amount of work sublet.

SECTION 510
Final Clean Up of Site

Upon completion of construction work of the subdivision or an individual lot, the subdivider, developer, and/or contractor shall remove all debris or excess fill in connection with the completed work prior to final plat approval.

SECTION 515
Written Agreements and Guarantees

A subdivision developer or subdivider may execute and file a written agreement or guarantee with the Campbell County Fiscal Court, City of Crestview, City of Melbourne, City of Silver Grove, City of Southgate, City of Woodlawn and/or appropriate water and sewer commission/district in lieu of actual installation or completion of the required public improvements when requesting approval of the final plat in accordance with specific criteria mentioned in Section 300. Such agreements or guarantees shall be an amount for the required public improvements, as estimated by the subdivider's engineer and approved by the appropriate legislative unit or water and sewer commission/district. The cost estimate shall have supporting written data and be based on the amount determined to be reasonably necessary to complete all of the public improvements required to be constructed by the subdivider as specified in the approved Improvement Plan drawings and specifications, including a ten (10) percent contingency. (See Example at the end of this Article.)

The written agreement or guarantee shall typically be in the form of sureties (e.g. bond payment or performance bond from an insurance company or a financial institution), a cash deposit (e.g. escrow agreement or certified check from a financial institution), or an instrument of agreement from one or more financial institutions (e.g. letter of credit) and payable to the appropriate legislative body or water and sewer commission/district. The agreement or guarantee shall be pursued by the subdivider and developed by an insurance company or financial institution. The agreement or guarantee shall be an assurance of faithful performance of any and all work and the construction and installation of all public improvements required to be done by the subdivider, as specified in the approved Improvement Plan drawings and specifications, together with all engineering and inspection fees as required by Section 520, of these regulations.

The agreement or guarantee shall have no expiration date but all work must be completed within one year of the approval of the Final Plat unless approved by the appropriate accepting agency, and contain the condition that should the subdivider fail to complete all construction work and public improvements required, then the Fiscal Court or appropriate municipal entity or appropriate water and sanitary sewer commission/district may elect to complete all required public improvement construction work on its own. Consequently, the Campbell County Fiscal Court, City of Crestview, City of Melbourne, City of Silver Grove, City of Southgate, City of Woodlawn or appropriate water and sewer commission/district shall be authorized, in the event of any default on the part of the subdivider of the performance of any work or construction of any public improvements for which such guarantees have been agreed to, to complete the required work to be done and to withdraw that amount required for payment of all costs. The following examples describe the type of information, which is typical of each type of written agreement or guarantee:

Types of Written Agreements or Guarantees

A) Sureties - Two types of sureties are bond payments and performance bonds. The surety shall originate from an insurance company and from a financial institution. With each type of surety, the following information shall be required.

    1) Terms of bond.

    2) A detailed list of improvements, which the bond will cover and estimated costs

3) Description of all work performed in relation to the bond amount.

B) Cash Deposit - One type of cash deposit is an escrow agreement. Escrow agreements include certified checks and a special account from a financial institution. With this type of escrow agreement, the following information shall be required.

1) Terms of escrow agreement.

2) A detailed list of improvements to be made, which the escrow agreement will cover and estimated costs.

3) Description of all work performed in relation to the escrow agreement amount.

SECTION 520
Review Fees

Fees for the review of a Preliminary Plat, Improvement Plan, Final Plat, Conveyance Plat, Grading Plan and other plats shall be required. Fees for the review of a preliminary plat, improvement plan, final plat, conveyance plat, grading plan and other plats shall be payable in accordance with the approved Zoning Ordinance, Article XIX, Schedule of Fees.

SECTION 525
Inspection Fees

An inspection fee shall be charged to the subdivider or applicant for inspections during the construction of public improvements in accordance with the approved Zoning Ordinance, Article XIX, Schedule of Fees. This includes inspection fees and services for water, sanitary sewer, storm sewer, street construction, driveway apron construction and sidewalk construction. The fee shall be paid prior to the start of construction and upon plan review submittal. Where improvements are to be installed prior to final plat approval, no final plat approval will be given nor shall such a plat be recorded until all inspection fees are paid in full. It shall be the responsibility of the developer to insure that proper notice is given to the appropriate inspector. In the event final plat approval is given prior to the installments of improvements, the guarantee posted by the subdivider as per Section 515 of these regulations shall assure the payment of all inspection fees and no guarantees shall be released until all inspection fees are paid in full.

Example (from Section515)

KNOW ALL MEN BY THESE PRESENTS: That _____,
(Name of Developer/Subdivider/Contractor)
Principal, and _____, Surety, are held and firmly bound unto _____, Obligee, in the sum of _____
(Name of Legislative Body)
Dollars ($_____) for the payment of which we bind ourselves, our legal representatives, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, Principal has entered into a contract with Obligee, dated _____ for Construction of public improvements relating to or arising from Right-of-Way (A) and Right-of-Way (B) in accordance with a plat from a tract of land within _____
(Name of Legislative Body)
Kentucky to be known as Section _____ Lots _____ and _____ pursuant to a construction contract dated _____ between _____ and
(Name of Developer/Subdivider/Contractor)
_____ Kentucky.
(Name of Legislative Body)

Copy of which contract is by reference made a part hereof.

NOW, THEREFORE, if Principal shall, in accordance with applicable Statutes, promptly make payment to all persons supplying labor and material in the prosecution of the work provided for in said contract, and any and all duly authorized modifications of said contract that may hereafter be made notice of which modifications to Surety being waived, then this obligation to be void; otherwise to remain in full force and effect.

SIGNED, SEALED AND DATED _____

_____(Seal)

by _____
Attorney-in-Fact

ARTICLE 6

CERTIFICATES USED ON FINAL AND CONVEYANCE PLATS

APPENDIX A

LAND SURVEYOR'S CERTIFICATE

The following certificate shall appear on all Final Plats and Conveyance Plats presented to the Campbell County Planning Commission for approval. The certificate shall be clearly legible, lettering shall not be less than 3/32 inch in height and shall be dated, signed, and stamped or sealed by a registered land surveyor as defined and regulated by KRS 322.

LAND SURVEYOR'S CERTIFICATE

I hereby certify that the survey depicted by this plat was done by persons under by direct supervision by the method of random traverse with side shots. The unadjusted error of closure was _____. The survey shown hereon is a class _____ survey, and the distances and directions are based on the adjusted traverse. This plat of survey complies with all requirements of the << *insert appropriate legislative unit (i.e. Campbell County, City of Crestview, etc)*>> Zoning Regulations and Campbell County Subdivision Regulations, and that dedicated areas including public ways or streets are currently owned by the property owner."

_____ _____

DATE LAND SURVEYOR'S SIGNATURE

(SEAL)

APPENDIX B

DEDICATION CERTIFICATE

The following certificate shall appear on all final plats presented to the Planning Commission for approval. The certificate shall be clearly legible, lettering shall be not less than 3/32-inch in height and shall be dated, signed, and notarized before submission to the Planning Commission.

DEDICATION CERTIFICATE

"(I) (We) hereby certify that (I am) (We are) the owner(s) of the property shown and described hereon and that (I) (We) hereby adopt this plan of subdivision with (my) (our) free consent, establish the minimum building restriction lines, and dedicate all streets, alleys, walks, parks, and other open spaces to public or private uses as noted. (I) (We) further certify that title to the property shown hereon was acquired by Deed recorded in Deed Book _____ Page _____ of the Campbell County Clerk's office.

_____ _____
Date Owner(s)

One of the following Notary Public's Certificates must be included as part of this Dedication Certificate. Note that different Notary Public's Certificates are required for different types of owners.

(1) For **an individual** acting in his own right:

State of _____

County of _____

The foregoing instrument was acknowledged before me this (date) by (name of person acknowledged).

(Signature of person taking acknowledgement)
(Title or rank)
(Serial number, if any)

(2) For **a Corporation**:

State of _____

County of _____

The foregoing instrument was acknowledged before me this (date) by (name of officer or agent, title of officer or agent) of (name of corporation acknowledging) a (state or place of incorporation) corporation, on behalf of the corporation.

(Signature of person taking acknowledgement)
(Title or rank)
(Serial number, if any)

(3) For **a partnership**:

State of _____

County of _____

The foregoing instrument was acknowledged before me this (date) by (name of acknowledging partner or agent), partner (or agent) on behalf of (name of partnership), a partnership.

(Signature of person taking acknowledgement)
(Title or rank)
(Serial number, if any)

(4) For an **individual acting** as **principal by an attorney in fact**:

State of _____

County of _____

The foregoing instrument was acknowledged before me this (date) by (name of attorney in fact), as attorney in fact on behalf of (name of principal).

(Signature of person taking acknowledgement)
(Title or rank)
(Serial number, if any)

(5) By any **public officer**, **trustee**, or **personal representative**:

State of _____

County of _____

The foregoing instrument was acknowledged before me this (date) by (name of and title of position).

(Signature of person taking acknowledgement)
(Title or rank)
(Serial number, if any)

APPENDIX C

FINAL PLAT APPROVAL CERTIFICATE

The following certificate shall appear on all final plats presented to the Planning Commission for approval. The certificate shall be clearly legible, lettering shall be not less than 3/32-inch in height and shall have space for the date and the signature of the Chairman of the Planning Commission.

CAMPBELL COUNTY & MUNICIPAL PLANNING & ZONING COMMISSION APPROVAL CERTIFICATE

"This plat has been found to be in compliance with the << *insert appropriate legislative unit (i.e. Campbell County, City of Crestview, etc)*>> Zoning Regulations and the Campbell County Subdivision Regulations and is being submitted for recording in the office of the Campbell County Court Clerk."

_____ _____

Date Chairman's Signature

APPENDIX D

COUNTY CLERK'S STAMP

A 1.5 inch high by 3.5 inch wide blank space shall be reserved on all Final Plats for the pre-printed recording stamp affixed by the Campbell County Clerk's office at the time of recording. A title stating "County Clerk's Stamp" shall be printed over the prescribed blank space.

APPENDIX E

CERTIFICATES FOR CONVEYANCE PLAT

FOR BUILDABLE LOTS
LAND SURVEYOR'S CERTIFICATE

I certify that I have examined the records of the Campbell County Court Clerk and find that this is the (first) (second) (third) (fourth) (fifth) conveyance made under the present ownership of the parent tract.

_____ _____
Signature of Surveyor Date

FOR NON-BUILDABLE LOTS
LAND SURVEYOR'S CERTIFICATE

I certify that this plat of land in and of itself does not meet the current zoning regulations for use and is being transferred for non-building purposes.

_____ _____
Signature of Surveyor Date

DEDICATION CERTIFICATE

"(I) (We) hereby do dedicate the right-of-way of _____ as shown hereon to public use, forever.

_____ _____
Date Signature of Grantor(s)

*(To be used with the different notarization statements as specified in Appendix B of the Campbell County Subdivision Regulations.)

CAMPBELL COUNTY & MUNICIPAL PLANNING & ZONING COMMISSION APPROVAL CERTIFICATE

Approved for recording the transfer of property only by the Campbell County & Municipal Planning & Zoning Commission this _____ day of _____, 20_____.

_____
Chairman's Signature

APPENDIX F
PUBLIC IMPROVEMENTS

I hereby certify that all public improvements (streets, storm sewer systems, sanitary sewers, and water lines) have been installed and inspected in accordance with the applicable specifications of the Campbell County Subdivision Regulations in the section or phase of this subdivision and are publicly accepted and maintained 45 days from the recording of this plat; or that a guarantee has been posted with the applicable accepting agency to assure completion of all improvements.

STREETS

_____	_____	_____
Signature of City/County Official	Title	Date

_____	_____	_____	_____
Amount of Guarantee	Expiration Date	Signature for Release	Date

STORM SEWER SYSTEM

_____	_____	_____
Signature of City/County Official	Title	Date

_____	_____	_____	_____
Amount of Guarantee	Expiration Date	Signature for Release	Date

SANITARY SEWER SYSTEM

_____	_____	_____
Signature of City/County Official	Sewer Commission/District	Date

_____	_____	_____	_____
Amount of Guarantee	Expiration Date	Signature for Release	Date

WATER LINE SYSTEM

_____	_____	_____
Signature of City/County Official	Water Commission/District	Date

_____	_____	_____	_____
Amount of Guarantee	Expiration Date	Signature for Release	Date

(Continued on following pages)

Standard Terms and Conditions of Dedicated Easements

SANITARY SEWER EASEMENTS

The utility easements shown and described on this plat are dedicated to the use and benefit of the named utility. The respective rights, duties, and obligations of the individual lot owner and the respective utility are set forth in a separate recorded document in the Campbell County Clerk's office. Terms and conditions of the document listed below are incorporated by reference.

Sanitary Sewers – Sanitation District No. 1 – Miscellaneous Book 275, Page 675

SURFACE DRAINAGE EASEMENT DEFINITION

"Surface Drainage Easement" shown on this plat are not accepted by the legislative body of jurisdiction. The legislative body is not obligated to maintain or repair any channels or installations in said easements. The easement area of each lot and all improvements in it shall be maintained continuously by the owners of the lots. Within the easements, no structure, planting, fill material or other material shall be placed or permitted to remain which may obstruct, retard or change the direction of flow of water through the drainage channel in the easement.

CERTIFICATION AND DEDICATION OF SANITARY SEWER EASEMENTS

The undersigned owner ("Owner") certifies that (i) Owner is the owner of the entire fee simple estate in and to the real property depicted on this plat (the "Property"), free and unencumbered; (ii) the sanitary sewer easements shown and described on this plat are hereby dedicated to the use and benefit of Sanitation District No. 1 (the "District"), the respective rights, duties and obligations of Owner and the District to be set forth in that instrument entitled "Standard Terms and Conditions of Sanitary Easements", a copy of which appears of record in Miscellaneous Book 275, Page 675, in the Campbell County Clerk's office at Newport, Kentucky (the "Standard Conditions"), which Standard Conditions are incorporated herein by reference; and (iii) (a) the sanitary sewer lines and other appurtenances serving the Property have been installed in accordance with applicable regulations and specifications of Campbell County and the District, including the Standard Conditions, or (b) a bond or other security acceptable to the District has been posted with the District to insure completion of the sanitary sewer site improvements on or before _____. Ownership of, and warranties applicable to, the sanitary sewer lines and related facilities shall be set forth in the Standard Conditions.

_____ _____

Signature of Owner(s) Date

UTILITY STATEMENT

For valuable consideration, we the undersigned do hereby permanently grant to Union Light, Heat & Power Company/Cinergy, Duke Energy, Owen Electric Cooperative, Inc. and/or the Cincinnati Bell Telephone Company, their successors and assigns, forever, nonexclusive easements as shown on the within plat and designated as "Utility Easement" for the construction, operation, maintenance, repair or replacement of any and all necessary fixtures for the overhead or underground distribution of gas, electric, telephone, or telecommunications, or other utilities. Said utility companies shall have the right of ingress and egress and also the right to cut, trim and remove any trees, undergrowth or overhanging branches within said easement or adjacent thereto. No buildings or other structures may be built within said easement, nor may the easement area be physically altered so as to (1) reduce clearances of either overhead or underground facilities; (2) impair the land support of said facilities; (3) impair the ability to maintain the facilities; or (4) create a hazard. We acknowledge having full power to convey this easement and will defend the same against all claims.

_____ _____

Signature of Owner(s) Date

WATER MAIN EASEMENTS

The Water Main Easement(s) as shown on this plat are subject to the DECLARATION OF MASTER WATER FACILITY EASEMENT AGREEMENT as set forth in (*select the appropriate location from one of the following:*)

Easement Book 129, Page 145 of the Campbell County Clerk's records at Alexandria, Kentucky.

Easement Book 304, Page 466 of the Campbell County Clerk's records at Newport, Kentucky.

CAMPBELL COUNTY & MUNICIPAL PLANNING & ZONING COMMISSION
SUBDIVISION REGULATIONS
STREET, STORM AND SIDEWALK SPECIFICATIONS
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APPENDIX A

PAVEMENT DESIGN

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SECTION A.1: PAVEMENT DESIGN METHOD AND REQUIRED THICKNESSES

A.1-1 Pavement Design Method

AASHTO Guide for Design of Pavement Structures (1986 and 1993), published by The American Association of State Highway and Transportation Officials is the design method used herein and is specified as the design method to be used for any alternate pavement designs that are allowed or required in this regulation. Table A-1: Subdivision Pavement Design Parameters Using AASHTO Method sets out the design parameters used herein for Campbell County & Municipal Subdivision pavements. For definition and explanation of the parameters shown here, see the above mentioned AASHTO guides. Project specific pavement designs are required for residential streets serving over 1,000 residences or commercial/industrial streets serving more than 3,500,000 ESALs or alternative pavement designs proposed under Section A.1-2: Required Thicknesses. Any project specific pavement designs are required to use the design parameters identified in Table A-1: Subdivision Pavement Design Parameters Using AASHTO Method.

Table A-1: Subdivision Pavement Design Parameters Using AASHTO Method

Parameter	Design Values	
	Concrete	Asphalt
Design Life	20 years	20 years
Life Cycle Analysis	50 years	50 years
Drainage Coefficient	1.0	- -
Reliability	80%	80%
Deviation	0.35	0.45
Initial Serviceability	4.2	4.5
Terminal Serviceability	2.5	2.5
Modulus of Rupture	600 psi	- -
Modulus of Elasticity	3,600,000psi	- -
CBR, Minimum	2 (K=50 pci)	3 (MR=2700 psi)
Load Transfer	4.4 (no dowels)	- -
Load Transfer	3.2 (dowels)	- -
20 Year ESAL, Residential Local Street, ≤ 199 Residential Units served	81,000	81,000
20 Year ESAL, Residential Sub-collector Street, 200-500 Residential Units served	203,000	203,000
20 Year ESAL, Residential Collector Street, 501-1000 Residential Units served	406,000 [2]	406,000 [2]
20 Year ESAL, Light Commercial	1,000,000 [1]	1,000,000 [1]
20 Year ESAL, Heavy Commercial/Industrial Street	3,500,000 [1]	3,500,000 [1]
Year 17 to Year 34 and Year 34 to Year 50 ESAL, Residential Local Street, ≤ 199 Residential Units served	53,000	53,000
Year 17 to Year 34 and Year 34 to Year 50 ESAL, Residential Local Street, 200-500 Residential Units served	133,000	133,000
Year 17 to Year 34 and Year 34 to Year 50 ESAL, Residential Local Street, 501-1000 Residential Units served	265,000 [2]	265,000 [2]

Year 17 to Year 34 and Year 34 to Year 50 ESAL, Light Commercial	850,000 [1]	850,000 [1]
Year 17 to Year 34 ESAL, Heavy Commercial/Industrial	2,975,000 [1]	2,975,000 [1]
ESAL, Arterial	Per KYTC Specifications	
Asphalt Surface Layer Coefficient		0.44
Asphalt Base Layer Coefficient		0.40
Crushed Stone Base Layer Coefficient		0.14
Crushed Stone Base with Tensar TX5 Geogrid Layer Coefficient		0.25 for CBR ≥ 3
		0.21 for 2 ≤ BR< 3
Thickness conversion factor, 17 year old asphalt – Residential		0.70
Thickness conversion factor, 34 year old asphalt – Residential		0.60
Thickness conversion factor, 17 year old asphalt – Light Commercial		0.85
Thickness conversion factor, 34 year old asphalt – Light Commercial		0.75
Thickness conversion factor, 17 year old asphalt – Heavy Commercial/Industrial		0.90
Thickness conversion factor, 34 year old asphalt – Heavy Commercial/Industrial		0.80
NOTES: [1] Engineer shall submit a Traffic Impact Study (TIS) documenting project-specific design ESALs for each commercial/industrial Subdivision generating more than 100 vehicle trips per hour during the AM or PM peak period. If project-specific ESAL loading is greater than 3,500,000, a project-specific pavement design is required. [2] Project-specific pavement design required for residential streets serving more than 1,000 residential units.		

A.1-2 Required Thicknesses

(A) Table A-2: Required Subdivision Street Thicknesses shows the required pavement thicknesses for various Street classifications for Asphalt and Concrete Streets where in situ Subgrade soils can meet the minimum required Subgrade CBR equal to 2 or greater for Concrete pavements or CBR of 3 or greater for Asphalt pavements. These thicknesses were determined using the AASHTO Guide for Design of Pavement Structures (1986 and 1993) and the design parameters identified in Table A-1: Subdivision Pavement Design Parameters Using AASHTO Method. These values meet requirements for a 50 year life cycle without replacement, assuming resurfacing at 17 and 34 years.

Table A-2: Required Subdivision Street Thicknesses								
Street Classification With Number of Residential Units Served[5][6]	Concrete Over Crushed Stone Base (CSB)		Asphalt Over Crushed Stone Base (CSB)			Asphalt Over Crushed Stone Base (CSB) + Geogrid[7]		
	Concrete	CSB	Surface	Base	CSB[1]	Surface	Base	CSB[1]
Residential Local ≤ 199 R.U.	7"[2]	4"	1.5"	5"	7"[4]	1.5"	3"	7"[4]
Residential Sub-collector 200-500 R.U.	8"[2]	4"	1.5"	6"	7"[4]	1.5"	4"	7"[4]
Residential Collector 501-1000 R.U.	9"[2]	4"	1.5"	7.75"	7"[4]	1.5"	5.75"	7"[4]
Light Commercial ≤1 Million ESALS	8.5"[3]	4"	1.5"	8"	7"[4]	1.5"	6"	7"[4]
Heavy Commercial/ Industrial ≤3.5 Million ESALS	10"[3]	4"	1.5"	9.5"	7"[4]	1.5"	7.5"	7"[4]
Arterial	Per KYTC Specifications							

[1] Average thickness. Varies from 1 inch less at centerline to 1 inch greater at gutter apron.
[2] Plain Concrete, tooled skewed transverse Contraction Joints without dowels (see Details C.16 & C.17).
[3] Plain Concrete, with doweled and sawed (non-skewed) transverse Contraction Joints (see Detail C.15).
[4] 6-8 inch KYTC crushed stone base for residential pavements to be installed in one lift (pug milled) and properly compacted (one lift). Any crushed stone base greater in thickness than the above noted 6-8 inches must be installed in two lifts.
[5] Residential Unit means a residential dwelling unit and shall include single-family unattached homes, condominiums, town homes, duplex, triplex and fourplex units, and individual apartment units in a multi-family building.
[6] Number of residential units served for a particular Street is defined as the number of residential units which that Street serves as the sole access or, where a number of residential units are served by more than one access, it is an approximation of the number of residential units served that is equivalent to one access.
- Example 1: A particular section Street serves as the sole access to less than 200 residential units. That Street would then be a Local Street.
- Example 2: An area of existing and future residential development of 450 residential units is served by more than one access Street. Only those Streets that will carry traffic and ESAL loading higher than a Subdivision Street that provides sole access to more than 200 residential units will be classified as a Subcollector Street.
[7] Geogrid shall be Tensar TX5 triaxial geogrid.

(B) Wherever the minimum CBR values for Asphalt or Concrete pavements as defined in Table A-1: Subdivision Pavement Design Parameters Using AASHTO Method cannot be provided by the in situ Subgrade soils, the Engineer shall: 1) submit an engineered Subgrade improvement design that increases the CBR value of the in situ Subgrade soils to the required minimum CBR values for Asphalt and Concrete pavement in Subsection A.1-1: Pavement Design Method; or 2) submit an engineered alternate pavement design that takes into account the substandard CBR values.

(1) Engineered subgrade improvements may include:

a) Undercutting the substandard Subgrade soils and replacing them with documented soils that provide the minimum CBR values, or greater.

b) Providing a chemically stabilized Subgrade (usually lime stabilization) to effectively provide the minimum CBR values, or greater.

c) Utilizing crushed stone base with geotextile and/or Tensar TX5 triaxial geogrid to effectively provide the minimum CBR values, or greater.

(2) Alternative pavement designs may be proposed for Asphalt pavement on subgrades with a CBR value of 2, provided the pavement structure is shown to meet the structural number requirements identified in Table A-3: Structural Numbers for Alternative Asphalt Pavement Designs (CBR =2). Alternative pavement designs are not permitted for Subgrade soils with a CBR less than 2; rather, the subgrade soils shall be improved to CBR equal to 2 or greater, per Subsection A.1-2(B)(1).

Table A-3: Structural Numbers for Alternative Asphalt Pavement Designs (CBR=2)

Street Classification	Structural Number
Local (≤199 Residential Units)	4.09
Sub-collector (200-500 Residential Units)	4.92
Collector (501-1000 Residential Units)	5.60
Light Commercial	5.15
Heavy Commercial/Industrial	6.31

(3) When chemically stabilized Subgrade demonstrates a documented CBR value greater than 3, an alternative asphalt pavement design may be proposed to reduce pavement thickness, provided the pavement structure is shown to meet the structural number requirements identified in Table A-4: Structural Numbers for Alternative Asphalt Pavement Designs.

Table A-4: Structural Numbers for Alternative Asphalt Pavement Designs

Street Classification	Structural Number			
	CBR 4	CBR 5	CBR 6	CBR 7
Local (≤199 Residential Units)	2.85	2.50	2.24	2.04
Sub-collector (200-500 Residential Units)	3.52	3.14	2.84	2.60
Collector (501-1000 Residential Units)	4.09	3.65	3.34	3.07
Light Commercial	4.05	3.75	3.55	3.35
Heavy Commercial/ Industrial	4.87	4.55	4.26	4.05

a) For Asphalt over Crushed Stone Base pavements, the crushed stone base may not be reduced below the thicknesses shown in Table A-2: Required Subdivision Street Thicknesses and minimum total Asphalt thickness of 4.5" local streets), 5.5" (subcollector streets), 6.5" (residential collector streets), and 7.5" (commercial/industrial streets) shall be maintained.

b) There shall be no reduction in thickness for Concrete pavements below those shown in Table A-2: Required Subdivision Street Thicknesses.

c) Alternative pavement designs shall not be permitted for:

i) in situ soils with CBR values greater than 3;

ii) undercut and replaced subgrade soils; or

iii) crushed stone base and geotextile/geogrid subgrade improvements.

A.1-3 Pavement and Pavement Drainage Construction Details

Appendix C: Standard Construction Requirements and Details for Streets, Sidewalks, Driveways contains important construction details that are a part of these specifications for the pavement, pavement Drainage system, and other utility construction within the Right of Way that can impact pavement performance. Proper construction execution of the details in Appendix C: Standard Construction Requirements and Details for Streets, Sidewalks, Driveways is important to good pavement performance.

SECTION A.2: USE OF AGGREGATES WITHIN THE RIGHT-OF-WAY

A.2-1 Aggregate Specifications

Table A-5 indicates the specifications for the various aggregate types and their uses in improvement construction within the Street Right-of-way. All aggregates must pass all KYTC aggregate requirements for their intended use as set out in Section 800 of the KYTC Road and Bridge Manual, latest edition.

Table A-5: Aggregate Specification Table

KYTC Specification	Use Within Right-of-Way
Pipe Bedding Sand	Bed and cover for deep sanitary sewer and storm sewer
Concrete Sand	Concrete mix and bed and cover for waterline and power and communication utilities
DGA	Backfill for waterline and power and communication utilities under the Street
57's Crushed Limestone	Concrete pavement aggregate and catch basin crossover construction
57's Gravel	Allowable aggregate for all Concrete not used in Concrete Pavement and Concrete Curb and Gutter
No. 8's Gravel	Allowable aggregate for all Concrete
#4 Crushed Limestone	Required aggregate for Concrete Pavements
Crushed Stone Base	Base material all pavements
Asphalt Aggregates (see Table A-14)	Asphalt pavement aggregates must meet requirements in Section 400 of KYTC Road and Bridge Manual, latest edition, except where noted otherwise in this specification

All aggregates must pass all KYTC aggregate requirements for their intended use as set out in Section 800 of the KYTC Road and Bridge Manual, latest edition.

SECTION A.3: PORTLAND CEMENT CONCRETE (CONCRETE) INFRASTRUCTURE

A.3-1 General Requirement

(A) Materials

Portland cement, water, aggregates, air entraining agents, and admixtures to reduce water, retard set, etc. shall satisfy the material specifications of, and be proportioned, batched, delivered, and cured in accordance with, the Portland Cement Association (PCA), Design and Control of Concrete Mixtures, latest edition, except as noted otherwise in these regulations.

(B) Mix Design

Concrete mix design shall: (1) contain six bags of cement (564 pounds) per cubic yard; (2) be air entrained to an air content of six percent +2 percent using ASTM air entraining admixture; and (3) have a maximum water cement ratio of 0.45, and a maximum slump of four inches. Aggregate type, gradation and weight distribution will vary depending on the intended use, as spelled out in Subsections A.3-2(A), A.3-3(A), and A.3-4(A).

(C) Fly Ash

No fly ash is allowed in the Concrete mix.

(D) Strength

Finished Concrete shall attain a minimum compressive strength at 28 days of 4,000 pounds per square inch.

(E) Ready Mix Suppliers

All Concrete Ready Mix must be provided by Ready Mix plants listed on the KYTC List of Approved Materials (LAM) as a qualified producer. In the alternative, the Ready Mix supplier must supply to the staff an executed original of KTC Form TC-64-764/09 2011 “Certification of Compliance for Freeze Thaw Resistant Concrete Aggregate” for the aggregate used in Concrete mixes prior to commencement of construction. All Ready Mix Concrete suppliers shall submit to the Staff in January of each year mix design verifications for all Concrete mixes that will be supplied during that year for use in Subdivision improvements.

(F) Delivery and Discharge

Concrete shall be delivered and discharged from a truck mixer or agitator truck within the periods specified in Table A-6. Delivery tickets shall have this time clearly shown and be checked for conformance by the Staff. Delivery tickets shall also show the date of the delivery, the Concrete mix supplied, and the design compressive strength. All delivery tickets shall be delivered to Staff. Any Concrete which is not plastic and workable when placed shall be rejected.

Table A-6: Maximum Concrete Discharge Time

Air Temperature	Maximum Discharge Time
Up to 85 degrees Fahrenheit	1.5 hours
More than 85 degrees Fahrenheit	1 hour

(G) Curing

Concrete shall be cured in accordance with Section 601.03.17 of the KYTC specification.

(H) Expansion and Isolation Joints

Expansion and Isolation Joint material used herein shall be pre-formed one-inch thick material, the full depth of the Concrete, and shall conform to KYTC specifications for use in Concrete pavements.

(I) Cold Weather Placement

Concrete may be placed when the ambient air temperature in the shade and away from artificial heat is 40° F (and rising). No concrete shall be placed upon frozen subgrade. Concrete shall be protected from freezing for a period of up to seven days.

(J) Hot Weather Placement

Maintain the temperature of the mixture at or below 90° F during placement. Cease concrete production when the mixture exceeds 90° F until adequate methods are in place to reduce or maintain the mixture temperature. Do not place concrete in areas where the ambient temperature is above 100° F.

A.3-2 Street Pavement Requirements

(A) Aggregates

(1) Aggregates for Concrete Street pavement shall be a blend of No. 467 crushed limestone, No. 8 gravel and concrete sand.

(2) The No. 467 crushed limestone aggregate shall meet the gradation limits shown in Table A-7.

Table A-7: No. 467 Gradation Limits

Sieve Size	Percent Passing
2”	100
1 ½”	93-98*
1"	- -
¾”	35-70
½”	- -
⅜”	10-30
#4	0-5
#8	- -

*Note that the specified percent passing the 1 ½” sieve differs from Section 800 of the KYTC Road and Bridge Manual, latest edition, for No. 467 gradation. The No. 467 crushed limestone for Street pavement in the Regulation must have 2% to 7% retained on the 1½” sieve.

(3) Gradation of the No. 8 gravel and the concrete sand shall meet the requirements of Section 800 of the KYTC Road and Bridge Manual, latest edition.

