

TOWN OF YARMOUTH

SUBDIVISION BY-LAW

**APPROVED BY COUNCIL JANUARY 13, 2005
EFFECTIVE MARCH 1, 2005**

Table of Contents

	Page
PART 1: TITLE	1
PART 2: INTERPRETATION	1
PART 3: DEFINITIONS.....	1
PART 4: TENTATIVE PLANS OF SUBDIVISION	5
PART 5: FINAL PLANS OF SUBDIVISION	11
PART 6: GENERAL PROVISIONS.....	18
PART 7: REQUIREMENTS OF THE APPLICANT	23
PART 8: SERVICING AGREEMENTS	25
PART 9: PERFORMANCE BOND.....	26
PART 10: MAINTENANCE BOND	27
PART 11: PRIOR TO ACCEPTANCE OF SERVICES	28
PART 12: GENERAL CONSTRUCTION PROVISION.....	29
PART 13: STREET SPECIFICATIONS	30
PART 14: CONCRETE CURB & SIDEWALK SPECIFICATIONS	33
PART 15: WATER SYSTEM SPECIFICATIONS	36
PART 16: SANITARY SEWER SPECIFICATIONS	40
PART 17: STORM DRAINAGE SPECIFICATIONS	43
PART 18: WALKWAY SPECIFICATIONS.....	47
APPENDIX “A”: APPLICATION FOR APPROVAL FORM	48
APPENDIX “B”: LIST OF STANDARD DRAWINGS	49

**PART 1
TITLE**

Title

1(1) This By-law may be cited as the “Subdivision By-law” for the Town of Yarmouth and it shall apply to all the lands within the Town.

**PART 2
INTERPRETATION**

Interpretation

2(1) In this By-law, unless clearly indicated otherwise, words, used in the present tense include future, words in the singular number include the plural, words in the plural include the singular number, words in the masculine include the feminine, and the word “used” includes “arranged”, “designed or intended to be used”, and the word “shall” is mandatory and not permissive. All other words shall carry their customary meaning except those defined hereinafter.

2(2) Appendix “A” and “B” attached hereto forms part of this By-law.

**PART 3
DEFINITIONS**

Definitions

3.1 Agreement means a written contract between the subdivider and the Town which describes the responsibilities of each party with respect to the subdivision and servicing of land as outlined in this By-law.

3.2 Area of land means any existing lot or parcel as described by its boundaries.

3.3 Board means the Nova Scotia Utility and Review Board.

3.3(A) Building Service Connection means that portion of a sewer line which is located on private property and which connects the building drainage system or the building sanitary conveniences to the sewer lateral or that portion of the water line which connects a water meter to the water lateral.

3.4 Clerk means that individual appointed as the Town Clerk in accordance with the Municipal Government Act, Chapter 18 of the Statutes of Nova Scotia, 1998 and any amendments thereto.

3.5 Council means the Council of the Town of Yarmouth.

3.6 Department of Environment means the Nova Scotia Department of Environment and Labour.

3.7 Department of Transportation means the Nova Scotia Department of Transportation and Public Works.

3.8 Development Officer means that person, appointed pursuant to the Municipal Government Act having the power and duty to administer this By-law.

3.9 Easement means a right, vested with the Town of entry under, upon and over land in which a service is installed.

3.10 Frontage means “Lot Frontage” as defined in the Land Use By-law.

3.11 Land Use By-law means the Land Use By-law of the Town and any amendments thereto.

3.12 Lot means any parcel to be created by the filing of a plan of subdivision.

3.13 Lot Lines are as defined in the Land Use By-law.

3.14 Maintenance Bond means a bond to ensure the proper installation and functioning of a service two (2) years after completion of construction.

3.15 Minister means the Minister of Service Nova Scotia and Municipal Relations.

3.16 Municipal Planning Strategy means the Municipal Planning Strategy of the Town.

3.17 Performance Bond means a bond to assure that all services are installed and performed according to the agreement.

3.18 Professional Engineer means a registered member, in good standing, of the Association of Professional Engineers of Nova Scotia.

3.19 Proposed Lot means any lot being proposed to be created by a plan of subdivision, including a remainder lot;

3.20 Province means Her Majesty the Queen in right of the Province of Nova Scotia.

3.21 Public Street means the whole and entire right-of-way of every roadway, highway or lane owned and maintained as an open street by the Town. The following shall be used to classify all streets owned and maintained by the Town of Yarmouth:

“**Arterial street**” is a public street which serves the major movement of traffic within and through the Town and shall have a right-of-way of at least 30.48 meters (one hundred (100) feet).

“Collector Street” is a public street which serves to collect and distribute traffic primarily from local residential streets to arterial streets and shall have a right-of-way of at least 20 meters (sixty six (66) feet).

“Local Street” is a public street which is designed to be used primarily for direct access to abutting properties and leading into collector streets and shall have a right-of-way of at least 15.24 meters (fifty (50) feet).

“Cul-de-Sac” is a public street with one end open for public vehicle and pedestrian access and the other end terminating in a vehicular turnaround with a minimal radius of 18.6 meters (sixty-one (61) feet) from the center of the cul-de-sac.

3.22 Right-of-way means an access or egress extending to or from a public street or highway.

3.23 Serviced Lot means a lot which directly adjoins a serviced public street which has a sewer collector line and water distribution line directly in front of the lot within the prolongation of the lot’s side lot lines. If the service provided by the sewer collector line or the water distribution line is not adequate for the use, the subdivider may connect through an easement for the purpose of providing adequate service.

3.24 Serviced Public Street means a public street which contains an adequate sewer collector line and water distribution line.

3.25 Sewage Collector Line means that portion of the sanitary sewer system which is owned and maintained by the Town into which laterals empty and which extends to the point where wastes are discharged or connect with a trunk line, and includes forcemains, and pumping stations, and related structures.

3.25(A) Sewer Lateral means that portion of the sewer line which is located on public property or on an easement, extending from a building service connection to a sewer collector line.

3.26 Storm Sewer Drainage Line means any storm sewer system which is owned and maintained by the Town, and includes piped and open channel systems and related structures.

3.27 Subdivider means the owner(s) of the area of land proposed to be subdivided and includes anyone acting with the owner’s consent.

3.28 Subdivision means the division of any area of land into two (2) or more parcels, and includes a resubdivision or a consolidation of two or more parcels.

3.29 Subdivision Plan means the final plan, certified by a Nova Scotia Land Surveyor, submitted to the Development Officer for approval.

3.30 Surveyor means a registered member, in good standing, of the Association of Nova Scotia Land Surveyors.

3.31 Town or Municipality means the Town of Yarmouth.

3.32 Town Engineer means that individual appointed as the Town Engineer in accordance with the Municipal Government Act, Chapter 18 of the Statutes of Nova Scotia, 1998 and any amendments thereto.

3.33 Water Distribution Line means that portion of the water system which is owned and maintained by the Yarmouth Water Utility supplied by the transmission line and which extends to the point where water is discharged or connect with a water lateral line, and may include an assembly of pipes, fittings, control valves, hydrants and other supporting appurtenances and related structures.

3.34 Water Lateral means that portion of the water line which is located on public property or on an easement, extending from a building service connection to a water distribution line.

PART 4

TENTATIVE PLANS OF SUBDIVISION - OPTIONAL

Procedure for Approval of Tentative Plans of Subdivision

4(1) A person proposing to subdivide an area of land may submit to the development officer for approval an application in the form specified in Appendix “A” together with eight (8) copies of the tentative plan of the proposed subdivision meeting the requirements of Section 4(12) through 4(15) of this By-law.

4(2) The development officer shall comply with the notification and approval provisions of the Municipal Government Act.

4(3) When the development officer is satisfied that an application and tentative plan of subdivision are complete the development officer shall, if applicable, forward a copy to any agency of the Province or the Town the development officer deems necessary. The following list outlines some of the agencies that the development officer may deem necessary:

- (a)** The Department of the Environment and Labour
- (b)** The Town Engineer
- (c)** The Town Planner
- (d)** The Fire Chief
- (e)** The Traffic Authority
- (f)** The Building Inspector
- (g)** The Adjoining Municipality

4(4) Notwithstanding 4(3) of this Part, the applicant shall forward a copy of the tentative plan to the Department of the Environment and Labour when:

- (a)** A watercourse is identified, and/or
- (b)** An approval to construct is required for water or sewer works and/or an on-site water well or sewage disposal system.

4(5) Where a tentative plan of subdivision is to be forwarded to the Department of Environment and Labour for any

- (a)** proposed lot which is being created for a purpose that will require the construction of an on-site sewage disposal system; or
- (b)** proposed lot being divided from an existing area of land, contains an on-site sewage disposal system and is 9,000 square meters (96,878.4 square feet) or less in area; or has a width of less than 76 meters (249.3 feet):

the following information shall be provided:

- (i) the lot layout including any proposed building, on-site sewage disposal system, driveway and water well;
- (ii) the location of any watercourse, wetland, marine water body and other features that may influence the design of the on-site sewage disposal system, including any ditch, road, driveway or easement;
- (iii) the surface slopes and directions;
- (iv) the location of any test pit;
- (v) the proposed on-site sewage disposal system, selected or designed;
- (vi) an explanation of the extent, volume and type of usage to which the on-site sewage disposal system will be subjected;
- (vii) an assessment report of the lot respecting its suitability to support an on-site sewage disposal system including the results of a soil evaluation test; and
- (viii) any other information necessary to determine whether the subdivision meets the on-site sewage disposal systems regulations.

4(6) For a proposed lot that is being divided from an existing area of land, contains an existing on-site sewage disposal system and is more than 9000 square meters (96,878.4 square feet) in area with a width of 76 meters (249.3 feet) or more, the lot layout including buildings, driveway, on-site sewage disposal system and well shall be provided.

4(7) For a proposed lot 9000 square meters (96,878.4 square feet) or less in area or with a width of less than 76 meters (249.3 feet) that is being created for a purpose that will not require the construction of an on-site sewage disposal system, the certification section of the application in the form specified in Schedule “A” must be completed.

4(8) Approval of a tentative plan of subdivision may not be refused or withheld as a result of the assessment or recommendations made by the Department of the Environment and Labour, the Department of Transportation and Public Works or of any other agency of the Province or the municipality unless the tentative plan of subdivision is clearly contrary to a law of the Province or regulation made pursuant to a law of the Province or to a by-law or regulation of the Town.

4(9) The following information shall be stamped or written and completed by the development officer on any tentative plan of subdivision which is approved together with any other information, including conditions, necessary for the tentative plan to proceed to the final plan stage:

(a) “This tentative plan of subdivision is approved for lots _____. Such approval lapses if the lots are not shown on a final plan of subdivision approved within two years of the date of the approval of the tentative plan.”;

(b) the date of the approval of the tentative plan; and

(c) “This tentative plan of subdivision shall not be filed in the registry of deeds as no subdivision takes effect until a final plan of subdivision is approved by the development officer and filed in the registry of deeds.”

4(10) Upon approval or refusal of a tentative plan, the development officer shall inform the applicant and any other agency of the Province or the Town who the development officer requested to review the plan in writing. The development officer shall forward a copy of the approved tentative plan of subdivision to the applicant and the surveyor.

4(11) Where the development officer refuses to approve a tentative plan of subdivision, the development officer shall inform the applicant of the reasons for the refusal in writing and advise the applicant of the appeal provisions of Section 284 of the Municipal Government Act.

Tentative Plan Requirements

4(12) Tentative plans of subdivision submitted to the development officer shall be:

(a) drawn to a scale or scales sufficient for clarity in all particulars on the tentative plan of subdivision;

(b) based on a description of the area of land to be subdivided, preferably but not necessarily as surveyed; and

(c) folded to approximately 20 cm x 30 cm (8 in. x 12 in.) with the face of the folded print being the title block which is located in the lower right-hand corner of the tentative plan of subdivision.

4(13) Tentative plans of subdivision shall show the following:

(a) the words “TENTATIVE PLAN OF SUBDIVISION” located in the title block;

(b) a clear space for stamping being a minimum of 232 cm² (36 sq. in.) with a minimum width of 7.6 cm (3 in.);

(c) name of the subdivision, if any, and the name(s) of the owner(s) of the area of land, being subdivided, together with the names of the owner(s) of all abutting properties;

(d) the book and page number to the deed of the area of land as recorded in the name of the owner in the registry of deeds;

(e) a location map, drawn to a scale not smaller than 1:10,000 (such scale to be shown on the map), preferably with the same orientation as the area of land and, if possible, showing the location of the closest community to the area of land proposed to be subdivided;

(f) the shape, dimensions and area of the proposed lots;

(g) each proposed lot identified by a number, except in cases where a parcel is being added to or subtracted from an existing area of land, in which case the parcel shall be identified by a letter and the new lot identified by the existing area of land identifier, where available, and the letter;

(h) no duplication of lot identifiers;

(i) the boundaries of proposed lots shown by solid lines, and the vanishing boundaries of existing areas of land being re-subdivided, consolidated or both, shown as broken lines;

(j) location of existing buildings within ten (10) metres (32.8 feet) of a property boundary;

(k) the name of existing and proposed public streets (and the public street number), private roads, and Schedule “B” roads as issued pursuant to the civic addressing system;

(l) the width and location of existing and proposed public streets, private roads, and Schedule “B” roads;

(m) the width and location of railroads and railway right-of-ways;

(n) the location of any watercourse (lakes, streams, water courses), prominent rock formation, marsh, or swamp or other natural features;

(o) the width, location, and nature of any easements on or affecting the area of land proposed to be subdivided;

(p) where applicable, a notation stating whether or not the lots for which approval is requested are serviced by a sewage collector line and/or water distribution line ;

(q) the north point;

(r) the date on which the tentative plan of subdivision was drawn and the date of any revisions;

(s) the scale to which the tentative plan of subdivision is drawn;

(t) any other information necessary to determine whether or not the a tentative plan of subdivision conforms to this By-law;

(u) the unique Parcel Identifier (PID) of all areas of land being subdivided; and

(v) the civic number of main buildings on the area of land being subdivided.

4(14) In addition to meeting the requirements of Part 4(12) and 4(13), where the proposed lots front on a proposed public street or otherwise not located on a serviced public street, a tentative plan of subdivision shall:

(a) show a boundary survey of the area of land proposed to be subdivided, excluding the remainder lot, certified and stamped by a Nova Scotia Land Surveyor in the manner required by the Nova Scotia Land Surveyors Act and the regulations made thereunder;

(b) be accompanied by four (4) copies of the plan showing:

i) contours at 1.5 meter (five (5) foot) intervals, as may be necessary to determine grade of roads and drainage patterns; and,

ii) the width and location of proposed and existing public streets, highways, curbs, sidewalks, walkways, railroads, right-of-ways, utility lines and the connection of existing infrastructure to the proposed infrastructure where applicable; and,

iii) the location, size, type of materials used and the direction of flow of existing and proposed public sewer systems and public storm sewer systems including plan and profiles at a scale of 12 meters (forty (40) feet) to 2.5 cm (one (1) inch) horizontal, for 1.2 meters (four (4) feet) to 2.5 cm (one (1) inch) vertical, indicating manholes, lift stations, force mains, catch basins and all affiliated installations; and.

iv) the location, size, type of materials used and points of inter connection with the existing Yarmouth Water Utility water distribution system including plan and profiles at a scale of 12 meters (forty (40) feet) to 2.5 cm (one (1) inch horizontal), for 1.2 meters (four (4) feet) to 2.5 cm (one (1) inch) vertical, indicating all bends, tees, valves, hydrants, service connections and any other related structures.

(c) be accompanied by two (2) copies of the centerline profile of the proposed public streets together with the necessary cross sections.

4(15) The design of and preparation of drawings for the installation of municipal services and roads shall be completed under the direct supervision of a professional engineer registered in the Province of Nova Scotia. The drawings shall be stamped and signed in accordance with the Engineering Profession Act.

PART 5
FINAL PLANS OF SUBDIVISION

Procedure for Approval of Final Plans of Subdivision

5(1) A person proposing to subdivide an area of land shall submit an application in the form specified in Appendix “A” of this By-law and twelve (12) copies of the final plan of subdivision meeting requirements of Sections 5(9) through 5(15) of this By-law to the development officer for approval.

