

TITLE 16

STREETS AND SIDEWALKS, ETC¹

CHAPTER

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CHAPTER 1

IN GENERAL

SECTION

- 16-101. Adoption of local government public works standards and specifications.
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16-101. Adoption of local government public works standards and specifications. There is hereby adopted by the City of Tullahoma a document entitled "Local Government Public Works Standards and Specifications" as is now in full force and effect and as is hereafter amended. Said document shall prescribe standards and specifications in the following areas of public works:

- (1) Water distribution systems;
- (2) Sewerage systems;
- (3) Drainage systems;
- (4) Street systems; provided, however, that the standards, specifications and criteria relating to curbs shall be amended to allow as

¹Municipal code reference

Related motor vehicle and traffic regulations: title 15.

additional approved curbs in residential areas with a density of four (4) single family units per acre or less single family units per acre the construction of slip-form curbs, thereby amending the local government public works standards and specifications to allow slip-form curbs for certain residential subdivisions as set out above, as an additional approved curb.

Said document shall prescribe criteria for construction standards and specifications, design criteria and contract documents appertaining to the aforementioned public works.

Further provided that said local government public works standards and specifications may be amended and/or partially deleted by resolution of the board of mayor and aldermen at any time; and

Further provided that the board of mayor and aldermen may, by simple motion create, adopt, delete from or amend specifications for slip form curbs from time to time and same shall be considered a part of said local government public works standards. (1988 Code, § 12-101)

16-102. Obstructing with merchandise, etc. It shall be unlawful for any person to place upon any of the streets, alleys, sidewalks or pavements of the city, any wood, lumber, boxes, barrels, bales, packages, or any other obstruction. (1988 Code, § 12-103)

16-103. Sale of goods, etc. It shall be unlawful for any person to offer for sale or sell any goods, wares or merchandise of any description from any platform, box or wagon, or otherwise, upon any public street, sidewalk or alley of the city, so as to impede the flow of traffic. (1988 Code, § 12-104)

16-104. Railroads to keep crossings open and in good repair.

(1) All railroad companies operating trains through or in the city shall keep all crossings now in use by the public, over its tracks, in good repair, at its own expense and shall be required to keep all such crossings as are now in use, open to the public at all times.

(2) Any person or company operating any railroad in or through the city, closing or attempting to close, to the public use, any crossings now used by the public, or failing to keep said crossings in proper and safe repair, so as to allow the safe passage of vehicles and pedestrians over its tracks at all such crossings, shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be fined as prescribed in § 1-107. (1988 Code, § 12-106)

16-105. Permit required prior to paving of streets in subdivisions.

(1) During the development of any subdivision subject to and developed under the Subdivision Regulations of the City of Tullahoma, Tennessee, as promulgated and amended from time to time by the Tullahoma Planning Commission, at such time as the owner and/or contractor is ready to pave those streets set out in said subdivision, said owner and/or contractor must apply for

and obtain from the City Administrator of the City of Tullahoma, Tennessee, a permit to begin said paving operations.

(2) At such time as said application is made for said permit, the owner and/or contractor shall submit to the city administrator, or his designee, test results for various quality control tests conducted by a geotechnical engineering firm satisfactory to city in compliance with standards outlined in the "Local Government Public Works Standards and Specifications" as set forth in § 16-101 of the Code of Ordinances of the City of Tullahoma, Tennessee, whereby said standards are adopted. The number of tests to be conducted per linear 100 feet of paving for a paved road bed of up to 24 feet in width shall be at least one.

(3) Prior to issuing said permit upon receipt of application therefor, after having reviewed and approved said test results mentioned in subparagraph (2) above, the city administrator and/or his designee shall inspect said street, roadbed bases to determine whether or not same are in compliance with the specifications set forth in said local government public works standards and specifications, and with the Subdivision Regulations of the City of Tullahoma, Tennessee, and, said permit for the beginning of paving operations shall not be issued until said street, roadbed bases are found to be or have been placed in compliance with said aforementioned standards and specifications and subdivision regulations.

(4) Said application fee to be paid by any owner and/or contractor to the City of Tullahoma for the permit provided for herein shall be \$50.00, until changed by the board of mayor and aldermen by motion, from time to time.

(5) Failure of any owner and/or contractor to apply for said permit prior to beginning paving operations is hereby declared to be a violation of the Code of Ordinances of the City of Tullahoma, Tennessee, and an offense hereunder, punishable as set forth in § 1-107 hereof. In addition to said penalties prescribed in § 1-107, the City of Tullahoma, Tennessee, is hereby authorized to take immediate legal action to obtain a restraining order and/or injunction, restraining and enjoining the owner and/or contractor from continuing said operations until the Subdivision Regulations of the City of Tullahoma, Tennessee, and this section, have fully been complied with. (1988 Code, § 12-107)

16-106. Property address numbers on all buildings; assigning numbers; naming streets. (1) All contractors and/or home builders shall install on or near all buildings constructed within the city limits of Tullahoma hereafter, numbers designating the proper street address numbers of said buildings, which numbers shall be at least three inches in height, and shall be installed near the main entrance to said building and shall be visible from the street upon which said building fronts. Owners of all buildings located within the city limits of the City of Tullahoma for which construction has been completed must, within six months from enactment hereof, install numbers which are at least three inches in height, designating the proper street address

of said building, said numbers to be installed near the main entrance, on said building, and to be visible from the street upon which said building fronts. In the event that said numbers on any building are not visible from the street upon which said building fronts, then said numbers shall be placed upon any mail box serving said building, and if there is no such mailbox serving said building, said numbers shall be placed upon a placard or sign located near the street upon which said building fronts.

Anyone who should fail to adhere to the provisions hereof shall be guilty of an offense punishable under the general penalty clause of this Code of Ordinances of the City of Tullahoma, Tennessee.

(2) The building official shall assign all street addresses (numbers) within the corporate limits of the City of Tullahoma.

(3) The director of public works shall review street names within the city to determine whether conflicts exist within the City of Tullahoma, or Coffee or adjoining Counties. The director of public works is empowered to present conflicting street names, or recommended changes in street names to the board of mayor and aldermen in the form of a resolution to be approved by said board. Further, the director of public works shall have the authority to review street names for streets to be located within proposed residential subdivisions and for all new streets to be constructed in the city and to require appropriate changes in street names so as to prevent conflicts among street names within the city, Coffee County and adjoining counties. (1988 Code, § 12-108)

16-107. Rules and regulations regarding use of parks, public buildings, and public facilities. The board of mayor and aldermen, from time to time, by resolution, may establish and thereafter amend certain Park Rules and Regulations of the City of Tullahoma as promulgated by and recommended by the city recreation director. Said rules and regulations shall regulate the use of city parks and public buildings and facilities owned by the City of Tullahoma including the regulation of the conduct of the activities in and upon said public facilities. Said rules and regulations may pertain to cemeteries, recreational facilities, and any and all other public facilities as established by the board of mayor and aldermen. A copy of said rules and regulations shall be kept on file in the office of the city recreation director at all times as to recreational facilities and in the office of the city recorder as to other facilities and public buildings. (1988 Code, § 12-109)

16-108. Notice of defects--prerequisite to suit. Prior to any entity bringing suit against the City of Tullahoma for any damages or injuries resulting from any defects within or upon personal or real property owned by the City of Tullahoma, Tennessee, said person must have notified the mayor and city attorney, in writing, of said defect and said injury or damage within ten days of said injury or damage. If said notice is not rendered as provided for herein, same shall operate as a bar against any action being brought against the

city to recover damages for injuries or damages incurred by said entity. (1988 Code, § 12-110)

16-109. Naming of public facilities and places. The city administrator shall accept requests for the naming of a public facility or place or portion of a public facility or place located therein and make the determination whether a conflict name exists with other public facilities or places. The city administrator shall prepare a report that includes all documentation regarding the proposed naming of a public facility or place and a recommendation on the naming of the public facility or place for review by the board of mayor and aldermen. The naming of the public facility or place shall be effective upon the approval of a resolution by the board of mayor and aldermen. The city recorder shall maintain a record of all public facility and place names so designated by the board of mayor and aldermen. (Ord. #1158, Oct. 1996)

CHAPTER 2

EXCAVATIONS AND CURB CUTS

SECTION

- 16-201. Permit required; application form; fees.
- 16-202. Permit exemptions from prior approval.
- 16-203. Permit form as prescribed.
- 16-204. Cash deposit; determination of necessity and amount.
- 16-205. Cash deposit; exemption of utilities board.
- 16-206. Annual cash deposit.
- 16-207. Cash deposit; disposition of unused portion.
- 16-208. Restoration work; required.
- 16-209. Restoration work; performance by city or permittee.
- 16-210. Rules and regulations authorized; uniform charges.
- 16-211. Duty to erect barricades; liability of parties.
- 16-212. Violation; penalty.

16-201. Permit required; application form; fees. Before any person shall conduct any excavation work or curb cuts whatsoever on municipally owned road rights-of-way whether on or off the roadbed or pavement situate thereon, it shall be necessary that a permit for such work be obtained from the director of public works, or the designated official, upon an application form to be adopted by him.

Further, fees shall be assessed and collected as above for the purposes enumerated above as established by ordinance from time to time:

- (1) For driveway cuts.
- (2) For tile installation. (1988 Code, § 12-201, modified)

16-202. Permit exemptions from prior approval. In the event that a public utility, such as the Tullahoma Utilities Board or the Elk River Public Utility District, in an emergency situation, finds it necessary to conduct any excavation work or curb cuts across roadbeds or on city road rights-of-way at times other than during normal working hours of the city, they may do so without prior approval of the city; provided, however, that they must then make arrangements with the proper city officials on the next business day after the emergency for posting the cash deposit provided for herein and insuring satisfactory repairs to the city roadbeds and rights-of-way and curbs. (1988 Code, § 12-202)

16-203. Permit form as prescribed. The permit granted by the director of public works or the designated official shall be upon a form adopted by him for that purpose. (1988 Code, § 12-203, modified)

16-204. Cash deposit; determination of necessity and amount.

Upon the application of a party desiring to conduct excavation work or curb cuts as aforementioned, the director of public works, or the designated official, shall determine the circumstances under which said permit will be issued and whether or not a cash deposit is necessary to insure placing the property back in the condition it was prior to said excavation or curb cut, and the amount of said deposit. (1988 Code, § 12-204, modified)

16-205. Cash deposit; exemption of utilities board.

The Tullahoma Utilities Board, the Elk River Public Utility District, the South Central Bell Telephone Company, and other local public utilities, instead of having to post a cash deposit as is otherwise required herein, shall be billed by the city on a monthly basis for work done for it by the city under the provisions hereof, which bills will be paid promptly and within thirty (30) days of the receipt thereof by said board or organization. (1988 Code, § 12-205)

16-206. Annual cash deposit.

The director of public works or the designated official may establish a policy of accepting an annual cash deposit from any person in lieu of periodic special deposits as are herein described or as set out in rules and regulations established by the director of public works or the designated official. (1988 Code, § 12-206, modified)

16-207. Cash deposit; disposition of unused portion.

Any portion of any deposit which remains unused after the repair work is completed shall be refunded to the applicant, or applied as has previously been established and prescribed by the director of public works or the designated official. (1988 Code, § 12-207, modified)

16-208. Restoration work; required.

Persons doing the excavation work or curb cuts on all rights-of-way of the city as is set out in this chapter or off of roadways or improved roadbeds in said rights-of-way shall conduct proper and necessary repair operations to insure the returning of said property to the condition in which it was found prior to said excavation work or curb cuts to the satisfaction of the director of public works or the designated official. Failure to do so shall result in the city's applying any deposit toward the cost of rendering said repairs which, in said event, will be conducted by the city. (1988 Code, § 12-208, modified)

16-209. Restoration work; performance by city or permittee.

The city, under the direction of the director of public works or the designated official, may at its option repair all streets and roadbeds upon which excavation work or curb cut is conducted by third parties, and utilize the cash deposit to reimburse it for the cost incurred, or may allow the applicant to render said

repairs under such terms as the director or the designated official prescribes. (1988 Code, § 12-209, modified)

16-210. Rules and regulations authorized; uniform charges. The director of public works or the designated official shall adopt, publish, and keep on hand, as amended, from time to time, rules and regulations implementing the provisions of this chapter, which rules and regulations shall be subject to change as determined necessary by the director or the designated official or as determined necessary by the board of mayor and aldermen from time to time.

The director of public works or the designated official shall also adopt, publish and keep on hand, as amended, from time to time, a method of establishing and collecting uniform charges to be rendered to parties conducting excavations and/or curb cut activities under the provisions of this chapter; said charges shall be as directed by the board of mayor and aldermen. (1988 Code, § 12-210, modified)

16-211. Duty to erect barricades; liability of parties. Whenever any person or entity conducts any excavation work or curb cuts on rights-of-way of the City of Tullahoma, Tennessee, pursuant to this chapter, on or off of roadways or improved roadbeds in said rights-of-way, said parties shall be responsible for erecting proper barriers and markings alerting the public of the danger caused by said curb cuts and/or excavations and shall be responsible and liable to and for the safety of persons traveling on or near said curb cuts or excavations, and shall agree to indemnify and hold harmless the City of Tullahoma, Tennessee, from any of such liability on the form prescribed for permits as set forth in § 16-203 hereof. (1988 Code, § 12-211)

16-212. Violation; penalty. Any violation of any of the provisions of this chapter, or failure to adhere to any of the requirements contained herein shall constitute an offense under the Code of Ordinances of the City of Tullahoma, Tennessee, and shall render the violating person or organization subject to the general penalty clause of the City of Tullahoma, Tennessee, set forth in § 1-107 of the Code of Ordinances of the City of Tullahoma, "general penalty; continuing violations." (1988 Code, § 12-212)

CHAPTER 3

CONSTRUCTION AND REPAIR OF SIDEWALKS, CURBS, ETC.

SECTION

16-301. Approval of curb lines and sidewalk lines.

16-302. Improvement of area between curb and sidewalk; between streets, roadbeds, and property lines; and installation of drainage tiles.

16-301. Approval of curb lines and sidewalk lines. All curb lines and sidewalk lines shall be established on straight and approved lines and grades under direction of the director of public works or the designated official, the mayor and chairman of the street committee, or some duly authorized person before any curb line or sidewalk line permits are issued by the city authorities. (1988 Code, § 12-409, modified)

16-302. Improvement of area between curb and sidewalk; between streets, roadbeds, and property lines; and installation of drainage tiles. (1) No property owner shall fill in, pave, install drainage tiles, or take any action to alter in any manner the area between the property line and the curb or edge of the roadbed, except in compliance with the provisions hereof. No sidewalk shall be constructed by any property owner, tile installed, concrete installed, or sod and earth placed on any city property between private property and any city roadbed without the prior approval of the director of public works or the designated official and upon permit applied for to and granted by him. Said permit so granted shall prescribe the authorized activities permitted therein to said owner. In the event that the permit grants said property owner the right to install drainage tiles, or other materials, the city shall select the type and size of drainage tile to be so installed and will, at city's expense, install said drainage tile, purchased by owner, for residential driveways only, not to exceed 20 feet in length. The city will also provide necessary gravel and install same at city's expense. For installation of drainage tiles or other materials for commercial or industrial properties, the city shall provide nothing nor install anything; however, the city must approve the size, type, and other requirements for the installation of any tiles or other materials, or the construction of sidewalks, prior to any action being taken by said property owner, said requirements to be fully set forth in the aforementioned permit. City shall approve and inspect all of said construction activities and may require replacement or correction of deficiencies or removal of said improvements by owner in the event that said construction is not in compliance with the permit so granted. Should owner fail to comply with the orders of the city regarding correction, replacement, or removal, city may perform said work at its expense and shall bill property owner for the cost thereof. In all cases, owner shall purchase drainage tiles and/or materials as prescribed by city in said permit.

Only in the case of residential driveways not exceeding 20 feet in length shall city install drainage tiles at city's expense. All other installations of drainage tiles or other materials shall be at owner's expense, and in all cases owner shall purchase and provide necessary drainage tiles and/or other materials.

(2) Applicants for permits shall pay an application fee as established by ordinance from time to time. Said fees shall aid in deferring city's expenses in administering the provisions hereof.

(3) In the event that owner shall fail to adhere to any provisions of this section hereinabove set forth, or should fail to comply with any provisions set forth in the permit granted to him as above provided, the director of public works or the designated official shall give notice, in writing, to the owner, owner's agent, or occupant of the offending lot or parcel of land of said deficiency, default, or breach, requiring said owner, etc. to correct same within fifteen (15) days of the date of said notice. A copy of said written notice will also be placed on the bulletin board inside the lobby of the city hall. Said notice shall be in writing, shall be mailed by the director of public works or the designated official certified mail, return receipt requested, to the address of said owner shown on the property tax records of the City of Tullahoma. If the owner of said property shall fail to comply with the provisions in said notice within said period, the city recorder shall notify the director of public works or the designated official to correct said deficiencies at city's expense, and the whole cost thereof, plus fifteen (15) per cent for inspection and other incidental costs in connection therewith, shall be paid by the owner of said lot or parcel of land, and said costs shall be billed to the owner of the property, said bill to be sent by the city recorder, by certified mail, return receipt requested, to owner's address as is above set forth. If the bill is not fully paid within one hundred and twenty (120) days after the mailing of said bill, a ten (10) per cent penalty shall be added, and it shall be placed on the tax rolls of the city as a lien upon the property and collected in the same manner as other city taxes. (1988 Code, § 12-410, modified)

CHAPTER 4**STREET LIGHTING****SECTION**

16-401. Street lighting policies of the City of Tullahoma.

16-401. Street lighting policies of the City of Tullahoma. In addition to any provisions relative to street lighting requirements as are established from time to time by the Tullahoma Municipal-Regional Planning Commission in the subdivision regulations adopted by said planning commission, the City of Tullahoma, Tennessee, may, by resolution, adopt and thereafter by resolution, amend street lighting programs or policies to be followed by the city in those particulars contained therein. There is hereby adopted the current street lighting program of the City of Tullahoma, Tennessee, adopted September 1, 1983, as same shall be amended hereafter by resolution of the board of mayor and aldermen from time to time, said September 1, 1983 street lighting program being attached as exhibit "A" in Ord. #865 of record in the recorder's office and being incorporated herein by reference as though same were fully set forth herein. (1988 Code, § 12-801)

CHAPTER 5

STREETS, CURB AND SIDEWALK DESIGN STANDARDS AND SPECIFICATIONS

SECTION

- 16-501. Jurisdiction.
- 16-502. General.
- 16-503. Street design standards.
- 16-504. Maintenance and assurance for completion.
- 16-505. Standards and specifications for excavations, fills and embankments, and subgrades.
- 16-506. Standards and specifications for crushed stone.
- 16-507. Standards and specifications for bituminous prime coat and tack coat.
- 16-508. Standards and specifications for bituminous binder or surface course.
- 16-509. Technical specifications--contract work.
- 16-510. Technical specifications--concrete sidewalks.
- 16-511. Technical specifications--concrete and gutter.
- 16-512. Technical specifications--stabilization of ditches.
- 16-513. Technical specifications--seeding.
- 16-514. Technical specifications--sodding.
- Appendix A. Summary of figures.

16-501. Jurisdiction. These rules and regulations governing the construction of streets, curbing, sidewalks and other necessary public improvements related thereto, shall apply to all areas within the City Limits of Tullahoma. (Ord. #1195, Jan. 1998, as replaced by Ord. #1530, Dec. 2019 *Ch10_6-22-20*)

16-502. General. The purpose of these rules and regulations is to provide adequate design standards and specifications, construction procedures, and quality of materials that would be in the best interest of the safety, convenience and prosperity of the community in the use of these public improvements.

Approval of the construction plans shall be effective for a period of one (1) year. If construction has not begun within this time, plans shall be resubmitted for approval and changes made as may be required by the public works director including changes resulting from amendments to these regulations.