(4) Minimum cement factor shall be 564 pounds per cubic yard.

(5) Minimum compressive strength at 28 days shall be 4,000 psi.

(6) Maximum water / cement ratio shall be 0.45.

(7) Air entrainment shall be 6% ± 2%.

(8) Maximum slump without mid-range water reducer shall be 4-inches.

(9) Maximum slump with mid-range water reducer shall be 7-inches.

(10) Workability factor shall be between 38 high to 33 low.

(11) Coarseness factor shall be between 73 high to 68 low.

(B) Thickness Requirements

Pavement thicknesses for various classifications of Streets shall be as shown in Table A-2: Required Subdivision Street Thicknesses. Various critical Concrete pavement design and construction details that shall be used in Concrete Subdivision pavements are shown in Appendix C: Standard Construction Requirements and Details for Streets, Sidewalks, Driveways.

(C) Testing Requirements

(1) One set of three test cylinders shall be made for each day's placement of Street. An additional set of three test cylinders shall be made for each additional 100 cubic yards of placement. One slump, air entrainment and temperature test shall be performed for each set of Concrete test cylinders.

(2) One cylinder shall be tested for compressive strength at no later than seven days and two cylinders at 28 days.

(3) Part of the plastic Concrete sample used for the test cylinders shall be washed to visually confirm that crushed limestone coarse aggregate was used in the Concrete mix.

(4) All Concrete testing shall be performed by a Qualified Materials Testing firm in accord with applicable ASTM specifications, latest editions. The results of all Concrete testing are required to be provided to Staff by the Developer prior to the approval of a Final Plat.

(D) Reinforcing Steel

The use of continuous reinforced concrete pavements is not required but can be considered for streets serving commercial/industrial uses.

(1) Bent bars are not considered reinforcing steel in the contents of this section.

(2) The use of wire mesh in concrete pavements is prohibited.

(E) Placement

(1) Formwork

a) Fixed forms shall have a depth equal to or greater than the thickness of the pavement.

b) Forms shall be of such cross-sections and strength and so secured as to resist the pressure of the Concrete when placed, and the impact and vibration of any equipment which they support, without springing or settlement.

(2) Setting

The Subgrade under the forms shall be compacted and shaped so that the form set shall provide the specified elevation.

(3) Grade and Alignment

The alignment and grade elevation of the forms shall be checked by the Contractor immediately ahead of Concrete placement and corrections made when necessary.

(4) Placement Method

a) All Concrete placement shall conform to ACI Specifications, latest edition.

b) The Concrete shall be mixed in quantities required for immediate use and shall be deposited on the Subgrade to the required depth and width of the construction lane in successive batches and in a continuous operation. The terminus of a continuous pour shall be a Construction Joint per Appendix C: Standard Construction Requirements and Details for Streets, Sidewalks, Driveways.

c) The Concrete shall be placed as uniformly as possible in order to minimize the amount of additional spreading necessary.

d) The Concrete shall be vibrated and consolidated with suitable tools while being placed so that the formation of voids or honeycomb pockets is prevented.

e) Concrete shall not be placed around manholes or other structures until they have been brought to the required grade and alignment.

f) Additional tamping and compaction of surrounding fill material may be required after raising manholes.

(5) Consolidating and Finishing

a) Concrete pavement shall be struck off and consolidated with a mechanical finishing machine, vibrating screed, slipform paver, or by hand-finishing methods such that, after consolidation and final finishing, it shall be at the elevation shown on the approved plans.

b) The finishing method shall incorporate a screed, which will consolidate the Concrete by pressure, vibration, or both.

c) The Concrete shall be brought to a true and even surface, free from rock pockets.

d) Hand-finishing tools shall be kept available for use in case the mechanical finishing machine breaks down.

e) When hand finishing, the pavement shall be struck off and consolidated by a vibrating screed to the elevation as shown on the plans. When the forward motion of the vibrating screen is stopped, the vibrator shall be shut off and not be allowed to idle on the Concrete.

(6) Scraping and Straight Edging

a) The Inspector may require that the pavement be scraped with a straightedge with a minimum width of six feet, equipped with handles long enough to permit it to be operated from the edge of the pavement.

b) When irregularities with the surface elevation are discovered, they shall be corrected by adding or removing Concrete. All disturbed areas shall be floated with a wooden or metal float not less than four feet long and not less than six inches wide and straight edged.

(7) Edging

Before final finishing is completed and before the Concrete has taken its initial set, the edges of the slab and Curb shall be carefully finished with an edger.

(8) Final Surface Finish

a) The final surface of the Concrete pavement and Curb shall have a uniform gritty texture at the grades and cross-sections shown on the plans.

b) A burlap drag or medium broom shall be used as the final finishing method for Concrete pavement.

c) A burlap drag finish shall have a minimum width of at least three feet and have a length that is long enough to cover the entire pavement width.

d) The burlap drag shall be pulled forward across the pavement in the direction in which the pavement is being placed.

e) A broom finish shall be drawn transversely across the pavement using overlapping strokes to produce surface corrugations of uniform appearance approximately 1/16th inch in depth.

f) Curbs shall be finished using the same method as the pavement.

(9) Integral Curb

a) Curbs shall be constructed monolithically with pavement extrusion equipment or hand formed prior to the finishing operation.

b) The integral barrier and sloped Curb shall be constructed with or prior to the finished paving operation. Special care shall be taken so that the Curb construction does not create a “cold joint.”

c) Curbs placed immediately following the paving operation shall be sufficiently consolidated with the paving slab and shall not contain voids within or along the back face of the Curb.

d) Integral barrier Curbs along the edges of Street pavement shall contain depressed Curbs not less than 1-3/4 inches above the gutter line at all Driveway entrances and at such other locations as designed on the approved plans.

e) When barrier Curb is used, the Curb may be sawed horizontally to facilitate residential Driveways, approaches, and Sidewalks.

(F) Concrete Street Pavement Joints

(1) Contraction Joints

a) All Contraction Joints shall be placed a maximum of 15 feet on center. Commercial/Industrial Subdivision pavements shall have sawed transverse Contraction Joints with steel dowels that are cut perpendicular across the pavement. All residential pavements shall have tooled or sawed Contraction Joints without dowels. Residential pavement transverse Contraction Joints shall be skewed (except at intersections, paired catch basins and in Cul-de-sacs). See Appendix C: Standard Construction Requirements and Details for Streets, Sidewalks, Driveways.

b) Sawed joints shall be equal to a depth of one-fourth (1/4) of the pavement thickness continuous across the slab.

c) The timing of the installation of joints shall conform to ACI specifications, latest edition.

d) Contraction Joints cut into fresh Concrete with a jointing tool shall be a minimum 1½ inches deep.

(2) Expansion Joints

There shall be no Expansion Joints in any pavements except at bridge abutments and where required by construction details in Appendix C.

(3) Longitudinal Joints

a) All pavements wider than 15 feet require Longitudinal Joints. Longitudinal Joints may be Construction Joints or tooled/sawed joints.

b) Longitudinal Construction Joints will require 18 inches long #4 deformed bars embedded into each slab at the mid-slab height, no more than four feet on center and no closer than 18 inches to each Contraction Joint.

c) Bent bars may be inserted into fresh Concrete before its initial set.

d) Bent bars shall not be straightened until the Concrete has cured sufficiently to enable bending without fracture of the Concrete slab.

(4) Other Pavement Joints

Other Contraction Joints and Isolation Joints shall be constructed per Appendix C: Standard Construction Requirements and Details for Streets, Sidewalks, Driveways.

(G) Manholes and On-Street Inlets

Manholes, on-Street inlets, and water valves encountered in the areas to be paved shall be raised or lowered to the surface of the new pavement. On-Street inlets may be separated from the pavement and Curb by boxing out around the inlet. Details for Joint construction at manholes and catch basins are in Appendix C: Standard Construction Requirements and Details for Streets, Sidewalks, Driveways.

(H) Protection and Opening to Traffic

(1) Traffic shall be prohibited from the pavement until the Concrete has attained a compressive strength of 3,500 pounds per square inch.

(2) Prohibited traffic shall include Contractor's vehicles.

(3) Prior to opening to public traffic, the Developer is responsible for completing, curing and sealing the pavement, including box outs, backfilling the Street, sealing the joints and cleaning the pavement of all debris.

(I) Concrete Pavement Lugs

The purpose of pavement lugs in Subdivision pavements is to provide some additional resistance to Contraction Joints separating during repeated expansion and contraction cycles over the life of the pavement in certain open ended and relatively steep downhill pavement conditions. In these open ended and downhill conditions, resistance to pavement lengthening at contraction joints is substantially reduced as compared to Contraction Joints in long stretches relatively straight pavement. In the long, relatively straight streets, the repetitive adjacent slabs help keep the contraction joints from separating during repeated expansion and contraction cycles. Those conditions which shall require lugs are related to the geometry of the Streets and are as follows (see Appendix C: Standard Construction Requirements and Details for Streets, Sidewalks, Driveways).

(1) The ends of Cul-de-sacs where the Street grade approaching the Cul-de-sac decreases more than 20 feet vertically, at an average grade of more than six percent, before there is a change in direction of Street Drainage. In this condition, install a lug near the end of the Cul-de-sac across the extension of the two lanes of pavement.

(2) At T-intersections, place a lug on the intersecting street near the intersection, where grade on the intersecting Street is going up from the intersection more than 20 feet vertically, at an average grade of more than six percent, before there is a change in the Drainage direction.

(3) On the main line of a Street pavement where the pavement is going straight and downhill more than 20 feet vertically, at an average grade of more than six percent and the direction of centerline deflects horizontally by more than 30 degrees, place a lug just uphill of the start of the horizontal curve.
a) Lugs shall be placed at least 20 feet uphill from any shallow utility excavation transverse to the pavement.

(4) The Design Engineer may add other lugs in conditions he considers critical to Contraction Joint integrity.

(5) Lug locations are to be shown on construction design and as-built drawings.

(J) Joint Sealing Compound

(1) Joint sealing compound shall conform to the following standard designations:

a) Hot-poured elastic type, as specified by AASHTO, latest edition; or

b) Silicone rubber sealant type (non-sag, self-leveling, or rapid cure) conforming to the KYTC Department of Highways Standard Specifications for Road and Bridge Construction, latest edition; or

c) An approved equal, as determined and approved by Staff.

(2) The application of joint sealant is prohibited at temperatures below 40 degrees Fahrenheit.

A.3-3 Concrete Curb and Gutter Requirements

(A) Aggregates

(1) Aggregates for Concrete Curb and Gutter shall consist of KYTC aggregates approved for use in pavements.

(2) The following quantities and aggregate types shall be provided for one cubic yard of concrete:

a) 1,500 pounds of #57 crushed limestone.

b) 300 pounds #8 gravel.

c) 1,320 pounds of Concrete sand.

(B) Curb Design

(1) 24-inch wide Concrete Curb and gutter shall be used for all Streets Types with Asphalt pavements.

(2) All Streets serving residential developments shall use the sloped curb as shown in Appendix C: Standard Construction Requirements and Details for Streets, Sidewalks, Driveways.

(3) All Streets serving industrial/commercial developments shall use the six inch barrier Curb.

(C) Concrete Curb over Crushed Stone Base
Concrete Curb over Crushed Stone Base shall be a minimum of seven inches thick at the Curb apron.

(D) Expansion Joints

(1) Expansion Joints shall be placed in Concrete Curbs at each side of Curb inlet catch basins.

(2) Two 3/4-inch diameter, 18-inch long smooth dowels with expansion caps shall be placed in each Expansion Joint location.

(3) Expansion material must go completely through the Curb cross section, preventing Concrete to Concrete contact.

(E) Contraction Joints
Contraction Joints shall be installed in the Curb at a spacing of no more than 10 feet on center.

(F) Standard Details
Details for Concrete Curb and gutter are shown in Appendix C: Standard Construction Requirements and Details for Streets, Sidewalks, Driveways.

(G) Testing Requirements

(1) One set of three test cylinders shall be made for each day's placement of Street. An additional set of three test cylinders shall be made for each additional 100 cubic yards of placement. One slump, air entrainment and temperature test shall be performed for each set of Concrete test cylinders.

(2) One cylinder shall be tested for compressive strength at no later than seven days and two cylinders at 28 days.

(3) Part of the plastic Concrete sample used for the test cylinders shall be washed to visually confirm that crushed limestone coarse aggregate was used in the Concrete mix.

(4) All Concrete testing shall be performed by a Qualified Materials Testing firm in accord with applicable ASTM specifications, latest editions. The results of all Concrete testing are required to be provided to Staff by the materials testing firm prior to the approval of a Final Plat.

A.3-4 Concrete Public Sidewalks, Pathways, Driveway Aprons and Other Infrastructure

(A) Concrete Mix Design Requirements

(1) Aggregates shall be a blend of No. 57 gravel or crushed limestone, No. 8 gravel and concrete sand.

(2) Gradation of the No. 57 gravel or crushed limestone, the No. 8 gravel and the concrete sand shall meet the requirements of Section 800 of the KYTC Road and Bridge Manual, latest edition.

(3) Minimum cement factor shall be 564 pounds per cubic yard.

(4) Minimum compressive strength at 28 days shall be 4,000 psi.

(5) Maximum water / cement ratio shall be 0.45.

(6) Air entrainment shall be 6% ± 2%.

(7) Maximum slump without mid-range water reducer shall be 4-inches.

(8) Maximum slump with mid-range water reducer shall be 7-inches.

(9) Workability factor shall be between 40 high to 35 low.

(10) Coarseness factor shall be between 63 high to 58 low.

(B) Subgrade

(1) Subgrade for Sidewalks, pathways, and Driveway aprons shall be non-organic and consist of natural clay or sand soils.

(2) Clay soils must be knit together without any loose clay soils. Any material used to finish grade Subgrade shall be bank run sand, KYTC crushed limestone DGA, or crushed recycled Concrete.

(3) Any granular material in excess of two inches thick shall be compacted with a vibrating plate compactor or equivalent.

(4) No gravel and no other crushed limestone gradation will be used for finish grade fill material.

(C) Thickness Requirements

(1) Concrete for public Sidewalks and pathways shall be a minimum of four inches thick.

(2) Residential Driveway aprons shall be a minimum of five inches thick.

(3) Commercial and industrial Driveway aprons shall be a minimum of seven inches thick.

(D) Drive/Apron Requirements
Required Driveway apron layouts and construction details, including required Expansion Joint thickness and location, are shown in Appendix C: Standard Construction Requirements and Details for Streets, Sidewalks, Driveways. Special care must be taken during construction to make sure there is no Concrete-to-Concrete contact under all Expansion Joints.

(E) Edge Drain Installation
When installing Driveway aprons, special care must be taken not to damage the edge drain installed on the outside of the Curb. If the edge drain is damaged, the damaged section must be properly replaced to assure water flow through the edge drain.

(F) Contraction Joint Spacing
For Sidewalks, the maximum spacing of Contraction Joints shall not exceed five feet, except when the Sidewalk or pathway is wider than five feet when the spacing shall not exceed the width of the slab.

SECTION A.4: ASPHALT CONCRETE (ASPHALT) INFRASTRUCTURE

A.4-1 General Requirement

(A) All Subdivision Streets in Campbell County Subdivisions shall be constructed in accordance with the latest edition of the KYTC Roadway Manual, Division 400, except where noted otherwise in this specification.

(B) All Contractors, suppliers and producers must be prequalified by KYTC or demonstrate experience and success on similar projects in order to perform this work.

(C) All construction materials incorporated into the work shall conform to the requirements set forth in the KYTC Roadway Manual.

(D) The Contractor shall notify Staff of the intent to start the project within 24 hours of beginning production.

A.4-2 Mixture Designation and Design

(A) Volumetric Mix Design
The Contractor shall perform the volumetric mix design according to AASHTO R35 and conforming to AASHTO M323 and utilize 50 gyrations.

(B) Mix Design Submittal
At least 72 hours prior to the start of production, the Contractor shall submit the mix design to the Staff and the Applicant’s Qualified Material Testing Lab for review.

(C) Aggregate Gradation
Aggregate gradations for base, intermediate and surface mixtures shall conform to KYTC Roadway Manual Division 400 and Table A-8.

Table A-8: Aggregate Gradations			
Sieve Size	1.0 Base Mixture	0.75 Intermediate Mixture	Surface Mixture
1-1/2”	100	- -	- -
1”	90-100	100	- -
3/4”	<90	90-100	- -
1/2”	- -	<90	100
3/8”	- -	- -	90-100
#4	- -	- -	<70
#8	19-45	23-49	25-55
#16	- -	- -	- -
#200	1-7	2-8	2-10

(D) Voids in Mineral Aggregate (VMA), Asphalt Content (AC) and Air Voids (AV) VMA, AC and AV for residential streets shall be as specified in Table A-9 and for commercial/industrial streets as specified in Table A-10.

Table A-9: VMA, AC, and AV for Residential Streets			
	Minimum VMA	Minimum AC	AV
Base Mixture	12%	4%	4%
Intermediate Mixture	13%	4.3%	4%
Surface Mixture	14%	5.4%	3%

Table A-10: VMA, AC, and AV for Commercial/Industrial Streets			
	Minimum VMA	Minimum AC	AV
Base Mixture	12%	4%	4%
Intermediate Mixture	13%	4.3%	4%
Surface Mixture	14%	5.4%	4%

(E) Remaining Mix Design

The remaining mix design shall conform to the applicable KYTC mix designations Class 2 BASE 0.75D PG64-22 or Class 2 BASE 1.0D PG64-22 “Base and Intermediate Mixture” and Class 2 SURF 0.38D PG64-22 “Surface Mixture”.

(F) Recycled Asphalt Pavement and Recycled Asphalt Shingles

Recycled Asphalt Pavement (RAP) may be used but is limited to 25 percent of the mixture by weight in the surface and 30 percent of the mixture by weight in the base. Recycled Asphalt Shingles (RAS) may be used but is limited to 3.0 percent of the mixture by weight. However, when combined, the total amount of RAP and RAS may not exceed 25 percent in the surface and 30 percent in the base with no more than three percent RAS. Warm mix Asphalt technology is allowed on a permissive base similar to the KYTC Standard Specifications. See Table A-11.

Table A-11: Maximum Recycled RAP and RAS in Asphalt Pavement			
	Maximum RAP	Maximum RAS	Maximum RAP and RAS
Base Mixture	30%	3%	30%

Intermediate Mixture	30%	3%	30%
Surface Mixture	25%	3%	25%

A.4-3 Plant Mix Operation

(A) Plant Requirements

(1) Maximum asphalt temperature during plant operations is 330° F.

(2) Minimum asphalt temperature in the truck at the plant is 220° F.

(B) Plant Testing Requirements

(1) The Contractor shall monitor the plant production and perform quality control testing at the Asphalt mixing plant.

(2) Staff shall be provided access to the facility during production and may be present to observe sampling and testing by the Contractor personnel.

(3) A minimum of one test shall be performed per day of paving and additional tests shall be performed for each 1,000 tons produced.

a) The Contractor may perform additional testing as desired to control mix properties.

b) When multiple test samples are obtained, the average value of those results shall be used for acceptance.

c) At the start of production on the project, the first sample shall be obtained after a minimum of 50 tons have been loaded.

d) Samples shall be tested for conformance to gradation and Asphalt content requirements (AASHTO T164 & AASHTO T30).

e) Testing results from any offsite laboratory testing shall be reported to Staff, the applicant and the Qualified Material Testing Lab within 24 hours.

A.4-4 Minimum and Maximum Lift Thicknesses

Minimum and maximum thicknesses for asphalt lifts are indicated in Table A-12.

Table A-12: Minimum and Maximum Lift Thickness		
	Minimum Lift	Maximum Lift
Base	3”	5”
Intermediate	2-1/4”	4-1/4”
Surface	1-1/4”	1-3/4”

A.4-5 Placement Procedures

(A) General

(1) All Contractors must be prequalified by KYTC or demonstrate experience and success on similar projects in order to perform this work.

(2) Immediately before placing Asphalt materials, remove loose and deleterious materials using a power broom or street sweeping equipment.

(B) Subgrade

(1) Asphalt placement is prohibited on subgrade with free water on the surface.

(2) Pavement Subgrade cross slopes shall vary from 3.7 percent to 5 percent depending on the applicable Street cross section.

(C) Overlay

(1) A tack coat shall be evenly applied across the width of the lane at a rate of 0.10 gallons per square yard. Adjust spray bars as necessary to avoid streaks.

(2) A tack coat is not required when placing Asphalt base mixtures on granular base layers.

(3) When Asphalt surface abuts a barrier Curb or similar vertical surface, the abutting surface shall be tack coated prior to construction of the Asphalt course.

(D) Equipment

(1) The Contractor shall furnish dump trucks with clean, smooth metal beds to transport materials and shall use approved and environmentally friendly release agents.

(2) Use of diesel fuel is strictly prohibited in truck beds.

(3) Sufficient trucks should be scheduled to allow for a continuous paving operation without significant delays between trucks.

(4) The Contractor shall furnish a self-propelled paver with the capacity of spreading and finishing all courses to the indicated widths, depths, line, grade and cross section, with a smooth finish, uniform in density and texture.

(5) Rollers must also be self-propelled and capable of reversing smoothly. Steel wheel rollers must be equipped with adjustable scrapers, spray bars, and/or wetting pads to keep wheels clean at all times.

(6) Hand tampers may also be used in tight areas inaccessible by rollers.

(E) Temperatures for Asphalt, Ambient Air and Subgrade

(1) Do not place Asphalt mixtures when the ambient air temperature and existing surface temperatures on the project are less than those specified below or when weather conditions otherwise prevent the proper handling or finishing of the Asphalt mixtures.

a) Minimum ambient air and existing surface temperature shall be 40° F (and rising) prior to placement of Asphalt Base Mixture.

b) Minimum ambient air and existing surface temperature shall be 40° F (and rising) prior to placement of Asphalt Surface Mixture:

(2) The maximum temperature of the mixture shall not exceed 330° F at any time, and the minimum temperature (measured in the truck at the project site) shall not fall below 200° F for all mixtures.

(3) Compaction efforts shall be completed before the Roadway mix temperature falls below 150° F.

(F) Application of Asphalt Mixes

(1) All courses shall be placed and spread as continuously as possible, keeping the number of joints to a minimum.

(2) The longitudinal joint in the final surface course shall be placed along the dividing line between the lanes.

(3) Best paving practices shall be utilized to ensure the proper amount of material at the joint and to make the same number of passes over the joint as the middle of the mat.

(4) The finished Joint shall be smooth and tight and free from voids or coarse material.

(G) Surface Course Application

(1) The surface course application shall be provided no later than 12 months from the date the base Asphalt was placed.

(2) Prior to the surface course application, Staff shall inspect the Asphalt base course. Damage to the Asphalt base course that will affect the structural integrity or future maintainability of the pavement section shall be repaired prior to placement of the surface course.

(3) Damage to Curb and gutter sections identified by Staff that will affect the structural integrity and/or future maintainability of the Curb and gutter shall be removed and replaced prior to the placement of surface Asphalt course.

(4) The surface course shall be compacted to between 1/8” and 1/2” above adjacent Concrete Curb apron.

(5) The pavement surface cross slope shall be three percent.

(6) The joint between Curb and gutter and Asphalt pavements shall be sealed in accord with Subsection A.4-7: Joint Sealing.

A.4-6 Density Testing Requirements

(A) Sampling
All base and surface Asphalt and aggregate materials shall be sampled, tested, and reported by a Qualified Material Testing Lab in accordance with the KYTC Roadway Manual Division 400.

(B) Testing Frequency and Results

(1) Density tests shall be performed at least every 150 feet along each lane of asphalt placed.

(2) At the discretion of Staff, a quality assurance check (including cores) of the sampling and testing may be required if deficiencies are suspected.

(3) Asphalt base and surface courses shall be compacted to an average density of between 90 and 97 percent of solid volume.

(4) Density testing shall be per ASTM D2950 “Density of Bituminous Concrete In Place by Nuclear Density Methods” or ASTM D7113 “Density of Bituminous Mixtures In Place by Electromagnetic Surface Contact Methods”.

A.4-7 Joint Sealing

(A) Compound Material
The Joint Sealing Compound shall conform to the following standard designations:

(1) Hot-Poured Elastic Type, as specified by AASHTO, latest edition; or

(2) Silicone Rubber Sealant Type (Non-Sag, Self-Leveling, or Rapid Cure) conforming to the KYTC Roadway Manual, latest edition; or

(3) An approved equal, as determined and approved by Staff.

(4) The use of AC-20 as joint sealant is prohibited.

(B) Air Temperature
The application of joint sealant is prohibited at air temperatures below 40° F.

(C) Application
(1) Joint Sealant shall be applied to all Joints abutting the Asphalt, which includes the Joint between the base Asphalt and the Curb if the surface course is not going to be applied immediately.

(2) Joint sealant shall be applied to the Curb line immediately upon placement of the surface Asphalt.

A.4-8 Acceptance

(A) All Asphalt pavement materials shall be evaluated by the Staff, per the requirements set forth in this specification and the KYTC Roadway Manual. Asphalt mixtures will be considered acceptable if the test results determine the materials are within the acceptable limits, as shown in Table A-13 and Table A-14. Any materials deemed to be outside of these ranges shall be retested for compliance.

Table A-13: Acceptable Ranges for AC and Density	
Asphalt Content	Density
±0.6%	90%-97%

Table A-14 : Acceptable Gradation Ranges			
Sieve Size	Acceptable Ranges Percent Passing		
	1.0 Base Mixture	0.75 Intermediate Mixture	0.38 Surface Mixture
1-1/2”	94-100	- -	- -
1”	84-100	94-100	- -
3/4”	<90	84-100	- -
1/2”	- -	<90	94-100
3/8”	- -	- -	84-100
#4	- -	- -	<90
#8	14-50	18-54	32-73
#16	- -	- -	- -
#200	1-10	1-10	1-10

(B) When test results are in the “Acceptable Ranges,” the material will be accepted. Staff shall require the Applicant to “Remove and Replace” the materials when the test results indicate they are outside the limits of the “Acceptable Ranges”.

(C) The surface of each course shall be inspected for uniformity and adequate thickness. Base courses shall be placed within a ½ inch tolerance and surface courses within ¼ inch tolerance. All irregularities exceeding the allowable tolerances must be repaired as directed by the Staff.

APPENDIX B

GEOTECHNICAL EXPLORATION AND EARTHWORK CONSTRUCTION REQUIREMENTS

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SECTION B.1: GEOTECHNICAL EXPLORATIONS

B.1-1 Purpose

This section fulfills the infrastructure requirements of Kentucky Revised Statutes (KRS) 100.273 through 100.292 by determining that: (1) important in situ Subdivision soils and geologic features that will impact the functional use of public and private improvements have been identified; and (2) that soils and geologic aspects of the design and construction of public and private improvements within the Public Street Right of way or Private Street easements meet the support requirements of their intended use.

(A) All earthwork and geotechnical exploration requirements within Appendix B shall apply to areas within the Public Street Right-of-way and Private Street easements, and areas structurally supporting the Public Street Right-of-way and Private Street easements;

(B) All Geotechnical Engineering and Geotechnical Technician work and reporting required under Appendix B shall be provided by the Applicant of the proposed Subdivision. The Geotechnical Technician must be under the direction and control of the Geotechnical Engineer who has been employed by the Applicant for the proposed Subdivision. The proposed Subdivision's Geotechnical Engineer shall have substantial professional engineering discretion to determine when the Geotechnical Engineering intent of the requirements of this Appendix is being met.

(C) The Applicant shall submit all Geotechnical Engineering and Geotechnical Technician reports and testing results to staff at the appropriate submittal time, as noted in Appendix B.

B.1-2 Geotechnical Explorations Outside of Right-of-Way

(A) Prior to the approval of the preliminary plat, a geotechnical engineer shall complete a preliminary report that addresses the soil and bedrock types and any existing slope stability issues that are expected in the proposed Subdivision.

(1) The Geotechnical Engineer's preliminary report will render a preliminary engineering opinion about the suitability of those soil and bedrock types and existing slopes to provide the necessary support for the intended private property use of the Subdivision.

(2) The opinion of expected soil and bedrock types and opinion of soil support suitability can be based on the Geotechnical Engineer's local soil and bedrock knowledge, USGS maps, and a visual field reconnaissance.

(B) The requirement for preliminary and final geotechnical explorations outside of the Public Right-of-way may be further regulated by the applicable legislative body's zoning ordinance.

B.1-3 Geotechnical Explorations Within Right-of-Way

(A) Preliminary Geotechnical Exploration

(1) Prior to the approval of the preliminary plat a geotechnical engineer shall complete a preliminary geotechnical exploration report. The report will address the soil and bedrock types that are expected on the project site, and present an engineering opinion about the suitability of the soil and bedrock types (when properly prepared and constructed) to provide adequate proposed Public Street Right-of-way structural support, including the minimum required CBR (subgrade support) values for asphalt and/or concrete pavements described herein.

(2) The opinion of expected soil and bedrock types and opinion of Subgrade support suitability can be based on the Geotechnical Engineer's local soil and bedrock knowledge, USGS maps, and a visual field reconnaissance.

(3) Campbell County soil types that may require replacement or other form of remediation during Subgrade construction in order to provide the minimum required CBR values for Concrete and Asphalt pavement designs shown in Table A-1 are non-plastic silts (soils that classify ML according to the Unified Soil Classification System (USCS)) and highly plastic silts and clays (MH and CH soils) with standard Proctor maximum dry densities less than 100 pounds per cubic foot and plasticity indices greater than 30 percent.

(B) Final Geotechnical Exploration
Prior to approval of the Improvement Plans or Grading Plans a Geotechnical Engineer shall complete a final geotechnical exploration report that identifies the soil and bedrock types present on the project site covered by the Improvement Plans or Grading Plans and presents a written engineering opinion about the suitability of the soils and bedrock to provide stable Right-of-way earthwork construction, and to provide the minimum CBR values for Asphalt and Concrete pavement.

(1) This written report shall be submitted to staff and be based on the results of soil borings, test pits, field and laboratory soil testing, etc. that are sufficient for the Geotechnical Engineer to render his/her engineering opinion.

(2) If the soils are not suitable to provide the minimum CBR values, the Geotechnical Engineer shall include recommendations in the written report for subgrade improvement or alternate pavement designs.

SECTION B.2: EARTHWORK SPECIFICATIONS

B.2-1 Purpose

The purpose of this section is to establish the appropriate earthwork specifications and material testing requirements so that the Public Street Right-of-way and Private Street easements have adequate earthwork structural support and the required pavement subgrade support.

B.2-2 Earthwork Excavations

The following shall apply to earthwork excavations other than trenches or temporary excavations:

(A) All topsoil shall be stripped from proposed cut, fill and pavement areas.

(B) Excavations shall be made to approximate grade or Subgrade elevations consistent with approved plans.

(C) Final cut slopes shall not be steeper than a slope of 3.0 horizontal to 1.0 vertical unless otherwise designed by a Geotechnical Engineer, but in no case shall be steeper than 2.0 horizontal to 1.0 vertical.

(D) Any spongy, unstable, or organic material that is exposed at the finished Subgrade level must be removed to expose stiff, non-yielding, non-organic soils and the excavated material replaced with soils capable of producing the required Subgrade CBR for the pavement design being used for the project (see Section A.1: Pavement Design Method and Required Thicknesses of these regulations).

(E) When excavating at the cut/fill transition during earthwork, remove spongy or unstable material, organic matter, or other unsuitable materials that are exposed. The Contractor shall remove same to expose stiff, non-yielding, non-organic soils and shall replace with approved materials, placed and compacted in accordance with these regulations and the recommendations of the geotechnical engineer.