5(2) The development officer shall comply with the notification and approval provisions of the Municipal Government Act.

5(3) When the development officer is satisfied that an application and final plan of subdivision are complete the development officer shall, if applicable, forward a copy to any agency of the Province or the Town the development officer deems necessary. The following list outlines some of the agencies that the development officer may deem necessary:

- (a) The Department of the Environment and Labour
- (b) The Town Engineer
- (c) The Town Planner
- (d) The Fire Chief
- (e) The Traffic Authority
- (f) The Building Inspector
- (g) The Adjoining Municipality

5(4) Notwithstanding 5(3) of this Part, the subdivider shall forward a copy of the final plan to the Department of the Environment and Labour when:

- (a) A watercourse is identified, and/or
- (b) An approval to construct is required for water or sewer works and/or an on-site water well or sewage disposal system.

5(5) Where a final plan of subdivision is to be forwarded to the Department of Environment and Labour for any

- (a) proposed lot which is being created for a purpose that will require the construction of an on-site sewage disposal system; or
- (b) proposed lot being divided from an existing area of land, contains an on-site sewage disposal system and is 9,000 square meters (96,878.4 square feet) or less in area; or has a width of less than 76 meters (249.3 feet):

the following information shall be provided:

- (i) the lot layout including any proposed building, on-site sewage disposal system, driveway and water well;
- (ii) the location of any watercourse, wetland, marine water body and other features that may influence the design of the on-site sewage disposal system, including any ditch, road, driveway or easement;
- (iii) the surface slopes and directions;
- (iv) the location of any test pit;
- (v) the proposed on-site sewage disposal system, selected or designed;
- (vi) an explanation of the extent, volume and type of usage to which the on-site sewage disposal system will be subjected;
- (vii) an assessment report of the lot respecting its suitability to support an on-site sewage disposal system including the results of a soil evaluation test; and
- (viii) any other information necessary to determine whether the subdivision meets the on-site sewage disposal systems regulations.

5(6) For a proposed lot that is being divided from an existing area of land, contains an existing on-site sewage disposal system and is more than 9000 square meters (96,878.4 square feet) in area with a width of 76 meters (249.3 feet) or more, the lot layout including buildings, driveway, on-site sewage disposal system and well shall be provided.

5(7) For a proposed lot 9000 square meters (96,878.4 square feet) or less in area or with a width of less than 76 meters (249.3 feet) that is being created for a purpose that will not require the construction of an on-site sewage disposal system, the certification section of the application in the form specified in Schedule “A” must be completed.

5(8) Approval of a final plan of subdivision may not be refused or withheld as a result of the assessment or recommendations made by the Department of Environment and Labour, the Department of Transportation and Public Works or any other agency of the Province or the municipality unless the final plan of subdivision is clearly contrary to a law of the Province or regulation made pursuant to a law of the Province or to a By-law or regulation of the Town.

Final Plan Requirements

5(9) Final plans of subdivision submitted to the development officer shall be:

- (a) drawn to a scale or scales sufficient for clarity of all particulars of the final plan of subdivision,

(b) certified and stamped by a Nova Scotia Land Surveyor that the lots for which approval is requested and any proposed street have been surveyed in the manner required by the Land Surveyors Act and its regulations, and

(c) folded to approximately 20 x 30 cm (8 x 12 in.) with the face of the folded print being the title block which is located in the lower right-hand corner of the final plan of subdivision.

5(10) Final plans of subdivision shall show the following:

(a) the words “PLAN OF SUBDIVISION” located in the title block;

(b) a clear space for stamping being a minimum of 232 cm² (36 sq. in.) with a minimum width of 7.6 cm (3 in.);

(c) name of the subdivision, if any, and the name(s) of the owner(s) of the area of land being subdivided, together with the name(s) of the owner(s) of all abutting properties;

(d) the book and page number to the deed of the area of land as recorded in the name of the owner in the Registry of Deeds;

(e) a location map, drawn to a scale not smaller than 1:10,000 (such scale to be shown on the map), preferably with the same orientation as the area of land and, if possible, showing the location of the closest community to the area of land proposed to be subdivided;

(f) the shape, dimensions and area of the proposed lots;

(g) the bearings of the boundaries of the lots for which approval is requested;

(h) each proposed lot identified by a number except in cases where a parcel is being added to or subtracted from an existing area of land, in which case the parcel shall be identified by a letter and the new lot identified by the existing area of land identifier, where available, and the letter;

(i) no duplication of lot identifiers;

(j) the boundaries of proposed lots shown by solid lines, and the vanishing boundaries of existing areas of broken land being re-subdivided, consolidated or both, shown as broken lines. The boundaries of the proposed lots and any vanishing boundary lines shall be drawn in a thicker or wider line than the surrounding property boundary lines;

(k) the location of existing buildings within ten (10) metres (32.8 feet) of a property boundary;

(ka) the geographical and mathematical location of all buildings within 3 metres (9.8 feet) of a proposed boundary;

(l) the name of existing streets (and the public street number), private roads, and Schedule “B” roads as issued pursuant to the civic addressing system;

(m) the width and location of existing and proposed public street, private roads, and Schedule “B” roads;

(n) the width and location of railroads and railway right-of-ways;

(o) the location of any watercourse (lakes, streams, water courses), prominent rock formation, marsh, or swamp or other natural features;

(p) the width, location, and nature of any easements on or affecting the area of land proposed to be subdivided;

(q) where applicable, a notation stating the lots are serviced by a sewage collector line and/or water distribution line;

(r) the north point;

(s) the date on which the final plan of subdivision was drawn and the date of any revisions;

(t) the scale to which the final plan of subdivision is drawn;

(u) any other information necessary to determine whether or not the plan of subdivision conforms to this By-law;

(v) the unique Parcel Identifier (PID) of all areas of land being subdivided; and

(w) the civic number of main buildings on the area of land being subdivided.

Requirements of the Applicant

5(11) Final plans of subdivision shall be accompanied by detailed engineered design drawings for the proposed sewage collector line, water distribution line, storm sewer drainage line and culvert system, public street system, sidewalk system, and walkways system where applicable, and shall be:

(a) prepared in accordance with the specifications contained in Part 12, 13, 14, 15, 16, 17 and 18 of this by-law, and

(b) stamped by a professional engineer.

5(12) In addition to the requirements in Part 5(11), the drawings shall show the location and dimensions of existing water systems, sewer systems, storm sewer and culvert systems, street systems, sidewalk systems, and walkway systems where applicable, to which the proposed system will connect. In addition, the drawings shall show contours at 1.5 meter (five (5) foot) intervals, as may be necessary to determine grade of streets and drainage patterns, including a center line profile of any proposed or existing street system.

5(13) Final plans of subdivision shall be accompanied by a copy of the agreement, entered into between the Town and the subdivider outlining the terms for the installation of the services.

5(14) The provisions of Part 5(11), 5(12) and 5(13) of this By-law do not apply if the proposed subdivision directly abuts a serviced public street which has a sewage collector line and a water distribution line which are adequate for the proposed use.

5(15) Before approving a final plan of subdivision that adds or consolidates parcels or areas of land in different ownerships the development officer shall have received

(a) the executed deeds suitable for registering to effect the addition or consolidation;

(b) the fees for registering the deeds;

(c) the affidavit of value including particulars of any exemption, pursuant to Part V of the Act; and

(d) where applicable, the deed transfer tax.

Requirements for Endorsement and Filing of Final Plans

5(16) When the requirements of the Municipal Government Act, this by-law and the Regulations Respecting Subdivision of Land to be serviced by On-Site Sewage Disposal Systems have been met and the plan of subdivision has been approved by the development officer, approval shall be endorsed on the plan of subdivision by the development officer.

5(17) Pursuant to and in addition to the requirements of the Municipal Government Act the development officer shall give notice of the endorsement of approval on the final plan of subdivision to:

(a) the applicant;

(b) the surveyor;

(c) the registry of deeds; and,

(d) any other department or agency of the Province or the Town who have been requested to review the final plan of subdivision.

5(18) The following information shall be stamped or written and completed by the development officer on any final plan of subdivision which is approved:

(a) “This final plan of subdivision is approved for lot no.(s) _____”;

(b) the endorsement of the development officer; and,

(c) the date of the approval of the final plan of subdivision.

5(19) Pursuant to Section 285 of the Municipal Government Act, the development officer shall forward one endorsed copy of the final plan of subdivision to the office to the Registry of Deeds and forward the fees required in Part 5(26) of this by-law.

5(20) Pursuant to Section 285 of the Municipal Government Act, the development officer shall register a notice of approval in the Registry of Deeds which indicates approval of the final plan of subdivision.

Requirements for Refusal of Final Plan

5(21) Where a development officer refuses to approve a final plan of subdivision, the development officer shall notify the applicant in writing of the reason(s) for the refusal pursuant to Section 277 of the Municipal Government Act, and advise the applicant of the appeal provisions of Section 284 of the Municipal Development Act.

Cash-in-lieu of Open Space Dedication and Other Fees

5(22) Pursuant to Section 271 of the Municipal Government Act, the applicant, at the time of submitting an application for final plan of subdivision, shall remit a non-refundable reviewing fee of one hundred (\$100.00) dollars.

5(23) Before receiving endorsement of approval on a final plan of subdivision by the development officer, the applicant shall remit to the Town a sum of money equal to 5% of the assessed value of the new lots created excluding public streets and the remainder lot, if any, owned by the applicant. Such monies shall be referred to as “cash-in-lieu of open space dedication”.

5(24) The cash-in-lieu of open space dedication shall be used by Council for the acquisition of and capital improvements to parks, playgrounds and public open-space areas within the Town.

5(25) The requirements of cash-in-lieu of open space dedication shall be waived where lot boundaries are changed and no additional lots are created.

5(26) The applicant shall, at the time of application for approval of the final plan of subdivision, pay the fees contained in the Costs and Fees Act, R.S.N.S. 1989, C. 104, by cash or by cheque or by money order made payable to the Town for filing the endorsed final plan of subdivision, certifying a copy of the plan, and registering a notice of approval of the plan.

5(27) Where the final plan of subdivision does not receive endorsement of approval by the development officer, the applicant shall be entitled to the return of the cash, cheque or money order referred to in Part 5(15), Part 5(23) and Part 5(26).

PART 6

GENERAL PROVISIONS

Lots to Abut Public Street

6(1) All lots shall abut a public street.

Baker's Island

6(2) Notwithstanding Section 6(1), lots may be created on Baker's Island which do not abut a public street provided each lot has water frontage of 6 meters (19.7 feet) or more. For the purposes of this section, "water frontage" means the distance measured as a straight line between the two points where the side lot lines meet a watercourse.

Minimum Lot Requirements

6(3)(a) All proposed lots shall meet the minimum dimensions for lot area, lot frontage, front, side and rear yard setbacks and any other applicable provision of the Town's Land Use By-law.

6(3)(b) Lots shall not be subdivided to create a width or depth of less than six (6) meters (19.7 feet).

Relaxation of Minimum Lot Area and Frontage Requirements

6(4) Notwithstanding Part 6(3)(a), the development officer may approve a maximum of two (2) lots, shown on a final plan of subdivision, in accordance with Section 279 of the Municipal Government Act, having lot areas or frontages or both no less than ninety percent (90%) of the minimum required by the Land Use By-law provided, all other requirements of this by-law are met.

Lot Boundary Alterations

6(5) Notwithstanding Part 6(3), the Development Officer may approve a subdivision altering the boundaries of two (2) or more lots where:

(a) no additional lots are created; and

(b) each lot meets the minimum dimensions for lot frontage as required by the Land Use By-law or has not had its frontage, if any, reduced; and

(c) each lot meets the minimum dimension for lot area as required by the Land Use By-law or has not had its area reduced.

Encroachment Conditions

6(6) Notwithstanding Part 6(3), where a development component of a permanent nature such as a building, structure, well, or on-site sewage disposal system, or drive-way is encroaching in or upon an immediately adjacent area of land, the development officer may approve a plan of subdivision to the extent necessary and practical to remove the encroachment.

Two (2) or More Main Buildings

6(7) Notwithstanding Part 6(3), where a final plan of subdivision divides a lot on which there are two (2) or more main buildings, the plan of subdivision may be approved provided the following requirements are met:

(a)(i) If such lot is served by an on-site disposal system as defined under the Nova Scotia Regulations Respecting On-site Disposal Systems of the Department of Environment and Labour, each main building shall be served by an independent on-site sewage disposal system, or, otherwise be granted an easement over said system upon approval of the Department of Environment and Labour.

(a)(ii) If such lot is served by a water supply from a well or from any other source other than a water distribution line, each main building shall be served by an independent water supply or otherwise be granted an easement over said water supply source upon approval of the Department of Environment and Labour.

(a)(iii) If such lot is served by a sewage collector line, each main building shall be served by an independent sewer lateral or otherwise be granted an easement over said lateral system.

(a)(iv) If such lot is served by a water distribution line, each main building shall be served by an independent water lateral or otherwise be granted an easement over said lateral system.

(b) Each resulting lot shall be assessed and approved by the Department of Environment and Labour is on-site services are used; and;

(c) each resulting lot shall comply with the minimum lot frontage and area requirements of the Land Use By-law; and

(d) any one or all minimum yard requirements of the Land Use By-law may be waived where they cannot otherwise be met provided such yards comply with the requirements of the National Building Code.

Street Layout

6(8) Any public street or proposed public street, or an extension of an existing public street, must have a right-of-way of at least 15.24 meters (fifty (50) feet) for local streets, 20 meters (sixty-six (66) feet) for a collector street, and 30.48 meters (one hundred (100) feet) for an arterial street.

6(9) A public street shall intersect one another at right angles, or as nearly at right angles as possible. At no time shall this angle of intersection be less than seventy-five (75) degrees or more than one hundred and five (105) degrees. No intersection shall be located on or near a sharp curve or below the crest of a steep hill or rise.

6(10) Local streets shall be laid out so as to discourage through traffic.

6(11) Street grades measured for at least 30.48 meters (one hundred (100) feet) shall be provided as follows:

Street Grade for	Arterial	Collector	Local
Maximum	6.0%	6.0%	8.0%
Minimum	0.5%	0.5%	0.5%

6(12) The maximum grade of an intersection approach measured along a distance of at least 30 meters (one hundred (100) feet) from the center of the street intersection shall be two (2%) percent.

6(13) All streets shall have an unobstructed horizontal and vertical sight line distance of at least two hundred (200) feet.

6(14) Maximum use shall be made of loop streets where the primary function of such streets is to provide access to individual lots and to develop odd-shaped parcels and shall be properly oriented to facilitate drainage. The use of cul-de-sacs shall be discouraged where street maintenance or provision of services may be hampered.

6(15) The length of any proposed cul-de-sac shall not exceed 106.68 meters (three hundred and fifty (350) feet) from an intersection to the turning circle; unless there exists an emergency exit of 4.27 meters (fourteen (14) feet) wide to a public street, then the length of the cul-de-sac shall not exceed 228.6 meters (seven hundred and fifty (750) feet).

Distance Between Intersections

6(16) Any proposed public street that enters or bisects an arterial street shall receive prior approval from the Town Engineer.

6(17) The distance between an arterial street and any other street intersection shall not be less than 150 meters (five hundred (500) feet) measured from the nearest rights-of-way, or greater distance as required by the Town Engineer.

6(18) The distance between a collector or local street and any other street intersection shall not be less than 60 meters (two hundred (200) feet) measured from the nearest rights-of-way, or greater distance as required by the Town Engineer.

Intersections

6(19) There shall not be more than four (4) public street or highway approaches or any combination thereof in an intersection.

Adjoining Subdivision

6(20) Where a public street in an adjoining subdivision abuts the boundaries of a plan of subdivision submitted for approval, a public street in the latter shall, if reasonably feasible, be laid out in prolongation of such public streets or highways unless it would be in violation of this By-law.

6(21) The subdivider shall not prejudice the proper subdivision of adjoining lands and if such adjoining land is or may be suitable for subdivision, the subdivider may be required to make provision for projection of streets into adjacent areas.

