

The Rules of the City of New York

Title 15

Department of Environmental Protection

Chapter 23

**Rules Governing the Design and Construction
of
Private sewers or Private drains**

Published on the City Record: April 13, 1999

Printed: July 15, 2000

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**23-01 Applicability, definitions, prohibitions, variances,
and incorporation by reference of appendices**

(a) **Applicability.** This Rule applies to all Drainage proposals, all Private sewer or Private drain plans, all Private sewer or Private drain Construction permit applications, and the construction of all Private sewers or Private drains in the City of New York and shall not apply to Internal private drains.

(b) **Definitions.** For the purpose of this Rule, the following definitions apply:

(1) "Allowable flow" means, for drainage design purposes only, a predetermined quantity of Flow that can be released into an existing outlet sewer system.

(2) "Alteration map" means a map showing proposed changes to the City map.

(3) "Applicant" means the Owner of a Proposed development or his or her Legally designated representative.

(4) "Applicant's offering plan" or "Applicant's offering prospectus" means the set of legal documents setting forth the rights, privileges, and duties of purchasers of shares in the Applicant's Proposed development.

(5) "Block" means a tract of land bounded by consecutive intersecting streets.

(6) "City" means the City of New York.

(7) "City drainage plan" means a plan for the proper sewerage and drainage of the City of New York or any part thereof prepared and adopted in accordance with Section 24-503 of the Administrative Code of the City of New York.

(8) "City map" means the City map referred to in sections 198 and 199 of the New York City Charter.

(9) "Condominium association" means the legal entity comprising the present and future homeowners of the proposed condominium development.

(10) "Construction permit" or "Permit to construct" means a written authorization issued by the Department to construct a Private sewer or Private drain.

(11) "Contributory drainage area" means a drainage area bounded by the ridge lines or furthest boundaries reaching a point of discharge.

(12) "Department" means the Department of Environmental Protection.

(13) "Detention basin" means a structure designed to store an accumulation of stormwater runoff and release it at a controlled rate into an existing outlet sewer system of limited capacity.

(14) "Drainage proposal" means a plan showing a proposed sewerage system to serve a Proposed development and Contributory drainage area that does not conform with the City drainage plan.

(15) "Dwelling unit" means one or more rooms in a building that are arranged, designed, used or intended for use by one family.

(16) "Finally mapped street" means a street as shown on the City map.

(17) "Flow" means a continuous movement of stormwater or wastewater.

(18) "Homeowners' association" means the legal entity comprising the present and future homeowners of the Proposed development.

(19) "Internal private drain" mean all drainage systems within the boundaries of a Proposed development, including the Internal private roads of such developments.

(20) "Internal private roads" mean private internal right of ways within the boundaries of a Proposed development and are not part of Finally mapped streets or Record streets.

(21) "Legally designated representative" means a professional engineer or a registered architect licensed by the State of New York who represents the Owner in connection with a proposal, plan, or application under this Rule.

(22) "Legal outlet" means an outlet sewer system designed and built according to a City drainage plan or approved Private sewer or Private drain plan and which is the allowable outlet to accommodate the sanitary, stormwater, or combined Flow from the Proposed development.

(23) "Lot" means a tax lot as shown on the Tax map of the City.

(24) "Mapping action" means a proceeding to change the City map pursuant to the New York City Charter.

(25) "Opinion of dedication" means an opinion by the Corporation Counsel that a street is an open and continuously traveled street dedicated for public use.

(26) "Owner" means any individual, firm, corporation, company, association, society, institution or any other legal entity that owns the property, appurtenances, and Sewer easements comprising the Proposed development.

(27) "Private" means owned or controlled by any entity other than the Department.

(28) "Private drain" means a private sanitary, stormwater, or combined drain that is constructed in a Finally mapped street, Record street, or Sewer easement and discharges into an existing Legal outlet, but shall not include Internal private drains.

(29) "Private sanitary force main" means a privately owned, operated, and maintained drain designed to receive the wastewater discharged from a Private pumping station and convey it under pressure to a point of discharge.

(30) "Private pumping station" means a privately owned, operated, and maintained wastewater collection facility required for the pumping of sanitary or stormwater runoff or combined sewage from the Proposed development.

(31) "Private sewage treatment plant" means a privately owned, operated, and maintained facility on a private property that is used for the physical, chemical, or biological treatment of the wastewater from a Proposed development and Contributory drainage area.

(32) "Private sewer" means a private sanitary, stormwater, or combined sewer that is designed and constructed in accordance with the requirements of the City drainage plan and this Rule which is located in a Finally mapped street, Record street, or Sewer easement and discharges into an existing allowable Legal outlet, but shall not include Internal private drains.

(33) "Private sewer plan" or "Private drain plan" means a construction plan for the installation of Private sewers or Private drains and appurtenances thereto.

(34) "Proposed development" means all the property, improvements, Sewer easements, and appurtenances thereto that will be served by the Private sewer or Private drain that is the subject of an application for approval of a Drainage proposal, a Private sewer or Private drain plan, or a Private sewer or Private drain Construction permit.

(35) "Record street" means a street that appears on the Tax map of the City but which may not be a Finally mapped street.

(36) "Rule" means all the standards and requirements of the Department governing the design and construction of Private sewers or Private drains as contained herein.

(37) "Runoff" means overland stormwater Flow that is not absorbed into the ground.

(38) "Sewer easement" means the limited right to use that part of a private property that is designated for the construction and maintenance of a drainage facility such as a City sewer, a Private sewer, a Private drain, a Watercourse, a Watercourse diversion, or related structures, but not including Internal private drains.

(39) "Special conditions" mean and include, but are not limited to, the construction or use of a Private sewage treatment plant, a Private on-site pumping station, a Private on-site Detention basin, a private Watercourse diversion by an open channel or closed piping, or a Proposed development requiring a Mapping action.

(40) "Tax map" means the Tax map of the City as defined and referred to in section 11-203 of the Administrative Code of the City of New York.

(41) "Tentative lot" means a proposed tax Lot as shown on the "Request to Real Property Assessment, Department of Surveying, Division for Tentative Lot Numbers."

(42) "Watercourse" means a natural or artificial channel or visible path or active trench which carries stormwater runoff from a Contributory drainage area.

(43) "Watercourse diversion" means the re-routing of an existing Watercourse located within the Proposed development by either open channel or closed piping.

(c) Prohibitions.

(1) No Owner may commence construction of a Private sewer or a Private drain without having first obtained a written Construction permit issued by the Department.

(2) No Construction permit may be issued until the Department has received, reviewed, and approved the Owner's Drainage proposal, the Private sewer or Private drain plan, and the Construction permit application and has determined that the same are complete and in full compliance with all standards and requirements of this Rule including, but not limited to, all engineering, legal, and insurance standards and requirements.

(3) No Drainage proposal, Private sewer or Private drain plan, or Construction permit application may be approved by the Department unless the professional seal and signature of the professional engineer or registered architect who is the Legally designated representative of the Owner appears on each sheet of such proposal, plan and application form.

(4) No legal instrument required by this Rule including, but not limited to, affidavits, consents, declarations, agreements, real estate instruments, sureties, bonds, indemnities, and security deposits may be amended, modified, or canceled by the Owner or his or her agents without the express prior written consent of the Department.

(d) Variances.

(1) Upon written request by the Owner of a Proposed development, the Department may grant a variance from one or more standards or requirements of this Rule only upon adequate proof substantiating that compliance with the standard or requirement will impose an exceptional hardship as defined by sub-paragraph (2)(ii) and (2)(iii) of this subdivision. There shall be no variances from the legal, bonding, insurance, or security requirements of this Rule.

(2) Every request for a variance shall:

- (i) identify the specific provision of this Rule for which a variance is sought;
- (ii) demonstrate that compliance with the identified provision would, on the basis of conditions unique to the Owner's particular situation in contrast to the rest of the industry, impose an exceptional economic or technological hardship or create an unsafe condition; and
- (iii) demonstrate that the proposed variance will not result in any significant adverse impact on safety, public health, or the environment.

(3) In granting any variance, the Department may impose such additional terms and conditions that the Department determines are necessary to ensure that the variance will not have any adverse impact on safety, public health, or the environment.

(e) Incorporation by reference of appendices. All appendices to this Rule are hereby incorporated by this reference and shall have the same legal force and effect as the Rule itself.

