

Chapter 1222: Subdivision Design

1222.01 PURPOSE

The purpose of this chapter is to protect and provide for the public health, safety, morals, and general welfare of the City and its people, and specifically to achieve the following purposes:

- (a) To implement the Master Plan and further the purpose of this code when considering the subdivision of land;
- (b) To establish standard requirements and conditions for the design and review of subdivisions;
- (c) To provide for the orderly subdivision of land, and to ensure proper legal descriptions and monumentation of subdivided land;
- (d) To ensure that adequate public infrastructure, facilities, and services are available concurrent with development;
- (e) To require applicants to furnish land, install infrastructure, pay fees, and establish mitigative measures to ensure that development provides its fair share of capital facilities;
- (f) To encourage a beneficial relationship between the uses of land and circulation of traffic throughout the City, and to provide for the proper location and design of streets;
- (g) To prevent problems associated with inappropriately subdivided lands, including excess subdivision, partial or incomplete subdivision, or scattered subdivision; and
- (h) To assure that new subdivisions will contribute toward an attractive, orderly, stable, livable, and safe community.

1222.02 BASIC SUBDIVISION REGULATIONS

(a) Issuance of Certificates of Occupancy (Revised 1206.18)

- (1) The Chief Building Official shall not issue a certificate of occupancy until the City Engineer has signed the application for the certificate of occupancy as evidence that granting of the proposed street right-of-way has been completed and that water mains, storm and sanitary sewers, curbs, gutters, street base and at least one course of asphalt have been installed to City standards.

- (2) Sidewalks for any individual lot shall be installed before a certificate of occupancy is issued. Subdivisions having uncompleted sidewalks will be reviewed annually by the City for possible inclusion into the City's Sidewalk, Curb and Gutter Program. If either 80 percent of the lots in the development have been issued a certificate of occupancy or three years have passed since the performance of the pre-final inspection, any sidewalk not yet constructed will be installed as part of the above said program and the current owners of the lot will be assessed in accordance with Ohio R.C. Chapter 729. When severe weather has significantly delayed construction, the Chief Building Official may authorize occupancy of a structure, provided that the developer submits suitable plans for construction of the sidewalks to be installed a maximum of 120 days after occupancy.
- (3) When a certificate of occupancy has been issued as provided in division (1) hereof, the City shall have the right to permit connection of other sanitary sewers, water mains and storm sewers to those of the subdivision for which the certificate has been issued, whether such other sanitary sewers, water mains and storm sewers are owned by the City at the time or are in the process of being installed in other subdivisions by other subdividers under this chapter. Before receiving a permit for such connection, the connecting subdivider shall file a bond conditioned upon his or her repair of any damage done to the sanitary sewer, water main or storm sewer to which the connection is made, or for other damage caused by reason of such connection, and upon his or her indemnification of the owner of the latter sanitary sewer, water main or storm sewer for any liability arising on account of such connection.

(b) Disposition of Applications for Building Permits (Existing 1204.06)

- (1) After the plat has been filed with the Chief Building Official, he or she shall not, during the effective period thereof, issue a building permit for the rehabilitation, extension or erection of any building or structure, or the moving thereon of any existing building or structure, within the mapped street lines without first directing the attention of the applicant for building permit to the plat and acquainting such applicant with the provisions of this chapter and its purposes.
- (2) Forthwith, the Chief Building Official shall refer the application for building permit to the City Manager who shall, within 15 days, transmit such application to the City Council together with an appraised present market value of the land and structures, if any, comprising the real estate on which the proposed construction is to be done, his recommendation relative to the advisability of immediately purchasing such real estate, and the status of the fund from which the purchase money is to be appropriated.

- (3) Within eight days of the receipt of the application and the report of the City Manager, the City Council shall determine whether the immediate acquisition of such property within such mapped street lines is in the best interests of the public. In the event of an affirmative decision, the City Council shall direct the City Manager to take the necessary steps for immediate acquisition. In the event of a negative decision, the City Council shall direct the issuance of a building permit in accordance with applicable law.