(F) Excavations can be backfilled with the same soils that were removed, provided they meet the requirements of Subsection B.2-3: Controlled Fill, Subsection B.2-4: Trench Backfill, Subsection B.2-5: Shallow Trench Backfill, and Subsection B.2-6: Deep Trench Backfill.

B.2-3 Controlled Fill Other than Trench Backfill

(A) Construction of controlled fills shall be observed and tested by a Geotechnical Technician. Density testing and reporting is required at a minimum frequency of one density test per 500 cubic yards.

(B) Organic or vegetative soils shall not be used in the construction of the controlled fill.

(C) Controlled fills shall be constructed of natural soils or bedrock to approximate Subgrade elevation in level lift thicknesses that are approved by the Geotechnical Engineer. All shale used in controlled fills shall be pulverized to a soil-like consistency and moisture-conditioned the same as a soil. Limestone shall be laid flat and shall be broken up and dispersed in the fill so that it does not nest or impede compaction. The incorporation of limestone floaters in the fill shall be in accordance with the recommendations of the Geotechnical Engineer.

(D) Except for the top one foot of earthwork finished grades, which is the pavement subgrade, controlled fills shall be constructed with soils that are within two percent below to three percent above their optimum moisture content and compacted to a firm, non-yielding condition and to dry densities at least 95 percent of the maximum dry density, as determined by the standard Proctor moisture-density test (ASTM D698, latest edition), or 87 percent of maximum dry density as determined by the modified Proctor moisture-density test (ASTM D1557, latest edition).

(E) Clean granular soils that do not exhibit a well-defined moisture-density curve shall be compacted to a firm, non-yielding condition and to at least 75 percent relative density as determined by the testing methods contained in ASTM D4253 and D4254, latest edition.

(F) Controlled fill slopes shall not be steeper than 3.0 horizontal to 1.0 vertical unless otherwise designed by a Geotechnical Engineer. In no case shall unreinforced fill slopes be steeper than 2.5 horizontal to 1.0 vertical.

(G) Lime stabilization in controlled fills is prohibited unless designed and approved by a Geotechnical Engineer.

(1) Prior to using lime stabilization, staff shall approve the recommended lime stabilization specifications from a Geotechnical Engineer.

(2) The Geotechnical Engineer shall be required to monitor the lime stabilization process in the field to determine that it is consistent with their recommended specifications.

(3) A letter from the Geotechnical Engineer shall be submitted to staff confirming that the lime stabilization process used in the field was consistent with their written recommendations.

(H) Heavy equipment used for compaction shall be capable of producing the required controlled fill densities without lamination.

(1) Cohesive soils shall be compacted with kneading type compaction equipment.

(2) Cohesionless soils shall be compacted with smooth face vibratory equipment.

B.2-4 Trench Backfill

The following general information shall apply to all trench backfill:

(A) Trench backfill is defined as the backfill material used to refill the trench excavation above the initial utility conduit bedding and cover that is a part of underground utility installation.

(B) Natural non-organic soils, bedrock, approved aggregates, and Controlled Low Strength Material shall be used to backfill utility trenches as defined herein.

(C) Backfill shall not be flushed with water to obtain compaction.

(D) A Geotechnical Technician shall observe, test and report on the trench backfill compaction at least once per day when said trench backfill operations are occurring.

B.2-5 Shallow Trench Backfill

The following shall apply to shallow trench backfill:

(A) Shallow trenches are defined as the utility trenches where the backfill material (the material above the granular utility conduit bedding and cover material) is less than three feet deep to finish earthwork grade.

(B) Shallow trench backfill under the pavement and within a 1 horizontal to 1 vertical projection downward from the bottom edge of curb shall be dense graded aggregate (DGA), No. 57 crushed limestone (only when connected to a Drainage structure) or controlled low strength material (CLSM) as set out in Appendix C: Details C.2 and C.3. Aggregates shall be compacted as shown in the above noted details.

(C) Shallow trench backfill within the Right of Way but outside of the pavement and beyond a 1.0 horizontal to 1.0 vertical projection downward from the bottom edge of curb shall be natural, nonorganic soil or bedrock (no pieces of limestone thicker than six inches or more than 12 inches long/wide or specified aggregates as set in Appendix C: Details C.2 and C.3.

(1) All shale shall be pulverized to a soil-like consistency and moisture-conditioned as a soil.

(2) All limestone shall be laid flat, broken up, and dispersed so it does not nest or impede compaction.

(3) All backfill shall be moisture-conditioned to within two percent below to three percent above the optimum moisture content for compaction, shall be placed in layers of 8 to 10 inches in thickness, and each lift shall be thoroughly compacted to densities not less than 90 percent of the standard Proctor maximum dry density, or 82 percent of the modified Proctor maximum dry density for that soil.

(4) Backfill method shall be either a sheepsfoot roller attachment on a track mounted excavator or a self-propelled kneading-type compactor operating longitudinally in the trench excavation.

B.2-6 Deep Trench Backfill

The following shall apply to deep trench backfill:

(A) Deep trench backfill is defined as any trench with backfill deeper than shallow trench backfill.

(B) Deep trench backfill shall consist of natural non-organic soil or bedrock (no pieces of limestone thicker than six inches or more than 12 inches long/wide) or specified aggregates as set out in Appendix C: Details C.2 and C.3.

(1) All shale shall be pulverized to a soil-like consistency and moisture-conditioned as a soil.

(2) All limestone shall be laid flat, broken up and dispersed so that it does not nest or impede compaction.

(3) All backfill shall be moisture-conditioned to within two percent below to three percent above the optimum moisture content for compaction.

(4) Backfill lifts shall be 10 inches thick or less (unless otherwise specified by the Geotechnical Engineer), and compacted to not less than 95 percent of the standard Proctor maximum dry density for that soil.

(5) Backfill method shall be either a sheepsfoot roller attachment on a track mounted excavator or a self-propelled kneading-type compactor operating longitudinally in the trench excavation.

(C) Where depths of trenches are more than four feet and worker safety is at risk, the technician shall observe the compaction process in layers with an appropriate type of compaction equipment and document observations until worker safety is assured when compaction testing, as required, is resumed.

B.2-7 Street Pavement Subgrade

(A) Subgrade Preparation During Excavation
Subgrade is defined as the top one foot of the soils under the pavement. The pavement Subgrade must provide adequate support for the pavement structure as defined in these regulations.

(1) During earthwork and initial pavement subgrade preparation, the Geotechnical Engineer or Geotechnical Technician shall evaluate in situ pavement subgrade materials on the site and develop an opinion about their suitability to provide the minimum CBR values when compacted to the required densities at the specified moisture contents.

(2) Any soils identified as unsuitable to prove the minimum CBR values will be removed from the subgrade and replaced with suitable soils, or otherwise improved as recommended by the Geotechnical Engineer.

(B) Final Subgrade Preparations and Testing

(1) At the time of final Subgrade preparation, density testing and proofrolling before paving, the Subgrade shall be within two percent of its optimum moisture content and compacted to a firm, non-yielding condition and to dry densities at least 98 percent of the maximum dry density, determined by the standard Proctor moisture-density test (ASTM D698, latest edition) or 89 percent of the maximum dry density as determined by the modified Proctor moisture-density test (ASTM D1557, latest edition). Cohesive Subgrade material shall be properly knit together and free of loose, dry, crumbly, baked or crusted soil material.

(2) The Subgrade shall consist of cohesive soils, clean #57 crushed limestone, crushed stone base, or Controlled Low Strength Material (CLSM). Any aggregate material used to replace part of the cohesive Subgrade soil must be drained, so that no standing water can collect and be held in the aggregate Subgrade.

(3) Clean granular soils that do not exhibit a well-defined moisture-density curve shall be compacted to a firm, non-yielding condition and to at least 80 percent relative density as determined by the testing methods contained in ASTM D4253 and D4254, latest edition.

(4) The Subgrade shall be shaped to plan elevation and cross-section and checked by the Staff inspector for conformity with the cross section shown on the approved Improvement Drawings immediately prior to placing the pavement. Pavement shall not be placed on any part of the Subgrade which does not conform to the cross section shown on the approved Improvement Drawings.

(C) Final Subgrade Proofrolling

(1) Subgrade Proofrolling is the final test to be performed immediately prior to beginning the paving operations.

(2) Prior to the placement of pavement materials and after confirming proper density and moisture content of the Subgrade soils, all Street Subgrades shall be proofrolled to test the stability and uniformity of Subgrade materials.

(3) Subgrade Proofrolling shall be performed with a dual axle dump truck fully loaded with clayey soils or aggregate.

(4) Subgrade Proofrolling shall be performed at walking speed with at least two passes made in each drive lane direction with the outside wheel generally traveling along the inside line of the future Curb during one pass, and the wheel-paths offset one-half of the truck width during the second pass to maximize subgrade coverage. Extra proofroll passes shall be made at the discretion of the Staff inspector.

a) Where proofrolling indicates areas of soft or unsuitable Subgrade soils or areas of non-uniform Subgrade stability, the area shall be delineated and repaired.

b) Areas of soft or unsuitable Subgrade soils or areas of non-uniform Subgrade stability shall be identified by observing Pumping and/or Rutting. Pumping is defined as movement or deflection of the Subgrade soil that extends beyond the limits of the direct wheel load. Unless accompanied by Rutting (which is common), the pumping Subgrade soil may rebound back to its original position after the wheel load passes. Pumping failures are typically caused by Subgrade soils with higher than optimum moisture content located within a zone up to several feet below the Subgrade surface. Rutting is defined as imprints or depressions in the Subgrade caused by direct wheel loads. Rutting failures are typically caused by inadequate compaction of near surface soils.

c) Rutting in excess of one inch in depth shall be deemed a Subgrade failure requiring Subgrade repair.

d) Pumping or deflection of less than one inch is acceptable so long as the Subgrade soil rebounds back to its original position after the wheel load

passes. Pumping or deflection greater than one inch or areas of permanent deflections shall be deemed a Subgrade failure requiring Subgrade repair.

e) For larger areas of subgrade proofroll failure, the alternative pavement design procedures in Subsection A.1-2(B) can be implemented by the Applicant.

(5) Subgrade repairs shall be performed by scarifying, aerating and recompacting the Subgrade soils. As an alternative, the failed Subgrade soils can be removed and replaced with properly compacted soils capable of producing the required CBR value.

(6) In all cases, repaired areas shall be retested for compaction and proofrolled again before proceeding with the placement of pavement materials. Rutting can typically be repaired by scarifying, aerating, and recompacting, while areas of pumping will more likely require a more significant repair with depth often including the removal and replacement of unsuitable Subgrade materials.

(D) Final Subgrade Inspection Testing and Reporting Requirements

(1) Both the Staff inspector and the Geotechnical Technician have final Subgrade review, testing, and reporting responsibilities.

(2) The Geotechnical Engineer shall provide soil testing to develop an opinion of adequate bearing characteristics of the final Subgrade soils. Those tests will include, but are not limited to, moisture content testing, density testing, and verification of soil types being adequate to produce the required CBR values for the pavement. Moisture content testing, density testing, and verification of soil types being adequate to produce the required CBR values for the pavement shall be performed by the Geotechnical Engineer at intervals no less than one test per 100 lineal feet of Street for Streets of 500 lineal feet or less, or one test per 200 lineal feet for Streets over 500 lineal feet.

(3) The Geotechnical Technician and the Staff Inspector shall review the proofrolling described in Subsection B.2-7(C): Final Subgrade Proofrolling and determine whether the Subgrade passes the proofroll.

(4) Paving operations shall only be permitted to begin after passing inspection results are achieved from Subsection B.2-7: Street Pavement Subgrade, Subsection B.2-7(C): Final Subgrade Proofrolling, and Clause B.2-7(D)(2). Inspection reports referenced in Clause B.2-7(D)(1) and Clause B.2-7(D)(2) shall be placed in the Staff project file and Staff shall make their inspection records available to the Developer.

(5) Street paving shall occur within 30 hours after passing inspection results are achieved from Clause B.2-7(D)(1) and Clause B.2-7(D)(2). A ¼ inch rain event or sub-freezing temperature occurrence between a passing proofroll and Street paving shall void the proofroll and geotechnical testing and shall require re-evaluation.

(6) For concrete pavements, small pours of up to one hundred square yards to complete intersections, cul-de-sacs, etc. do not require subgrade re-proofrolling

after initially passing a proofroll as part of a large subgrade preparations and testing. Moisture conditioning and rerolling may be required.

B.2-8 Controlled Low Strength Material

(A) CLSM may be used in place of compacted clayey soils to uniformly backfill utility trenches, manholes, etc.

(B) CLSM shall not be used in place of clean, free-draining #57 crushed limestone specified for and intended as Drainage backfill around catch basins and manholes or in trench drains, such as between catch basin pairs.

(C) CLSM shall be transported by mixing truck to ensure proper suspension when placed. Constant agitation is required.

(D) Flotation of pipes should be avoided by backfilling in 8 to 12 inch lifts until fluid head subsides.

(E) Adequate separation from aluminum pipe, such as a bituminous coating, is required.

(F) CLSM shall extend from the top of compacted bedding or other backfill to bottom of pavement structure.

(1) CLSM placement shall begin no greater than six inches above the top of the pipe.

(G) CLSM shall have a minimum excavatable strength of 20 pounds per square inch at three days and 30 pounds per square inch at 28 days. CLSM shall have a maximum excavatable strength of 100 pounds per square inch at 28 days for potential future excavatability.

B.2-9 Construction Equipment on Paved Surfaces

Only rubber tired or rubber tracked equipment shall be used on paved surfaces.

B.2-10 Work Adjacent to Plastic Concrete

Grading operations adjacent to Concrete Curb are prohibited for a minimum of 24 hours after Concrete placement has been completed.

B.2-11 Final Geotechnical Reporting

After the completion of all earthwork covered under this Appendix, for each Subdivision section that is constructed and is to be recorded, the Geotechnical Engineer shall complete a final written report for that Subdivision section. The report will include the following:

(1) All relevant construction inspection results; and

(2) A statement from the project Geotechnical Engineer that, to the best of his/her knowledge and belief, all earthwork operations within the Public Street Right-of-

way, Private Street easements and areas structurally supporting the Public Street Right-of-way and Private Street easements were performed in general conformance with the requirements of this Appendix and the recommendations for the areas within the Public Street Right-of-way, Private Street easements and areas structurally supporting the Public Street Right-of-way and Private Street easements contained in the associated geotechnical exploration report.

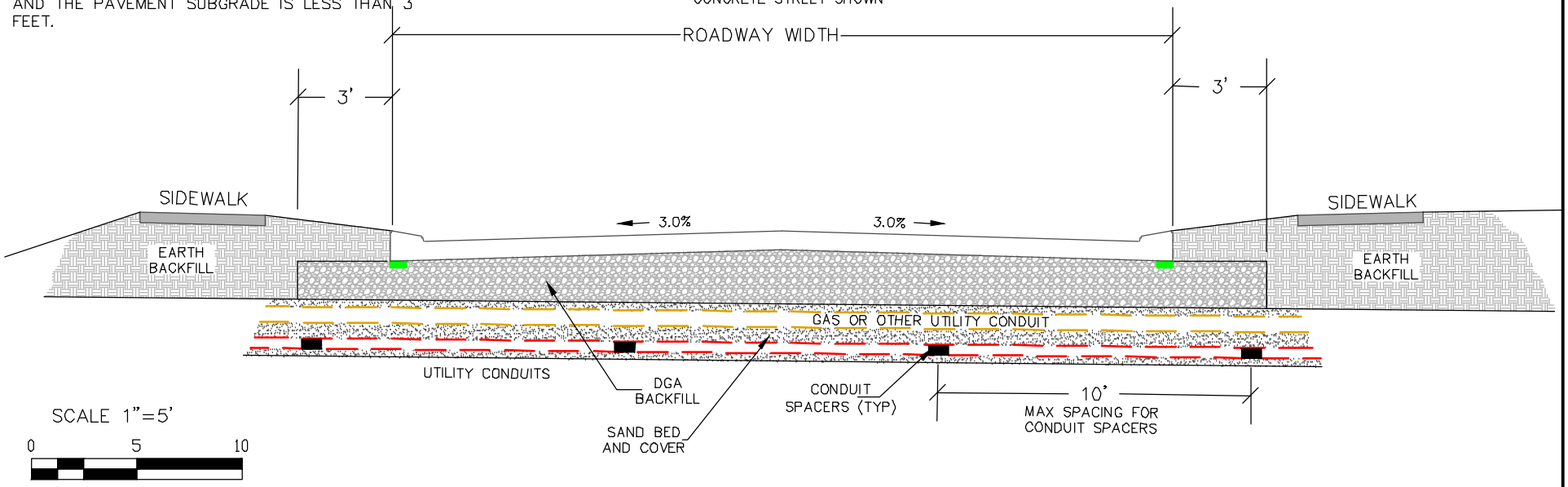
APPENDIX C

STANDARD CONSTRUCTION REQUIREMENTS AND DETAILS FOR STREETS, SIDEWALKS, DRIVEWAYS

THIS DETAIL SHALL APPLY TO ALL SHALLOW UTILITY CROSSINGS UNDER THE STREET. SHALLOW IS DEFINED AS WHEN THE DISTANCE BETWEEN THE TOP OF THE INITIAL GRANULAR COVER & BEDDING AND THE PAVEMENT SUBGRADE IS LESS THAN 3 FEET.

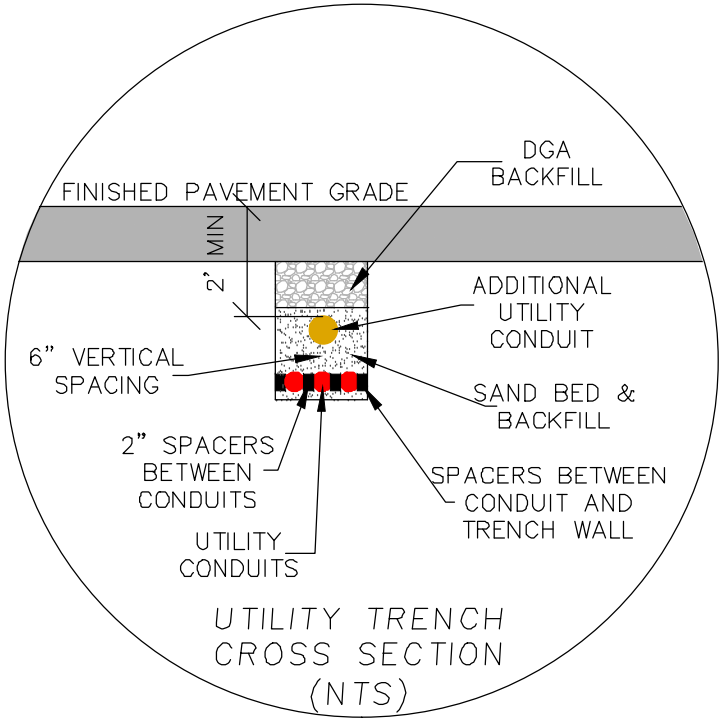
STREET CROSS SECTION AT SHALLOW UTILITY CROSS OVER

CONCRETE STREET SHOWN



SCALE 1"=5'

0 5 10



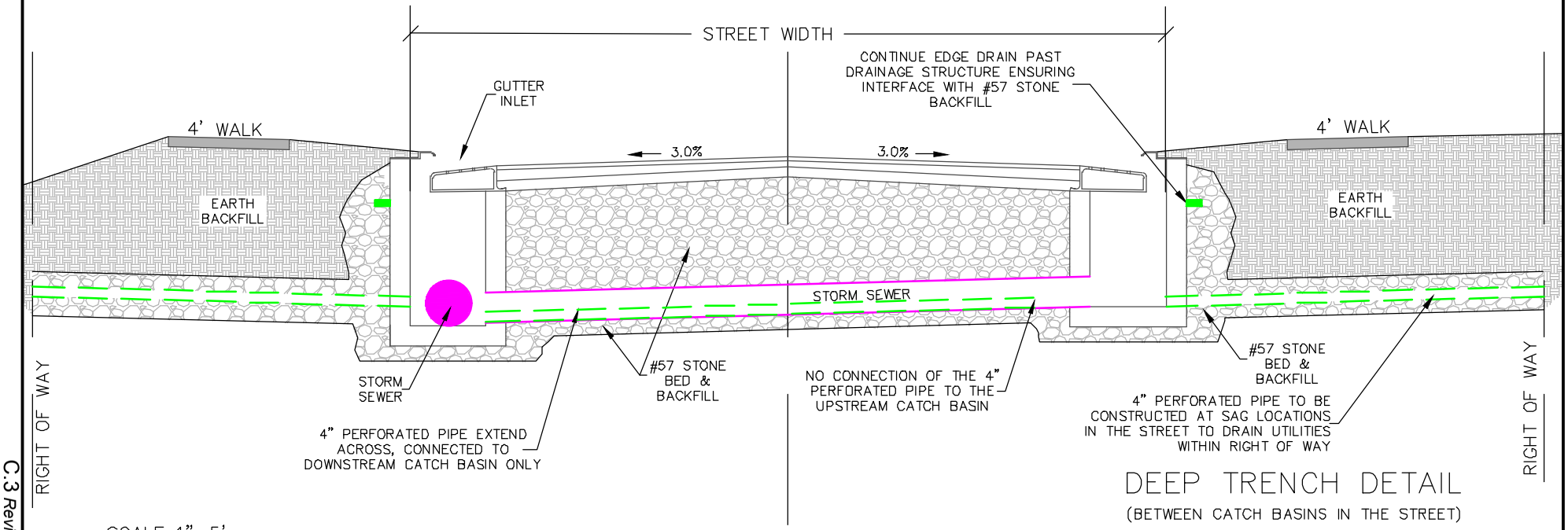
UTILITY TRENCH CROSS SECTION (NTS)

SHALLOW UTILITY CROSSOVER INSTALLATION PROCEDURE

1. ALL UTILITY CONDUITS SHALL BE SDR-35 OR EQUAL.
2. A MINIMUM OF 4" BETWEEN EACH OUTSIDE CONDUIT AND THE WALL OF THE TRENCH. (EACH CONDUIT MUST HAVE A MINIMUM SPACING OF 2" BETWEEN THE OUTSIDE EDGE OF EACH CONDUIT)
3. INSTALL A MINIMUM SAND BEDDING OF 3" IN THE BOTTOM OF THE TRENCH.
4. INSTALL UTILITY CONDUITS IN ONE SINGLE ROW (DO NOT STACK CONDUITS DIRECTLY ON TOP OF EACH OTHER) WITH A MINIMUM SPACING OF 2" BETWEEN THE OUTSIDE EDGE OF EACH CONDUIT AND A MINIMUM OF 4" BETWEEN THE LAST CONDUIT AND THE TRENCH WALL. THE MINIMUM 2" SPACING BETWEEN CONDUITS MUST BE ACCOMPLISHED USING SPACERS SUCH AS MANUFACTURED SPACERS, BRICKS, BLOCKS, ETC. THERE SHALL BE BLOCKS / SPACERS BETWEEN THE TRENCH WALL AND EACH OUTSIDE CONDUIT. SPACERS SHALL BE INSTALLED AT THE BEGINNING AND THE END OF EACH UTILITY TRENCH AND AT MINIMUM OF EVERY 10 FEET ALONG THE CONDUIT IN THE TRENCH.
5. BACKFILL CONDUITS WITH SAND TO A MINIMUM COVER OF 6" AND COMPACT WITH VIBRATORY PLATE COMPACTOR MAKING A MINIMUM OF 2 PASSES.
6. INSTALL NEXT ROW OF CONDUITS (IF NECESSARY) A MINIMUM OF 6" VERTICAL ABOVE THE FIRST ROW OF CONDUITS (MEASURED FROM THE TOP OF THE LOWER CONDUIT TO THE BOTTOM OF THE UPPER CONDUIT)
7. BACKFILL CONDUITS WITH SAND TO A MINIMUM COVER OF 6" AND COMPACT WITH VIBRATORY PLATE COMPACTOR MAKING A MINIMUM OF 2 PASSES.
8. INSTALL DGA BACKFILL (PUG MILLED) UP TO SUBGRADE OF STREET USING MAXIMUM LIFTS OF 8" AND COMPACTING WITH A VIBRATORY PLATE COMPACTOR MAKING A MINIMUM OF 2 PASSES.
9. THIS METHOD SHALL APPLY TO ALL SHALLOW UTILITY CROSSINGS (WATER MAIN, WATER SERVICES, ELECTRIC, TELEPHONE, CABLE, ETC.).

STREET CROSS SECTION AT PAIRED CATCH BASIN CROSSING

(FULL–DEPTH ASPHALT STREET SHOWN)



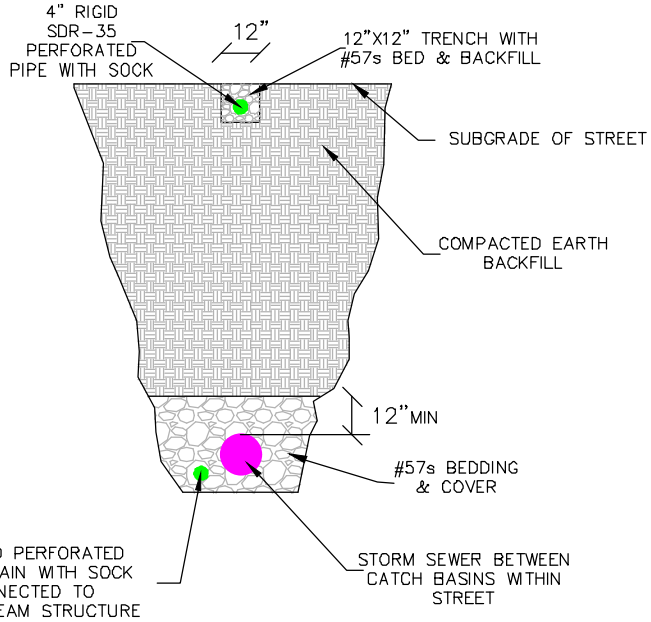
SCALE 1"=5'

0 5 10

NOTE: DEEP TRENCH DETAIL CAN BE USED WHEN THE DISTANCE BETWEEN THE TOP OF THE GRANULAR COVER & BEDDING AND THE SUBGRADE OF THE STREET IS 3 FEET OR GREATER.

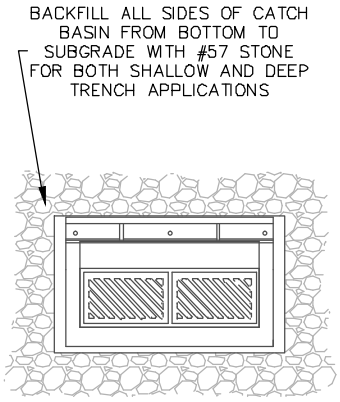
DEEP TRENCH DETAIL

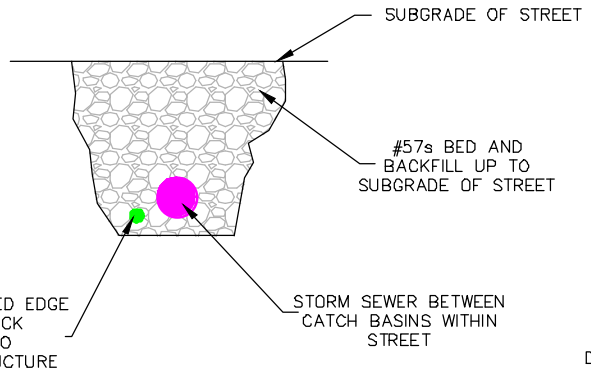
(BETWEEN CATCH BASINS IN THE STREET)



SHALLOW TRENCH DETAIL

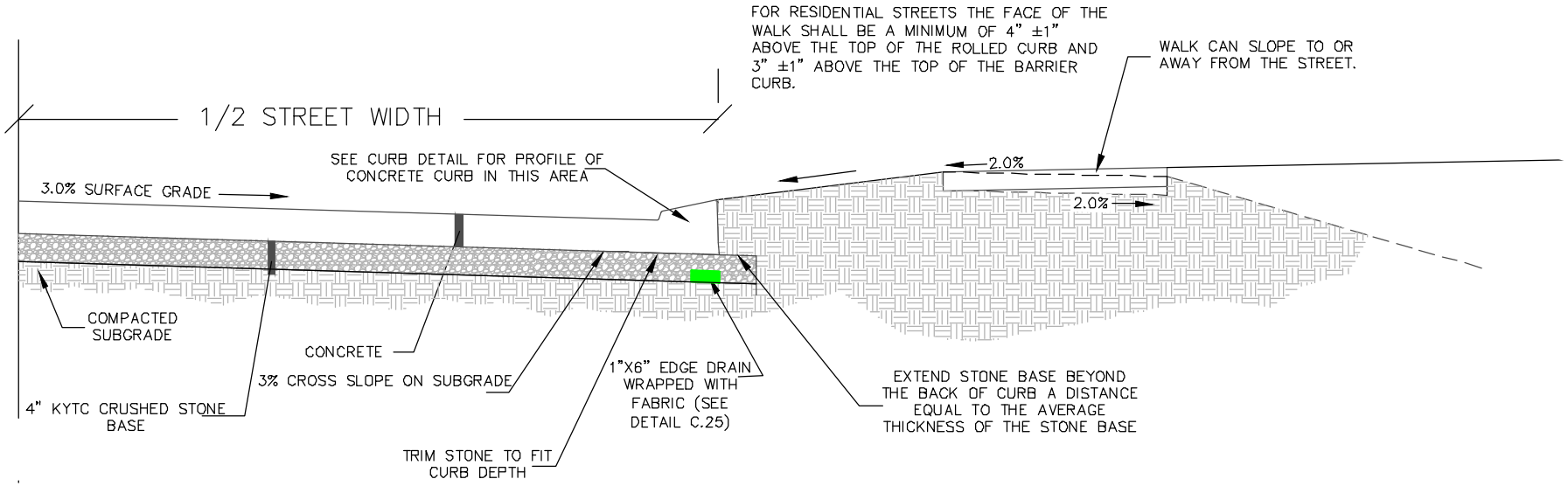
(BETWEEN CATCH BASINS IN THE STREET)