23-02 Requirements for the submission of Drainage proposals for the construction of Private drains and additional requirements for Drainage proposals and Private drain plans

(a) Drainage proposals; when required. Owners proposing to construct a Private drain to serve a Proposed development shall submit a Drainage proposal to the Department.

(b) General requirements for the submission of Drainage proposals. All Drainage proposals shall be prepared by or under the supervision of a professional engineer or registered architect licensed by the State of New York and shall be accompanied by the following information and documentation:

- (1) the source, quantity, method of conveyance, and outlet for all stormwater runoff;
- (2) the source, quantity, method of conveyance, and outlet for all sanitary Flow;
- (3) a description of the Proposed development to be served by the proposed Private drain including a description of the type of all buildings to be constructed or maintained on the Proposed development;
- (4) a description of the route(s) of the proposed Private drains;
- (5) all engineering computations performed in accordance with this Rule and the Department's most recent drainage design criteria;
- (6) a letter from the office of the Borough President of the county in which the Proposed development is located verifying the legal status of all streets involved in the Proposed development;
- (7) a survey of the Proposed development and the location and route(s) of the Private drain(s) prepared or updated no more than one year prior to the date of submission of the Drainage proposal by a professional land surveyor licensed by the State of New York and prepared in accordance with the requirements of Appendix A-6;

(8) as-built drawings for the existing outlet for the proposed Private sewers or Private drains. If as-built drawings are not available, then a sewer route survey showing the sewer or drain size, type, material, and invert/rim elevations at the manholes shall be submitted;

(9) boring logs prepared in compliance with Appendix A-8;

(10) a copy of the latest Tax map of the Proposed development as certified by the City surveyor;

(11) a copy of the portion of the City map and, if applicable, the Alteration map, showing all streets shown on the Drainage proposal;

(12) a copy of the builder's pavement plan as filed with the City;

(13) a copy of all applicable permits and approvals required by other federal, state, or local laws and regulations including the City's Uniform Land Use Review Procedure (ULURP);

(14) all applicable legal documentation required by this section and section 23-03(c);

(15) paper prints prepared in accordance with the requirements of Appendix A-2; and

(16) the Department's review fee for Drainage proposals in accordance with section 23-08.

(c) Additional requirements for the submission of Drainage proposals and Private drain plans involving Special conditions. In addition to the requirements of subdivision (b) of this section, Owners submitting Drainage proposals and Private drain plans incorporating any of the following Special conditions shall be required to file the additional information and documentation as specified below. Such documentation shall conform to the applicable requirements of section 23-03 of this Rule.

(1) Use of proposed Private sewage treatment plants or proposed Private pumping stations in residential districts serving 50 or more Dwelling units. Drainage proposals and Private drain plans in residential districts where proposed private sanitary drains will discharge into a proposed Private sewage treatment plant or a proposed Private pumping station which is not owned and operated by the Department and serves 50 or more Dwelling units shall include the following additional information and documentation:

(i) proof of approval by the Department of City Planning;

(ii) proof of conceptual approval by the Department of Buildings with appropriate conditions and safeguards as prescribed by the Department of City Planning;

(iii) approval from the New York City Department of Health specifying the following for each Private sewage treatment plant or Private pumping station:

(A) the total number of Dwelling units approved;

(B) the number of Dwelling units committed with the Drainage proposal;

(C) the number of Dwelling units committed to other developments; and

(D) the remaining number of uncommitted Dwelling units;

(iv) a copy of the initial franchise application as filed with the City for the installation and maintenance of a Private sanitary force main within a Finally mapped street where the City has title or an Opinion of dedication; and

(v) a properly recorded restrictive declaration executed by the Owner creating a Homeowners' or Condominium association to own, maintain, and operate the Private sewage treatment plant or Private pumping station.

(vi) a properly recorded declaration of maintenance obligating the Owner and all successors-in-interest to maintain the Private sewage treatment plant or Private pumping station and all appurtenances thereto;

(vii) security in an amount determined by the Department in accordance with section 23-04 of this Rule shall be deposited with the Comptroller's office guaranteeing the continuous and proper maintenance of the Private sewage treatment plant or Private pumping station for as long as such sewage treatment plant or pumping station remains in use; and

(viii) the Owner's liability insurance in an amount determined by the Department in accordance with section 23-04 of this Rule certified by the Owner's liability insurance company.

(2) Use of existing Private sewage treatment plants or existing Private pumping stations. Drainage proposals and Private drain plans incorporating the use of an existing Private sewage treatment plant or an existing Private pumping station which is not owned and operated by the Department shall include the following additional information and documentation:

(i) a properly recorded consent executed by the owner of the existing Private sewage treatment plant or Private pumping station granting the Owner the right to connect to the existing Private sewage treatment plant or Private pumping station;

(ii) approval from Department of Health specifying the following for each Private sewage treatment plant or Private pumping station:

- (A) the total number of Dwelling units;
- (B) the number of committed Dwelling units previously connected;
- (C) the number of committed Dwelling units not yet connected;
- (D) the number of Dwelling units committed with the Drainage proposal;

and

- (E) the remaining number of uncommitted Dwelling units.

(3) Use of private on-site Detention basins. Drainage proposals and Private drain plans incorporating the use of private on-site Detention basins to accommodate both on-site and off-site stormwater runoff shall include the following additional information and documentation:

(i) the delineation of the private on-site Detention basin on a separate tax Lot with appropriate provisions that the Department determines are necessary for adequate access to the basin and to the piping entering and exiting the basin for maintenance purposes;

(ii) all hydraulic computations related to the design of the private on-site Detention basin conforming to the Department's most recent private on-site Detention basin design criteria;

(iii) a properly recorded declaration of maintenance obligating the Owner and all successors-in-interest to maintain the private on-site Detention basin and all appurtenances thereto;

(iv) security in an amount determined by the Department in accordance with section 23-04 of this Rule shall be deposited with the Comptroller's office guaranteeing the continuous and proper maintenance of the private on-site Detention basin for as long as such Detention basin remains in use; and

(v) the Owner's liability insurance in an amount determined by the Department in accordance with section 23-04 of this Rule certified by the Owner's liability insurance company.

(4) Watercourse diversions. Drainage proposals and Private drain plans incorporating Watercourse diversions which function as the outlet for the stormwater runoff from the upstream Contributory drainage area shall include the following additional information and documentation:

(i) a properly recorded declaration of Sewer easement establishing and delineating a Sewer easement in favor of the Department;

(ii) a properly recorded declaration of maintenance obligating the Owner and all successors-in-interest to maintain the Watercourse diversion and all appurtenances thereto;

(iii) a security deposit in an amount determined by the Department in accordance with section 23-04 of this Rule shall be deposited with the Comptroller's office guaranteeing the continuous and proper maintenance of the proposed Watercourse diversion for as long as such Watercourse diversion remains in use; and

(iv) all hydraulic computations relative to the design of the Watercourse diversion or piping.

(5) City map changes. Drainage proposals and Private sewer or Private drain plans incorporating a change or proposed change to the City map shall include the following additional information and documentation:

(i) an Alteration map as prepared in conjunction with the application to the Department of City Planning for a Mapping action; and

(ii) an amendment to the City drainage plan which shall reflect the new street pattern created by the Mapping action.

23-03 Legal requirements for Private sewers or Private drains

(a) General requirements for all legal instruments. All legal instruments required by this Rule including, but not limited to, affidavits, consents, declarations, agreements, real estate instruments, sureties, bonds, indemnities, and security deposits shall be submitted on the appropriate forms supplied by the Department, shall contain original signatures, and shall be properly recorded in the office of the clerk of the county in which the Proposed development is located to the extent that recording is required.

(b) General requirements for title reports and title insurance policies. All title reports and title insurance policies required by this Rule shall be prepared and written by a title insurance company licensed to do business in the State of New York. All title insurance policies shall name the City as the insured and shall contain a technical description of the metes and bounds of the Proposed development and the bed of street areas for which the City has no title or Opinion of dedication for public use from the Corporation Counsel.

(c) Additional legal documentation requirements for Drainage proposals or Private sewer plans relating to the status of streets. In addition to the requirements of section 23-02, Owners submitting Drainage proposals or Private sewer plans relating to the status of streets shall file the additional information and legal documentation as specified below.