Any maintenance of street, curbing, sidewalk, and drainage system improvements until final approval is granted by the appropriate governing body shall be the responsibility of the developer.

Sidewalk construction shall be required to be installed along both sides of all collector and arterial streets as classified by the approved major thoroughfare plan. Sidewalks along certain collector and arterial streets could

be limited to only one (1) side of the street if recommended by the public works director and approved by the planning commission. Sidewalks may be required along certain residential streets within subdivisions as outlined in the City of Tullahoma Subdivision Regulations. This construction shall be at the expense of the developer. The streets that may require sidewalk construction shall be determined by the Tullahoma Municipal-Regional Planning Commission and shall be indicated in the minutes of the planning commission upon approval of the preliminary plat and constructions plans for a subdivision.

Concrete curbs shall be required on all streets unless otherwise authorized by the public works director and approved by the Tullahoma Municipal-Regional Planning Commission.

The type of base, binder, and surface course to be used for streets shall be based upon the classification of the street as determined by the public works director and approved by the planning commission. Field testing shall be done in accordance with the methods outlined in the following specifications. The number and location of points of testing for the subgrade, base, binder, and surface course shall be determined by the public works director. Material mix designs for all asphalt pavement shall be submitted and approved prior to street paving. The expense of all testing shall be the responsibility of the developer. (Ord. #1195, Jan. 1998, as replaced by Ord. #1530, Dec. 2019 *Ch10_6-22-20*)

16-503. Street design standards. (1) General. (a) The arrangement, character, extent, width, grade and location of all streets shall conform to the major thoroughfare plan of the Tullahoma Planning Region and shall be considered in relation to existing and planned streets, to topographic conditions, to public convenience and safety, and in their appropriate relation to the proposed uses of land to be served by such street.

(b) The general location and alignment of all streets and roads shall conform substantially to the preliminary plat and other documents approved by the Tullahoma Municipal-Regional Planning Commission.

(c) No construction shall proceed on streets until the public works department has granted approval of the design.

(d) All streets shall be properly designed as related to special traffic generators, such as industries, business districts, schools, churches, and shopping areas or centers; to population densities; and to the pattern of existing and proposed land use.

(e) Proposed streets shall be extended to the boundary lines of the tract to be subdivided, unless prevented by topography or other physical conditions or, unless, in the opinion of the planning commission, such extension is not necessary or desirable for the coordination of the subdivision design with the existing layout or the most advantageous future development of adjacent tracts.

(f) Block lengths in residential areas shall not exceed sixteen hundred feet (1,600') nor be less than two hundred feet (200'), except as the planning commission deems necessary to secure efficient use of land or desired features of the public way pattern. Wherever practicable, blocks along arterial or collector routes shall not be less than one thousand feet (1,000') in length.

(g) Blocks designed for industrial or commercial uses shall be of such length and width as may be deemed suitable by the planning commission.

(h) In any long block, the planning commission may require the reservation of an easement through the block to accommodate utilities, drainage, facilities, and/or pedestrian traffic.

A pedestrian walkway, not less than ten feet (10') wide, may be required by the planning commission through the approximate center of any block more than eight hundred feet (800') long, where deemed essential to provide circulation or access to a school, playground, shopping center, transportation facility, or other community facility.

(i) The finished elevation of proposed streets subject to flood shall be no more than one foot (1') below the regulatory flood protection elevation. All drainage structures shall be sufficient to discharge flood flows without increasing flood height. Where fill is used to bring the finished elevation of any public street to the required elevation, such fill shall not encroach upon a floodway, and the fill shall be protected against erosion by rip-rap, vegetative cover, or other methods deemed acceptable by the public works department.

(j) Where a subdivision borders on or contains an existing or proposed arterial or collector route, the planning commission may require that access to such street be limited by:

(i) The subdivision of lots so as to back on the arterial or collector route and front on a parallel minor route;

(ii) A series of cul-de-sac, "U" shaped public ways, or short loops entered from and designed generally at right angles to such a parallel street, with the rear lines of their terminal lots backing onto the arterial or collector route; or

(iii) A marginal access or service street, separated from the arterial or collector route by a planting or grass strip and having access thereto at suitable points.

The number of residential or local streets from the development entering onto arterial or collector routes shall be held to a minimum. Residential lots fronting onto an arterial or collector street with driveways having direct access to the arterial or collector street shall generally be prohibited unless otherwise approved by the planning commission.

(k) The creation of reserve strips adjacent to a proposed public way in such a manner as to deny access from adjacent property to such public way shall generally not be permitted.

(l) The arrangement of streets shall provide for the continuation of major streets between adjacent properties when such continuation is necessary for convenient movement of traffic, effective fire protection, efficient provisions of utilities, and when such continuation is in accordance with the major thoroughfare plan or street plan. If the adjacent property is undeveloped and the street must be a dead-end street temporarily, the right-of-way shall be extended to the property line.

A temporary cul-de-sac shall be provided on temporary dead-end streets as outlined in the following section of these regulations, with a notation on the subdivision plat that land outside the normal public way right-of-way shall revert to abutting property owners whenever the street is continued. Temporary cul-de-sac shall be constructed in accordance with the standards for a permanent street. The extruded curb and asphalt surface course may be deleted from the temporary cul-de-sac if an appropriate bond amount is posted to cover the cost of these items.

(m) Where a street does not extend beyond the boundary of the subdivision and its continuation is not required by the planning commission for access to adjoining property, its terminus shall normally not be nearer to such boundary than fifty feet (50'). However, the planning commission may require the reservation of an appropriate easement to accommodate drainage facilities, pedestrian traffic, or utilities. A permanent cul-de-sac turnabout shall be provided at the end of a dead-end street in accordance with the design standards of these regulations.

For greater convenience to traffic and more effective police and fire protection, permanent dead-end streets shall, in general, be limited in length in accordance with the design standards of these regulations.

(n) Where a subdivision adjoins an existing narrow street or where the major thoroughfare or road plan or any zoning setback provisions indicate plans for realignment or widening of a street that would require use of some of the land in the subdivision, the subdivider shall be required to dedicate, at his expense, areas for widening or realigning such street, as set forth below:

(i) The entire right-of-way shall be provided where any part of the subdivision is on both sides of the existing street; or

(ii) When the subdivision is located on only one (1) side of an existing street, one-half (1/2) of the required right-of-way, measured from the center line of the existing pavement, shall be provided.

(o) The public works director may require a traffic study be prepared by the developer to assess rezoning requests, residential

developments, and non-residential developments that may impact the current transportation system. Such traffic studies shall be prepared by a registered professional engineer with specific training in transportation engineering. Such studies shall provide appropriate data and recommendations as to the impact to the capacity of the existing traffic system, access control requirements, and any proposed system upgrades including traffic signals, turn lanes, additional lanes, or alignment changes.

(p) Street signs including all stop signs, street name signs, and other regulatory signs as may be required shall be provided and installed by the developer prior to approval of a final subdivision plat. The public works department may permit the use of certain decorative sign posts as requested by the developer. The decorative sign posts must receive approval prior to installation. The developer or homeowners association will be required to replace the decorative type sign posts if damaged. The public works department will only install standard metal sign posts.

(2) Design requirements. (a) Street right-of-way widths shall be as shown on the major thoroughfare plan or as otherwise specified in Table 1.

TABLE 1

MINIMUM RIGHT-OF-WAY AND PAVEMENT WIDTH
(IN FEET) BY TYPE OF DEVELOPMENT

Type of Street	Type of Development			
	Residential		Non-Residential	
	R.O.W.*	Pavement	R.O.W.*	Pavement
Local	50	22	60	24
Collector	60	24	60	24**
Arterial	80-150	24**	80-150	24**

Notes:

* Additional right-of-way may be required to provide adequate slopes given topographic conditions. Such slopes shall not be steeper than four to one (4:1).

** Note that curb and gutter section is required on collector and arterial street unless otherwise approved by the public works director and planning commission. If a ditch section is permitted, the paved surface shall include two (2) lanes twelve feet (12') in width with six foot (6') DBST shoulders.

(b) Proposed new intersections along one side of an existing public way shall coincide with any existing intersections on the opposite side of such public way. Street jogs with centerline offsets of less than one hundred fifty feet (150') shall not be permitted. Intersections of arterial or collector streets shall be at least eight hundred feet (800') apart.

(c) Maximum street grades shall be as follows:

- (i) Arterial--Not greater than six percent (6%)
- (ii) Collector --Not greater than eight percent (8%)
- (iii) Local --Not greater than eleven percent (11%)

All streets shall have a minimum street grade of not less than one percent (1%) for all portions of the street unless otherwise permitted. The cross slope on all streets, including intersections, shall be three percent (3%) or less.

Intersections shall be designed with a flat approach wherever practical. In hilly or rolling areas, at the approach to an intersection, a leveling area shall be provided having not greater than a two percent (2%) grade for a distance of sixty feet, (60') measured from the nearest right-of-way line of the intersecting public way.

Where a street intersection will involve earth banks or existing vegetation inside any lot corner that would create a traffic hazard by limiting visibility, the subdivider shall cut such ground or vegetation (including trees) in connection with the grading of the public right-of-way to the extent necessary to provide adequate sight distance.

(d) Horizontal curves measured to the centerline of the street shall have a minimum radii (in feet) as follows:

Local: one hundred feet (100') feet with normal crown. Superelevation is not permitted unless otherwise authorized by public works department. Based on thirty (30) mph design speed.

Collector and arterial: Minimum radius shall be designed based on design speed and superelevation rate in accordance with "Geometric Design of Highways and Streets," AASHTO, latest edition.

(e) Minimum tangent distance between curves (in feet) shall be as follows:

- | | | |
|-------|------------|------|
| (i) | Arterials | 300' |
| (ii) | Collectors | 100' |
| (iii) | Local | 100' |

(f) The paved surface shall slope downward from the centerline of the paved surface outward to the edge of the paved surface on each side two-fifths (2/5ths) of an inch per foot to provide sufficient road crown for all paved surfaces. Superelevation shall be permitted upon approval of the public works department for utilization on collector and arterial streets only.

(g) The minimum sight distance* (in feet) shall be as follows:

	Design Speed, mph		
	30	40	50
Minimum stopping Sight distance, feet	200	275	350
Desirable stopping Sight distance, feet	200	300	450
Minimum passing Sight distance, feet	1100	1500	1800

Sight distance values are from "Geometric Design of Highways and Streets," AASHTO, 1994. Sight distances for other design speeds shall be obtained from the latest edition of this manual. Vertical curve lengths shall be designed based on the minimum sight distance values. "K" values shall be calculated and provided on design documents.

*Sight distance is measured from a point (3'-6") three and one-half feet (3 1/2') above the centerline of the roadway surface to a point six inches (6") above the centerline of the road surface unless otherwise noted in the latest edition of "Geometric Design of Highways and Streets," AASHTO.

The developer shall be required to make any improvements necessary to comply with the minimum sight distance requirements including making modifications to existing roads and streets in order to provide proper sight distance.

(h) Minimum right-of-way and pavement diameter (in feet) for cul-de-sacs shall be as follows:

		Type of Development			
		Residential		Non-Residential	
		R.O.W.	Pavement	R.O.W.	Pavement
(i)	Local	100	80	120	80
(ii)	Collector	120	100	120	100
(iii)	Arterial	120	100	160	140

Pavement diameter shall be measured from the inside edge of curb and gutter where applicable, or within foot (1') of paved shoulder to roadways without curb and gutter.

A cul-de-sac shall be provided at the dead end of a street unless the street extends not more than one (1) lot width past an intersection within a residential subdivision.

(i) Permanent or temporary cul-de-sac streets with only one (1) point of improved access for emergency vehicles shall be limited to a maximum length of two thousand feet (2,000'). This distance shall be measured from start of the street (center line intersection with existing street) to the end of the cul-de-sac or to the point of intersection of a loop street if that condition is provided. The length of the looping segment is not measured.

(j) Minimum radius (in feet) of return at intersection shall be as follows:

		Local	Collector	Arterial/Industrial
(i)	At right-of-way	25	40	50
(ii)	At pavement	25	40	50

(k) Intersections--Streets shall be laid out so as to intersect as nearly as possible at right angles. A proposed intersection of two (2) new streets at an angle of less than seventy-five degrees (75°) shall not be permitted. An oblique street should be curved approaching an intersection and should be approximately at right angles for at least seventy-five feet (75') on residential streets and for at least one hundred feet (100') on commercial streets and for at least one hundred fifty feet (150') on arterial streets. Not more than two (2) streets shall intersect at anyone point unless specifically approved by the public works director.

Public ways parallel to a railroad, when intersecting a public way which crosses the railroad at grade, shall be at a distance of at least one hundred fifty feet (150') from the railroad rail-of-way. Such distance shall be determined with due consideration of the minimum distance required for future separation of grades by means of appropriate approach gradients.

(l) Street construction designs shall conform to the details shown illustrated in Figures 1 through 7 contained in Appendix A of this standard.

(m) Street construction shall consist of base and pavement thicknesses as indicated in the following table. The sections are minimum thicknesses for the street classifications if no subgrade soils testing is performed prior to construction.

TABLE 2

Aggregate Base and Asphaltic Concrete
Layer Thicknesses
(Compacted Depth)

Street Classification	Aggregate Base Course	Asphalt Concrete Binder	Asphalt Surface Course	Total Thickness
Local	8"	2"	1 1/2"	11 1/2"
Collector	10"	2 1/2"	1 1/2"	14"
Arterial or Industrial	10"	4 1/2" (2 1/2" + 2")	1 1/2"	16"

Materials shall conform to § 16-507, Standards and Specifications for Bituminous Binder or Surface Course.

Subgrade conditions may be such that a lesser pavement section can be placed and support intended loads. Soils testing shall be performed on the in-situ subgrade material and on proposed fill material. The soil materials shall have a plasticity index of between ten and twenty (10 and 20) (ASTM D-424 and ASTM D-423). The dry density of soil materials shall be not less than ninety (90) pound per cubic foot. Placement and compaction testing shall conform to the requirements of § 16-505, including density tests performed at a frequency of every five thousand (5,000) square feet but not less than three (3) tests. Subgrade conditions meeting plasticity index and dry density requirements shall permit pavement sections as indicated in the following table:

TABLE 3

Aggregate Base and Asphaltic Concrete Layer Thicknesses
For Soils with 10 < P.I. < 20 and Dry Density > 90 Pounds per Cubic Foot
(Compacted Depth)

Street Classification	Aggregate Base Course	Asphalt Concrete Binder	Asphalt Surface Course	Total Thickness
Local	6"	2"	1 1/2"	9 1/2"
Collector	8"	2 1/2 "	1 1/2"	12"
Arterial or Industrial	8"	4 " (2 " + 2")	1 1/2"	13 1/2"

Materials shall conform to § 16-507, Standards and Specifications for Bituminous Binder or Surface Course.

A geotechnical engineering investigation of the soil conditions may be performed by a registered engineer specializing in the field of soils and asphalt concrete pavement and submitted to the department of public works for review. Based on the geotechnical engineering report, a pavement section of lesser dimensions than required by table or may be permitted. The report shall provide laboratory soil test results, existing soil conditions, required pavement section, recommended compaction efforts, and inspections and field testing requirements. Inspections and testing shall be performed by an independent testing agency and all costs shall be paid by the developer. The department of public works shall approve the report inspection and testing plan, and the inspection and testing agency. A copy of the daily inspection and testing reports shall be submitted to the department of public works.

(3) Access control and driveways. (a) The number of driveways shall be based upon the amount of lot frontage a parcel of land has directly adjoining a public street. The number of driveways onto a given street shall be as follows:

Amount of Lot Frontage (see note i)	Maximum Number of Driveways
Less than 75 feet	1
75 feet to 149 feet	1 (see note i and iii)
150 feet to 299 feet	2 (see note ii)
Each additional 300 feet	1 (see note ii)

Notes

(i) In the case of corner or double fronts lots, each individual street and its associated lot frontage shall be considered separately rather than combined to orient all driveways onto one (1) particular street.

(ii) Single family residences and drive-thru business enterprises whereby a service is provided without the patron leaving the vehicle may have two (2) driveways if separated by a distance equal to the width of the widest driveway or a minimum of twenty-five feet, (25') whichever is greater, unless otherwise not permitted by the department of public works due to concern for public safety.

(iii) Unless otherwise determined by the department of public works.

(b) All driveways shall be located subject to the following controls:

(i) No driveway shall be constructed within thirty feet (30') of an adjacent street right-of-way line. On collector or arterial streets this minimum shall be forty feet (40'); or in such a manner that the driveway curb cut is less than five feet (5') from the point of tangency of a street radius except that a compound curve including both the driveway radius and street radius may be utilized where the street radius exceeds fifty feet (50'). A reduction of up to ten feet (10') in any or all dimensions may be allowed by the department of public works at locations where such reduction would not result in a hazardous condition.

(ii) All driveway radii at the point of intersection with the public street shall be set back from the side property line a minimum of one foot (1') as measured by the extension of the side property line into the right-of-way at a right angle to the paved surface with the exception of joint use driveways where written consent from both property owners is provided to the department of public works.

(iii) No curb on city streets or right-of-way shall be cut or altered without a permit from the planning and codes department and approved by the department of public works, and if a state highway, a permit also be obtained from the Tennessee Department of Transportation.

(iv) In no case shall a commercial or industrial driveway or parking area be arranged such that vehicles be required to back directly into a public street of any classification. No residential driveway or parking area shall be arranged such that vehicles be required to back directly into a collector or arterial street. A minimum ten feet (10') wide by fifteen feet (15') deep turnaround bay shall be provided within the driveway and outside of the right-of-way.

(v) All driveways shall be located a minimum of two feet (2') off of the adjacent property line. If drainage easements are existing along lot lines, driveways must be located outside of these areas.

(vi) Driveway culverts shall be provided and installed by the property owner and/or developer for all residential, commercial, and industrial driveways. Culverts shall be sized in accordance with the requirements of the Tullahoma Stormwater Management Ordinance. Concrete headwalls are required on all culverts eighteen inch (18") in diameter or larger or on multi-tile

installations. Concrete headwalls are required on all culverts of any size installed in the street right-of-way. Culvert installation and curb cut requirements are outlined in Appendix B.

(vii) The portion of the driveway for residential, commercial, and industrial driveways extending from the edge of pavement of the street to the public right-of-way line (property line) shall be required to be paved (asphalt or concrete) with no exposed gravel surface in an effort to minimize gravel on the public streets and sidewalks.

(c) The width of all driveways shall be within the minimum and maximum dimensions as follows:

Land Use	Driveway Width*		Length of Curb Cut	
	Minimum	Maximum	Minimum	Maximum
All residential districts	10 feet	24 feet	16 feet	40 feet
Non-residential districts:				
Commercial	16 feet	30 feet	36 feet	70 feet
Industrial	16 feet	40 feet	36 feet	90 feet
Uses served by a substantial number of large trucks (5 or more per day)	20 feet	40 feet	60 feet	90 feet

(*) The required length of the driveway culvert for residential driveways shall be determined by the department of public works at the time of application. The minimum length of driveway culvert for residential driveways shall be sixteen (16) linear feet. The required length of the driveway culvert for commercial or industrial uses shall be determined at the time of site plan development based on the proposed driveway width, type of business, and type and number of vehicles accessing the site.

Major traffic generators defined as those uses and facilities utilizing in excess of one hundred fifty (150) parking spaces shall be reviewed on an individual basis by the department of public works to determine appropriate entrance driveway requirements in relation to traffic generated by the use or facility.

In no case shall total driveway widths exceed fifty percent (50%) of their respective road frontage. The department of public works may require additional restrictions on driveway widths and lengths of curb cuts where access control is warranted.

(d) Any parcel of land in which the driveway configuration including width, radius, and positioning is contrary to these provisions and becomes vacant and remains unoccupied for a continuous period of one (1) year shall be required to remove and modify said driveways into conformance with applicable provisions contained herein for access and driveways unless otherwise authorized by the department of public works.

