

TOWN OF LABALLE



The Corporation of The
Town of Amherstburg

DEVELOPMENT MANUAL

May 25 2009

THE CORPORATION OF THE TOWN OF AMHERSTBURG

DEVELOPMENT MANUAL

Please note that amendments to the Development Manual are common. Accordingly, all information contained herein should be confirmed with Town Staff.

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APPENDICES

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APPENDIX 1 – DEVELOPMENT REVIEW FLOW CHARTS

APPENDIX 2 – WATERMAIN SPECIFICATIONS

APPENDIX 3 – TYPICAL SITE PLAN AGREEMENT

APPENDIX 4 – TOWN STANDARD DRAWINGS AND FORMS

APPENDIX 5 – SANITARY AND STORM SEWER DESIGN SHEETS

APPENDIX 6 – OVERSIZING AND COST RECOVERY POLICY FOR NEW SERVICES

APPENDIX 7 – MUNICIPAL BY-LAW NO. 2003-40 (TREES)

APPENDIX 8 – MUNICIPAL BY-LAW NO. 2002-86 (MUNICIPAL SERVICE FEES))

APPENDIX 9 – TYPICAL SUBDIVISION AGREEMENT

i) **REVISIONS**

The following table summarizes the revisions to this manual since its approval on May 25, 2009. Please ensure your manual is up-to-date and you have all revisions. Revisions will not be issued by the Town but may be viewed on the Town's website. If you are uncertain, call the Manager of Public Services office at 736-3664 to confirm the last revision date.

Revisions (Date/No.)	Description	Page Numbers Revised
May 25, 2009	Original Manual	No Revisions

ii) INTRODUCTION

In an effort to streamline the development process, the Town has consolidated its development requirements in this Development Manual. Subsection iv) herein outlines the steps to be followed for processing development applications.

It is hoped that the Town's ratepayers, developers, contractors, lawyers and consultants will find this a useful document. Any suggestions on improving this document should be addressed to the Manager of Public Services for the Town of Amherstburg.

This manual will be updated from time to time. The date of the revisions are noted at the bottom of each page and in the revision section of this manual. You should confirm with the office of the Manager of Public Services that you have the most up-to-date revision prior to making use of the contents of this manual. This Town reserves the right to amend this manual at any time.

Throughout the remainder of this document, the Corporation of the Town of Amherstburg will be referred to as the Town.

This Development Manual also refers to Ontario Provincial Standard Drawings (OPSD) and Specifications (OPSS). Unless noted otherwise in the revision section of this manual, the latest edition of these documents apply.

Official Plan policy direction must also be consulted at the initial design proposal stage. This will ensure the completion of all supporting studies and reports.

Finally, nothing in this manual shall supersede the requirements of senior levels of government (Provincial, Federal) or conflict with other agencies. Kindly report any conflicts to the office of the Manager of Public Services.

iii) ABBREVIATIONS

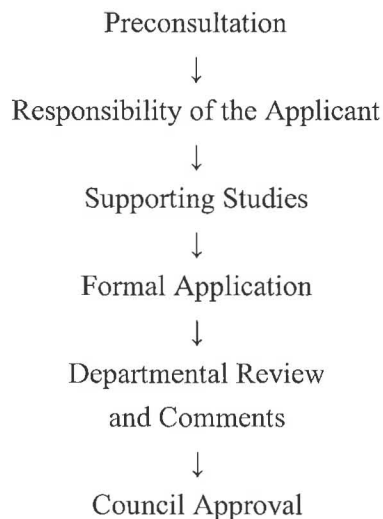
To assist the manual holder, a summary of all abbreviations used in this manual is provided for your information and assistance.

CSP	steel pipe Corrugated
ERCA	Essex Region Conservation Authority
FBC	Farming Building Code
ITE	Institute of Transportation Engineers
MNR	Ministry of Natural Resources
MOE	Ministry of the Environment
MSD	Municipal Standard Drawing
MTO	Ministry of Transportation for Ontario
OBC	Ontario Building Code
OPSD	Ontario Provincial Standard Drawings
OPSS	Ontario Provincial Standard Specifications
PEO	Professional Engineers of Ontario
PVC	Polyvinyl chloride
SWM	Storm Water Management
AES	Atmospheric Environment Service
m	Metres
mPa	Megapascals
HL3	Hot Layed Surface Asphalt
HL4	Hot Layed Base Asphalt
HDPE	High Density Polyethylene
V	Velocity
Q	Flow

iv) DEVELOPMENT APPLICATION PROCESS

To expedite the processing of development applications, clearly defining the process and the Town's expectations at each step is crucial to save time and money for all parties.

The development application process will include the following steps:



By following this process, wasted time and money can be eliminated resulting in earlier approvals for the applicant.

Preconsultation allows applicants to sit down with Town administration to discuss their development plans and receive early and critical feedback on whether the applications will comply with the Town's policies (i.e. Official Plan, Zoning By-law, etc.) and servicing requirements (i.e. Development Manual, etc.).

Responsibility of the Applicant is discussed at this stage and includes such items as the need to hire special consultants, development charges, special fees, etc. The applicant will better appreciate the financial viability of the project after this step is completed.

Supporting Studies may be required in order to better assess the servicing viability of the project. Issues such as sewage capacity, compliance with storm-water management guidelines, and roadway improvements are discussed and addressed at this stage.

Formal Applications with application fees may then be submitted to the Town if the applicant is

satisfied that the application is viable.

Departmental Reviews and Comments will be provided for each applicant within 30 days of the application submission date. Comments on issues such as planning, servicing, emergency services, parks and recreation, etc. will be provided to the applicant for further consideration and re-submission where necessary.

Council Approval will be requested through a departmental report to Council when the application is deemed to be in compliance with the Town's policies and servicing requirements.

1.0 DEVELOPMENTS UNDER SUBDIVISION AGREEMENT

1.1 GENERAL INFORMATION

1.1.1 Construction Drawings

The Applicant shall ensure that preconsultation takes place with the Development Services Department and Public Works Department prior to the preparation of any construction drawings.

All development documents shall include design and servicing drawings.

Drawings shall be prepared in accordance with the latest guidelines prepared by the Professional Engineers of Ontario entitled "Guidelines, Professional Engineers Providing Land Development/Redevelopment Engineering Services, 1994".

In general, the drawing shall be on "C" size paper (550mm x 850mm), shall be signed and sealed by a Professional Engineer licensed in Ontario, and shall include the following:

- i) Benchmark Location and Description (referred to geodetic elevations)
- ii) Key Plan
- iii) Legend and Index
- iv) Existing Conditions and Removals
- v) Road Alignment, Road Elevations, Pavement Widths
- vi) Plan and Profile Sheets (showing road grades, sewer grades, watermain grades, maintenance hole locations)
- vii) Utility Cross Sections
- viii) Grading Plans (including lot grading)
- ix) Power Distribution and Road Lighting Plans
- x) Miscellaneous Details (including bedding and backfill)
- xi) Stormwater Flow Details
- xii) Stormwater Retention Pond Details (size, landscaping)
- xiii) Landscaping Plans(stamped by a registered Landscaping Architect)

The drawings shall refer to Ontario Provincial Standard Drawings (OPSD) wherever applicable, except as amended or extended by the Town's requirements.

The Town's Standard Drawings are presented in Appendix 4.

1.1.2 Subdivision Agreement

Once the Applicant's proposal has been granted conditional approval, and is considered in conformity with the Provincial Policy Statement, the Town's Official Plan and the Town's comprehensive Zoning Bylaw, the Applicant must enter into an agreement with the Town to be registered on the title of the lands.

All developments must proceed in accordance with the requirements of this Development Manual and the Subdivision Agreement.

The Subdivision Agreement will set out specific requirements for the particular development. Where in conflict, the Development Agreement will supersede the requirements of this manual.

The Subdivision Agreement is prepared by the Town in consultation with the Town's Administrative Staff. The Applicant will be required to submit the following documents for approval and to assist with the preparation of the Development Agreement:

- contract drawings
- contract specification
- copy of tender (or a certified cost estimate for services as provided by the Applicant's Consulting Engineer and approved by the Manager of Public Services).

No work can proceed in the development until the agreement is executed by both parties and all financial securities and insurance are provided. The Agreement will be registered against the lands by the Town's Solicitor who will then send a confirmation of the registration to the Town's Manager of Development Services.

Flow charts illustrating key steps in the development process for consent/minor variance, zoning by-law amendments, official plan amendments, site plan control, and plan of subdivision are included in Appendix 1.

A typical Subdivision Agreement is included in Appendix 9. This Development Agreement should be used for format only. Specific details of the Agreement will be developed as part of the process that is outlined in this manual.

1.1.3 Acceptance and Approvals

Applicants are required to obtain all approvals under the respective Provincial planning processes.

The following is a partial list of approvals that are required in addition to the Town's approval. Applicants should contact the various approving agencies to ascertain permit and approval fees and time periods to obtain these approvals. The Applicant cannot proceed until all these approvals are received and copies of the approvals have been filed with the Town.

Partial List of Approvals	Approving Agency
Draft Plan of Subdivision	Town, County
Final Plan of Subdivision	Town, County
Fish Habitat	Combination of Federal, Provincial, and ERCA
Shorelines, Fill and Floodlines	Town, ERCA
Storm Water Management	Town, Province, (MOE), ERCA
Storm and Sanitary Sewers	Town, Province, (MOE)
Watermains	Town, Province, (MOE)
County Road Connections	County Engineer
Provincial Road Connections	Province, (MTO)
Development Adjacent to Railways	Town, Railway Companies
On-site Septic Systems	Town

1.1.4 Construction Completion Certificates

Upon completion of the works set out in the Agreement, the Applicant's Consulting Engineer shall write to the Town certifying completion of the works including correction of the deficiencies and requesting acceptance of the works.

The letter shall summarize any outstanding works and their value.

1.1.5 Securities (Performance and Maintenance)

The Town shall accept the following forms of security:

- a) certified cheque;
- b) irrevocable letter of credit (self renewing and without burden of proof);
- c) subdivision bond.

1.1.5.1 Performance

The Applicant shall provide:

Securities in the amount of 50% of the value of the work to ensure due and proper performance of the work. In addition, securities in the amount of 100% of the value of the work for construction or installation of any services outside the subdivision.