(1) Owners proposing to construct a Private sewer or Private drain in a City-owned street shall also submit a letter from the office of the appropriate Borough President verifying that title to the street in which a Private sewer or Private drain is to be constructed has vested in the City.

(2) Owners proposing to construct a Private sewer or Private drain in a Finally mapped street owned by the Owner shall also submit the following:

- (i) a title report verifying the Owner's ownership of the subject street(s);
- (ii) a title insurance policy in an amount determined by the Department in accordance with section 23-04 of this Rule insuring the City of the Owner's right to construct the proposed Private sewer or Private drain as delineated on the Drainage proposal or Private sewer or Private drain plan; and
- (iii) a properly recorded declaration of public use-irrevocable street opening irrevocably opening the street(s) for public use.

(3) Owners proposing to construct a Private sewer or Private drain in Finally mapped or Record street(s) owned by others shall also submit the following:

- (i) a title report verifying the ownership of the subject streets;
- (ii) a title insurance policy in an amount determined by the Department in accordance with section 23-04 of this Rule insuring the City of the Owner's right to construct the proposed Private sewer or Private drain as delineated on the Drainage proposal or Private sewer or Private drain plan;
- (iii) either:
 - (A) a properly recorded Sewer easement agreement establishing and delineating a Sewer easement in favor of the Owner; or
 - (B) a properly recorded declaration of public use-irrevocable street opening irrevocably opening the street(s) for public use;
- (iv) a properly recorded declaration of maintenance obligating the Owner and all successors-in-interest to maintain the Private sewer or Private drain if the street is not to be continuously opened for public use; and
- (v) a security deposit in an amount determined by the Department in accordance with section 23-04 of this Rule if the street is not to be continuously opened for public use.

(4) Owners proposing to construct a Private sewer or Private drain in Finally mapped or Record street(s) of unknown ownership shall also submit the following:

- (i) a title report verifying that the Finally mapped or subject streets are of unknown ownership;

(ii) a title insurance policy in an amount determined by the Department in accordance with section 23-04 of this Rule insuring the City of the Owner's right to construct the proposed Private sewer or Private drain as delineated on the Drainage proposal or Private sewer or Private drain plan;

(iii) a properly recorded declaration of maintenance obligating the Owner and all successors-in-interest to maintain the Private sewer or Private drain if the street is not to be continuously opened for public use; and

(iv) a security deposit in an amount determined by the Department in accordance with section 23-04 of this Rule if the street is not to be continuously opened for public use.

(5) Owners proposing to construct a Private sewer or Private drain part of which will traverse the Owner's property shall also submit the following:

(i) a title report verifying the ownership of the subject property;

(ii) a title insurance policy in an amount determined by the Department in accordance with section 23-04 of this Rule insuring the City of the Owner's right to construct the proposed Private sewer or Private drain as delineated on the Drainage proposal or Private sewer or Private drain plan;

(iii) a properly recorded declaration of Sewer easement establishing and delineating a Sewer easement in favor of the Department;

(iv) a properly recorded declaration of maintenance obligating the Owner and all successors-in-interest to maintain the Private sewer or Private drain and all appurtenances thereto; and

(v) a security deposit in an amount determined by the Department in accordance with section 23-04 of this Rule guaranteeing the continuous and proper maintenance of the proposed Private sewer or Private drain for as long as such Private sewer or Private drain remains in use.

(6) Owners proposing to construct a Private sewer or Private drain part of which will traverse property of another shall also submit the following:

(i) a title report verifying the ownership of the subject property and/or street(s);

(ii) a title insurance policy in an amount determined by the Department in accordance with section 23-04 of this Rule insuring the City of the Owner's right to construct the proposed Private sewer or Private drain as delineated on the Drainage proposal or Private sewer or Private drain plan;

(iii) a properly recorded Sewer easement agreement granting the Owner the right to construct the proposed Private sewer or Private drain;

(iv) a properly recorded declaration of maintenance obligating the Owner and successors-in-interest to maintain the Private sewer or Private drain and all appurtenances thereto; and

(v) a security deposit in an amount determined by the Department in accordance with section 23-04 of this Rule guaranteeing the continuous and proper maintenance of the proposed Private sewer or Private drain for as long as such Private sewer or Private drain remains in use.

(7) Owners proposing to construct a Private sewer or Private drain in a Record street which is not a Finally mapped street shall submit all documents required by paragraphs (3) or (4) of this section and a certified copy of a variance issued by the Board of Standards and Appeals for proposed construction on Lots not fronting a Finally mapped street or a determination from the Department of Buildings that no such variance is required.

23-04 Insurance, bonding, security, and indemnity requirements for Private sewers or Private drains

(a) General requirements.

(1) Duty to continuously maintain required insurance. No person may voluntarily cancel, terminate, modify, or allow to expire or lapse any insurance required by this Rule without the prior express written consent of the Department and presentation of proof that comparable continuous coverage, as determined by the Department, has been secured from another insurer meeting the requirements of this Rule. The Owner shall present certificates of insurance evidencing continuation of insurance coverage as required by this Rule no less than 30 days in advance of the date of cancellation, termination, or expiration of the existing insurance.

(2) Proof of insurance. Proof of insurance as required by this Rule shall be made by presentation of a certificate of insurance issued directly by the insurer to the appropriate Department borough records office specifying the named insured, the effective dates of each policy, the limits of each policy, the coverage afforded by each policy, and the name and address of the broker and agency for each policy.

(b) Insurance and indemnity requirements for Private sewer or Private drain construction.

(1) Indemnity. The following indemnity shall apply without exception or modification as a precondition to the Department's approval of any Private sewer or Private drain Construction permit or the relocation of an existing sewer. All indemnities required by this section shall provide exactly as follows:

"If the persons or property of the City or of others sustain loss, damage or injury resulting from the intentional or negligent acts or omissions of the Owner or his or her employees, subcontractors, or agents in the performance of construction of the Private sewer or Private drain, or from his or their failure to comply with the provisions of local laws or of the permit, then the Owner shall indemnify, defend, and hold the City harmless from any and all claims and judgements for damages, fees, costs, and expenses to which the City may be subjected or which it may suffer or incur by reason thereof".

(2) General liability insurance. As a precondition to the Department's approval of an application for a Private sewer or Private drain Construction permit or the relocation of an

existing sewer, the Owner shall obtain and maintain general liability insurance from a company authorized to write commercial general liability insurance in the State of New York. The required general liability insurance shall:

(i) have the following coverage provisions:

- (A) premises and operations;
- (B) products/completed operations;
- (C) independent contractors;
- (D) collapse, explosion and underground hazards; and
- (E) deletion of railroad property damage exclusions, where applicable;

(ii) be maintained by the Owner, his or her heirs, successors, assigns, and transferees until title to the Private sewer or Private drain has been vested in the City. For the relocation of existing sewers, the insurance shall be maintained as required herein for a period of one year from the date of final inspection and approval by the Department;

(iii) be equivalent to the most recent version of the Insurance Services Offices' comprehensive general liability form GC-00-01 or equivalent, and shall provide not less than \$1,000,000 per occurrence in bodily injury and property damage combined, \$1,000,000 products completed operations and not less than \$2,000,000 general aggregate per policy year. Excavations in central business districts shall be subject to a required limit of \$3,000,000 per occurrence, \$3,000,000 products/completed operations, and \$6,000,000 general aggregate. The Department shall be named as the insured on form CG-20-13 or equivalent;

(iv) expire no sooner than one year after the date of the Private sewer or Private drain Construction permit application and shall name as insured the Owner as identified on the Private sewer or Private drain Construction permit application or approval and the title evidenced in connection herewith; and

(v) be endorsed to provide not less than sixty days advance notice by the insurance company or its agents to the Department of any cancellation, termination, expiration, or modification of the policy. The endorsement shall give the name, title, and proper mailing address of the person in the appropriate Department borough records office responsible for oversight of insurance and indemnity requirements.

(3) Insurance of sub-contractors. The Owner shall require that all sub-contractors performing work pursuant to a Private sewer or Private drain Construction permit obtain and maintain general liability insurance as required by paragraph (b)(2) of this section and naming the Department as the insured. Proof of sub-contractor insurance coverage shall be made as required by paragraph (a)(2) of this section.