(4) Curbs and gutters. (a) All curb and gutter shall be concrete. No asphalt curbing and gutter is permitted.

(b) Curb and gutter type and size shall be approved by the department of public works.

(c) Concrete curbs are required for all streets where sidewalks are required.

(d) Curb and gutter construction shall conform to the specifications of § 16-510 and to the details shown illustrated in Figures 10 through 14 contained in Appendix A of this standard.

(5) Sidewalks. (a) All sidewalks shall be constructed with concrete in accordance with the specifications contained in § 16-510.

(b) Sidewalk widths shall be as specified in this section unless otherwise directed by the department of public works.

Sidewalk Design Standards

Class of Street or Other	Sidewalk Width	
	Residential	Non Residential
Local	5' (unless otherwise approved)	5'
Collector	5'	5'
Arterial	5'	6'-5'
Greenway (multimodal)	12'	12'

(c) All sidewalks shall be designed to conform to applicable accessibility requirements for physically challenged individuals to provide for the full and free use of streets, highways, public buildings, public facilities and all other buildings and facilities, both publicly and privately owned, which serve the public.

(d) Sidewalks and bicycle paths, where required by the planning commission, shall be included within the dedicated nonpavement right-of-way of all streets and shall be improved as required by enforcing officer. Concrete curbs are required for all streets where sidewalks are to be constructed unless otherwise approved. A median strip of grassed or

landscaped area at least two feet (2') wide shall separate all sidewalks from adjacent curbs.

(e) Sidewalk construction shall conform to the details shown illustrated in Figures 15 through 19 contained in Appendix A of this standard. (Ord. #1195, Jan. 1998, as replaced by Ord. #1530, Dec. 2019 *Ch10_6-22-20*)

16-504. Maintenance and assurance for completion. (1) Streets.

(a) The Public Works Director or his appointed representative shall be notified a minimum of forty-eight (48) hours (two (2) full working days) prior to the developer's intended time of paving so that a representative can be available for inspection throughout the placement of asphalt, if determined necessary by the inspecting authority. The sub grade and base must have approval prior to placement of asphaltic binder course.

(b) After approval of the 307 binder course of asphalt, a certification of inspection shall be issued. The developer shall post a bond with the City of Tullahoma for the estimated cost to place and compact one and one-half inches (1.5") of 411 "E" mix on the streets being developed. Included in this payment shall be the estimated cost of binder repair, raising all manholes, valve boxes, storm drainage structures, and appurtenances from the binder course elevation to the finished pavement elevation. This amount shall be estimated by the developer's design engineer and verified by the public works director or his designee. This bond shall be posted with the City of Tullahoma prior to approval of the final plat by the public works director.

(c) The developer shall be required to maintain the roadway pavement condition during the period prior to final surface course paving but not exceeding two (2) years from application for the binder course or issuance of seventy-five percent (75%) of certificates of occupancy within that subdivision whichever comes first.

(d) The developer shall place the final surface course consisting of one and one-half inches (1 1/2") of 411 "E" mix. This shall be performed after two (2) years from application of the binder course or issuance of seventy-five percent (75%) of certificates of occupancy within that subdivision whichever comes first.

(2) Other. Sidewalks and curbs and gutters shall be completed in their entirety prior to approval of final plat. Performance and maintenance bonds for improvements shall conform to the Subdivision Regulations of the Tullahoma Planning Region. (Ord. #1195, Jan. 1998, as replaced by Ord. #1530, Dec. 2019 *Ch10_6-22-20*)

16-505. Standards and specifications for excavations, fills and embankments, and subgrades. (1) Scope. This section includes the furnishing

of all labor, equipment, materials, tools, supplies, transportation, construction drainage, and incidentals of any nature necessary to complete the excavation and construction of fills and embankments.

(2) General. (a) Cut or excavation - Cut or excavate earth or other materials in accordance with the elevations, dimensions and slopes shown on the plans. Materials excavated in excess of that so shown shall be backfilled and compacted to plan grade in accordance with (b) below. Cut or excavated areas shall be compacted to densities of not less than ninety-five percent (95%) of maximum density determined by AASHTO Designation T-99 Method A (standard proctor) or ASTM D-698 unless specified otherwise in these standards.

(b) Fills and embankments - Remove all debris subject to termite infestation, rot or corrosion, and all other deleterious materials from areas to be filled or backfilled. Deposit fill and backfill in loose layers not more than six inches (6") in thickness. Compact all fills to densities of not less than ninety-five percent (95%) "standard proctor." Rocks, blocks or concrete and masonry materials, not more than six inches (6") maximum dimension, but not debris, may be used for fills if well distributed in the earth and provided further, that such materials not be placed against manholes, underground structures, or utilities, or in the top twenty-four inches (24") of fill below grade. No frozen material shall be placed in backfill. Sloping ground under new fill embankment, existing embankment against which new or embankment is to be built, and existing embankment to be widened, shall be stepped, trenched, plowed or bladed as directed by the public works department.

Where a pavement structure is to be placed upon the subgrade, the top six inches (6"). Where a pavement structure is to be placed upon the subgrade, the top six inches (6") of both cut and fill sections shall be compacted to a density equal to one hundred percent (100%) of maximum density determined by standard proctor. The location and number of density tests shall be determined by the city or county engineer or road superintendent.

For all areas where subgrade has been prepared, a proof-roll test shall be performed for uniformity of support by driving a loaded dump truck at a speed of two to three (2 to 3) mph over the entire surface. Further improvements shall be made on all areas that show a deflection of lit or more. When completed, the finished subgrade shall be hard, smooth, stable, and constructed in reasonable close conformance with the lines, grades, and typical cross sections shown on the drawings.

(c) Preparation of subgrade - All traces of utility trenches shall be filled and thoroughly tamped with mechanical tamping device. Spongy or unsuitable material shall be removed and replaced with stable compactable material. Every precaution shall be taken to obtain a subgrade of uniform bearing strength through compaction by such means

as will provide a firm base and insure against future settlement or superimposed construction. After removal of all loose material from the subgrade, it shall be tested with a template or straight-edge, before depositing surfacing material thereon. All subgrades shall be maintained in satisfactory condition, protected against traffic and properly drained until surfacing is placed upon the subgrade.

Utility trenches within areas to receive asphalt pavement shall be backfilled completely with a TDOT No. 57 stone or compacted by mechanical means to required densities herein specified.

(d) Settlement or shrinkage of fill or embankment - Fill to required finish grade any areas where settlement occurs. All such areas shall be compacted to the required densities herein specified.

(e) Field testing - when required by the public works department, density and moisture testing shall be performed by ASTM D1556 (sand cone method) or ASTM D2922 (nuclear methods).

(i) When ASTM D2922 is used, check and adjust calibration moisture curves if necessary by procedure described in ASTM D2922, paragraph, "ADJUSTING CALIBRATION CURVE." ASTM D2922 results a wet unit weight of soil and when using this method use ASTM D3017 to determine moisture of soil. If mica or other cementitious materials are present, use ASTM D1556.

(ii) Check calibration curves furnished with moisture gages along with density calibration checks as described in ASTM D3017. Make calibration checks of both density and moisture gages at beginning of project on each different type of material encountered and at intervals as required by architect/engineer or testing laboratory;

Compaction testing of areas to be paved shall be performed at a frequency of one field density test of subgrade every five thousand (5,000) square feet, but not less than three (3) tests. For all areas where subgrade has been prepared, a proof-roll test shall be performed for uniformity of support by driving a loaded dump truck at a speed of two to three (2 to 3) mph over the entire surface. Further improvements shall be made on all areas that show a deflection of one inch (1") or more. When completed, the finished subgrade shall be hard, smooth, stable, and constructed in reasonable close conformance with the lines, grades, and typical cross sections shown on the drawings.

(3) Compacted earth fill (non-paved applications). Compacted earth fill - Consists of the removal of selected earth material from existing stockpiles within the project site to meet the required embankment or fills shown on the grading and topographic planes). Compaction of earth fill against, or around walls, footings, inlets, etc., or any part of a structure that cannot be accessed by rollers shall be compacted with hand operated compaction equipment approved

by the public works department. When directed, areas shall be compacted to not less than ninety-five percent (95%) "standard proctor" (ASTM D698).

(4) Water for sprinkling and dust control. Sprinkling shall be performed with an approved type of equipment for the sprinkling of water on roadways during construction. Equipment shall be so constructed that it will spray the surface lightly and uniformly and so equipped that the delivery may be regulated and controlled at all times of application of water to roadway surface. Calcium Chloride may not be used.

(5) Final grade. Before final acceptance the entire project area shall be graded by mechanical means to final finish, contour, or grade as shown on the plans and as required herein. The area shall be free of any weeds and all scattered debris, spoil or waste. Any area showing wash or erosion shall be scarified, backfilled, graded, and recompacted to the required density or densities. (Ord. #1195, Jan. 1998, as replaced by Ord. #1530, Dec. 2019 *Ch10_6-22-20*)

16-506. Standards and specifications for crushed stone.

(1) Scope. (a) This section includes the furnishing of all labor, equipment, materials, tools, supplies, transportation, construction drainage, and incidentals of any nature necessary for the placement of a crushed stone base.

(b) Street construction standards for the Tullahoma Planning Region for which the developer is responsible shall meet the following requirements: [all reference numbers are taken from the Tennessee Department of Transportation (TDOT) Standard Specifications for Road and Bridge Construction, latest edition].

(2) Materials. The stone base section of the road shall be constructed with compacted Grading D Pug Mill Mix. All base stone shall be placed and compacted according to Section 303, TDOT Standard Specifications for Road and Bridge Construction, latest edition.

(3) General requirements. (a) All manholes, water line valve boxes, and appurtenances shall be adjusted to an elevation which corresponds to the finished grade for the binder course of asphalt.

(b) Once the developer has sufficient stone depth, compaction, and proper adjustment of all castings, the developer shall notify the public works department at least twenty-four (24) hours in advance that the stone base is ready for inspection including castings. Once the base stone and castings have been approved, a certificate of inspection shall be issued by the inspecting authority, permitting the paving, it will be the responsibility of the developer to make the proper adjustments prior to paving, should the developer fail to comply with his requirement, the developer shall still be responsible for expense of the same and a stop work order shall be issued by the inspecting authority until such time as the corrective work has been completed, either by the developer or the

appropriate authority and, in the case of corrective work being completed by the appropriate governmental authority, payment in full for said work has been received from the developer. (Ord. #1195, Jan. 1998, as replaced by Ord. #1530, Dec. 2019 *Ch10_6-22-20*)

16-507. Standards and specifications for bituminous prime coat and tack coat. (1) Scope. This section includes furnishing of all labor, equipment, materials, tools, supplies, transportation, construction drainage, and incidentals of any nature necessary for the placement of a bituminous prime coat upon the crushed stone base.

(2) Materials. (a) Prime coat - The bituminous prime coat of emulsified asphalt, Grade AE-P, or cutback asphalt, Grade RC-250 shall conform to Section 402, TDOT Standard Specifications for Road and Bridge Construction, latest edition.

(b) Tack coat - The bituminous tack coat of emulsified asphalt, Grade RS-2, or cutback asphalt, Grade RC-250 shall conform to Section 403, TDOT Standard Specifications for Road and Bridge Construction, latest edition.

(3) Construction methods. (a) Prime coat - The crushed stone base, prepared as outline in this standard, shall be sprinkled lightly with water to settle any loose dust. A bituminous prime coat shall then be applied uniformly over the surface of the base by the use of an approved bituminous distributor. The prime coat shall be applied at the rate of three-tenths (3/10) gallon per square yard, and shall be immediately covered with (No. 8) crushed stone chips at the rate of ten (10) pounds per square yard. The chips shall be applied with a suitable spreading device to prevent the tires of the trucks from running over the fresh bituminous material.

(b) Tack coat. The asphalt surface shall be dry and cleaned and free of any dirt or debris. The tack coat material shall be applied at a rate not to exceed 0.05 gallon of residual bitumen per square yard for all materials except asphalt cement. When asphalt cement AC-20 is used, the application rate shall be to 0.05 to 0.10 gallon per square yard. (Ord. #1195, Jan. 1998, as replaced by Ord. #1530, Dec. 2019 *Ch10_6-22-20*)

16-508. Standards and specifications for bituminous binder and surface course. (1) Scope. (a) This section includes the furnishing of all labor, equipment, materials, tools, supplies, transportation, construction drainage, and incidentals of any nature necessary of the placement of a bituminous binder or surface course.

(b) Street construction standards for the Tullahoma Planning Region for which the developer is responsible shall meet the following requirements: [all reference numbers are taken from the Tennessee

Department of Transportation (TDOT) Standard Specifications for Road and Bridge Construction, latest edition].

(2) Materials. (a) The bituminous base material (binder) required for the construction of this specification shall be grading "A" or "B-modified" in conformance to Section 307, TDOT Standard Specifications for Road and Bridge Construction, latest edition, and as called for on the Standard Drawings contained in these specifications. All placing and compaction of asphalt binder shall adhere to TDOT specifications.

(b) The asphaltic concrete surface course required for the construction of this specification shall be grading "D" or "E" in conformance with Section 411, TDOT Standard Specifications for Road and Bridge construction, latest edition. All placing and compaction surface course shall adhere to TDOT specifications.

(3) General requirements. Inspection, maintenance, and assurance for completion of bituminous binder and surface course shall conform to § 16-504 of this document. (Ord. #1195, Jan. 1998, as replaced by Ord. #1530, Dec. 2019 *Ch10_6-22-20*)

16-509. Technical specifications--concrete work. (1) Scope. The work shall include all required forms for construction of the concrete work to the profiles and grades shown, screens for striking concrete off at proper grade, forms for slabs, walls and curbs, reinforcing bars and mesh and all necessary troweling to obtain the finish surfaces specified. The work shall include all necessary protection and curing of the concrete work immediately following the finishing thereof and for as long a period as may be deemed necessary by the Engineer for the proper protection of finished surfaces. The work shall include the setting of all required dowels, inserts, ferrules, and similar items to build into the concrete construction.

(2) General conditions. The contractor shall examine the drawings and specifications for this portion of the work, and for other work affecting his own, and shall report to the engineer for adjustment any discrepancies found to exist. Before starting the work he shall check all lines, levels, and previous work. He shall check shop drawings to see that they conform to his work and assist other craftsmen in their work. The contractor shall be in charge of forms and centering, placing reinforcement, pouring concrete and removal of forms and centering. The contractor shall be responsible for laying out all concrete work, set lines and establish correct levels therefore, and be responsible for the accuracy of same. The contractor shall see to it that at no time is the concrete structure subject to loading, or overloading, with materials and apparatus by other contractors, or by his own operations.

(3) Materials. Cement except as noted, shall be Portland cement of american manufacture, and shall meet all the requirements of the standard specifications for Portland cement of the American Society for Testing Materials (ASTM) ASTM C-150. the same brand of cement shall be used for all exposed

concrete above grade. Air entraining Portland cement may be used and shall conform to the specifications of ASTM C-175.

Fine aggregate shall conform to specifications for concrete aggregate, ASTM C-33. The sand shall be similar to size #33 of the Tennessee State Highway Department Specifications. The weight removed by decantation shall not be more than three percent (3%) and all sand shall be screened and washed and the use of bank sand shall not be permitted.

Course aggregate shall conform to specifications for concrete aggregate, ASTM C-33. The course aggregate shall be similar to size #14 of the Tennessee State Highway Department Specifications.

Water used for mixing concrete shall be clean and fresh, free from oil, acid, injurious vegetative matter, alkalis or other salts. It shall be perfectly equal in all physical and chemical properties to potable water.

Admixtures shall be a resin gum, air-entraining agent, Darex, or other similar and equal product mixed in the proportions recommended by the manufacturer. It shall conform to Specifications for air-entraining admixtures for concrete, ASTM A-377.

Reinforcing bars and dowels shall be of new billet steel or intermediate grade of the deformed type, conforming to ASTM A-15. Reinforcing steel shall be unpainted and uncoated, free from loose rust or scale, corrugated or deformed for the entire length while being rolled. Deformations shall conform to ASTM A-305. Bars shall be of the forms and sizes as shown on the drawings. Beam stirrups, column hoops and ties shall be of new steel, bent to shape around pins having diameter of not less than four (4) times the least dimension of the bar. Accessories shall be of approved and standard type chairs and spacers for beams and slabs of the proper depth to provide the required embedment for the bars.

Membrane curing compounds for all slabs, when used, shall be of the White Pigmented Type II, equal to or similar to that manufactured by W.R. Meadows 1600 Sealtight or Hunt Process Corporation, shall meet the specifications of ASTM C-309 Type II, and shall be applied at a minimum rate of one (1) gallon per two hundred (200) square feet.

All materials used in the work shall be stored and handled in such a manner as will prevent deterioration or the intrusion of foreign matter. Any material which has deteriorated or has been damaged shall be immediately and completely removed from the work. Manufactured materials, such as admixtures, cement, etc., shall be delivered and stored in the original packages, plainly marked with the brand and the maker's name.

When requested, the contractor shall submit samples of any or all materials used in the construction work for inspection and or further testing at the expense of the contractor. Materials furnished for such inspection and testing shall be in accordance with requirements for testing of such materials.

(4) Proportions for concrete. Concrete shall be composed of Portland cement, fine aggregate, and coarse aggregate, admixture, and water. The mix shall be designed to secure concrete having the following compressive strength at the age of seven and twenty-eight (7 and 28) days as determined by breaking

test specimens in accordance with procedures set forth in the ASTM Designation C39-49 except where otherwise specified. For simplification, the following mix ratios may be used in lieu of detailed analysis unless otherwise authorized:

<u>Class</u>	<u>Cement: Sand: Gravel Ratio</u>
Class "A"	1:2:3
Class "B"	1:2:4
Class "C"	1:2 1/2:5

TABLE 3 MINIMUM COMPRESSIVE STRENGTH AT AGE OF 7 AND 28 DAYS BY CLASS					
Class	Competitive Strength for Design Purposes (psi)	Average for any 5 consecutive cylinders (pounds per square inch -- psi)		Any one cylinder (pounds per square inch -- psi)	
		7-day	28-day	7-day	28-day
A	4,000	2,800	4,000	2,800	4,000
B	3,000	2,100	3,000	2,100	3,000
C	2,500	1,750	2,500	1,750	2,500

The slump shall be in accordance with ASTM C-143, and the methods shall be as follows:

SLUMP IN INCHES

TYPE OF STRUCTURE	MINIMUM	MAXIMUM
Massive Sections, Pavement Slabs on Ground	3	6
Heavy Slabs, Walls and Footings	4	6

If tests show excessive slumps the proportion of materials and the method of mixing shall be modified as necessary to reduce slump. Suitable means shall be provided for controlling and accurately measuring the water. Free water from moisture carried by aggregates shall be included as part of the mixing water.

Class "A" and Class "B" concrete shall be acceptable if they are designed in accordance with the American Concrete Institute (ACI) Standard Recommended Practice for the Design of Concrete Mixes (ACI 613.44) with an approved cement dispersing agent, pozzolith, or equal, which reduces the water

required for a given consistency and complies with water-cement ratio laws, except that no reduction in cement will be allowed for Class "A" concrete. The cement dispersing agent shall be applied in solution. The strengths and slumps shall be as specified. The concrete mixture shall be so designed that the materials will not segregate and excessive bleeding will not occur.

Classes of concrete shall be noted on all plan documents. Generally, all structural, reinforced concrete shall be Class "A" except that Class "B" concrete may be used for slabs on ground other than in manhole bases, pipe piers and footings. Class "C" concrete may be used for unreinforced, non-structural concrete fill, pipe encasement, and thrust blocks.

The proportions in all mixtures, to meet the essential requirements, must be such that the sand and cement form a rich, strong, mortar consistency sufficient to thoroughly bond in the coarse aggregate making it inert in the mass when set. No concrete having initial set or concrete temperature in excess of ninety degrees Fahrenheit (90°F) shall be used anywhere on the construction site.