(c) Construction Procedures and Materials

- (1) The design and construction of improvements shall be in accordance with the standards outlined in these regulations and other pertinent regulations. The work shall be done under City supervision and inspection, and shall be completed within the time fixed as agreed upon by the City.
- (2) The City Engineer is hereby authorized to establish, or adopt by reference, the following manuals that establish the minimum requirements for drawings, materials, installation procedures, and design requirements for public improvements and infrastructure related to subdivisions:
 - A. *Construction Standard Drawings;*
 - B. *Manual of Design for Public Improvements;*
 - C. *Erosion and Sediment Control Regulations;*
 - D. *Flood Damage Prevention Regulations;*
 - E. *Right-of-Way Regulations;*
 - F. *Street Master Plan;* and
 - G. *Water and Sewer Rules and Regulations;* and
 - H. *The Ohio Department of Natural Resources' Rain Water and Land Development Manual.*
- (3) The above manuals are hereby incorporated as part of this code and may be administered and enforced in the same manner as established in this code.
- (4) It shall be the duty of the owner, his agent or engineer to consult with public service and utility companies as to location of all underground conduits, pipe lines, cable and telephone conduit, overhead poles, street lights, wires, etc., and to provide necessary easements for such facilities on the final plat.

(d) Construction Drawings, Changes, and Inspections (Revised 1206.14)

- (1) No construction of improvements listed herein shall be done in any manner different from that indicated on the approved construction drawings, approved as part of the major subdivision review.
- (2) Any changes to the approved construction plans shall be submitted to the City Engineer for review and a decision.

- (3) Prior to starting any of the work covered by the approved construction drawings, arrangements shall have been made to provide for inspection of the work which are sufficient, in the opinion of the City Engineer, to insure compliance with the plans and specifications, as approved.
- (4) Construction activities may commence upon receipt of written notification from the City Engineer to proceed, to be issued after a preconstruction meeting between the subdivider's contractor and the City Engineer and payment of the plan review fees.
- (5) After completion of all improvements, except for the final course of asphalt, the City Engineer will perform a pre-final inspection at the request of the subdivider. The construction of sidewalks throughout the subdivision is not required prior to the pre-final inspection.

(e) Requirements for Future Expansion and Oversizing of Public Improvements (Revised 1206.20)

- (1) For the purposes of long-term planning for the City's overall transportation and utility network, Middletown has established the requirements of this section related to the sizing and future expansion of such public improvements.
- (2) Upon submission of the preliminary plat and/or traffic impact study, the City Engineer will review the plat, and, based upon the proposed development, will make a determination of the minimum size water mains, sanitary sewer mains, street width, pavement cross-section, and traffic signalization required to serve such a development.
- (3) In some cases, based on the Master Plan or other approved plans, the City Engineer may determine that there is a need to oversize the proposed improvements for future capacity. Where the City requires infrastructure development beyond that determined above, the City shall share in the cost as set forth below:
 - A. Where extra pavement width is required for streets, the City shall pay for the extra pavement width required beyond the development requirements;
 - B. Where additional water system improvements are needed, the City shall pay for the additional cost as estimated by the City Engineer for the additional labor and material cost (per linear foot of mains and fittings, per unit cost of valves) associated with a water main diameter required by the City in excess of the diameter (eight-inch minimum) required for the development. In no case shall the City share in the cost of water mains connected to a water system other than that of the City.

- C. Where additional sanitary sewage system improvements are needed, the City shall pay for the additional cost as estimated by the City Engineer for the additional labor and material cost associated with a sanitary sewer main diameter required by the City in excess of the diameter (eight-inch minimum) required for the development, unless excess diameter was required to meet minimum velocity requirements due to grade.

(f) Financial Guarantees for Public Improvements (New)

- (1) A subdivider may execute and file a written financial guarantee with the City in lieu of actual installation or completion of the required public improvements when requesting approval of a final plat. See also Section [1226.07](#).
- (2) The financial guarantee shall be an obligation for the faithful performance of any and all work and the construction and installation of all public improvements required to be done by the subdivider, together with all engineering and inspection costs and fees incurred by the City.
- (3) The guarantee shall contain the further condition that should one of the following conditions exist, the City may, at its option, cause all required work to be done and public improvements constructed by using the financial guarantee.
 - A. The installation of all required public improvements as called for in these regulations has not taken place within the time period agreed on in the construction agreement with the City, and the subdivider has failed to establish reasonable cause for such delay to the satisfaction of the City Council and thereby to receive a time extension; and/or
 - B. The subdivider has not constructed the required public improvements in accordance with the minimum standards specified by these regulations, and the subdivider is unwilling to modify and upgrade said public improvements within a six-month time period of notice so as to be in compliance with the provisions of these regulations.
- (4) The parties executing the guarantee shall be firmly bound for the payment of all necessary costs therefor.
- (5) The guarantee may take the form of a bond, cash deposit, or an irrevocable letter of credit as further outlined in this subsection.
- (6) Unless otherwise specified, the amount of the financial guarantee for installation of public improvements shall be based on an engineer's cost estimate, approved by the City Engineer, for 100 percent of the cost to complete the unfinished public improvements.
 - A. Where applicable, engineering, plan review, and construction review fees, etc., shall be required to be a part of the engineers cost estimate.
 - B. After a period of two years from the date of submittal, the City Engineer may require that a revised engineer's estimate and bond be submitted that reflects updated unit prices.