C.3 Revised Dec. 2019

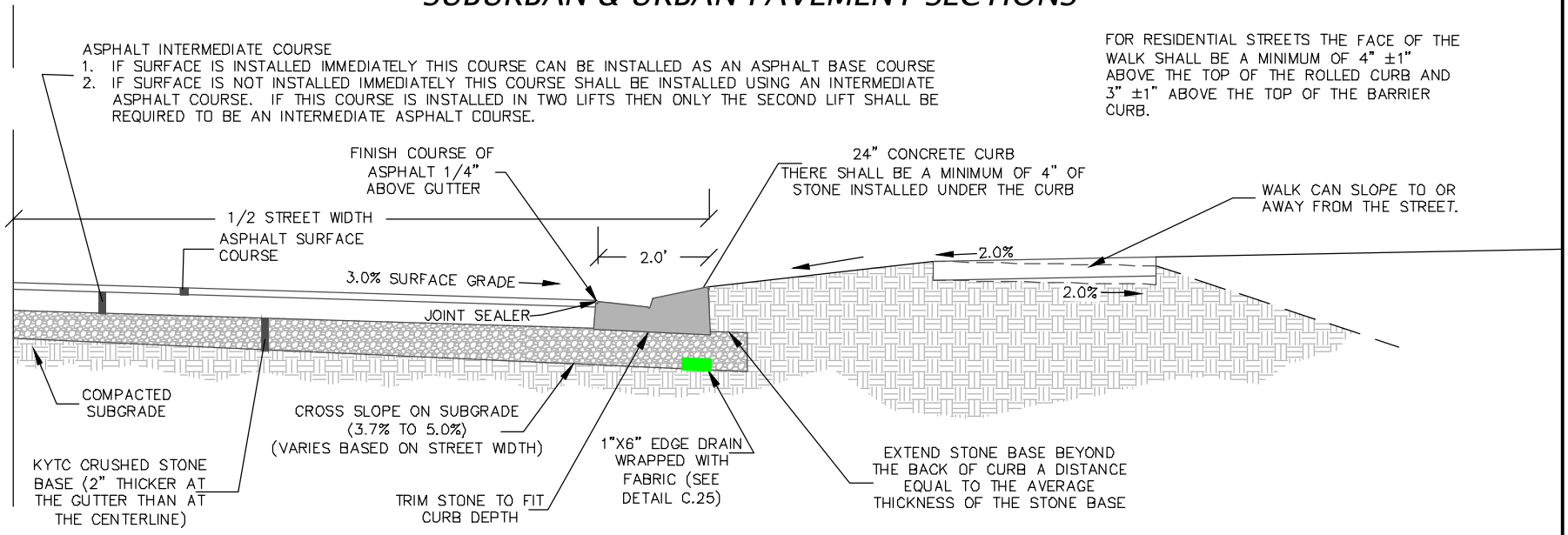
SUBURBAN & URBAN PAVEMENT SECTIONS



CONCRETE

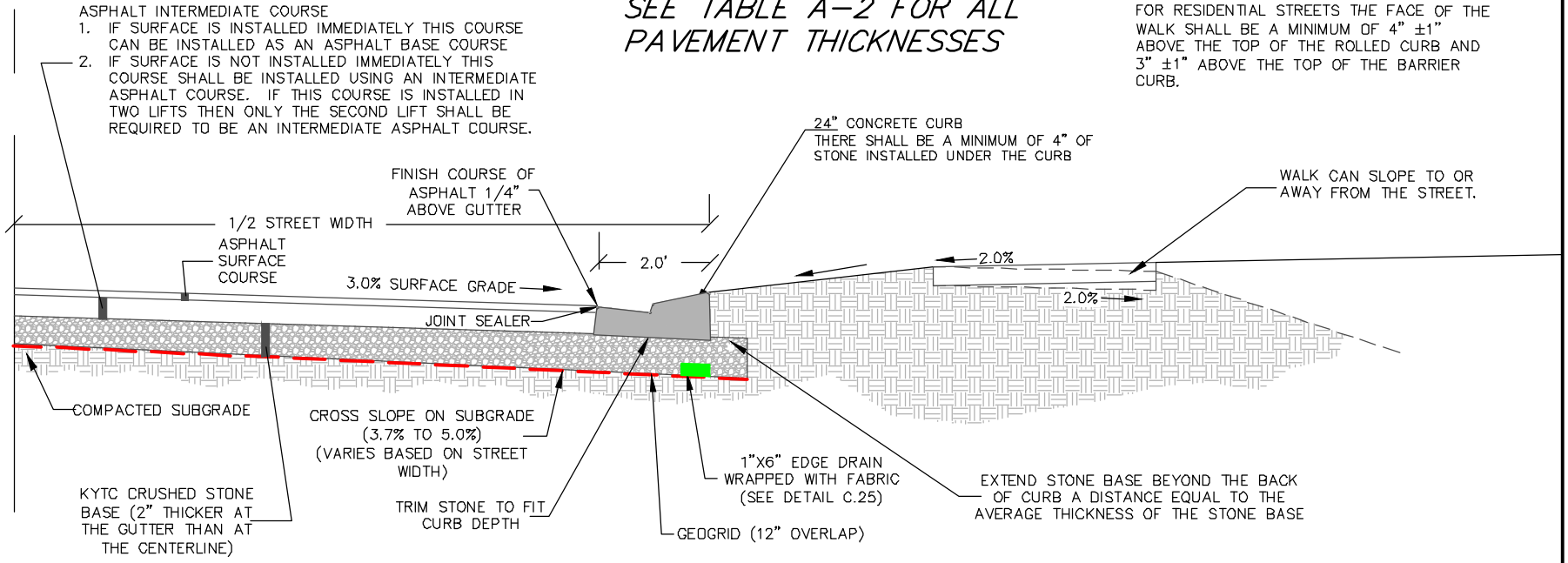
SEE TABLE A-2 FOR ALL PAVEMENT THICKNESSES

SUBURBAN & URBAN PAVEMENT SECTIONS



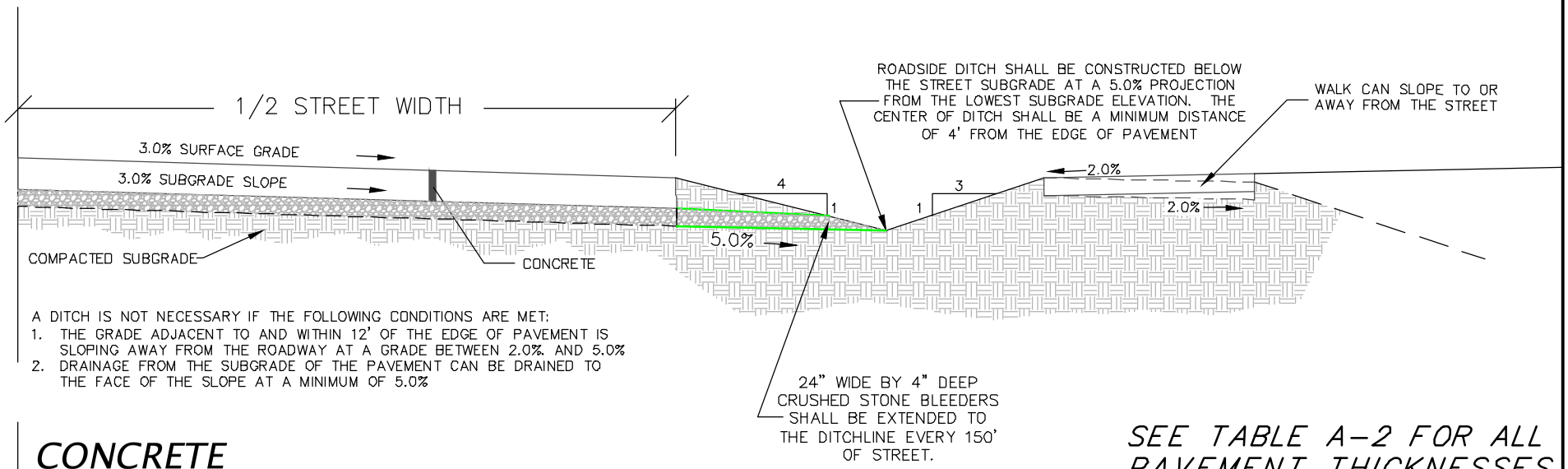
ASPHALT WITH STONE BASE

SEE TABLE A-2 FOR ALL PAVEMENT THICKNESSES



ASPHALT WITH STONE BASE & GEOGRID

RURAL PAVEMENT SECTIONS



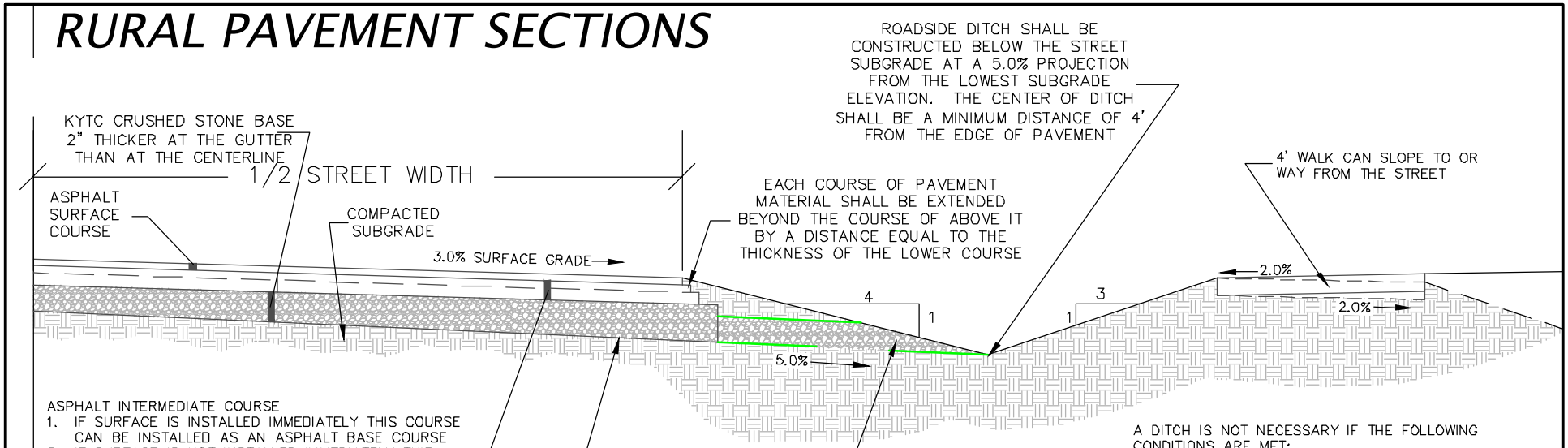
A DITCH IS NOT NECESSARY IF THE FOLLOWING CONDITIONS ARE MET:

1. THE GRADE ADJACENT TO AND WITHIN 12' OF THE EDGE OF PAVEMENT IS SLOPING AWAY FROM THE ROADWAY AT A GRADE BETWEEN 2.0% AND 5.0%
2. DRAINAGE FROM THE SUBGRADE OF THE PAVEMENT CAN BE DRAINED TO THE FACE OF THE SLOPE AT A MINIMUM OF 5.0%

CONCRETE

SEE TABLE A-2 FOR ALL PAVEMENT THICKNESSES

RURAL PAVEMENT SECTIONS



ASPHALT INTERMEDIATE COURSE
1. IF SURFACE IS INSTALLED IMMEDIATELY THIS COURSE CAN BE INSTALLED AS AN ASPHALT BASE COURSE
2. IF SURFACE IS NOT INSTALLED IMMEDIATELY THIS COURSE SHALL BE INSTALLED USING AN INTERMEDIATE ASPHALT COURSE. IF THIS COURSE IS INSTALLED IN TWO LIFTS THEN ONLY THE SECOND LIFT SHALL BE REQUIRED TO BE AN INTERMEDIATE ASPHALT COURSE.

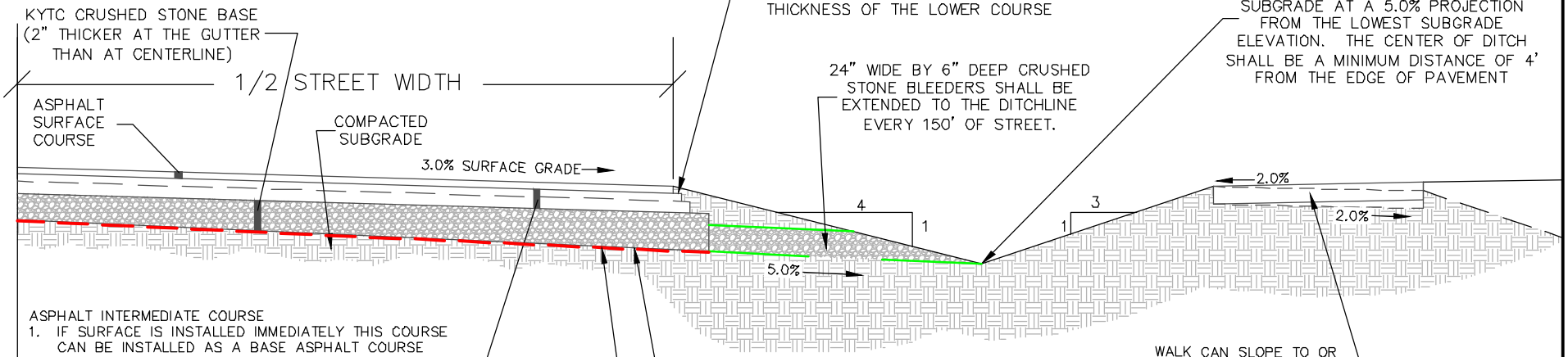
CROSS SLOPE ON SUBGRADE (3.7% TO 5.0%) (VARIES BASED ON STREET WIDTH)

24" WIDE BY 6" DEEP CRUSHED STONE BLEEDERS SHALL BE EXTENDED TO THE DITCHLINE EVERY 150' OF STREET.

A DITCH IS NOT NECESSARY IF THE FOLLOWING CONDITIONS ARE MET:
1. THE GRADE ADJACENT TO AND WITHIN 12' OF THE EDGE OF PAVEMENT IS SLOPING AWAY FROM THE ROADWAY AT A GRADE BETWEEN 2.0%. AND 5.0%
2. STONE BLEEDERS ARE EXTENDED TO DAYLIGHT TO THE SLOPE AT A MINIMUM SLOPE OF 5.0%

ASPHALT WITH STONE BASE

SEE TABLE A-2 FOR ALL PAVEMENT THICKNESSES



ASPHALT INTERMEDIATE COURSE
1. IF SURFACE IS INSTALLED IMMEDIATELY THIS COURSE CAN BE INSTALLED AS A BASE ASPHALT COURSE
2. IF SURFACE IS NOT INSTALLED IMMEDIATELY THIS COURSE SHALL BE INSTALLED USING AN INTERMEDIATE ASPHALT COURSE. IF THIS COURSE IS INSTALLED IN TWO LIFTS THEN ONLY THE SECOND LIFT SHALL BE REQUIRED TO BE AN INTERMEDIATE ASPHALT COURSE.

GEOGRID (12" OVERLAP)

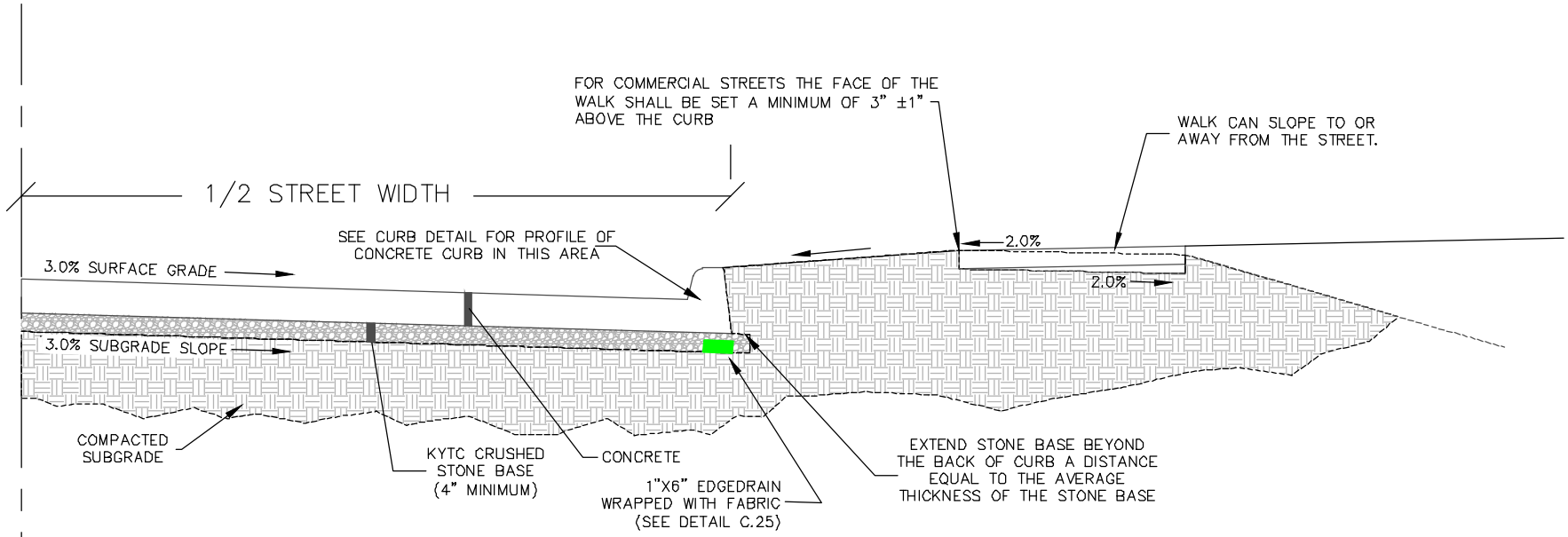
CROSS SLOPE ON SUBGRADE (3.7% TO 5.0%) (VARIES BASED ON STREET WIDTH)

WALK CAN SLOPE TO OR AWAY FROM THE STREET

A DITCH IS NOT NECESSARY IF THE FOLLOWING CONDITIONS ARE MET:
1. THE GRADE ADJACENT TO AND WITHIN 12' OF THE EDGE OF PAVEMENT IS SLOPING AWAY FROM THE ROADWAY AT A GRADE BETWEEN 2.0%. AND 5.0%
2. STONE BLEEDERS ARE EXTENDED TO DAYLIGHT TO THE SLOPE AT A MINIMUM OF 5.0%

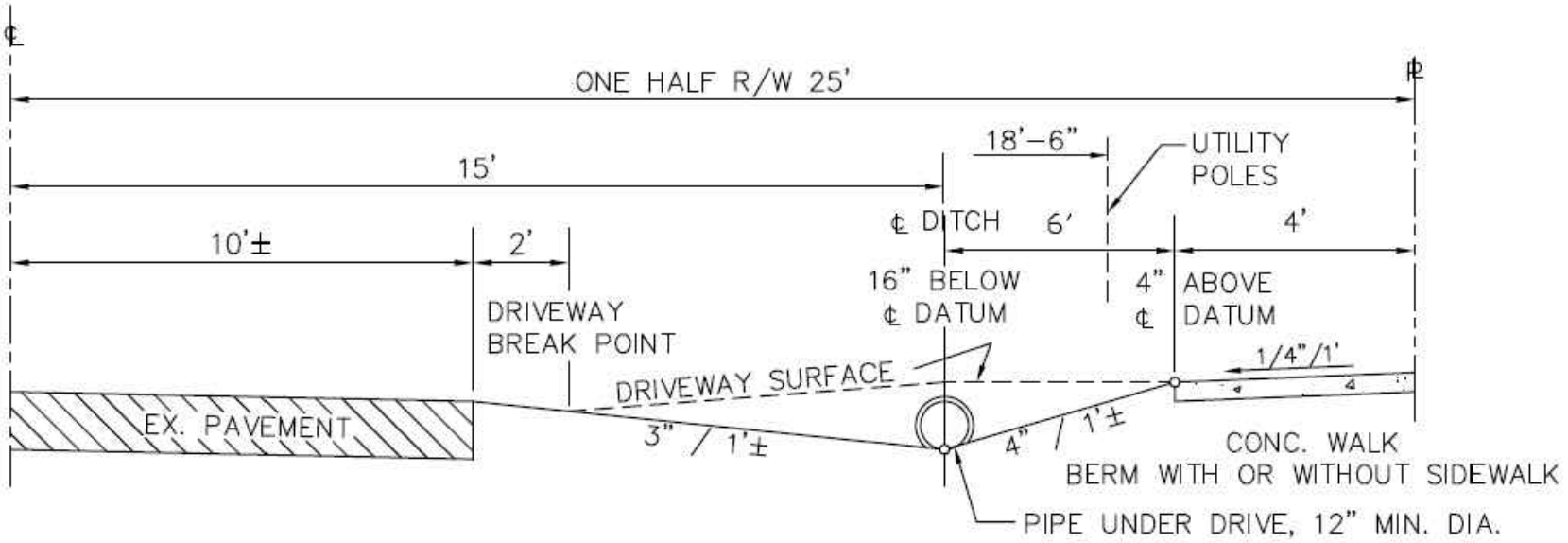
ASPHALT WITH STONE BASE & GEOGRID

COMMERCIAL/INDUSTRIAL PAVEMENT SECTION

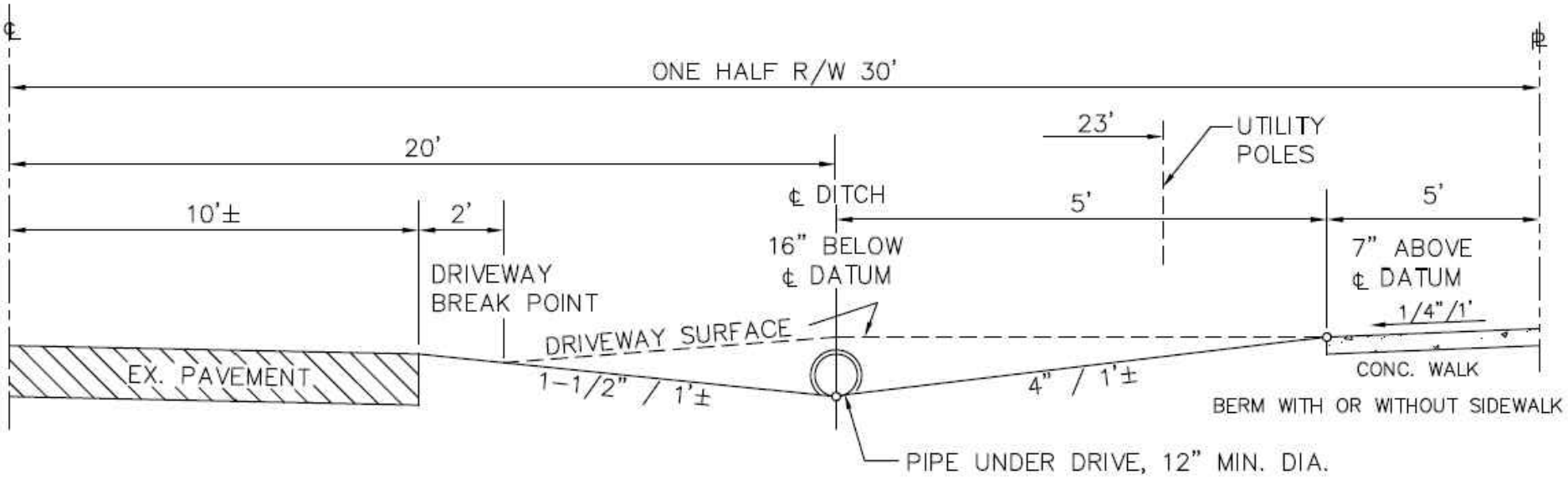


SEE TABLE A-2 FOR ALL PAVEMENT THICKNESSES

TYPICAL SECTION – SIDE DITCH DRAINAGE AT DRIVEWAY

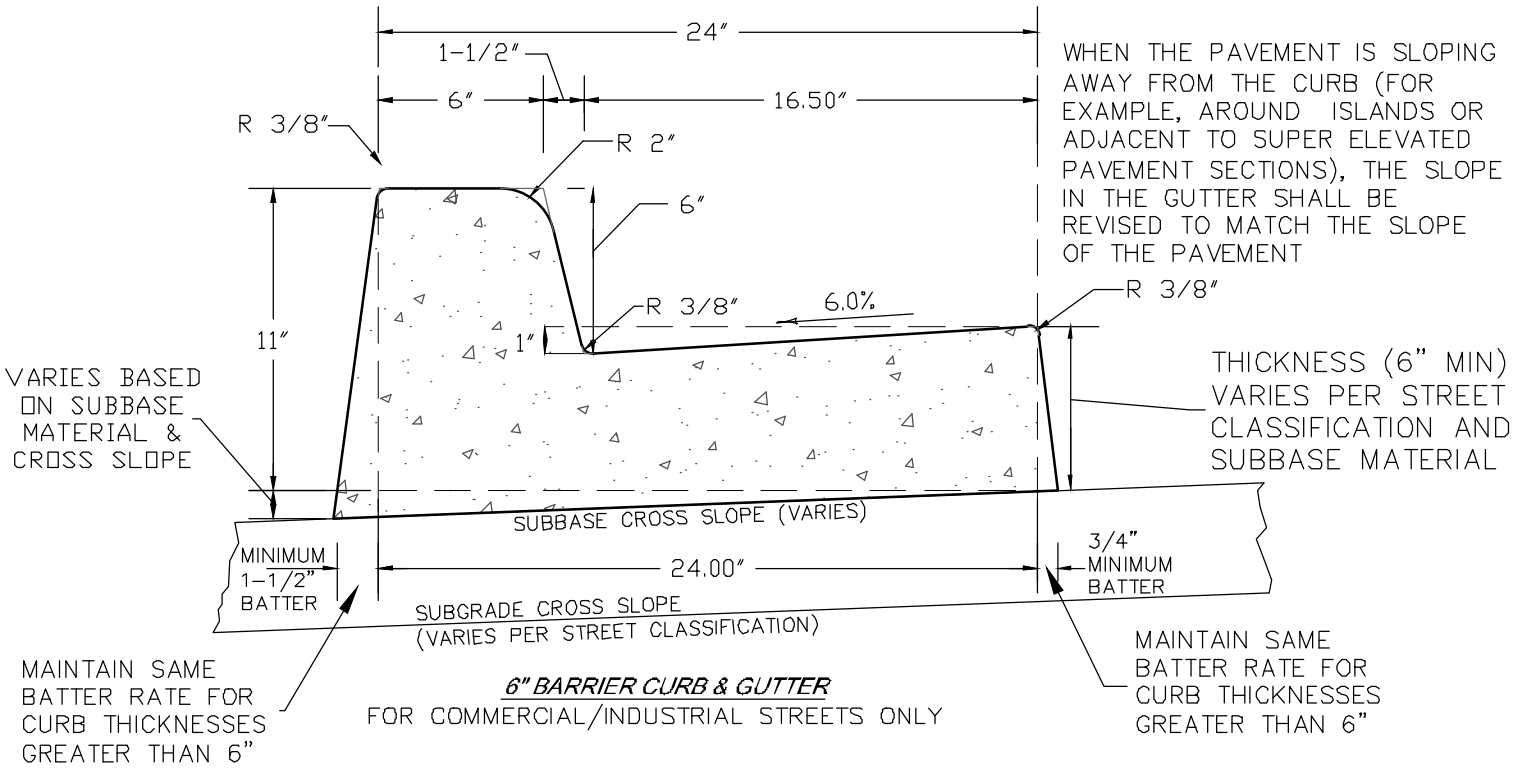


50 FOOT RIGHT–OF–WAYS



60 FOOT RIGHT–OF–WAYS

MACHINE PLACED CURB DETAILS
ASPHALT STREETS

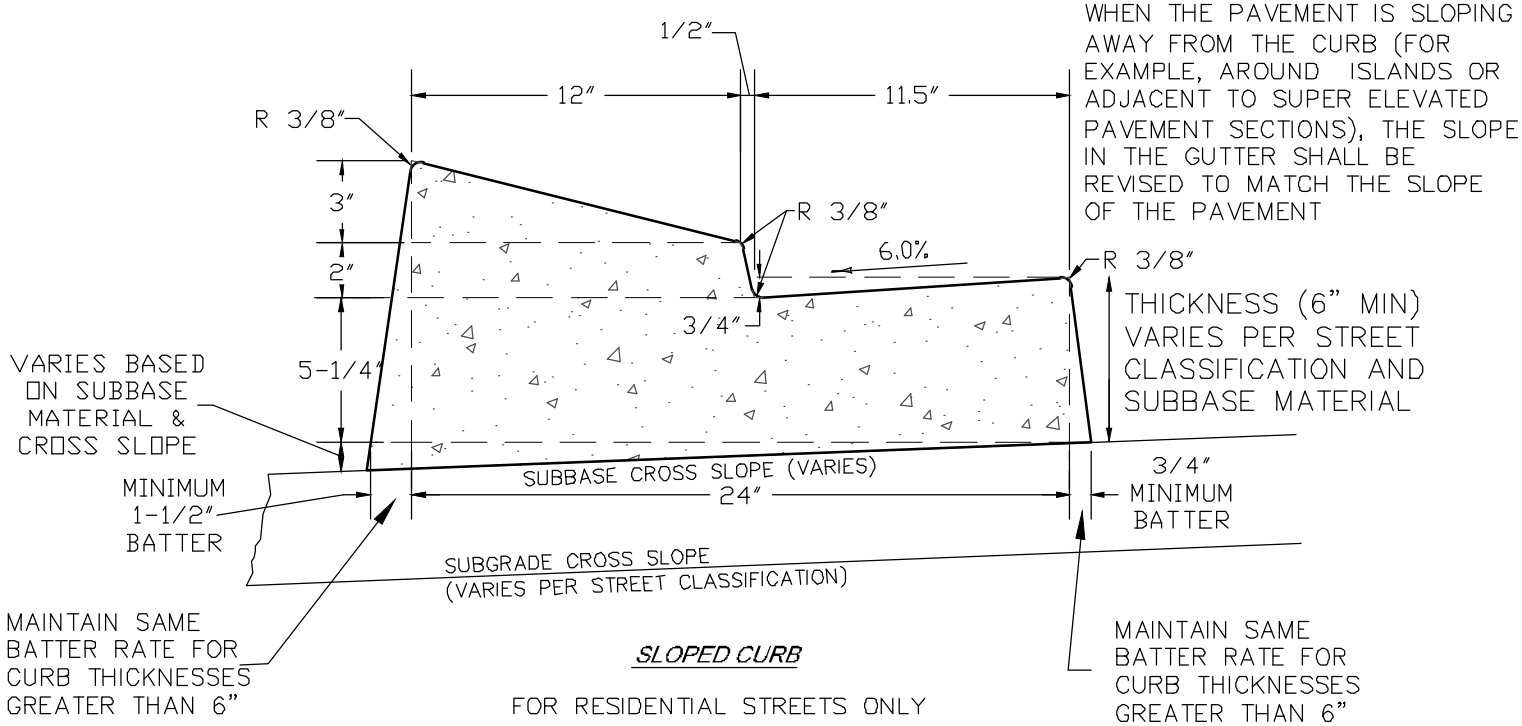


WHEN THE PAVEMENT IS SLOPING AWAY FROM THE CURB (FOR EXAMPLE, AROUND ISLANDS OR ADJACENT TO SUPER ELEVATED PAVEMENT SECTIONS), THE SLOPE IN THE GUTTER SHALL BE REVISED TO MATCH THE SLOPE OF THE PAVEMENT

6" BARRIER CURB & GUTTER

FOR COMMERCIAL/INDUSTRIAL STREETS ONLY

BATTER SHOWN ON THESE DETAILS ARE THE MINIMUM FOR MACHINE FORMED CURBS. HAND FORMED AND PLACED CURBS DO NOT REQUIRE THE BATTER SHOWN

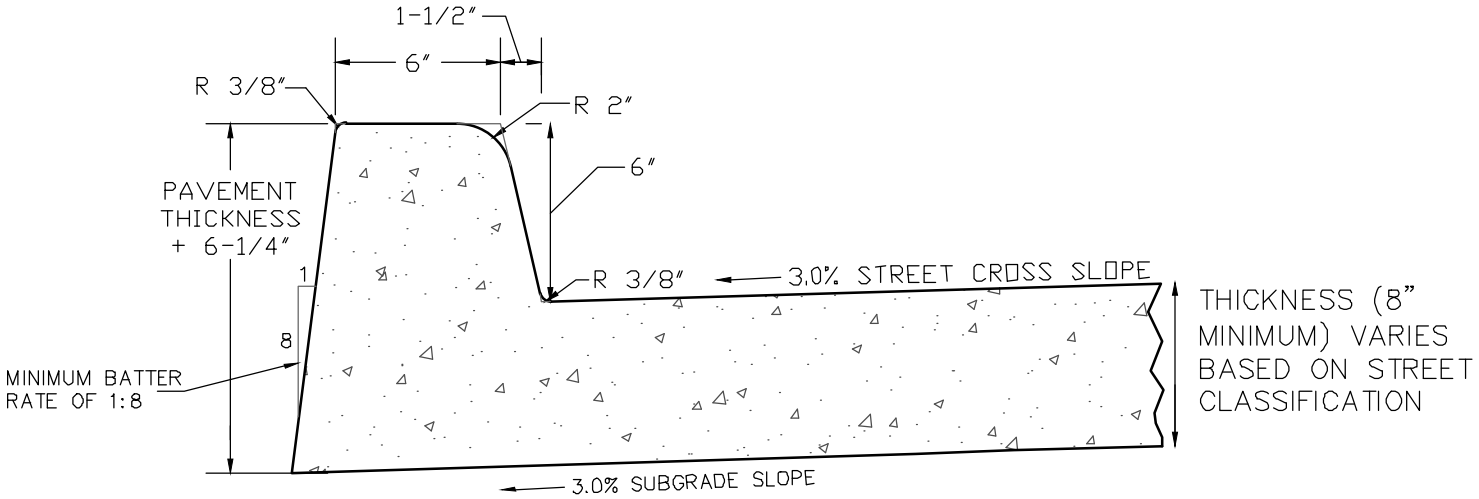


WHEN THE PAVEMENT IS SLOPING AWAY FROM THE CURB (FOR EXAMPLE, AROUND ISLANDS OR ADJACENT TO SUPER ELEVATED PAVEMENT SECTIONS), THE SLOPE IN THE GUTTER SHALL BE REVISED TO MATCH THE SLOPE OF THE PAVEMENT

