

ARTICLE 11
REQUIRED IMPROVEMENTS AND CONSTRUCTION STANDARDS

11.1 BASIC REQUIREMENTS

The Planning Board shall not approve any subdivision plan unless proposed street(s) are designed and constructed in accordance with local ordinances as well as the specifications contained in these regulations. Final subdivision approval by the Planning Board of a Subdivision Plan shall not be deemed to constitute or be evidence of acceptance by the City of any street, easement, or open space.

The developer shall install all of the improvements required under these standards except those which may be specifically waived by the Board. Construction practices and materials not specifically mentioned here shall be in accordance with the Maine Department of Transportation *Standard Specification (for) Roads and Bridges* (most recent revision). No bond or covenant given as security for such work shall be released until the Board has received (1) a survey plan of the improvements as built in compliance with article 11.23 and (2) a report in writing from the Department of Public Works giving full approval of the work. No work of any nature shall commence until such time as the Planning Board approves a final plan and it has been recorded at the Registry of Deeds.

11.1.1 Responsibilities Of Applicant

The applicant shall be responsible for providing the following basic services until street acceptance:

11.1.2 Snow plowing of all ways;

11.1.3 Trash pick-up from all inhabited units;

11.1.4 Maintenance of all roadway surfaces, drains, sewers and other utilities;

11.1.5 Installation of street signs and lights; Lights are to be energized;

11.1.6 The costs of performing the provisions of this section shall be added

into the bond or surety provided for in Article 8 or included in the covenant provided for in Article 8;

11.1.7 The applicant shall, prior to the sale or transfer of a lot, notify the grantee that the applicant is responsible for providing the basic services as outlined above until the street is accepted to city standards and accepted by the city. Nothing herein shall be interpreted as requiring the applicant to provide these services to streets or utilities duly accepted by the City of Saco.

11.2 STREETS AND ROADWAYS

11.2.1 The subdivider or his contractor shall furnish and maintain all stakes and such temporary structures as may be necessary or required by the Department of Public Works for marking and maintaining points and lines for the installation of the roadway and related utilities throughout the construction of the subdivision.

11.2.2 Streets and roadways shall be constructed in accordance with the Typical Roadway Cross Sections attached to these Standards and Regulations.

11.2.3 Posting

The applicant shall, upon beginning construction of a street which intersects with a public way, post a sign, of a size no smaller than two feet by three feet and with two-inch letters in black on a white background, which states the following:

THIS IS NOT A PUBLIC WAY OWNED BY THE CITY OF SACO

The sign shall further identify the owner of the way and its address.

11.3 CLEARING AND GRUBBING

Clearing and grubbing of the roadway and sidewalk locations shall be done according to the width of the typical roadway section proposed, and shall

include the removal of all stumps, brush, roots, boulders and similar materials as well as all trees which have not been marked for preservation. The contractor shall satisfactorily dispose of all trees, stumps, shrubs, roots, branches, dead wood, and other litter, in areas outside of the right of way or outside the subdivision and at approved disposal facilities when required.

The stumps of all trees, brush, and major roots shall be grubbed and removed in all excavation and under all embankments where the original ground level is within 3 1/2 feet below the sub-grade or slope of embankments.

11.4 EXCAVATION

11.4.1 Earth Excavation

Earth excavation shall consist of the excavation, disposal or compaction of all material not otherwise classified under some other item in accordance with the lines, grades, and cross sections shown on the plans or established by the Engineer.

Excavated materials, which are unsuitable for embankment, or surplus material remaining after completing the site work will be known as waste and shall be disposed of by the contractor outside the Right of Way, unless otherwise directed.

11.4.2 Rock Excavation

Rock excavation shall consist of:

11.4.2.1 Rock which cannot be excavated without blasting or the use of rippers.

11.4.2.2 Rock, cemented stonewalls, or masonry structures measuring one cubic yard or more.

11.4.3 Embankment

This work consists of the formation of embankments with suitable material

obtained from excavation and borrow, thoroughly compacted to produce a stabilized embankment, in accordance with the lines and grades shown on the plans and as directed.