(c) Insurance and indemnity requirements for Drainage proposals incorporating Special conditions.

(1) Required indemnity. The following indemnity shall apply without exception or modification as a precondition to the Department's approval of any Drainage proposal incorporating such Special conditions as the use of a private on-site Detention basin, Private pumping station, or Private sewage treatment plant. All indemnities required by this subdivision shall provide exactly as follows:

"If the persons or property of the City or of others sustain loss, damage or injury resulting from the intentional or negligent acts or omissions of the Owner or his or her employees, subcontractors, or agents by the operation, maintenance, or use of a private on-site Detention basin, Private sewage treatment plant, or a Private pumping station, or their failure to comply with the provisions of local law or of the permit, then the Owner shall indemnify, defend, and hold the City harmless from any and all claims and judgements for damages, fees, costs, and expenses to which the City may be subjected or which it may suffer or incur by reason thereof".

(2) Insurance. As a precondition to the Department's approval of Drainage proposals and Private drain plans incorporating the use of a private on-site Detention basin, a Private pumping station, or a Private sewage treatment plant, the Owner shall obtain and maintain a liability insurance policy in an amount determined by the Department in accordance with this section insuring the City against any damages that may be sustained by virtue of the operation, maintenance, use or failure thereof of the private on-site Detention basin, a Private pumping station, or a Private sewage treatment plant

(d) Duty to maintain and security for the maintenance of Private sewers or Private drains.

(1) When required. The Owner of a Private sewer or Private drain constructed in an unopened Record or a Finally mapped street to which the City does not have title, an Opinion of dedication, or in a Sewer easement within the boundaries of the Proposed development where access to the public is regulated by the Owner thereof, shall maintain the Private sewer or Private drain and appurtenances thereto in good working order at all times for as long as such maintenance obligation remains in effect. The Owner shall further post a security deposit in a form acceptable to the Comptroller in an amount determined by the Department in accordance with this Rule for the purpose of guaranteeing the proper and continuous maintenance of the Private sewer or Private drain and appurtenances thereto.

(2) Duration of security. The security shall remain on deposit with the Comptroller until such time as the City acquires title to the streets or Sewer easements wherein the Private sewer or Private drain and appurtenances thereto are located or until such time as the Private sewer or Private drain is no longer needed due to construction of City drainage plan sewers by the Department according to the Department's capital sewer construction program schedule.

(e) Determination of the dollar amount of title insurance, security deposits, and performance or maintenance bonds. The Department shall determine the required dollar amount of title insurance, security deposits, and performance or maintenance bonds required by this Rule as follows:

(1) The dollar amount of the title insurance policy shall be determined on the basis of the following information and documentation submitted by the Applicant:

(i) a current Tax map showing all the tax Blocks and Lots involved in the Proposed development;

(ii) the area and assessed valuations of each Lot, land only, fronting the proposed Private sewers or Private drains;

(iii) the schematic layout of the proposed pipes in the streets or Sewer easements indicating the length of the pipes; and

(iv) the dimensions and total area of the streets and / or Sewer easements to be covered by the title insurance policy.

(2) The dollar amount of security deposits required by this Rule shall be equal to the linear footage of the Private sewer or Private drain multiplied by seven, provided, however, that in no event shall the total amount of the required security deposit be less than five thousand dollars. The Department may increase the required amount of security deposit in situations involving Special conditions as outlined in section 23-02(c). All maintenance securities shall be deposited with the Comptroller's Office and shall be in a form acceptable to the Comptroller.

(3) The dollar amount of performance and maintenance bonds shall be an amount that is equal to the cost of construction, as determined by the Department, of the proposed Private sewers or Private drains.

(f) Accident reporting. The Owner, Applicant, supervising professional engineer or registered architect, or any other person who knows or has reason to know of any accident occurring in connection with any operations related to the construction of a Private sewer or Private drain and appurtenances thereto, or the relocation of an existing sewer shall make immediate written notice to the Department. Such report shall be made whether or not a claim has been or may be made by or against any party to the accident or occurrence causing property damage or bodily injury.

23-05 Standards for Drainage proposal approval, revision, and revocation

(a) Standard for approval of Drainage proposals. The Department shall approve Drainage proposals or Drainage proposal revisions only after the Department has determined that such Drainage proposals or Drainage proposal revisions are complete and are in full compliance with all standards, requirements, and provisions of this Rule and the Department's most recent design criteria.

(b) Duration of approval. The Department's approval of a Drainage proposal or a Drainage proposal revision shall be valid for a period of three years from the date of the Department's written approval. The Department may, upon written request made by an Applicant prior to the expiration date of an approved Drainage proposal, extend, without charge, the approval for a one-time sixty day period. An Applicant shall be required to submit a new Drainage proposal for review and approval if the approved Drainage proposal expires before the Applicant has obtained the Department's approval of his or her Private sewer or Private drain plan.

(c) Status letter. An Applicant may request the Department to issue a letter to Department of Buildings regarding the status of the proposed Private drain provided that the Applicant has an approved Drainage proposal and has posted all insurance, indemnities, performance and maintenance bonds, and security deposits required by this Rule.

(d) Revisions. An approved Drainage proposal may only be revised subject to the Department's approval. The following non-exclusive list of changes to an approved Drainage proposal render the approved Drainage proposal null and void and require the submission of a Drainage proposal revision with the applicable review fee:

- (1) a change to the type or kind of the Proposed development;
- (2) a change to the point of sanitary or storm water discharge from the site;
- (3) the addition or deletion of property in the Proposed development resulting in a corresponding change to the proposed Private drain;
- (4) a change in the alignment of the proposed piping which does or may result in a change in the hydraulic design of the proposed Private drain; or
- (5) a change in the location of a proposed private on-site Detention basin facility.

(e) Revocation of Drainage proposal approval. The Department shall revoke its approval of a Drainage proposal at any time if it determines that:

- (1) any of the information or documentation submitted in support of the Drainage proposal is false, inaccurate, or misleading;
- (2) the approved Drainage proposal fails to include adequate provisions for existing conditions that come to the attention of the Department after it has approved a Drainage proposal; or
- (3) the Applicant has made any of the changes listed in paragraph (d) of this section without prior written approval of the Department.

23-06 Standards and requirements for the submission and approval of Private sewer or Private drain plans

(a) Private sewer or Private drain plans; when required.

(1) Private sewers. Owners proposing to construct a Private sewer in compliance with the City drainage plan shall submit a Private sewer plan to the Department for review and approval.

(2) Private drains. Owners proposing to construct a Private drain shall submit a Private drain plan only after the Department has reviewed and approved the Owner's Drainage proposal. Such Private drain plans shall be prepared in accordance with the approved Drainage proposal.

(b) General requirements for the submission of Private sewer or Private drain plans. All Private sewer or Private drain plans shall be prepared by or under the supervision of a professional engineer or registered architect and shall be accompanied by the following information and documentation:

- (1) a copy of the approved Drainage proposal or City drainage plan for the Proposed development;
- (2) a survey prepared or updated by a New York State licensed professional land surveyor within one year of the date of submission of the Private sewer or Private drain plans to the Department showing the Proposed development and the route(s) of the proposed Private sewers or Private drains;
- (3) a letter from the office of the Borough President of the county in which the Proposed development is located verifying the legal status of all streets involved in the Proposed development;
- (4) boring logs prepared in compliance with Appendix A-8;
- (5) an approved builder's pavement plan;
- (6) a copy of the latest Tax map of the Proposed development as certified by the City surveyor;
- (7) a copy of the portion of the adopted Final map and , if applicable, pending Alteration map showing all streets shown on the Private sewer or Private drain plans;
- (8) utility company reply letters received no more than ninety days prior to the date of submission of the Private sewer or Private drain plan;
- (9) an engineer's cost estimate prepared in accordance with Appendix A-7;
- (10) a bill of materials describing all items to be utilized in the construction of the proposed Private sewers or Private drains;
- (11) as-built drawings for the existing outlet for the proposed Private sewers or Private drains. If as-built drawings are not available, then a sewer route survey showing the sewer or drain size, type, material, and invert/rim elevations at the manholes shall be submitted;
- (12) design calculations for all proposed structures which do not conform to Department's most recent sewer design standards;
- (13) copies of all permits or approvals required by federal, state, and other local laws and regulations;
- (14) proof of compliance with all legal documentation required by section 23-03(c) all insurance and security requirements of section 23-04 of this Rule;
- (15) a sworn affidavit executed by the Owner of the Proposed development stating that he or she has submitted all the required legal documents and affidavits required for final approval of the proposed Private sewer or Private drain and attesting to the truth and validity of such legal documents and affidavits;
- (16) paper prints prepared in accordance with Appendix A-3 of this Rule; and
- (17) the Department's review fee for Private sewer or Private drains in accordance with section 23-08 of this Rule.