Side Lot Lines at Right Angles

6(22) Wherever possible, side lot lines shall be substantially at right angles to a public street or radial to a curved public street and shall be continuous to the rear lot line, not stepped or jogged.

Continuous Rear Lot Lines

6(23) Wherever possible, the rear lot lines of a series of adjoining lots shall be continuous, not stepped or jogged.

Septic Tank and Disposal Field

6(24) Where the type of sewage disposal proposed for a subdivision is by on-site system, the applicant shall be responsible for arranging for soil tests of the lots to be subdivided, and shall submit tests and recommendations as required by the Department of Environment and Labour.

Walkway Requirement

6(25) Where continuous street frontage exceeds 365.76 meters (one thousand two hundred (1200) feet) a pedestrian walk-way shall be provided through and near the centre of the block to give access to adjacent streets. In addition, the walkway shall conform with the walkway specification pursuant to Part 18 of this By-law.

Stringent Requirements Shall Prevail

6(26) Where other laws, regulations or by-laws apply, a plan of subdivision and all lots in the plan of subdivision must conform to such laws, regulations or by-laws and where there is a conflict the higher or more stringent requirement shall prevail.

Amend or Repeal Subdivision

6(27) An application to amend or repeal a plan of subdivision shall be in accordance with the Provincial Subdivision Regulations.

6(28) The application to amend shall refer to the plan of subdivision as originally endorsed and such reference shall include the file number or registration identifier filed the registry of deeds.

PART 7

REQUIREMENTS OF THE APPLICANT

7(1) Any person proposing to subdivide property shall submit final plans of subdivision to the development officer in accordance with this by-law.

7(2) Where a new public street is proposed, the subdivider shall, before endorsement of a final plan of subdivision is given by the development officer:

Sanitary Sewer Requirement:

(a) in areas adjacent to a sewage collector line, construct a sewage collector line including laterals to the boundaries of the proposed lots designed and stamped by a professional engineer satisfying all of the specification contained in this by-law; and,

Storm Sewer Requirement:

(b) construct a storm sewer drainage line in the area being subdivided including all necessary appurtenances to handle surface run-off conditions designed and stamped by a professional engineer satisfying all of the specifications contained in this by-law. In addition, a lot grading plan shall be submitted on a lot by lot basis showing finish grades and directional flow to the storm sewer drainage line; and,

Water Distribution Requirement:

(c) in areas adjacent to a water distribution line, construct a water distribution line including distribution pipes, booster station and laterals to the boundaries of the proposed lots designed by a professional engineer satisfying all of the specifications contained in this by-law; and,

Curbs, Streets, Sidewalks and Walkways Requirements:

(d) construct curbs and gutters on both side of the proposed street, sidewalks along one side of the proposed street unless otherwise specified, walkways, roadways, culverts, and drainage systems according to the specifications contained in this by-law; and,

Street Width:

(e) lay out, construct and grade the entire right-of-way width of the proposed street on a level grade in accordance with the specifications contained in this by-law; and,

Utilities Requirements:

(f) arrange and install necessary utilities, such as street and walkway lighting, electrical distribution systems, cable television and telephone systems and the like, to be constructed in conjunction with the appropriate utility company.

7(3) Where a subdivision is located on an existing public street, no lot shall be approved by the Development Officer unless it is serviced by adequate sanitary sewer and water services which include sewer collector lines and water distribution lines as well as on-site systems.

7(4) Other than for lots served by on-sites services, a lot shall be deemed a “serviced lot” prior to subdivision approval or otherwise an agreement pursuant to Part 8(1) has been signed for the installation of said services. A serviced lot shall directly adjoin a serviced public street which has a sewer collector line and water distribution line directly in front of the lot within the prolongation of the lot’s side lot lines. If the service provided by the sewer collector line or the water distribution line is not adequate for the use, the subdivider may connect through an easement for the purpose of providing adequate service.

7(5) For the purpose of this Section, adequacy of said services will be determined by the Town Engineer.

7(6) Where a lot is not a serviced lot, the person proposing to subdivide may voluntarily install said services pursuant to the standard specifications contained in this By-law. Said services shall be accepted by the Town Engineer prior to subdivision approval or an agreement signed for the installation of said services pursuant to Part 8(1).

PART 8

SERVICING AGREEMENTS

8(1) The person proposing to subdivide may satisfy the requirements of Part 7(2) or Part 7(3) by entering into an agreement with Council to carry out the requirements and other such amenities as agreed within a period of time set out in the agreement, and post a performance bond and maintenance bond to assure that the amenities will be provided in accordance with this by-law.

PART 9

PERFORMANCE BOND

9(1) Where the provision of Part 8(1) apply, the person proposing to subdivide shall post a performance bond or certified cheque in the amount of one hundred and twenty-five (125%) percent of the total estimated cost of installing such services.

9(2) The performance bond or certified cheque shall be posted prior to the endorsement of approval on the final plan of subdivision.

9(3) The person proposing to subdivide shall submit to the development officer for approval, an estimate of the costs of providing each service. The Town Engineer may revise the estimate if, in his opinion, it is inadequate. The person proposing to subdivide may require Council to submit the revised estimate to arbitration in accordance with the provisions of the Arbitration Act.

9(4) The performance bond or certified cheque shall be made out in favour of the Town, duly executed by the person proposing to subdivide and by a recognized guarantor company, conditioned on the execution and completion of the agreement in accordance with the terms of the agreement, and with the provisions of this by-law and shall not be subject to cancellation, termination, or expiration during the period of time for completion of the work.

9(5) Construction and installation of all services shall commence within twelve (12) months of the date of endorsements of approval on the subdivision plan, and shall be completed in accordance with the agreement mentioned in Part 8(1), or the performance bond or certified cheque shall be forfeited.

PART 10

MAINTENANCE BOND

10(1) Following completion of all services and prior to acceptance by the Town, the subdivider shall post a maintenance bond in the amount of ten (10%) percent of the actual cost of construction and installation of services to safeguard such services for a period of two (2) years.

PART 11

PRIOR TO ACCEPTANCE OF SERVICES

11(1) The person proposing to subdivide shall provide to the Town, prior to acceptance of any services:

(A) The “as built” reproducible engineering drawings stamped and signed by a professional engineer for all streets, sidewalks, walkways, water services, sanitary services and storm sewer services required by Part 7(2) or Part 7(3) of this By-law;

(B) The results of all required test reports complete with all operating and procedural manuals for sanitary and water systems; and,

(C) The warranty deeds for all municipal streets and easements associated with sanitary sewer, water and drainage systems.

PART 12

GENERAL CONSTRUCTION PROVISION

General:

12(1) Except as supplemented or modified by these specifications, all services shall be constructed in conformance with “Standard Specifications for Municipal Services”.

PART 13

STREET SPECIFICATIONS

General:

13(1) Except as supplemented or modified by these specifications public streets shall be designed in accordance with the Manual of Geometric Design Standards for Canadian Roads and Streets as published by the Transportation Association of Canada.

13(2) These specifications are the minimum requirements and do not preclude the use of higher standards when they are warranted as determined by Town or other authorities having jurisdiction.

Design Criteria:

13(3) In addition, streets shall conform to the minimum design criteria as outlined below:

(a) The various road classifications with the Town shall meet the following requirements:

	Cul-de-Sac	Local Street	Collector Street	Arterial Street
Min. R.O.W.	16.5 m	15 m	20 m	30 m
Min. Pavement Width	14 m	10 m	10 m	20 m
Max. Grade	4% (at bulb)	8%	6%	6%
Min. Grade	.5%	.5%	.5%	.5%
Min. Crown	2%	2%	2%	2%
Min. Sight Distance		60 m	70 m	70 m

	Cul-de-Sac	Local Street	Collector Street	Arterial Street
Intersection Angles at Centerlines for distance of 30 m from the centerlines		75° to 105°	75° to 105°	75° to 105°

	Cul-de-Sac	Local Street	Collector Street	Arterial Street
Min. Distance between intersections (measured between edge of R.O.W.'s)		60 m	60 m	150 m

(b) A minimum of one sidewalk shall be incorporated into the construction of all new streets as shown in Appendix “B”, standard drawing #3. Two sidewalks shall be provided in commercial areas, on arterial streets, and on major collector streets as determined by the Town Engineer.

(c) All streets shall be constructed utilizing concrete curb and gutter complete with installation of a storm sewer as shown in Appendix “B” in accordance with Part 17 of this bylaw.

(d) Street name signs complete with poles shall be installed at all intersections in accordance with standard drawing #4 as shown in Appendix “B”.

Materials:

13(4) In addition, streets shall conform with the minimum materials specifications as outlined below:

(a) Granular materials shall meet the requirements of the Nova Scotia Department of Transportation and Public Works Standard Specification, latest revision.

The gradation of Type 1 and Type 2 granular materials shall be as follows:

Sieve Size	% of Weight Passing	
	Type 1	Type 2
80000	_____	100%
56000	_____	70% - 100%
28000	_____	50%
20000	100%	_____
14000	50% - 85%	35% - 65%
5000	20% - 50%	20% - 50%
160	5% - 12%	5% - 12%

Sieve Size	% of Weight Passing	
	Type 1	Type 2
80	3% - 5%	3% - 5%

(b) The Town may require testing to be performed by a qualified testing company to verify the quality of materials. If the materials fail to meet the specifications, the subdivider will be required to pay the cost of the testing and shall replace all defective materials.

Construction (see Standard Drawing #1):

13(5) In addition, streets shall conform with the minimum construction specifications as outlined below:

(a) The entire width of the street right of way shall be cleared and grubbed and all rock, trees, stumps and organic material shall be removed from the site.

(b) Black muck, peat or other unsuitable material shall be removed prior to placement of embankments. Where rock exists to the subgrade, it shall be excavated to 300 mm below subgrade and graded. The top 300 mm of subgrade shall be free of rock fill exceeding 300 mm in any dimension.

(c) The roadbed shall be shaped and graded to the proposed subgrade with a 2% crown along the centerline at an elevation of 338 mm below the finished grade of the street. All fill material shall be compacted in 300 mm layers to 95% Standard Proctor Density.

(d) Under stable conditions, the base course shall be spread uniformly over the entire width of the roadbed to a compacted depth of 150 mm to 98% Standard Proctor Density.

(e) The surfacing course shall be spread uniformly over the base course to a compacted depth of 100 mm to 98% Standard Proctor Density.

(f) Asphalt paving shall be completed by the Town at Council's discretion.

PART 14

CONCRETE CURB, GUTTERS & SIDEWALK SPECIFICATIONS

General:

14(1) These specifications are the minimum requirements and do not preclude the use of higher standards when they are warranted as determined by the Town or other authorities having jurisdiction.

Design Criteria:

14(2) In addition, concrete curbs, gutters and sidewalks shall conform to the minimum design criteria as outlined below:

(a) A minimum of one concrete sidewalk measuring 1.5 meters wide shall be constructed on every street in the proposed subdivision. Two sidewalks shall be provided in commercial areas, on arterial streets and on major collector streets as determined by the Town's Engineer..

(b) Concrete curb and gutter shall be constructed on all streets.

(c) The concrete sidewalk shall be separated from the back of the concrete curb by a 900 mm wide sodded median. Area between the curb and sidewalk shall be filled and graded at 2% to the top of the curb.

(d) Pedestrian ramps shall be constructed at all intersections utilizing a 1.2 m low profile curb with a 300 mm taper on either side.

(e) Sidewalks shall be a minimum of 100 mm thick except at driveways and ramps where they shall be a minimum of 150 mm thick.

(f) Sidewalks for commercial driveways or any other use except residential shall be 150 mm thick reinforced concrete with 150 x 150 x 20 x 20 welded wire mesh.

(g) Residential and commercial driveway openings shall be constructed with a 300 mm taper on both sides. Driveway openings widths shall be in accordance with the Town's Land Use By-law.

Materials:

14(3) Concrete curbs, gutters and sidewalks shall conform with the minimum specifications outlined below:

(a) Concrete curbs, gutters and sidewalks construction shall be air entrained to 6% by volume, 75 mm slump with a minimum 28 day strength of 30 MP. Slump shall be decreased when mechanical extruders are utilized.

(b) Granular base for concrete curbs, gutters and sidewalks shall meet the requirements of the Nova Scotia Department of Transportation and Public Works Standard Specification for Type 1 granular as per section 18.2.1 and 18.2.2.

Construction:

General:

14(4) Construction of concrete curbs, gutters and sidewalks, shall be in accordance with the latest revisions of the Standard Specifications for Municipal Services as developed by the Joint Committee on Contract Documents, comprised of members of the Nova Scotia Consulting Engineers Association and the Nova Scotia Road Builders Association.

Construction:

14(5) The following specifications shall be considered to be in addition to or to modify the applicable sections of the Standard Specifications for Municipal Services:

(a) Curbs, gutters and sidewalks shall be constructed of concrete by hand or mechanical means in accordance with standard drawing #2 and drawing #3, Appendix "B".

(b) The granular base for concrete curbs, gutters and sidewalks shall be a minimum of 150 mm of Type 1 gravel compacted to 98% Standard Proctor Density and shall extend 150 mm beyond each edge of the concrete work.

(c) The sidewalk slab shall be done in one continuous pour with control joints extending to one quarter of the slab thickness at a maximum spacing of 1.5 meters. Control joints shall be completed using a double edge jointer or by saw cutting if completed within 24 hours of the concrete setting up.

(d) Concrete sidewalk shall have a broom finish perpendicular to curb line with a three inch wide border with a trowel finish.

(e) A membrane curing compound shall be applied to the sidewalk surface - Sternson Clear Florseal or approved equal in accordance with the manufacturer's instructions.

(f) Construction joints of mastic fibrous material extending through the full depth of the concrete shall be placed as follows:

(i) Where fresh concrete is poured against previously poured concrete.

(ii) Where sidewalks abut curbs.

(iii) Around all structures contained within or immediately adjacent to sidewalks or curbs such as catchbasins and utility poles.

- (g)** All sidewalks shall be sloped at 2% grade toward the top of the curb.
- (h)** Cold weather protection shall be provided when the air temperature is expected to fall below 5°C.
- (i)** All barricading, rain cover, and traffic protection of newly poured concrete shall be the responsibility of the subdivider.
- (j)** Where the concrete sidewalk abuts the concrete curb, control joints shall match alternate sidewalk control joints.
- (k)** Concrete curbs and gutter cross section shall conform to type “A” curb, Nova Scotia Department of Transportation and Public Works Standard Specification, latest revision and as per standard drawing #2, Appendix “B”.
- (l)** Concrete testing shall be carried out in accordance with CSA Standard A23.2 as directed by the town at the expense of the subdivider. All test results shall be submitted to the Town for review.

PART 15

WATER SYSTEM SPECIFICATIONS

General

15(1) These specifications are the minimum requirements and do not preclude the use of higher standards when they are warranted as determined by the Yarmouth Water Utility or other authorities having jurisdiction.

Design Criteria:

15(2) In addition, the water distribution system shall conform to the minimum design criteria as outlined below:

(a) The proposed water distribution system be capable of accommodating both fire demand and maximum daily demand at a minimum residual pressure at the hydrant of 20 psi at the required flow. Minimum main size to be 200 mm in diameter.

(b) Fire demand to be calculated in accordance with the latest requirements of the Fire Underwriters Survey of the Insurance Bureau of Canada.

(c) The subdivider shall install larger mains at the request of the Town, if the Town agrees to pay the additional cost of installing the larger mains.

(d) The distribution system shall be looped wherever possible to eliminate dead end water mains. If it is not practical to eliminate a dead ended main, then a hydrant shall be installed off the end of the dead end water main.

(e) Watermains which are laid in any other than a public street right-of-way, shall be located within an easement deeded to the Yarmouth Water Utility. The minimum required easement width shall be 5 meters for maintenance purposes.

(f) Separation distances between watermains and sanitary sewers and forcemains shall be as per the Nova Scotia Standards and Guidelines Manual for the Collection, Treatment and Disposal of Sanitary Sewage dated 1992, Nova Scotia Department of the Environment.