The value of the work shall be established as the full amount of construction costs including all taxes. If there is no tender, the Applicant's Consulting Engineer shall provide a certified estimate of the value of the work. The Town reserves the right to verify the value of the work and amend the Consulting Engineer's estimate accordingly. The Consulting Engineer's estimate, as amended by the Town, shall be used for establishing the amount of the security.

1.1.5.2 Maintenance

Unless otherwise noted in the Subdivision Agreement, Applicants shall, upon acceptance of the services for maintenance, provide a maintenance bond in the amount of 25% of the value of the work. The maintenance period shall be a minimum of one year after the acceptance of all services for maintenance. Applicants shall note that if the Town requests that some of the work be delayed (ie., surface asphalt, sidewalks), the value of the maintenance security shall be increased to cover the outstanding value of the delayed work once the maintenance period for the work (that was not delayed) has expired. **Performance Securities for 100% of the delayed works will be required.**

1.1.6 Oversizing

In order to ensure that development in the Town proceeds in an orderly and cost effective manner, Applicants may or will be required to oversize municipal services to accommodate future developments. Oversizing includes larger pipe diameter and increased depths, increased road widths and sidewalk widths, power distribution and other services.

As well, Applicants may or will be required to complete off-site works in order to facilitate development. Typical off-site works include trunk sewers to a suitable outlet, watermain connections to a suitable feeder, road widening, intersection improvements, traffic signal installation and downstream drainage works.

The Town will use its best efforts in recovering these costs on behalf of the Applicant. However, the Town does not guarantee that Applicants will be repaid the oversizing or off-site costs. The recovery of oversizing costs and the methods to be used for same, will be set out in the Subdivision Agreement.

The Applicant's Consulting Engineer will provide an estimate of the oversizing and off-site costs.

The Town will establish the cost sharing method to be used in attributing oversizing and off-site costs. This will be based on the Town's policy for oversizing and cost recovery for new services. This policy is presented in Appendix 6.

1.2 ROAD DESIGN STANDARDS

For reference purposes, the minimum geometric design standards have been summarized in Table 1.1 and Figures 1.1 and 1.2.

It is a key objective of the Town to encourage the application of sustainable design techniques and planning considerations for the road network (i.e. traffic calming, environmental considerations, bikeways, etc.). The Town and the Applicant shall co-operate to develop more creative subdivision plans through the road network design process.

1.2.1 Arterial Roads

1.2.1.1 Definitions

a) Functions:

An arterial road is a senior street classification to facilitate the intermunicipal and through municipal movement of high volumes of traffic to and from major traffic generating sectors within the Town.

b) Right-of-Way Width:

- 26 metres to 30 metres

c) Driving Lanes:

- 2 or 4

d) Daily Service Volume:

- greater than - 10,000 vehicles/day

e) Access Conditions:

Access to abutting properties is permitted subject to traffic and design conditions. Access, however, is generally restricted. Minimum acceptable intersection spacing under extreme circumstances on arterial roads is 220 metres between centrelines of collector streets. Wherever possible, a desirable spacing of 400 metres should be provided for a major collector to arterial.

f) Traffic Features:

Arterials are roadways with traffic signals at major intersections. Pedestrian crosswalks may be prohibited subject to traffic conditions. Posted speeds are generally equal or greater than 60 kilometres per hour. Sufficient width is provided for two to four driving lanes. The curb lanes may be used for parking depending on the traffic conditions in the area.

Figure 1.1
Minimum Radius and Cul-de-sac Alignment Details
(refer to Table 1.1 for radius values)

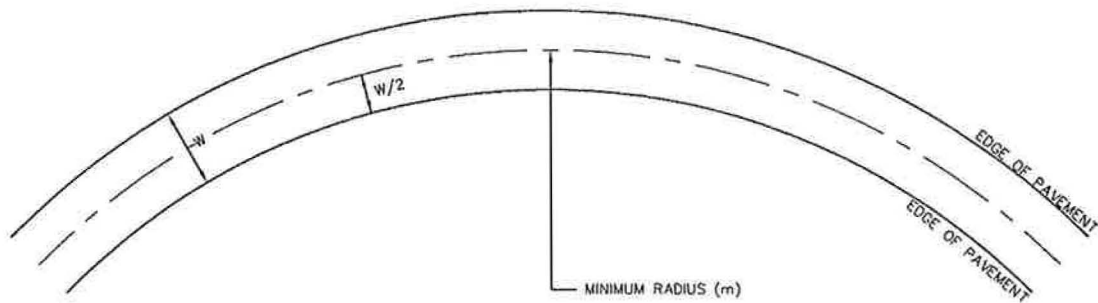


Figure 1.1(a) Minimum Centreline Road Radius

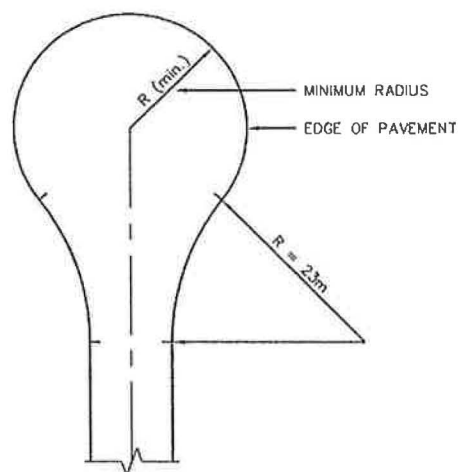
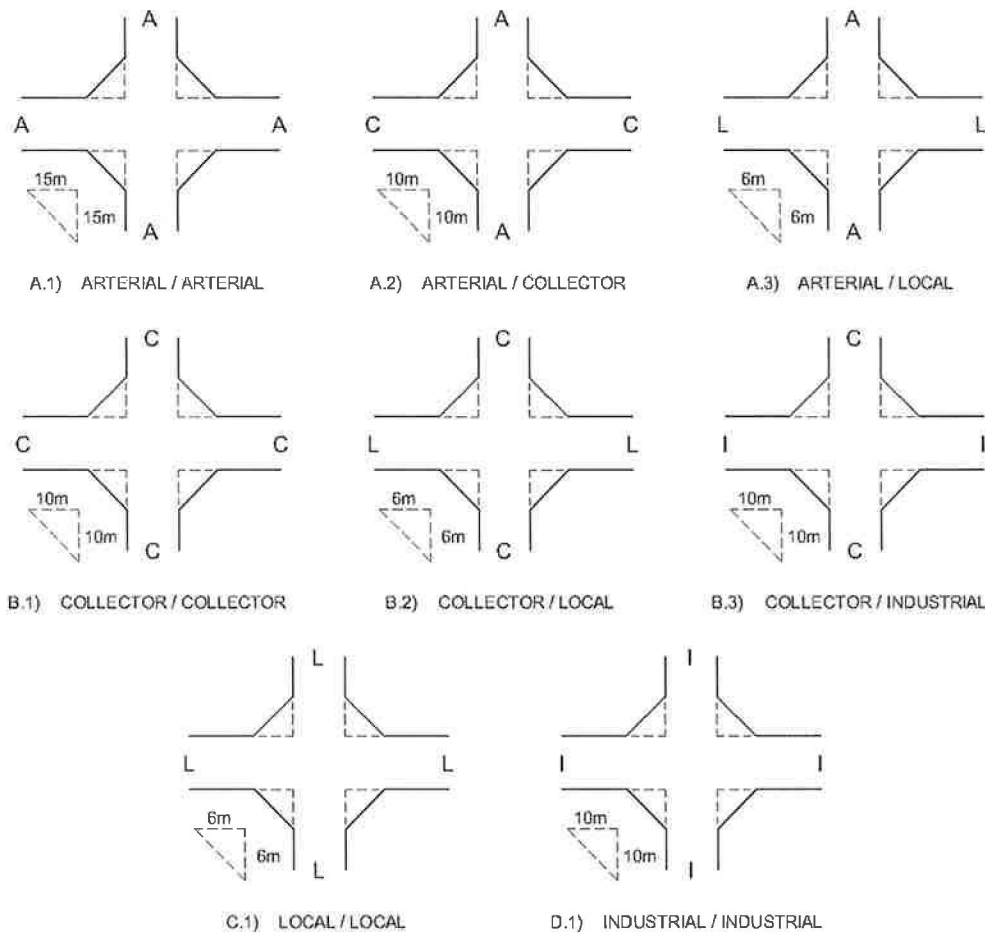


Figure 1.1 (b) Cul-de-sac Radius

*** R=23m is typical for local or industrial / commercial roads.**

Figure 1.2
Cutoffs and Daylight Corners



LEGEND

A - ARTERIAL C - COLLECTOR I - INDUSTRIAL L - LOCAL

NOTES

1. FOR NEW DEVELOPMENTS, CORNER CUTOFFS SHALL BE PROVIDED BY THE APPLICANT. CORNER CUTOFFS ARE LAND CONVEYANCES.
2. FOR SEVERANCE APPLICATIONS, DAYLIGHT CORNERS SHALL BE PROVIDED BY THE APPLICANT. DAYLIGHT CORNERS ARE EASEMENTS.

Table 1.1
Minimum Geometric Design Standards

Road Classification	Design Year AADT	Lanes Through	Roadway Width f/c to f/c (m)	Road Use	Design Speed (km/h)	Minimum C/L Curved Radius (m)	Maximum Super Elevation (m/m)	Minimum Cul-de-sac Radius (m)
Arterial Roads	□ - 10,000	2 or 4	10 or 14	through road	60 to 80	120	0.04	N/A
Collector	1,000 - 5,000	2	10	through road	50 - 80	90	0.04	N/A
Local	1,000 or less	2	8.6	through road or crescent	40 - 50	80	none	12
Industrial	1,000 or less	2	10	through industrial or commercial	50 - 60	90	none	15

Notes:

1. f/c to f/c - face of curb to face of curb
2. C/L - centreline
3. Cul-de-sac radius measured at outside edge of pavement

1.2.1.2 Alignment Design Standards

a) General

Arterial roads in the Town of Amherstburg shall be designed to a minimum design speed of 50 kilometres per hour.

- i) Arterial roads may intersect with collector streets, other primary collector streets and arterial roads.
- ii) Corner cut offs of 15 metres by 15 metres will be provided to the Town as a conveyance where arterial roads intersect. For existing development applications, a daylight corner of 15 metres by 15 metres will be provided to the Town as an easement, see Figure 1.2 for details.

b) Horizontal Alignment

i) Radius of Curvature

The minimum centreline radius for arterial roads is 120 metres (maximum superelevation 0.04 m/m). The desirable minimum centreline radius is 160 metres.

ii) Intersections

The desirable spacing of intersections on arterials is 400 metres. The minimum acceptable spacing is 200 metres.