(5) Forms. Forms are required for all concrete work, except that earth banks may be substituted for footing forms, exterior wall forms, tops of pedestals, etc., where soil will form the concrete to true dimensions. Forms shall conform to shapes, lines, grades, and dimensions indicated and shown on the drawings, shall be substantial and made tight to prevent leakage and sufficiently strong to withstand and support without deflection all work and materials as conditions require, and all dead and live loads thereon. Forms shall be smooth and even throughout the surface to be in contact with the concrete with all offsets, bevels, chamfers, miters, etc., carefully fastened together. Forms shall conform to the American Concrete Institute's recommended practice for concrete framework (ACI 347.63).

Forms may be of metal or wood and shall be furnished in sufficient quantity to expedite the work without endangering the safety or strength of any part of the construction. Matched and dressed lumber, or plywood forms, if wood is used therefore, shall be used for exposed work on both inside and outside surfaces not exposed in completed work. All forms shall be fastened to studs at each bearing. Exposed outside angles of walls, columns, piers, etc., shall be chamfered except where same build in flush with wall or floor surfaces. Furnish and place all necessary wooden fastening blocks or other attachments as may be necessary to be placed in the forms for securing of other branches of the work before concrete is poured. Particular care shall be taken to keep all lines on exposed work straight and true. All walls shall be plumb and true.

Forms shall be lightly sprayed or mopped with an approved form coating before concrete is poured, extreme care being exercised to keep the coating off the reinforcing steel. After such use, the forms shall be thoroughly cleaned and recoated. In the reuse of wood forms, sections showing loose knots, warp or other defects likely to cause irregularities in the exposed concrete surfaces, shall be removed from construction work. Joints in forms for reuse shall be made

tight to prevent leakage and shall be filled where necessary to make tight and smooth.

Forms shall be properly tied or braced together to maintain position and shape, and to conform to shape, lines, and dimensions shown on the drawings or required to insure safety of workers. Temporary openings shall be provided in the inside face of all wall forms and column forms to facilitate cleaning and inspection immediately before depositing concrete into the forms.

Form ties used shall be of a type approved by the engineer. They shall have a minimum working strength when fully assembled of at least three thousand (3,000) pounds at two foot (2') lifts. Ties shall be so adjustable in length as to permit tightening the forms and of such type as to leave no metal closer than one and one-half inches (1 1/2") of the surface, and they shall not be fitted with any device to act as a spreader within the form which will leave a hole larger than three inch (3") in diameter. Wire ties will not be permitted as a means of fastening forms together.

Concrete shall not be placed in any form until such form has been inspected by the public works director and permission given to start placing, nor shall forms be removed until permission is obtained from the public works director. The period during which forms will be required to remain in place after pouring concrete will vary with the type of construction, span, weather conditions, and other factors. In general, unloaded wall forms may be removed when the concrete has hardened to sixty percent (60%) of design to prevent damage, but in no case less than sixteen (16) hours at forty degrees Fahrenheit (40° F) or forty-eight (48) hours below thirty-two degrees Fahrenheit (32° F) .

(6) Placing reinforcement. Metal reinforcement before placing shall be thoroughly cleaned of mill scale, rust, and coatings that would destroy or reduce the bond. Bars shall be of the required size, fabricated to the required shape and form.

The contractor shall receive reinforcement on the job and lay out bars according to identification in good order to expedite location for placing in permanent position. Reinforcement bars or members shall have identification tags attached corresponding to marks or numbers designated for same on the approved shop drawings.

The workers responsible for placing the reinforcement shall be supplied with adequate copies of the approved shop drawings and bar lists for the project. Care shall be exercised to avoid substitutions of bar sizes and a stock of straight bars of the commonly used sizes shall be maintained on the job site by the contractor for use in the construction where required and as may be directed by the public works director.

Metal reinforcement shall be accurately positioned and secured against displacement by using tie wires of annealed wire not less than No. 16 gauge or suitable clips at all intersections, and shall be supported in a manner that will keep all metal away from the exposed surfaces of the walls or members. Slab reinforcement shall be supported on a sufficient number of metal chairs and

bars, to hold the reinforcement rigidly while placing concrete. Bars in footings poured directly on the ground shall be supported on small precast concrete blocks of the required depth.

The minimum clear distance between any reinforcing and the surface of concrete shall be in accordance with ACI-318.

(7) Mixing and placing concrete. All concrete may be mixed on the site in an approved type of power operated mechanical batch mixer of ample capacity to handle complete batches of measured materials. At no time shall mixer be charged above its rated capacity, and no fractional sack mixer shall be used on the work. The mixer shall be equipped with approved water storage and measuring device. Dry concrete materials shall be placed in the mixer drum and rotated a few times before water is added. The mixing shall be continued after water is added for a sufficient length of time to insure uniform distribution of the material throughout the mass, but not less than five (5) minutes for a four inch (4") slump, two (2) minutes for a two inch (2") slump.

No concrete shall be drawn from the mixer until the full mixing time has elapsed and no aggregates shall be added to a batch during mixing. Retempering of the concrete with the addition of water or remixing of partially hardened concrete will not be permitted. Mixers shall be kept clean and free from accumulated material on the interior of the drum. In general, hand mixing will not be allowed, except to complete a pour in the event of breakdown of mechanical mixer.

As soon as the concrete has been mixed it shall be discharged from the mixer, conveyed and placed in the forms in such a manner as will require a minimum of handling. Movement of fresh concrete from point of deposit to final position, where necessary, shall be by shoveling rather than by raking and crowding.

Such methods shall be employed in conveying and handling concrete to insure that no mortar will be lost, and that the concrete as placed is dense and uniform throughout with no segregation of the aggregates and no lack or excess of mortar any place. Concrete shall not be placed in forms in such condition that it will flow more than six feet (6') in any direction and shall be deposited as nearly as practical in its final position to avoid rehandling.

In the placing of concrete with the aid of mechanical vibrators, the vibration shall be transmitted through the forms. Vibration shall be supplemented by forking or spading by hand adjacent to the forms on exposed faces in order to secure smooth, dense, even surfaces without "honeycomb."

Should any honeycomb concrete be disclosed upon removal of the forms, the contractor shall cut out said honeycomb portion back to solid concrete and shall fill the opening with concrete to the same proportions as that specified section of work in which the fault occurred. No pointing of honeycomb areas shall be done until the surfaces have been inspected by the public works director.

Where concrete is placed on the ground, the subgrade shall be smooth and firm and fine graded to the exact required depth below the finished concrete surface. Reinforcing bars and subgrade shall be moist, but not wet, and shall be moistened with water ahead of the concrete pouring to prevent loss of entrained water in the concrete mix.

Ready mix concrete shall be mixed and delivered to the site in accordance with specifications for ready mix concrete contained in ASTM C-94.

The time lapse from the addition of water to the dry mix until the final deposit of concrete in the forms shall in no case exceed forty-five (45) minutes, or three hundred (300) revolutions and in no case with concrete temperature in excess of ninety-five degrees Fahrenheit (95° F).

(8) Water content. The amount of water to be used in mixing concrete shall at all times be the minimum amount necessary to produce a plastic mixture of the strength specified, of the desired density, uniformity, and workability. In general, the consistency of any batch shall be that required for the specific placing conditions and method of placement and ordinarily the slump shall be between three and five inches (3" and 5") for structural concrete placed in forms and/or with reinforcement, and from two to three inches (2" to 3") inches for slabs and other concrete poured directly on the ground.

In general, for dry aggregates the average amount of water required to produce concrete having a compressive strength of four thousand (4,000) psi at twenty-eight (28) days should not exceed five (5) gallons of water per bag of cement or thirty (30) gallons per cubic yard of concrete, or water/cement ratio of 0.6 by weight.

(9) Curing. Provisions shall be made for maintaining fresh concrete in a moist condition for a period of at least five (5) days after placement. Longer periods of curing may be required by the public works director when air temperatures are below fifty degrees Fahrenheit (50° F). Curing shall commence as soon as concrete has hardened sufficiently. Curing may be accomplished by ponding; wet burlap; sprinkling and covering with a non-staining sealed water proof paper or plastic; or membrane curing.

(10) Inspection. No concrete shall be placed until forms, reinforcement, subgrade, etc., have been inspected and approved by the public works director. Notification of required inspection shall be the responsibility of the contractor. Failure to have inspections may result in removal of sufficient amounts of material to determine whether concrete was placed in conformance with applicable standards and specifications.

(11) Construction joints. Construction joints shall be horizontal or vertical and keyways installed as shown on the approved drawings, or as directed by the public works director. Joints not indicated on the approved drawings shall be so made and located as to least impair the strength and appearance of the structure. Where a horizontal joint is to be made any excess water and laitance shall be removed from the surface after concrete is deposited.

Construction joints between walls and footings shall be keyed in all cases. No horizontal construction joints will be permitted in vertical walls. Bulkheads shall not be removed until the concrete has set hard and before concrete work is resumed all debris shall be removed from the forms adjacent to the bulkheads. Joints in slabs supported on the earth shall be made in the manner as shown on the approved drawings, and as directed by the public works director. Reinforcements shall be carried through the joints and keyways formed to prevent lateral or vertical displacement of adjacent sections at the joint due to unequal settlement of the supporting earth subgrade.

(12) Concrete finish, screeds, hardener. After forms are removed, cut away all projections and point up all depressions while concrete is still fresh, using a rich mortar composed of cement and silica sand. Use cement of the same brand as used in the concrete. Thoroughly wet surfaces before pouring, then rub surfaces with carborundum of medium fineness. Use plenty of water during rubbing and remove cement from surface.

The top surfaces of column footings, wall footings, and concrete at other similar locations shall be floated to a smooth and level surface. Grade stakes or nails shall be set to designate the levels to which concrete is to be poured.

For establishing the correct level of finish for all slabs, screeds shall be provided and set. Screeds for supported slabs may be metal strips or steel pipe spaced not over one hundred feet (100') on centers and supported on metal adjustable screed chairs which may be left in the concrete.

(13) Admixtures. All concrete work required under this standard shall contain a resin gum admixture similar to or equal to Darex. Admixture shall be applied in strict accordance with the directions of the manufacturer.

(14) Expansion joints. The contractor shall provide and install (tooled) expansion joints through concrete slabs at locations shown on the approved drawings, same to consist of preformed asphalt saturated fiber of thickness shown.

(15) Test samples. The contractor shall at his expense provide for test cylinders to be cast daily by a qualified representative of a certified commercial laboratory. These samples shall be cast, cured and tested in accordance with current ASTM Specifications. Testing ages shall be seven and twenty-eight (7 and 28) days unless otherwise specified by the public works director. Laboratory cylinders shall be used to determine the structural quality of the concrete materials used. For daily pours up to fifty (50) cubic yards, four (4) cylinders per pour, shall be provided, both of which shall be laboratory cured. For daily pours of over fifty (50) cubic yards at least four (4) test cylinders per pour shall be cast and laboratory cured. Field cylinders to be used as a gauge for early safe removal of forms shall be cast where contractors request earlier removal than that set out in the specifications. The contractor shall be responsible for the safe transportation of the cylinders to the laboratory. (Ord. #1195, Jan. 1998, as replaced by Ord. #1530, Dec. 2019 ***Ch10_6-22-20***)

16-510. Technical specifications--concrete sidewalks. (1) Scope. This section covers all labor, tools, equipment, and materials, including minor excavation and fine grading required to provide concrete sidewalks on previously prepared grade at the locations shown on approved drawings and as hereinafter specified.

(2) General requirements. Preparation of subgrade - All 6" boulders and larger rock, organic materials, soft clay, spongy material, and any other objectionable material shall be removed and replaced with approved materials. The subgrade shall be properly shaped, rolled and uniformly compacted to conform with the accepted cross-section and grades.

Forms for concrete - The forms for concrete shall be of wood or metal, straight, free from warps or kinks and of sufficient strength. They shall be staked securely enough to resist the pressure of the concrete without spring. When ready for the concrete to be deposited they shall not vary from the approved line and grade and shall be kept so until the concrete has set.

Concrete sidewalks - The concrete shall be proportioned, mixed and placed in accordance with the requirements contained in § 16-507 of this standard, and shall contain fibermesh (one (1) lb. per cubic yard). Concrete for sidewalks shall have a minimum twenty-eight (28) day strength of three thousand (3,000) psi with four to eight percent (4% - 8%) air entrainment on surfaces where vehicular traffic does not cross. A thickened cross-section of concrete shall be utilized on those portions of the sidewalk where vehicular traffic is likely to cross. The minimum slump shall be three inches (3") and maximum slump shall be five inches, (5") unless otherwise approved. All sidewalks shall meet ADA Regulations.

The concrete sidewalks shall have a minimum thickness of four inches (4") except where vehicular traffic is likely to cross in which case the sidewalk shall be thickened to a minimum six inches (6") unless otherwise approved. Sidewalks shall be a minimum of five feet (5') in width unless otherwise required by the public works director. See Figure 15 contained in Appendix A in this standard for design detail and standards and specifications. The surface of concrete walks shall be cut into flags by marking with an edging tool having a radius of one fourth inch (1/4"). Flags shall be no longer than the width of the sidewalk.

Expansion joints - One-half inch (1/2") traverse expansion joints with premolded filler shall be installed as directed by the public works director, but maximum spacing shall not exceed twenty-five feet (25'). Expansion joints shall be installed where walks terminate at curbs, at both the top and bottom of steps, around utility structures, and at sidewalk intersections. Such expansion joints are not required (except at curb returns) between walks and contiguous parallel curbs.

Turn-downs - Sidewalks shall be formed to "turn down" their own thickness at terminal points or ending points. The turn down or extra thickness shall extend for the width of the sidewalk. On steep grades or at soft spots in the

subgrade, post holes eight inches (8") in diameter and eighteen inches (18") in depth shall be poured monolithically with the sidewalk slab when so directed by the public works director.

At the request of the public works director, slight adjustments shall be made by the contractor in the grades and cross-slopes of walks to connect with existing sidewalks or other work, and/or to improve drainage. Grade stakes not more than twenty-five (25') apart shall be provided for all sidewalk work. Short vertical curves shall be introduced at all summits and valleys where the algebraic difference in grade equals or exceeds two percent (2%).

(3) Finishing. Concrete sidewalks shall be tamped and screeded sufficiently to bring the necessary water to the surface for finishing. All sidewalks shall be given a steel trowel finish with light brooming. All edges, including edges at dummy joints and expansion joints, shall be rounded to a one-fourth inch (1/4") radius.

Where "washed" or exposed aggregate sidewalk or slab is called for on the plans, the washing of the concrete surface shall be accomplished by removing the surface paste with brushes and water from a garden hose. After the depth of aggregate exposure has been approved by the public works director, the same pattern or texture shall be carried out throughout the entire slab areas and every effort shall be made to have the same workers finish adjoining slabs in order to assure uniformity of workmanship. If a chemical retardant is planned for use in or near the slab surface, the product must be approved by the public works director prior to application, and must be applied strictly in accordance with the manufacturer's directions.

(4) Curing and protection. Curing - Curing of concrete sidewalks shall conform to the requirements specified under § 16-508 of the standard, unless otherwise authorized.

Protection - Concrete shall be protected as specified under § 16-508 of this standard. Under no circumstances shall the contractor allow traffic of any type on concrete sidewalks until at least seven (7) days have elapsed after placing the concrete. The contractor shall be responsible for any damage incurred as a result of such traffic upon sidewalks including the repair and or replacement of such damaged sections of the sidewalk.

Backfilling - Backfill shall be of suitable selected material and shall be placed and tamped until firm and solid against concrete work. Backfilling shall follow immediately after the concrete forms have been removed.

Seasonal limits - No concrete shall be poured on a frozen or thawing subgrade or during unfavorable weather conditions, or when the temperature is forty degrees Fahrenheit (40° F) and falling without adequate protection. (Ord. #1195, Jan. 1998, as replaced by Ord. #1530, Dec. 2019 *Ch10_6-22-20*)

16-511. Technical specifications--concrete and gutter. (1) Scope. This section covers all labor, tools, equipment, forming and materials required for the installation of concrete curb, concrete gutter, combined concrete curb and

gutter and integral curb at the locations shown on approved construction plans and as hereinafter specified.

All concrete items included in this section shall be proportioned, mixed and placed in accordance with § 16-508 of this standard, except as hereinafter modified. Concrete shall have a minimum twenty-eight (28) day strength of four thousand (4,000) psi, with a minimum slump of one inch (1") and a maximum slump of four inches (4"), unless otherwise approved or directed by the public works director. See Figures 10 through 14 in Appendix A of this standard for further design details and standards and specifications.

(2) General requirements. Curbs and gutters shall be constructed to the sizes and dimensions shown on approved plans. Existing curbs and gutters which have been cut and removed for construction purposes shall be replaced at the contractor's expense with curbs and gutters of the same section as the portion removed unless otherwise authorized by the public works director.

The limits of the work shall be as shown on the approved plans. The area within such limits shall be carefully graded and tamped with suitable materials to the required line and grade. The final subgrade surface shall be compacted to ninety-five percent (95%) of standard proctor and even density and firmness and shall be made smooth and true to line and grade just prior to concrete placement.

After the subgrade has been properly prepared the forms shall be set carefully with their top edges true to line and grade of the finished work and shall be rigidly held in place by stakes or braces. The ends of the forms shall be flush and securely fastened together. Forms shall be cleaned and oiled before they are set in place. If a facing board is used it shall be so shaped and constructed that its lower edge will conform to the radius called for on the approved plans. Forms shall be tight to prevent leakage of wet concrete.

Curbs and gutters shall be constructed in sections of uniform length. The length of section may be reduced where necessary to make closures but in no case shall a section be less than six feet (6') long. Curved curbs at intersections shall extend entirely around the curve and one foot (1') beyond at each end. Sections shall be separated by steel templates set normal to the face and top of the curb. Templates shall be one eighth inch (1/8") thick and to full width of the gutter and at least two inches (2") inches deeper than the curb or gutter. Special turn-out sections shall be constructed as shown on the approved plans at all intersecting driveways.

Preformed bituminous joints shall be set in new construction at intervals of approximately fifty feet (50') along the curb or gutter and at intersections with sidewalks, storm drainage inlets, other curbs, driveway ramps, and buildings. Preformed joints shall be set normal to the finish surface.

(4) Finish and curing. After the subgrade has been prepared and the forms set, they shall be inspected and approved by the public works director just prior to concrete placement. The concrete shall be thoroughly tamped or vibrated so as to produce a homogeneous mass and to bring the mortar to the

surface, after which it shall be stuck off with the template cut to the design of the curb or gutter. Before initial setting begins, the surfaces shall be finished with a wooded float so as to compact the mass and produce a true, even surface. Plastering with mortar to build up or finish uneven surfaces or excessive troweling with a steel trowel shall not be permitted. The surface shall be checked with a ten foot (10') straight-edge and all irregularities corrected with not more than one-fourth (1/4") tolerance. The upper edges of curb and gutter shall be rounded with an approved edging tool with a one-half inch (1/2") radius. The joint templates shall remain in place until the concrete has set sufficiently to permit removal without damage to the concrete and shall then be removed while the forms are still in place.

After the concrete has set sufficiently, and in no case less than twenty-four (24) hours after placement, the forms shall be removed and all minor defects or irregularities in the surface corrected. When the finishing operations have been completed to the satisfaction of the public works director, the exposed surfaces shall be covered with wetted burlap or other approved material and kept continuously moist for a period of not less than five (5) days after concrete placement so as to permit the concrete to cure properly and prevent it from drying too rapidly. The concrete shall be protected from damage during the curing process and thereafter until finally accepted by the public works director. Any section of curb or gutter that is damaged during construction and before final acceptance by the public works director shall be replaced in a satisfactory manner by the developer or contractor at his expense.