(g) Minimum depth of cover over the water main shall be 1.2 meters in relation to the finished street grade.

(h) No connection shall be permitted from the water distribution line to any water system or individual household or business which is connected to any other water supply .

(i) All service connections shall be taken off distribution mains which are at least 150 mm in diameter. All individual connections must be taken off the main which runs parallel with the property line. No octopus connections shall be permitted. Minimum required size for water services shall be 19 mm diameter. Refer to Standard Drawing #11 for details.

(j) Fire hydrants shall be spaced as recommended by the Fire Underwriter's Survey of the Insurance Bureau of Canada but not greater than 150 meters in residential areas. Hydrant leads shall be 150 mm in diameter and shall include a gate valve of the same diameter and a valve box. Hydrants shall be installed such that the breakaway flange is within 150 mm of finished grade. Refer to Standard Drawing #12.

(k) Water distribution lines shall be provided with valves as follows:

(i) four valves are required at each four street intersection;

(ii) three valves are required for each "T" intersection; and,

(iii) the maximum spacing of valves on straight sections in residential areas shall be 200 meters.

(l) Connection to any water distribution line shall be carried out by the applicant under the supervision of the Yarmouth Water Utility.

Materials Specifications:

15(3) The water distribution system shall conform with the minimum materials specifications as outlined below:

Piping:

(a) Water distribution piping and water service connections 100 mm diameter and larger shall be as follows:

(i) ductile iron pipe, conforming to AWWA C151 standard, class 52 minimum, cement mortar lined in accordance with AWWA C104 standard.

(ii) Polyvinyl chloride pressure pipe (PVC) conforming to AWWA Standard C900, class 150 (DR 18) with cast iron outside dimensions. PVC water pipe shall be color coded blue.

Fittings:

(b) Mechanical joint fittings to be used conforming to AWWA Standard C110. Fittings to be cement mortar lined in accordance with AWWA Standard C-104.

Valves:

(c) Gate valves shall conform to the latest revision of AWWA standard C-500 to C-509, mechanical joint ends, non rising bronze stem, 2" square operating nut, opening counterclockwise complete with centering disc, minimum pressure rating of 1035 kpa, American AVK Co. or Mueller.

Hydrants:

(d) Hydrants to be McAvity M-67 or American AVK Co. model 2780 complete with breakaway flanges, 150 mm mechanical joint, 2 X 63 mm hose nozzles, 1 X 102 mm pumper nozzle. Hydrants to be painted to the specified colors of the Yarmouth Water Utility.

Valve Boxes:

(e) Valve boxes shall be cast iron slide tube complete with covers imprinted with "Water", I.M.P. type V1 or Bibby-Ste. Croix model VB-8912.

Service Connections:

(f) Water service pipe shall be Type "K" soft copper tubing or polyethylene tubing which meets the requirements of CSA B137.1 PE-type 2, grade 3, minimum rating of 1035 kpa.

(g) Brass corporation main stops shall be Mueller A-726 or Ford F1000 or FB 1000 complete with A-800 lid and 23" stainless steel rod, adjustable from 1.37 meters to 1.68 meters.

Installation:**General:**

15(4) The water distribution system shall be installed by the subdivider in accordance with the latest revision of the Standard Specification for Municipal Services as developed by the Joint Committee on Contract Documents, comprised of members of the Nova Scotia Consulting Engineering Associations and the Nova Scotia Road Builders Association and shall be considered to form part of this bylaw.

15(5) The following specification shall be considered to be in addition to or to modify the applicable sections of the "Standard Specification for Municipal Services":

(a) All pipe and fittings shall be visually inspected by the Yarmouth Water Utility's designated representative prior to backfilling. Pipe and fittings which have not received inspection prior to bury will not be accepted.

(b) All pipe and fittings shall be hydrostatically pressure tested to 1035 kpa or 1.5 times the normal working pressure, whichever is greater. There shall be no allowable pressure drop for a period of one hour. All tests are to be witnessed by a designated representative of the Yarmouth Water Utility.

(c) All exposed bolts, nuts and threads on valves and fittings shall be coated with Denso Metrosol Mastic 1341 or approved equal.

(d) If non-metallic piping is used for the water distribution system, detectatape, or approved equal, an inductive locating plastic ribbon, shall be installed directly over the water line at a depth of 30" below finished grade. Tape shall be color coded blue and imprinted "Caution Water Line Buried Below." Detectatape or approved equal shall be installed directly over polyethylene service tubing from the main stop to the curb stop.

PART 16

SANITARY SEWER SPECIFICATIONS

General:

16(1) The sanitary sewage collection system shall be designed in accordance with the requirements of the Nova Scotia Standards and Guidelines Manual for the Collection, Treatment and Disposal of Sanitary Sewage as published by the Nova Scotia Department of the Environment, latest edition. These specifications are the minimum requirements and do not preclude the use of higher standards when they are warranted as determined by the Town or other authorities having jurisdiction.

Design Criteria:

16(2) The sanitary sewage collection system shall conform with the minimum design criteria as outlined below:

(a) The design capacity of sanitary sewers shall be determined by the Manning formula using a Manning roughness coefficient of .013. Nomographs and hydraulic element graphs may be used to determine sewer capacity.

(b) Sewer system extensions shall be designed to accommodate the peak ultimate wastewater flows from adjacent tributary areas and the sewers sized accordingly.

(c) Sanitary sewer laterals for single dwelling units shall be a minimum of 100 mm. in diameter at a minimum grade of 2% as per Standard Drawing #10. There shall be one lateral for each lot in the subdivision.

(d) The capacity of laterals serving more than 4 dwelling units shall be determined by using the Manning Equation. The peak rate of flow shall be determined by using the fixture unit method as outlined in the Water Pollution Control Federation Manual of Practice No. 9, Chapter 3 Section C.

(e) Where existing topography dictates the need to service a dwelling unit utilizing a pumping station and forcemain, the forcemain shall be entirely upon private property, connected to a gravity service lateral at the street line.

(f) For sanitary gravity sewers and sewage forcemains not constructed within a street public right of way, a minimum easement width of 5 meters shall be deeded to the Town for maintenance access.

(g) Sanitary sewer laterals shall be provided from the main sewer within the public right of way to the lot line at the cost of the subdivider.

(h) For smaller sewage pumping stations, the wet well (submersible pump) type is acceptable if provision has been made for easy removal of pumps for service.

(i) For a duplex pumping station, each pump shall be capable of handling the peak rate of flow for the design period.

(j) The Hazen Williams formula shall be used for determining pipe friction losses for forcemains. The “C” values to be used are as follows: steel or gray iron 100 PVC 120.

(k) The minimum scouring velocity shall be .6 meters per second at the peak design flow.

(l) Wet wells shall be designed to provide retention time of less than 30 minutes.

Materials:

16(3) Sanitary sewage collection systems shall conform with the minimum materials specifications as outlined below:

(a) Sanitary sewer pipe shall be SDR 35 PVC to CSA standard B182.1, locked in rubber gasket joints and integral bell. PVC sewer pipe shall be color coded green.

(b) Precast reinforced concrete pipe manufactured to ASTM specifications, C-76M and CSA standard A257M is also acceptable for use as a sanitary sewer pipe. Joints to be bell and spigot with flexible rubber gaskets to CSA standard A257.3M.

(c) Sanitary sewer service laterals shall be CSA approved PVC pipe, SDR 28 with locked in rubber gasket joints.

(d) Sewage forcemain piping shall be ductile iron pipe conforming to AWWA C151, class 52 minimum, PVC pressure pipe conforming to AWWA standard C900 class 150, or polyethylene service tubing to CSA B-137.1 PE type 2, grade 3. Forcemain piping to be rated for 1.5 times the working pressure of the system.

(e) All manholes shall conform to ASTM specification C-478 and shall have a precast or cast in place concrete base. All manholes shall be constructed using precast sections and “O” ring gaskets and topped with a flat top shaft ring as per Standard Drawing #7. The minimum required manhole diameter shall be 1050 mm.

(f) The standard manhole cover and frame shall be I.M.P. R110 or approved equal.

(g) Manhole ladders shall conform to Standard Drawing #9 or be approved by engineer.

Installation: (see Drawing #6)

General:

16(5) The sanitary sewage collection system shall be installed by the subdivider in accordance with the latest revisions of the Standard Specification for Municipal Services as developed by the Joint Committee on Contract Documents, comprised of members of the Nova Scotia Consulting Engineers Association and the Nova Scotia Road Builders Association and shall be considered to form part of this bylaw.

16(6) The following specifications shall be considered to be in addition to or to modify the applicable sections of the “Standard Specification for Municipal Services”:

- (a) The subdivider shall not bury any pipe or appurtenances until they have been inspected by the Town’s designated representative at the expense of the applicant.
- (b) All testing of the sanitary sewage collection system shall be conducted in the presence of the Town’s designated representative.
- (c) Copies of all test results shall be submitted to the Town for their records.

PART 17

STORM SEWER DRAINAGE LINE SPECIFICATIONS

General:

17(1) These specifications are the minimum requirements and do not preclude the use of higher standards when they are warranted as determined by the Town or other authorities having jurisdiction.

17(2) The developer is responsible for the downstream effects of his proposed development and must provide either increased downstream stormwater drainage capacity or for zero increase in peak runoff.

17(3) All new public streets, shall have an underground piped storm drainage system located within the public street right of way.

Design Criteria:

17(4) Storm sewer drainage systems line shall conform to the minimum design criteria as outlined below:

(a) Underground street drainage systems shall be designed as a minor drainage system unless otherwise required by the Town.

(b) The design of the minor system shall be based upon storm frequency of 1 in 5 years for all land uses except commercial and industrial areas which shall be designed for a storm frequency of 1 in 10 years.

(c) The complete stormwater system including both the major and minor system shall be designed based upon a storm frequency of 1 in 100 years or a 1% probability of being equaled or exceeded in any one year.

(d) The Rational Method shall be used for determining peak runoff quantities for watershed areas of less than 1 square mile.

(e) Runoff coefficients for design storm frequencies of 1 in 5 years and 1 in 10 years are as outlined below:

Description of Area	Runoff Coefficients
Commercial95
Residential50
Industrial85
Green Areas25

(f) The runoff coefficients for design storm frequencies of 1 in 100 years shall be increased as outlined below:

Description of Area	Runoff Coefficients
Commercial	1.0
Residential	0.80
Industrial	1.0
Green Areas	0.45

(g) The intensity of the design storm shall be determined using drawing #14 in Appendix “B”. The time of concentration shall be based upon an inlet time of ten (10) minutes.

(h) The tributary area for storm drainage shall include all areas which drain to the point at which flow is to be estimated. Runoff calculations shall be based on total development of the tributary area.

(i) The Town will pay the additional costs associated with designing a storm drainage system to accommodate the storm water flows from upstream areas which are outside of the proposed development ie. oversizing of storm sewers to handle upstream post development flows.

(j) The capacity of storm sewers shall be determined by using Manning’s formula using a roughness coefficient of .013. Nomographs and hydraulic element charts for hydraulic capacity of circular pipe are acceptable for determining flow capacity.

(k) Storm sewer sizes shall not be less than 300 mm. in diameter.

(l) The minimum depth of bury for storm sewers shall be 1.5 meters.

(m) The minimum diameter of catchbasin leads shall be 250 mm.

(n) Catchbasin leads shall be connected to manholes if the storm sewer is less than 48 inches in diameter.

(o) Where two or more catchbasins are connected together, the minimum diameter of the connecting lead pipe to the manhole shall be 300 mm.

(p) Roof drains shall not be connected into the sewer system, but shall discharge onto the ground surface. Where the roof surface area is greater than 2500 square feet, it may be connected directly to the storm drainage system, if authorized by the Town Engineer.

(q) Catchbasins shall be installed on the straight portion of each curb immediately upstream of intersections, and at low points in gutters. Catchbasin spacing shall be

adequate to prevent flooding of the road surface with a maximum spacing of 90 meters.

(r) During minor storm events, the travel surface of streets shall remain free of accumulations of water with the exception of the gutter between catchbasin inlets.

(s) During a major storm event (1 in 100 year storm) the depth of flow of water at the gutter shall not exceed 150 mm. In order to ensure that this requirement is met, provision shall be made to remove runoff into drainage channels, watercourses, flood plains, and piped systems.

(t) The design of outfalls from piped storm drainage systems into receiving bodies of water shall take into consideration the following:

- (i) public safety
- (ii) erosion control
- (iii) maintenance requirements
- (iv) aesthetics

(u) For storm sewers not constructed within a public street right of way, a minimum easement width of 5 meters shall be deeded to the Town by the subdivider for maintenance access.

Materials:

17(5) Storm sewer drainage line shall conform to the minimum material specifications as outlined below:

(a) Storm sewer pipe shall be SDR 35 PVC to CSA standard B182.2 locked in rubber gasket joints and integral bell and conform to ASTM D3034 and ASTM F679. PVC sewer pipe shall be color coded green for ease of identification.

(b) Ribbed PVC pipe and fittings shall be certified to CSA B182.4 and shall meet the requirements of ASTM F794. Pipe shall be color coded green.

(c) Precast reinforced concrete pipe manufactured to ASTM specifications, C-76M and CSA standard A257M is also acceptable for use as a sanitary sewer pipe. Joints to be bell and spigot with flexible rubber gaskets to CSA standard A257.3M.

(d) Storm sewer service laterals shall be CSA approved PVC pipe, SDR 28 with locked in rubber gasket joints.

Installation:

General:

17(6) The storm sewage collection system shall be installed by the subdivider in accordance with the latest revisions of the Standard Specification for Municipal Services as developed by the Joint Committee on Contract Documents, comprised of members of the Nova Scotia Consulting Engineers Association and shall be considered to form part of this bylaw.

17(7) The following specifications shall be considered to be in addition to or to modify the applicable sections of the “Standard Specification for Municipal Services”:

(a) The subdivider shall not bury any pipe or appurtenances until they have been inspected by the Town’s designated representative.

(b) All testing of the storm drainage system shall be conducted in the presence of the Town’s designated representative.

(c) Copies of all test results shall be submitted to the Town for their records.

PART 18

WALKWAY SPECIFICATIONS

18(1) Walkways shall conform to the minimum walkway specification as outlined below:

(a) The minimum easement width of a walkway right-of-way shall be 3 meters. Where municipal sewer, storm or water systems are to be constructed within the walkway right-of-way, the minimum easement width shall be 6 meters.

(b) As much as possible, the constructed portion of the walkway shall be centered within the right-of-way.

(c) The walkway shall be constructed in accordance with standard drawing #5 and as follows:

(i) 150 mm. Type 1 granular base, 1.8 meters wide and compacted to 98% Standard Proctor density; and

(ii) 50 mm. crusher dust, 1.5 meters wide compacted to 98% Standard Proctor Density.

(d) Where possible, all manholes and water appurtenances shall be to the sides of the 1.5 meter walkway.

(e) The total width of the right-of-way shall be graded in such a way as to control surface drainage within the walkway right-of-way. This can be accomplished using culverts, drains, swails, and/or catchbasins.

(f) The minimum grade for a walkway shall not be less than 2% and the maximum grade shall not exceed (10%) percent. Where site topography dictated grades of more than (10%) percent, concrete steps of uniform rise and run and handrails shall be installed.

(g) All walkways in residential and commercial areas shall be fenced on both sides for the entire length of the walkway right-of-way. Fencing shall be chain link fencing of minimum height of 1.2 meters.

(h) Both sides of any walkway shall be sodded from the edge of the walkway to the edge of the right-of-way (fence), unless it is not feasible due to topographic conditions.

(i) All walkways shall be constructed at the time of the installation of the services and streets. Natural vegetation of the area shall be preserved during walkway construction, where possible. Trees and shrubbery shall remain and clearing and grubbing shall be restricted to the construction area.

(j) Walkways shall be oriented so as to make use of the existing street lighting, where possible.