SLOPED CURB

FOR RESIDENTIAL STREETS ONLY

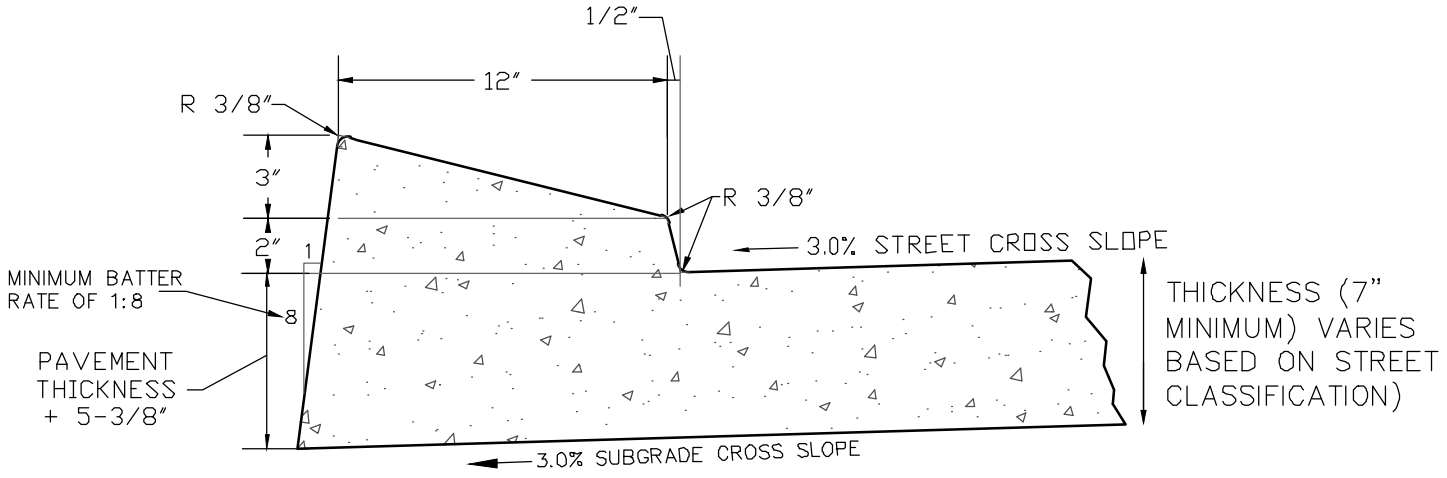
MACHINE PLACED CURB DETAILS
CONCRETE STREETS



6" BARRIER INTEGRAL CURB

FOR COMMERCIAL/INDUSTRIAL STREETS ONLY

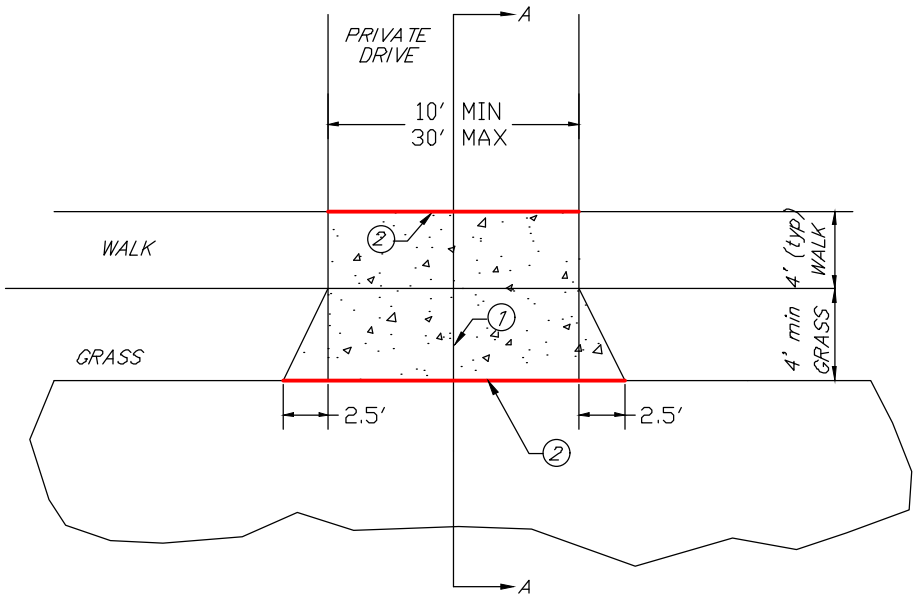
BATTER SHOWN ON THESE DETAILS ARE THE MINIMUM FOR MACHINE FORMED CURBS. HAND FORMED AND PLACED CURBS DO NOT REQUIRE THE BATTER SHOWN



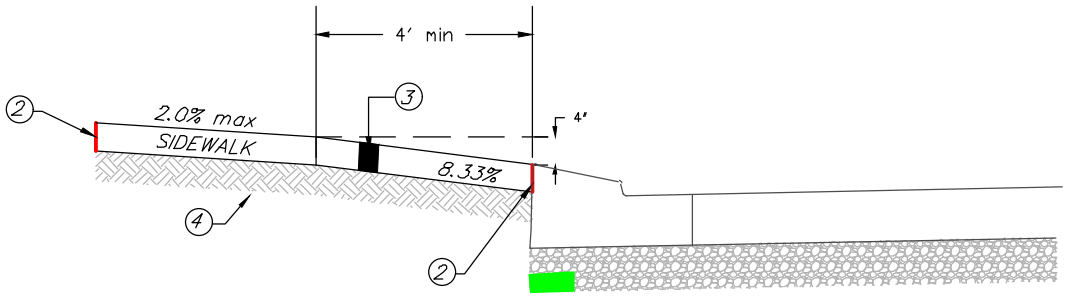
SLOPED INTEGRAL CURB

FOR RESIDENTIAL STREETS ONLY

RESIDENTIAL DRIVEWAY APRON
SLOPED CURB



PLAN

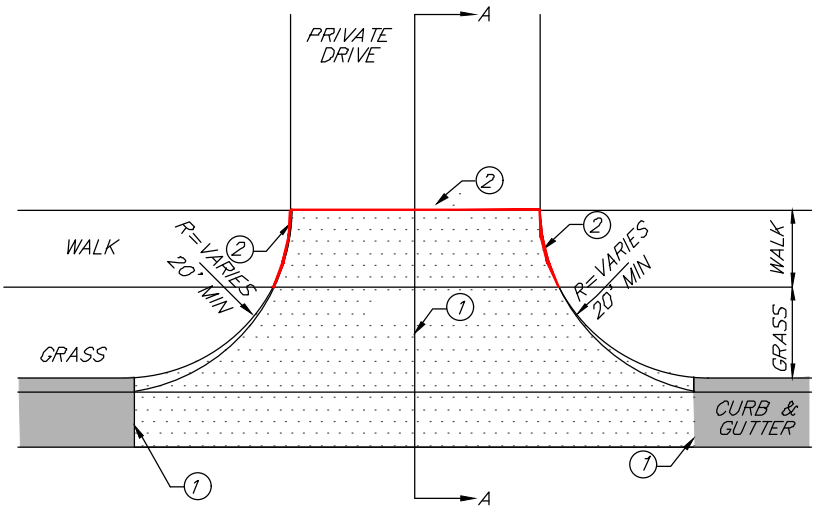


SECTION A-A

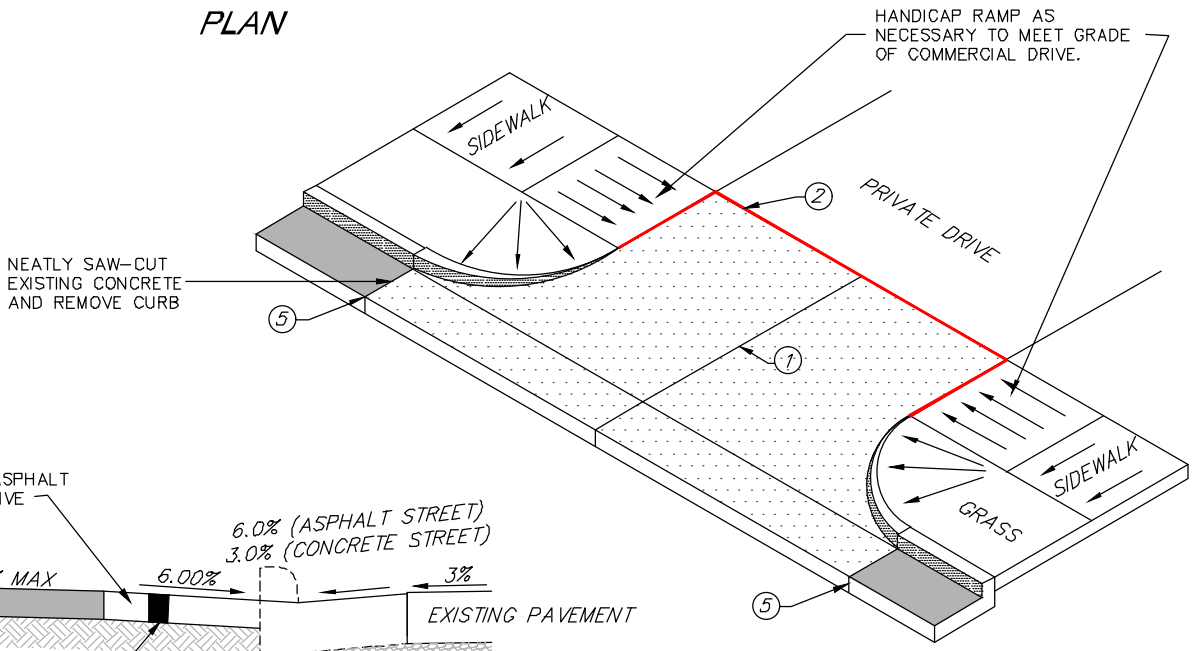
1. CONTRACTION JOINT
2. 1" EXPANSION JOINT
3. 5" CONCRETE RESIDENTIAL DRIVE
4. PREPARED SUBGRADE

EXPANSION JOINTS MUST EXCEED THE DEPTH OF THE DRIVEWAY PAVEMENT

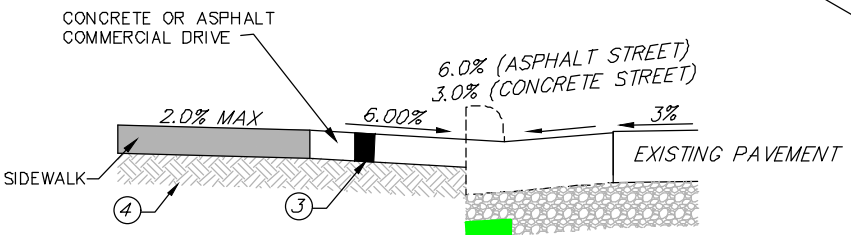
COMMERCIAL DRIVEWAY APRON
VERTICAL CURB & GUTTER



PLAN



ISOMETRIC VIEW



SECTION A-A

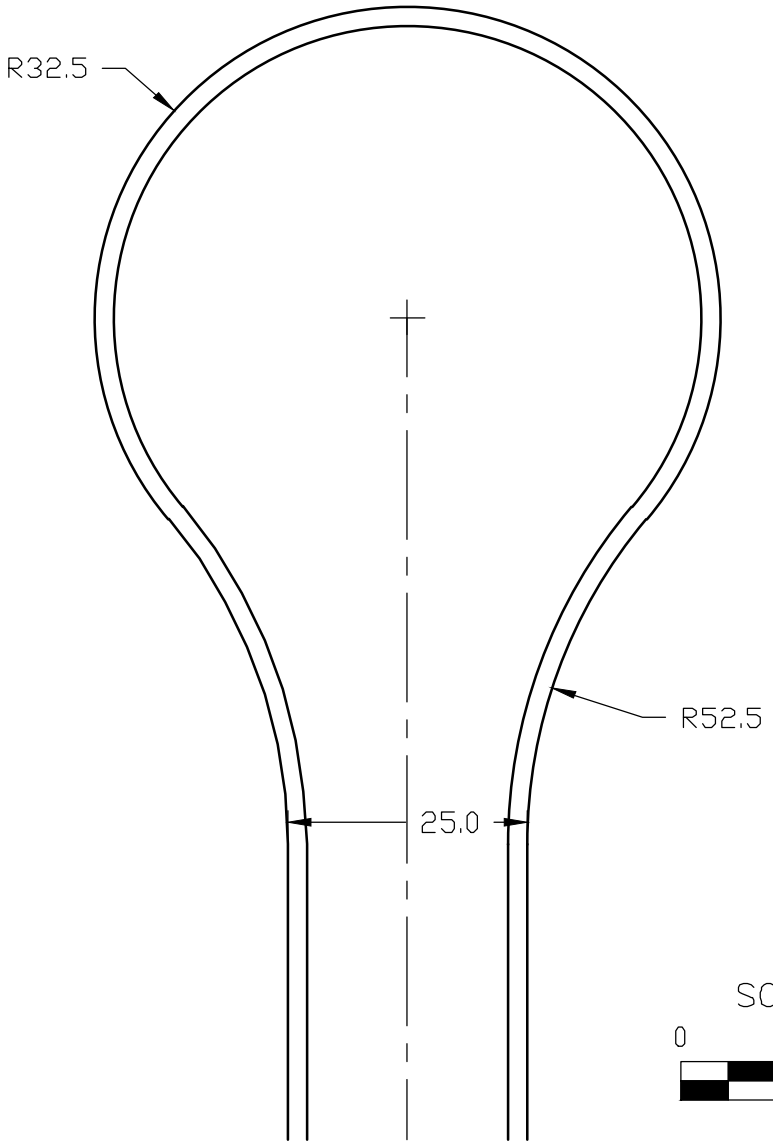
COMMERCIAL ASPHALT DRIVE IN THIS AREA TO MATCH THE DEPTH OF THE ASPHALT STREET. COMMERCIAL CONCRETE DRIVE SHALL MATCH CURB THICKNESS

CONCRETE COMMERCIAL DRIVE NOTES

1. *CONTRACTION JOINT*
2. *1" EXPANSION JOINT*
3. *7" COMMERCIAL DRIVE*
4. *PREPARED SUBGRADE*
5. *CONSTRUCTION JOINT*

EXPANSION JOINTS MUST EXCEED THE DEPTH OF THE DRIVEWAY PAVEMENT

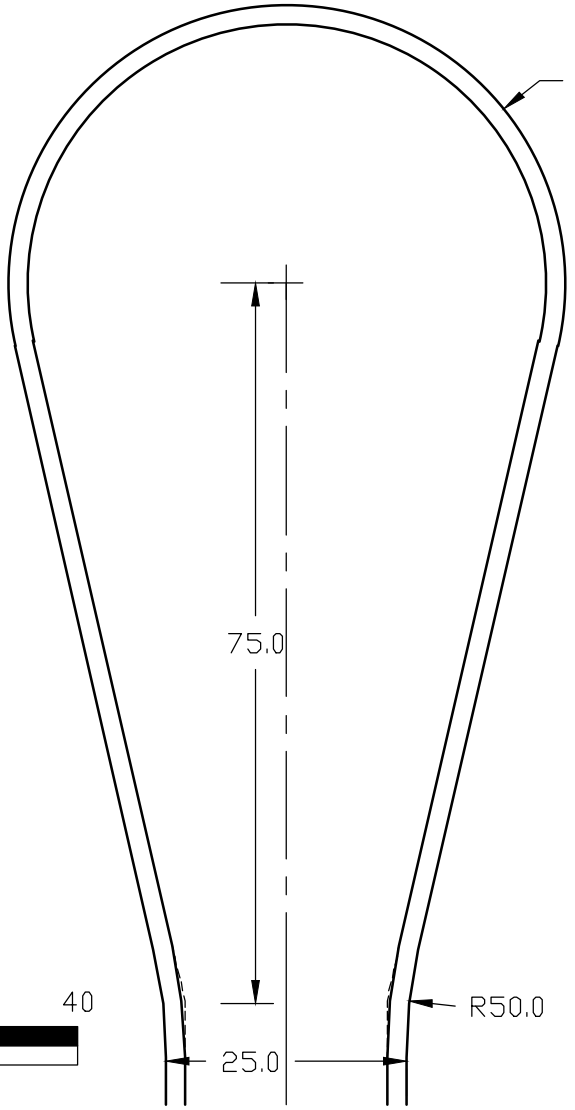
CUL-DE-SAC DETAILS



STANDARD CUL-DE-SAC

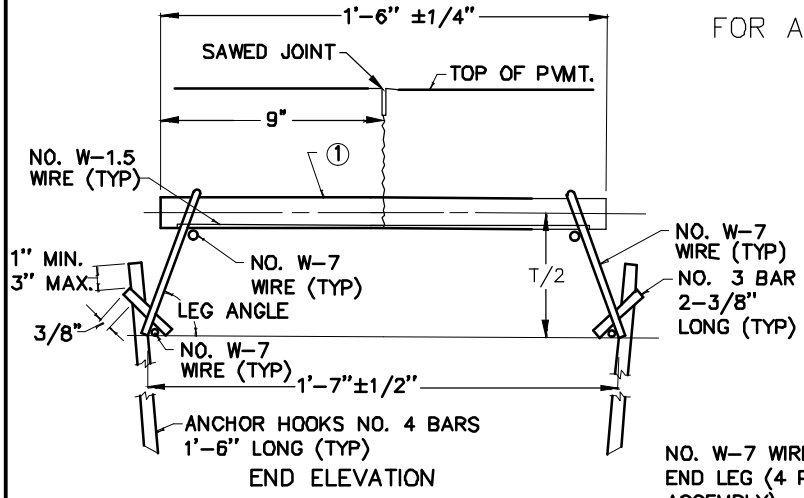
SCALE 1"=20'

0 20 40

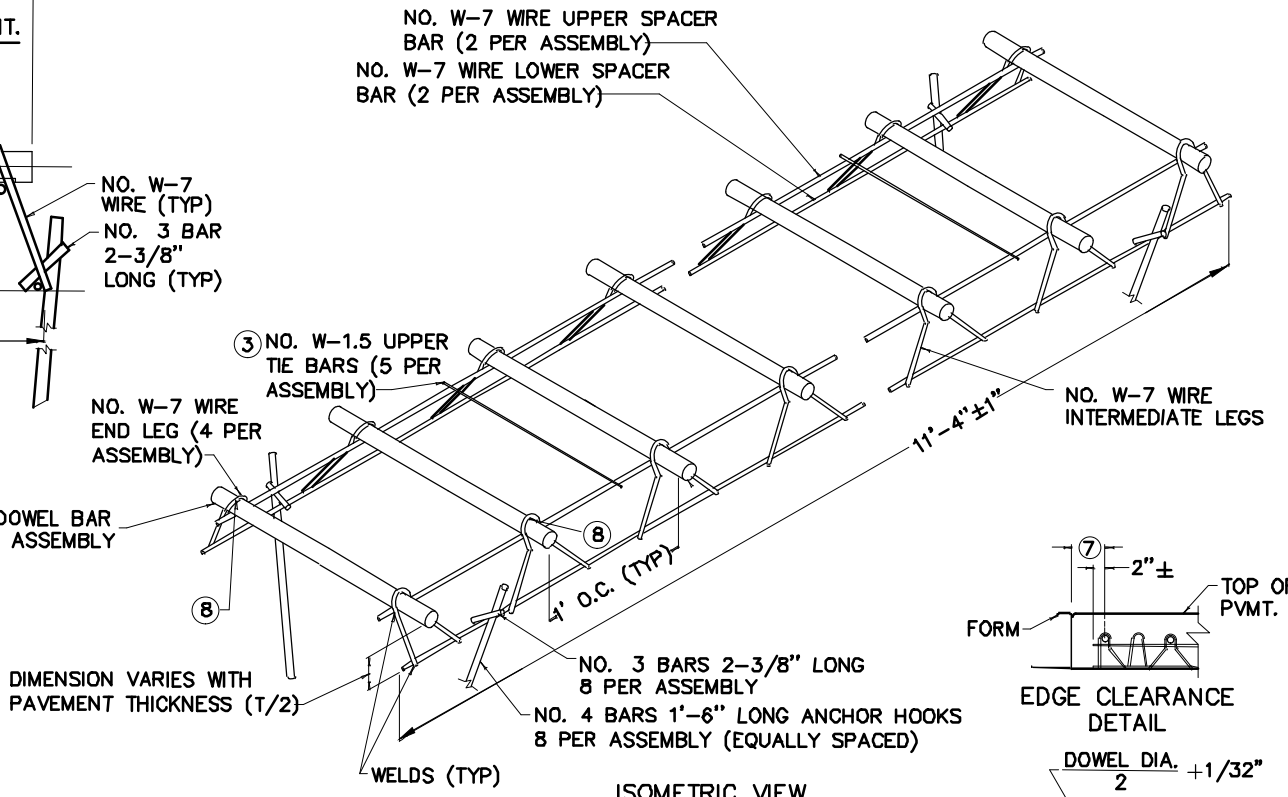


OPTIONAL TEAR DROP CUL-DE-SAC

DOWELED TRANSVERSE JOINT DETAIL
FOR ALL COMMERCIAL & INDUSTRIAL PAVEMENTS



END ELEVATION



ISOMETRIC VIEW

EDGE CLEARANCE DETAIL

NOTES

① DOWEL BAR SIZES

PAVEMENT THICKNESS						
8"	9"	10"	11"	12"	13"	14"
BAR DIAMETER						
1-1/4"			1-1/2"		1-3/4"	
LEG ANGLES +/- 3 DEGREES						
63	63	63	70	70	70	70

② NOT USED

③ NO. W-1.5 UPPER TIE BARS WELDED TO UPPER SPACER BARS CUT AFTER FIRST CONCRETE PLACEMENT.

④ FOR END LEGS, BEND WIRE AS SHOWN BY PHANTOM LINES IN INTERMEDIATE LEG DETAIL.

⑤ REFERENCE POINTS SHALL BE REQUIRED ON EACH SIDE OF THE LOAD TRANSFER ASSEMBLY, IN ORDER TO LOCATE THE INTENDED SAWED JOINT AFTER PAVING. ALL SAWING SHALL BE ACCURATELY CONTROLLED TO THE CENTERLINE OF THE LOAD TRANSFER ASSEMBLIES. LONGITUDINAL ORIENTATION OF DOWEL BARS SHALL BE SUCH THAT ALL DOWEL BARS ARE PARALLEL WITH THE CENTERLINE OF EACH PAVING LANE.

⑥ NOT USED

⑦ 4-1/2" MIN. AND 10-1/2" MAX. FOR VARIABLE SLAB WIDTH. 6" FOR UNIFORM OR STD. SLAB WIDTH. LOCATION AND SPACING SEE APPLICABLE PAVEMENT STANDARD DRAWINGS.

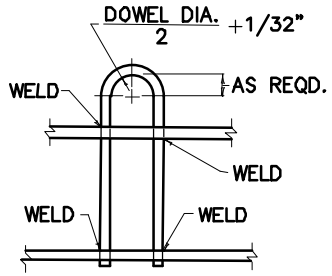
⑧ WELD EITHER NO. W-7 UPPER SPACER BAR OR LEG SUPPORT TO ALTERNATE ENDS OF DOWEL BARS AS TYPICALLY SHOWN.

⑨ DOWEL ENDS SHALL NOT VARY MORE THAN 1/4" FROM A STRAIGHT LINE.

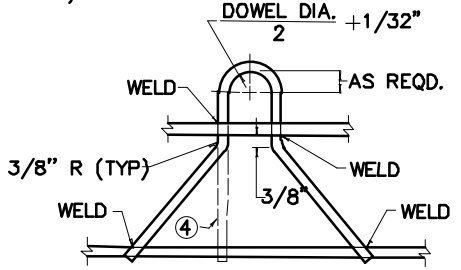
⑩ DOWELS SHALL BE PARALLEL WITH BASE, WITH A TOLERANCE OF 1/4".

⑪ EPOXY SHALL BE CLEANED OFF TO BARE METAL BEFORE WELDING DOWEL TO WIRE.

⑫ "U" LEG OR "A" LEG ARE ACCEPTABLE ALTERNATES PROVIDING MATCHED LEGS ARE SUPPLIED.



INTERMEDIATE OPTIONAL "U" LEG DETAIL



INTERMEDIATE OPTIONAL "A" LEG DETAIL

KENTUCKY DEPARTMENT OF HIGHWAYS

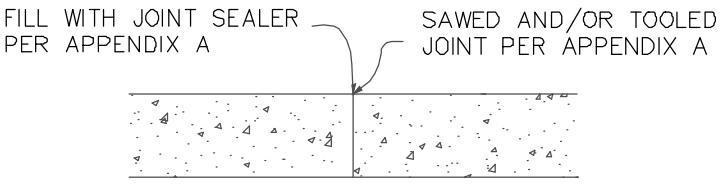
CONTRACTION JOINT LOAD TRANSFER ASSEMBLIES FOR COMMERCIAL & INDUSTRIAL STREETS

STANDARD DRAWING NO. RPS-020-13

SUBMITTED _____ DIRECTOR DIVISION OF DESIGN _____ DATE

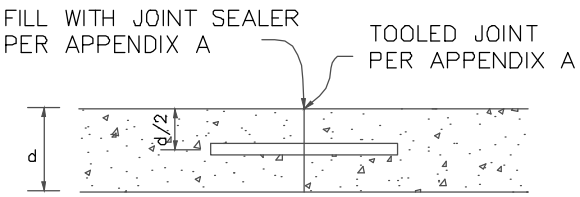
APPROVED _____ STATE HIGHWAY ENGINEER _____ DATE

CONCRETE JOINT DETAILS

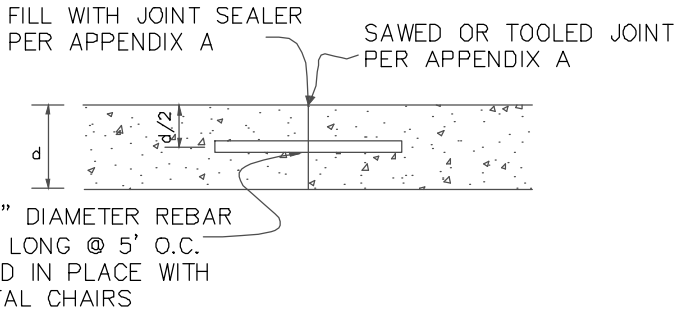


TRANSVERSE CONTRACTION JOINT
(SAWED OR TOOLED JOINT)

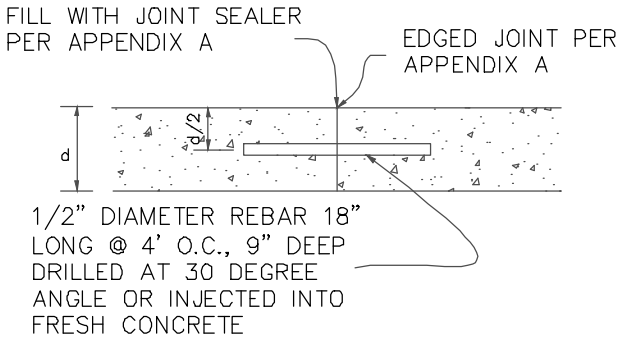
NOTE: TRAVERSE JOINTS FOR COMMERCIAL AND INDUSTRIAL PAVEMENTS SHALL USE LOAD TRANSFER ASSEMBLIES PER DETAIL C.16.



TRANSVERSE CONSTRUCTION JOINT
(PLANNED OR EMERGENCY)
COINCIDE WITH CONTRACTION JOINT



LONGITUDINAL SAWED OR TOOLED JOINT
(PLANNED)
COINCIDE WITH CONTRACTION JOINT



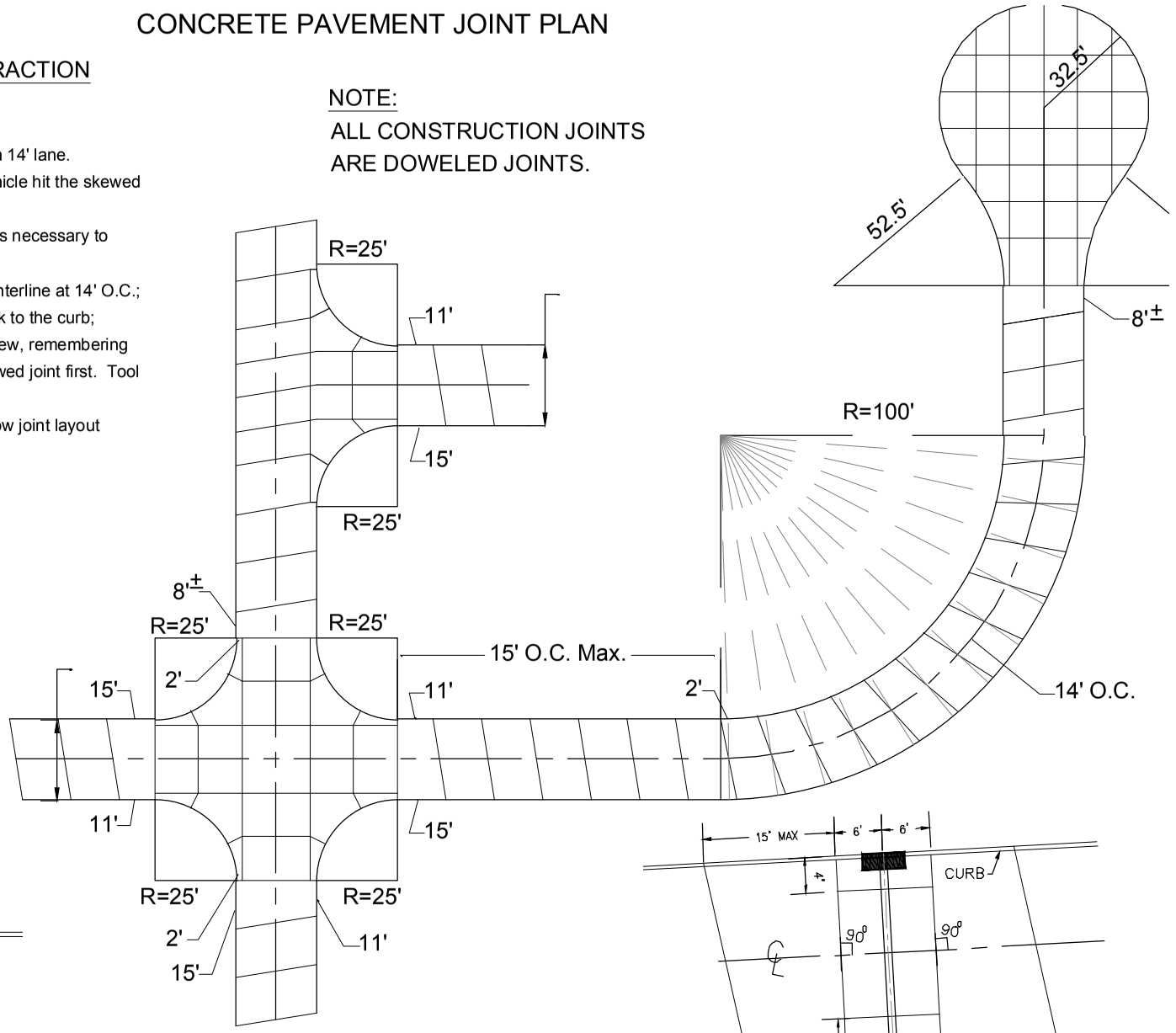
LONGITUDINAL CONSTRUCTION JOINT
(DRILLED OR INJECTED)

CONCRETE PAVEMENT JOINT PLAN

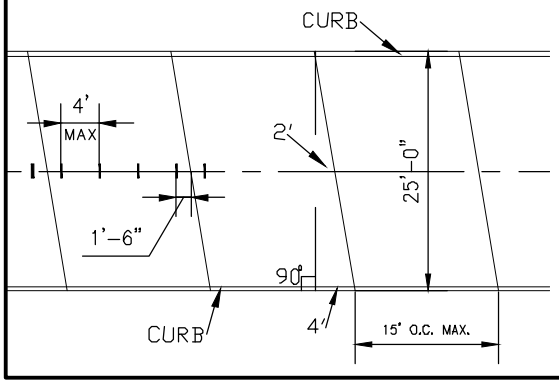
GENERAL RULES OF TOOLED CONTRACTION JOINT LAYOUT

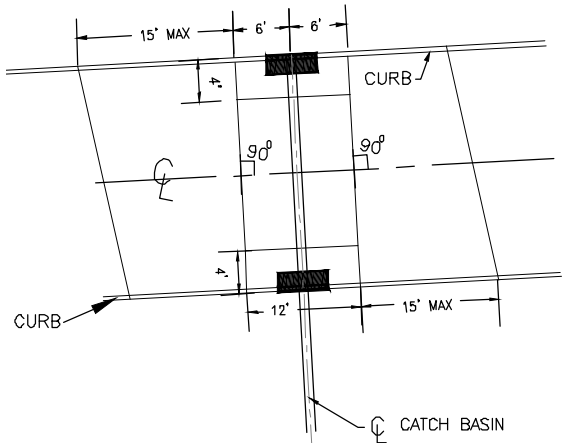
1.) Skew joints 2' in each 12.5' lane; 2'-4" skew in each 14' lane.
2.) Always have the driver's side front wheel of the vehicle hit the skewed joint first.
3.) Maximum joint spacing = 15'; adjust joint spacing as necessary to keep spacing above a 8' minimum.
4.) On horizontal curves, layout joint spacing along centerline at 14' O.C.; visually determine a radial line from the centerline back to the curb; measure back (forward) from that point 2' to set the skew, remembering the driver's side front wheel of the vehicle hits the skewed joint first. Tool the joint at the skewed line.
5.) At intersections, catch basins and cul-de-sacs, follow joint layout shown.