(c) Standard for approval of Private sewer or Private drain plans. The Department shall approve a Private sewer or Private drain plans only after that the Department has determined that such plans are complete and have been designed and will be constructed in full compliance with all standards, requirements, and provisions of this Rule and the Department's most recent design criteria.

(d) Duration of approval. The Department's approval of a Private sewer or Private drain plan shall be valid for a period of one year from the date of the approval of the plan. The Department may, upon written request made by an Applicant prior to the expiration date of an approved Private sewer or Private drain plan, extend, without charge, the approval for a one-time sixty day period. After expiration, the Owner shall submit a new Private sewer or Private drain plan for review. All pertinent documents and permits shall be updated and a revision and approval signature box shall be added to the new Private sewer or Private drain plan.

23-07 Standards and requirements for the submission and approval of Private sewer or Private drain Construction permit applications and professional engineer or registered architect construction supervision

(a) Private sewer or Private drain Construction permit applications; when required. Owners with approved Private sewer or Private drain plans shall submit a Private sewer or Private drain Construction permit application and all the information and documentation required by subdivision (d) of this section at the time of the pre-construction meeting required by subdivision (c) of this section.

(b) Standards and requirements for Department's approval of professional engineers and registered architects supervising the construction of Private sewers or Private drains.

(1) Prohibition. No Owner proposing to construct a Private sewer or Private drain may hire a professional engineer or registered architect to supervise the actual construction of a Private sewer or Private drain without the prior written approval of the Department. Once a professional engineer or registered architect is approved by the Department, there shall be no change to the Owner's approved professional engineer or registered architect or his or her representative without the prior written approval of the Department.

(2) Requirements for approval. The Owner shall submit the name, address, resume, and a list of relevant construction supervision work experience of the professional engineer or registered architect selected to supervise the construction of the Private sewer or Private drain. If the professional engineer or registered architect will not be personally supervising the construction, then the professional engineer or registered architect shall also submit the resume and list of relevant construction supervision work experience of the person(s) in his or her employ who will be supervising the construction.

(3) Standards for approval of professional engineers, registered architects, and their employees. The Department shall approve an Owner's proposed professional engineer or registered architect to supervise the actual construction of a Private sewer or Private drain construction project and any related work, drawing, or plans after the Department has determined that the professional engineer or registered architect has either (i) previously directly supervised

and successfully completed at least two Private sewer or Private drain construction projects, or two capital sewer construction projects, or (ii) has worked, with or without a professional license, in a responsible capacity under the direct supervision of a professional engineer or registered architect in connection with all stages of two such projects to their successful completion. The Department reserves the right to reject the Owner's professional engineer or registered architect if the Department has documented that the professional engineer or registered architect failed to fully comply with the Department's requirements or orders on any previous Private sewer or Private drain construction project, or on any capital sewer construction project. The Department's approval shall not be unreasonably withheld.

(4) Filing of supervision agreement. After the Department's approval of the Owner's professional engineer or registered architect, the Owner shall file a copy of the supervision agreement between the Owner and his or her professional engineer or registered architect with the Department.

(c) Preconstruction meeting. A preconstruction meeting between the Department, the Owner's professional engineer or registered architect, and the Owner's contractor shall be held prior to the issuance of any Private sewer or Private drain Construction permit. The professional engineer or registered architect shall prepare minutes of the meeting and submit the minutes to the Department for review and approval. The Department shall provide field books to be used by the professional engineer or registered architect.

(d) General requirements for the submission of Private sewer or Private drain Construction permit applications. All Private sewer or Private drain Construction permit applications shall be prepared by or under the supervision of the approved professional engineer or registered architect and shall be accompanied by the following information and documentation:

- (1) an approved and valid Private sewer or Private drain plan;
- (2) a completed Private sewer or Private drain Construction permit application on a form supplied by the Department signed by the Applicant and the Department;
- (3) a street opening permit issued by the City;
- (4) a signed and notarized copy of the construction contract between the Owner and his or her Private sewer or Private drain contractor including the contractor's bid;
- (5) an insurance policy complying with the requirements of sections 23-03 and 23-04 of this Rule provided by the Owner or his or her contractor and submitted directly by the Owner or his or her contractor or their insurance broker to the Department's borough records office;
- (6) performance and maintenance bonds posted by the Owner or the Owner's contractor in the amount specified on the Owner's approved Private sewer or Private drain plan;
- (7) the signed and notarized agreement between the Owner and his or her approved professional engineer or registered architect supervising the construction of Private sewer or Private drain;
- (8) the signed and notarized agreement between Owner and his or her contractor;
- (9) traffic stipulations issued by the City;
- (10) vendor's list;

- (11) pavement restoration requirements issued by the City; and
- (12) the Private sewer or Private drain Construction permit application fee.

(e) Standard for approval of Private sewer or Private drain Construction permit applications. The Department shall approve a Private sewer or Private drain Construction permit application only after the Department has determined that such application is complete and is in full compliance with all standards, requirements, and provisions of this Rule and the Department's most recent design criteria.

(f) Duration of approval. A Private sewer or Private drain Construction permit shall be valid for a period of ninety days from the date of issuance. If construction is not commenced within ninety days from the date of permit issuance, then the permit shall be null and void and the Applicant shall be required to submit a new Private sewer or Private drain Construction permit application in accordance with the requirements of this Rule before commencing construction of any Private sewer or Private drain.

(g) Place of issuance. The Department's borough records office shall issue Private sewer or Private drain Construction permits.

(h) Commencement of construction and assignment of the approved professional engineers, registered architects, or their approved employees at the construction site.

(1) Commencement of construction. The Private sewer or Private drain Construction permit shall specify a construction start date and time that is mutually acceptable to the Department and the approved professional engineer or registered architect.

(2) Assignment of the approved professional engineers, registered architects, or their approved employees at the construction site. The approved professional engineer or registered architect shall maintain full time on-site construction inspection and supervision services at the construction site from the time construction commences to the time of final completion. The approved professional engineer, registered architect, or their approved employees shall telephone the Department daily between 8:30 a.m. and 9:00 a.m. to report his or her presence at the construction site and to report on the scheduled work for the day.

(3) Duty to inform the Department of construction problems or field changes. The approved professional engineer or registered architect shall promptly report to the Department any construction or job related problems or any field changes that arise or are anticipated.

(i) Post-construction record submissions. After completion of the construction of a Private sewer or Private drain and prior to final acceptance of such Private sewer or Private drain by the Department, the approved professional engineer or registered architect shall submit to the Department two notarized lists of actual costs incurred in the Private sewer or Private drain construction along with a copy of all bills, invoices, and receipts from all contractors, sub-

contractors, vendors, manufacturers, and any other entities which provided goods or services.

(j) Required field records. The approved professional engineer or registered architect or their approved employee shall maintain the following field records on forms supplied by the Department:

- (1) daily construction record book;
- (2) professional engineer or registered architect's record drawings;
- (3) water service location sketch;
- (4) existing pavements' sketch;
- (5) property damage and accident reports;
- (6) line and grade layout and field changes;
- (7) summary of laboratory reports;
- (8) concrete cylinder summary sheet;
- (9) layout and final measurement book;
- (10) line and grade stake out;
- (11) field changes;
- (12) final inspection, measurements, and TV inspection and video taping;
- (13) final restoration of pavements;
- (14) concrete strength analysis;
- (15) tracings-as-built record;
- (16) supervision of site connections;
- (17) partial approval for site connections; and
- (18) completion and acceptance certification.

23-08 Application and filing fees

(a) General requirements. All applications for the review and approval of Drainage proposals, Private sewer or Private drain plans, Private sewer or Private drain Construction permits, and the supervision of construction and material testing shall be accompanied, at the time of submission, with the appropriate filing fee as established by section two of the New York City Water Board's Water and Sewer Rate Schedule as amended from time to time. A copy of the latest fee schedule may be obtained from the Department by request.