APPLICATION FOR SUBDIVISION APPROVAL

Town Planning Office, 400 Main Street, Yarmouth, N.S., B5A 1G2

SUBDIVIDER RELATED INFORMATION

Name of Land Owner(s): _____ Phone No.: _____
 Address of Land Owner(s): _____ Postal Code: _____
 Subdivision Name (if different from Owner): _____
 Plans to be returned to: _____
 Correspondence to be directed to: _____

LAND TO BE SUBDIVIDED

Location: _____
 Type of Application Preliminary (Optional)
 Tentative Final
 Type of Approval Plan Consolidation
 Type of Development Single family dwelling
 Duplex/Semi-Detached
 Other _____

Do you want remainder lots, if any, consolidated? yes no
 Approval Requested for lot(s) No.: _____

CERTIFICATION – ON-SITE/TOWN SEWER SYSTEM NOT REQUIRED

I certify that the use of the lot(s) for which approval is being requested will not require the installation of an on-site sewage disposal system or connection to the Town's sewer system.

SIGNATURE: _____

WATER SERVICES

	Existing	Proposed
Municipal	<input type="checkbox"/>	<input type="checkbox"/>
Well	<input type="checkbox"/>	<input type="checkbox"/>
Other (specify) _____		

SEWER SERVICES

	Existing	Proposed
Municipal	<input type="checkbox"/>	<input type="checkbox"/>
On-Site	<input type="checkbox"/>	<input type="checkbox"/>
Other (specify) _____		

ACCESS

Public	<input type="checkbox"/>	<input type="checkbox"/>
Other (specify) _____		

Calculation of Application Fee: _____

I certify that I am the owner or am acting with the owner's written consent.

Signature of Subdivider: _____ Date: _____

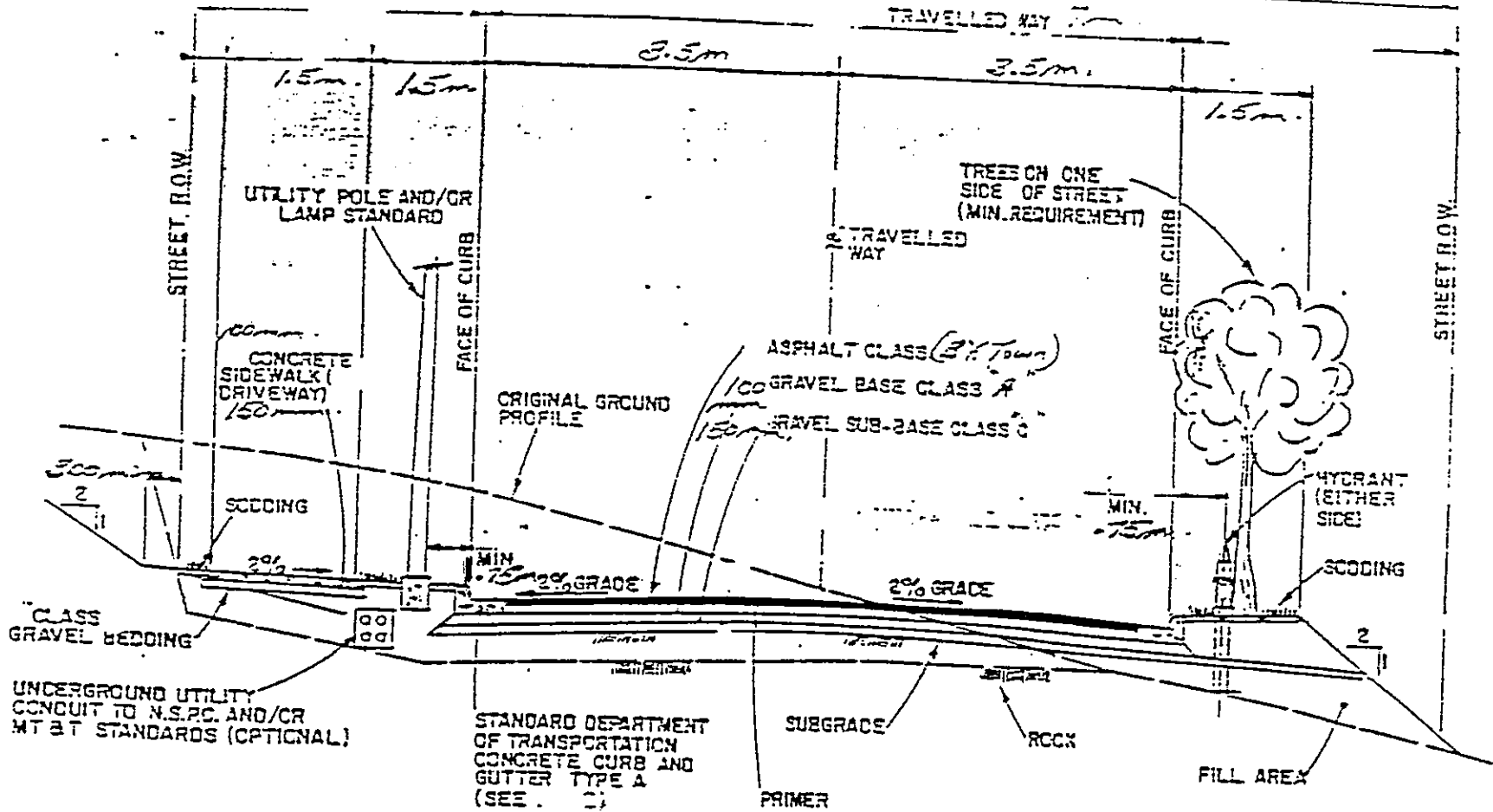
FOR OFFICE USE ONLY

Application No.	Application Received	Application Complete	Refused <input type="checkbox"/> Approved <input type="checkbox"/>
_ _ _	_ _ _ _ _ _ _	_ _ _ _ _ _ _	_ _ _ _ _ _ _
	Month Day Year	Month Day Year	Month Day Year

APPENDIX “B”

List of Standard Drawings

Drawing #1	Typical Street Cross Section - Curb & Gutter
Drawing #2	Concrete Curb & Gutter
Drawing #3	Detail Concrete Sidewalk
Drawing #4	Standard Street Sign Detail
Drawing #5	Standard Walking - Cross Section
Drawing #6	Trench Detail for Multiple Pipe Installation
Drawing #7	Precast Manhole with Flat Top
Drawing #8	Cast in Place Base for Precast Manhole
Drawing #9	Standard Manhole Ladder
Drawing #10	Sanitary Sewer Service Connection
Drawing #11	Typical Water Service Connection
Drawing #12	Fire Hydrant & Valve installation Detail
Drawing #13	Thrust Block Details for Watermains
Drawing #14	Rainfall Intensity Duration frequency curves for Yarmouth



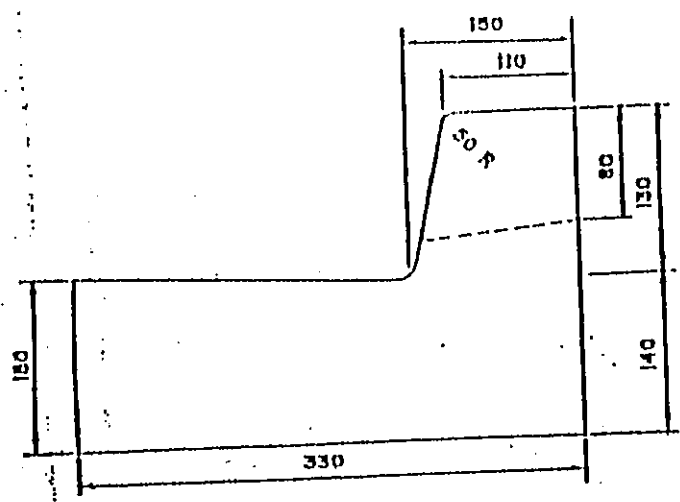
DRAWING No. 1

NOTES:

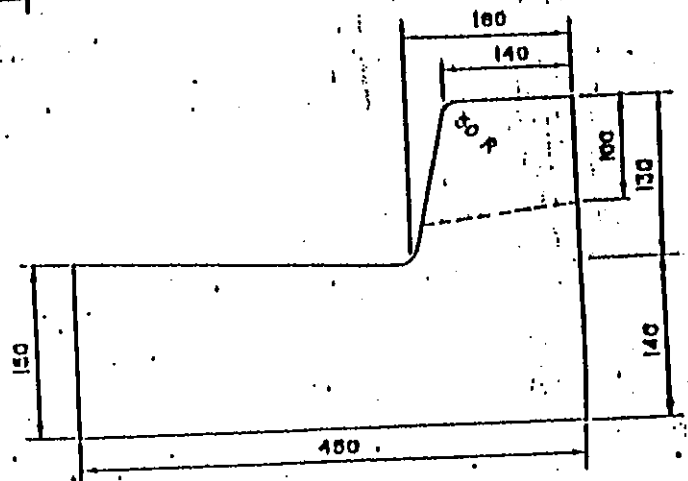
1. SAND FILTER OF APPROVED DESIGN THICKNESS SHALL BE USED IF SUBGRADE IS OF CLAY MATERIAL.
2. ROCK TO BE EXCAVATED TO A DEPTH OF ... BELOW SUBGRADE AND FILLED WITH APPROVED COMMON FILL.
3. DRAIN STREET SURFACE TO CATCHBASINS AND STORM SEWERS AS SPECIFIED

**TOWN OF YARMOUTH,
SUBDIVISION SPECIFICATION**

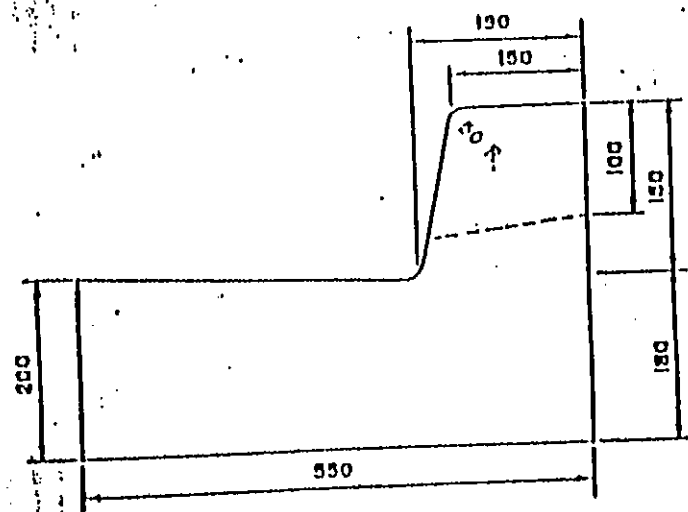
**STANDARD STREET CROSS SECTION
CURB AND GUTTER**



TYPE "A"



TYPE "B"



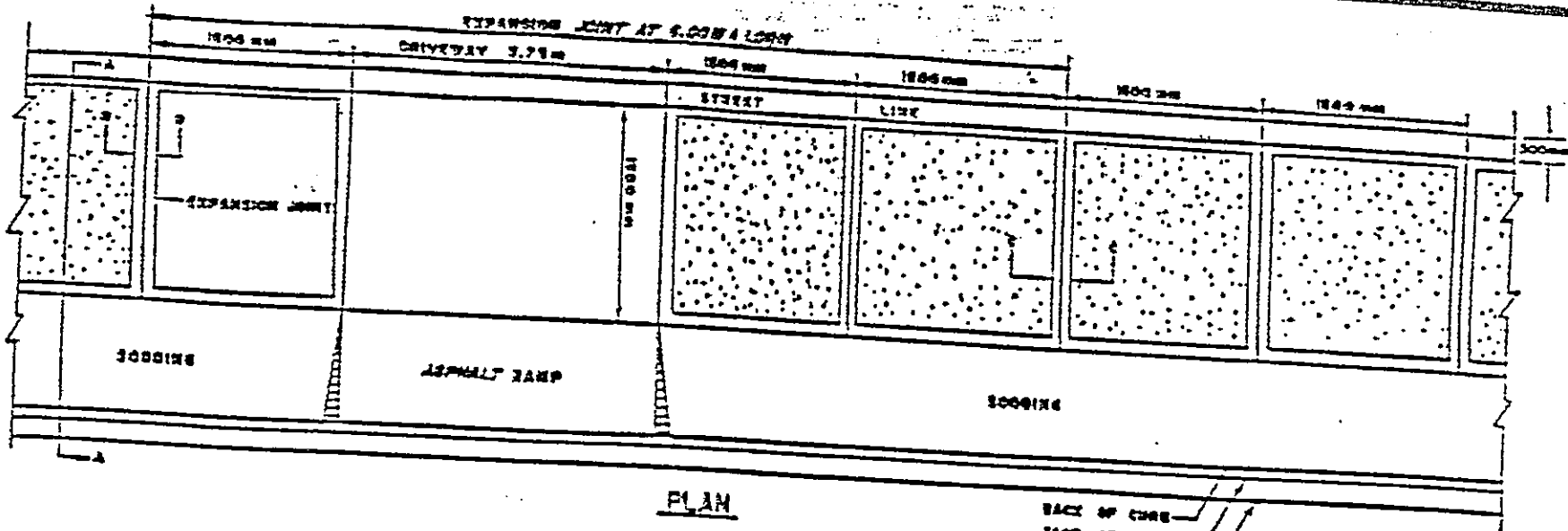
TYPE "C"

ALL DIMENSIONS ARE IN MILLIMETRES.

NOTES

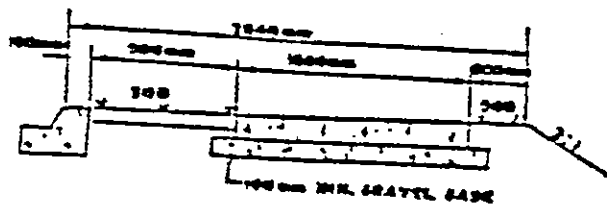
- 1 CURBS AND CURB AND BUTTER SHALL BE BUILT ON AN APPROVED GRANULAR BASE HAVING A MINIMUM DEPTH OF 150 mm.
- 2 EXPOSED EDGES SHALL BE FINISHED WITH A ROUNDED TOOL TO PRODUCE A 25 mm RADIUS OR AS SHOWN.

TOWN OF YARMOUTH	
CONCRETE CURB DETAIL	
Drawn by: <i>A.R.</i>	DRAWING No. 2

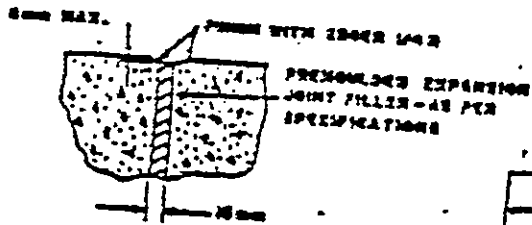


PLAN

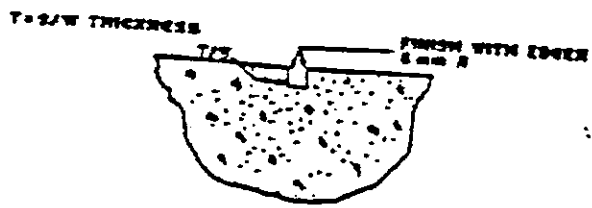
FACE OF CURB
FACE OF CURB
EDGE OF UTILITY



SECTION A-A



SECTION B-B
(EXPANSION JOINT)



SECTION C-C
(CONTROL JOINT)

- NOTES:
1. CONCRETE SIDEWALK TO BE 100mm THICK
 2. CONCRETE SIDEWALK AT RESIDENTIAL DRIVEWAY TO BE 100mm THICK
 3. CONCRETE SIDEWALK AT COMMERCIAL DRIVEWAY TO BE 100mm THICK WITH 100mm x 100mm - 1/2" WELDED WIRE MESH.
 4. GRAVEL BASE TO EXTEND 100mm BEYOND EDGE OF SIDEWALK STRUCTURE
 5. CONTROL JOINT MAY BE SAW-CUTTED OR HAND TOoled.

NO	DATE	REVISION DESCRIPTION	APP
TOWN OF YARMOUTH ENGINEERING & WORKS DEPARTMENT			
STANDARD DRAWING			
CONCRETE SIDEWALK			
			Dwg. # 3
			SCALE N.T.S.

