

**BILL NO. 24-08**  
**1<sup>st</sup> Reading: 2/26/2024**  
**2<sup>nd</sup> Reading: 3/25/2024**

**CITY OF NEWARK**  
**DELAWARE**

**ORDINANCE NO. 24-08**

An Ordinance Amending Chapter 27, Subdivisions, Code of the City of Newark, Delaware, to Confirm that Developers Are Required to Pay the Costs to Extend and/or Connect to City Utilities and to Provide Clarification on What Types of Land Disturbance Activities Require Detailed Erosion and Sediment Control Plans and a Standard Plan Permit

THE COUNCIL OF THE CITY OF NEWARK HEREBY ORDAINS:

That Chapter 27, Subdivisions, Code of the City of Newark, Delaware, be hereby amended in the following respects:

**AMENDMENT 1:** Amend Appendix VII, Section 1, Electricity Service, by deleting the stricken text and adding the underscored text as follows:

**“Section 1. - Electricity service.**

**(a) General regulations.**

(1a) Extensions of the city's electricity distribution system will be installed, owned, and maintained by the city. Guarantees by the applicant and/or financial participation by the applicant may be required in accordance with these provisions and the regulations or policies in force at the time.

(2b) The developer must contact the city electric department at the beginning of the planning stage of a project to determine if sufficient electric service exists for the proposed project. The city electric department may, in its discretion, reject a proposed project if such project would detrimentally impact the City's electric distribution system or would unduly cause capacity constraints. ~~shall be consulted in conjunction with the planning of new installations so that facilities of the proper capacity may be provided.~~

~~(c) Extensions to industrial and commercial customers will be examined individually to determine the applicant's participation and financing, if any.~~

**(b) Cost of installation.**

(1) The cost of installing new electricity distribution systems within a subdivision or to connect a project to the City's electricity distribution systems shall be borne by the developer.

(2) The developer may be required to pay for all or a portion of the cost of extending the electrical lines to the project. If the developer is required to pay for all or a part of the off-site

extensions, the city shall provide a repayment plan based on the use of the facilities between existing lines and the edge of the project.

- (c) Plans. The developer shall reimburse the city for the cost of the city's electric department to prepare a design for the electrical distribution system in strict accordance with provisions of applicable code provisions, and in accordance with all other related city Electric Department Standards and Specifications. The developer prepared construction improvements plan must incorporate the design prepared by the city electric department and be approved by the city electric department before any work shall be started. The city may deny proposed plans based on capacity constraints; in such event, where feasible, a developer may elect to bear the costs of expanding the city's capacity to provide service in accordance with its proposed plans."

**AMENDMENT 2:**

Amend Appendix VIII, Section 1, Water lines, by deleting the stricken text and adding the underscored text as follows to subsection (c):

- "(c) Plans. The developer shall prepare detailed plans for the water system in strict accordance with provisions of ~~these subdivision the Code,~~ applicable regulations, and in accordance with ~~all other related city specifications~~ the latest edition of the City of Newark Water and Wastewater Standards and Specifications, as may be amended from time to time by the Public Works and Water Resources Department. The construction improvements plan must be approved by the director of ~~water and waste water~~ Public Works and Water Resources before any work shall be started. The city may deny proposed plans based on system capacity or hydraulic constraints; in such event, where feasible, a developer may elect to bear the costs of expanding the city's capacity or system pressure to provide service in accordance with its proposed plans.

**AMENDMENT 3:**

Amend Appendix V, Section 1, Design standards for sanitary sewers, by deleting the stricken text and adding the underscored text as follows:

**"Section I. - Design standards for sanitary sewers.**

- (a) Type of sewers. All new sanitary sewer mains and laterals shall be designed and installed in accordance with the applicable Code provisions and the latest edition of the City of Newark Water and Wastewater Standards and Specifications, as may be amended from time to time by the Public Works and Water Resources Department. In general, and except for special reasons, the ~~Public Works and Water Resources Department~~ ~~water and waste water department~~ will approve plans for new systems, extensions, or replacement sewers only when designed upon the separate plan, in which rain water from roofs, streets, and other areas, and ground water from foundation drains are excluded. Overflows from intercepting sewers should not be permitted at points where they will adversely affect the watercourse or the use of water therefrom. Otherwise, provision shall be made for treating the overflow.