(b) Payment of new application fee upon expiration of proposals or plans. Payment of a new application fee shall be required for the renewal of an expired Drainage proposal or Private sewer or Private drain plan.

(c) Payment of new application fee upon Department's determination of need for substantial revisions to Drainage proposals, Private sewer or Private drain plans, or Construction permits. After the Department has completed its initial review, any Drainage proposal, Private sewer or Private drain plan which the Department determines requires extensive revisions for such reasons

including, but not limited to, a major change in the alignment of the proposed Private sewer or Private drain, major changes in points or methods of discharge into the outlet system, major changes in the type or kind of the Proposed development, and deficiencies that make Drainage proposals, Private sewer plan or Private drain plan unsafe or infeasible, shall be subject to an additional fee in an amount equal to one half of the amount of the review fee for the revised submission.

APPENDICES

- A-1 Standards for the design of Private sewers or Private drains
- A-2 Requirements for the preparation of Drainage proposal plans
- A-3 Requirements for the preparation of Private sewer or Private drain plans
- A-4 Requirements for standard notes on Private sewer or Private drain plans
- A-5 Requirements for specific notes on Private sewer or Private drain plans
- A-6 Requirements for the preparation of the survey of the property and the location and route of the Private sewers or Private drains
- A-7 Requirements for the preparation of the professional engineer or registered architect's cost estimate
- A-8 Requirements for the preparation of the boring logs and boring reports

Appendix A-1

Standards for the design of Private sewers or Private drains

- (a) Standards for the design of Private sewers or Private drains. All Private sewers or Private drains shall be designed in accordance with the standards and requirements of this Rule and the Department's most recent drainage design criteria. All design Flow computations shall be made in accordance with the most recent zoning designations established by the City.
- (b) Sewer Size. The minimum Private sewer or Private drain sizes shall be 10" diameter for sanitary sewers or drains, 12" diameter for storm sewers or drains, and 15" diameter for combined sewers or drains. The following diameters shall be used for sewers up to 18": 10", 12", 15", 18". After 18", Private sewer or Private drain diameters shall increase in 6" increments to a maximum of 72".
- (c) Manning's Coefficient. The Manning Coefficient 'n' for extra strength vitrified clay pipes, for precast reinforced concrete pipes, precast concrete box sewers, and ductile iron pipes, shall be $n = 0.013$. For poured-in-place box sections, the Manning's Coefficient shall be $n = 0.015$.
- (d) Depth of Proposed Private sewers or Private drains. The minimum depth of cover to the outer top of Private sewers or Private drains shall be 4.0 feet for storm sewers or drains, 10.0 feet for sanitary and combined sewers or drains, and 5.0 feet for force mains. In situations where the depth of cover to the outer top must be reduced, an absolute minimum of 3.5 feet for storm sewers or drains and 8.5 feet for sanitary and combined sewers or drains shall be maintained at all times. The maximum depth to the invert of the pipe shall not be greater than 18.0 feet.
- (e) Clearance. The minimum net vertical clearance between the invert of storm sewers or drains and the inner top of sanitary sewers or drains shall be 2 feet. At street intersections where there are no site connections, the minimum net clearance between the outside of storm sewers or drains and the outside of sanitary sewers or drains shall be 6 inches.
- (f) Slopes and Velocities. Wherever possible, the slope of the Private sewer or Private drain should be approximately parallel to the ground surface. The slope of Private sewers or Private drains shall be computed, based upon mapped street lengths, to the nearest 0.01% generally and to the nearest 0.001% on very flat slopes. The minimum velocity for pipes flowing full shall be 3.0 feet per second (fps) for storm sewers or drains and combined sewers or drains. The minimum velocity for sanitary sewers or drains flowing full shall be 3.0 fps until a design Flow of 0.7 cubic feet per second (cfs) is attained. After this quantity of Flow has been reached, sanitary sewers or drains shall be designed according to the standard criteria for pipes flowing full with a minimum velocity of 2.5 fps. Maximum velocity for pipes flowing full shall be 15 fps. In no case shall the slope exceed 10%. In the case of very steep slopes, drop manholes shall be provided so that the maximum velocity is within the allowable limits. The depth of drop in drop manholes shall be measured from the invert of the higher sewer or drain to the spring line of the lower sewer or drain. Specially constructed drop pipe manholes shall be used in situations

(f) a description of the limits of Proposed development. All properties must be labeled either: (1) Owner's property under this application; (2) Owner's property not under this application; or (3) property owned by others;

(g) existing Block and Lot numbers of all properties shown on the Drainage proposal. In cases where Block and Lot modifications are proposed, the tentative block and tentative lot numbers shall be shown;

(h) identification of street status indicating the limits, record width, final map width, and statement of ownership or unknown ownership;

(i) legal grade elevations as shown on a copy of the latest adopted Final map or pending Alteration map for streets shown on the Drainage proposal;

(j) a plan view that shows the street areas, widening lines, record lines, paved and unpaved areas, curb lines, street dimensions, existing or proposed street surface elevations, legal grade elevations, existing and proposed buildings and structures with tie-down distances to property lines (if available), existing and proposed catch basins and their connections, existing and proposed Private sewers or Private drains;

(k) a plan and profile showing all the existing and proposed sewers or drains fixed by dimensions to street and Sewer easement lines; the invert and rim elevations of manholes; the sizes, types, manhole stationing and gradients of all sewers or drains which receive Flow from the Contributory drainage areas; the reference datum and vertical and horizontal scales. The rim to invert distances at the manholes must be shown on the profile view. All utilities, ditches, and Watercourses are to be shown, labeled and dimensioned on both the plan and profile views;

(l) in cases where more than one Private sewer or Private drain is proposed for a street, a separate profile shall be provided with one Private sewer or Private drain indicated by solid lines and the others by dashed lines on each sheet;

(m) a schematic showing the outline of basement floors with elevations for both proposed and existing Dwelling units, if available;

(n) the sewer datum note for the Borough where the proposed Private sewers or Private drains are to be installed;

(o) the gradient of roadway ramps shall be shown in profile when cut or fill is involved at the end of a proposed Private sewer or Private drain;

(p) cross-sectional views of any existing open Watercourse with dimensions and side slopes at critical locations along with longitudinal profile with gradients, elevations, stationing, and liner material shall be shown. All computations pertaining to the Flow quantity from the Contributory

drainage areas and the hydraulic characteristics of the Watercourse shall be submitted;

(q) for proposed Watercourse diversions not using a closed pipe system, a cross-sectional view of the relocated Watercourse with dimensions and slopes, along with a longitudinal profile with gradients, elevations, stationing and liner material shall be shown. All hydraulic design computations shall be submitted;

(r) computations to substantiate the side slope stability of proposed open earth channels or cuts shall be submitted. In the event headwalls and/or retaining structures are required, the same shall be shown on the plan;

(s) identification of all existing water mains, gas mains, and other utility substructures as to size and location;

(t) all hydraulic computations necessary to review the proposed Private sewers or Private drains that receive Flow from the Contributory drainage areas;

(u) all existing sanitary, stormwater, and combined sewer outlets and computations demonstrating their adequacy to accept the proposed Flow in addition to the existing Flows;

(v) the tentative locations of all proposed site connections;

(w) indication as to whether the sanitary Flow from the Proposed development is tributary to City or to a Private sewage treatment plant or Private pumping station;

(x) a key or location plan showing the Proposed development, all surrounding streets, existing and proposed sanitary, stormwater, or combined drainage facilities and stormwater surface Flow patterns, both existing and proposed;

(y) scale and north arrow and

(z) a certification by the professional engineer or registered architect filing the Drainage proposal attesting to the truth and accuracy of the information contained in the Drainage proposal, further attesting that he or she prepared or supervised the preparation of the Drainage proposal, and further attesting that no employee of the City assisted in its preparation. The certification shall be signed and sealed by the filing professional engineer or registered architect.