NOTE:
ALL CONSTRUCTION JOINTS ARE DOWELED JOINTS.



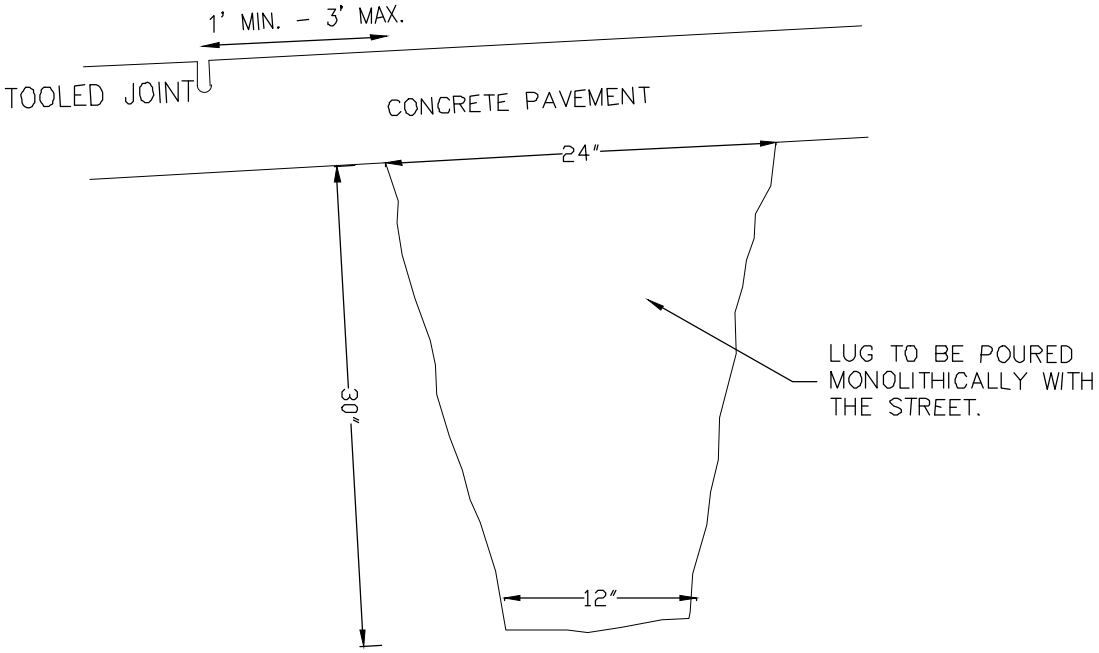
TYPICAL SKEWED JOINT AND ℄ BENT BAR LAYOUT
SCALE: N.T.S

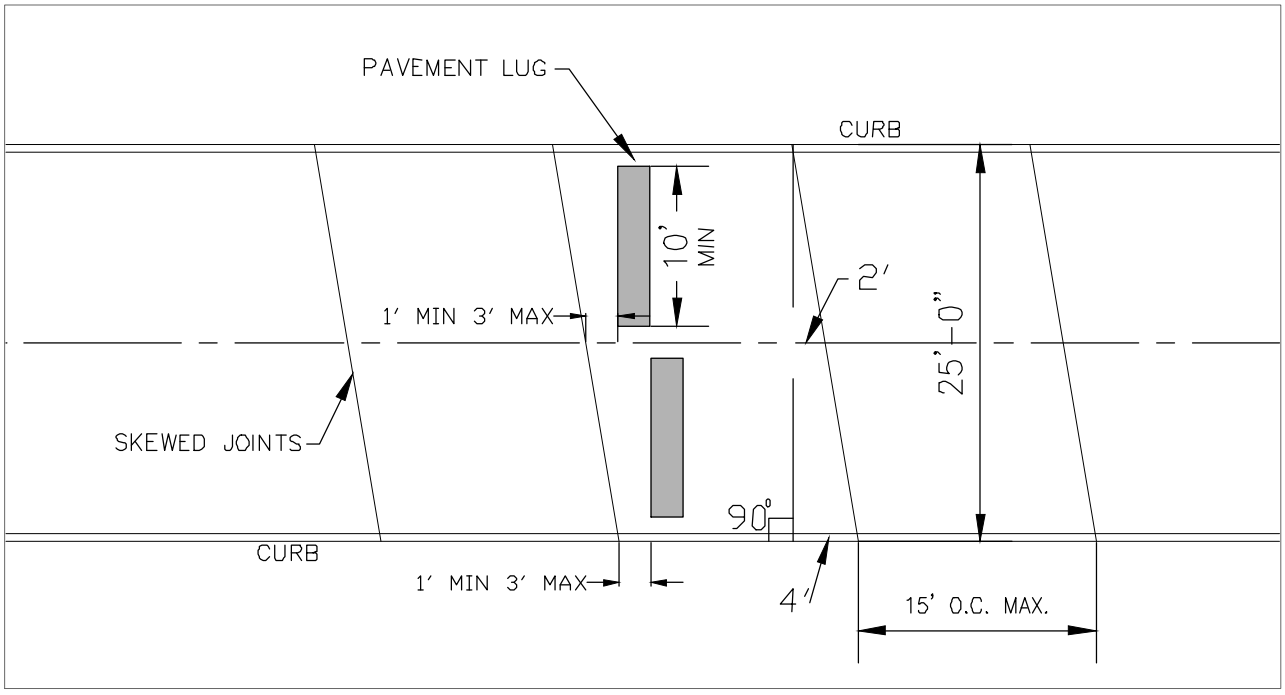




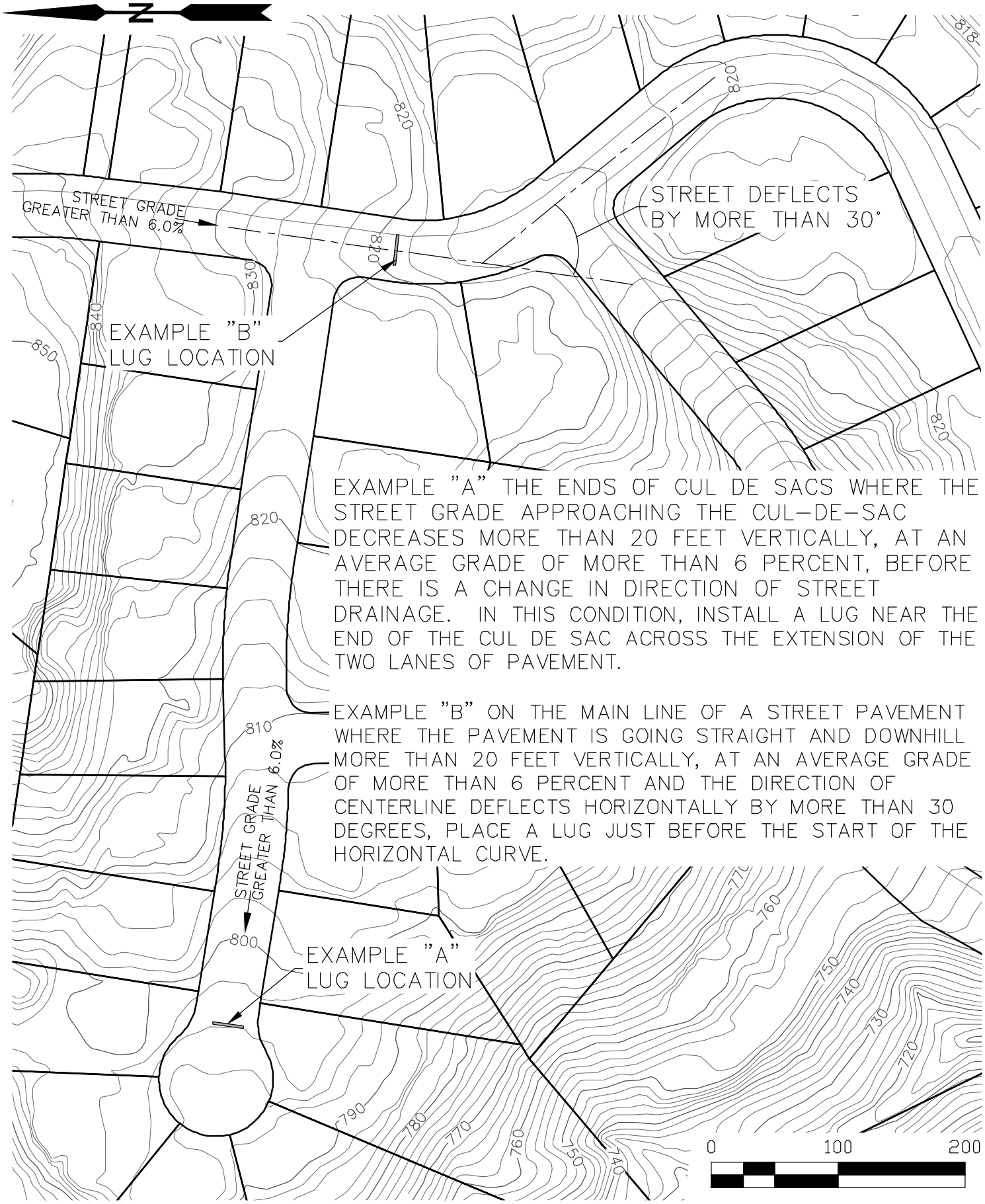
JOINT LAYOUT FOR PAIRED CATCH BASINS

PAVEMENT LUG DETAIL





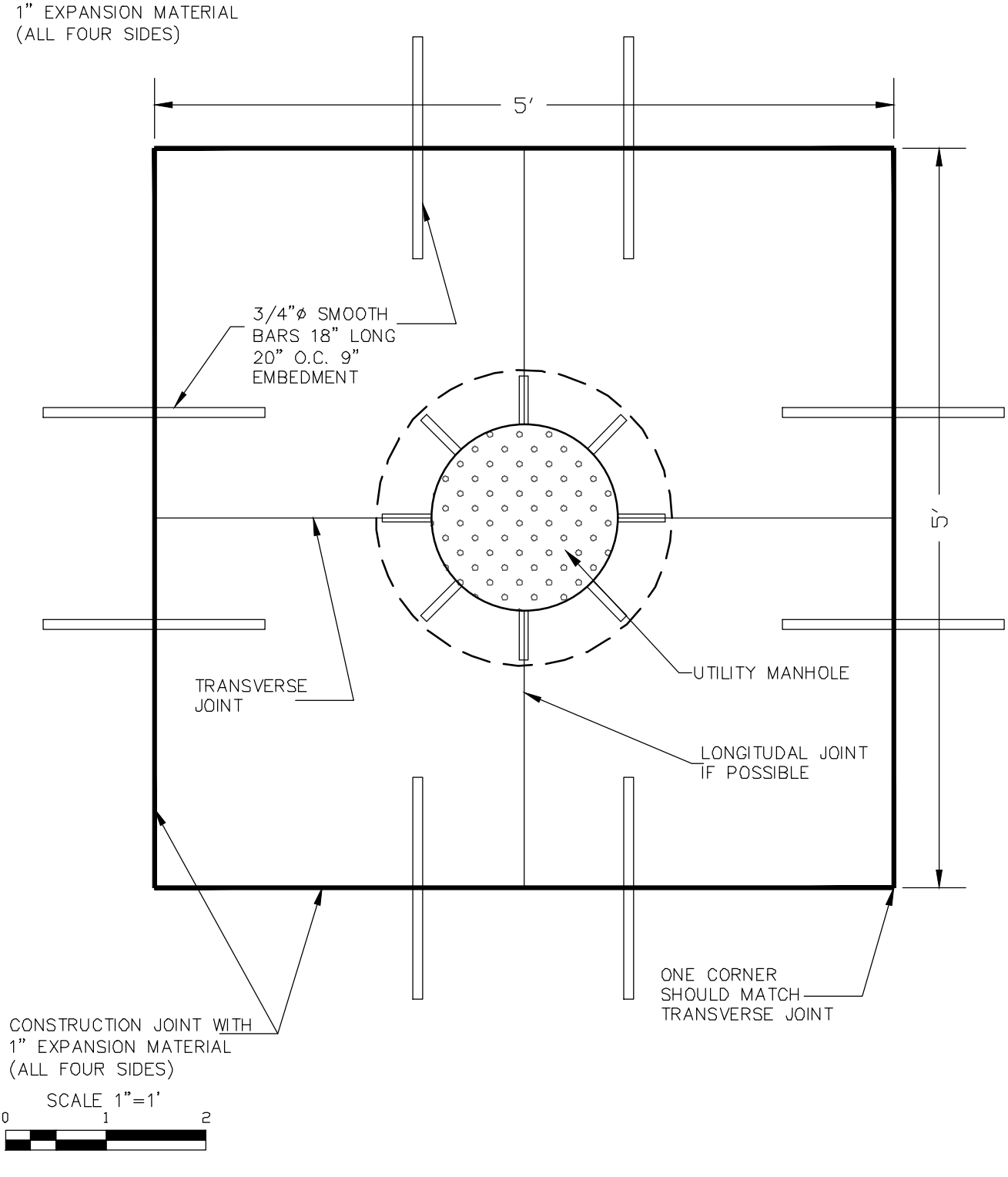
EXAMPLE PAVEMENT LUG LOCATION



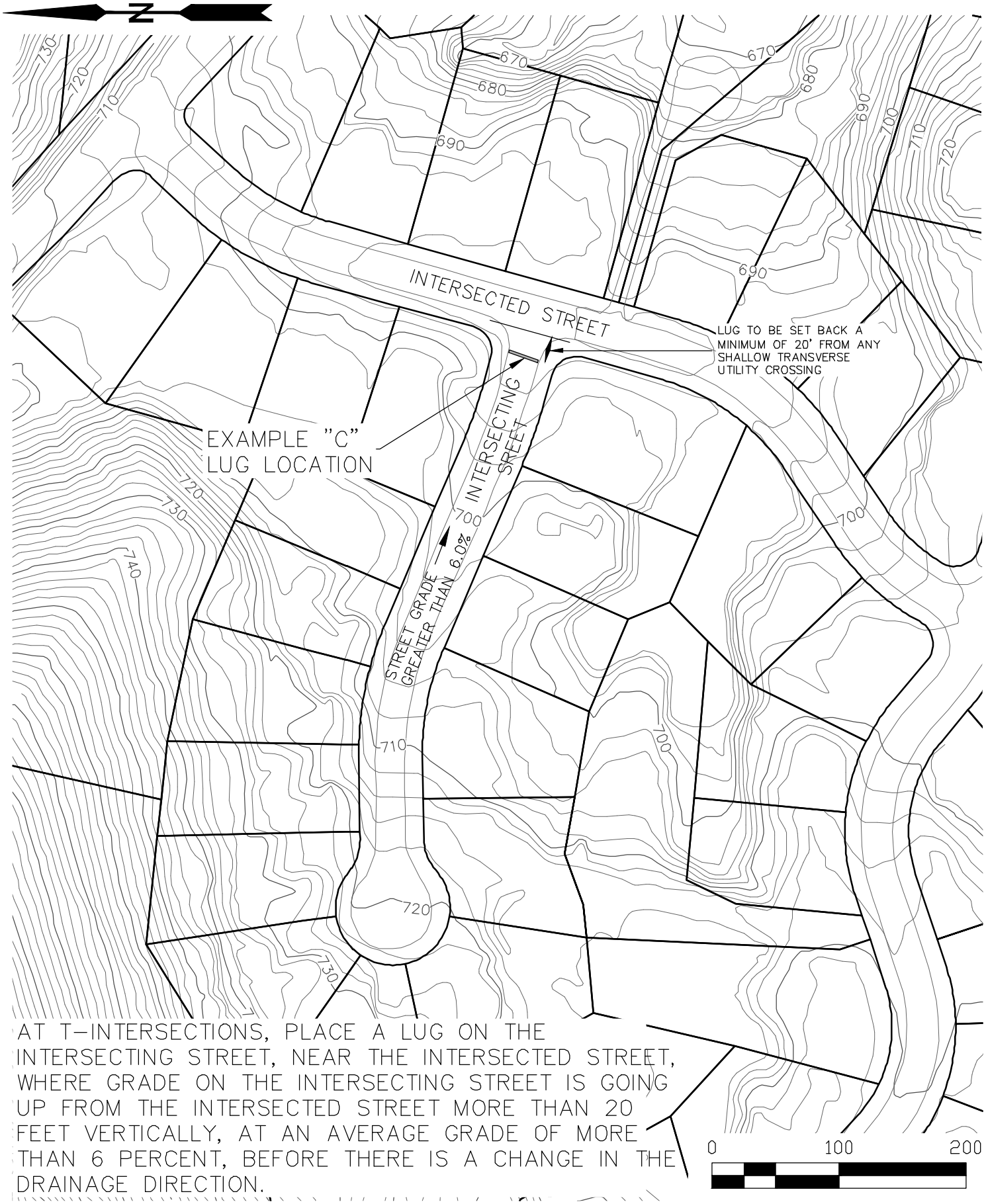
EXAMPLE "A" THE ENDS OF CUL DE SACS WHERE THE STREET GRADE APPROACHING THE CUL-DE-SAC DECREASES MORE THAN 20 FEET VERTICALLY, AT AN AVERAGE GRADE OF MORE THAN 6 PERCENT, BEFORE THERE IS A CHANGE IN DIRECTION OF STREET DRAINAGE. IN THIS CONDITION, INSTALL A LUG NEAR THE END OF THE CUL DE SAC ACROSS THE EXTENSION OF THE TWO LANES OF PAVEMENT.

EXAMPLE "B" ON THE MAIN LINE OF A STREET PAVEMENT WHERE THE PAVEMENT IS GOING STRAIGHT AND DOWNHILL MORE THAN 20 FEET VERTICALLY, AT AN AVERAGE GRADE OF MORE THAN 6 PERCENT AND THE DIRECTION OF CENTERLINE DEFLECTS HORIZONTALLY BY MORE THAN 30 DEGREES, PLACE A LUG JUST BEFORE THE START OF THE HORIZONTAL CURVE.

MANHOLE BLOCK-OUT DETAIL
(CONCRETE PAVEMENT)
THIS DETAIL DOES NOT APPLY FOR UTILITIES ALREADY BROUGHT TO GRADE

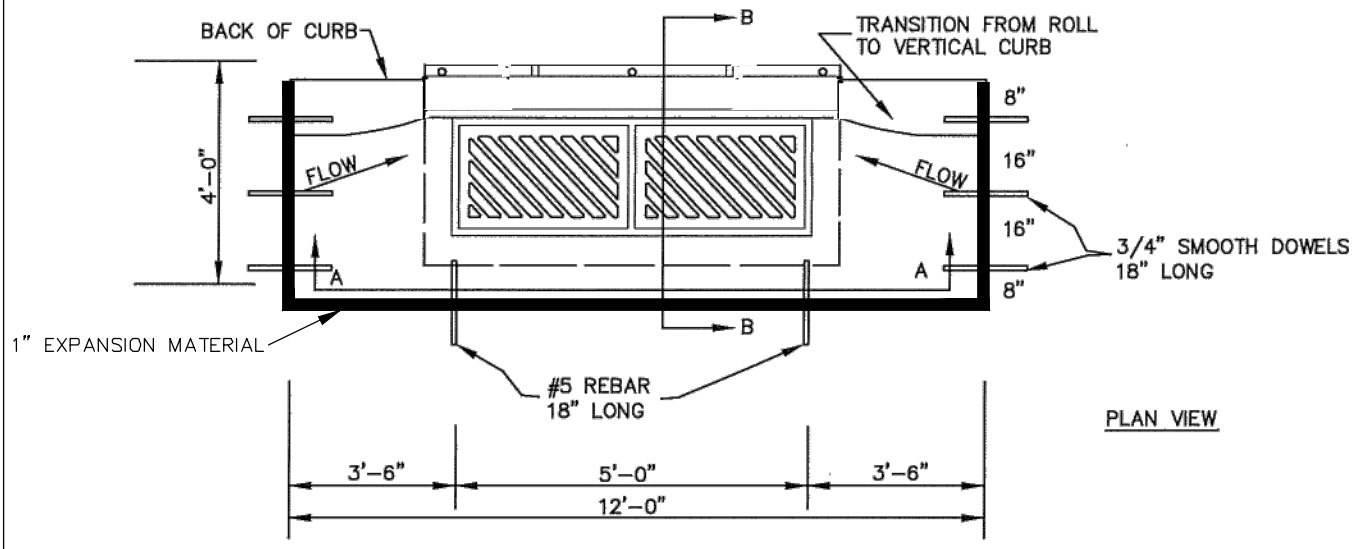


EXAMPLE PAVEMENT LUG LOCATION

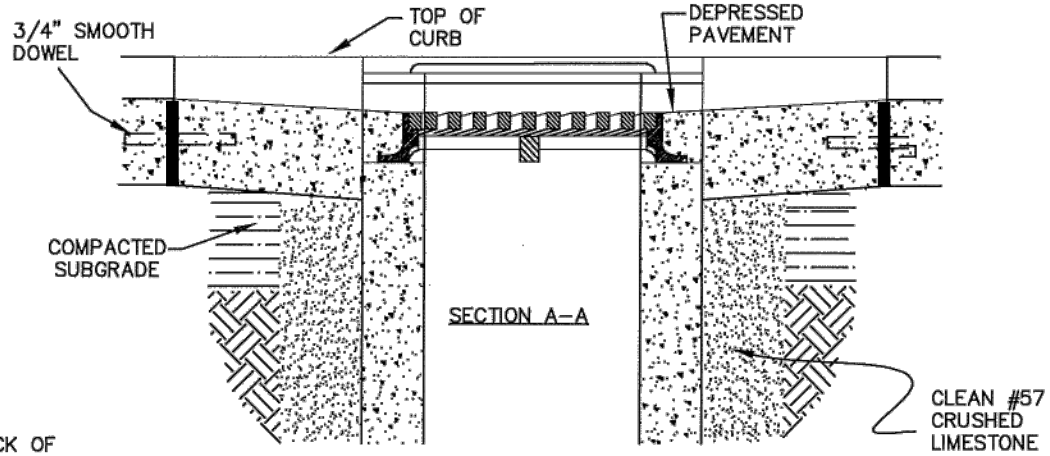


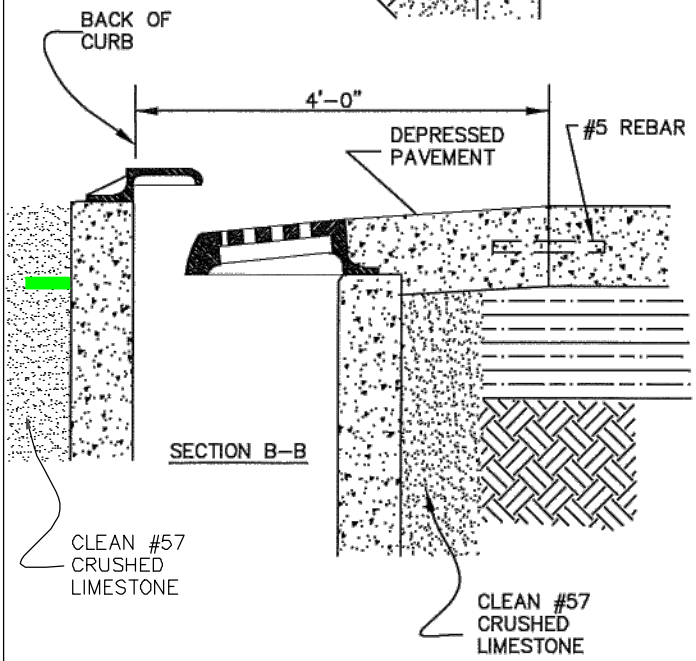
AT T–INTERSECTIONS, PLACE A LUG ON THE INTERSECTING STREET, NEAR THE INTERSECTED STREET, WHERE GRADE ON THE INTERSECTING STREET IS GOING UP FROM THE INTERSECTED STREET MORE THAN 20 FEET VERTICALLY, AT AN AVERAGE GRADE OF MORE THAN 6 PERCENT, BEFORE THERE IS A CHANGE IN THE DRAINAGE DIRECTION.

STANDARD CURB INLET
(CONCRETE PAVEMENT BLOCKOUT DETAIL)



PLAN VIEW





NOTES:

CONCRETE PAVEMENT FOR THE BLOCKOUTS SHALL MEET THE SAME REQUIREMENTS AS THE CONCRETE PAVEMENT.

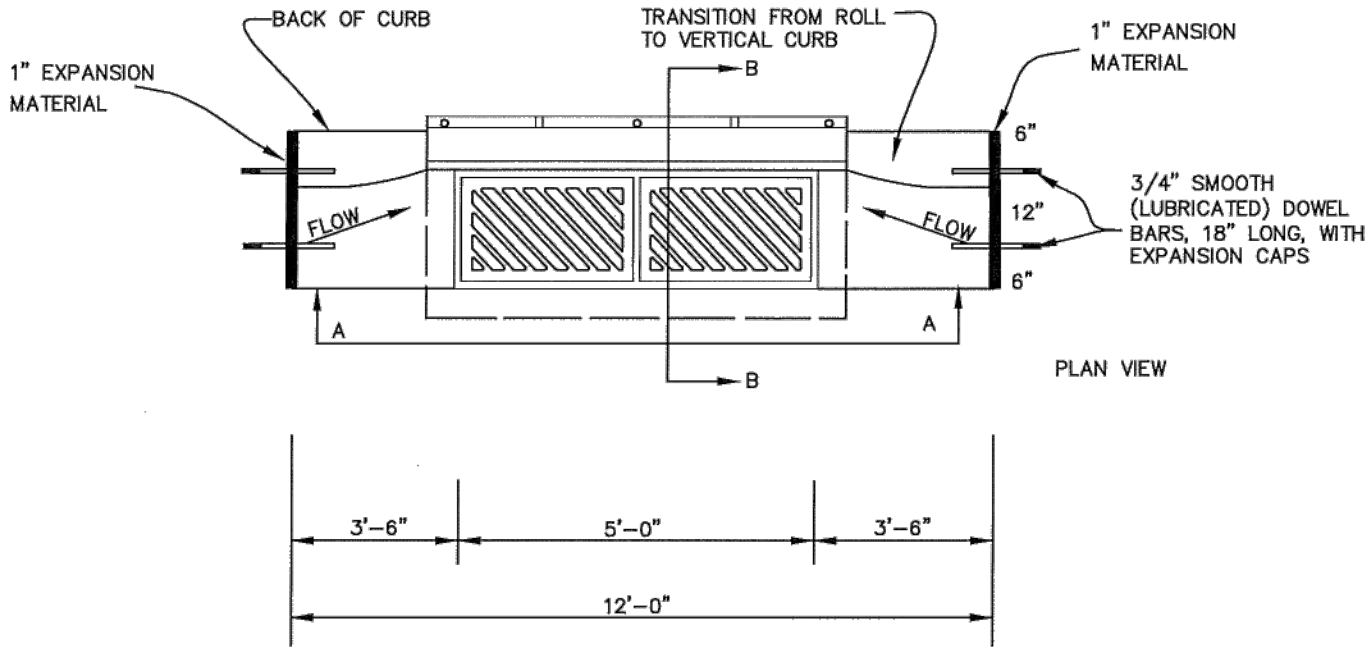
BLOCKOUTS FOR SINGLE INLET CATCH BASINS SHALL BEAR THE SAME DIMENSIONS AS THE DOUBLE INLET CATCH BASIN.

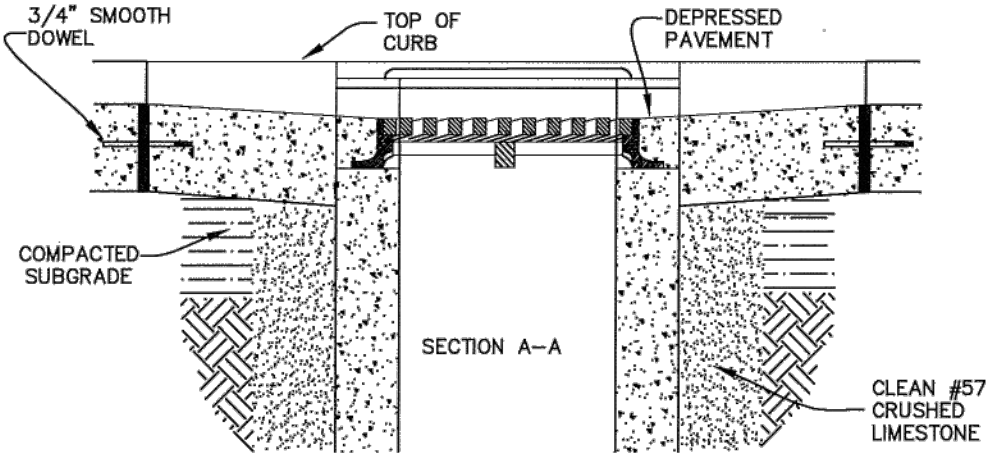
3/4"x18" DOWELS ARE REQUIRED FOR CONCRETE PAVEMENT OR GUTTER BLOCKOUT.