- (b) *Design period.* In general, sewer systems should be designed for the estimated ultimate tributary population, except in considering parts of the system that can be readily increased in capacity. Similarly, consideration should be given to the maximum anticipated capacity of institutions, industrial parks, etc.
- (c) *Design factors.* The developer shall evaluate the capacity of the existing downstream collection system when the proposed development will result in an increase in sewer flow. The capacity evaluation shall consist of continuous flow monitoring at up to two (2) locations in the downstream system for no less than a 30-day period. Flow monitoring must be conducted when the transient population is present. The location of the loggers and sensors shall be determined by the director of Public Works and Water Resources or their designee. Alternative methods of capacity evaluations may be approved at the discretion of the director or designee. In determining the required capacities of sanitary sewers, the following factors should be considered:
  - (1) ~~Maximum hourly sewerage flow.~~
  - (2) ~~Additional maximum sewage or waste flow from industrial plants.~~
  - (3) ~~Groundwater infiltration.~~
  - (4) ~~Topography of area.~~
  - (5) ~~Location of waste treatment plant.~~
  - (6) ~~Depth of excavation.~~
  - (7) ~~Pumping requirements.~~
- (d) *Plans.* The developer shall prepare detailed plans for the sanitary sewer collection system in strict accordance with provisions of the Code, applicable regulations, and in accordance with all other related City of Newark Water and Wastewater Standards and Specifications. The city may deny proposed plans based on capacity constraints; in such event, where feasible, a developer may elect to bear the costs of expanding the city's system capacity or extending the collection system to provide service in accordance with its proposed plans.
- (e) *Condition.* The developer shall be responsible for the rehabilitation or replacement of downstream sanitary manholes, sanitary sewer mains, or structures should the Public Works and Water Resources Department identify deficiencies in the downstream system serving the proposed development.
- (d) ~~*Design basis.*~~
  - (1) ~~*Per capita flow.* New sewer systems shall be designed on the basis of an average daily per capita flow of sewage of not less than 100 gallons per day. This figure is assumed to cover normal infiltration, but an additional allowance should be made where conditions are unfavorable. Generally, the sewers should be designed to carry, when running full, not less than the following daily per capita contributions of sewage, exclusive of sewage or other waste flow from industrial plants:~~
    - a. ~~*Laterals and submain sewers: 400 gallons.*~~
    - b. ~~*Main, trunk, and outfall sewers: 250 gallons.*~~

- ~~c. *Interceptors:* Normally no interceptor shall be designed for less than 350% of the gauged or estimated average dry weather flow.~~
  - ~~(2) *Alternate method:* When deviations from the foregoing per capita rates are demonstrated, a description of the procedure used for sewer design shall be included.~~
- ~~(c) *Details of design and construction:*~~
  - ~~(1) *Minimum size:* No sewer shall be less than eight inches in diameter.~~
  - ~~(2) *Depth:* In general, sewers shall be sufficiently deep so as to receive sewage from basements and to prevent freezing.~~
  - ~~(3) *Slope:* All sewers shall be so designed and constructed to give mean velocities, when flowing full, of not less than two feet per second, based on Kutter's formula using an "n" value of 0.013. Use of other practical "n" values may be permitted by the city if deemed justifiable on the basis of research or field data presented. The following are the minimum slopes which should be provided; however, slopes greater than these are desirable:~~

<i>Sewer size</i>	<i>Minimum slope in feet (per 100 feet)</i>
8-inch	0.40
10-inch	0.28
12-inch	0.22
14-inch	0.17
15-inch	0.15
16-inch	0.14
18-inch	0.12
21-inch	0.10
24-inch	0.08
27-inch	0.067
30-inch	0.058
36-inch	0.046

Under special conditions, if detailed justifiable reasons are given, slopes slightly less than those required for the two feet per second velocity when flowing full may be permitted. Such decreased slopes will only be considered where the depth of flow will be 0.3 of the diameter or greater for design average flow. Whenever such decreased slopes are selected, the applicant must furnish with his report his computations of the depths of flow in such pipes at minimum, average, and daily or hourly rates of flow. It must be recognized that decreased slopes may cause additional sewer maintenance expense. Sewers shall be laid with uniform slope between manholes. Sewers on 20% slope or greater shall be anchored securely with concrete anchors or approved equal, spaced as follows:

- a. Not over 36 feet center to center on grades 20% and up to 35%.