11.4.3.1 When it is determined that there is not sufficient material available from excavation, the Contractor shall obtain additional material from outside the location and this material will be borrow material.

11.4.3.2 Frozen material shall not be placed in embankments. Earth embankment shall be placed and compacted in uniform layers not exceeding twelve (12) inches in depth, loose measurement, spread on the entire width of the embankment and leveled off by approved equipment. Each layer of embankment material shall be thoroughly compacted not less than 95 percent of the maximum dry density of the material in accordance with AASHTO procedure T-180, Method C - D.

11.4.4 Sub-grade Preparation

11.4.4.1 The roadway shall be excavated to a depth below the established finished grade as shown on the plans or the Typical Roadway Cross Sections.

11.4.4.2 The conditions of the sub-grade surface at the bottom of the excavation shall be inspected by the city inspector, and if, in his opinion, such conditions are wet or spongy or otherwise unsatisfactory due to the presence of unsuitable materials such as organic soils and some types of clay, the bottom shall be excavated below the sub-grade to a depth determined by the representative to be sufficient to ensure removal of all such unsuitable material.

11.4.4.3 If any portion of the roadway location is required to be excavated below the designed surface of the sub-grade, the space so excavated shall be filled with clean, bank gravel, or such other suitable material such as shattered ledge. The top six (6) inches of sub-grade shall contain no stones greater than six inches in diameter. The roadway

location shall then be graded and rolled so as to form the surface of the sub-grade shaped to conform with the proposed roadway section.

11.4.4.4 All ledge, boulders, and large stones located within the full cross section of the roadway shall be cleared to the minimum depth required below the established finish grade.

11.4.4.5 All drainage and sewer pipes, culverts, catch basins and manholes, and all utility pipes, conduits and appurtenances to be placed under the roadway and sidewalk locations shall be installed and properly back-filled prior to construction of the roadway and sidewalk.

11.4.4.6 When required, sub-drains shall be installed at additional locations as directed by the Department of Public Works.

11.5 GRAVEL SUB-BASE AND BASE MATERIALS

Gravel shall consist of hard, durable stone and coarse sand, free from frozen lumps, frost, loam, and clay, uniformly graded and containing no stone having any dimension greater than 3 inches. The grading of sizes and material shall be such that the gravel may be thoroughly consolidated. The grading shall conform to the following requirements:

11.5.1 Type A - Aggregate For Base Course

The gradation of the part that passes a 3-inch sieve shall meet the grading requirements of the following table:

<u>Sieve Designation</u>	<u>Percent by Weight Passing Square Mesh Sieves</u>
1/2 inch	45 - 70
1/4 inch	30 - 55
No. 40	0 - 20
No. 200	0 - 5

Type A aggregate for base shall not contain particles of rock which will not

pass the 2-inch square mesh sieve.

11.5.2 Type B - Aggregate For Sub-base Course

The gradation of the part that passes a 3-inch sieve shall meet the grading requirements of the following table:

<u>Sieve Designation</u>	<u>Percent by Weight Passing Square Mesh Sieves</u>
1/4 inch	25 - 70
No. 40	0 - 30
No. 200	0 - 7

Aggregate for sub-base shall not contain particles of rock which will not pass the 6 inch square mesh sieve.

11.5.2.1 After the roadway sub-grade has been graded and properly compacted, the gravel for the base and sub-base shall be spread in layers not exceeding six inches in thickness, each thoroughly watered and compacted true to lines and grades to not less than 95 percent of the maximum dry density, in accordance with AASHTO procedure T-180, Method C - D, so as to yield a total depth of eighteen (18) inches after compaction. The gravel base shall be formed as shown on the proposed Roadway Cross Section. Any depression that appears during or after rolling shall be filled with gravel and the area rerolled until the surface is true and even.

11.5.2.2 After the gravel sub-base has been compacted and approved a 3" layer of aggregate base Type A shall be spread and compacted in accordance with AASHTO procedure T-180, Method C - D. Aggregate base Type A shall conform to the Department of Public Works specifications.