Intersection angles of less than 75° are unacceptable.

Intersections on the inside of curves are undesirable and should be eliminated wherever possible.

iii) Medians

The minimum median width is 4.0 metres from the edge of the travel lane to the edge of the travel lane. Standard curb with 0.3 metre gutter per OPSD 600.04.

c) Vertical Alignment

Vertical curves shall be used when grade changes exceed 1 percent.

All elevations are to be referenced to Geodetic Datum.

i) Minimum Stopping Sight Distance

- 95 metres

ii) Maximum and Minimum Grades

Maximum Grade = 8%

Minimum Grade = 0.30% (for curves and cul-de-sacs, use 0.4%)

Note: Grades shall be struck on the lip of gutter.

iii) Superelevation Rates

The maximum superelevation rate for arterial roads shall not exceed 0.04 m/m.

iv) Grades at Intersections

The grade line of the minor intersecting road shall tie to the lane line of the arterial. That is, the two (2) percent crossfall of the arterial will intersect the grade of the minor road such that the resulting vertical curve, (min. 30 metre curve), ends at the lane line of the arterial. The maximum percent grade on the minor intersecting road, at the intersection, will be four (4) percent and a minimum grade of 0.35 percent.

1.2.2 Collector Roads

1.2.2.1 Definitions

a) Functions:

To collect and distribute medium volumes of local traffic to arterial roads or distribute traffic to the local roads as well as provide access to abutting properties. They serve secondary traffic generators, such as neighbourhood commercial centres, parks and golf courses, etc., and traffic from neighbourhood to neighbourhood within the community. Collectors may also function as bus routes.

b) Right-of-Way Width:

- 22 metres

c) Driving Lanes:

- 2 (may be increased by the use of parking restrictions)

d) Daily Service Volume:

- 1,000-10,000 vehicles/day

e) Access Conditions:

Direct access is permitted to abutting properties subject to traffic and design conditions. Minimum acceptable intersection spacing under extreme circumstances on collector roads is 60 metres between centreline. Wherever possible, a minimum desirable spacing of 80 metres should be provided.

f) Traffic Features:

Collector streets are undivided roadways with traffic signals at major intersections when warranted. Pedestrian crosswalks are at grade. Parking is permitted, except in bus zones, but may be restricted during peak hours depending on local traffic conditions. Posted speeds are generally from 40 to 60 kilometres per hour.

1.2.2.2 Alignment Design Standards

a) General

The road pattern should coincide with the layout shown under the appropriate approved design brief or area plan. This will assure logical collector street ties to adjacent subdivision areas and bus route continuity. In the event that the adjacent street system has not been developed, interim access arrangements shall be provided. The following criteria are to be incorporated in the subdivision layout of streets:

- i) The length of collectors before feeding into arterials should not be excessive (maximum number of dwelling units being 1000).
- ii) Collectors may intersect with residential streets, other collectors, and with arterial roads at acceptable minimum spacing according to the standards of roads that they are connecting to. The spacing requirement (220 metres) will provide back to back left turn bays on the arterial road.
- iii) Offset intersections are acceptable on collectors if the offset is 80 metres or greater between centrelines.
- iv) Intersection angles of less than 75° are unacceptable.
- v) Intersections at the inside of curves are undesirable and should be eliminated wherever possible.
- vi) Corner cut offs of 10 metres by 10 metres will be provided to the Town as a conveyance where collector roads intersect. For existing development applications, a daylight corner of 10 metres will be provided to the Town as an easement. See Figure 1.2 for details.
- vii) All collectors designated as bus routes must have a 22 metre right-of-way.

b) Horizontal Alignment

i) Rights-of-Way

- 22 metres.
- parking is permitted on one side only. This collector standard may be used only where residential and/or commercial frontage occurs on one side of the road only and where no bus route is planned.

ii) Minimum Centreline Radii

Minimum curve radii on collector streets should only be used where restrictive conditions will not permit the use of larger radii.

Minimum centreline curve radius for collector streets is 90 metres. (Maximum superelevation 0.04 m/m). The desirable minimum centreline radius is 115 metres.

iii) Intersections

Collector With A Residential

- A collector street intersecting with a residential street shall have minimum corner curb radii of 9 metres.

Collector With A Collector

- A collector street intersecting with another collector street shall have minimum corner curb compound radius of 16 metres and 75 metres respectively to accommodate truck turning movements.

Collector With Arterial

- An arterial road intersecting with a collector street shall have a minimum corner curb compound radius of 18 metres and 95 metres respectively to accommodate truck turning movements.

c) Vertical Alignment

Vertical curves shall be used when grade changes exceed 1 percent.

All elevations are to be referenced to Canadian Geodetic Datum.

i) Maximum and Minimum Grades

Maximum Grade = 8%

Minimum Grade = 0.30% (for curves and cul-de-sacs, use 0.4%)

Note: Grades for collector streets will be struck at the lip of gutter. (The maximum allowable street grade to any particular area of a subdivision is 8%).

ii) Grades at Intersections

The maximum approach grade on the collector to an arterial intersection is 4% and the maximum approach grade of a lesser category street approaching a collector is 4%.

1.2.3 Local Roads

1.2.3.1 Definitions

a) Functions:

Residential streets provide direct access to abutting residential properties. They collect and distribute traffic from residential properties to higher traffic volume roadways. No residential road shall connect to an industrial area. A connection from a residential area to a commercial area is permitted.

b) Right-of-Way Width:

- 20 metres.

c) Driving Lanes:

- 2

d) Daily Service Volume:

- 1,000 vehicles/day

e) Access Conditions:

Direct access is permitted to abutting residential properties. Where “cross” intersections are not possible, minimum acceptable intersection spacing between centrelines is two residential lot depths.

f) Traffic Features:

Undivided roadway with intersection controlled by signage. Parking is permitted on the road as posted. Posted speeds are generally from 40 to 50 kilometres per hour.

1.2.3.2 Alignment Design Standards

a) General

In the event that the adjacent street system has not been developed, interim access arrangements shall be provided.

It is the policy of the Town to minimize the use of cul-de-sacs by utilizing through streets and crescents within the road system. Temporary situations will be permitted with the approval of the Manager of Public Services:

- i) The maximum length of a permanent cul-de-sac shall be 225 metres to the start of the bulb. If this length is exceeded, a secondary emergency access is to be provided. This shall include ‘P’ loops.
- ii) The cumulative length of residential streets before feeding onto collectors should not be excessive. Length is to be based on the results of a Traffic Impact Study.
- iii) Residential streets may intersect with other residential streets and with collectors.
- iv) If cross intersections are not possible, offset intersections are acceptable on residential streets if the offset spacing is at least two residential lot depths (80m) or greater between centrelines.

- v) Intersection angles of less than 75° are unacceptable.
 - vi) Intersections at the inside of curves are undesirable and should be eliminated wherever possible.
 - vii) Every public roadway to be created by a proposed subdivision must, if it comes to a dead end, have a cul-de-sac with sufficient turning space for emergency and maintenance vehicles. Minimum radius shall be 12 metres to the edge of pavement.
 - viii) Corner cut offs of 6 metres by 6 metres will be provided to the Town as a conveyance where local roads intersect. For existing development applications, a daylight corner of 6 metres by 6 metres will be provided to the Town as an easement. See Figure 1.2 for details.
- b) Horizontal Alignment
- i) Rights-of-Way
 - 20 metres in residential subdivisions
 - ii) Minimum Centreline Radii

Minimum curve radii on residential streets should only be used where restrictive conditions will not permit the use of larger radii.

Minimum centreline curve radius for residential streets is 80 metres. Radii less than 80 metres are acceptable on a residential street if accompanied by acceptable pavement widening (e.g. bulb).

Minimum cul-de-sac radius is 18.0 metres on the property line. Minimum radius on the property line for cul-de-sac returns (corner bulb) is 23 metres.
 - iii) Intersections
 - Residential with a Residential

A residential street intersecting with another residential street shall have a minimum corner curb radii of 9.0 metres.

iv) Cul-de-Sac

- 12 metre radius to the edge of pavement in new residential subdivisions.
- 9 to 12 metre radius to the edge of pavement for residential infill areas.
- 23 metre radius for curb return to edge of pavement.

c) Vertical Alignment

Vertical curves shall be used when grade changes exceed 1 percent.

All elevations are to be referenced to Canadian Geodetic Datum.

i) Maximum and Minimum Grades

Maximum Grade = 8%

Minimum Grade = 0.30% (for curves and cul-de-sacs, use 0.4%)

Note: Grades for residential streets will be struck at the lip of gutter. (At least one access to any particular area of a subdivision must be less than 8% grade).

1.2.4 Industrial Roads

1.2.4.1 Definitions

a) Functions:

Industrial streets provide direct access to adjacent industrial and commercial properties. They collect and distribute traffic from industrial and commercial properties to higher standard roadways.

b) Right-of-Way Width:

- 22.0 metres minimum

c) Driving Lanes:

- 2

d) Daily Service Volume:

- 1,000 vehicles/day

e) Access Conditions:

Direct access is permitted to industrial and commercial properties. Minimum acceptable intersection spacing is 150 metres between centrelines.

f) Traffic Features:

Undivided roadway with intersections controlled by signage or signals where warranted. Parking will be permitted as posted.

1.2.4.2 Alignment Design Standards

a) General

The following criteria are to be incorporated in the subdivision layout of industrial streets. In the event that the adjacent street system has not been developed, interim access arrangements shall be provided.

It is the policy of the Town to minimize the use of cul-de-sacs by utilizing through streets and crescents within the road system. Temporary situations will be permitted with the approval of the Manager of Public Services.

- i) Intersection angles of less than 75° are unacceptable.
- ii) Intersections at the inside of curves are undesirable and should be eliminated wherever possible.