Appendix A-3 Requirements for the preparation of Private sewer or Private drain plans

All Private sewer or Private drain plans submitted to the Department shall be prepared in accordance with the following requirements and include the following information:

(1) a plan view drawn to a minimum horizontal scale of one inch equals thirty feet (1" = 30'), or one inch equals forty feet (1" = 40') for unimproved streets, and a profile view drawn to a vertical scale of one inch equals three feet (1" = 3');

(2) a key or location plan showing the Proposed development, all surrounding streets, existing and proposed sewers or drains, and surface stormwater Flow patterns;

(3) the names, record widths, final map widths, dimensions and existing, proposed, and legal grade elevations of all streets surrounding the Proposed development in plan and profile views;

(4) the Owner's properties to be developed and all other properties abutting the streets wherein the proposed Private sewers or Private drains are to be built;

(5) Block, Lot, and building numbers of all properties shown on the plan. The tentative Block and/or tentative Lot numbers shall be shown in cases where Block and Lot modifications are proposed;

(6) the locations, sizes, and types of all existing and proposed Private sewers or Private drains in plan and profile views;

(7) the locations, sizes, and types of all underground utility lines in relation to the proposed Private sewers or Private drains in plan and profile views;

(8) hydrants, street lights, overhead utility lines and any other structures or appurtenances;

(9) the offset distances of all existing utilities and proposed Private Sewers or Private drains from street lines;

(10) the locations and sizes of all existing trees;

(11) the types, widths and limits of the existing and proposed pavements, sidewalks, curbs, and driveways;

(12) the locations, sizes, and cross sections of existing stream beds, culverts, and the like in plan and profile views;

(13) the boundaries and buffer zones for all wetlands, designated open spaces, and wildlife sanctuaries;

(14) the locations of all existing and proposed manholes in plan and profile views;

(15) manhole stationing along the proposed Private sewer or Private drain in profile view (0+00 to be at downstream end);

(16) the gradients of roadway ramps, details of proposed appurtenances, other than standard, including headwalls and the like;

(17) north arrow and scale;

(18) an approved builder's pavement plan shall be separately submitted with the Private sewer or Private drain plan;

(19) the standard notes of Appendix A-4 and the specific notes of Appendix A-5;

(20) a description of the construction limits and the borough;

(21) a signature box for signed approvals by the Department;

(22) a description of the legal status of all streets involved;

(23) a traffic note, utility note, highway note, contractor's note, soil note, approval of materials and manufacturers note, sheeting note, stormwater drainage notes; statement as to performance bond, maintenance bond, borings, project review letters from utility companies with the dates of review, and a de-watering permit as required;

(24) a certification executed by the filing professional engineer or registered architect that the survey, field and office work required in the preparation of the plan and as shown on the plan was done by the filing professional engineer or registered architect or an employee acting under his or her direct supervision;

(25) an affidavit executed by the Owner of the Proposed development that he has submitted all the required legal documents and affidavits pertaining to the final approval of the Private sewer or Private drain plan;

(26) the date, signature, and seal of the filing professional engineer or registered architect who prepared or supervised the preparation of the Private sewer or Private drain plan shall appear on each sheet of the plan;

(27) the name and address of the Owner;

(28) the Final map number, City drainage plan number, and status of all streets;

(29) a statement showing the date of completion of the survey for the project and the name of the licensed surveyor. Surveys shall be dated and must have been prepared or updated within one year from the date of submission of the Private sewer or Private drain plan;

(30) the number of the approved Drainage Proposal with its approval and expiration dates;

(31) the number and date of approval of the builder's pavement plan;

(32) the name of the wastewater pollution control plant to which the Private sewer or Private drain is contributory if sanitary or combined sewers or drains are proposed;

(33) the name of the pumping station if a proposed Private sewer or Private drain is contributory to a pumping station;

(34) all required permits from federal, state, and other City agencies;

(35) borough sewer datum;

(36) a note that the plan is valid for one year from the date of the last required Departmental signature;

(37) special notes specific to the particular project; and

(38) all the documentation used in preparing the Private sewer or Private drain plan shall be listed and described on the plan.

Appendix A-4 Requirements for standard notes on Private Sewer or Private drain plans

All Private sewer or Private drain plans submitted to the Department shall be prepared in accordance with the following requirements and include the following standard notes:

(a) all sewer work shown on this plan shall be in conformance with the latest standards and specifications of the New York City Department of Environmental Protection ("Department");

(b) no deviation from an approved plan is allowed during construction without prior written approval of the Department;

- (c) the Department reserves the right to require any change and or additional work necessitated by a change as may be directed by the New York City Department of Transportation;
- (d) no final inspection, measurements or acceptance will be made until finished grade above sewer conforms with that shown on the approved plans;
- (e) all sewer cut sheets must be filed with the Department.
- (f) subsurface information shown hereon is as furnished by various utility companies and other City departments. The exact location of existing sewers are unknown, but is plotted from the best available information. However, accuracy of this information is not guaranteed by the filing professional engineer or registered architect. The contractor shall determine the exact location in the field prior to construction;
- (g) site connection spurs on ESVP shall be installed for every Tax lot with a maximum of 40 feet on both sides of pipe for undeveloped properties as noted on the plan or as directed by the professional engineer or registered architect. For built-up properties, spurs shall be provided for every house. Spurs for connections on ductile iron pipes may be made by approved fittings or by drilling;
- (h) all casting and hardware removed from the existing manholes and catch basins whenever found to be in good condition, upon examination by the professional engineer or registered architect, shall remain the property of the City and shall be delivered by the contractor to a designated City owned yard;
- (i) contractor shall provide temporary means (pipes, pumps, etc.) to drain any storm water which may develop within the project limits for the duration of construction;
- (j) all existing sewers and sewer house connections shall be continuously maintained during construction of Private sewers or Private drains or associated water main work. If any sewer or site connection is to be disconnected for construction purposes, Flow shall be maintained by fluming or other suitable means as approved by the professional engineer or registered architect and in such a manner that no back-ups occur. Existing sewers, house connections or other sewer appurtenances which are to remain, and which might be disturbed for construction purposes, shall be restored to their present condition after completion of the work; and
- (k) Construction permits and certificate of inspection for proposed catch basins and/or seepage basins system as shown on the approved builders pavement plan shall be issued by the Department.

**Appendix A-5 Requirements for specific notes on Private sewer
Or Private drain plans**

All Private sewer or Private drain plans submitted to the Department shall be prepared in accordance with the following requirements and include the following specific notes:

(a) Contractor's note. The contractor, at the time of taking out the permit for the construction of this Private sewer or Private drain shall furnish to the borough records office of the Department _____, NY _____

(Borough)

(Zip Code)

a copy of an agreement between the Owner and the contractor and a list of contract prices for the items in the bill of materials on the approved Private sewer or Private drain plan;

(b) Performance bond. The Owner shall file with the Department's borough records office

_____, _____, _____
(Address)

(Borough)

(Zip Code)

a performance bond in the amount of \$_____ to secure the faithful performance of this contract. Before submitting any field changes for this project, a letter from the bonding company indicating that they have no objections to this field change shall be presented to the Department. The Private sewer or Private drain contractor may, upon written request to the Department, submit the performance bond, in lieu of the Owner.

[Note: The amount of performance bond will be the amount of the engineer's cost estimate.];

(c) Maintenance bond. Before a permit is issued for the work as shown on the plan, a maintenance bond covering a two (2) year period from the date of completion and final acceptance of the work performed in the amount of \$_____ shall be filed by the Owner. The Private sewer or Private drain contractor may, upon written request to the Department, submit the maintenance bond in lieu of the Owner.

[Note: The amount of maintenance bond shall be 10% of performance bond amount.];

(d) Insurance note. The Owner or contractor, prior to the start of construction, shall obtain an insurance policy insuring the City of New York against liability for injury to property or persons, including death. Such policy shall remain in effect until the completion of the project with a minimum period of three (3) years;

(e) Traffic note. The contractor shall notify the office of Engineering Control, Mayor's Traffic Construction Coordinating Committee (MTCCC), 51 Chambers Street, New York, NY 10017, (10 days prior to the issuance of a Construction permit);

(f) Pavement restoration note. To follow specific pavement restoration provisions as stipulated by the New York City Department of Transportation (NYCDOT). Refer to NYCDOT letter dated _____.

[Note: The contractor shall restore the pavement in accordance with the NYCDOT stipulations.]:

(g) Utility note.