11.5.2.3 When required by the Department of Public Works, samples of the gravel to be used shall be tested for gradation by sieve analysis and

the rolled gravel tested for compaction. All such tests shall be made at the expense of the developer.

11.6 PAVEMENT

11.6.1 Arterial Streets

The pavement of the roadway of each arterial street in a subdivision shall consist of Bituminous Concrete constructed in two courses; 2 1/2" base or binder course and 1 1/2" top or finish course. Each course shall be rolled so as to form a final pavement depth of four (4) inches over the gravel base in conformity with the lines, graded and typical cross section shown on the approved Final Plan. Additional gravel and bituminous pavement may be required if the traffic flow warrants.

11.6.2 Secondary Streets

The pavement of the roadway of each secondary street in a subdivision shall consist of Bituminous Concrete constructed in two courses; 2" base or binder course and 1" top or finish course. Each course shall be rolled so as to form a final pavement depth of three (3) inches over the gravel base in conformity with the lines, graded and typical cross section shown on the approved Final Plan.

11.6.3 No roadway pavement shall be constructed before April 15th or after October 15th for top coat or November 15th for binder without written permission of the Director of Public Works. Air temperature shall be no lower than 35 degrees F. (binder) and 55 degrees F. (top coat) without written permission of the Director of Public Works.

11.6.4 The binder course shall set after application for one full winter before the finish paving is placed.

11.6.5 Pavement Joints

Where pavement placed joins an existing pavement, the existing pavement shall be cut along a smooth line and to a neat, even, vertical joint.

11.7 STREET CONSTRUCTION STANDARDS (Amended 5/23/89)

Minimum thickness of materials after compaction:

<u>Street Materials</u>	<u>Minimum Requirements</u>	
	<u>Arterial</u>	<u>Secondary</u>
Aggregate Sub-base Course (Max. sized stone - 6")	21"	18"
Crushed Aggregate base Course	3"	3"
Hot Bituminous Pavement (after compaction)		
Total Thickness (after compaction)	4"	3"
Surface Course (after compaction)	1 1/2"	1"
Base Course (after compaction)	2 1/2"	2"

11.8 ROADWAY EMBANKMENTS AND RETAINING WALLS

11.8.1 Embankments outside of the street right-of-way shall be evenly graded and pitched at a slope of not greater than three (3) horizontal to one (1) vertical in fill as shown on the Typical Sections.

11.8.2 Where cuts are made in ledge, other slopes may be permitted upon written approval of the Board. Where terrain is such that greater slopes are essential, retaining walls, terracing or riprap shall be used either alone or in combination provided that plans of such proposed grading methods are filed with and approved by the Board prior to the commencement of road construction.

11.8.3 The Board may require that defined slope easements be shown on the Final Survey Plan and that such easements be reserved by the developer for future acquisition by the City for maintenance purposes.

11.8.4 All major changes in the grading of land and streets as shown on the approved Final Plan shall be completed prior to the installation of the drainage system, utilities and roadways.

11.9 CURBS AND BERMS

11.9.1 Vertical faced granite curb, Type 1, shall be installed on all arterial streets.

11.9.2. Bituminous curb impregnated with fibers, MDOT Type 3, Mold 2, shall be installed on all secondary streets, except for the following specific locations:

A. Between the points of tangency of intersecting streets and other intersections, including, but not limited to, commercial properties, and driveways serving five or more dwelling units, where Type 1 vertical granite curb, Type I, is required;

B. Adjacent to granite catch basin inlets and adjacent to vertical granite curb, where granite transition pieces approved by the public works director shall be installed, and;

C. Cul de sac islands, traffic islands, and medians, around which Type 5 sloped granite edging shall be installed.

The applicant may choose to install granite curb, Type 1, rather than bituminous. Handicapped accessible curb designs will be used at proposed pedestrian crossings.

The typical detail 3 illustrates the proper installation of bituminous curb. (See typical detail #3 at rear of appendix.) (Amended 5/24/94)

11.10 GRANITE CURB INLETS

Granite curb inlets shall be installed at all catch basin locations on all streets.