After the curing process has been completed, the spaces along the sides of the curb and gutter shall be backfilled with suitable material and then tamped and compacted to the required elevation. Backfill material shall be compacted with approved tamps and shall and shall be made smooth and even with the pavement or other material adjacent to the new work. All excess materials and debris shall then be removed from the construction site and the area left in a neat condition. (Ord. #1195, Jan. 1998, as replaced by Ord. #1530, Dec. 2019 *Ch10_6-22-20*)

16-512. Technical specifications - stablization of ditches.

(1) Scope. This section covers all labor, tools, equipment, forming materials, seeding, sodding, and other materials to provide the stabilization of ditches. All concrete work included in this section shall be in accordance with § 16-508 of this standard. All seeding and sodding work in this section shall be in accordance with §§ 16-507 and 16-508, respectively.

(2) General requirements. All open ditches shall be stabilized in accordance with the requirements outlined in the City of Tullahoma Storm Drainage Design Standards and Specifications.

Concrete linings, when required, shall be constructed of Class "A" concrete. All ditch cross-sections shall be constructed in a workman like manner as shown on the approved construction plans. Ditches that require lining with

concrete shall be lined to a height above the bottom of the ditch not less than one-half (1/2) the diameter of the nearest culvert upstream. However, in no case shall the lining extend less than one foot (1') above the bottom of the ditch. Slopes of ditches shall not exceed 3:1 to insure proper maintenance and stability of ditch.

Any ditch section that must traverse or cross through a street section shall have installed appropriate sized and dimensioned concrete headwall structures that include wing walls and toe slabs to collect and disperse stormwater uniformly. All concrete utilized shall be adequately reinforced using steel reinforcement as noted on the illustration and shall have a twenty-eight (28) day strength of four thousand (4,000) psi. All exposed edges shall have a three-fourths (3/4") chamfer. (Ord. #1195, Jan. 1998, as replaced by Ord. #1530, Dec. 2019 *Ch10_6-22-20*)

16-513. Technical specifications--seeding. (1) Scope. Seeding shall include the preparation of the ground, application of fertilizer, and sowing of seeds including furnishing of labor, machines, tools, fertilizers, seed and other materials incidental to providing for an acceptable growth of grass in the area or areas shown on the approved plans or as directed by the public works director.

(2) Definition of acceptable growth. The growth of grass shall be termed acceptable by the public works director when

(a) A uniform dense growth is secured over the entire area designated to be seeded, and

(b) The grass has the appearance of healthy growth.

An erosion control matting shall be used in areas subject to erosion such as drainage ways and slopes.

(3) Preparation of the ground. The ground to be seeded shall be loosened to a depth of four inches (4") by raking, disking, or harrowing, or any suitable means until the soil is friable, well as pulverized and acceptable to the public works director. Where top soil has been redistributed over the area, all clods, roots, stones, etc., exceeding one inches (1") in any dimension shall be removed. This operation shall be performed only at such time when the moisture content of the soil to be worked is within the acceptable limits for satisfactory results.

(4) Application of fertilizer. After the ground has been prepared in accordance with the above section, commercial fertilizer shall be distributed uniformly over the area at a minimum rate of five hundred (500) pounds per acre. The fertilizer shall be incorporated into the soil to a depth of three inches (3") by raking, disking, or any acceptable method. Care will be exercised to avoid over fertilizing an area to the extent of damaging or retarding growth. The fertilizer used shall be an approved manufacturer and shall be "Vertigreen" or "Vigaro" or equal. It shall contain not less than five percent (5%) nitrogen, ten percent (10%) phosphorous and four percent (4%) potash. All fertilizers shall comply with all laws governing the sale and manufacture of fertilizer.

(5) Planting. The area shall be seeded by means of a drill or a mechanical distributor, or any other approved sowing equipment/or method. The mixture of seed used shall meet the latest requirements of the Tennessee Department of Transportation. The mixture of seed selected shall be suitable for the area to be sown and such as to give the required acceptable growth.

Where practical, one-half (1/2) of the seed shall be sown with the sower moving in one (1) direction and the other half with the sower moving at right angles to give the required acceptable growth. The seed shall be covered to a depth of not over one-half inch (1/2") by means of a flexible tooth weeder, harrow, or any approved device. At terraces, berms, ditches, or other locations highly susceptible to erosion, the public works director may direct that the rate of application be increased. No sowing shall be done in windy weather or when the ground is wet or otherwise non-tillable.

(6) Planting season. Unless otherwise permitted in writing by the public works director, the seeding operations shall be limited to the following periods:

SPRING: March 1st to June 1st

FALL: September 1st to November 1st

(7) Reseeding and maintenance of area(s). The developer and/or contractor shall be required to secure an acceptable growth of grass on all areas designated to be seeded. Locations where acceptable growth is not obtained on the first planting shall be reseeded until such growth is secured. If the public works director so directs, the ground shall be reworked and refertilized before reseeding. This practice shall be avoided unless the previous planting was less than fifty percent (50%) successful.

The developer and/or contractor shall maintain the area(s) until an acceptable growth is established, and if any erosion occurs during the construction period, the developer and/or contractor shall be required to restore the area(s) where such erosion may have occurred. No mowing or other maintenance of the grass will be required unless otherwise directed by the public works director. (Ord. #1195, Jan. 1998, as replaced by Ord. #1530, Dec. 2019 *Ch10_6-22-20*)

16-514. Technical specifications--sodding. (1) Scope. This section includes all labor, equipment, sod and other materials, final preparation of soil surface required to plant the areas shown on the approved plans with solid sod as herein specified. Unless otherwise authorized or directed, all areas between sidewalks and curb adjacent to streets shall be sodded.

(2) Definition. Area sodding shall consist of planting an entire area with sod. Strip sodding shall consist of planting narrow strips in continuous lines. Spot sodding shall be planted as indicated on the approved plans. Sod, strip sod, or spot sod shall be planted on areas indicated on the approved plans and in accordance with these specifications, and/or as directed by the public works director.

(3) Materials. Sod shall consist of live, dense, well rooted growth of permanent grasses, free from Johnson grass, Nut grass, and other obnoxious grasses, of suitable character for the purpose intended and for the soil in which it is to be planted. It shall be uninjured at the time of planting. Sod containing Bermuda grass will be accepted only when indicated on the approved plans or when approved by the public works director. If Bermuda grass is approved, it shall be native to the area being planted. Sod must be free of weeds, bind weeds, or other matter which has a tendency to kill the grass.

Sod for area sodding shall be at least eight inches (8") wide and twelve inches (12") long and shall have at least a three inch (3") thickness of dirt on its roots.

Sod for strip sodding shall be at least three inches (3") wide and twelve inches (12") long and have at least a three inch (3") thickness of dirt on its roots.

Sod for spot sodding shall be at least three inches (3") square and have at least three inch (3") thickness of dirt on its roots.

Fertilizers used in area, strip or spot sodding shall comply with § 13-513(4) of the Standard.

(4) Planting season and soil conditions. Unless otherwise permitted in writing by the public works director the sodding operations shall be limited to March 1st through November 1st all sod shall be planted only when the soil is moist and otherwise favorable to growth.

(5) Area sodding. The area to be sodded shall be constructed to the lines and grades indicated on the approved plans. The surface shall be loosened to a depth of not less than three inches (3") with a rake or other device. If necessary it shall be sprinkled until saturated at least one inch (1") in depth and kept moist until the sod is placed. Immediately before placing sod, the fertilizer shall be uniformly applied at the rate of five hundred (500) pounds per acre. The entire area shall be thoroughly covered with sod.

Sod shall be placed on the prepared surface with the edges in close contact and, so far as possible, in a position to break joints. Each sod laid shall be fitted in the space and shall be pounded into place with wooden tamps or other approved implements.

The sod shall be maintained moist from the time of removal until reset, but shall be placed as soon as practical after removal from the place where it had been grown. Immediately after placing, it shall be rolled and hand tamped to the satisfaction of the public works director. On steep slopes, or where necessary, pinning or pegging will be required to hold the sod in place.

(6) Strip sodding. Strip sod shall be laid in a continuous line not more than twelve inches (12") apart. Before placing strips, the furrows shall be thoroughly watered and fertilizer applied uniformly in the furrows at the rate of five hundred (500) pounds per acre. The sodding strips shall be reset as soon as practical after removal from the location where they were grown and shall be maintained moist until they are reset.

After setting, the strips shall be lightly covered with earth and thoroughly rolled and hand tamped. After tamping and rolling the sod shall be carefully raked, to the satisfaction of the public works director, in order to break up the crust or earth formed by rolling or tamping.

(7) Spot sodding. The area to be spot sodded shall be constructed to the lines and grades indicated on the approved plans. Holes shall be dug not less than four inches (4") square and four inches (4") deep and not more than twelve inches (12") apart. The entire area shall be thoroughly wetted until all holes hold water to one-third (1/3) of their depth. Fertilizer shall be applied after wetting at the rate of five hundred (500) pounds per acre. One-half (1/2) of the fertilizer shall be evenly distributed and placed in the holes due for spot sodding.

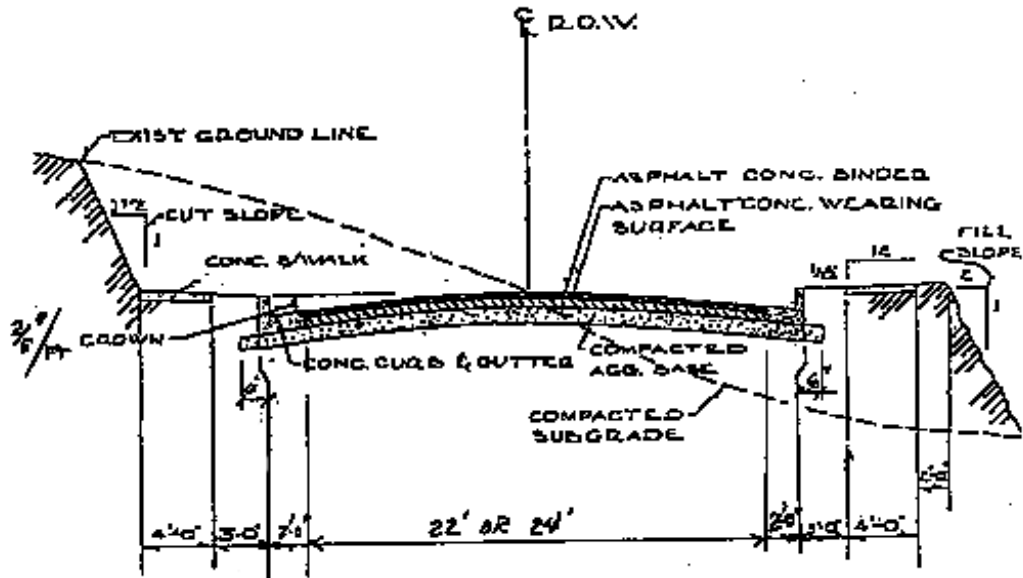
After sod has been placed in holes, any openings remaining shall be filled and the entire area thoroughly rolled and hand tamped.

(8) Watering and maintenance. The sod shall be watered for a period of two (2) weeks after setting. The developer and/or contractor shall not allow any equipment or material on any area planted with sod and shall erect barricades and guards if necessary, to prevent any damage from unauthorized traffic on or over any planted area. It shall be the obligation of the developer and/or contractor to secure acceptable growth of grass before final acceptance of the project by the city. (Ord. #1195, Jan. 1998, as replaced by Ord. #1530, Dec. 2019 *Ch10_6-22-20*)

APPENDIX A

SUMMARY OF FIGURES

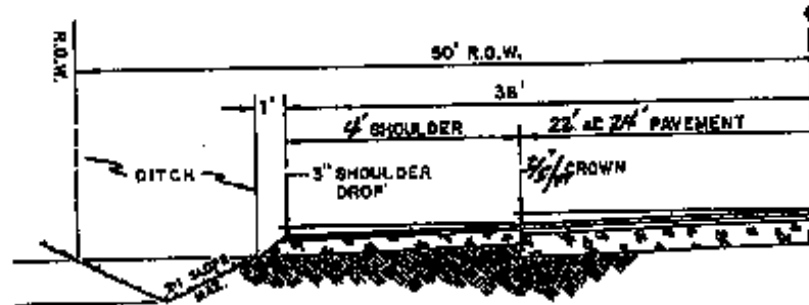
Figure 1	Typical Section--Residential Street (50' R.O.W.)
Figure 2	Typical Section--Residential Conventional Roadway (50' R.O.W.)
Figure 3	Typical Section--Collector Street (60' R.O.W.)
Figure 4	Typical Section--Arterial Street (80' R.O.W.)
Figure 5	Standard Residential Cul-de-sac Detail
Figure 6	Standard Cul-de-sac Detail (Residential)
Figure 7	Concrete Swale Approach Apron
Figure 8	Driveway Connection to Non-Curbed Streets
Figure 9	Non-Residential Driveway Ramp (Concrete)
Figure 10	Extruded Curb Detail (Residential)
Figure 11	Rollover Curb, Gutter, & Sidewalk Detail (Residential)
Figure 12	24" Concrete Curb and Gutter Detail (Collector)
Figure 13	Post Curb Detail (Collector)
Figure 14	30" Concrete Curb and Gutter Detail (Arterial/Industrial)
Figure 15	Standard Concrete Sidewalk
Figure 16	Standard Handicap Ramp (Side Mountable)
Figure 17	Standard Concrete Sidewalk at Return with Grass Strip and Handicap Ramps
Figure 18	Standard Concrete Sidewalk at Return with No Grass Strip and Handicap Ramps
Figure 19	Handicap Ramp Locations
Figure 20	Trench Pavement Repair Details
Figure 21	Residential Driveway Ramp Detail (as replaced by Ord. #1530, Dec. 2019 <i>Ch10_6-22-20</i>)



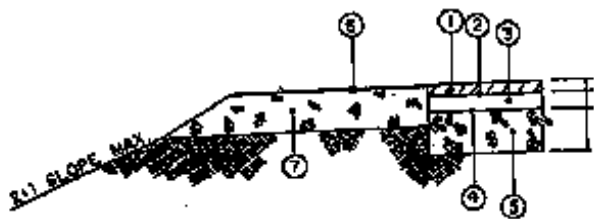
NOTE:

1. THE THICKNESS OF ASPHALT CONC. WEARING SURFACE, BINDER, AND CRUSHED AGGREGATE BASE, SHALL BE IN ACCORDANCE WITH SECTION III, OF THESE STANDARDS.
2. THIS SECTION IS INTENDED TO SET FORTH A MIN. SPEC. FOR STREET CONSTRUCTION. PARKWAY TYPE STREETS, IMPROVED SLOPES AND ANY OTHER DETAILS EXCEEDING THE MIN. WILL BE CONSIDERED FAVORABLE BY THE PUBLIC WORKS DEPT.

TYPICAL SECTION - LOCAL STREET	
(50' R.O.W.)	
Scale: None	FIGURE 1
Date: 9/10/97	



HALF - SECTION



PAVEMENT & SHOULDER COURSES
NOT TO SCALE

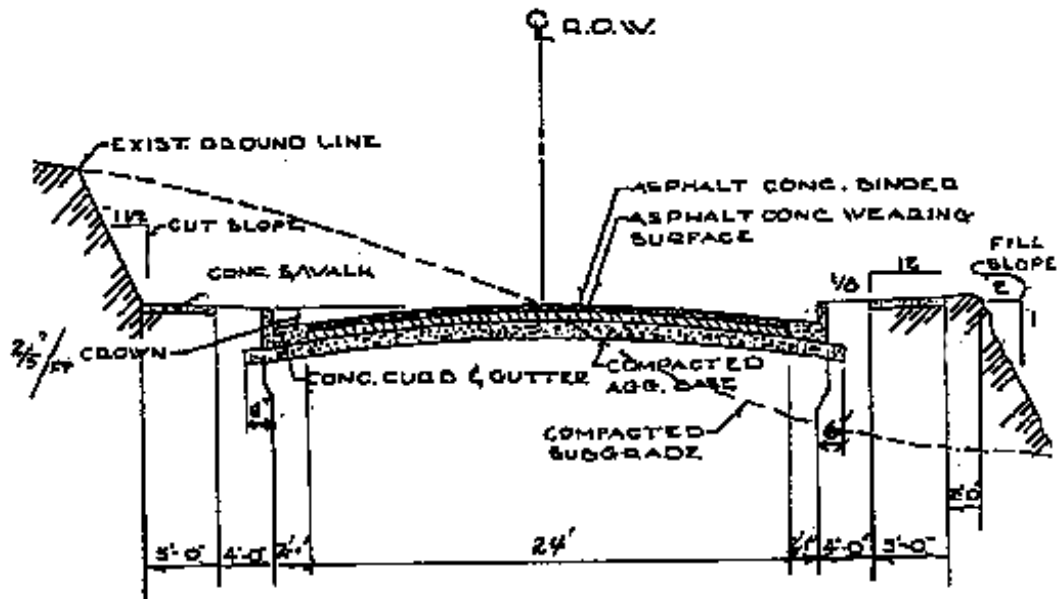
PAVEMENT

- ① ASPHALTIC CONCRETE SURFACE (4)11E)
- ② TACK COAT
- ③ ASPHALTIC CONCRETE BASE (B-MODIFIED)
- ④ PRIME COAT
- ⑤ STONE (GRADING O PUG MILL MIX)

SHOULDER

- ⑥ DOUBLE BITUMINOUS SURFACE TREATMENT
- ⑦ 7" CRUSHED STONE BASE

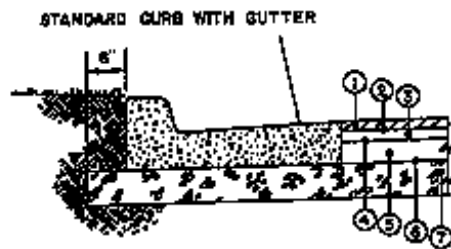
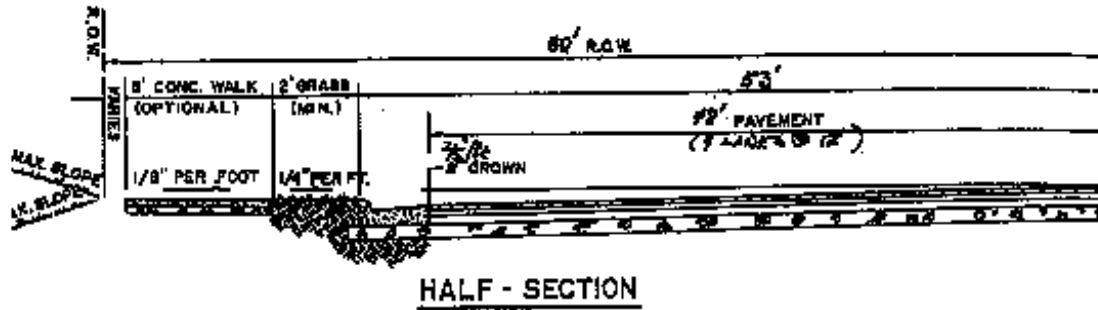
TYPICAL SECTION - LOCAL CONVENTIONAL ROADWAY	
Scale: 1" = 5'	FIGURE 2
Date: 9/10/97	



NOTE:

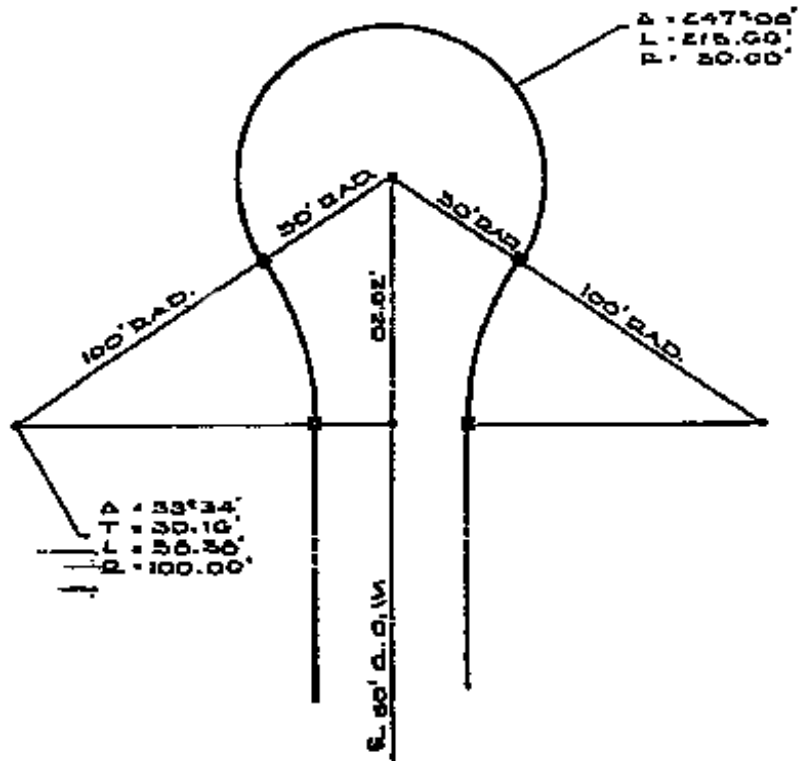
1. THE THICKNESS OF ASPHALT CONC. WEARING SURFACE, BINDER, AND CRUSHED AGGREGATE BASE, SHALL BE IN ACCORDANCE WITH SECTION III OF THESE STANDARDS.
2. THIS SECTION IS INTENDED TO SET FORTH A MIN. SPEC. FOR STREET CONSTRUCTION. PARKWAY TYPE STREETS, IMPROVED SLOPES AND ANY OTHER DETAILS EXCEEDING THE MIN. WILL BE CONSIDERED FAVORABLE BY THE PUBLIC WORKS DEPT.