(1) All utility companies must be notified at least 72 hours prior to commencement of construction to comply with Rule 53 of Industrial Code of the State of New York, Department of Labor for "Construction, Excavation and Demolition Operations at or near Underground Facilities" (Cited as 12 NYCRR53); and

(2) for Private developments, the support, relocation, reconstruction or rehabilitation of existing utilities due to the construction of this contract is to be done at the expense of the Owner of the proposed Private sewer or Private drain;

(h) Approval of materials and manufacturers' note. The name of City approved sub-contractors, vendors, manufacturers, suppliers, and dealers who are to furnish materials, fixtures, equipment, appliances or other fittings shall be submitted by the contractor as early as possible to the Department at 59-17 junction Boulevard, Corona, New York, 11368 for approval;

(i) Soil note. When ordered by the professional engineer or registered architect, the trench shall be excavated to its full depth for at least 50 feet in advance of the Private sewer or Private drain construction. When in the opinion of the professional engineer or registered architect, the sub-soil is deemed to be inadequate, the contractor shall drive piles as ordered. Unsuitable soils encountered at the sub-grade less than five (5) feet thick, if encountered at the sub-grade shall be removed to an acceptable stratum and replaced with broken stone as directed by the professional engineer or registered architect. In such case, the sheeting placed shall be left in place below the spring line of the pipe only;

(j) Sheeting note.

(1) In performing the sheeting of the Private sewer or Private drain trench for excavation, the contractor shall comply with the provisions of the New York State Labor Law and particularly with Rule Number 23 (as amended) of the industrial code as promulgated by the Board of Standards and Appeals, Department of Labor, State of New York and in accordance with Rules and Regulations listed in Federal Register / volume 54, number 209 / Tuesday, October 31, 1989, Department of Labor, Occupational Safety and Health Administration, 29 CFR part 1926. [Docket number S-204] RIN 1218 AA 36. Where the spacing of stringers and cross bracing specified in Rule Number 23 are such that the contractor can not adequately and in a practical manner carry on his operations, he shall submit to the professional engineer or registered architect for approval alternate designs for sheeting or shoring with all bracings as may be necessary to comply with the intent of Rule Number 23;

(2) Sheeting and forms shall be removed in accordance with the latest Department's standards and specifications unless otherwise noted on the drawings or instructed by the professional engineer or registered architect;

(k) Storm drainage note.

(1) Provisions for the safe disposal of storm water shall be determined by the New York City Department of Buildings (NYCDOB), Department of Transportation (NYCDOT), and the Department of Environmental Protection (NYCDEP);

(2) Owner-builder shall comply with the provisions of the land-contour law so that construction operations will not create nor perpetuate any hazardous condition. In addition, he or she shall provide the necessary means to control the erosive velocity of overland Flow and the conveyance of sediment to the sewer or street area;

(l) Dewatering note. If the contractor is required to install a temporary dewatering system to lower the groundwater level within the Boroughs of Brooklyn or Queens, it will be necessary that he or she obtain a New York State Department of Environmental Conservation (NYSDEC) Long Island Well Permit.

Appendix A-6 Requirements for the preparation of the survey of the property and the Location and route of the Private Sewers or Private drains

All Drainage proposals and Private sewer or Private drain plans submitted to the Department shall be accompanied by two sets of the survey of the Proposed development and the location and route of the proposed Private sewers or Private drains in conformance with the requirements of section 23-02(6) of the Rule, and shall contain the following information at a minimum:

The survey shall show the existing elevations at each fifty (50) foot stationing and at all grade changes for all existing streets (center lines, curb lines, property lines), legal grade elevations, existing sewers, drains, ditches, Watercourse(s), catch basins, manholes, utilities, culverts, all boundaries and buffer zones for all wetlands, designated open space areas, wildlife sanctuaries as established by the federal, state, or local agencies having regulatory jurisdiction thereof, and grades within the site of the Proposed development. The survey shall be prepared, signed and sealed by a professional land surveyor licensed by the State of New York.

Appendix A-7 Requirements for the preparation of the professional engineer or registered architect's Cost estimate

All Private sewer or Private drain plans submitted to the Department shall be accompanied by three sets of the professional engineer or registered architect's cost estimate for the proposed work covered by the Private sewer or Private drain plan. The estimate shall be prepared based on the unit costs for various contract items as listed in the latest unit price list maintained by the Department. Cost of contingencies and mobilization shall be added to arrive at the total cost. The estimate shall be signed and sealed by the filing professional engineer or registered architect.

Appendix A-8 Requirements for the preparation of the boring logs and boring reports

All boring logs and boring reports submitted to the Department in connection with Drainage proposals and Private sewer or Private drain plans shall be prepared in accordance with the following requirements.

(1) Borings shall be taken in accordance with the latest provisions and requirements of the New York City Building Code. Borings shall be taken at 150 foot intervals in Queens, Brooklyn, and Staten Island, and at 50 foot intervals in the Bronx and Manhattan within the street limits where the Private sewer or Private drain is proposed. The average depth of borings, including depth at which dry samples and rock cores will be taken, will be approximately fifteen (15) feet below the proposed subgrade;

(2) in soil, casings 2½" or larger shall be sunk. In cases of rock, diamond drills shall be used, drilling to be done with 1⅜" cores;

(3) the casing shall always be driven with the same weight of hammer having the same height of fall. The weight of the sampler drop hammer shall be three hundred (300) pounds and the height of free fall shall be eighteen (18) inches. The number of blows required to drive the casing each foot into the soil shall be recorded on the driller's log for each boring. All drop hammers shall have their true weight marked and certified by the contractor;

(4) rock cuts shall be at least 1⅜" in diameter. The rock core borings shall be carried to a depth of ten (10) feet below top of rock, or as otherwise directed by the professional engineer or registered architect;

(5) dry samples shall be obtained with a split spoon sampler having a two (2) inch outside diameter (O.D.) and a 1⅜" inside diameter (I.D.) and a clear inside length at least twenty two (22) inches;

(6) dry samples shall be taken by the contractor of the materials penetrated at five (5) foot intervals, unless otherwise ordered, and also at every change of material or soil stratification as established from sampling, observation of the wash material and driving resistance during progress of the boring explorations;

(7) the sampler shall always be driven with the same weight of hammer having the same height of fall. The weight of the sampler drop hammer shall be one hundred and forty (140) pounds and the height of free fall shall be thirty (30) inches. The number of blows required to drive the sampler each consecutive six (6) inches for a total penetration of eighteen (18) inches into the soil shall be recorded on the driller's log for each boring. All drop hammers shall have their true weight clearly marked and certified by the contractor;

(8) the ground water levels will be determined by well point at a location where a boring is taken at a maximum spacing of 500 feet. The well point will be read during a 24 hour period;

(9) the contractor shall take undisturbed soil samples, in an approved manner or as ordered by the professional engineer or registered architect. Each sample shall be obtained with a thin, open type, brass "shelby" tube sampler, three (3) inch O.D. and thirty (30) inches long or as otherwise approved by the professional engineer or registered architect;

(10) continuous samples shall be taken when ordered by the engineer. The method of

taking samples shall be subject to approval by the professional engineer or registered architect and shall be such as to permit laboratory tests to determine accurately the compactness, hardness, water content or other properties of each strata from which a sample is taken;

(11) the professional engineer or registered architect shall show soil classification data on the boring logs;

(12) general notes shall appear on the boring sheet as follows:

Borings in accordance with the latest City Building Code;

Weight of hammer on _____ casing _____ lbs. with _____ drop;

Weight of hammer on _____ spoon _____ lbs with _____ drop;

Boring elevations are approximate;

Spoon blows per 6" _____;

Spoon blows per foot _____;

All field and laboratory work supervised by _____, P.E./R.A; these borings were made and carried to the depth indicated and to the best of my knowledge, the description and classifications are a true presentation of the soils found at the depths and elevations shown;

Elevations shown refer to the Borough of _____, sewer datum which is _____ ft. above mean sea level as established by the U.S. Coast and Geodetic survey at Sandy Hook, NJ;

(13) the seal and signature of the professional engineer or registered architect who supervised the borings;

(14) a box showing the name and address of the company taking borings, client, job location, professional engineer or registered architect, and date borings were taken; and

(15) the boring location plan shall show the location of each boring along with the profile of each boring.