11.11 The following design standards apply to all streets: (Amended 5/23/89)

<u>Description</u>	<u>Type of Street</u>	
	<u>Arterial</u>	<u>Secondary</u>
Minimum Right-of-way width	70'	50'
Minimum Pavement width	34'	24'
Sidewalk width	5'	5'
Esplanade width	5'	5'
Minimum Centerline Grade	1%	1%
Maximum Centerline Grade	6%	8%
Minimum Centerline radius	430'	150'
Minimum tangent between curves of reverse alignment	200'	100'
Roadway Crown	1/4"/ft	1/4"/ft
Minimum angle of street intersections	90*	90*
Maximum Grade at Intersection (within 75' of intersections)	3%	3%
Minimum Street Corner Radius	30'	20'
Min. ROW radius at intersection	15'	10'

* A variation of 15 degrees is acceptable when necessitated by topography, safety

considerations, or other reasons acceptable to the Board.
(Amended 5/23/89)

11.12 MINIMUM SAFE SIGHT-DISTANCES FOR STREETS AND DRIVEWAYS

Posted Speed Limit (mph)	*	25	30	35	40	45	50	55
For Passenger Cars		250'	300'	350'	400'	450'	500'	550'

*Note: Where it is impossible to meet these sight-distance standards, due to physical conditions, a maximum variance of 30% may be permitted, in accordance with the waiver provisions in Article 12. The 30% variance is consistent with the absolute minimum stopping distance requirements on wet pavement established by the Maine Department of Transportation.

Sight distances shall be measured from the driver's seat of a vehicle, a distance of 10' behind the edge of traveled way from a height of eye 3 ½ feet to an object 3 ½ feet above the pavement. (Amended 9/4/07)

11.13 GRADES, INTERSECTIONS, AND SIGHT DISTANCES

All changes in grade of one percent or greater shall be connected by vertical curves of such length and radius as meet with the approval of the Planning Board so that clear visibility shall be provided for distances specified in paragraph 11.12, minimum sight distances.

11.14 STORM AND SURFACE DRAINAGE

A system of storm drains, culverts, ditches, and related installations, including catch basins, gutters, and manholes, shall be designed and installed to provide adequate disposal of surface water, including control of erosion, flooding, and standing water from or in the subdivision and adjacent lands.

11.14.1 Pipes, Culverts And Drains

11.14.1.1-The size of pipe shall be in accordance with the approved Final plan and in any case shall not be less than twelve (12) inches in diameter for the combined underdrain and storm drain, except for the six inch Type B underdrain, which is installed on the opposite side of the street from the storm drain. Where the diameter of pipe increases, the pipes shall be installed such that the pipes are flush at the crown, or other accepted engineering practice approved by the Planning Board.

11.14.1.2 Pipe for the construction of all culverts and drains shall be P.V.C. SDR35 or equal, aluminized Type II metal, reinforced concrete with a minimum strength of Class III, or A.B.S. pipe approved by the Public Works Director. The classes of pipe indicated above should be construed as a minimum. Where conditions warrant, stronger grades may be required. (Amended 5/23/89)

11.14.1.3 All pipes shall be laid out true to line and grade as shown on the approved Final plan. Each section of pipe shall have a full, firm bedding throughout its length and shall be installed in compliance with the Standard Specification. No back filling of pipes or culverts shall be done until the installation has been inspected and approved by the Department of Public Works. As the pipe is installed, the space outside and around the pipe shall be back-filled with suitable pipe bedding materials as indicated on the plans. The back fill shall be deposited in layers not over six (6) inches in depth to a point one foot over the pipe and each layer thoroughly compacted mechanically or by other approved methods and tools. Machine backfilling shall not be allowed without approval of the DPW. Minimum covering of all pipe shall be not less than thirty-six (36) inches. (Amended 5/23/89)

11.14.2 Catch Basins And Manholes

11.14.2.1 Catch basins shall be located on both sides of the roadway on continuous grades at intervals of not more than three hundred (300) feet, and at all low points and at the corners' low points as may be required. Intervals of less than three hundred (300) feet may be required on steep

grades.