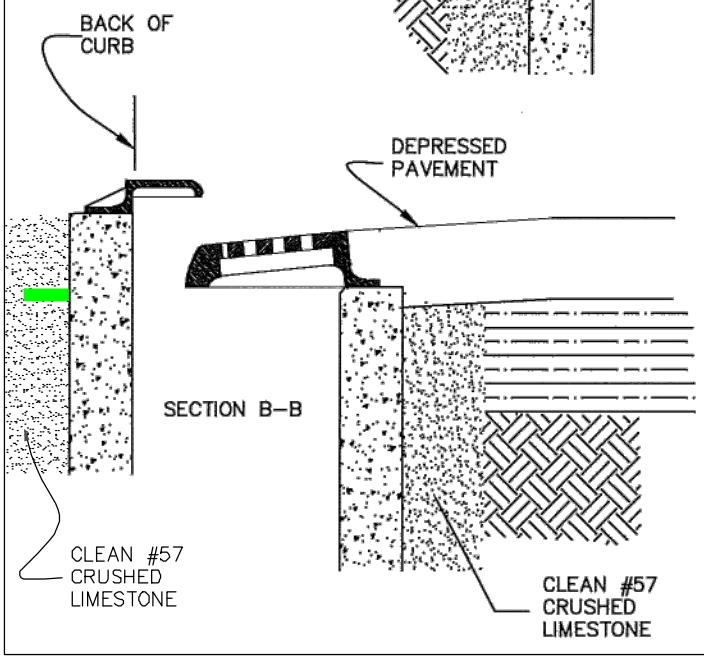
TWO #5 BARS, 18" LONG ARE REQUIRED ALONG BUTT JOINT OF ISOLATION AREA.

ALL GRATES SHALL BE VANE GRATES

STANDARD CURB INLET
(ASPHALT PAVEMENT BLOCKOUT DETAIL)







NOTES:

CONCRETE PAVEMENT FOR THE BLOCKOUTS SHALL MEET THE SAME REQUIREMENTS AS THE CONCRETE PAVEMENT.

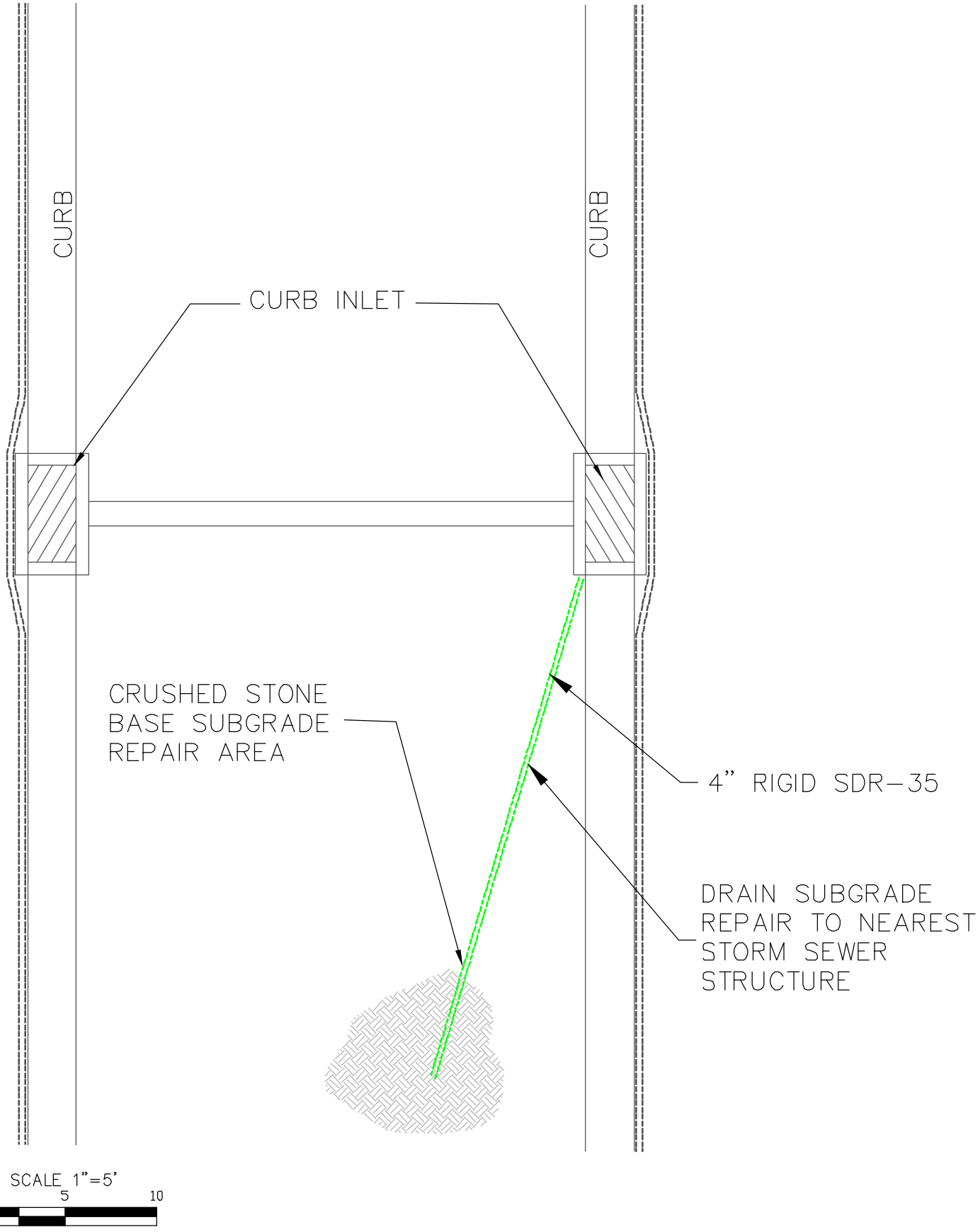
BLOCKOUTS FOR SINGLE INLET CATCH BASINS SHALL BEAR THE SAME DIMENSIONS AS THE DOUBLE INLET CATCH BASIN.

3/4"x18" DOWELS ARE REQUIRED FOR CONCRETE PAVEMENT OR GUTTER BLOCKOUT.

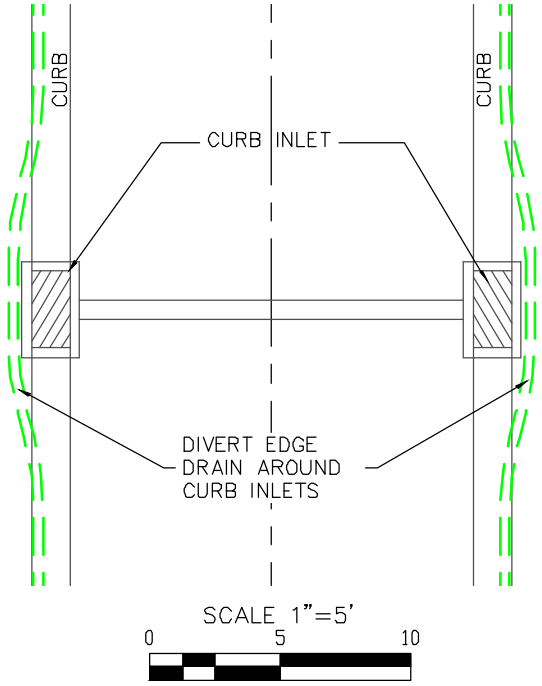
PAVEMENT THICKNESS SHALL CONFORM TO THE RELATED STREET CLASSIFICATION.

ALL GRATES SHALL BE VANE GRATES

DRAINAGE FOR SUBGRADE REPAIR



EDGE DRAIN INSTALLATION WITH STONE BASE STREETS



EDGE DRAIN INSTALLATION PROCEDURE FOR STONE BASE STREETS

1. ROLL OUT EDGE DRAIN FLAT (HORIZONTAL) SO THAT OUTSIDE FACE OF EDGE DRAIN ALIGNS WITH THE OUTSIDE EDGE OF CURB.
2. TACK EDGE DRAIN EVERY 5 FEET TO THE SUBGRADE USING 16 PENNY NAILS OR EQUAL.
3. DO NOT DRIVE CONSTRUCTION EQUIPMENT DIRECTLY ON EDGE DRAIN.
4. INSTALL STONE BASE TO A MINIMUM THICKNESS OF 4" OVER EDGE DRAIN.
5. COMPACT STONE BASE AS NECESSARY AND PROCEED WITH REMAINING PAVEMENT INSTALLATION.
6. AT CATCH BASINS CONTINUE EDGE DRAIN ALONG THE BACK SIDE OF CATCH BASIN.
7. EDGE DRAIN SHALL BE CONTINUOUS ALONG BOTH SIDES OF CURB.
8. EDGE DRAIN SHALL BE IN DIRECT CONTACT WITH #57 STONE BACKFILL AT ALL CATCH BASINS.
9. SPLICES IN EDGE DRAIN SHALL BE MADE WITH MANUFACTURERS COUPLERS OR OTHER APPROVED CONNECTION BY MANUFACTURER.

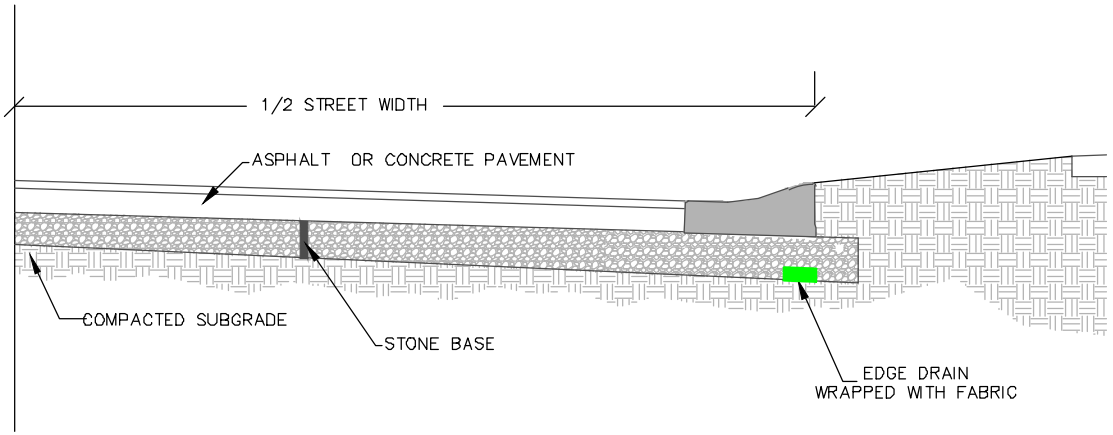
EDGE DRAIN MATERIAL SPECIFICATIONS

A. CORE
   1. MATERIAL: POLYETHYLENE OR POLYPROPYLENE. POLYSTYRENE WILL NOT BE ACCEPTED.
   2. MINIMUM THICKNESS: 1.0"
   3. WIDTH = 6" (MINIMUM)
   4. MINIMUM COMPRESSIVE STRENGTH:
      ONE-SIDED (OPEN-CORE) NOT ACCEPTED
      CLOSED CORE CONDUIT = 6,000 PSF (ASTM D-1621) OR = 4,000 PSF (ASTM D-6364)

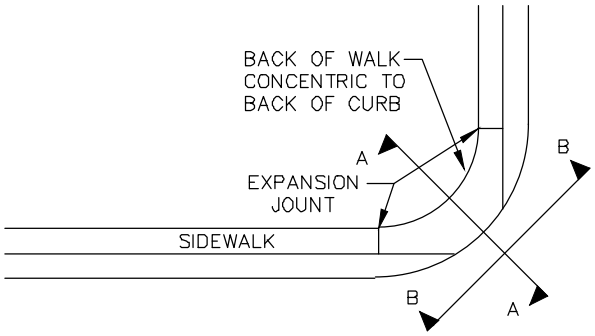
B. GEOTEXTILE FILTER FABRIC:
   1. MATERIAL: NON-WOVEN NEEDLE PUNCH GEOTEXTILE FABRIC THAT MEETS AASHTO CLASS 3.
   2. ATTACHMENT: THE GEOTEXTILE FILTER FABRIC SHALL BE WRAPPED AROUND THE DRAINAGE COMPOSITE CORE AND SECURED IN PLACE.

C. CERTIFICATIONS
   1. CONTRACTOR SHALL SUPPLY MANUFACTURER'S CERTIFICATION THAT THE EDGE DRAIN INSTALLED MEETS PERFORMANCE SPECIFICATION AND THE INTENDED USE SHOWN ON THIS DETAIL.

D. APPROVED PRODUCTS: ADS ADVANEDGE, MULTI-FLOW OR EQUAL



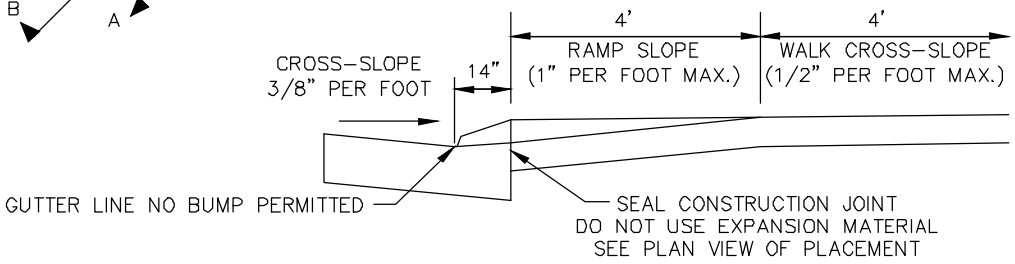
C.25 Revised Dec. 2019



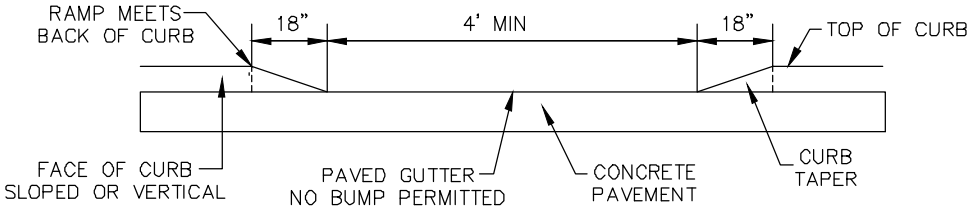
PLAN VIEW

NOTES

1. SIDEWALK RAMPS SHALL BE CONSTRUCTED OF MINIMUM 4000 PSI AIR-ENTRAINED CONCRETE. A BROOM FINISH OR EQUAL NON-SKID FINISH IS REQUIRED.
2. NORMAL GUTTER LINE SHALL BE MAINTAINED THROUGH THE AREA OF THE RAMP FOR DRAINAGE.
3. MINIMUM THICKNESS FOR RAMPS, SHALL BE 4 INCHES, SAME AS SIDEWALKS
4. NO FREE DRAINING GRANULAR FILL PERMITTED UNDER RAMPS.
5. HANDICAP RAMPS SHALL MEET ADA REQUIREMENTS AND CONTAIN DETECTABLE WARNINGS CONSISTING OF RAISED TRUNCATED DOMES. ONLY COMPOSITE INLAYS WILL BE PERMITTED.



SECTION A-A

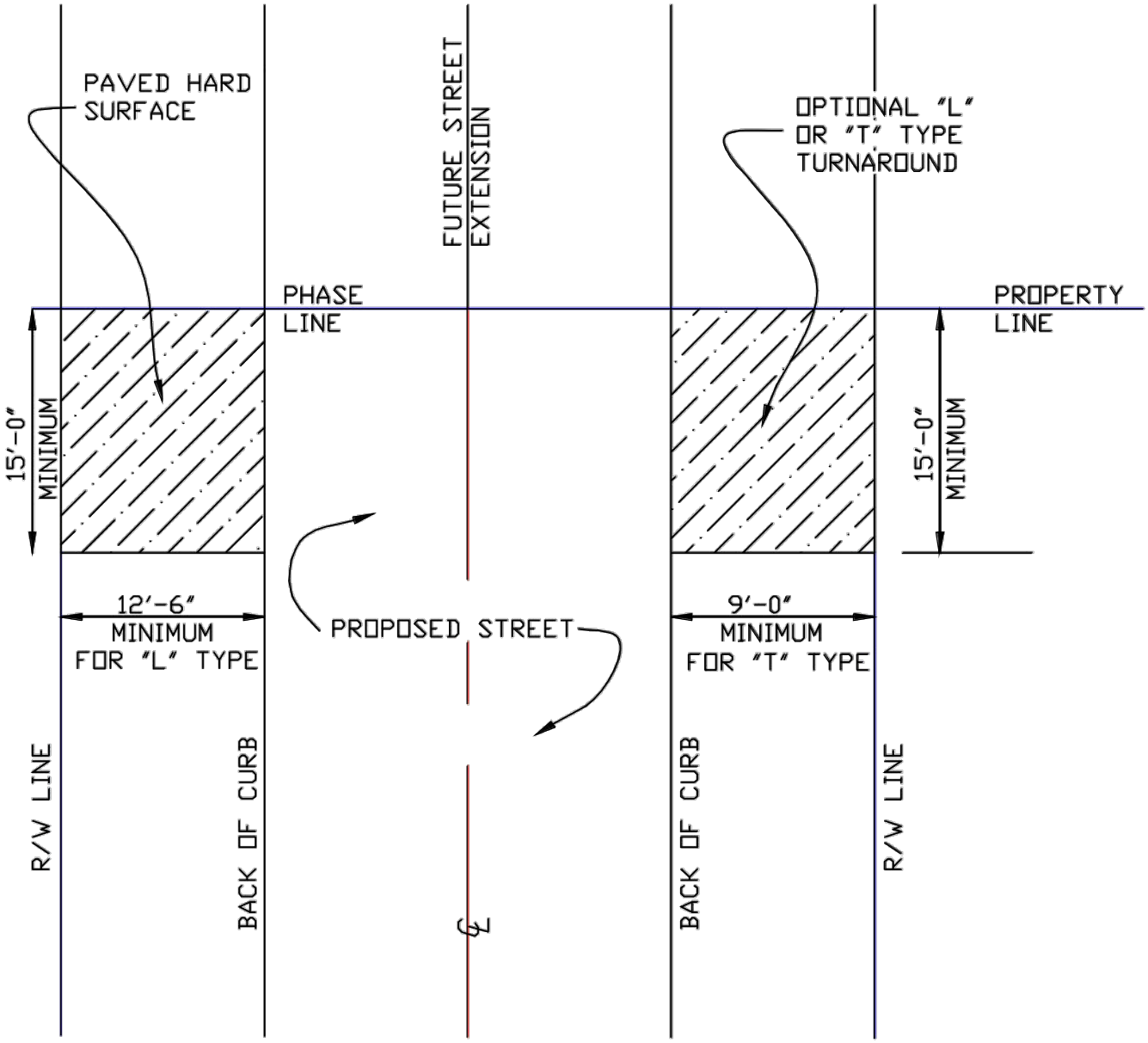


SECTION B-B

SIDEWALK RAMP AT INTERSECTION

N.T.S.

TEMPORARY TURN-AROUND DETAIL



APPENDIX "D"

STORM DRAINAGE SYSTEMS, EROSION CONTROL

ITEM 1.0 GENERAL

1.01 GENERAL: Each applicant or developer shall follow the storm sewer specifications and erosion control measure adopted by the appropriate sanitary sewer district:

Sanitation District #1
1045 Eaton Drive
Ft. Wright, KY 41017
(859) 578-7450

1.02 All trenches within the Public Right of Way shall be backfilled with controlled low strength material (CLSM) (flowable fill).

APPENDIX "E"

WATER LINE SPECIFICATIONS

ITEM 1.0 GENERAL

1.01 GENERAL: Each applicant or developer shall follow the water specifications adopted by the appropriate water district. The water district(s) serving Campbell County include the following:

Northern Kentucky Water District
2835 Crescent Springs Road
Erlanger, Kentucky 41018
(859) 578-9898

1.02 All trenches within the Public Right of Way shall be backfilled with controlled low strength material (CLSM) (flowable fill).

1.03 Water Mains on Private Property - Water mains installed on private property, which are going to be maintained by the Northern Kentucky Water District (the District), shall have a twenty foot (20') wide easement with the water main centered in the easement area and shall have a justifiable benefit to the District (serving more than one property owner, hydraulic benefits, etc.) A four foot (4') area over the water main shall be a non-paved strip totally unobstructed with the exceptions outlined in DESIGN GUIDELINES, water mains. With appropriate justification, paving may be approved within the four foot (4') area over cross-country water mains. Outside the ten foot (10') area over the water main, five feet (5') either side but within the overall easement area, other utilities may be placed in this area. Proper documentation shall be provided for all easement areas. For areas that are on recorded subdivision plats, the following statement may be used in lieu of the grant of easement forms:

WATER MAIN EASEMENT(S)

The Water Main Easement(s) as shown on this plat are subject to the DECLARATION OF MASTER WATER FACILITY EASEMENT AGREEMENT as set forth in _____ (*Select One of the following: In Alexandria - Easement Book 129, Page 145 OR In Newport - Easement Book 304, Page 466*) of the Campbell County Clerk's records at _____ *select the appropriate city location either Alexandria OR Newport*), KY.

For other areas, the Design Engineer shall prepare an easement document suitable for recording with the County Clerk. Documents shall consist of a sketch (8½" by 14"), a legal description of the twenty foot (20') easement with back references to the Deed Book and Page Number, and a signed Grant of Easement Form (Restoration Agreement) provided by the District prior to filling the main for sterilization.

APPENDIX "F"

SANITARY SEWER SPECIFICATIONS

ITEM 1.0 GENERAL

1.01 GENERAL: Each applicant or developer shall follow the sanitary sewer specifications adopted by the appropriate sanitary sewer district.

Sanitation District #1
1045 Eaton Drive
Ft. Wright, KY 41017
(859) 578-7450

1.02 All trenches within the Public Right of Way shall be backfilled with controlled low strength material (CLSM) (flowable fill).

APPENDIX "S"

STREET TREES

Street trees, that are required per Section 405 T, shall be provided with the construction of all new dwelling units within residential districts that are subject to the Zoning Permit procedure. Large canopy trees (deciduous and single trunk) from Plant List A with a minimum installation size of 2 inch caliper shall be provided at a minimum rate of one tree per 40 linear feet of lot width for each road frontage. The required trees shall be placed on the subject lot and within 10 feet of the right-of-way line, and shall be dispersed across the lot's street frontage. The required trees shall be placed within the adjoining street right-of-way if required by any applicable Preliminary Plat or Concept Development Plan approval, or by agreement with the applicable legislative body. The placement of street trees shall not interfere with any underground or overhead utilities, shall be placed at least 10 feet from fire hydrants, shall conform to any applicable requirements of utility providers, and shall not be placed within sight triangles (See Appendix T Section 118). The required street trees shall be delineated on the plot plan required through the Zoning Permit procedure. Alternative planting schemes which deviate from the requirements of this section may be proposed during the plan review process; however, the proposed deviation remains subject to approval by the Administrative Official.

Plant List A – Large Deciduous Trees

Common Name	Scientific Name	Height	Spread
Alder, Black	Alnus glutinosa	40’ – 60’	20’ – 40’
Beech, European “Asplenifolia” “Fastiagata” “Riversii” “Rohanil” “Rotundifolia”	Fagus sylvatica	50’ – 60’	35- 45’
Birch, River	Betula nigra	40’ – 70’	40’ – 60’
Elm, Chinese	Ulmus parvifolia	40’ – 50’	40’ - 50’
Falsecypress, Hinoik	Chamaecyparis obtuse	50’ – 70’	10’ - 20’
Falsecypress, Sawara	Chamaecyprais pisifera	50’ – 70’	10’ – 20’
Ginkgo “Autumn Gold” “Fastigiata”	Ginkgo biloba (male)	50’ – 80’	30’ – 50’
Hackberry, Sugar	Celtis laevigata	60’ – 80’	50’ – 60’
Holly, American “Xanthocarpa”	Ilex opaca	40’ – 70’	20’ – 40’
Hornbeam, European “Asplenfolia” “Columnaris” “Fastigiata”	Carpinus betulus	40’ – 70’	20’ – 40’
Katsuratree	Cercidiphyllum japonicum	40’ – 60’	30’ – 50’
Larch, European	Larix deciduas	70’ – 75’	25’ – 30’
Linden, Crimean “Redmond”	Tilia x euchlora	40’ – 60’	20’ – 30’
Linden, Littleaf “Chancellor” “Greenspire” “June Bride”	Tilia Cordata	60’ – 70’	30’ – 50’
Linden, Silver	Tilia tomentosa	50’ – 70’	30’ – 50’
Magnolia, Southern “St. Mary”	Magnolia grandiflora	60’ – 80’	30’ – 50’
Maple, Black	Acer saccharum sub. nigrum	60’ – 75’	50’ – 60’
Maple, Red “Armstrong” “Autumn Flame” “Columnar”	Acer rubrum	40’ – 60’	40’ – 50’
Maple, Sugar	Acer saccharum	60’ – 75’	50’ – 60’
Oak, English “Fastigata”	Quercur robur	60’ – 80’	50’ – 60’
Oak, Pin “Crown Rite” “Sovereign”	Quercus palustris	60’ – 70’	25’ – 40’
Oak, Red	Quercus rubra	60’ – 75’	40’ – 50’

Common Name	Scientific Name	Height	Spread
Oak, Scarlet	Quercus coccinea	70’ – 75	40’ – 50’
Oak, Shingle	Quercus imbricaria	50’ – 60’	40’ – 60’
Oak, Shumard	Quercus shumardii	40’ – 60’	40’ – 50’
Oak, Water	Quercus nigra	50’ – 80’	40’ – 60’
Oak, Willow	Quercus phellos	40’ – 60’	30’ – 40’
Pagodatree, Japanese “Regent”	Sophora japonica	50’ – 70’	40’ – 60’
Planetree, London “Bloodgood”	Platanus x acerfolia	70’ – 100’	60’ – 80’
Rubber Tree, Hardy	Eugommia ulmoides	40’ – 60’	40’ – 50’
Sweetgum “Festival” “Moraine”	Liquidambar styracifolia	60’ – 70’	40’ – 50’
Zelkova, Japanese “Village Green”	Zelkova serrata	50’ – 80’	40’ – 70’

APPENDIX "T"

TRANSPORTATION MANAGEMENT REGULATIONS

Section 100
Intent

To promote effective multi-modal transportation including safe and reasonable access between public roadways and adjacent land, transit service, bicycle, and pedestrian travel. These regulations aim to improve the convenience and ease of movement of travelers on public roads and provide for the reasonable speeds and economy of travel while maintaining the capacity of the roadway. The location and design of transportation facilities shall be in accordance with the following regulations. These regulations shall apply to all existing, planned or proposed transportation facilities within unincorporated Campbell County and the cities of Crestview, Melbourne, Silver Grove, Southgate, Woodlawn, and any city once it becomes a member of the joint planning unit. These regulations shall also provide the basis for further detailing of acceptable street access for specific areas within the County, through special corridor/district studies conducted by the Planning Commission.

Section 105
Provision For Bicycle Facilities

The Campbell County & Municipal Planning & Zoning Commission and Kentucky Transportation Cabinet may provide for or require bike lanes, routes, or paths. Bicycle facilities are currently planned for Campbell County in the current Campbell County Transportation Plan, the OKI Regional Bicycle Plan and specific corridor plans.

All bicycle facilities must be accompanied by appropriate pavement markings and signage and designed according to the AASHTO Guide for the Development of Bicycle Facilities. These multimodal facilities must be incorporated into the design of circulation patterns of sites and in the location of access points. Such facilities shall be considered in the design of public streets by both developers and the applicable public works agency and reviewed in accordance with local and regional bicycle plans.

Section 108
Provision For Pedestrian Network

Sidewalk connections to adjacent developments and/or public rights-of-way shall be provided along public roads. New developments or re-developments of existing sites shall provide sidewalks along public roads. Where adequate right-of-way does not exist, right-of-way or public sidewalk easements shall be granted. Provisions shall be consistent with local pedestrian and multi-use trail plans.

The width of the sidewalks shall be in conformance with the requirements of the Campbell County Subdivision Regulations. At intersections and pedestrian crosswalks, wheelchair ramps shall be installed.

Section 110
Functional Roadway Classification

Roadways in Campbell County are grouped into categories based upon their function or use to insure that each roadway can operate at an acceptable level-of-service. Figure 2-16 Functional Classification of the 2008 Campbell County Comprehensive Plan refers to existing functional classifications for analysis purposes; however, the lists in this Appendix take into account the

future needs of each roadway based on projected growth and other impacts described in the Transportation Plan, as well as the Campbell County Comprehensive Plan. The lists in this article are anticipated to grow in the future, especially with the future construction of Controlled Access Collectors that are conceptually described in the Transportation Plan. The classifications of roadways in Campbell County are as follows:

Freeway/Urban Interstates – A multi-lane divided highway having a minimum of two lanes in each direction for exclusive use of through traffic. Access is fully controlled, with full grade separation at interchanges.

Freeway/Urban Interstates:
I-471
I-275

Expressways – A divided arterial highway that serves through-traffic. Access is partially controlled, with full or partial grade separations at major intersections.

Expressway Roadways:
None

Arterial – High volume roadways that serve primarily through-traffic at relatively high speeds. The provision of direct access to abutting land is subordinate to providing service to through traffic as facilitated through the following conditions:

1. Direct private access to arterial roadways shall be permitted only when the property in question has no other reasonable access to the public roadway network;

2. The design and location of allowable private access points must comply with all applicable sections of this regulation;

3. Direct private access points to arterial roadways may be designated as ”temporary” and all requirements of Section 125 shall apply.

The Comprehensive Plan breaks this classification of roadway into three categories: Principal Arterial – Urban, Minor Arterial - Urban and Minor Arterial - Rural.

Principal Arterial – Urban examples:
US 27
AA Highway/ State Route 9

Minor Arterial – Urban examples:
State Route 8

Minor Arterial – Rural example:
Four Mile/Gresskamp Road

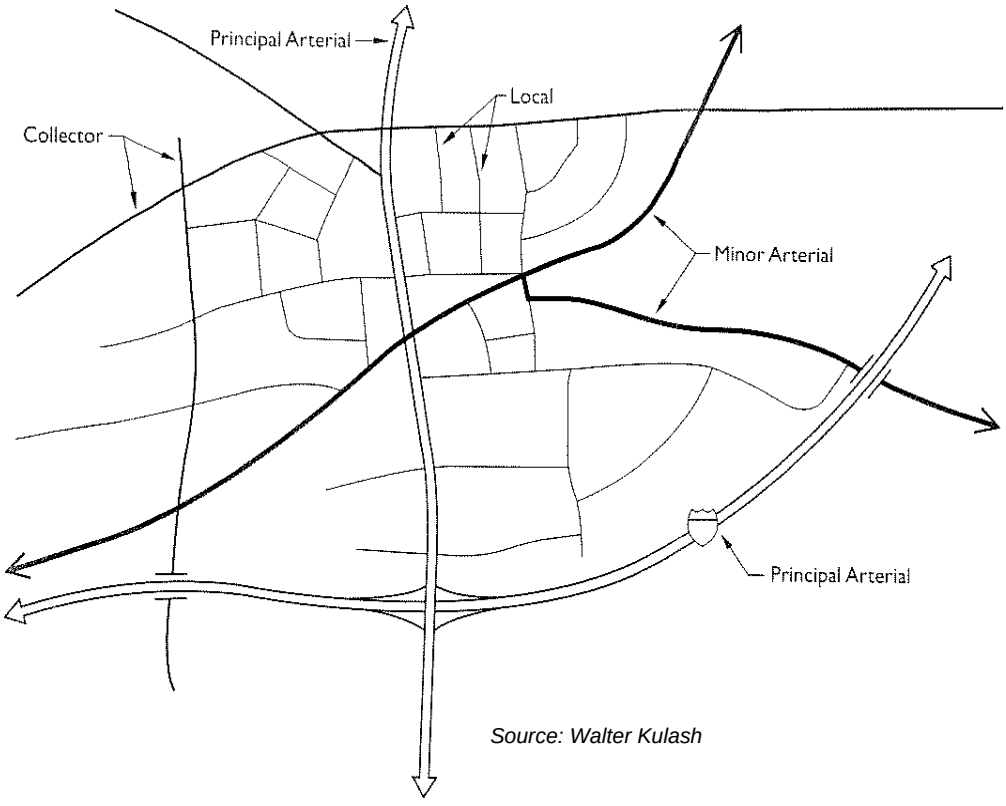
Collector – Streets having the dual function of providing land access and traffic circulation service within residential, commercial, and industrial areas. Collector streets provide the connecting link between local streets and the arterial network. The Comprehensive Plan identifies these roadways as Collector – Urban.