- (7) Unit prices used in the engineers cost estimate shall be based upon unit costs associated with public contracting (i.e., prevailing wage rates).
- (8) Guarantees shall be made payable to the City of Middletown and be acceptable to the City Engineer and the City's legal counsel. Final guarantees shall be filed with the Clerk of City Council.
- (9) Incomplete public improvements that the City Engineer determines will constitute a safety hazard or maintenance issue, or will prevent the effective functioning of the public improvements, shall be required to be completed prior to the approval of a final plat.
- (10) Upon completion of the final inspection, the subdivider shall furnish a one-year maintenance financial guarantee in the amount of 10 percent of the cost of improvements.

(11) Types of Guarantees

The following are the types of financial guarantees allowed by the City. The standards for each type of guarantee shall apply to any situation where a financial guarantee is required, regardless if it is related to a subdivision application or not.

A. Bond

The following standards shall apply if a bond is utilized as a financial guarantee:

- i. A bond in the amount determined in accordance with this section shall be filed with the City of Middletown.
- ii. The bond may be in the form of a surety bond or a cash bond of the kind approved by law for securing deposits of public money.
- iii. The bond shall be executed by the subdivider as principal, and if a surety bond, shall be executed by a corporation authorized to act as a surety under the laws of the State of Ohio.

B. Irrevocable Letter of Credit

The following standards shall apply if an irrevocable letter of credit is utilized as a financial guarantee:

- i. The subdivider shall provide an irrevocable letter of credit from a bank or other reputable institution or individual subject to the approval of the City's legal counsel and City Manager.
- ii. The letter shall be deposited with the City, and shall certify the following:
 - a. The creditor guarantees funds in an amount equal to 130 percent of the cost, as estimated in accordance with Section [1222.02\(f\)](#) for completion all required public improvements.

- b. In the case of failure on the part of the subdivider to complete the specified public improvements within the required time period, the creditor shall pay to the City immediately and without further action such funds as are necessary to finance the completion of those public improvements, up to the limit of credit stated in the letter.
- c. The irrevocable letter of credit shall not have an expiration date.
- d. This irrevocable letter of credit may not be withdrawn or reduced in amount until released by the City Manager in accordance with this chapter.

C. Cash

The following standards shall apply if cash is utilized as a financial guarantee:

- i. The subdivider shall provide a certified check for the amount of the guarantee, payable to the City of Middletown.
- ii. When the public improvements are complete, the City shall issue a check for the released amount based on this subsection.
- iii. The City shall not be responsible for paying interest for the period of time the City retains the guarantee.

(12) Reduction of Financial Guarantees

Upon completion of all improvements as per the pre-final inspection, submittal of as-built drawings, and a Mylar copy of the signed and recorded subdivision plat, financial guarantee may be reduced to an amount sufficient to cover the cost of outstanding improvements as determined by the City Engineer. Additionally, after completion of the improvements, the subdivider shall furnish a maintenance financial guarantee as established in Section [1222.02\(f\)](#).

(g) As-Built Drawings

The applicant or his/her engineer shall file copies of the "as-built" drawings, corrected to show exact location, grades, and necessary elevations and other pertinent data, for all structures or facilities installed as part of a subdivision. Such drawings shall be in compliance with the *Manual of Design for Public Improvements*.

1222.03 GENERAL DESIGN STANDARDS

(a) Monuments and Markers (Revised 1206.10)

Monuments and surveyor markers shall be provided in accordance with the *Manual of Design for Public Improvements*.

(b) Street Lighting (Revised 1206.12)

- (1)** Street lighting shall be provided in accordance with the *Manual of Design for Public Improvements*.

- (2) Overhead wiring may be used with lights located at intersections and at such other points as are required with approval from the City Engineer.