11.14.2.2 Catch basins and manholes shall consist of precast solid segments or precast concrete structures, all conforming to the Standard Specifications.

11.14.2.3 Catch basins and manholes shall have an inside diameter of not less than four (4) feet at a point two and one-half (2 1/2) feet below the bottom of the frame.

11.14.2.4 Catch basins shall provide a two-foot sump measured from the invert of the outlet pipe.

11.14.2.5 Walls of pre-cast catch basins and manholes shall be not less than five inches thick.

11.14.2.6 Backfill shall not be applied until after inspection or within five (5) days of setting the mortar.

11.14.2.7 Frame castings for catch basins and manholes shall be set in full mortar beds of red brick, type 2H backer type with a minimum of three courses and a maximum of five courses of brick. Manhole castings shall be set flush with the designed finish grade of the pavement. Catch basin grates shall be depressed one inch from the finished gutter grade. Bicycle-safe grates shall be used. (Amended 5/23/89)

11.14.3 Responsibility For Subdivision Drainage

The responsibility for adequate drainage shall rest with the developer. This shall include connection with existing drainage facilities, if any, provided by the City. When private drains are connected to City drainage, the city will not be responsible for any damage.

11.15 SANITARY SEWERS

A system of sanitary sewers shall be designed and installed to provide adequate disposal of sewage.

11.15.1 Pipe

11.15.1.1 Pipe shall PVC-SDR 35, or reinforced concrete. Extra strength reinforced concrete pipe may be required where the depth of cover is less than three feet or other conditions warrant.

11.15.1.2 All pipes shall be laid straight, true to line and grade as shown on the approved Final plan. Each section of pipe shall have a full, firm bedding throughout its length and shall be installed in compliance with the Standard Specifications and inspected by the department of public works.

11.15.2 Sewer Service Connections

This item consists of connecting sanitary sewer services to residences, business and industrial establishments to an existing sewer main. All construction methods used for this item shall comply with the applicable sections of these specifications.

All sewer service connections from residential, commercial or industrial establishments shall be connected to the sewer main by means of an approved wye or tee wye specially manufactured for the purpose. The connection shall be made in a manner that does not protrude into the sewer main. All such connections shall be made in conformance with Department of Public Works specifications.

11.15.3 Future Service Connections

Where new sewers are to be constructed, the Contractor shall furnish and install fittings or chimneys at locations shown on the plans or designated by the Department of Public Works. Service sewer pipe shall be connected to the main and properly installed out to the sideline or Right-of-Way of the roadway. The Contractor shall permanently locate the ends of the pipe so that a future connection can be made. The end of the service pipe shall be suitably capped or plugged as approved by DPW.

11.15.4 Manholes, Frames And Covers

11.15.4.1 Sewer manholes shall be watertight and concrete or cast-in-place concrete in conformity with the construction details as attached hereto.

11.15.4.2 Sewer manhole frames and covers shall be E265S and G277 for watertight applications as manufactured by Ethridge Foundry or approved equal, and shall bear "SACO, ME" on the cover. (Amended 5/23/89)

11.16 WATER MAINS, VALVES, HYDRANTS & FITTINGS

When new streets are constructed in accordance with these standards, the minimum size of the water main, the number of gates and the location of the hydrants to service the proposed area shall be determined by the Biddeford Saco Water Company and the fire department. In general, 8-inch water mains, or larger, shall be installed on all water main extensions in excess of 600 feet, or when needed to complete a good distribution grid system. All water main extensions together with all other appurtenances shall be installed under the supervision of the Biddeford-Saco Water Company.

11.16.1 Water mains and appurtenances shall be installed under a main extension contract between subdivider and the Biddeford and Saco Water Company. The contract shall comply with the rules of the Maine Public Utilities Commission governing water main extensions (65-407 C.M.R. 65).

11.16.2 Fire hydrant locations and fire flow requirements are outlined in Article 10 and may be supplemented by the Saco Fire Chief when special conditions warrant. Water main size, layout and location of appurtenances shall be established by the Water Company.