- iii) Corner cut offs of 10 metres by 10 metres will be provided to the Town as a conveyance where industrial roads intersect. For existing development applications, a daylight corner of 10 metres by 10 metres will be provided to the Town as an easement. See Figure 1.2 for details.
 - iv) Beam and post guarding (OPSD 902) is required along all lanes and streets parallel to and adjacent to arterials.
 - v) Every public roadway to be created by a proposed subdivision must, if it comes to a dead end, have a cul-de-sac with sufficient turning space for emergency and maintenance vehicles. Minimum radius shall be 15 metres to edge of pavement.
 - vi) Service roads adjacent to arterial streets are to have a minimum separation of 36 metres between property lines where the service road intersects a street which ties to the arterial thoroughfare. A more acceptable alternate would be to turn the service road such that it runs parallel to the connecting street, until access is gained from an intersecting street.
- b) Horizontal Alignment
- i) Rights-of-Way
 - 22 metres
 - ii) Minimum Centreline Radii

The maximum curve radius shall be 90 metres.
 - iii) Intersections
 - Industrial with Industrial

An industrial street intersecting with another industrial street shall have a minimum curb compound radius of 16 metres and 75 metres respectively measured to the edge of pavement.
 - iv) Cul-de-Sacs
 - 15 metre radius to the edge of pavement.

c) Vertical Alignment

Vertical curves shall be used when grade changes exceed 1 percent.

All elevations are to be referenced to Geodetic Datum.

i) Minimum Stopping Sight Distance

- 65 metres (based on 50 km/hr)

ii) Maximum and Minimum Grades

Industrial:

Maximum Grade = 6%

Minimum Grade = 0.30% (for curves and cul-de-sacs, use 0.4%)

Note: Grades for industrial streets will be struck at the lip of gutter.

1.2.5 Corner Radius - Sight Lines

See Sections 1.2.1 to 1.2.4 and Figure 1.2 for corner cutoff and daylight corner requirements.

1.2.6 Drainage

Pavements shall be designed to provide adequate drainage of storm water runoff as well as drainage of the granular road base. Accordingly, the following minimum standards shall apply:

- subdrains - 150mm dia. HDPE perforated pipe wrapped in filter cloth (Big 'O' or approved equal)

Subdrains will be constructed continuous along the back of curbs at a gradient equal to the longitudinal pavement slope (or minimum 0.30 percent) and connected to roadway catchbasins or other appropriate outlets.

- Catchbasins placed at intersections for proper drainage and spaced for road drainage from no more than 90 m per catchbasin per lane. Subdrains are to enter the sides of the catchbasin.

1.2.7 Sidewalks and Driveways

- a) Concrete sidewalks shall be constructed in accordance with OPSS 351 and OPSD 310. 010, 310.030 as well as Town Standard Drawing R9. Sidewalks shall be constructed through driveways/entrances unless noted otherwise herein. Sidewalk jointing and finishing shall be as per Town Standard Drawing R9.
- b) Sidewalks will be required in the following instances:
 - i) on both sides of arterial roads;
 - ii) on both sides of collector roads;
 - iii) on both sides of residential streets which may lead to the location of a school or park;
 - iv) on one side of residential streets (including cul-de-sacs and crescents) which do not lead to schools or parks;
 - v) where there is a possibility of a requirement to provide continuity of sidewalk (single or both sides) to future developments;
 - vi) the location is shown on the Town's Standard Drawings R1, R2 and R3;
 - vii) all sidewalks shall be handicap accessible and include wheelchair access ramps at all intersections and curbed driveway approaches (see Town Standard Drawing R10);
 - viii) where required, school bus "pick-up" pads shall be constructed in consultation with the respective school boards.

No sidewalks are required in industrial areas.

c) Thicknesses

All sidewalks will be 125mm thick, 30 MPa concrete on 150mm Granular 'A' base. Sidewalks shall be constructed through driveways 150mm thick, 30 MPa concrete on a 150mm Granular 'A' base. Sidewalks in commercial areas will at a minimum match the thickness of the asphalt or concrete approach.

d) Minimum Widths of Sidewalks (to provide minimum wheelchair turning radii):

Residential	1.5 metre (both sides)*
Collector	1.5 metre (both sides)*
Arterial	1.5 metre (both sides)*

**preferable for sidewalk to be located adjacent to curb.*

Sidewalk platforms, at intersection radii, shall be constructed in accordance with OPSD 310.030 and Town Standard Drawing R10. All platforms, at crosswalk locations, shall have an embossed concrete pattern at the curb line.

- e) The timing requirements for sidewalk installation will be as follows:
 - Sidewalk wheelchair ramps and one (1) sidewalk panel (in each direction where future sidewalks will be extended) will be constructed prior to the maintenance period commencing.
 - Remaining sidewalks will be completed one (1) year after the wheelchair ramps have been constructed (exclusive of maintenance period)
- f) The following conditions apply to driveways
 - Applicant (or Applicant's House Builder) will be responsible to upgrade existing sidewalks from 125 mm thickness to 150 mm thickness at the time of driveway construction as well as replace any damaged (ie cracked, settled, etc.) sidewalk panels.
 - Sidewalks will extend straight through any asphalt, paving, stone or coloured concrete driveways (existing or new). For non-coloured concrete driveways, the Applicant (or Applicant's House Builder) will define the sidewalk across the driveway using an expansion joint, dummy joint or sawcut.

1.2.8 Sound Attenuation

Where residential subdivisions are constructed adjacent to industrial areas or railways, a noise and vibration analysis is required in accordance with MOE guidelines.

1.2.9 Geotechnical Requirements

A geotechnical report prepared by a geotechnical consulting firm to support the roadway design and construction of underground services is necessary for new developments. The geotechnical report is to establish geotextile, pavement structure design, sewer bedding, backfill and construction methods required.

Pavement structures shall consist of the following minimum material thicknesses:

Residential Roads:

Granular 'A' Base	300mm
HL4 Base Asphalt	50mm
HL3 Surface Asphalt	40mm

Collector Roads and Industrial Roads:

Granular 'A' Base	450mm
HL4 Base Asphalt	60mm
HL3 Surface Asphalt	40mm

Arterial Roads

Granular 'A' Base	450mm
HL4 Base Asphalt	100mm
HL3 Surface Asphalt	50mm

Unless otherwise determined based on the results of a geotechnical investigation.

Granular 'A' materials shall meet the minimum requirements of OPSS 1010 and shall be compacted to a minimum 100 percent of the Standard Proctor Maximum Dry Density.

Recycled material shall not be used for granular road base. If subgrade condition requires additional granular, recycled material, approved by the geotechnical consulting firm may be used.

1.2.10 Curb and Gutter

Barrier curb and gutter is the only accepted type of curb and gutter. All concrete curb and gutter shall be built to OPSD 600.04. Before curb and gutter may be constructed in the field, all underground works including but not limited to watermains and sewers (but excluding hydro and private utilities) shall be tested and approved (including flushing and sewer video inspection).

1.2.11 Asphalt

Asphalt materials shall consist of asphalt cement having a penetration grade of 85-100 and shall conform to OPSS 1101. A geotechnical consulting firm shall be retained by the Applicant's Paving Contractor to design the asphalt mixes, which will be submitted to the Town for review. The use of recycled asphalt in the final product shall not exceed 15 percent.

All underground works including watermains and sewers (but excluding hydro and private utilities) shall be tested and approved (including flushing and sewer video inspection) before curb and gutter and/or asphalt may be constructed in the field.

Thorough cleaning of base course of asphalt (by mechanical sweeping, flushing with water and compressed air) and application of tack coat to the entire surface is required prior to surface course asphalt placement. Inspection of base course asphalt by the Town is required before surface coarse asphalt placement. Where surface course asphalt is being placed in "built up" subdivisions, the tack coat must be applied one lane at a time.

Surface course asphalt will be placed within 1 year of initial acceptance of underground works, base asphalt and curb and gutter after start of maintenance period or as approved by the Manager of Public Services.

1.2.12 Oversizing

The Town will establish the cost sharing method to be used in attributing oversizing and off-site costs for road and road-related works. This will be based on the Town's policy for oversizing and cost recovery for new services. This policy is presented in Appendix 6.

1.3 WATERWORKS DESIGN STANDARDS

1.3.1 Minimum Design Criteria

Watermains and appurtenances shall be constructed in accordance with the approved contract documents prepared by the Applicant's Consulting Engineer. The minimum design criteria are as follows:

- a) minimum pipe size shall be 150mm diameter.
- b) minimum cover shall be 1.5 metres.
- c) maximum hydrant spacing shall be at intersections and spaced at a maximum of 150 metres.
- d) maximum valve spacing shall be at intersections and spaced at a maximum of 250 metres.
- e) lot connections shall be a minimum diameter of 19mm and a maximum diameter of 25 mm.
- f) residential water services will be Type K copper, installed at the mid point of the frontage of each lot from the watermain to the property line as per Standard Drawing LG1 in Appendix 4.
- g) water sampling stations (No. 88 Eclipse Sampling Station) will be required for new developments (see Town Standard Drawing W2). The number and location will be confirmed with the Town.
- h) permanent water blow offs (No. 77 Mainguard Hydrant) will be used for all new installations (see Town Standard Drawing W6).

1.3.2 Standard Specifications

The Town's Standard Specifications for the construction of watermains is included in Appendix 2.

1.3.3 Fire Protection

All fire hydrant locations shall be reviewed and approved by the Town's Public Works and Fire Department. The fire flow requirements shall be determined in accordance with the current issue of "Water Supply for Public Fire Protection," Fire Underwriters Survey.

1.3.4 Expanding the Water Supply Network

The Applicant is responsible for any impacts of the new development on the existing water network (i.e. pressure, fire protection, etc.) and its users both inside and outside the development application.

The Town (and Town's Consulting Engineer) will undertake a modelling study of the new development,

on behalf of the Applicant, using the Town's water network model. This work will be completed at the Applicant's expense.

1.3.5 Oversizing

The Town will establish the cost sharing method to be used in attributing oversizing and off-site costs for road and road-related works. This will be based on the Town's policy for oversizing and cost recovery for new services. This policy is presented in Appendix 6.

1.4 SEWER DESIGN STANDARDS

1.4.1 Sanitary Sewer

Sanitary sewers and appurtenances shall be constructed in accordance with the approved contract documents prepared by the Applicant's Consulting Engineer. The minimum design criteria is noted below. Imported Granular 'B' backfill per OPSS 1101 shall be used beneath all pavements and within 1 metre of the back of curb. Ministry of the Environment (MOE) approval will be required for all new sanitary sewers.