(c) Street Names, Signs, and Traffic Control Devices (Revised 1206.11)

- (1) The subdivider shall furnish and install, at its cost, all necessary street signs and traffic control devices (signs, markings, signals, etc.) in accordance with the *Manual of Design for Public Improvements*.
- (2) Appropriate street signs and names as specified by the City shall be installed by the applicant at all street intersections. The timing of the sign installations shall be directed by the City.
- (3) Street signs shall be of the same material, design and color as other street signs in the City unless otherwise permitted by the City Engineer.
- (4) Street signs and names shall not be duplicated nor closely approximate any existing street name in the City, except the extension of an existing street.
- (5) If duplicate names of streets are found to exist during an annexation process, the renaming of one or both of the streets shall be addressed during the annexation process.

(d) Subdivision Names

The proposed name of the subdivision shall not duplicate or too closely approximate phonetically, the name of any other subdivision in the City or County. The City shall have final authority to designate the name of the subdivision.

(e) Preservation of Natural Features

Natural features shall be preserved, to the maximum extent feasible, in accordance with the City of Middletown's *Manual of Design for Public Improvements*.

1222.04 LOT AND BLOCK DESIGN STANDARDS

(a) Lots

- (1) All lots shall abut on a dedicated street of right-of-way and shall comply with the applicable site development standards in Section [1204.09](#).
- (2) Side lots lines shall be at approximately right angles to straight streets and on radial lines on curved streets. Some variation from this rule is permissible, but points or very irregular lots shall be avoided. For hillside areas, side lines of lots shall be located as to provide the most suitable building site.

- (3) Minimum lot areas, widths, and setback lines shall be as provided in this code for the district in which the subdivision is located. In cases where a water main supply system or a sanitary sewer system is not available, the minimum lot area shall be established by the applicable county's board of health, the Ohio EPA, or the Ohio Department of Health, as applicable, to accommodate a private water supply or sewage disposal system. In such cases, the minimum lot area may be larger than that established in this code.
- (4) Typically, panhandle lots, double frontage lots, or triple frontage lots shall be discouraged and may only be approved if necessitated by unique features or other special physical conditions as deemed necessary by the Planning Commission. These lots shall meet the requirements established for the applicable lot type in Section [1204.09\(a\)](#). However, panhandle, double frontage lots, or triple frontage lots may be approved by the Development Code Administrator during minor subdivision if necessitated by unique features.

(b) Blocks

- (1) Blocks shall not normally exceed 1,250 feet in length, unless unusual circumstances justify greater length.
- (2) Blocks shall be of sufficient width to permit two tiers of lots of appropriate depth, except where an interior street parallels a limited access highway, arterial street, or railroad right-of-way.
- (3) No other specific rule is made concerning the shape of blocks, but blocks shall fit easily into the overall plan of the subdivision and their design must evidence consideration of lot planning, traffic flow and public areas.
- (4) Within blocks of over 700 feet in length, the Planning Commission may require, at or near the middle of the block, a public walk connecting adjacent streets or other public areas, shopping centers, etc.

1222.05 STREETS

- (a) All requirements and regulations related to traffic impact studies, access management, curb cuts, and similar requirements are located in Chapter 1026 of the Middletown Code of Ordinances.
- (b) Any street which is located partially or totally within a development project may be dedicated as a public street, provided that it is constructed in accordance with the *Manual of Design for Public Improvements* and further provided that a record subdivision plat be submitted and approved by the Planning Commission and dedication of the street accepted by City Council in accordance with Section [1226.07](#).
- (c) Private streets may be permitted within a development project, provided that the streets are located completely within project boundaries and further provided that the private street is designed and constructed to meet the standards of a public street in accordance with the *Manual of Design for Public Improvements* and that all police, fire, and emergency service vehicles are provided with permanent access rights.

(d) General Street Requirements

- (1) A street that is not constructed to City standards will not be accepted by the City for dedication as a public street.
- (2) Gated communities shall only be permitted as part of an approved PD District.

(e) Street Layout

- (1) The street layout shall provide access to all lots within the subdivision.
- (2) New subdivisions shall be based on a grid or modified grid system to the maximum extent feasible.
- (3) Local streets shall be designed by pattern and layout so as to discourage through traffic unless otherwise shown in the Street Master Plan or applicable county plan, as determined by the City Engineer.
- (4) Proposed streets shall be adjusted to the contour of the land so as to produce usable lots and streets of reasonable gradient.
- (5) Proposed streets, where appropriate, shall be extended to the boundary of the lot to be subdivided so as to provide for normal circulation of traffic with adjacent existing or future subdivisions or developed areas.