Collector Roadway examples:
Moock Road
Poole's Creek Road

Sub-Collector and Local – Streets that provide the greatest degree of access to abutting property. A sub-collector, while serving access to adjacent parcels, must facilitate traffic movement within a development. Service of through traffic on local streets is clearly subordinate and even discouraged by low posted speeds, street design, and signing or signalization which causes frequent stops. The Comprehensive Plan identifies these roadways as Rural Minor Collector.

Sub-Collector Roadway example:
Oneonta Road

Illustration of Functional Roadway Classification



Source: Walter Kulash

Section 113
Reclassification of Roadways and Assignment of New Roadways
The access classification of an existing or proposed roadway, through action of the Planning Commission, may be reviewed based upon a consideration of existing and projected traffic volumes, newly adopted transportation plans, changes in the existing and/or proposed character of lands adjoining the roadway, amended land use plans and zoning (including Special District/Corridor Studies) and the availability of reasonable access to affected lands. If through its review, the Planning Commission finds reasonable cause it may recommend to the appropriate legislative unit(s) a modification, change, or assignment of a new access classification to an existing or proposed roadway within Campbell County.

The Planning Commission may also recommend to the appropriate legislative body a change in the access classification of a roadway as part of a request for a zoning map amendment, when determined that the requested zone change, if approved, would significantly change the transportation function of the roadway.

Section 115
Minimum Spacing of Driveways
In order to minimize the potential for accidents and delay to through vehicles, all adjacent driveways onto public roadways must be separated by the minimum distance shown in Table 1. These minimum spacing requirements may be adjusted slightly to better accommodate minimum sight distance requirements if determined by the Administrative Official that such adjustment is necessary to preserve the intent of these regulations.

TABLE 1
Minimum Spacing of Adjacent Driveways

Collector Roadways:	Arterial Roadways
<40 M.P.H. = 185’	=275’
≥40 M.P.H. = 230’	

Section 116
Minimum Corner Clearance of Driveways from Intersection Streets

The locations of driveways adjacent to intersecting streets shall conform to the minimum corner clearances provided in Table 2.

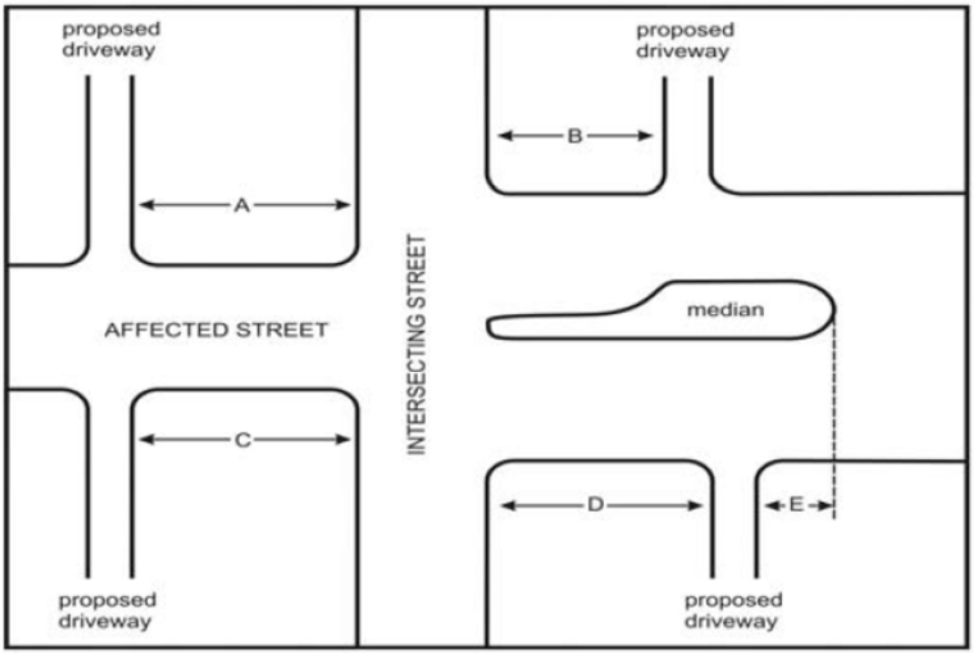
TABLE 2
Minimum Corner Clearances of Driveways from Intersecting Streets

SIGNALIZED INTERSECTION:

Item	Arterial	Collector	Commercial or Industrial Sub-Collector, Con trolled Access Collectors	Other
A	230’	175’	125’	50’
B	115’	85’	100’	50’
C	230’	175’	125’	50’
D	230’	175’	125’	50’
E	75’	0’	0’	0’

NON-SIGNALIZED INTERSECTION:

Item	Arterial	Collector	Commercial or Industrial Sub-Collector, Con trolled Access Collectors	Other
A	115’	75’	75’	50’
B	115’	85’	85’	50’
C	85’	85’	85’	50’
D	115’	75’	75’	50’
E	75’	0’	0’	0’



- Rotate 90 degrees for access controls on intersecting street.
- Measurements are edge of pavement to edge of pavement.

Section 117
Minimum Sight Distances

All driveways and intersecting roadways shall be designed and located so that the minimum sign distances as shown in Table 3 and 4 are provided. The required sight distance must be unobstructed by horizontal and vertical road curves, embankments, structures, or vegetation. Utilities must also be taken into consideration. These distances shall be applied as demonstrated by Figure 1.

TABLE 3

Minimum Sight Distance for Vehicle Entering T'Fare From Proposed Access

Posted Speed Limit	25 MPH	35 MPH	45 MPH	55 MPH
Automobile Dominated*	257 Ft.	360 Ft.	462 Ft.	565 Ft.
Substantial Truck Usage of Proposed Access as Determined by Administrative Official**	514 Ft.	720 Ft.	924 Ft.	1,130 Ft.

**Distance based on six seconds standard of the Kentucky Transportation Cabinet Plus one second of Driver Reaction time. Right and left may be different based on different posted speed limits in each direction.*

***Distance based on the average truck having effectively one-half the acceleration of a typical passenger vehicle.*

TABLE 4

Minimum Stopping Distance and Opposing Left Turn Sight Distance
For Vehicle on T'Fare Approaching Proposed Access Point – Both Directions

Posted Speed Limit	25 MPH	35 MPH	45 MPH	55 MPH
Automobile	155 Ft.	250 Ft.	350Ft.	495 Ft.
Trucks Forecasted over 5% on Affected Roadway*	235 Ft.	375 Ft.	540 Ft.	745 Ft.

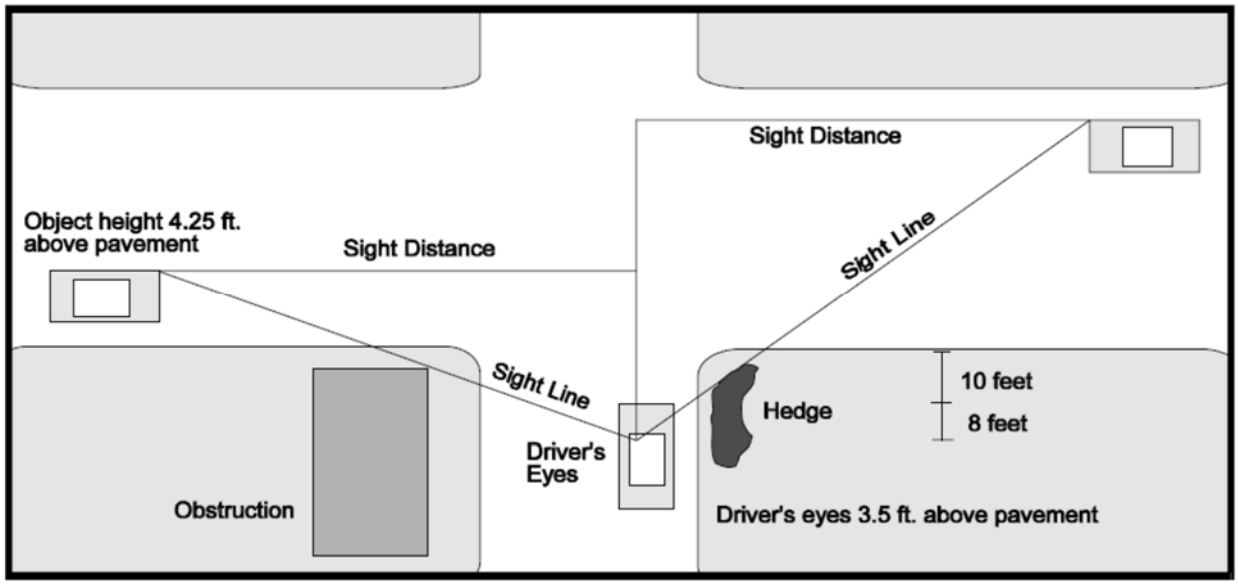
Source: New Jersey Department of Transportation Roadway Design Manual, 2003.

**Determined by Administrative Official. 5% Based on San Jose, CA, Study 11.96.070 of Municipal Code, 2002.*

Section 118
Sight Triangle

Measurements for Tables 3 and 4 must be calculated with a driver eye height of 3.5 feet and a sight object height of 4.25 feet. The exiting driver position at the proposed access point must be calculated at 18 feet back from the pavement edge of the thoroughfare. To achieve the design and location of new access points with adequate sight distance, an adequate sight triangle shall also be maintained, as shown in Figure 1. Sight triangles are areas clear of visual obstruction to allow for the safe egress of vehicles from an access point, including an intersecting street, onto a roadway.

FIGURE 1
Sight Triangle



Note: Driver position measured from edge of pavement.

Section 120
Provisions for Maintaining the Level of Service of the Roadway
The Planning Commission may require that all traffic requiring access to and from a development shall operate in such a manner as to not adversely affect the level of service of the roadway. Provisions for the present or future construction of a frontage road, restriction or channelization of turning movements, or other improvements may be required, as a condition of approval, in order to maintain the level of service of any adjacent roadway.

Section 121
Number and Location of Access Points
An encroachment permit shall be obtained from the appropriated legislative unit for whichever road is to be accessed. Each existing tract of land is entitled to one access point provided that its location and design fulfill, as a minimum, the requirements of these regulations including the following:

1. Where an undeveloped parcel adjoins another undeveloped parcel on collector or arterial roadways, access points shall be located along common property lines of such parcels, providing the potential access meets other applicable portions of these regulations. When the second undeveloped parcel is developed, it shall utilize the common access. Where access is provided along common property lines, an easement granting common access shall be provided. In addition, such access easements shall be of sufficient depth to provide adequate stacking distance for vehicles entering the access point from a public street, and shall also provide for dedication of right-of-way if the access should ever be developed into a public street.

2. A proposed development is permitted one access point for each 500 feet of site frontage, however, a single family dwelling in a residential or agricultural zone may be granted one additional access point on a local or subcollector street where a lot frontage is at least 100 feet. All access points must be in compliance with all applicable sections of these regulations.

3. If a property has frontage on more than one street, access will be permitted only on those street frontages where standards contained in this ordinance and all other regulations can be met.

4. If a property cannot be served by any access point meeting these standards, the Planning Commission will designate one or more access point(s) based on traffic safety, operational needs and conformance to as much of the requirements of these regulations as possible.

Section 122
Coordination of Access Points
Access points on opposite sides of the arterial, collector, and subcollector roadways shall be located opposite each other. If not so located, turning, movement restrictions may be imposed as determined necessary by the Planning Commission. In addition, in order to maximize the efficient utilization of access points, access drives shall be designed, located, and constructed in a manner to provide and make possible the coordination of access with and between adjacent properties developed (present or future) for similar or compatible uses. As a condition of approval for construction, use or reuse of any access point, the Planning Commission may require that unobstructed and unencumbered access, in accordance with the provisions of this ordinance, be provided from any such access point to adjacent properties if the uses are similar or compatible and such connection is physically possible.

Section 123
Change in Property Use
Whenever the use of a parcel of land changes, or two or more parcels of land are assembled under one purpose, plan, entity, or usage, the existing access permit(s) shall become void. The Planning Commission may require the reconstruction, relocation, or closure of the access point(s), based on the new property use. Any such new or reauthorized access point must be in compliance with all applicable sections of this regulation, and may require the submission of a traffic study in accordance with Section 140 of this order.

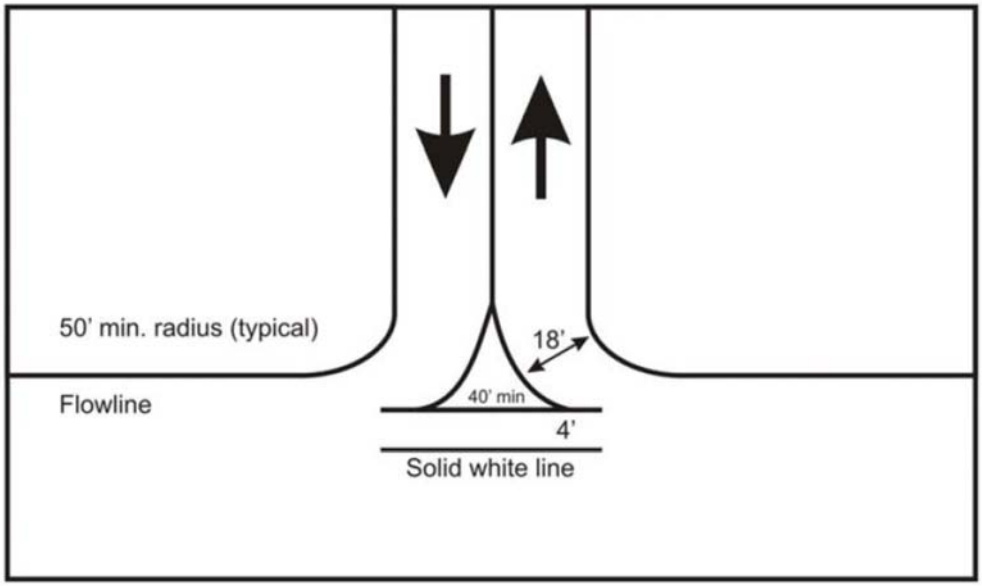
Section 124
Existing Access
Existing access points, even if not in use, may not be relocated, altered, or developed without approval of the Planning Commission.

Section 125
Temporary Access Points
Any access point that does not comply with one or more sections of this regulation may be designated as “Temporary” upon approval by the Planning Commission. Any access point so

designated by be terminated, reduced, limited to certain turning movement, or caused to be relocated by the Planning Commission at such time as the particular use served by the access point changes and/or the property is otherwise provided an alternate means of access via a frontage road, an intersecting street, or a shared common driveway. In all cases where said access points are classified as "temporary", such designation shall be duly noted on the plan submitted for approval and also recorded as a Certificate of Land Use Restriction at the Campbell County Clerk's office with the expiration date noted. An encroachment permit shall be obtained from the appropriate legislative unit for whichever road is to be accessed.

Section 126
Restriction of Turning Movements
Where necessary for the safe and efficient movement of traffic, the Planning Commission may require access points to provide for only limited turning movements (see Figure 2). Access points with restricted turning movements must still meet requirements for number and location of access points as specified in these regulations.

FIGURE 2



Right Turn In/Out Access Design

Section 127
Construction Access Points
Construction access may be granted to undeveloped property prior to development of a site plan if access is needed for construction or preliminary site access. Construction accesses are subject to removal, relocation, or redesign after final site plan approval.

Section 130
Driveway Design

Design of driveway width, angle, grade, curb radii shall comply with the provisions of this section. Table 5 presents the required dimensions for driveway design based on rural or urban conditions. These dimensions should be adjusted upward as necessary to accommodate design vehicles. If center channelizing islands are used in a two-way driveway, clearance widths of 1.5 to 2 feet should be added on both sides of the center island.

TABLE 5

Recommended Basic Driveway Dimension Guidelines

Dimension		Reference	Urban			Rural		
			Resid.	Commer.	Indus.	Resid.	Commer.	Indus.
Width[1]	Minimum	W	10’	15’	20’	10’	15’	20’
	Maximum		30’	35’	40’	30’	40’	40’
Right-turn Radius[2]	Minimum	R	5’	10’	15’	10’	15’	25’
	Maximum		15’	20’	25’	25’	50’	50’
Angle[3]		A	45’	45’	45’	45’	45’	45’

1. *The minimum width of commercial driveways is intended to apply to one-way operation. In high pedestrian areas, the maximum basic width should be 30 feet.*
2. *On the side of a driveway exposed to entry or exit by right-turning vehicles. In high pedestrian areas, the radii should be half the values shown. The maximum radii for major generator driveways can be higher than the values shown.*
3. *Minimum acute angle measured from edge of pavement, and generally based on one-way operation. For two-way driveways, and in high pedestrian areas, the minimum angle should be 70 degrees.*

FIGURE 3

Recommended Basic Driveway Dimension Guidelines

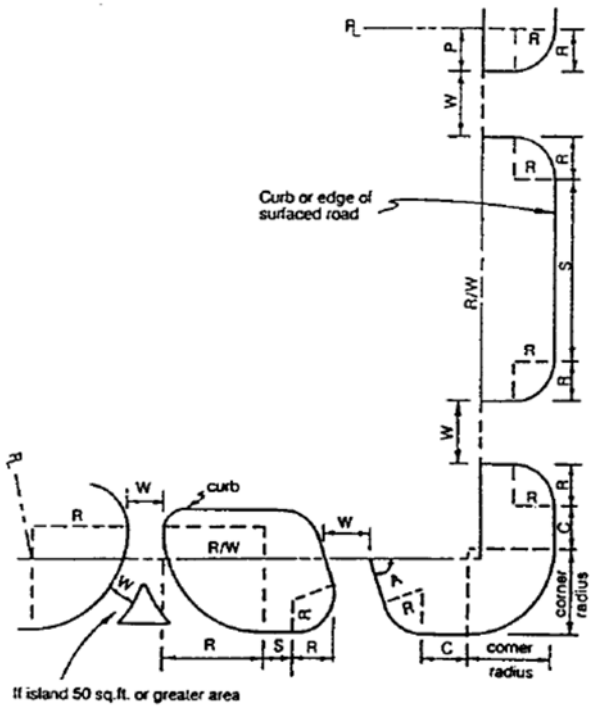
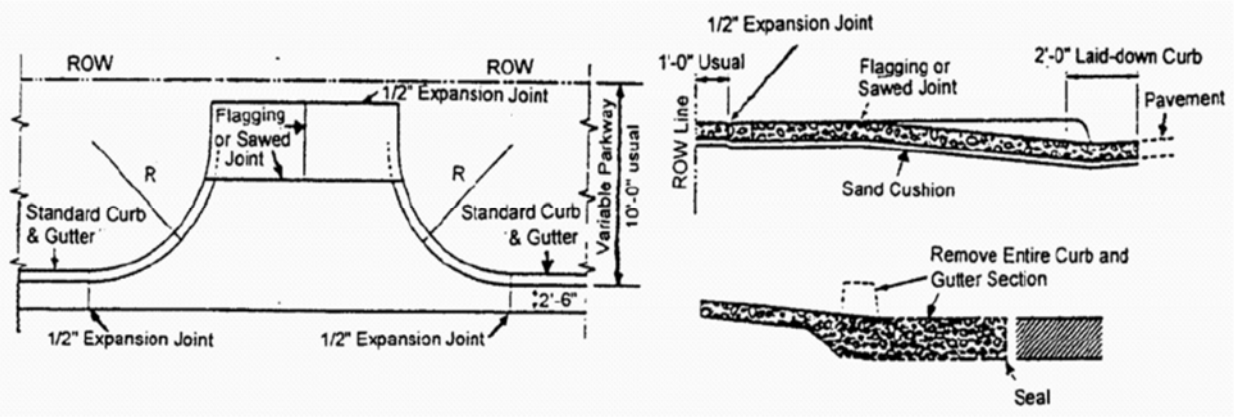


FIGURE 4

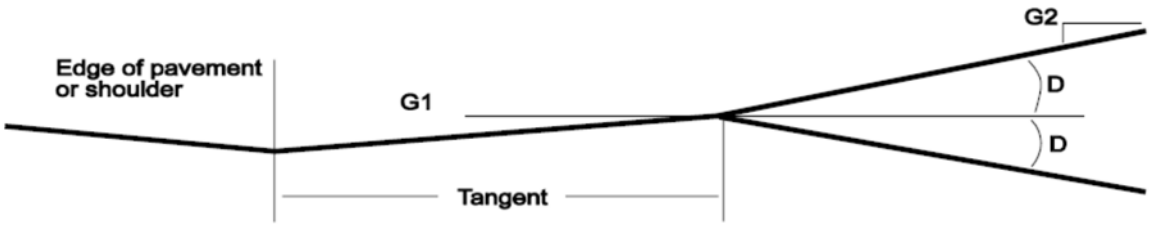


Driveway Design

Section 131
Driveway Grades

In high traffic areas, the grade of a driveway should reflect the design illustrated in Figure 4. Existing curbing should be completely removed to insure a safe and efficient access to the development. Where drainage of water flowing onto a roadway is anticipated, a trench drain shall be installed as part of the driveway. Figure 5 indicates recommended driveway grades. The value of G1 is limited by shoulder slopes and the presence of a sidewalk. In general, G1 should not exceed 8% and the change in grade between driveway grade and street cross-slope should not exceed 10%. Driveway grades (G2) should not exceed 15% for residential driveways and 8% for commercial or industrial driveways. A level "landing" area should be provided at the approach to the roadway. However, the effect of a vertical curve on sight distances should also be considered. Concrete sidewalk sections are to be provided through curbcuts where existing sidewalks exist or are required.

FIGURE 5
Driveway Grade



Suggested Max. Grade Change (D)

	Desirable	Maximum
High Volume	0%	±3%
Low Volume on Major or Collector Streets	±3%	±6%
Low Volume on Local Streets	±6%	Controlled by vehicle clearance (±15%)

Section 132
Vehicle Storage/Circulation
No access will be approved for parking or loading areas that require backing maneuvers in a public street right-of-way except for single-family, duplex or townhouse residential uses on local streets. Any parking facility must have full internal vehicular circulation and storage. Vehicular circulation must be located completely within the property. In addition, each portion of the development must have access to all other portions without using the adjacent street system. Where a proposed development includes a truck loading operation, adequate space must be provided such that all truck maneuvering is performed off street.

Adequate stacking capacity must be provided for both inbound and outbound vehicles to facilitate safe movement. Inbound vehicle storage areas must be of sufficient size to ensure that vehicles will not obstruct the adjacent street, sidewalk, or circulation within the development. Outbound vehicle storage areas must be provided to eliminate backup and delay of vehicles within the development.

Section 133
Spacing Restriction for Signalized Access Points
Access points shall be designed such that those which will warrant signalization shall be spaced a minimum distance of one quarter mile apart. The location and design of the signalized access points shall be determined by a traffic engineering study prepared by the developer and subject to the approval of the Planning Commission, as detailed in Section 140. If the installation of a traffic signal is approved, the developer may be responsible for the cost of purchasing, installing, operating, and maintaining the signal equipment.

Section 135
Provision of Exclusive Turning Lanes and Deceleration Lanes
At those access points where vehicles turning to and from the roadway will affect the capacity of the roadway, the developer shall dedicate sufficient right-of-way and construct turning lanes or deceleration lanes as necessary to maintain the capacity of the roadway. If the roadway in question has bike lanes, the developer shall also include adequate right-of-way for the bike lane and continue the bike lane through the access point. Acceleration lanes should be discouraged except for freeway applications.

Section 136
Provision of Frontage Roads
The Planning Commission may require the use of frontage roads, backage roads, or driveway connections to provide access to property adjacent to arterial and collector roadways. The landowner/developer may be required to construct the frontage road to the side and/or rear property lines or reserve sufficient right-of-way to allow future construction of such road.

As adjacent property developers, the landowner/developer shall be required to interconnect the individual portions of frontage roads as appropriate. Access to the roadway via an intersecting street or a common driveway may be required if the use of a frontage road is not feasible, as may the interconnecting of parking lots.

Section 137
Approval of Access Points - KYTC
A copy of the plans for all access points to be constructed along a state-maintained or controlled route shall be submitted to the Kentucky Transportation Cabinet for review and approval at the same time as plans are submitted to the Planning Commission. Permission for the construction of access points along state-maintained roadways is subject to the approval of plans by both the local and state agencies. Proposed access points along local public roadways must also be approved by the respective legislative unit.

Section 138
Approval of Access Points – Planning Commission
All access to roadways for development purposes require Site Plan or Preliminary Plat and Improvement Plan (if applicable) approval from the Planning Commission. Access to collector and arterial roadways will only be permitted if no other reasonable access is possible.

The Planning Commission (or Administrative Official where appropriate) will review development plans for compliance with these regulations at the earliest practical stage of plan review. These regulations shall be reviewed at the following stages unless otherwise designated by the Planning Commission or Administrative Official:

Type of Development	Review Procedure
Subdivisions	Preliminary Plat Review, and if applicable, Improvement Plan
Planned Developments, Employment Planned Developments, Residential Planned Developments	Subdivision or Site Plan Review
Principally Permitted and Conditional Uses in Commercial, Employment, Public Facilities, and Recreation Zones	Site Plan Review
Conveyance Plats and Single Family Residential applications	Zoning Permit Review with building permit

Section 139
Waiver of Requirements
The Planning Commission through the official Administrative Official for the subject jurisdiction, may reasonably waive or modify, with conditions, the requirements of these regulations, if it is determined that such action is warranted give the nature of an individual project and such action will serve to preserve the purpose and intent of these regulations. The Administrative Official can require a detailed traffic study from the applicant in order to make a determination.

Section 140
Traffic Studies

Traffic studies may be required by the Planning Commission in order to adequately assess the impact of a development proposal on the existing and/or planned street system. The primary responsibility for assessing the traffic impacts associated with a proposed development will rest with the developer, while the Planning Commission serves in a review capacity.

The traffic study will be the responsibility of the applicant and must be prepared by a professional individual or firm with adequate experience in Transportation Engineering and Planning. Upon submission of a draft traffic study, the Planning Commission will review the study data sources, methods, and findings. Comments will be provided in a written form. The applicant/developer will then have an opportunity to incorporate necessary revisions prior to submitting a final report. All studies must be approved by the Planning Commission before acceptance.

The applicant should be notified at the pre-application state whether a traffic study will be required, provided adequate information is available to the Planning Commission. If the proposed development appears to generate significant impact on the infrastructure, the applicant will be informed that a traffic study is required.

Transportation consultants are required to discuss projects with the Planning Commission prior to starting the study. Topics for possible discussion at such meetings will include trip generation, directional distribution of traffic, trip assignment, definition of the study area, intersections requiring critical lane analysis, methods for projecting building-out volume, and needs analysis of pedestrian/bicycle facilities. Specific requirements will vary dependent upon the specific site location being reviewed. No traffic study will be accepted unless the traffic study requirements of this regulation are met, and the applicant has a pre-application meeting with the Planning Commission.

Traffic Study Format

In order to provide consistency and to facilitate Staff review of traffic studies, the following format (see Table 6) shall be followed in the preparation of such studies by transportation consultants. The analysis shall be presented in a logical sequence with footnotes where appropriate. A detailed description of what should be incorporated into a study is detailed in “Traffic Access and Impact Studies for Site Development” published by the Institute of Transportation Engineers. The following outline, taken from that document indicates the information that shall be included in a transportation study:

TABLE 6

Sample Table of Contents- Site Traffic
Access/Impact Study Report

I. Introduction and Summary
- A. Purpose of Report and Study Objectives
- B. Executive Summary
  1. Site location and study area
  2. Development description
  3. Principal findings
  4. Conclusion
  5. Recommendations
- C. Qualifications and experience of firm or individual(s) who prepared the study.

II. Proposed Development (Site and Nearby)
- A. Off-site development
- B. Description of on-site development
  1. Land use and intensity
  2. Location
  3. Site plan
  4. Zoning
  5. Phasing and timing

III. Area Conditions
- A. Study Area
  1. Area of influence
  2. Area of significant traffic impact (may also be part of Chapter IV)
- B. Study Area Land Use
  1. Existing land uses
  2. Existing zoning
  3. Anticipated future development
- C. Site Accessibility
  1. Area roadway system (a. Existing; b. Future)
  2. Traffic volumes and conditions
  3. Transit service and Pedestrian/Bicycle facilities
  4. Existing relevant transportation system management programs
  5. Other as applicable

IV. Projected Traffic
- A. Site Traffic (each horizon year)
  1. Trip generation (24 hour, AM peak hour and PM peak hour)
  2. Trip distribution
  3. Modal split
  4. Trip assignment
- B. Through Traffic (each horizon year)
  1. Method of projections
  2. Trip generation (24 hour, AM peak hour and PM peak hour)
  3. Trip distribution
  4. Modal split
  5. Trip assignment
- C. Total Traffic (each horizon year)

V. Traffic Analysis
   A. Site Access
   B. Capacity and Level of Service (including AM and PM peak hour LOS changes)
   C. Critical Lane Analysis
   D. Traffic Safety
   E. Traffic Signals
   F. Vehicle/Bicycle/Pedestrian Circulation and Parking

VI. Improvement Analysis
   A. Improvement to accommodate base traffic
   B. Additional improvement to accommodate site traffic
   C. Alternative improvements
   D. Status of improvements already funded, programmed, or planned
   E. Evaluation

VII. Findings
   A. Site accessibility
   B. Traffic impacts
   C. Need for any improvements
   D. Compliance with applicable local codes

VIII. Recommendations
   A. Site access/circulation plan
   B. Roadway improvements
      1. On-site
      2. Off-site
      3. Phasing, if appropriate
   C. Transportation System Management Actions
      1. On-site
      2. Off-site
      3. Phasing, if appropriate
   D. Other

IX. Conclusions

The executive summary should be a one or two-page synopsis that concisely summarizes the study purpose, conclusions, and recommendations. Throughout the study, assumptions must be detailed and described. The study should also specify which transportation improvements will be the responsibility of the developer to complete.

APPENDIX "Z"

MODIFICATIONS TO SUBDIVISION REGULATIONS

DATE	CASE REFERENCE #	ART./SECT. #
07/10/2012	108-12-TXA-01	Update Entire Text
12/10/2013	108-13-TXA-02	Art 3, Sec 300, 370 & 375
05/13/2014	108-14-TXA-03	Art 3, Sec 300
05/13/2014	108-14-TXA-04	Art 4, Sec 415
05/13/2014	108-14-TXA-05	Art 4, Sec 405
02/10/2015	108-14-TXA-06	Update All Text Pertaining To Administrative Reviews
05/10/2016	113-16-TXA-03	Art 5, Sec 520 & 525