1.4.1.1 Design Plans and Information

Designs submitted to the Manager of Public Services must include the following:

- a) A drainage area plan showing all relevant land uses within each subdrainage area and calculation information (design parameters such as area, population and lots shall be shown).
- b) Design calculations indicating land use, densities, design flows, shapes, velocities, capacities, pipe sizes, etc. on the Town's standard design sheets included in Appendix 5.
- c) Profiles should show size, type, strength classification, length, inverts of pipes, location, type, diameter and rim elevation of maintenance hole.

1.4.1.2 Peak Flows

Average domestic flow, use 450 litres per capita per day.

Use Harmon Formula applied to average domestic flow $1 + \frac{14}{4+P^{0.5}}$

P = population in thousands

a) Residential

In predicting saturation population densities per hectare, the Engineer shall take into consideration land use, existing demographic data, past experience, etc. Typically a minimum of 3.5 persons per unit is used.

b) Industrial and Commercial

Peak waste flows must be added to above. Since peak sewage flows may vary greatly with type and density of development, each case must be considered on an individual basis.

c) Infiltration

The allowable infiltration shall be:

Infiltration = 0.2 l/ha/sec.

d) Peak Design

The peak design flow shall be a combination of the above.

1.4.1.3 Capacities

The capacity of any section of a sanitary line shall be derived on the basis of that portion of the line which has the least slope. Use Manning formula - gravity flow in pipes.

Where mixed residential uses may apply, design the sanitary sewer for R3 town house style units and densities.

1.4.1.4 Minimum Requirements

a) Pipe Sizes

Minimum sizes of public sanitary sewers are 200mm.

b) Slopes

Use friction coefficient $n = 0.013$

<u>Size</u>	<u>Minimum Slope %</u>
200mm	0.52
250mm	0.39
300mm	0.3
375mm	0.23

Minimum flow velocity will be 0.76 m/s.

The last section of sewer (that section of sewer furthest from the sewer design outlet for that "run" of sewer) shall use a minimum slope of 0.8%. The increased slope will increase the velocity. Sewers shall be designed to attain self-cleansing velocities. The use of large diameter pipes with low flow is discouraged. The use of V_f , Q_f charts should be incorporated into the

design process where V =Velocity and Q =Flow. This is especially important where a sewer is servicing only a few lots. Copies of these charts are included in Appendix 4.

c) Cover

The preferred depth from obvert to finished road grade shall be 2.5 metres. Absolute minimum depth of cover is 1.2 metres from finished grade.

d) Services

- i) Single family residential services will be 125 mm dia. single connections only and shall be installed perpendicular to the sewer main wherever practical. The minimum service slope is 2%. The maximum service slope is 8%.
- ii) Sanitary connections for residential lots will be located 3 metres from the water service as shown on Standard Drawing LG1 in Appendix 4.
- iii) Semi-detached and town houses will also be 125mm dia. single connections at the property line.
- iv) All connections require a 125 mm dia. cleanout to be placed at the property line by the Applicant. Tee type cleanout is to be used.
- v) All connections with cleanouts in the driveway or sidewalk shall have a cast iron cap as per Domestic Foundry DF66 detail or approved equal.

1.4.1.5 Oversizing

The Town will establish the cost sharing method to be used in attributing oversizing and off-site costs for sanitary sewers. This will be based on the Town's policy for oversizing and cost recovery for new services. This policy is presented in Appendix 6.

1.4.1.6 Maintenance Holes

- a) The top of all maintenance holes will be set at base course asphalt elevation.
- b) All adjustment lift rings up to base course asphalt grade shall be concrete. Prefabricated plastic lift rings are not approved for use.

- c) All sanitary maintenance holes shall be made as watertight as possible. All barrel joints shall be watertight and parging shall be applied to the interior. All pipe connections shall be watertight and parging shall be applied interior and exterior. Parging shall be applied to the interior and exterior of all lift rings.
- d) Transitions in size, grade or direction of sewer pipes are to be accomplished by means of maintenance holes. Benching, to springline, is required in all maintenance holes.
- e) At maintenance holes where changes in pipe diameter occur, where possible, the crowns of the pipes shall be continuous. Where no change in pipe diameter occurs, MOE guidelines shall be followed for a drop through maintenance holes or in the presence of a bend.
- f) Where the difference in elevation between the incoming pipe invert and the outgoing pipe invert is greater than 900mm, a drop structure must be provided in accordance with the MOE guidelines.
- g) The maximum distance between maintenance holes shall be in accordance with MOE guidelines. In all cases, a maintenance hole is required at the upper end of a sewer for flushing and cleaning.
- h) The minimum maintenance hole size is 1200mm diameter. Maintenance holes 3000mm and smaller shall be precast concrete.
- i) For maintenance hole depths between 5 and 10m, a safety grate must be installed at the midpoint.
- j) Where pipes enter and leave in-line, or at angles between 0° to 45° , the minimum drop from invert across the maintenance hole shall be 0.030m.
- k) Where pipes enter and leave at angles of 45° to 90° , the minimum drop from invert across the maintenance hole shall be 0.060m.
- l) PVC lift rings are acceptable only for final asphalt placement only and with a limit of one lift ring. Metal rings are not acceptable.

1.4.1.7 Pipe Bedding and Trench Width

Shall be established by the geotechnical report.

1.4.1.8 Mains and Services

- a) Reinforced concrete sewer pipe shall conform to CAN/CSA-A257.2-M92. PVC sanitary sewer pipe must conform to CAN/CSA B182.2 M1990. Pipe class for mainline sewer pipe shall be based on trench loading calculations. Sanitary private services shall be DR28.
- b) All sanitary sewers must have rubber gaskets.

1.4.1.9 Combined Sewer Areas

The Atmospheric Environment Service (AES) 5 year storm curve for the Windsor Airport shall be used for analysis. A copy of the storm curve is included in Town Standard Drawing S4 in Appendix 4.

The Applicant shall note that some combined sewers may be operating beyond their design and operating capacity. Accordingly, not all combined sewers will be approved as outlet sewers for new subdivisions. The Applicant's Consulting Engineer shall review same with the Town during preconsultation.

Where an existing combined sewer is approved as an outlet sewer, the development outflow will be restricted to predevelopment flows with storm water management techniques applied for the remaining flows up to 100 year storm.

1.4.10 Pumping Stations

The Town policy is to promote gravity drainage for all sanitary flows. The inclusion of pumping stations to service new or existing development areas will only be considered as a "last option" at the discretion of the Town's Manager of Public Services.

Where pumping stations are approved, stainless steel products and appurtenances will be selected over galvanized and other treated surfaces to minimize the effects of corrosion from sewage and weather.

All pumping stations will be provided with an emergency power outlet suitable for use with portable emergency generators to be used by the Public Works Department in the event of a power failure to the pumping station.

All stations will be equipped with alarm systems connected by telephone lines to the Town's water treatment plant, all at the Applicant's expense.

1.4.2 Storm Sewer

1.4.2.1 General Design Criteria

Storm sewers and appurtenances shall be constructed in accordance with the approved contract documents. The following minimum design criteria will be used. Imported virgin Granular 'B' backfill will be used beneath all pavements and within 1 metre of the back of curb.

- a) Design method for storm sewer runoff shall be determined by the drainage area size.
- b) Design frequency:
 - i) minor storm system - 1 in 5 year AES storm curve for Windsor Airport
 - ii) major storm system - 1 in 100 year AES storm curve for Windsor Airport

Copies of each storm curve are included in Town Standard Drawing S4 in Appendix 4.

- c) Use Manning Formula for calculating gravity flow in pipes. Assume pipes flowing full to complete velocities and times of concentration.
- d) Use friction coefficient "n" - 0.013 for all smooth walled pipes. For other pipes refer to the manufacturer's specifications.
- e) The minimum velocity for pipes flowing full shall be 0.76m/s.

The minimum velocity for pipes flowing full in the uppermost reach shall be 0.8 m/s.

- f) Storm sewer runoff coefficients:
 - i) Residential area per storm sewer design chart (Appendix 5)
 - ii) Industrial area use 0.7 to 0.9 depending on the type of development
 - iii) Commercial, downtown and roadways use 0.7 to 0.9
 - iv) Average coefficient weighted according to amount of each type of area tributary to a given

inlet

- v) Certain restricted capacity areas will have runoff coefficients as determined by the Town. In some instances, on site detention may be required.
- vi) Roof drains will be connected to existing storm sewers unless directed otherwise by the Manager of Public Services.

1.4.2.2 Design Plans and Information

Design plans submitted must include the following:

- a) A drainage area plan showing catchment areas (to include design parameters, i.e. area and runoff coefficient).
- b) Design calculations indicating design flows, slopes, velocities, capacities, pipe sizes, runoff coefficients, etc., on the Town's standard design sheets.
- c) Profiles should show size, type, strength classification, length, inverts of pipe, location, type and rim elevations of maintenance holes, and catchbasins, etc.
- d) Details of grading, berms, catchbasins or other facilities to handle storm drainage on public reserve parcels. These features are to be incorporated in an overland drainage plan for the subdivision.
- e) The plan shall indicate the following:
 - i) The direction of street and lane drainage.
 - ii) The elevations of streets at intersections, low and high points.
 - iii) The existing catchbasin locations.
 - iv) The location of storm sewers, sizes and maintenance holes
 - v) The drainage areas and coefficients of runoff approved on the subdivision plans.
 - vi) The names of streets

1.4.2.3 Minimum Requirements

a) Pipe Sizes

Minimum sizes of a public storm sewer are as follows:

- i) Residential area - 375mm
- ii) Commercial or
Industrial Areas - 375 mm (in order that the majority of service connections can be made without manholes).

b) Slopes

Use friction coefficient $n = 0.013$

<u>Size</u>	<u>Minimum Slope %</u>
300mm	0.30
375mm	0.24

Storm sewers shall be designed to provide a minimum velocity of 0.76 m/s when flowing full.

c) Cover

The minimum cover from top of pipe to the finished grade is 1.2m. Lesser cover values may be considered by the Manager of Public Services if the request is supported by calculations supporting same.

d) Services

- i) Single family residential services must have a single independent 150mm dia. connection and shall be installed perpendicular to the sewer main where practical. The minimum service slope is 2%. The maximum service slope is 8%.
- ii) Storm connections will be located 3 metres from the water service as shown on Town Standard Drawing LG1 in Appendix 4.
- iii) Dual connections are not permitted for semi-detached units and town houses.