(f) Dead-End Streets, Stub Streets, and Cul-de-Sac Streets (Permanent and Temporary)

- (1) Dead-end streets shall be prohibited, except as stub streets.
- (2) Stub streets shall be installed to permit future street extensions into adjoining lots, where appropriate. Barricades shall be installed at the end of stub streets and signage may be provided indicating a future street connection. Stub streets shall not exceed 150 feet in length. Where required by the City Engineer, a temporary connection to another street, or a temporary turnaround, shall be provided by the applicant.
- (3) Where a stub street has two or more lots fronting thereon ends at a subdivision line for future extension, it shall be provided with a temporary paved turnaround until such extension is completed. The size of the turn-around shall not be less than 60 feet in diameter.
- (4) Permanent cul-de-sac streets are discouraged and should only be used where necessary due to topography, configuration of land, existing road layouts or other special circumstances. All cul-de-sacs shall have a pavement width of 86 feet in diameter and circular right-of-way width of 100 feet. Cul-de-sacs shall not exceed 700 feet in length as measured from the centerline of the nearest intersection to the center point of the cul-de-sac.

- (5) No parking shall be permitted in a cul-de-sac terminus. The developer shall be required to place "No Parking" signs at the beginning radius, center and ending radius of the cul-de-sac with signs approved by the Ohio Manual of Uniform Traffic Control Devices.

(g) Street and Intersection Design Standard

- (1) All streets and street intersections shall be designed and constructed in accordance any applicable standards in the Middletown Code of Ordinances and the *Manual of Design for Public Improvements*.
- (2) Any new local street shall have a minimum right-of-way width of 50 feet and all other new streets shall have a minimum right-of-way width of 60 feet with final determination made based on the functional roadway classification as identified in the *Manual of Design for Public Improvements*.
- (3) **Additional Requirements for Streets in the Business Center District**
- A.** In addition to the requirements of the *Manual of Design for Public Improvements*, the design of all new public or private streets within all of the Business Center Subdistricts must be consistent with the recommendations of the East End Master Plan, as included below.

A. Major Arterials

- i. New major arterial streets shall be designed in accordance with the cross-section in [Figure 1222-A](#).
- ii. Street trees shall be installed within the tree lawns and street median with a maximum separation distance of 70 feet on center.

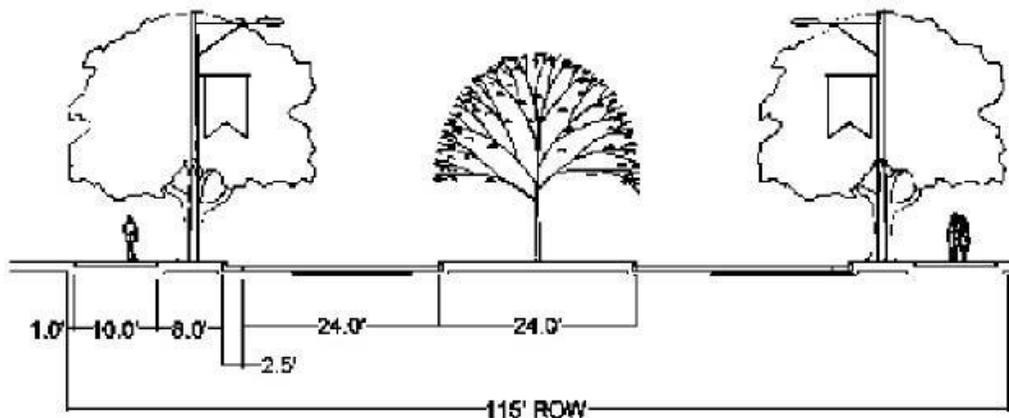


Figure 1222-A: Major arterial cross-section

B. Minor Arterials

- i. New minor arterial streets shall be designed in accordance with the cross-section in [Figure 1222-B](#).