11.16.3 Materials shall comply with Water Company requirements as summarized below:

11.16.3.1 Pipe, fittings, and accessories shall conform to the latest edition of the following ANSI standard specifications: A21.4,

A21,10, A21.11, A21.50, and A21,51. Pipe shall be thickness class 52 with double thickness cement mortar lining. Fittings shall be mechanical joint of a pressure classification at least equal to that of the pipe.

11.16.3.2 Valves shall be American Darling CRS 80, open right.

11.16.3.3 Hydrants shall be American Darling B62, Biddeford specification.

11.16.3.4 Tapping sleeves shall be split cast-iron sleeve with mechanical joint ends on the main.

11.16.4 Layout

Water mains shall be located off the paved surface at least 4 feet from the edge of pavement and 10 feet horizontal distances from any other buried utility. Water mains shall be "looped" with multiple connections to the existing distribution system wherever possible. Long dead-end mains shall be avoided. Subdivider shall provide the Water Company with 30 feet wide recorded easements to adjacent parcels of land where required by the Board to provide for possible future water main extension.

11.17 SIDEWALKS

11.17.1 Sidewalk Base

The sidewalk base shall consist of not less than twelve (12) inches of Gravel Aggregate Sub-base Course and the Crushed Aggregate Base Course shall not be less than 2 inches in thickness, after thorough compaction in accordance with AASHTO procedure T-180, Method C - D.

11.17.2 Sidewalk Pavement (Amended 4/24/01)

The sidewalk pavement shall consist of Bituminous Grade C laid in a base course of 1.5 inches and a surface course of one inch of Grade D. With the concurrence of the Public Works Department and the Planning Board the subdivider may also install four inches of Portland Cement Concrete,

reinforced by 6 inch square #10 wire mesh or approved equal, 4,000 psi, 5 percent air entrainment. Concrete pavement must be six inches thick where driveway aprons cross. Brick or concrete sidewalks may be required in downtown areas if brick or concrete sidewalks exist nearby.

11.17.3 Loaming And Seeding

All areas between the sidewalk and the paved roadway shall be graded, filled, loamed and seeded in accordance with the typical section. Planting strips to be limed at the rate of 100 pounds per 1000 square feet, and 10 pounds of a 10-10-10 fertilizer per 100 sq. feet or equivalent and seeded with a conservation mix meeting the standards of the York County Soil and Water Conservation District.

11.17.4 Sidewalk Pavement At Street Intersection

All sidewalk/street intersections are to be made handicapped accessible and must conform to the construction standards of the Architectural Barriers Board.

11.17.5 Grass Strips

All cleared open areas included within the street right-of-way or within slope or drainage easements shall be suitably graded and loamed with not less than four (4) inches of good quality loam after compaction and rolled, limed, fertilized, and seeded with perennial lawn grass seed. Seeding shall be done at appropriate times of the year and in a manner to insure the growth of grass as approved by the Department of Public Works.

11.17.6 Street Signs

Street signs approved by the Department of Public Works shall be furnished and installed at all street intersections prior to the occupancy of any house on the street. Street signs shall be set at the location and height and in the manner prescribed by the Department of Public Works.

11.18 BOUNDARY MARKERS AND MONUMENTS

11.18.1 Granite monuments shall be set at all intersections and points of

curvature, but no farther than 750 feet apart along street lines without curves or intersections.

11.18.2 Granite monuments shall be placed at all corners and angle points of the subdivision boundaries where the interior angle of the subdivision boundaries is 135 degrees or less.

11.18.3 Monuments shall be of granite and located in the ground at final grade level, and indicated on the Final Plan. After they are set, a surveyors cap inserted in the granite shall locate the point or points described. The minimum monument size shall be four (4) inches square at the top, and four (4) feet in length. Where conditions warrant other suitable permanent markers may be used if approved by the city.

11.18.4 All other subdivision corners and boundary points and all other lot corners and angle points shall be marked with an iron pin.