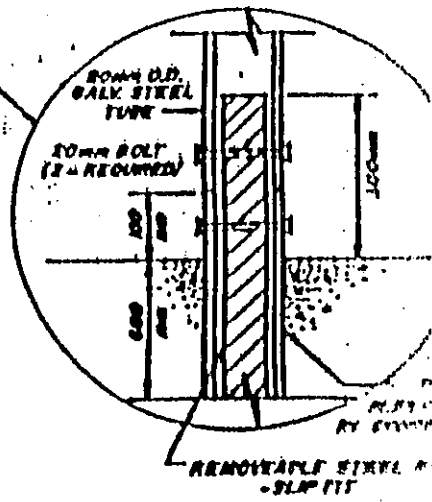
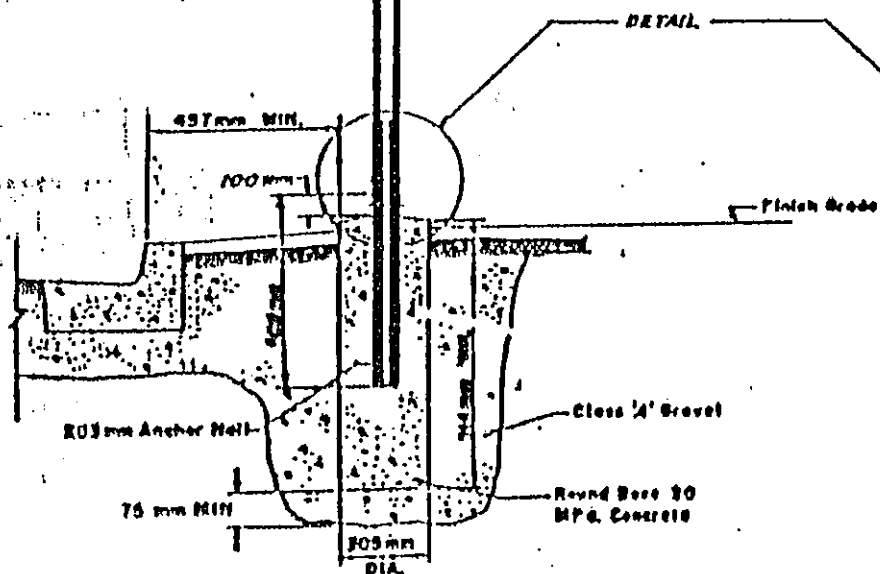
DRAWING No. 3

60mm O.D. GALVANIZED STEEL
TUBE FINISHED GREEN

TO BE MOUNTED AT TOP
OF POST.

AL-8 Support

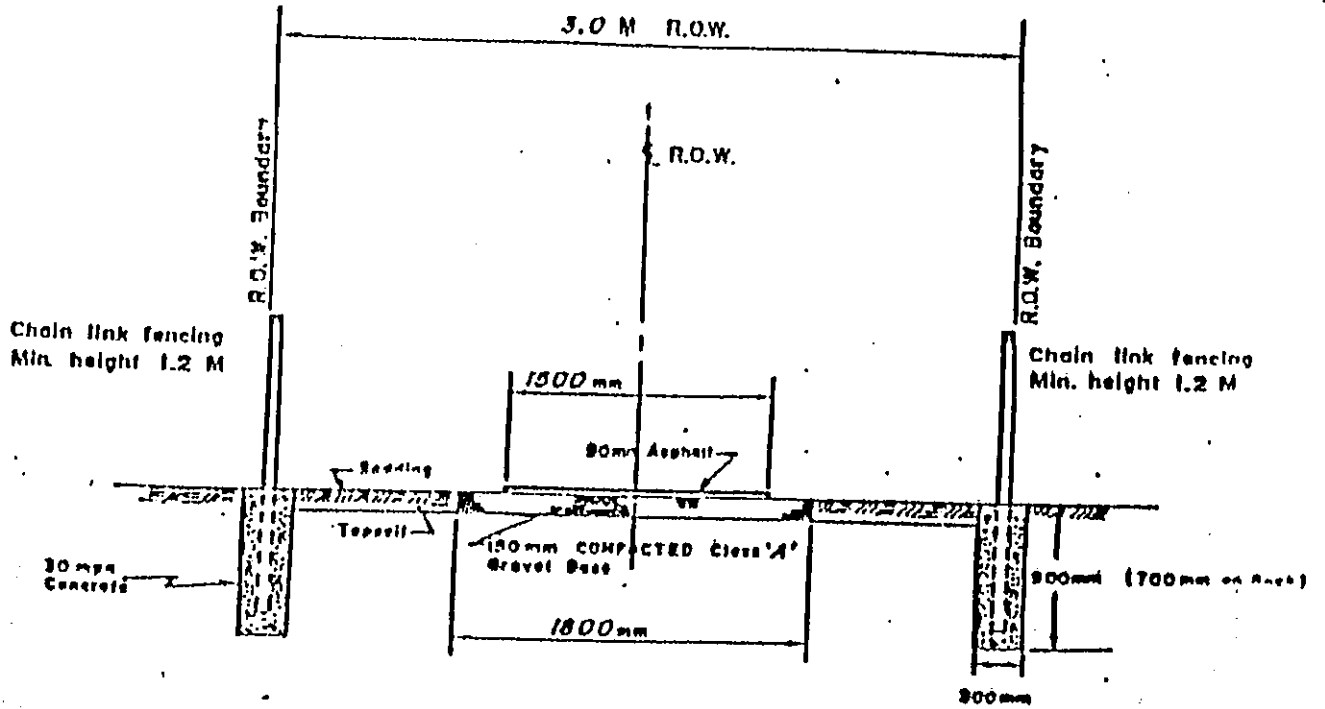
BASE: Aluminum
BACKGROUND: Baked Enamel
MESSAGE: Cut out letters
AS SUPPLIED BY D.A. PORTER
OR APPROVED EQUAL.



TYPICAL SIGN STANDARD

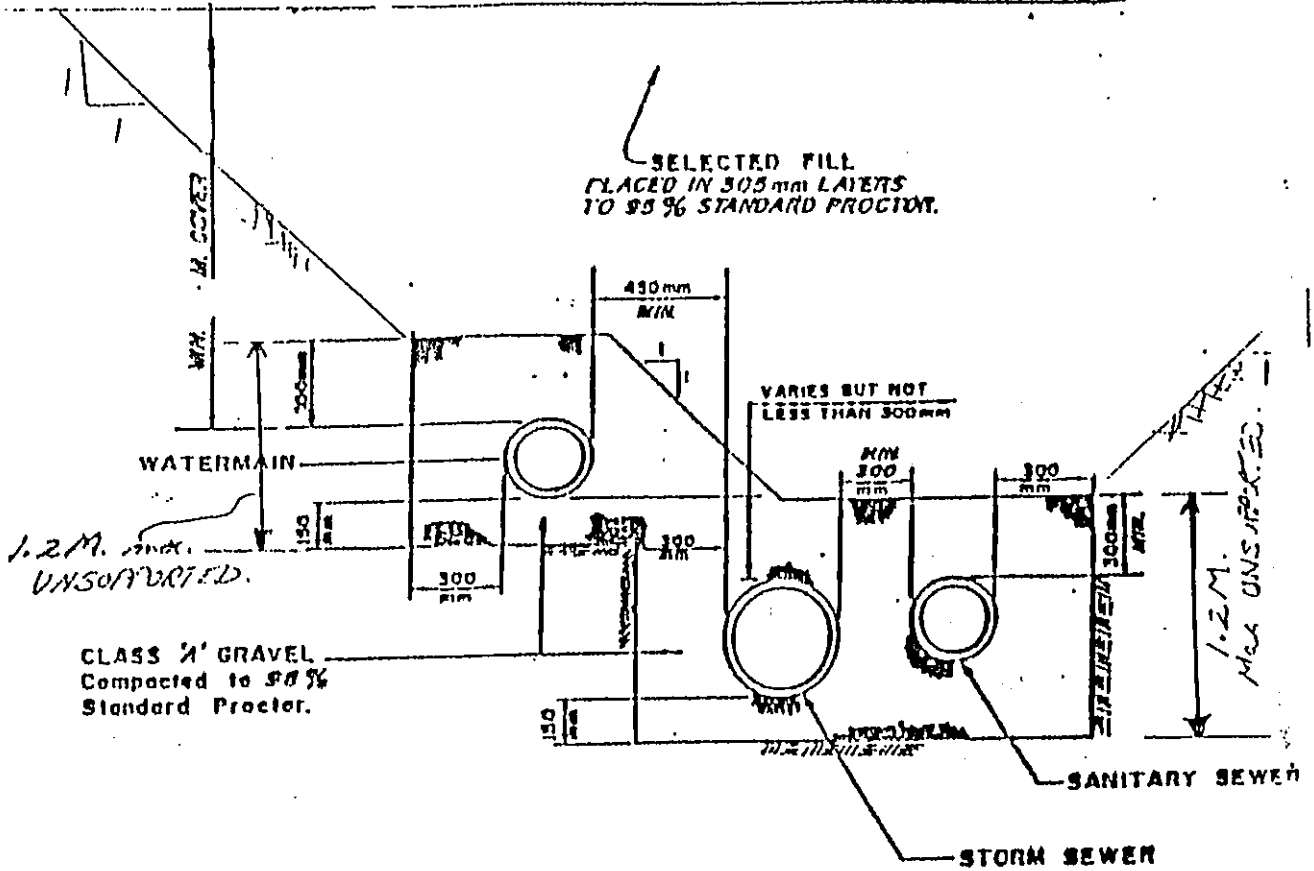
NO	DATE	REVISION DESCRIPTION
TOWN OF YARMOUTH.		
ENGINEERING & WORKS DEPARTMENT		
STANDARD DRAWING		
STREET SIGN		
		DATE MAR 28, 19...
		SCALE N.T.S
		PLAN NO. D.P. 100...

DRAWING No. 4.



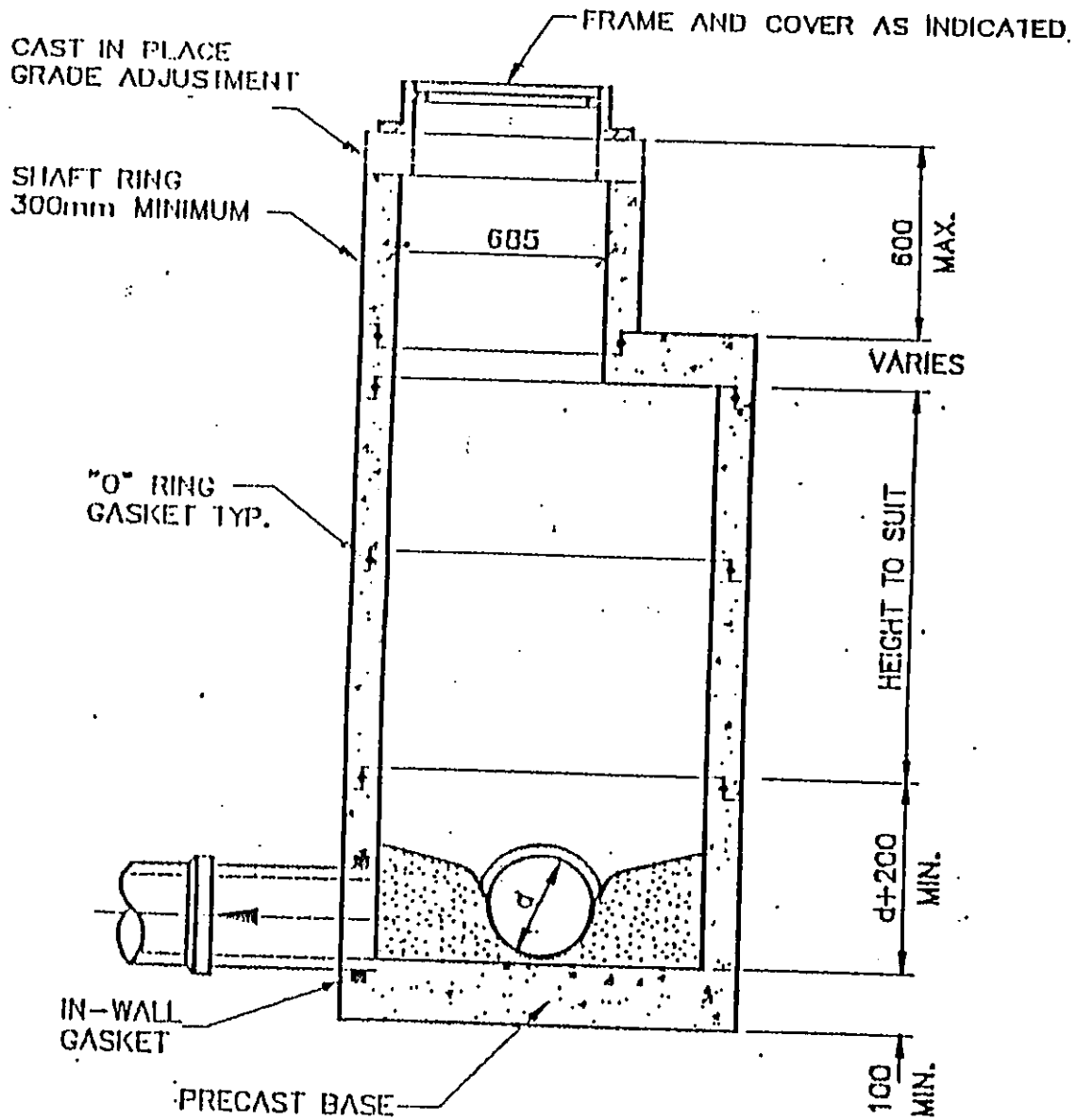
NO	DATE	REVISION DESCRIPTION
TOWN OF YARMOUTH. ENGINEERING & WORKS DEPARTMENT STANDARD DRAWING		
TYPICAL WALKWAY - CROSS SECTION		
	<i>Drawg. # 5.</i>	DATE
		SCALE N.T.S
		DRAWING No. 5

TOP OF SUBGRADE



NO	DATE	REVISION DESCRIPTION
TOWN OF YARMOUTH. ENGINEERING & WORKS DEPARTMENT STANDARD DRAWING		
TYPICAL TRENCH DETAILS - MULTIPLE PIPE.		
Drawg. # 6.		DATE
		SCALE N.T.S
DRAWING No. 6		