- b. ~~Not over 24 feet center to center on grades 35% and up to 50%.~~
- c. ~~Not over 16 feet center to center on grades 50% and over.~~
- (4) ~~*Alignments.* Sewers 24 inches or less shall be laid with straight alignment between manholes.~~
- (5) ~~*Increasing size.* When a smaller sewer joins a larger one, the invert of the larger sewer should be lowered sufficiently to maintain the same energy gradient. An approximate method for securing these results is to place the 0.8 depth point of both sewers at the same elevation.~~
- (6) ~~*High velocity protection.* Where velocities greater than 15 feet per second are attained, special provision shall be made to protect against displacement by erosion and shock.~~
- (7) ~~*Materials.* Any generally accepted material for sewers will be given consideration, but the material selected should be adapted to local conditions, such as character of industrial wastes, possibility of septicity, soil characteristics, exceptionally heavy external loadings, abrasion, and similar problems.~~  
~~All sewers shall be designed to prevent damage from superimposed loads. Proper allowance for loads on the sewer shall be made because of the width and depth of trench. When standard strength sewer pipe is not sufficient, the additional strength needed may be obtained by using extra strength pipe or by special construction.~~
- (8) ~~*Joints and infiltration.* The method of making joints and the materials used should be included in the specifications. Sewer joints shall be designed to minimize infiltration and to prevent the entrance of roots. Leakage tests shall be specified. This may include appropriate water or low pressure air testing. The leakage outward or inward (exfiltration or infiltration) shall not exceed 500 gallons per inch of pipe diameter per mile per day for any section of the system. The use of television camera or other visual methods for inspection prior to placing the sewer in service is recommended.~~
- (9) ~~*Calculations.* Computation should be presented, in a tabular form, to indicate depths and velocities at minimum, average, and maximum daily waste flow for the different sewer sizes proposed.~~
- (10) ~~*Lateral clean outs.* All laterals shall be designed with a clean out installed on the property line.~~
- (f) ~~*Manholes.*~~
  - (1) ~~*Location.* Manholes shall be installed at the end of each line; at all changes in grade, size, or alignment; at all intersections; and at distances not greater than 400 feet for sewers 15 inches or less, and 500 feet for sewers 18 inches to 30 inches. Lampholes may be used only for special conditions and shall not be~~

- ~~substituted for manholes nor installed at the end of laterals greater than 150 feet in length.~~
- (2) ~~*Drop pipe.* A drop pipe should be provided for a sewer entering a manhole at an elevation of 24 inches or more above the manhole invert. Where the difference in elevation between the incoming sewer and the manhole invert is less than 24 inches, the invert should be filleted to prevent solids deposition.~~
  - (3) ~~*Diameter.* The minimum diameter of manholes shall be 48 inches.~~
  - (4) ~~*Flushing.* Flap gates are desirable in manholes at the upstream end of laterals which are at minimum grades and which are not to be extended at an early date.~~
  - (5) ~~*Flow channel.* The flow channel through manholes should be made to conform in shape and slope to that of the sewers.~~
  - (6) ~~*Watertightness.* Watertight manhole covers are to be used wherever the manhole tops may be flooded by street runoff or high water. Manholes shall be constructed of reinforced precast concrete sections with watertight joints.~~
- (g) ~~*Inverted siphons.* Inverted siphons should have not less than two barrels, with a minimum pipe size of six inches, and shall be provided with necessary appurtenances for convenient flushing and maintenance; the manholes shall have adequate clearances for rodding; and in general, sufficient head shall be provided and pipe sizes selected to secure velocities of at least three feet per second for average flows. The inlet and outlet details shall be arranged so that the normal flow is diverted to one barrel, and so that either barrel may be cut out of service for cleaning.~~
- (h) ~~*Sewer extensions.* In general, sewer extensions shall be allowed only if:~~
- (1) ~~The receiving sewage treatment plant is capable of adequately processing the added hydraulic and organic load; or~~
  - (2) ~~Provision of adequate treatment facilities on a time schedule acceptable to the approving agency is assured.~~
- (i) ~~*Protection of water supplies:*~~
- (1) ~~*Water supply interconnections.* There shall be no physical connection between a public or private potable water supply system and a sewer, or appurtenance thereto, which would permit the passage of any sewage or polluted water into the potable supply.~~
  - (2) ~~*Relation to water works structures.* While no general statement can be made to cover all conditions, it is generally recognized that sewers shall meet the requirements of the city with respect to minimum distances from public water supply wells or other water supply sources and structures.~~
  - (3) ~~*Relation to water mains:*~~
    - a. ~~*Horizontal separation.* Whenever possible, sewers should be laid at least ten feet, horizontally, from any existing or proposed water main. Should local conditions~~