- iv) All connections will have a cleanout placed at the lot line by the Applicant. Tee type cleanout is to be used.
- v) Cleanouts located in a sidewalk or driveway must use a cast iron cap as per Domestic Foundry DF66 detail or approved equal.

1.4.2.4 Pipe Materials

The following pipe materials are approved:

- a) PVC
- b) Reinforced concrete
- c) Boss 2000 Challenger (320 KPa) under limited conditions to be approved by the Manager of Public Services.

1.4.2.5 Pipe Bedding and Trench Width

This shall be established in the required geotechnical report.

1.4.2.6 Maintenance Holes

- a) All maintenance holes shall be benched.
- b) The top of all maintenance holes will be set at base course asphalt elevation.
- c) All adjustment lift rings up to base course grade shall be concrete. Prefabricated plastic lift rings are not approved for use.
- d) All storm maintenance holes shall be made as watertight as possible. All barrel joints concrete shall be made watertight and parging shall be applied to the interior and exterior. Parging shall be applied to the interior and exterior of all lift rings. All barrel joints/lift rings shall be parged inside and out.
- e) Transitions in size, grade or direction of sewer pipes are to be accomplished by means of maintenance holes.

- f) At maintenance holes where changes in pipe diameter occur, keep the crowns of the pipes continuous. Where no change in pipe diameter occurs, MOE guidelines shall be followed for drop through maintenance holes or in the presence of a bend.
- g) The maximum distance between maintenance holes shall be in accordance with the MOE guidelines. In all cases, a maintenance hole is required at the upper end of a sewer for flushing and cleaning.
- h) PVC lift rings are acceptable only for placement of surface course asphalt and with a limit of one lift ring. Metal rings are not acceptable.
- i) The minimum maintenance hole size is 1200mm diameter. Maintenance holes 3000mm and smaller shall be precast concrete.
- j) For maintenance hole depths between 5 and 10m, a safety grate must be installed at the midpoint.
- k) Where pipes enter and leave in-line, or at angles between 0° to 45° , the minimum drop from invert across the maintenance hole shall be 0.030m.
- l) Where pipes enter and leave at angles of 45° to 90° , the minimum drop from invert across the maintenance hole shall be 0.060m.

1.4.2.7 Catchbasins

- a) Locations
 - at intersections, catchbasins are to be placed at the upstream side of all radii
- b) Concrete box outs are to be reinforced with a 10M rebar.
- c) Combined Sewers
 - any catchbasin connected to an existing combined sewer, or upstream of an existing combined sewer being used as an outlet sewer, may require a flow restrictor device and shall incorporate a goss trap as per Town Standard Drawing S5 in Appendix 4.

d) Parging

All catchbasin adjustment rings and pipe connections shall be parged inside AND outside.

1.4.2.8 Outfalls

Where outfalls to waterways or drainage courses are required, the Applicant's Consulting Engineer will supply an outfall design for submission to Provincial agencies and ERCA for approval and permits.

1.4.2.9 Drainage During Development

Prior to proceeding with stripping or any disturbance of the area, the Applicant, shall submit to the Manager of Public Services a soil protection and erosion control and stockpiling plan.

During the development of an area, the Applicant shall make provisions for the disposal of all storm water within the Development area, emanating from the development area and any storm water which may be cut off from its natural drainage course as a result of the development, to the satisfaction of the Manager of Public Services.

1.4.2.10 Oversizing

The Town will establish the cost sharing method to be used in attributing oversizing and off-site costs for storm sewers and storm related works. This will be based on the Town's policy for oversizing and cost recovery for new services. This policy is presented in Appendix 6.

1.4.2.11 Floodplain Guidelines

Flood plain management guidelines shall be provided by ERCA. Development within or adjacent to floodplains must also comply with the Town's Official Plan and Zoning Bylaw.

1.4.2.12 Storm Water Management Facilities, Design and Construction

Storm water management facilities shall be constructed in accordance with the approved contract documents as well as the approved Storm Water Management Plan prepared by the Applicant's Consulting Engineer. The minimum design criteria are noted below:

- a) The Storm Water Management Plan shall be prepared to address the specific Municipal, regional (ERCA) and Provincial (MOE and MNR) requirements to control storm water runoff quantity and quality. The Applicant shall consult the Official Plan for the Town to confirm any special requirements for environmentally significant areas shown therein.
- b) In all cases, storm water quality measures shall be incorporated to address Provincial water quality guidelines, including short term measures to control soil erosion during construction of site services.
- c) Where storm water quantity controls are required, runoff must be limited to the predevelopment peak flow conditions for the existing receiving sewer or outlet.
- d) Surface storage in roadways will not be permitted for the minor system rainfall event and must be limited to 300mm above the catchbasin for the 1:100 year event.
- e) The storm water management facility shall be designed to current MOE Best Management Practices and Guidelines and subject to the approval of the Town, MOE and ERCA.
- f) On-site measures to control storm water quantity for industrial and commercial developments will be permitted, including temporary parking lot and roof top storage. Storage depths in parking lots shall be limited to 150mm for the 1:5 year rainfall event and 300 mm for the 1:100 year rainfall event.
- g) The Applicant's Consulting Engineer shall prepare a maintenance schedule for the storm water facility including temporary stormwater ponds if applicable. Temporary stormwater ponds shall be incorporated into permanent facilities. For temporary facilities, closure plans will also be required. A minimum of 3:1 sideslope is required for temporary ponds. Temporary ponds are to be fenced with a 1.8 metre high, chain link fence.
- h) Landscaping and treeplanting plans, prepared by a registered Landscape Architect, will be required for all permanent stormwater facilities. Depending on the duration of a temporary pond, landscaping and tree planting plans may be requested by the Town.

- i) All Stormwater Management Reports submitted for review and approval shall include sufficient description and drawings to enable the Manager of Public Services to determine how the Stormwater Management System will function.
- j) Other storm water management techniques not included in the current MOE Best Management Practice and Guidelines may be considered if supported by sufficient engineering and scientific reports as required.
- k) The Applicant will, when applicable, integrate the stormwater facilities into other active and passive public spaces which may abut or be in close proximity to the new facilities. Integration will include but not be limited to open water ponds/lakes complete with landscape plantings and trails. The scope of the integration shall be to the Town's discretion and promote the "greening" philosophy supported by the Town.

The Applicant's Consulting Engineer shall obtain a Certificate of Approval from the MOE as well as ERCA's approval prior to commencing with construction.

1.4.2.13 Pumping Stations

The Town's policy is to promote gravity drainage for all stormwater runoff. The inclusion of pumping stations to service new or existing development areas will only be considered as a "last option" at the discretion of the Town's Manager of Public Services.

Where pumping stations are approved, stainless steel products and appurtenances will be selected over galvanized and other treated surfaces to minimize the effects of corrosion from damp environments and weather.

All pumping stations will be reviewed with respect to the need for emergency power provisions. As a general rule, emergency power provisions will be required for all pumping stations. In certain cases such as stormwater ponds designed to store the entire volume of the 1:100 year storm, emergency power measures will not be required.

All stations will be equipped with alarm systems connected by telephone lines to the Town's Water Treatment Plant, all at the Applicant's expense.

1.5 OTHER DESIGN STANDARDS

1.5.1 Lot Grading Requirements

- a) Lot grading starts with the review of construction plans for a new subdivision. An overall lot grading plan for the subdivision is prepared by the Applicant's Consulting Engineer and is approved by the Public Works and Building Departments (and E.R.C.A within floodplain areas). Where new developments outlet to natural water courses or municipal drains, E.R.C.A. may also review road grades and minimum structure opening elevations as they may relate to prescribed 1:100 flood line and flood plain criteria. The elevation of the storm sewer should ensure gravity flow from future buildings and rear yard drains to the sewer main in the road. The storm sewer elevation should be such that the foundation drain can also flow by gravity even when a sump pump is required. Existing drainage patterns from abutting properties must not be blocked. The grading plan must ensure that existing overland flow routes are maintained (including overland flow routes for 1:100 year flows).
- b) The Overall Lot Grading Plan is reviewed to ensure that the building grade elevations are set so that the grade elevation difference between adjacent units can be accommodated through maintainable slopes (ie., 1 in 6) and that driveway slopes do not exceed 10 percent. Desirable allowable grade differences between adjacent lots shall be 150 mm. Where this cannot be provided, terracing, retaining walls, etc. may be required.
- c) The Overall Lot Grading Plan also identifies those building lots that require a Certified Bearing Certificate by a Geotechnical Engineer which confirms the allowable soil bearing pressure. These are required where the future buildings may be on a previous municipal drainage ditch or low area that has been filled. This information is forwarded to the Building Department for their consideration for footing requirements.
- d) After the sewers, watermain and road have been serviced, the as-built elevation of the sanitary service connections and the storm service connections shall be provided by the Applicant's Consulting Engineer to the Town. When the builder comes in for an individual lot, these elevations are given to the builder for his use. The builder shall verify these elevations in the field prior to construction.

- e) Building Department will provide a copy of the approved lot grading, sanitary service connection, and storm service connection to the permit holder at the time of the issuing of the building permit. The permit holder shall provide the Building Department with a lot grading certificate at their expense confirming that the approved final lot grades have been achieved.
- f) At least two (2) rear yard catchbasins shall be installed by the builder on each lot typically near the rear corners. One of the catchbasins must be installed at the end of the rear yard drainage piping for maintenance purposes. Catchbasins are to be high density polyethylene, or concrete with an approved manufactured cast iron, or concrete lid. The Applicant or Applicant's home builder will be responsible for the rear yard drainage system to the storm sewer connection at the street limit.
- g) The Building Department does a visual inspection of the rough grading once construction is complete to confirm that the intent of the lot grading has been satisfied. The final grade of the building is not checked by the Town staff. The permit holder shall have the elevation checked, by hiring an Ontario Land Surveyor at their expense for confirmation. The elevations shall be shown on a final grading, sheet for each lot, submitted to the Town for final approval.
- h) The permit holder shall ensure that no methane gas is present in the excavation. This test shall be confirmed in a report by a Geotechnical Engineer.

1.5.2 Storm Sewer Design Curve

The following storm sewer design curves shall be used:

- a) 5 Year
$$i \text{ (mm/hr)} = \frac{1680.896}{(T + 9.828)^{0.883}}$$
- b) 100 Year
$$i \text{ (mm/hr)} = \frac{4981.156}{(T+15.061)^{0.996}}$$

1.5.3 Storm Sewer Design Chart

See Appendix 5.