STANDARD DETAILS

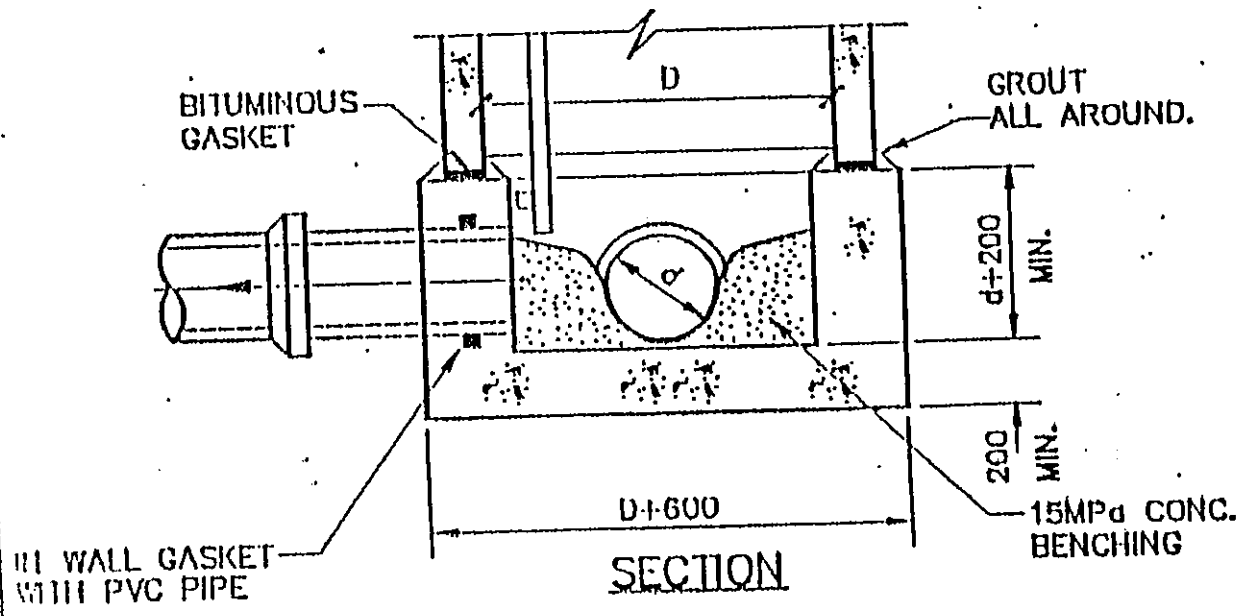
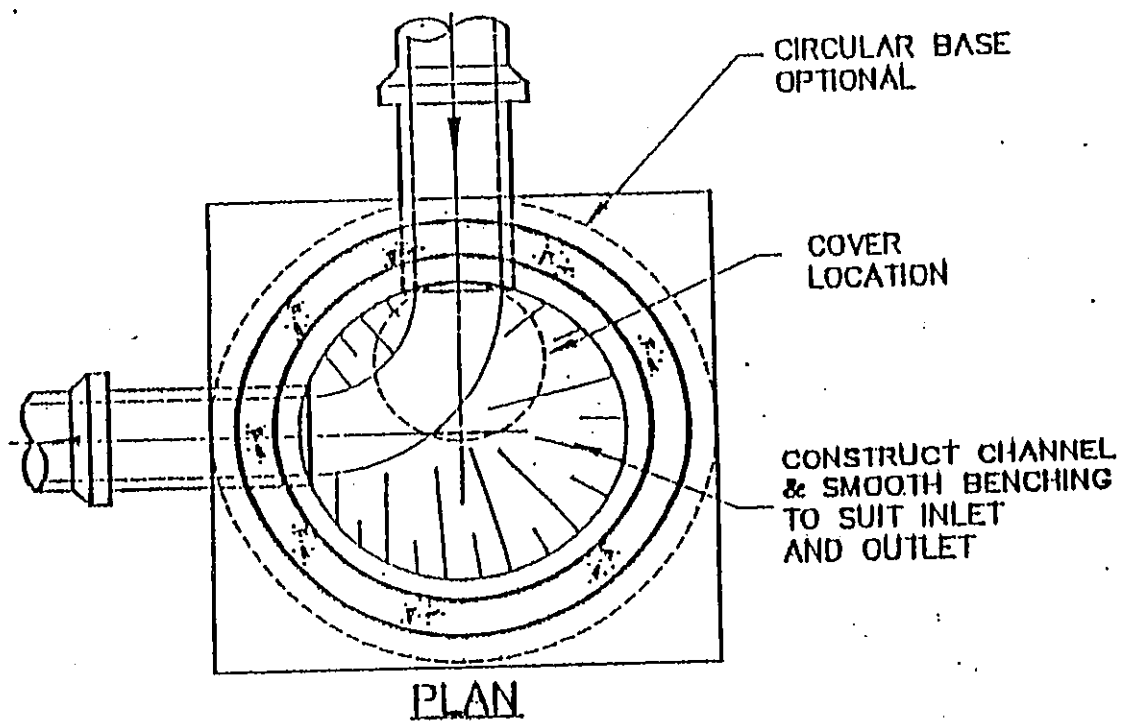


NOTES:

1. SEE ~~DMX 7-8~~ FOR DETAILS OF CAST-IN-PLACE BASE.

PRECAST MANHOLE WITH FLAT TOP

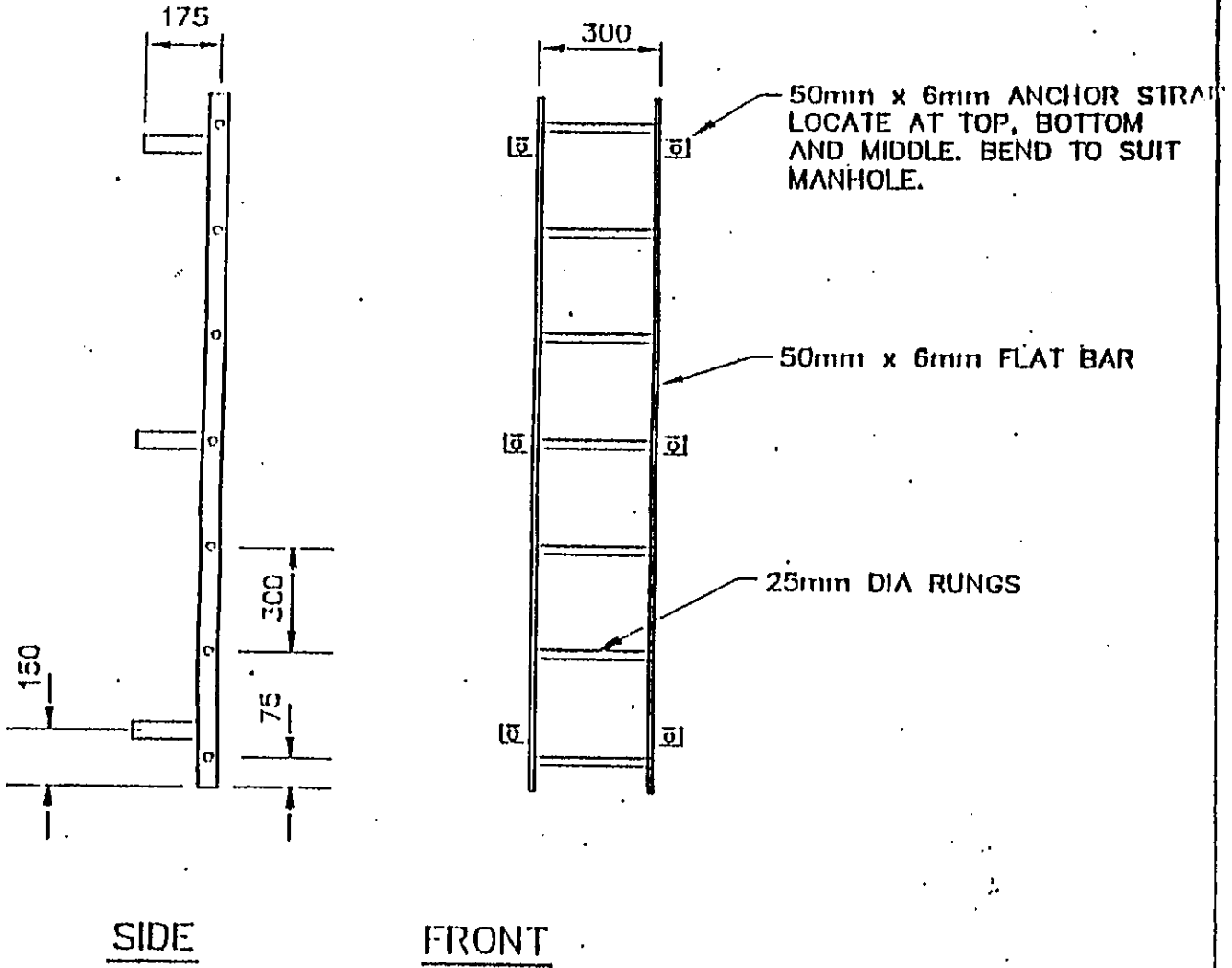
DRAWING NO. 7 DRAWING No. 7



CAST-IN-PLACE BASE
FOR PRECAST MANHOLE

NO. 8 DRAWING No. 8

STANDARD DETAILS

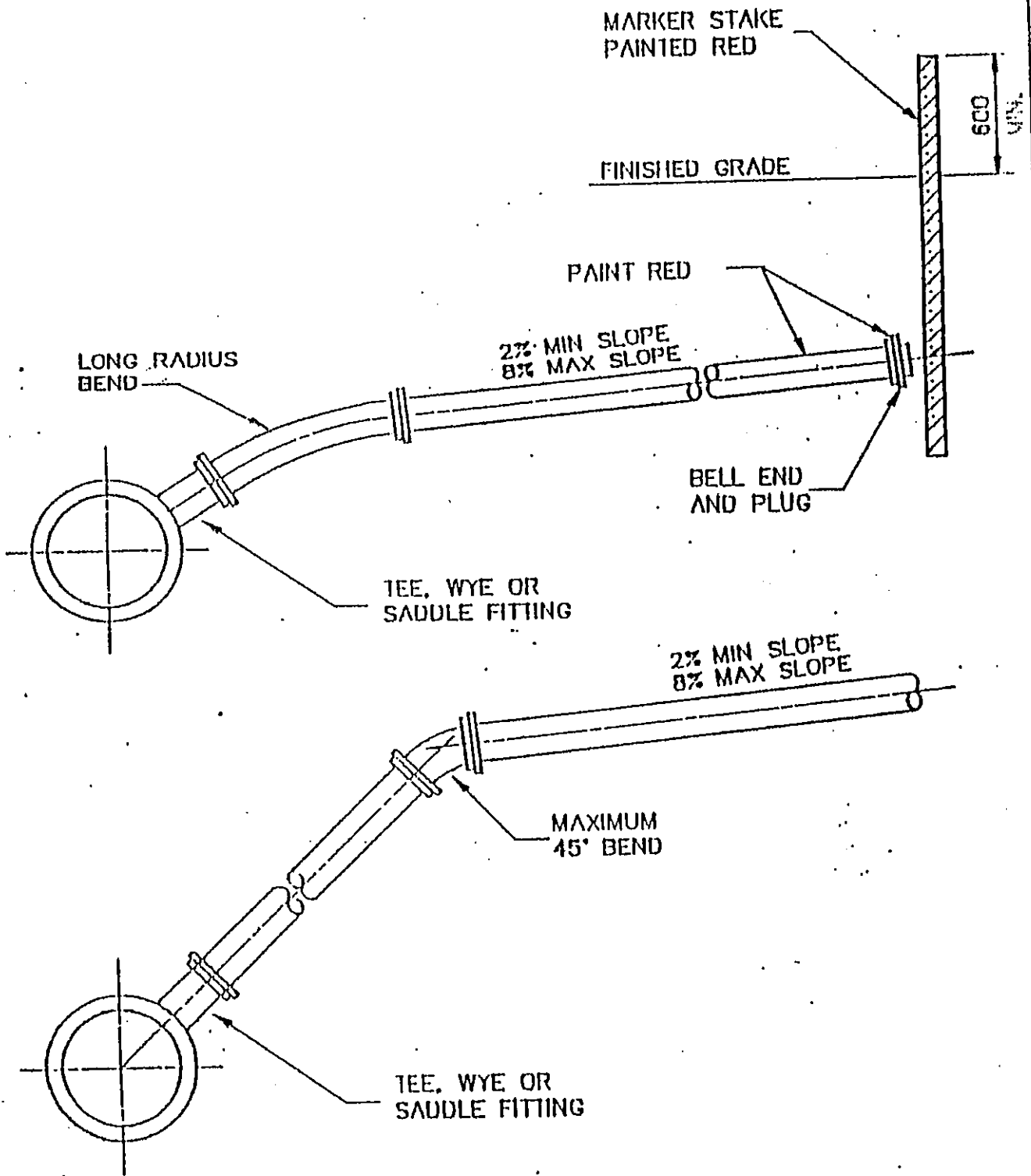


LADDER DETAIL

MANHOLE LADDER

DRAWING NO. 9 DRAWING No. 9.