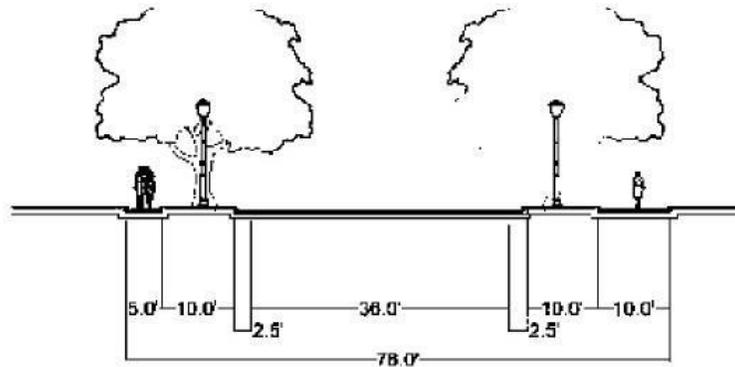


Figure 1222-C: Collector street cross-section

D. Local Streets

- i. New local streets shall be designed in accordance with the *Manual of Design for Public Improvements*.
- ii. Street trees shall be installed within the tree with a maximum separation distance of 40 feet on center.
- iii. The tree lawn width may be reduced to accommodate wider sidewalks with approval of the Development Code Administrator and City Engineer.

1222.06 SIDEWALKS (REVISED 1206.05)

Sidewalks for subdivisions shall be required and installed as established in Section [1218.07](#).

1222.07 UTILITIES AND UNDERGROUND FACILITIES

(a) General Requirements (Revised 1206.09)

- (1) All utilities and related infrastructure shall be subject to the applicable requirements established in the *Manual of Design for Public Improvements* and other applicable manuals as specified in Section [1222.02](#).
- (2) All public and common electric, cable, and telephone lines and other utilities shall be located underground in all residential, office, commercial and industrial subdivisions and districts, and shall be placed in their own easement, to the maximum extent practical as determined by the City Engineer.
- (3) These underground utility requirements shall also apply to any lines required to serve the new development that extend outside the boundary of the development. The conduits or cables shall be located within easements or public right-of-ways in separate trenches, in a manner which will not conflict with other underground services.

- (4) Utility construction within the rights-of-way following subdivision completion shall be subject to applicable permit fees as defined in other chapters of the Middletown Code of Ordinances
- (5) In commercial or industrial subdivisions where the electric power provider advises the City that the power load requirements are sufficiently large as to make underground service impractical or unfeasible, electric, cable, and telephone lines may be installed overhead along rear lot lines with the approval by the City Engineer. Should the City Engineer approve an overhead distribution system, all connections to it shall be made underground. All facilities are to be constructed on one side of the road without overhead crossovers.
- (6) Where cable and television service or conduit is or will be in operation, the applicant shall install cable or conduit for such service simultaneously with and in the same manner as electric and telephone cables are installed, both within the right-of-way and to individual building connections.
- (7) All sewer and utility pipelines shall preferably be placed outside the limits of the pavement. All excavations for public utilities made under paved areas shall be properly backfilled with approved granular materials thoroughly compacted in place and subject to the requirements of the *Manual of Design for Public Improvements* and the City's *Construction Standard Drawings*.

(b) Large Utility Structures (New)

Any utility cabinet or structure that is larger than six square feet on any face, other than a principal building, shall be subject to the following requirements:

- (1) The utility structure shall be located to the rear or side of lots to the maximum extent feasible.
- (2) If the applicant demonstrates to the Planning Commission or Development Code Administrator, as applicable to the subject review procedure, that the utility structure can only be located in a front yard, the structure shall be landscaped in a manner that will allow access to the unit but otherwise buffer the view of the structure. The applicant shall be required to provide a landscaping plan as part of the installation of such structure, regardless if the utility is exempt from zoning.
- (3) Utility structures in the I-1 or I-2 Districts shall not be subject to this screening requirement.

(c) Sanitary Sewer (Revised 1206.08)

The subdivider shall install or cause to be installed a system for addressing sanitary sewage subject to the following:

- (1) Where a public sanitary sewer main is reasonably accessible, in the judgment of the City Engineer, the subdivision shall be provided with a complete sanitary sewer system connected with such sewer main, including a lateral connection for each lot.

- (2) Where a public sanitary sewer main is not reasonably accessible, in the opinion of the City Engineer, proper provisions shall be made for the disposal of sanitary wastes, subject to review and approval by the City Engineer and/or the applicable county health department.
- (3) In general, sewerage works and facilities shall be designed in accordance with State Health Department requirements, and all rules and regulations of the applicable county's sanitary engineer, and will be subject to State EPA approval.
- (4) After a determination has been made as to the size sewer mains necessary to serve the subdivision, larger mains may be required in order to adequately serve subsequently developed areas.