TYPICAL SECTION - COLLECTOR STREET	
(60' R.O.W)	
Scale: None	
Date: 9/10/97	FIGURE 3

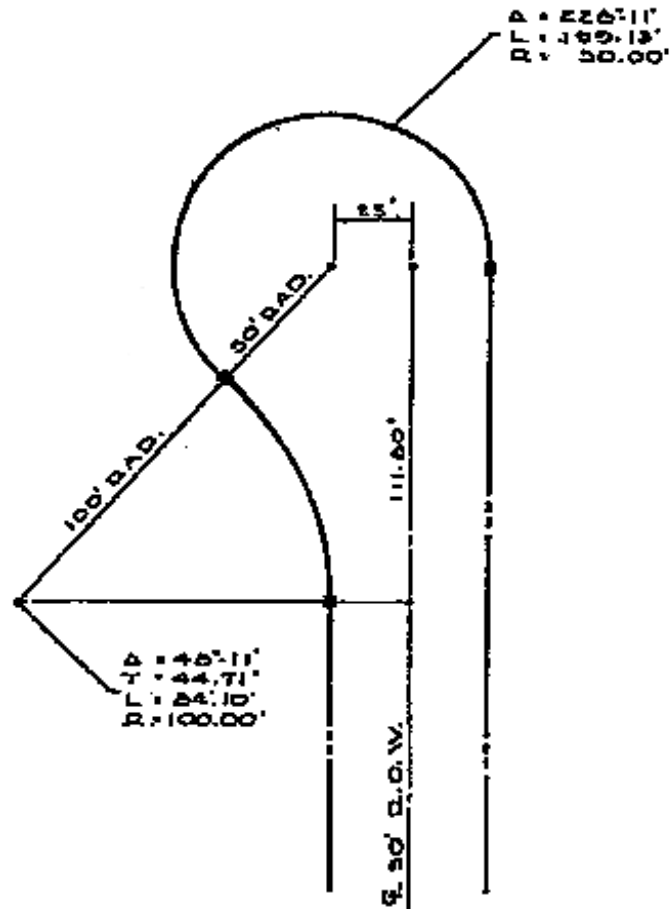


- ① ASPHALTIC CONCRETE SURFACE (411E)
- ② TACK COAT
- ③ ASPHALTIC CONCRETE BASE (B-MODIFIED)
- ④ TACK COAT
- ⑤ ASPHALTIC CONCRETE BASE (307A)
- ⑥ PRIME COAT
- ⑦ STONE BASE (GRADING D PUG MILL MIX)

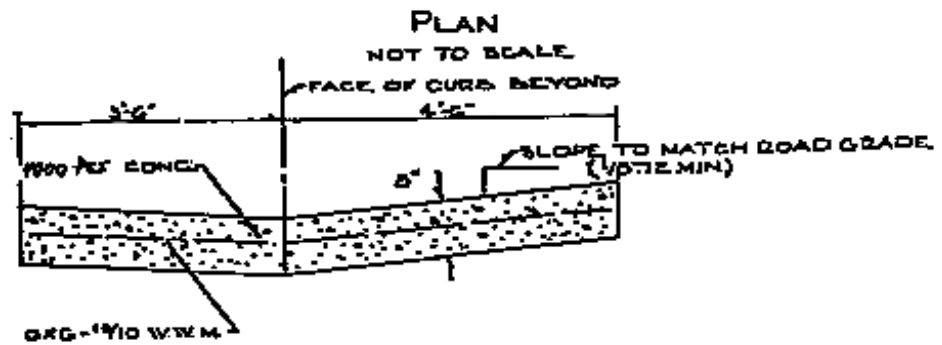
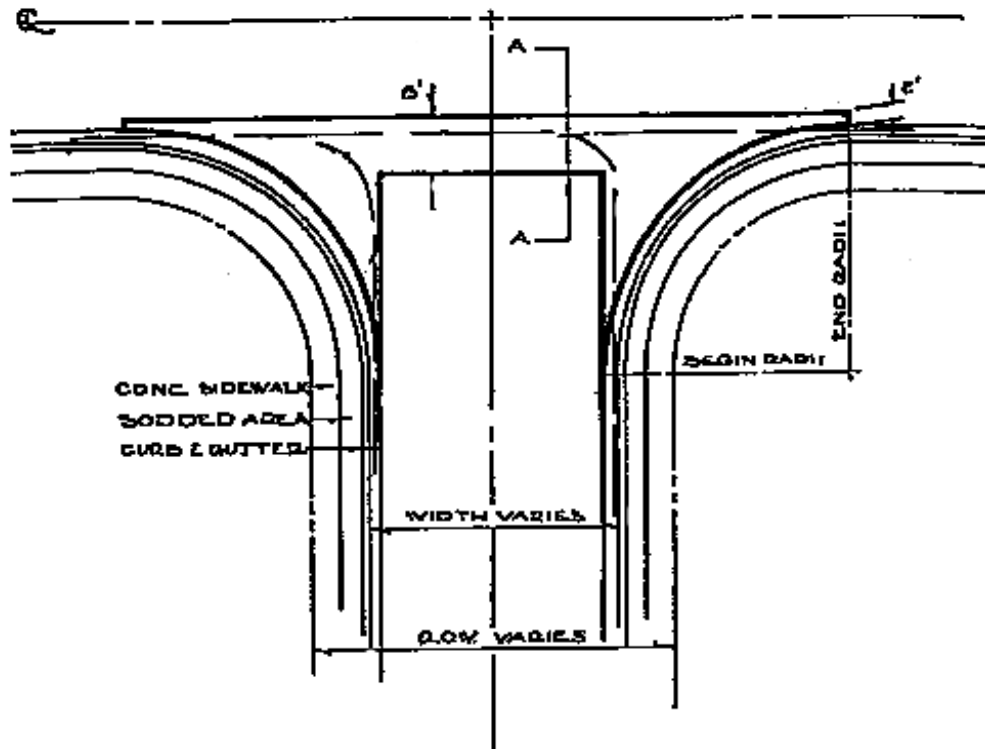
TYPICAL SECTION - ARTERIAL STREET	
(80' R.O.W)	
Scale: 1" = 5'	FIGURE 4
Date: 9/10/97	



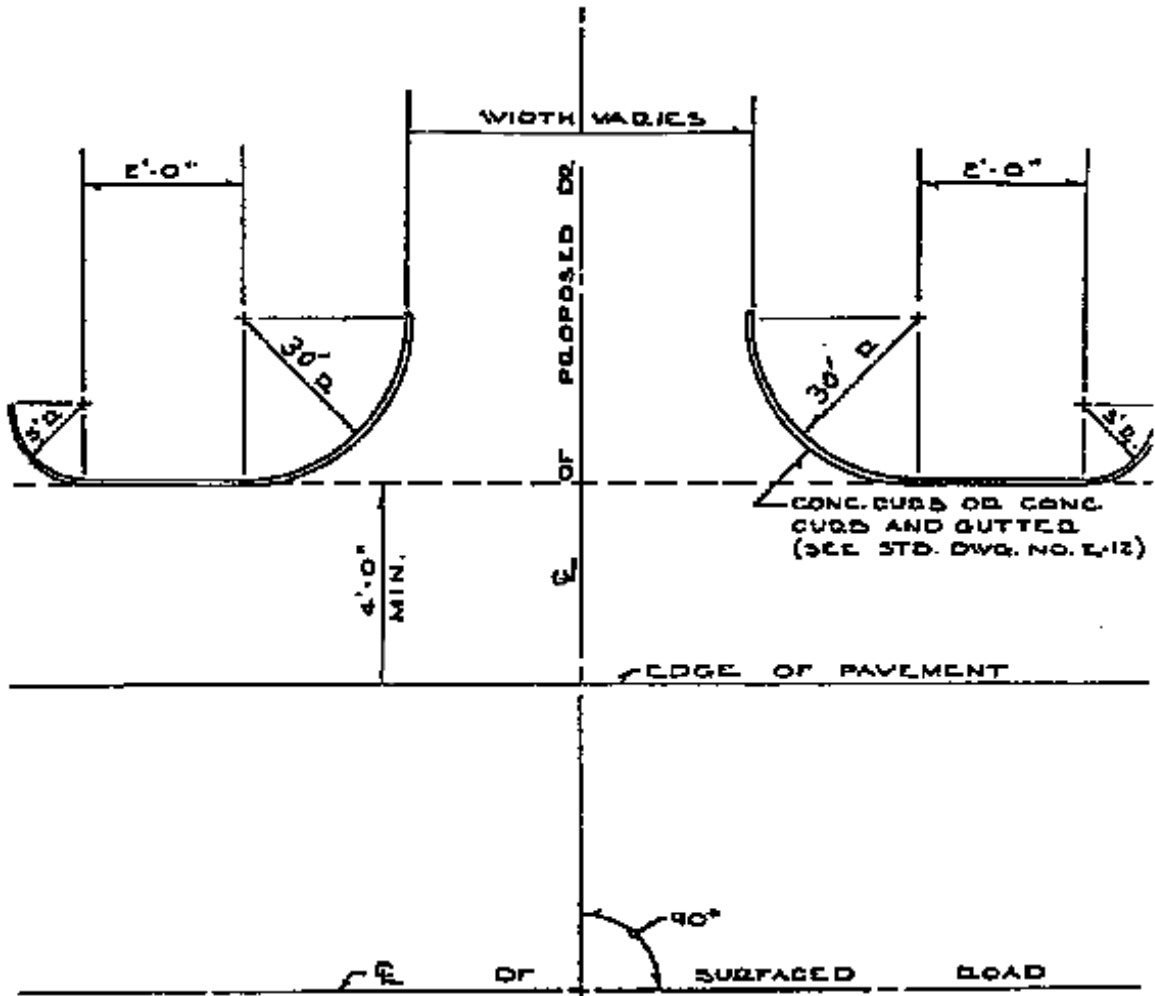
STANDARD RESIDENTIAL CUL-DE SAC DETAIL	
Scale: 1" = 30'	FIGURE 5
Date: 9/10/97	



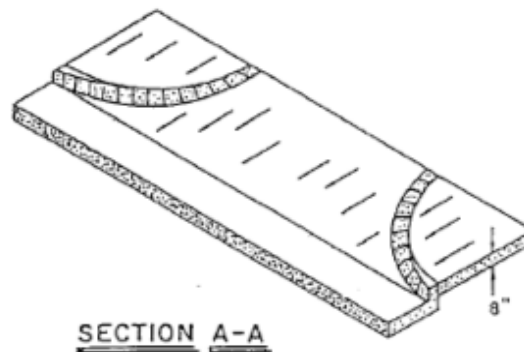
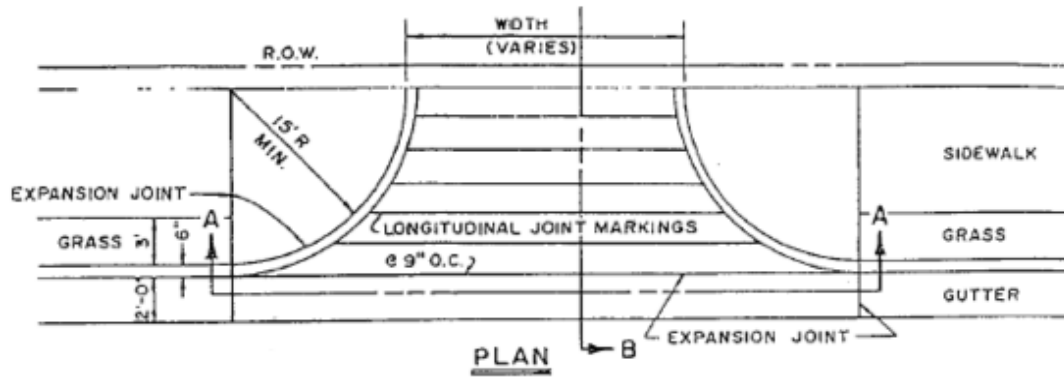
STANDARD OFFSET CUL-DE SAC DETAIL	
(RESIDENTIAL)	
Scale: 1" = 50'	FIGURE 6
Date: 9/10/97	



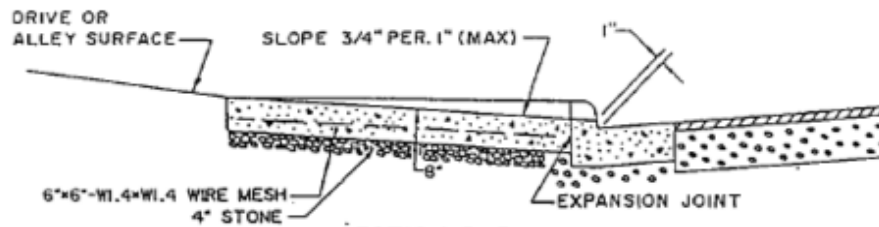
CONCRETE SWALE APPROACH APRON	
Scale: None	FIGURE 7
Date: 9/10/97	



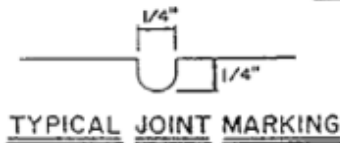
DRIVEWAY CONNECTION TO NON-CURBED STREETS	
Scale: None	FIGURE 3
Date: 9/10/97	



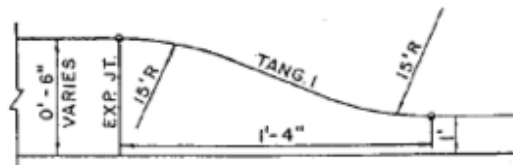
SECTION A-A



SECTION B-B



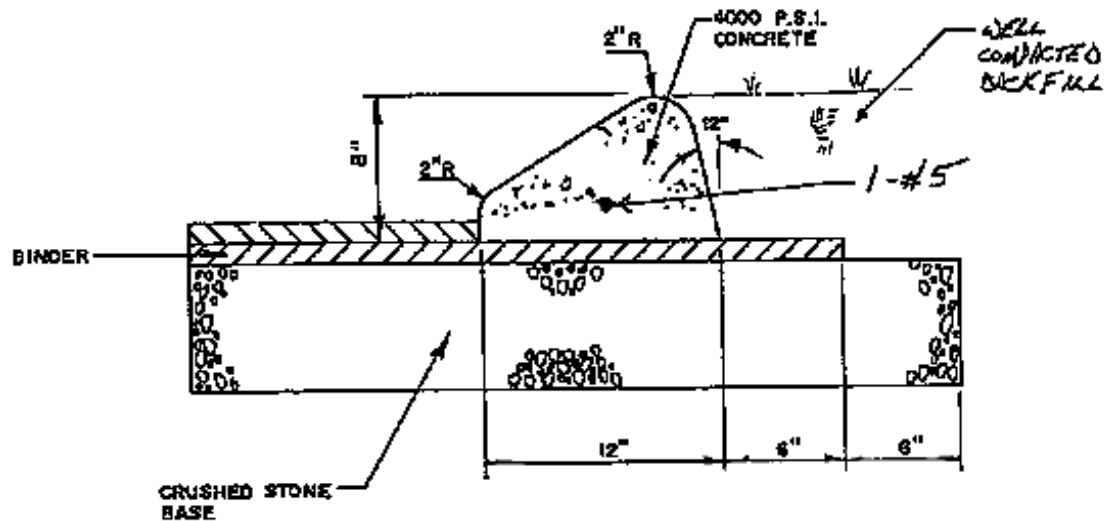
TYPICAL JOINT MARKING



TYPICAL CURB DEPRESSION

NOT TO SCALE

NON-RESIDENTIAL DRIVEWAY RAMP (CONCRETE)	
Scale: None	FIGURE 9
Date: 9/10/97	



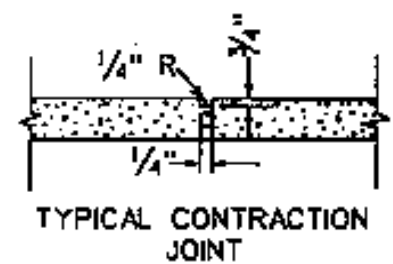
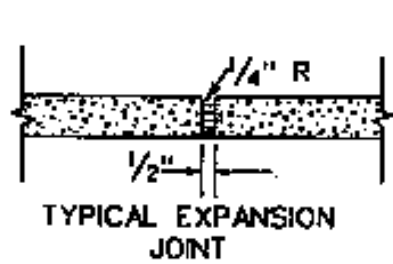
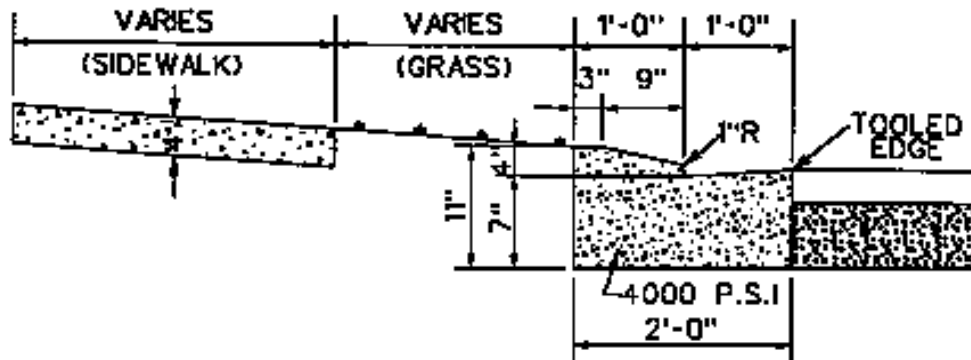
1. CONSTRUCTION JOINTS CONSISTING OF 1/4" PREFORMED EXPANSION JOINT MATERIAL SHALL BE PLACED AT A MAXIMUM OF 50 FEET INTERVALS.
2. PREFORMED 1/4" EXPANSION JOINT MATERIAL SHALL BE PLACED BETWEEN CURB AND DRAINAGE INLETS OR OTHER STRUCTURES, TANGENT POINTS, AND DRIVE RAMPS.
3. 1/4" CONTRACTION JOINTS SHALL BE SPACED 10 FEET ON CENTER BETWEEN EXPANSION JOINTS.