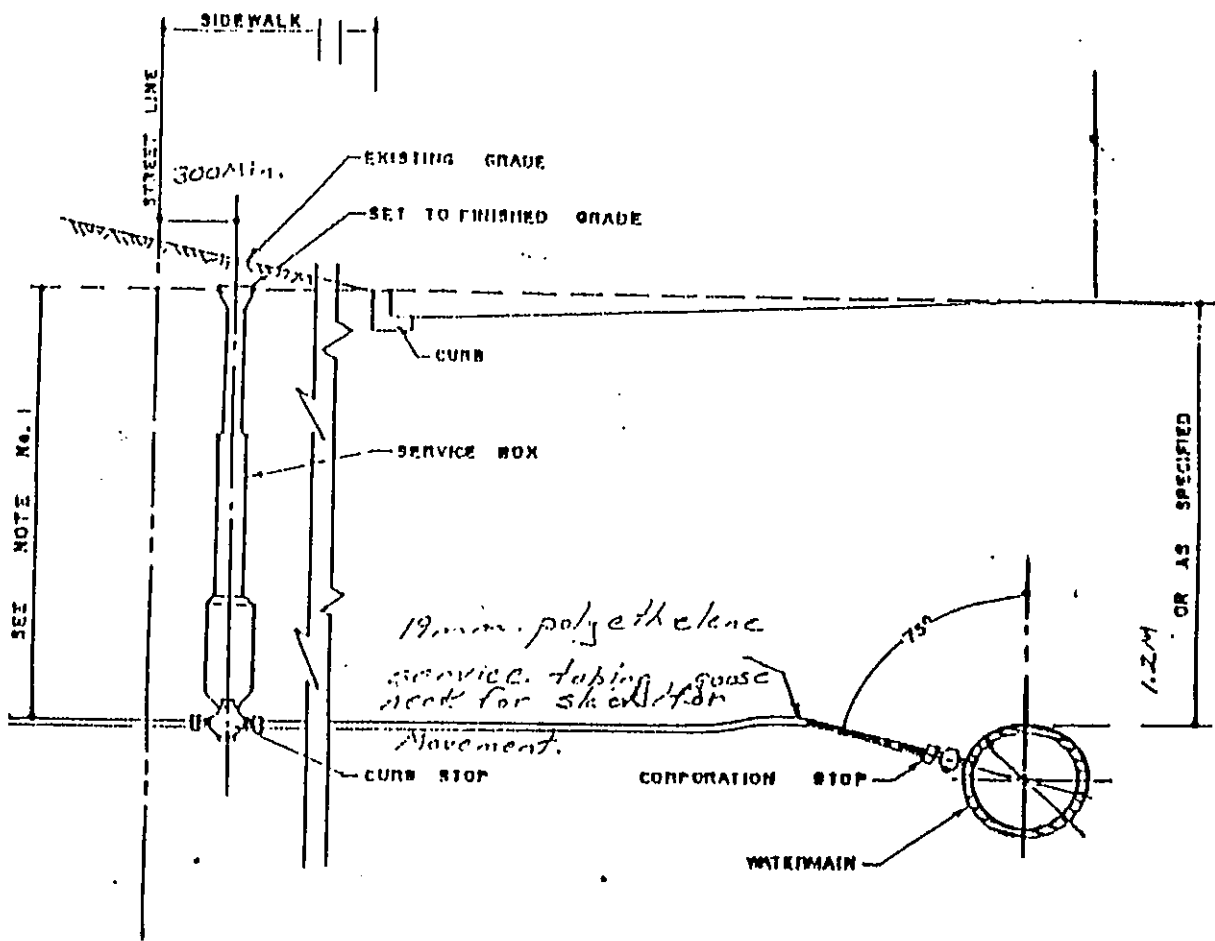
STANDARD DETAILS



CONNECTION TO DEEP SEWER

SANITARY SEWER
SERVICE CONNECTION

DRWG NO. 10 DRAWING No. 10



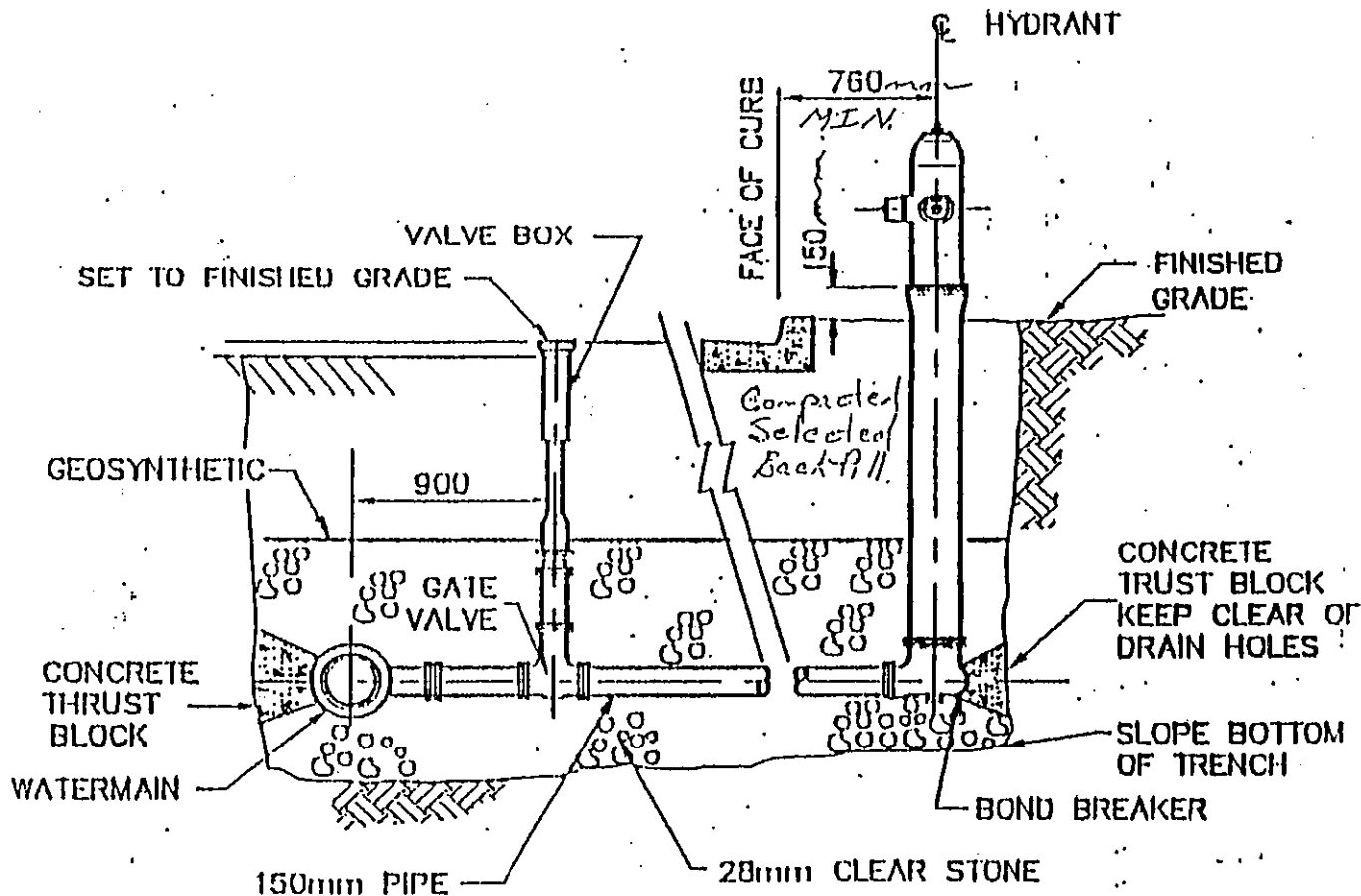
NOTES:

- 1 THE STANDARD SERVICE PIPE AT STREET LINE LOCATION TO HAVE THE SAME MINIMUM COVERAGE AS PER WATERMAIN.
- 2 FOR UP TO DATE DETAIL DRAWING CONTACT THE APPROPRIATE UTILITY OWNERS.

DET 11 91

No	DATE	REVISION DESCRIPTION	APP
ENGINEERING AND WORKS DEPARTMENT STANDARD DRAWING STANDARD SERVICE CONNECTION			
DRAWING No 11		DRAWING 11	

STANDARD DETAILS



NOTE:

1. SEE 02518-E4 AND 02518-E5 FOR THRUST BLOCKS.

FIRE HYDRANT

DRAWG. NO. 12 DRAWING No. 12.

STANDARD DETAILS

MINIMUM CONTACT AREAS FOR CONCRETE THRUST BLOCKS

PIPE DIA. mm	AREA, M ² FOR SOIL SUPPORTING CAPACITY OF 100 kPa					
	CAP/PLUG	TEE	90° BEND	45° BEND	22.5° BEND	11.25° BEND
100	0.25	0.25	0.32	0.20	0.16	0.16
150	0.48	0.48	0.64	0.40	0.24	0.16
200	0.80	0.80	1.12	0.64	0.32	0.16
250	1.28	1.28	1.76	0.96	0.48	0.24
300	1.76	1.76	2.56	1.44	0.72	0.40

MINIMUM DISTANCE FROM FITTING TO UNDISTURBED GROUND

PIPE DIAMETER, mm	mm
100	450
150	450
200	450
250	600
300	750

VERTICAL THRUST BLOCKS
THRUST COMPENSATED FOR BY MASS OF CONCRETE (m³)

PIPE DIA. mm	45° BEND	22.5° BEND	11.25° BEND
100	0.40	0.20	0.20
150	0.80	0.40	0.40
200	1.40	0.70	0.70
250	2.10	1.10	1.10
300	3.00	1.50	1.50

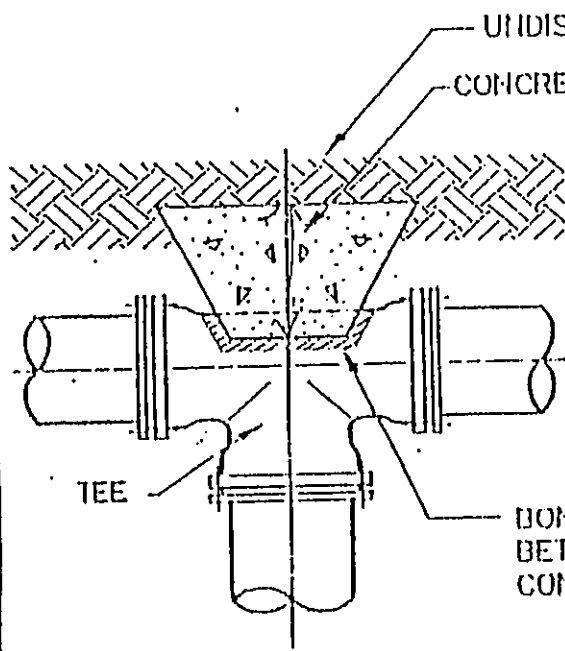
NOTES:

- SEE 02518-E4 FOR THRUST BLOCK CONFIGURATIONS.
- THESE TABLES ARE BASED ON SOIL SUPPORTING CAPACITIES OF 100 kPa AND AN INTERNAL PIPE PRESSURE OF 1035 kPa. WHERE DIFFERENT SUPPORTING CAPACITIES OR INTERNAL PRESSURES ARE ENCOUNTERED, CONTACT AREAS SHOULD BE CALCULATED ACCORDINGLY. SAFE SUPPORTING CAPACITY SHOULD BE DETERMINED BY THE DESIGN ENGINEER, AND SHOULD INCLUDE AN APPROPRIATE FACTOR OF SAFETY.

THRUST BLOCK REQUIREMENTS

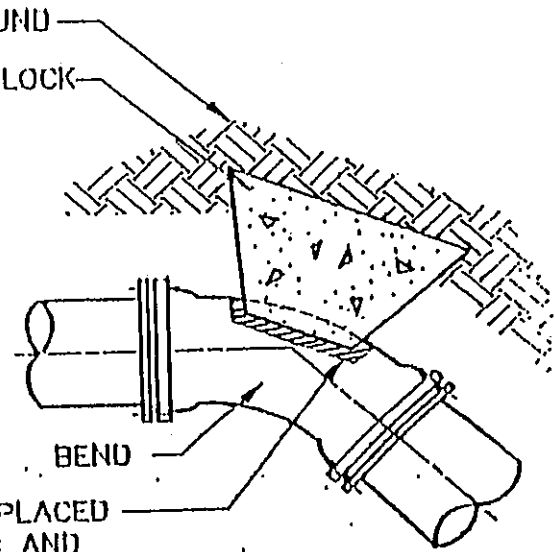
DWG. NO. 138 DRAWING 11.15

STANDARD DETAILS



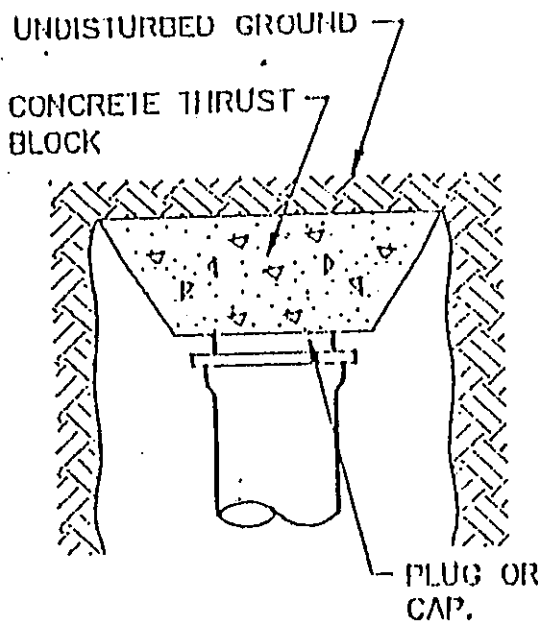
TEE

TEE



BEND

HORIZONTAL BENDS

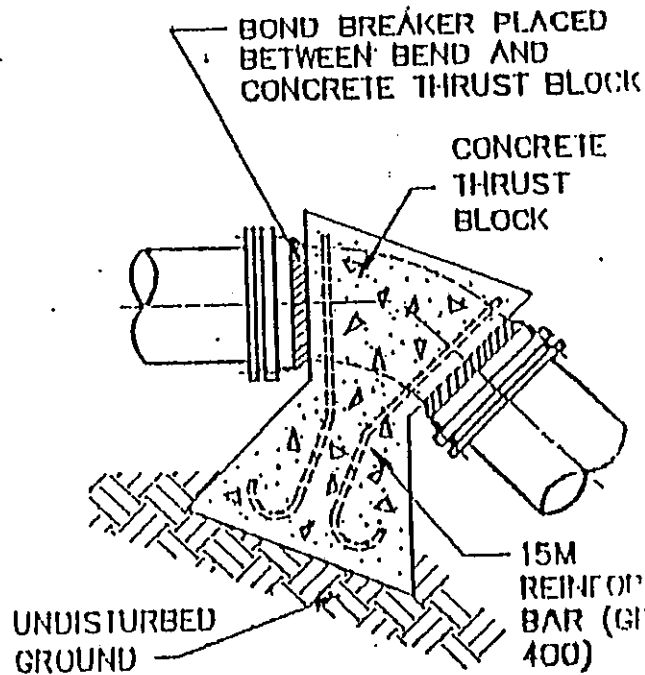


UNDISTURBED GROUND

CONCRETE THRUST BLOCK

PLUG OR CAP.

BLANK END



BOND BREAKER PLACED BETWEEN BEND AND CONCRETE THRUST BLOCK

CONCRETE THRUST BLOCK

15M REINFORCING BAR (GR 400)

UNDISTURBED GROUND

VERTICAL BENDS

NOTE: SEE O2518-E5 FOR THRUST BLOCK REQUIREMENTS

THRUST BLOCK DETAILS

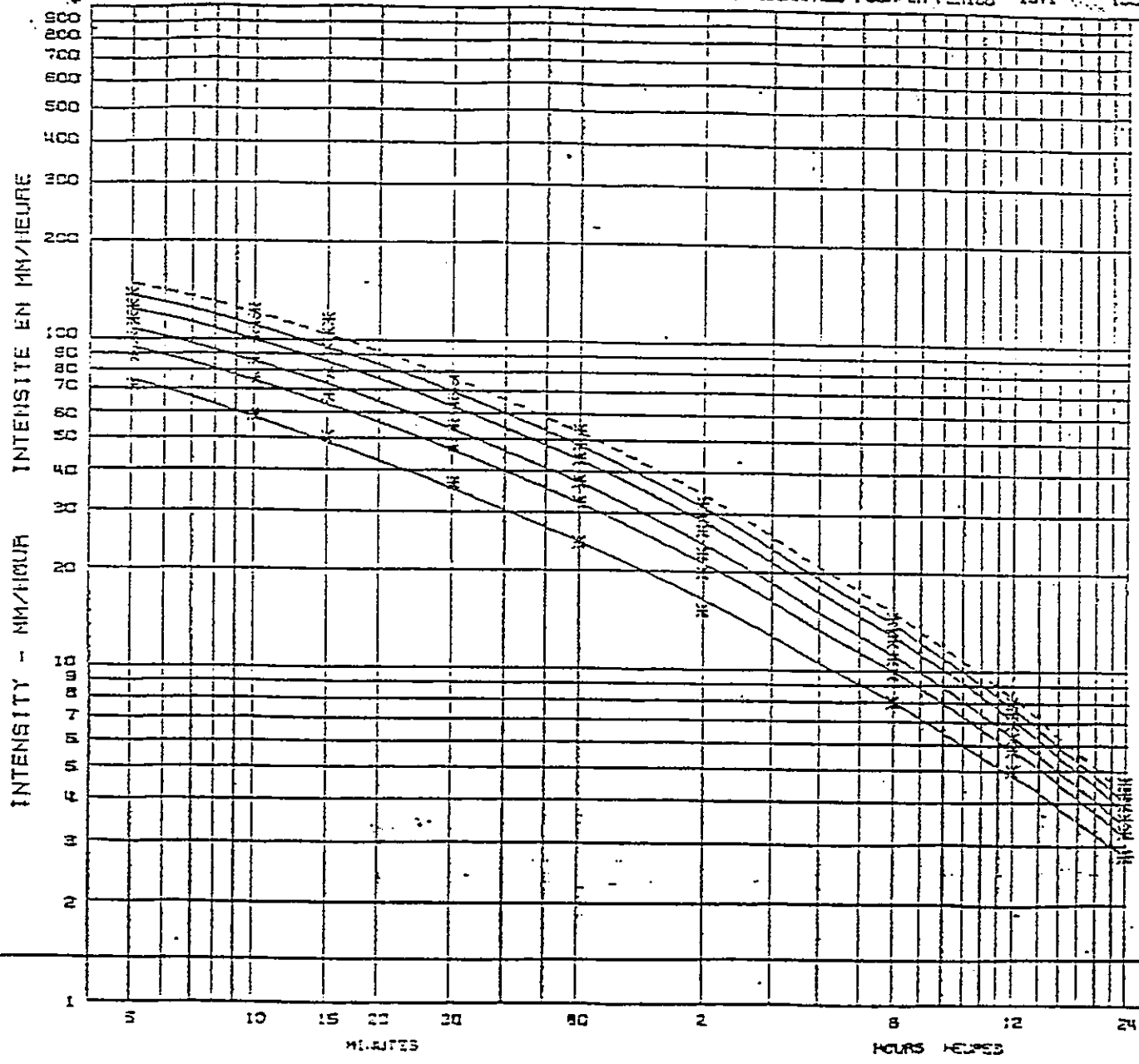
DRWG NO. 13A DRAWING No

SHORT DURATION RAINFALL INTENSITY-DURATION FREQUENCY DATA FOR
 DONNÉES SUR L'INTENSITÉ, LA DURÉE ET LA FRÉQUENCE DES CHUTES DE PLUIE DE COURTE DURÉE À YARMOUTH AIRPORT

GUMBEL METHOD OF MOMENTS
 MÉTHODE DES MOMENTS

BASED ON RECORDING RAIN GAUGE DATA FOR THE PERIOD
 BASÉES SUR LES DONNÉES DU PLYVIOGRAPHES POUR LA PÉRIODE 1971 - 1990

20 YEARS/AN



LATITUDE
48° 54'

LONGITUDE
65° 5'

ELEVATION/HAUTEUR
0 m

TYPE OF DATA
ESTIMATED
SOURCE
GUSTON

RETURN PERIOD
PERIODE DE RETOUR
YEARS/ANS

50 YEARS

PREPARED BY - PRÉPARÉ PAR LE

ATMOSPHERIC ENVIRONMENT SERVICE - ENVIRONNEMENT CANADA
 SERVICE DE L'ENVIRONNEMENT ATMOSPHERIQUE - ENVIRONNEMENT CANADA

DRAWING No. 14.

DRAWING No. 14