11.19 STREET LIGHTING (Amended 12/21/04)

All the appurtenances for street lighting, (i.e. handholds, transformer pads, conduit,) with underground wiring shall be installed concurrently with the installation of the underground domestic electric service. Plans showing proposed locations of poles and underground cables, conduits, transformers, and related equipment shall be filed with and approved by the City Engineer, the City Electrical Inspector, and the Department of Public Works before installation is commenced. Streetlights shall be energized prior to issuance of occupancy permits. The developer shall provide to the City Department of Public Works one additional street light pole for each two poles installed, identical to the poles installed. If three poles are installed, two additional poles shall be provided. The additional poles shall be provided at the time of installation of poles at the subdivision.

11.19.1 Street Lighting for Arterial Streets

Where specifically approved by the City as a condition of the Subdivision review process, the Developer shall make arrangements with

CMP under a municipal street lighting lease agreement to have CMP provide cut-off street lights with bracket arms to be installed on existing utility poles. Streetlights shall include 150-watt high-pressure sodium lamps. Luminaires shall be CMP cut-off “cobra head” series lights. Bracket arms shall be CMP standard 6-foot bracket arms.

A minimum of one streetlight and maximum of two streetlights shall be provided within 10 feet of the street corner.

11.19.2 Street Lighting for Secondary Streets

11.19.2.1 Street light luminaires shall be the Lumec Domus Small (DOS50-175-SG3), with a multi-tap ballast rated to operate a 70-watt high-pressure sodium ballast (ballast to be provided within pole base). Ballasts shall be supplied with modular wiring connectors. Luminaire paint color shall be black.

11.19.2.2 Street light poles shall be a round tapered composite Tuff-Pole manufactured by Shakespeare (AO1499S1BB01). Poles shall be fourteen (14) feet in height. Poles shall be supplied and installed with manufacturer’s anchor bolts. Poles shall be equipped with a photocell. An alternate pole acceptable to the City is the Lumec steel bottle neck pole (SM63V15).

11.19.2.3 Street Lighting Pole Foundations

Street light pole foundation bases shall be precast concrete, eighteen (18) inches in diameter by 6’-0” long. Concrete bases shall include 4000 PSI concrete with #4 steel reinforcing rods. Concrete bases shall be embedded with 5’-6” burial depth. All bases shall include a minimum of two conduits (where only one conduit is required for street lighting circuiting, the second conduit shall be capped below grade for future use).

Street lighting for Secondary Streets shall be provided on one side of the street (sidewalk side where sidewalk is provided) at intersections and culs de sac, or as required by the City. A minimum of one streetlight and

maximum of two streetlights shall be provided within ten (10) feet of any intersection of cross streets, or as required by the City so as to adequately light any intersection of cross streets.

11.20 EROSION CONTROL

Measures shall be taken, both during preparatory construction and cleanup stages, to prevent soil erosion and water pollution. A plan shall be prepared meeting the standards of the York County Soil and Water Conservation District.

11.21 FINAL CLEANING UP

Upon completion of the roadways and other required improvements, the developer shall remove from the right of way and adjoining property all temporary structures, logs, brush, rubbish, loose stones and boulders, surplus earth, gravel, and other materials which may have accumulated during construction, shall sweep the streets, and shall leave the subdivision in a neat and sightly condition.

11.22 INSPECTION OF IMPROVEMENTS

11.22.1 Inspection of the required subdivision improvements shall be made by the Department of Public Works during the work and arrangements shall be made by the developer with the Planning Board Agent prior to starting road construction.

11.22.2 The Planning Board Agent will furnish the developer with a copy of a checklist covering all required inspections. The original of such list shall be signed by the Agent after satisfactory completion of each stage of the construction and retained in the Board files.

11.22.3 Inspection shall be requested at least forty-eight (48) hours in advance of each inspection by written notice to the Planning Board Agent.