(d) Water Distribution System (Revised 1206.07)

- (1) The subdivider shall install or cause to be installed a water system for the subdivision by one of the following methods:
 - (2) **Public System**
 - A. A complete water main system which shall be connected to a public or other community water supply shall meet the requirements of the State of Ohio or other government authority having jurisdiction, and shall be approved by the City Engineer.
 - B. The water distribution system shall be adequate to serve the area being platted, including a connection for each lot and appropriately spaced fire hydrants.
 - C. After a determination has been made as to the size water mains necessary to serve the subdivision, larger mains may be required in order to adequately supply subsequently developed areas.
 - D. A water main shall be required to extend across the complete frontage of the subdivision to facilitate future development.
 - (3) **Individual Supply (New)**
 - A. If the subdivider submits proper evidence to the City Engineer that no other form of water supply is possible or economically feasible, then the City Engineer may authorize an individual water supply on each lot in the subdivision, subject to compliance with all recommended design standards of the applicable county's health department and the State of Ohio.
 - B. Such individual systems are discouraged by the City

1222.08 STORM WATER AND DRAINAGE (REVISED 1206.06)

- (a) Every subdivision shall be provided with a storm water sewer or drainage system which is adequate to serve the platted area and which otherwise meets standards and specifications of the City.

- (b) All subdivisions shall be subject to the storm water requirements established in the *Manual of Design for Public Improvements* and adhere to the *Erosion and Sediment Control Regulations*;
- (c) Where feasible, and where a storm sewer of 48 inches or larger would otherwise be required, storm water drainage may be provided by means of ditches in drainage courses, either of grass or paved concrete, approved by the City Engineer, provided that such type of drainage is not located within a street right-of-way. An easement shall be required for such storm sewer.
- (d) The determination of the necessity for storage basins will be based upon, but not limited to, existing storage basins and existing storm sewer and open channel capacities. Where deemed necessary by the City, the developer shall provide storm water storage basins in accordance with the *Manual of Design for Public Improvements*.
- (e) Where detention or retention is required, the basins shall be:
 - (1) Constructed on-site; and
 - (2) Privately maintained by an individual, up to four lot owners, a private company, an association or some other private organization. A maintenance plan shall be included in the subdivision protective covenants and recorded with the subdivision plat.
- (f) The subdivider may request that the City accept a regional detention/retention basin for perpetual ownership and maintenance by the City, predicated upon guidelines as stated in the *Manual of Design for Public Improvements*. Conditions of such acceptance include, but are not limited to, the subdivider paying for all costs associated with:
 - (1) The design and construction of all items associated with the basin, including inlet/outlet structures, sewers and other appurtenances; and
 - (2) The transfer of required deeds for land ownership and access easements to the City.

1222.09 GREEN INFRASTRUCTURE (NEW)

(a) Green Infrastructure Techniques

- (1) The City encourages the use of green infrastructure techniques because of their connection to sustainable development practices and environmental quality. The proper use of green infrastructure can dramatically improve storm water runoff quality, decrease runoff volume, protect downstream streams and rivers, and create more interesting places to live.
- (2) The following green infrastructure techniques may be incorporated into new subdivisions with approval from the City Engineer:
 - A. Grassy swales and shoulders without curb and gutter;
 - B. Pedestrian walkways that do not constitute the sidewalks required by Section [1218.07](#).

- C. Permeable pavements (e.g., pavers, permeable concrete, permeable asphalt pavement);
- D. Bioretention swales;
- E. Planter boxes;
- F. Curb extensions; or
- G. Other techniques if the applicant submits documentation that the proposed green infrastructure technique will equal or exceed the function of traditional infrastructure techniques.

(b) Criteria for Green Infrastructure Waivers

The City Engineer may grant a green infrastructure waiver for use of the green infrastructure techniques provided:

- (1) The techniques will utilize the landscape or nature's ability to reduce, slow, filter, and/or absorb storm water runoff from streets, parking lots, and buildings in a method that equals or exceeds the existing infrastructure requirements of the City;
- (2) The techniques are consistent with best management practices; and
- (3) The technique has been designed by a professional engineer and is accompanied by documentation stating that the proposed technique does not pose a threat to the public safety.

1222.10 EASEMENTS

- (a) Easements shall be provided for all utilities and storm water facilities as required by the City Engineer and in accordance with any applicable manuals as specified in Section [1222.02](#).
- (b) All easements shall be shown on the final or record plat.