prevent a lateral separation of ten feet, a sewer may be laid closer than ten feet to a water main if:

1. ~~It is laid in a separate trench.~~
2. ~~It is laid in the same trench with the water mains located at one side on a bench of undisturbed earth.~~
3. ~~In either case, the elevation of the crown of the sewer is at least 18 inches below the invert of the water main.~~

b. ~~*Vertical separation.* Whenever sewers must cross under water mains, the sewer shall be laid at such an elevation that the top of the sewer is at least 18 inches below the bottom of the water main. When the elevation of the sewer cannot be buried to meet the above requirement, the water main shall be relocated to provide this separation or reconstructed with slip on or mechanical joint cast iron pipe for a distance of ten feet on each side of the sewer. One full length of water main should be centered over the sewer so that both joints will be as far from the sewer as possible.~~

c. ~~*Special conditions.* When it is impossible to obtain proper horizontal and vertical separation as stipulated above, the water main should be constructed of slip on or mechanical joint cast iron pipe and the sewer constructed of mechanical joint cast iron pipe, and both services should be pressure tested to assure watertightness."~~

**AMENDMENT 4:**

Amend Appendix IV, Section 2, Erosion and sediment control, by deleting the stricken text and adding the underscored text as follows to subsection (a):

**"Section II. - Erosion and Sediment Control.**

(a) *General.*

- (1) Erosion is the process by which the land's surface is worn away by the action of wind, water, ice and gravity. Water generated erosion is the most severe type of erosion, and can be broken down into the following types: Raindrop, Sheet, Rill, Gully, and Channel erosion.
- (2) Any land development activity that disturbs 5,000 square feet or more shall have an approved sediment and stormwater plan unless otherwise approved by the public works and water resources department. All erosion and sediment practices shall be designed and installed in accordance with City code, city regulations, and the most recent version of the Delaware Erosion and Sediment Control (E&SC) Handbook, and Title 7 of the Delaware Code, Chapter 40.
- (3) E&SC Practices shall be installed prior to any on-site grading or soil disturbance.



- (4) Whenever sedimentation is caused by stripping vegetation, regrading, or other development, it shall be the responsibility of the person, corporation, or other entity causing such sedimentation to remove it from all adjoining surfaces, drainage systems, and watercourses, and to repair any damage at his expense and within the time prescribed by the director of public works.
- (5) The E&SC plan shall be reviewed by the public works and water resources director or designee and approved when all practices specified on the plans are in conformance with City code, city regulations and the most current version of the Delaware Erosion and Sediment Control Handbook and Title 7 of the Delaware Code, Chapter 40.
- (6) Starting construction without the approved E&SC plan and/or stormwater plan is a violation of state law and regulations and could result in a stop work order, as well as possible enforcement action. Approved plans must be kept on site at all times.
- (7) Any residential or non-residential lot improvements that result in an increase in impervious area of 600 square feet or greater that does not require an Erosion and Sediment Control Plan shall obtain a Standard Plan permit. The Standard Plan permit type will be determined by the Public Works and Water Resources Department based on the proposed improvements and property type. The department reserves the right to waive the need for a Standard Plan permit on a case-by-case basis and based on the project scope, site topography, proximity to watercourses, and other site constraints.

MOTION for Acceptance as First Reading on February 26, 2024.

by Council Member Bancroft.

Second Reading and Final Passage on March 25, 2024.

VOTE: 7 to 0.

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Mayor

Attest:

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City Secretary

Approved as to Legality & Form:

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City Solicitor