1.5.4 Road Right of Way Cross-Sections

See Appendix 4 for typical cross sections

1.5.5 Street Lighting and Hydro Requirements

The design and installation of street lighting and underground hydro requirements shall be designed by the Applicant's Consulting Engineer.

The minimum design criteria for the design of power distribution system shall be in accordance with specifications of the operating authority:

a) Standard Cobra Style Street Lights

- i) 25 Foot Pole - 25 foot Class A round grey street light pole by StressCrete Limited (Pole Order Number E-250-APR-G-MOO S/F 120)
 - With Cobrahead, 100 Watt, High Pressure Sodium, Flat Glass Full Cutoff Fixture (Luminaire Order Number 115-10-S-RH-120-R2-FG-M2-UP-CS-EC-HP-HK)
- ii) 30 Foot Pole - 30 foot Class A round grey street light pole by StressCrete Limited (Pole Order Number E-300-APR-G-MOO S/F 120)
 - With Cobrahead, 150 watt, High Pressure Sodium, Flat Glass Full Cutoff Fixture (Luminaire Order Number 115-15-S-RH-120-R2-FG-M2-UP-CS-EC-HP-HK)

b) Decorative Poles

- i) Richmond Street - Octagonal Etched Midnight Lace 19 foot tall pole by StressCrete Limited (Pole Order Number E190-APO-G-E10)
 - With Z40 150 Watt High Pressure Sodium Decorative Luminaire by Nostalgia
- ii) Kingsbridge - Octagonal Etched Eclipse 24 foot tall pole by StressCrete Limited (Pole Order Number KBH 14-G-E11)
 - With Z40 150 Watt High Pressure Sodium Decorative Luminaire by Nostalgia

- iii) Dalhousie Street
 - Octagonal Etched Midnight Lase 20 foot tall pole by StressCrete Limited (optional ladder rests) (Pole Order Number E200-APO-G-E10)
 - With 100W High Pressure Sodium Washington Decorative Acorn Luminaire

The Developer shall obtain the approval of the appropriate utility agencies prior to construction.

The Applicant's Consulting Engineer will be responsible to co-ordinate the efforts of other public utilities as a result of conflicts with proposed services and/or upgrading to accommodate development.

Where replacement of existing street lights is required due to life cycle replacement, the flat glass full cut off lighting fixtures shall be used without wattage reduction. At least the minimum required level of illumination per MEA standards shall be maintained regardless of existing pole spacing.

1.5.6 Utility Requirements

The Applicant's Consultants shall contact the individual utility companies regarding their requirements in specific areas.

1.5.7 Tree Planting Requirements

The Applicant shall include, in all Agreements of Purchase and Sale, a requirement for planting a minimum of one (1) tree in the front yard of each lot having a minimum diameter of 60 mm. The tree may not be planted on the Town's road allowance. The subject tree is to be planted no closer than one (1) metre to any lot line. The tree shall be planted within 12 months of the initial occupancy of the house. Such tree shall be maintained by the property owner. A list of the acceptable trees is available at the Public Works Department and also set out in Schedule 'A' of the Tree By-law in Appendix 7. The Applicant shall impose a covenant as to planting and maintenance of the tree in the transfer of each lot conveyed by it.

1.5.8 Pavement Marking, Information and Regulatory Signs

A “traffic signing plan” listing all signs and locations and pavement markings is to be submitted for Town approval by the Applicant’s Consulting Engineer. The Manager of Public Services will make the final determination on the scope of this work. Street signs will be used to designate “no parking” areas. Stop bars are required only at intersections with arterial or collector roads. For arterial and collector roads, stop bars shall be two component cold extruded polymer material. For local residential streets, organic solvent-based painted stop bars will be accepted. The cost of all paint markings provided by the Town shall be charged as an expense to the Applicant.

1.5.9 Mailbox Location

Mailbox locations must be coordinated with Canada Post and approved by the Town. Mailboxes shall be located on arterials and collectors whenever possible.

A typical community mailbox car bay is presented on Town Standard Drawing SP3 in Appendix 4.

1.6 PLAN AND DRAWING STANDARDS

The Applicant’s Consulting Engineer shall complete contract drawings for site services in an approved electronic format for review by the Town. Four sets of prints shall be submitted for review by the Town; two sets to the Public Works Department and two sets to the Planning Department. All prints submitted to Town for review shall be accompanied by a cover letter from the Applicant outlining the purpose of the plan submission and review required. Drawings shall generally include the minimum level of detail outlined and be prepared in a format as generally outlined in the subsequent sections.

1.6.1 Standard Plan and Profile Specifications

The latest OPSD shall be referenced as part of the contract documents and shall include any amendments or extensions as outlined herein. In case of a conflict between OPSD and Town Standard Drawings, the Town’s Standard Drawings shall govern.

The Town’s Standard Drawings are included in Appendix 4.

1.6.2 Technical Information

1.6.2.1 Electronic Drawing Requirements

The following are minimum requirements for the submission of electronic drawing files to the Town.

AutoCAD Version:

- a) Drawing files should be submitted in AutoCAD R2000 or later.

Lettering Sizes:

- b) Minimum size for existing features should be L60.
- c) Minimum size for new construction features should be L80 with L100 used for notes.
- d) Where non-standard text fonts are used, these font files must be provided with the drawings.

Topographic Information:

- e) Grade elevations shall be shown to two decimal places for imperial and three decimal places for metric scales.
- f) Grade elevations are to be provided around and external to each site for a distance of 50 metres.

Pen Weight:

A suggested pen set up should be as follows:

Pen#	Colour	Pen Size
1	Red	0.08
2	Yellow	0.13
3	Green	0.22
4	Cyan	0.27

Pen#	Colour	Pen Size
5	Blue	0.32
6	Magenta	0.38
7	White	0.44

8	Grey	0.51
9		0.57
11		0.89
12		0.95
13		0.38 screen
14		0.44 screen
15		0.51 screen

Layers:

- g) In general, all different object types should be on separate layers.
- h) Nothing should be drawn on layer 0.

The following is a suggested layering method:

- property lines, right-of-ways, SIB's, IB's, etc., should be on their own layers (eg. Right-of-way lines should be on layer PL, SIB's and IB's should be on layer SIB).

Existing features and utilities should be on layers with suffix X so that they may be manipulated easily (eg., existing Bell should be on layer XBELL and existing edge of pavement should be on layer XEP).

New utilities should be on layers with the suffix U (new sanitary sewer on USAN, new storm sewer on USTORM, etc.).

New road features (ditches, edge of pavement, sidewalks, etc.) Should be on layers with the suffix RN (RNDITCH, RNEP, RNWS).

All profile layers should have the suffix P.

Multiple Drawings:

- Where multiple drawings are used to develop a final drawing, all individual drawings should be co-ordinated about insertion point 0,0,0.
- Individual drawings should be inserted intact on layer 0 and not need to be scaled, rotated or manipulated in any way.

File Transfer:

- Large drawings (larger than 1.4 Mb) should be transferred as multiple disk zip files using Winzip or Pkzip. Older compression programs should not be used.
- If you wish to use other compression programs than those mentioned above, please confirm that the Town has access to said program.
- The Town will receive all electronic files in CD format.

1.6.3 Municipal Standard Drawings

The following municipal standard drawings shall also apply to all works:

a) Roads:

- R1 - Typical Cross-section for Local Roads (20m Right-of-Way)
- R2 - Typical Cross-section for Collector Roads (22m Right-of-Way)
- R3 - Typical Cross-section for Arterial Roads (26m - 30m Right-of-Way)
- R4 - Driveway Curb Cut for Concrete Barrier Curb
- R5 - Concrete Barrier Curb with Standard Gutter for Flexible Pavement
- R6 - Typical Cross-section for Ditch Enclosures
- R7 - Ditch Enclosure Site Plan and Catch Water Basin
- R8 - Ditch Enclosure Headwalls
- R9 - Sidewalk Jointing and Finishing Detail
- R10 - Concrete Sidewalk Wheelchair Ramp

b) Sewers:

- S1 - Cleanout Details
- S2 - Sewer Cleanout Cap Plates (Superceded)
- S3 - Hydraulic Elements Graph for Circular Sewers
- S4 - Atmospheric Environment Services (AES) I-D-F Curves
- S5 - Precast Concrete Catchbasin with Goss Trap

c) Water:

- W1 - Typical Water Service Installation
- W2 - Sampling Station and Base Detail
- W3 - Water Service with Meter Pit Detail
- W4 - Typical Valve Setting

- W5 - Hydrant Installation
- W6 - Watermain Blow-off
- W7 - Support of Utilities over Excavations

- d) Lot Grading
 - LG1 - Lot Grading and Services Information

- e) Site Plan
 - SP1 - Wood Garbage Enclosure
 - SP2 - Masonry Garbage Enclosure
 - SP3 - Typical Community Mailbox Car Bay
 - SP4 - Landscape Plans

Digital copies of the standard drawings are available upon request to the Manager of Public Services.

1.6.4 Drawing Submission Requirements

The following details the Town's drawing submission requirements for each step of the development process:

- a) Application Reviews
 - two sets of all prints and covering letter to Public Works Department as well as to the Planning Department.

- b) Acceptance of Services
 - "as-constructed" drawings to be submitted to the Manager of Public Services
 - one (1) electronic copy on CD, PDF format
 - full set of drawings including title page, standard details
 - all sheets to be clearly identified as "As Constructed"
 - two (2) sets of individual lot servicing sheets with "As Constructed" information to be submitted to the Manager of Public Services
 - one (1) set of prints

1.7 FLOW CHARTS

1.7.1 Steps for Subdivision Agreements

See flow charts in Appendix 1. The following flow charts will apply:

- a) Figure A1 - Plan of Subdivision
- b) Figure A2 - Official Plan Amendment
- c) Figure A3 - Zoning By-Law Amendment
- d) Figure A4 - Consent/Minor Variance

1.7.2 Steps for Construction Drawing Approval

See flow chart in Appendix 1, Figure A5.

1.7.3 Steps for Assumption and Acceptance

See flow chart in Appendix 1, Figure A6.

1.7.4 Steps for Security Calculations and Deposits

See flow chart in Appendix 1, Figure A7.