EXTRUDED CURB DETAIL (RESIDENTIAL)

Scale: None

Date: 9/10/97

FIGURE 10

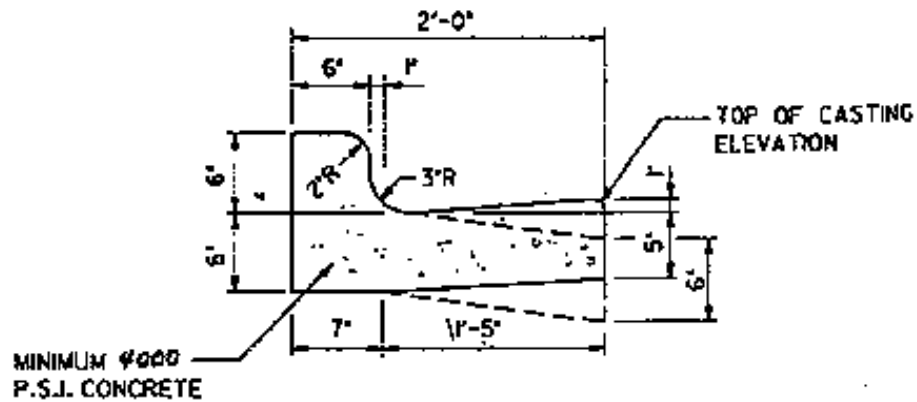


PREFORMED 1/4" EXPANSION JOINTS SHALL BE EQUALLY SPACED AT 50' ON CENTER (MAX.) WITH 1/4" CONTRACTION JOINTS EQUALLY SPACED AT 10' ON CENTER BETWEEN EXPANSION JOINTS. JOINTS IN SIDEWALK TO BE IN LINE WITH JOINTS IN CURB AND GUTTER.

PREFORMED 1/4" EXPANSION JOINT MATERIAL SHALL BE PLACED BETWEEN CURB AND GUTTER AND DRAINAGE INLETS, TANGENT POINTS, AND DRIVE RAMPS.

CONCRETE SHALL CONTAIN FIBERMESH REINFORCING AT 1 POUND PER CUBIC YARD.

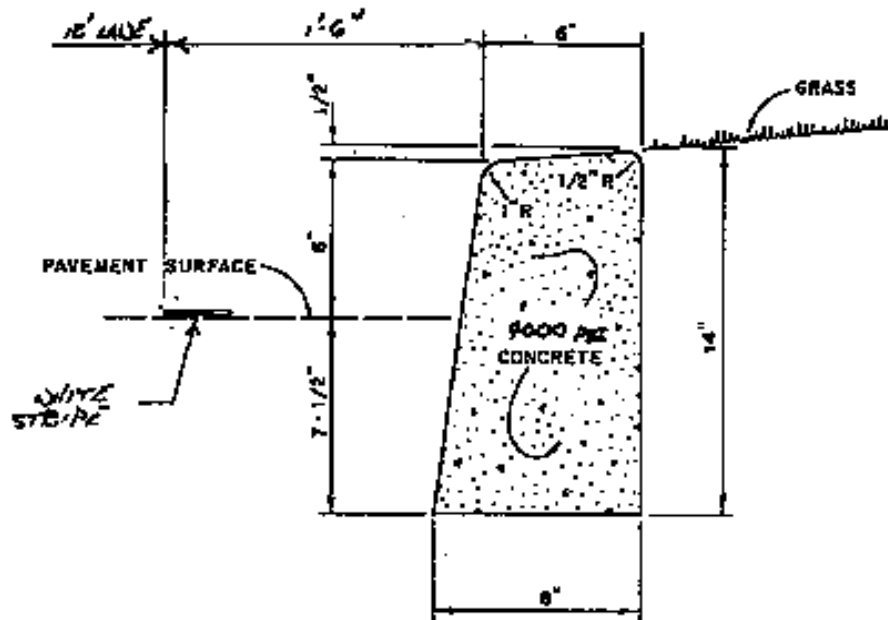
ROLLOVER CURB, GUTTER, & SIDEWALK DETAIL	
(RESIDENTIAL)	
Scale: None	FIGURE 11
Date: 9/10/97	



NOTE: WHEN PAVEMENT SLOPES AWAY FROM CURB AND GUTTER, USE TILT OUT CURB AND GUTTER

1. CONSTRUCTION JOINTS CONSISTING OF ½" PREFORMED EXPANSION JOINT MATERIAL SHALL BE PLACED AT A MAXIMUM OF 50 FEET INTERVALS.
2. PREFORMED ½" EXPANSION JOINT MATERIAL SHALL BE PLACED BETWEEN CURB AND DRAINAGE INLETS, TANGENT POINTS, AND DRIVE RAMPS.
3. ¼" CONSTRUCTION JOINTS SHALL BE SPACED 10 FEET ON CENTER BETWEEN EXPANSION JOINTS.
4. CONCRETE SHALL CONTAIN FIBERMESH REINFORCING AT 1 POUND PER CUBIC YARD.

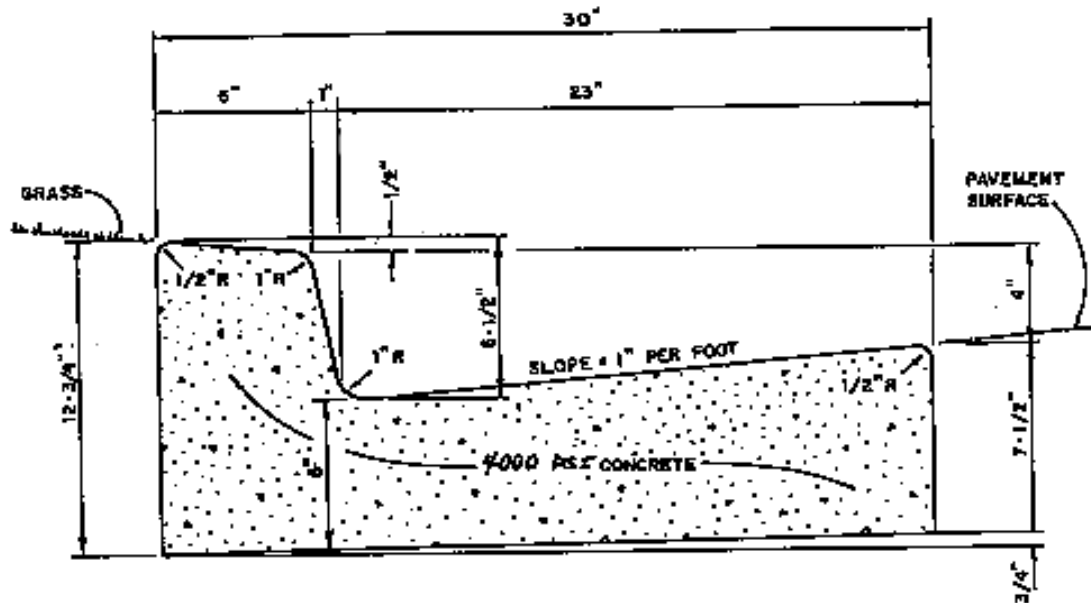
24" CONCRETE CURB & GUTTER DETAIL (COLLECTOR)	
Scale: None	FIGURE 12
Date: 9/10/97	



TYPICAL CROSS - SECTION

1. EXPANSION JOINTS TO BE SPACED A MAXIMUM OF 50' APART OR AS DIRECTED BY THE ENGINEER.
2. EXPANSION JOINTS WILL ALSO BE REQUIRED AT TANGENT POINTS, DRIVE RAMPS AND INLETS.
3. CONSTRUCTION JOINTS ARE TO BE CUT INTO CURB AND GUTTER EVERY 10' TO A DEPTH OF D/4.
4. CONCRETE SHALL CONTAIN FIBERMESH REINFORCEMENT OF 1 POUND PER CUBIC YARD.

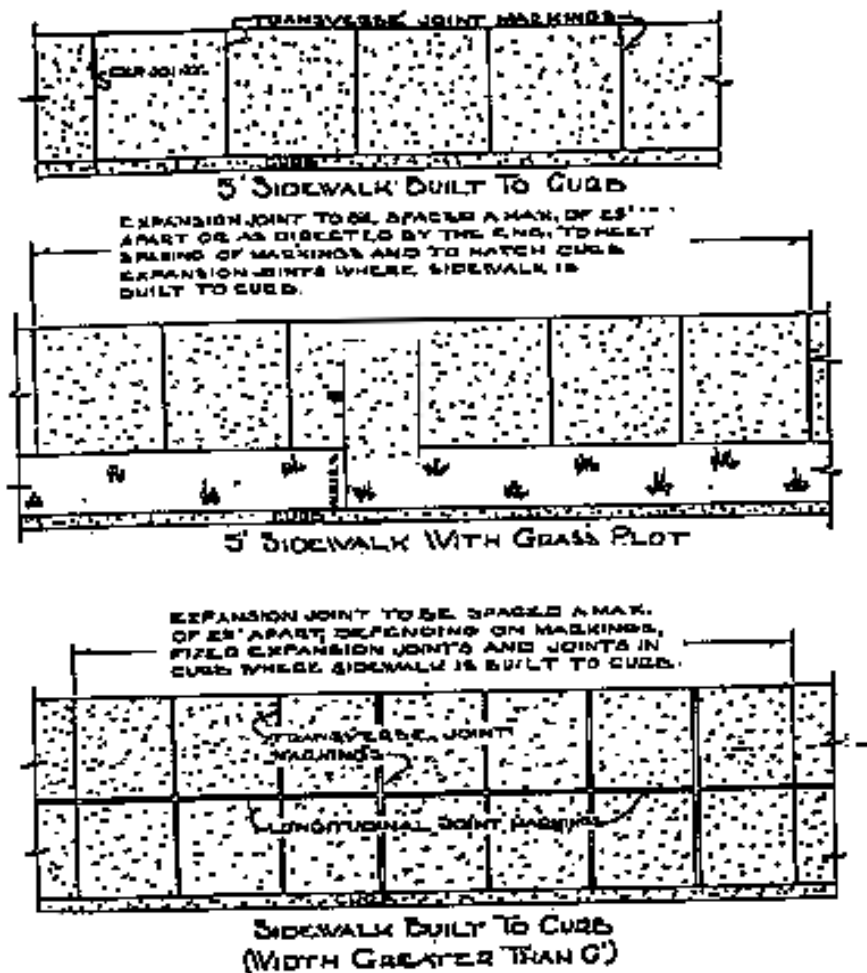
POST CURB DETAIL	
(COLLECTOR)	
Scale: 1" = 6'	FIGURE 13
Date: 9/10/97	



TYPICAL CROSS - SECTION

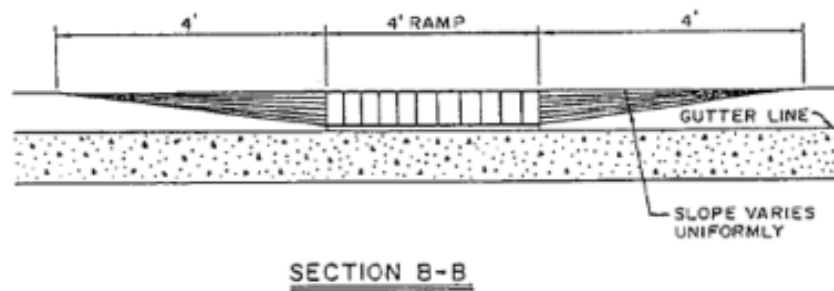
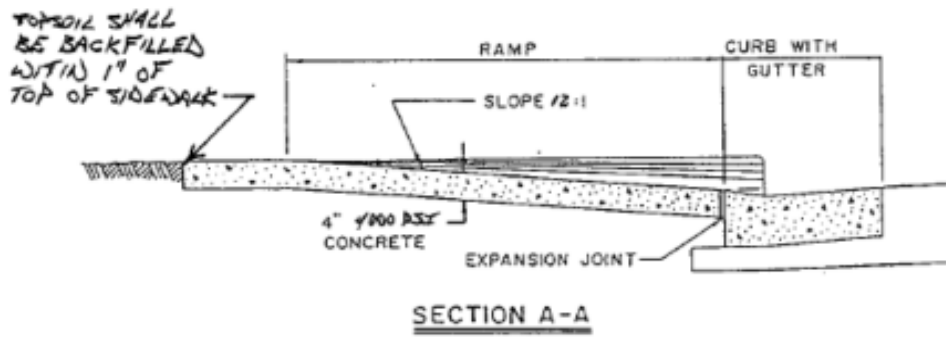
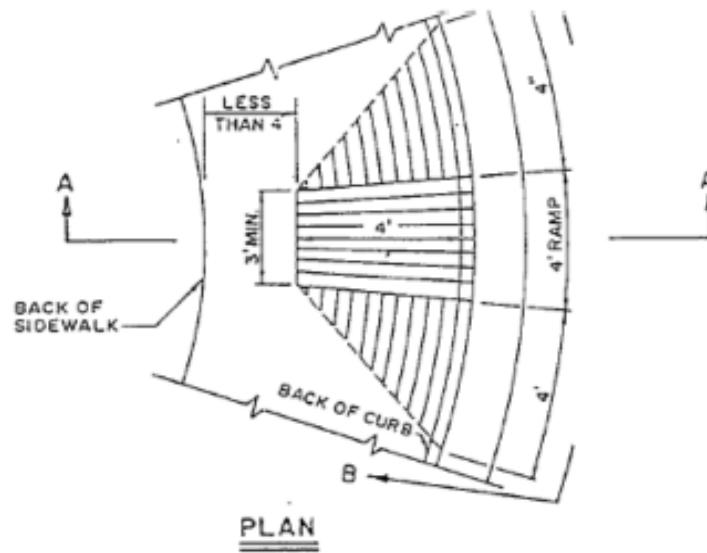
1. EXPANSION JOINTS TO BE SPACED A MAXIMUM OF 50' APART OR AS DIRECTED BY THE ENGINEER.
2. EXPANSION JOINTS WILL ALSO BE REQUIRED AT TANGENT POINTS, DRIVE RAMPS AND INLETS.
3. CONSTRUCTION JOINTS ARE TO BE CUT INTO CURB AND GUTTER EVERY 10' TO A DEPTH OF D/4.
4. CONCRETE SHALL CONTAIN FIBERMESH REINFORCEMENT AT 1 POUND PER CUBIC YARD.

30" CONCRETE CURB AND GUTTER DETAIL	
(ARTERIAL / INDUSTRIAL)	
Scale: 1" = 6"	FIGURE 14
Date: 9/10/97	

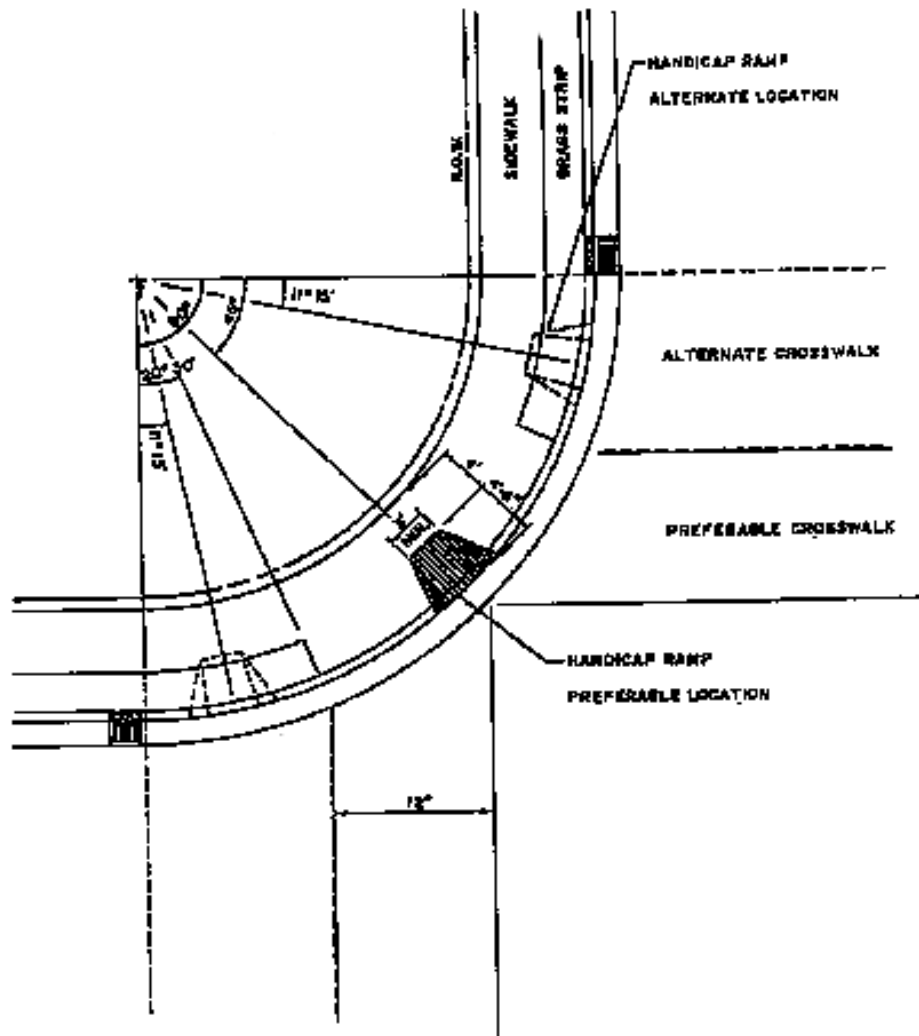


NOTE:
 ONE LONGITUDINAL JOINT MARKING REQUIRED ON SIDEWALK OVER 6' IN WIDTH TO LESS THAN TWO LONGITUDINAL JOINTS FOR SIDEWALKS 10' TO 15'. TRANSVERSE JOINT MARKINGS TO FORM SQ. BLOCKS IF PRACTICAL AS DETERMINED BY FIXED EXP. JOINTS. SIDEWALKS SHALL BE A MIN. THICKNESS.