11.22.4 Required Inspections

Inspections shall be required in all subdivisions during the installation of the following required improvements:

- 11.22.4.1 Marking of trees to be preserved in the street right-of-ways;
- 11.22.4.2 Excavation of roadway and sub-grade preparation;
- 11.22.4.3 Installation of drainage pipes, conduits, catch basins, manholes and other below-grade drainage facilities;
- 11.22.4.4 Installation of utility pipes and conduits located under roadway and sidewalk locations;
- 11.22.4.5 Filling, grading and compaction of the roadway and sidewalk subgrades;
- 11.22.4.6 Installation of curb and curb inlets at catch basins and at street intersections;
- 11.22.4.7 Placement of bituminous binder course on roadways;
- 11.22.4.8 Installation of sanitary sewer systems and testing of systems for exfiltration, infiltration, vertical and horizontal alignment, and deflection;
- 11.22.4.9 Installation of catch basins and manhole frames, headwalls, and riprapping;
- 11.22.4.10 Placement of bituminous finish course on roadways;
- 11.22.4.11 Construction of sidewalks;
- 11.22.4.12 Installation of underground electric and telephone services;
- 11.22.4.13 Installation of street lights;
- 11.22.4.14 Loaming, grading, and seeding of grass strips;
- 11.22.4.15 Installation of street signs;

11.22.4.16 Installation of street trees where required;

11.22.4.17 Installation of monuments;

11.22.4.18 Clean up of all stumps and debris in the right of way.

11.23 SURVEY OF IMPROVEMENTS AS INSTALLED

After all street construction is completed and before the release of any bond or covenant, the developer shall file with the Board one (1) reproducible copy and two (2) contact prints of the Final plan corrected and certified by a Registered Professional Engineer or Registered Land Surveyor to show the following:

11.23.1 Centerline elevations at 50-foot intervals of all roadways as built;

11.23.2 Profiles of the drainage and sanitary sewer systems as installed;

11.23.3 Utilities as installed, including but not limited to water, sewer, gas, cable television, electricity and telephone;

11.23.4 Sideline locations of roadways and sidewalks as built;

11.23.5 Monuments as installed;

11.23.6 Contour map at 2-foot intervals.

11.24 SUBMISSION OF FINAL PLAN IN DIGITAL FORMAT (Amended 1/22/02; 12/16/08)

Prior to the release of the Letter of Credit and Inspection Fee Account, the developer shall submit to the Planning Office a digital copy of the Final Plan referenced in 11.23 above. The digital data shall be a single composite AutoCAD (up to Release 2007) drawing file as well as a 'pdf' file, and may be submitted on CD-ROM, via e-mail, or other format acceptable to the City Planner. The following standards shall be followed:

11.24.1 Plan units; decimal feet, NAD83, Maine State Plane West, vertical datum

NAVD1988

- 11.24.2 Georeferencing; drawing features should be tied into state plane coordinates
- 11.24.3 Rotation of grid north maintained. Plan data should not be “rotated” in any way which might compromise data coordinate integrity. (Alternatively, a ‘dview, twist’ or similar CAD display operation will allow for convenient plotting/layout fitting while still proper maintaining spatial reference.)
- 11.24.4 Coordinates shall be specified on at least four corners of the site plan or subdivision plan. Coordinates shall be referenced via the Maine State Coordinate System.
- 11.24.5 Any dependant external referenced (xref’s) should be bound to the drawing file
- 11.24.6 Drawing layers should be named in a logical fashion to allow identification of features; preferably, all drawings should be accompanied by a file that describes the layer structure

Significant proposed features, ie: building footprints, parking areas, driveways, should be closed 2d polylines (looped for closure).

11.25 STREET ACCEPTANCE DESCRIPTION (Amended 1/23/01)

After all improvements have been satisfactorily constructed, installed and inspected by the City or its agents, the developer may submit a request that the City accept those streets. Before the City accepts the street(s), the Developer is required to submit a metes and bounds description specific to the street requested to be accepted. The description shall be prepared and certified by a Registered Land Surveyor and shall reference monuments or other physical property points shown or referenced on the approved subdivision plan and record drawings as required by Article 11.23. The description shall be suitable for filing with the York County Registry of Deeds. The Planning Board shall not recommend that the City accept a street until the metes and bounds description has been furnished.