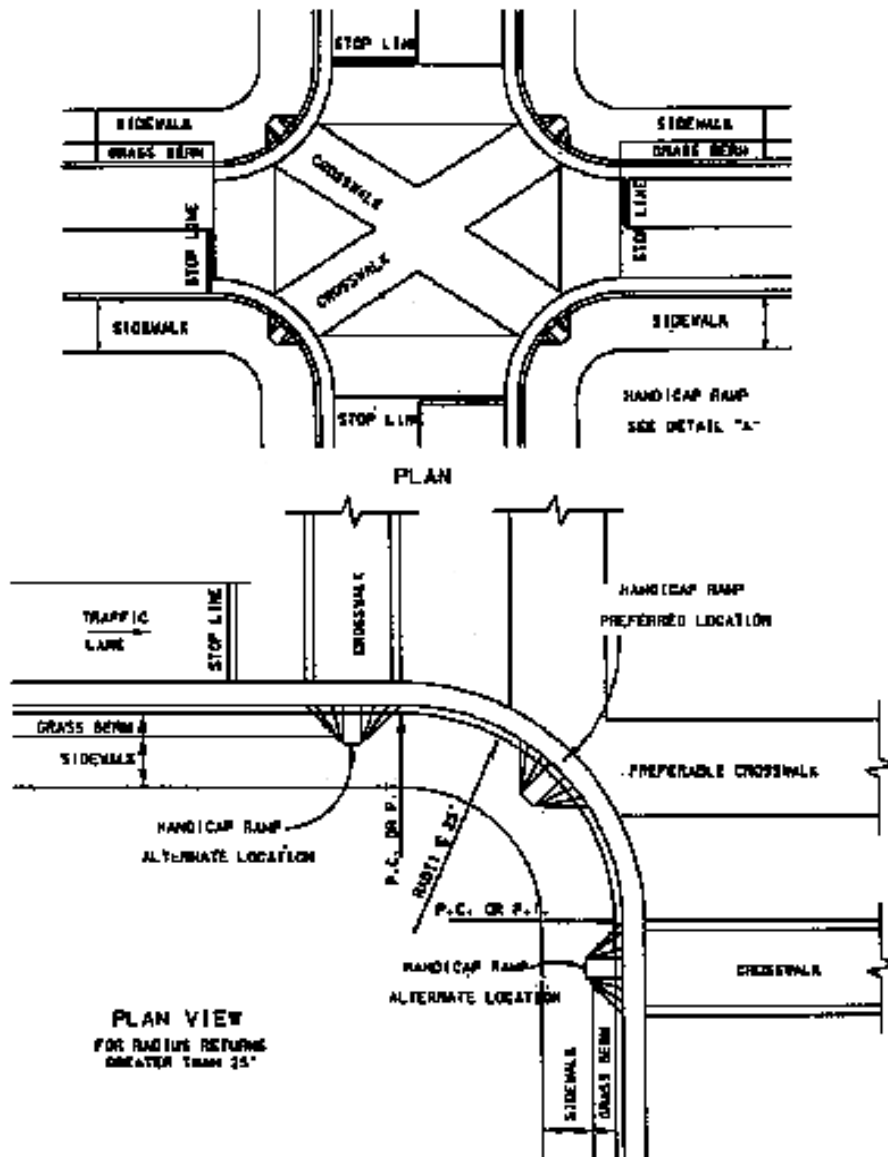
STANDARD CONCRETE SIDEWALK (ARTERIAL / INDUSTRIAL)	
Scale: None	FIGURE 15
Date: 9/10/97	



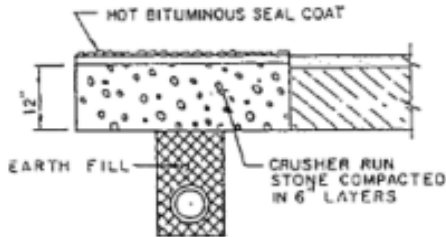
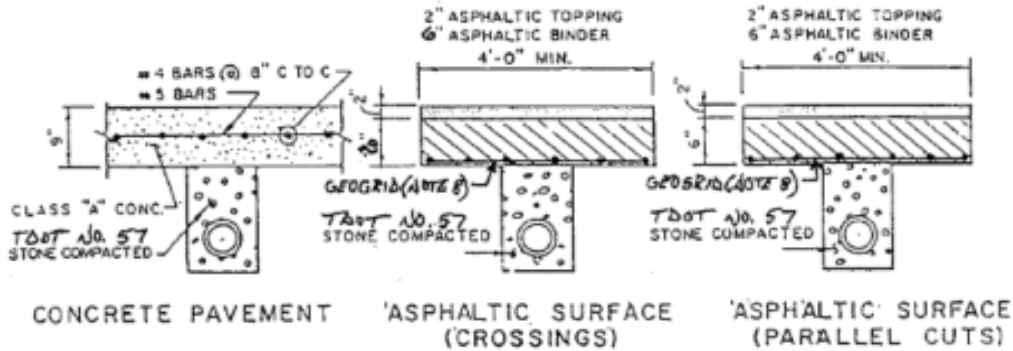
STANDARD HANDICAP RAMP	
(SIDE MOUNTABLE)	
Scale: 1" = 20'	FIGURE 16
Date: 9/10/97	



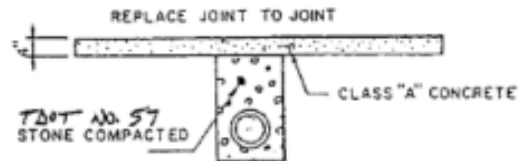
STANDARD CONCRETE SIDEWALK AT RETURN WITH GRASS STRIP AND HANDICAP RAMPS	
Scale: 1" = 10'	FIGURE 17
Date: 9/10/97	



HANDICAP RAMPS LOCATIONS	
Scale: None	FIGURE 19
Date: 9/10/97	



SHOULDER REPLACEMENT

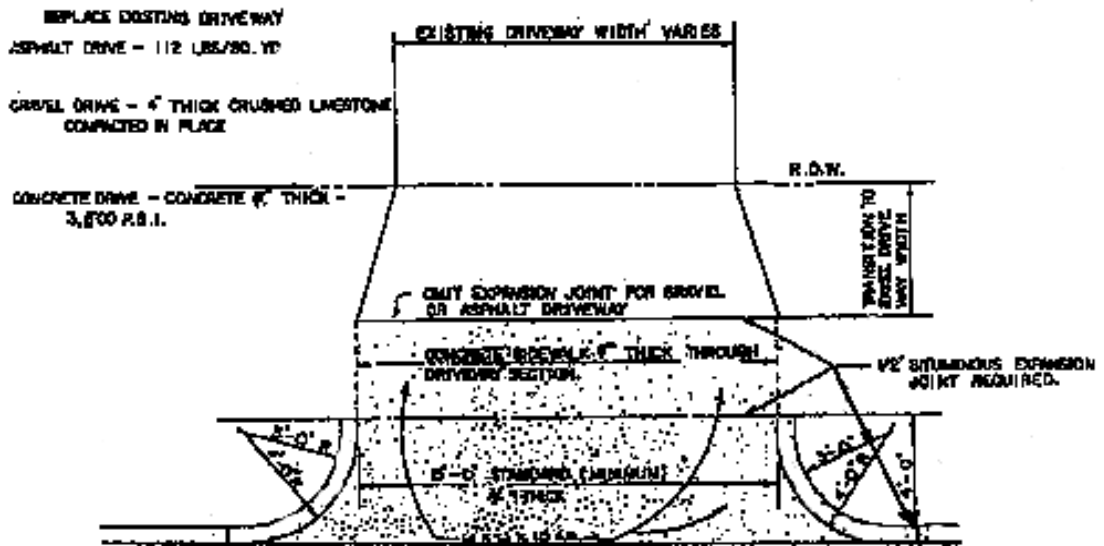


SIDEWALK REPLACEMENT

NOTES:

1. ALL WORK SHALL BE FIELD CHECKED AND APPROVED BY THE PUBLIC WORKS DEPARTMENT PRIOR TO ITS BEGINNING AND AFTER COMPLETION THEREOF.
2. INSPECTION PERSONNEL OF THE DEPARTMENT SHALL BE NOTIFIED AT LEAST TWO (2) DAYS PRIOR TO COMMENCING WORK.
3. THE WORK SPECIFIED HEREON SHALL BE FREE FROM WORKMANSHIP DEFECTS FOR A PERIOD OF ONE YEAR AFTER COMPLETION.
4. EXISTING PAVEMENTS, BASES, CURBS AND GUTTERS AND SIDEWALKS SHALL BE CUT AND BROUGHT TO A NEAT LINE BY USE OF AN AIR HAMMER OR OTHER SUITABLE EQUIPMENT. EXPANSION JOINTS REMOVED SHALL BE REPLACED.
5. THE MINIMUM WIDTH TO BE TRIMMED ON EACH SIDE OF THE TRENCH LINE, AS SEEN IN THE SECTION MAY BE WAIVED OR AMENDED UPON APPROVAL OF THE INSPECTOR, HOWEVER, A MINIMUM WIDTH OF REPLACEMENT SHALL BE 4'-0" ALLOW FOR A ROLLER.
6. IF PERMANENT PAVEMENT REPAIRS CANNOT BE MADE WITHIN THREE (3) DAYS, THEN TEMPORARY REPLACEMENT SHALL BE MADE WITH 2" COLD MIX OR HOT BITUMINOUS SEAL COAT OVER COMPACTED CRUSHER RUN STONE.
7. ALL EXCAVATIONS MADE WITHIN PUBLIC RIGHT-OF-WAY REQUIRE EXCAVATIONS AND STREET CLOSURE PERMITS FROM THE PUBLIC WORKS DEPARTMENT PRIOR TO COMMENCING WORK.
8. INSTALL GEOGRID A MINIMUM OF 1'-0" BEYOND EDGE OF TRENCH. GEOGRID SHALL BE ADVANCED DRAINAGE SYSTEM, INC. PRODUCT NO. 2211 OR APPROVED EQUAL.
9. EXCAVATIONS EXCEEDING 2 FOOT IN WIDTH SHALL BE BACKFILLED WITH 4"-6" STONE TO SUBGRADE ELEVATION.

TRENCH PAVEMENT REPAIR DETAILS	
Scale: None	FIGURE 20
Date: 9/10/97	



RESIDENTIAL DRIVEWAY RAMP DETAIL	
Scale: None	FIGURE 21
Date: 9/10/57	

CHAPTER 6

SPECIAL EVENTS AND TEMPORARY STREET CLOSURES

SECTION

- 16-601. Definitions.
- 16-602. Permit or notice required for special events.
- 16-603. Application for a permit.
- 16-604. Time of filing application.
- 16-605. Barricades, litter collection, and sanitary facilities.
- 16-606. Hold harmless; liability insurance.
- 16-607. Personnel cost; permit fee; grant program.
- 16-608. Compliance with laws.
- 16-609. Conditions in permits.
- 16-610. Standards for issuance of a permit.
- 16-611. Issuance or denial.
- 16-612. Appeals procedure.
- 16-613. Revocation of a permit.

16-601. Definitions. (1) "Amusement ride" or "amusement attraction" shall be defined as in Tennessee Code Annotated, § 56-38-102, excluding wholly inflatable attractions.

(2) "Private gathering" means a special event that is held on private property and is not open to the public. A private gathering shall not be subject to the requirements of this chapter unless:

- (a) A temporary street closure is requested;
- (b) Two hundred (200) or more people gather in a residential area during the course of the event; or
- (c) Five hundred (500) or more people gather during the course of the event.

(3) "Special event" shall mean any public gathering such as a block party, local special event, parade, festival, celebration, concert, carnival, fair, exhibits, trade show, air show or any similar occurrence to be conducted on public or private property within the City of Tullahoma, Tennessee. Special events occurring entirely within structures that have been approved by the city for occupancy by five hundred (500) or more people shall be exempt from the requirements of this chapter.

(4) "Temporary street closure" shall refer to a condition created by special event or private gathering to be conducted within or on any street or intersection in the City of Tullahoma, Tennessee, that requires all lanes of travel be closed for a public safety purpose. Any request for temporary street closure(s) is deemed a request for a special event and requires a special event permit. Any temporary street closure authorized in whole or in part by the city

for municipal purposes, including, but not limited to, conveyance of traffic, or travel is exempt from this chapter. (as added by Ord. #1423, Dec. 2011)

16-602. Permit or notice required for special events. (1) Notice for private gatherings. No permit shall be required for a private gathering unless a temporary street closure permit is requested; however, seventy-two (72) hours notice to the police department shall be required. Such notice may be oral and shall contain the date, time and place of the gathering, as well as contact information.

(2) Permit required. No person, firm, corporation or organization shall participate in, advertise for or in any way promote, organize, control, manage, solicit, or induce participation in a special event or a private gathering where a temporary street closure is requested unless a special event permit has first been obtained from the city administrator.

(3) No person, firm, corporation or organization shall violate any of the terms of a permit issued for a special event or this chapter, nor join or participate in any permitted activity under this chapter over the objection of the permit holder, nor in any manner interfere with the progress or orderly conduct of a special event. (as added by Ord. #1423, Dec. 2011)

16-603. Application for a permit. For special events, an application for a permit shall be made upon a form provided by the city recorder and shall contain all of the following information:

(1) The name, residence and business address, and phone number of each person and organization sponsoring the special event. If an organization, the application shall indicate whether it is authorized to do business within the State of Tennessee and contain the names, residences and business addresses, and phone numbers of the president or chairman thereof, and all other persons:

(a) Having an interest or position of management or control in such organization;

(b) Who are or will be engaged in organizing, promoting, controlling, managing or soliciting participation in such special event; and

(c) Who will be vending or soliciting at the event under the special event permit.

(2) The date, or dates, and beginning and ending hours of such special event;

(3) The location, including blocks, streets, or intersections, in which such special event will occur and a map of same, and indicate where a temporary street closure is required, if any;

(4) The estimated number of persons who will participate;

(5) The purpose of the special event;

(6) Whether parking is requested to be restricted or prohibited during such closure;

(7) Whether any sound amplification equipment is proposed to be used, and if so, information describing such sound amplification;

(8) Whether or not charity, gratuity, or offerings will be solicited or accepted, or sales of food, beverages, including alcohol or beer, or other merchandise will occur;

(9) Whether any temporary street closure will occupy all or only a portion of the street or intersection involved;

(10) Whether the special event includes any amusement attraction or amusement ride; and

(11) Such other information as the city administrator deems reasonably necessary in order to carry out his duties under this chapter. (as added by Ord. #1423, Dec. 2011)

16-604. Time of filing application. The application shall be filed not less than fourteen (14) nor more than three hundred sixty-four (364) days prior to the scheduled street date of such special event. (as added by Ord. #1423, Dec. 2011)

16-605. Barricades, litter collection, and sanitary facilities. When a special event permit is granted and includes a temporary street closure, applicants shall provide and remove such barricades and warning devices as are deemed necessary by and are acceptable to the city administrator. Applicants shall also provide for the collection and removal, at applicant's expense, of all trash, garbage, and litter caused by or arising out of such special event and for adequate sanitary facilities as are deemed necessary by the city administrator. (as added by Ord. #1423, Dec. 2011)

16-606. Hold harmless; liability insurance. Applicants shall agree in writing to assume the defense of and indemnify and save harmless the city, its aldermen, boards, agencies, authorities, commissions, officers, employees and agents, from all suits, actions, damages or claims to which the city may be subjected of any kind or nature whatsoever resulting from, caused by, arising out of or as a consequence of special event and the activities permitted in connection therewith. The city administrator may require the applicant to submit a certificate of insurance from a Tennessee state-licensed entity prior to the event in an amount not less than one million dollars (\$1,000,000.00), but within the discretion of the city administrator, depending upon the nature, size and duration of the event. (as added by Ord. #1423, Dec. 2011)

16-607. Personnel cost; permit fee; grant program. (1) In addition to a permit fee, applicants shall pay to the city the cost of city personnel who are required by the city to work overtime hours or other than regular shift or perform duties during or because of special event. An application for a special event permit shall be accompanied by a permit review fee as established from

time to time by the board of mayor and aldermen. Governmental entities shall be exempt from permit fees.

(2) Organizers of events may apply for in-kind support from the City of Tullahoma, as provided in the "special event grant policy," which is hereby adopted by reference and made a part of this chapter as if fully set forth herein. The city administrator shall have the authority to administer the special event grant policy and amend its terms as needed. A copy of the special event grant policy shall be placed on file at the city recorder's office. (as added by Ord. #1423, Dec. 2011)

16-608. Compliance with laws. Prior to issuance of a permit under this chapter, all applicable ordinances and laws shall be complied with and all required permits and licenses shall be secured in connection with such special event, or the proposed activities associated therewith including, but not limited to, peddling, street vending, charitable solicitations, collections or acceptance of gratuities, the sale of food, beverages, including alcohol or beer, or other merchandise, or the use of candles, torches, fires, or other combustibles, or amusement attractions or rides. (as added by Ord. #1423, Dec. 2011)

16-609. Conditions in permits. (1) Conditions. Any permit granted under this chapter may contain conditions reasonably calculated to reduce or minimize the dangers and hazards to vehicular or pedestrian traffic or to the public health, safety, tranquility, morals, or welfare, including, but not limited to, changes in time, duration, numbers of participants, or noise levels.

(2) Deposit or bond. The city administrator may also require as a condition of the permit a deposit or bond to cover clean-up, damage or other costs, the amount of the deposit or bond shall be related to the size, nature, and duration of the event and shall be refundable, to the extent not exhausted by clean-up, damage or other costs. (as added by Ord. #1423, Dec. 2011)

16-610. Standards for issuance of a permit. A permit shall be issued when, from a consideration of the application and from such other information as may otherwise be obtained, all of the following circumstances exists:

(1) The applicant has not knowingly and with intent to deceive, made any false, misleading or fraudulent statements of material fact in the application for a permit or in any other document required pursuant to this chapter;

(2) The applicant has met the standards in this chapter, and paid in advance any fee required and agrees to such conditions as are imposed in the permit;

(3) The time, duration and size of the special event will not substantially disrupt the orderly and safe movement of other traffic or create a public nuisance;

(4) The special event is of a size or nature such that it will not require the diversion of so great a number of public safety officers of the city as to prevent normal safety protection to the city;

(5) The concentration of persons will not unduly interfere with proper fire and police protection of, or ambulance service to, areas contiguous to such special event;

(6) The special event will not unduly interfere with the movement of firefighting equipment on the way to a fire or 911 call;

(7) The special event will not unduly interfere with the orderly operation of parks, hospitals, churches, schools, or other public and quasi-public institutions in the city; and

(8) The applicant has provided reasonable means for informing all persons listed in § 16-603(1) of this chapter, and all other persons participating in the special event of the terms and conditions of such permit and all applicable laws. (as added by Ord. #1423, Dec. 2011)

16-611. Issuance or denial. (1) Small special events. A special event where fewer than two hundred (200) people gather during the entire course of the event shall be considered a small special event. The city administrator shall have authority to issue or deny a small special event permit. Written notice of the issuance or denial of a permit shall be provided to the applicant within five (5) business days of receipt of a complete application.

(2) Large special events. A special event where two hundred (200) or more people gather during the entire course of the event shall be considered a large special event. Applications for large special events shall be considered by the board of mayor and aldermen after consideration by the appropriate committees. Applicant must be present at all meetings where the application is considered. Failure to appear shall constitute good cause for denial of an application.

(3) Calculation. For the purposes of this section, the total number of people shall include all special event participants, workers and attendees.

(4) Denial. Applicants must meet the standards for issuance of a permit in order to receive a permit. Additional criteria for denial may include, but are not limited to:

(a) Failure to submit a complete application with supporting documentation;

(b) Previous revocation of a special event permit;

(c) Previous convictions by the persons listed in § 16-603(1) of this chapter for any crime involving moral turpitude within the past ten (10) years;

(d) A finding that the proposed activity or use will unreasonably interfere with the general public's use and enjoyment of the area at the time of the event or in the future due to repetitive use or damage to a public facility;

(e) A finding that the proposed activity or use will unreasonably interfere with or detract from the public health, safety or welfare, or involve violence, crime or disorderly conduct, at least to the extent that can be reasonably foreseen;

(f) A finding that the proposed activity or use will entail extraordinary or burdensome expense or emergency operations by the city; or

(g) A finding that the proposed activity or use will constitute a nuisance to adjoining property owners.

(5) Notice. Written notice of the issuance or denial of a small or large special event permit shall be provided to the applicant within five (5) business days of any final decision. If a permit is denied, said written notice shall state the reasons for denial. (as added by Ord. #1423, Dec. 2011)

16-612. Appeals procedure. An appeal from denial of the permit shall be by writ of certiorari to the chancery court. (as added by Ord. #1423, Dec. 2011)

16-613. Revocation of a permit. Any permit for a special event issued pursuant to this chapter may be revoked by the city administrator or chief of police, or their designees, at any time when by reason of emergency, disaster, calamity, disorder, riot, extreme traffic conditions, violation of this chapter or of any permit conditions, or undue burden on public services, it is determined that the health, safety, tranquility, morals or welfare of the public or the safety of any persons or property requires such revocation in light of all the circumstances. Notice of revocation of a permit shall be delivered in writing to at least one (1) person named upon the permit by personal service or by certified mail, or if the special event has commenced, orally, or in writing, by personal contact or service, or by telephone. If the number of people attending the event exceeds the number permitted in the application, it shall constitute an undue burden on public services and the special event permit may be orally revoked. Continuance of a special event after such notice has been delivered is unlawful. Revocation of a permit, for any reason, shall constitute a valid reason for denial of any future special event application by the same persons, or any combination thereof, listed in § 16-603(1) of this chapter. (as added by Ord. #1423, Dec. 2011)