1.7.5 Site Plan Control

See flow chart in Appendix 1, Figure A8.

1.8 FINANCIAL MATTERS

In order to finance the construction of trunk municipal services, the Town will assess development charges to each buildable lot or unit. These development charges are payable at the time building permits are issued.

Development charges are amended from time to time and are approved by Council. All applicants should contact the Development Services Department for information regarding the current development charge

amounts.

1.8.1 Municipal Service Fees

Development and planning service fees shall be as established in Municipal Bylaw 2002-86 and revised from time to time. All fees incorporated into the Development Agreement shall be current as of the date of the Development Agreement.

1.8.2 Fees for Staff Services

All applicants for subdivision developments shall be required to pay to the Town a fee for staff review services. This cost to the Applicant will be incorporated into the Development Agreement.

1.8.3 Parks

All parks shall be developed in accordance with the direction of Council and the requirements of the Town's Official Plan and in accordance with the Planning Act, RSDcP.13.

The following standards shall be used as guidelines for the establishment of neighbourhood and community parkland as determined by the Town.

Neighbourhood parklands shall be established on the basis of 1.0 hectares per 1,000 population. Such parklands should serve the residents of the Planning Area.

Community parklands shall be established on the basis of 1.5 hectares per 1,000 population. Such parklands should serve the residents of the Planning Area.

Park dedication and construction will occur within the first phase of development or as otherwise provided for in the Development Agreement. The Applicant's Consulting Engineer shall provide plans that include final grading, surface and subsurface drainage works, contouring, placement of topsoil and seeding as a minimum requirement to be approved by the Manager of Public Services. All works will be at the expense of the Applicant.

Whenever development or redevelopment of lands is proposed for residential purposes in the Planning Area, the Town shall, as a condition of approval, require that (5%) of such lands for development at 14 units per gross hectare or less, or one hectare (1 ha) for every 300 dwelling units for developments at

densities greater than 14 units per gross hectare, be conveyed to the Town for park purposes. Commercial and industrial development shall, as a condition of approval, require that two percent (2%) of such land be conveyed to the Town for parkland. All lands to be so conveyed shall require approval by the Town. Lands having environmental problems may not be acceptable.

The Town may require the developer to convey cash-in-lieu of parklands. The cash value of such lands shall be determined by an appraisal authorized by the Town. The value of the lands shall be determined as of the day before the day of issuance of the building permit as outlined in Section 42 of the Planning Act. For plans of subdivision, the value of the land is determined as the day before the day of Draft Plan is approved, as outlined in Section 51 (8) and (9) of the Planning Act, R.S.O. 1990 c. P.13. Funds collected under the alternative conveyance regulations shall be used for parkland upkeep, parkland development, recreational facilities, acquisition of natural habitat areas and for the protection of natural habitat areas.

1.8.4 Easements, Land Conveyance

All easements and land conveyances are to be shown on the Draft Plan and will occur automatically at Final Plan Approval. Such easements and conveyances shall be graded, seeded and appropriately drained.

1.9 CONSULTANTS INSPECTION AND QUALITY ASSURANCE TESTING SERVICES

1.9.1 General

The Consulting Engineer shall provide a full-time qualified on-site inspector approved by the Manager of Public Services during the construction activity. The Inspector's skills shall be suitable for the inspection tasks to be undertaken. The Town reserves the right to request a change to the consultant's inspector if the Town believes the inspector is not qualified.

The Applicant's Consulting Engineer's site inspector shall ensure that the work is constructed in accordance with the contract documents and shall keep adequate records of the work.

As a minimum, the following documents are to be prepared by the site inspector.

- a) diary, indicating daily progress of work, labour and equipment on site (Note: The Applicant's Consulting Engineer shall provide paper copies of the inspector's daily log upon request at no cost to the Town. A sample daily activity form is included in Appendix 4).

- b) measurement of quantities
- c) discussions with general public and agency representatives
- d) all accidents reports
- e) detailed "as constructed" records

The Applicant's Consulting Engineer shall arrange for quality assurance testing by an independent testing firm. Tests shall include:

- a) granular material sieve analysis
- b) asphalt extraction
- c) compaction tests of native, granular and asphalt materials
- d) concrete, air content, slump and compressive strength tests
- e) sewer air tests
- f) sewer camera inspections (with video tape and report) including private drain connections
- g) watermain pressure and leak tests (co-ordinate with Public Works)
- h) bacteriological tests on all water samples (co-ordinate with Public Works)
- i) high potential tests of electrical distribution system
- j) other tests called for in the contract documents (i.e. engineered fill) or as may be required by the Town

The Applicant's Consulting Engineer shall maintain a file of all test results which shall be available for review by the Town. In particular, copies of all water bacteriological tests reports shall be in the file and the originals shall be forwarded to the Manager of Public Services.

The Applicant's Consulting Engineer shall note that all underground works, including watermains and sewers (but excluding hydro and other utilities), shall be tested and approved (including flushing and sewer video inspection) before placing same on maintenance. Testing and sampling of watermains will be supervised by Public Works Department. All live valves must be operated by licensed Public Works staff.

1.9.2 Municipal Inspection

The Town will carry out their own inspection as deemed necessary. As a minimum, the Town may, at the Town's discretion, inspect the subgrade excavation, granular base prior to placing curbs, granular base prior to asphalt paving, and testing of watermains and sewers. The Applicant's Consulting Engineer will give the Town 48 hours notice prior to these inspections. Should sufficient notice not be given, and the

Contractor proceeds with the work, the Town may not accept the services without further proper testing, which may include total or partial removal of pavement or curbs, etc. All this additional testing will be at the Applicant's expense. It is therefore imperative that the Contractor's schedule be made available to the Town at the job meetings, and the Town be promptly advised of any changes to this schedule.

1.9.3 Municipal Acceptance of Services and Assumption of Development

Once completed, the Applicant will be required to transfer ownership of the services to the Town. This is a two step process as outlined below.

Once the services are installed and all deficiencies corrected, the Applicant's Engineer shall send a letter to the Manager of Public Services confirming all works have been installed according to specifications and will function as intended. Upon receipt of such letter, the Town representative will inspect the development and advise the Clerk by report that the Town should "accept the services" and that the maintenance period should begin. The date of the Clerk's letter accepting the services is the commencement date of the maintenance period. During the maintenance period, it will be the Developer's sole responsibility to maintain all the services including clearing catchbasins and correcting deficiencies. Snow ploughing shall be carried out by the Town on behalf of the Developer during the maintenance period.

One year after the initiation of the maintenance period, the Developer shall request an inspection for assumption of all services by the Town. All sewers shall be flushed clean and video inspected. Catchbasins shall be cleaned and all deficiencies repaired prior to the municipal inspection. Provided there are no outstanding deficiencies, surface course asphalt shall be placed. Following placement of surface course asphalt and all development agreement requirements have been satisfied, including payment of all accounts and the receipt of a statutory declaration that all accounts have been paid, the Clerk will submit a report to Council requesting that Council "assume the development". Council's resolution assuming the development results in the transfer of ownership of the services to the Town. The Applicant is no longer obligated to maintain or repair the services thereafter.

Under special conditions to be determined by the Manager of Public Services, the Applicant or the Town may request that not all services be installed prior to requesting "acceptance of services" by the Town. Should some of the services be delayed, the acceptance and assumption of these services will be based on the completion of these particular services and the expiration of the maintenance period for these particular services. In this case, there will be more than one acceptance date of the services and more than one assumption date of that portion of the development. Financial securities will require time extensions to not

less than 90 days beyond the anticipated date of Council's assumption of the development.

1.9.3.1 TV Inspection of Sanitary and Storm Sewers

Sewer TV inspection shall comply with OPSS 409.

OPSS Standards shall be used to evaluate any deficiencies in the sewer main.

A bound report shall be provided for all video inspections including a plan identifying each sewer run inspected and "labelled" photos at 10 meter intervals. All video inspections shall commence at the downstream end and proceed upstream and shall include stationing commencing from the downstream end. The Applicant's Consulting Engineer shall review the inspection reports and provide one copy of each video inspection report completed with a covering letter outlining their findings to the Manager of Public Services regarding acceptance and/or actions on observed deficiencies.

Sewers must be videoed before curb and gutter construction and asphalt placement and before the Applicant's request for acceptance.

1.9.3.2 Air Test for Sewer Lines and Connections

All sanitary and storm sewers (including individual lot connections) shall be "air tested" by a qualified firm using air testing methods as set out in OPSS 410.

For storm sewers, great in diameter than 900mm, the City of Windsor Specification for same will be used. Copies are available, upon request, from the Manager of Public Services.

1.9.3.3 Compaction Testing

- a) Pavements (to 1 metre behind curb)
 - 100% Standard Proctor Dry Density for granular basecourse and trench backfill.
- b) Boulevards
 - All native material to 95% Standard Proctor Dry Density.

1.9.3.4 Asphalt/Granular Testing

Town staff may request performance testing of constructed works or sampling of construction materials at

any time up to final acceptance by the Town, all at the expense of the Applicant.

Copies of all testing results shall be forwarded directly to the Town by the testing firms retained by the Applicant.

1.9.4 Model Homes

The Applicant may apply to the Chief Building Official for model home permits prior to the completion of all services for any draft approved plan of subdivision.

Issued building permits shall not exceed the lesser of four dwelling units or ten percent of the total dwelling units in any particular phase of a development provided:

- a) the subdivision agreement has been executed;
- b) model homes shall comply with the provisions and requirements of the Zoning By-law upon registration of the subdivision;
- c) the dwelling unit is connected to water and sewer services (storm and sanitary);
- d) the base coat of asphalt and concrete curb and gutter have been installed, to the satisfaction of the Manager of Public Services, in the road allowance in front of and abutting the lot for which the building permit is being sought;
- e) all works necessary to meet the railway requirements must be installed prior to the issuance of any building permit for a dwelling that is within 300 metres of the rail right-of-way;
- f) it is determined from a review of the approved plans that there is no conflict between the activity that would result from the building permit being issued and the installation of various utilities in the utility corridor;
- g) a surveyor's certificate has been received by the Town pertaining to the lot for which the building permit is being sought;
- h) it is clearly noted on the building permit that occupancy of the dwelling unit will not be permitted until the developer has completed all required works, except the top coat of asphalt and sidewalk, to the satisfaction of the Manager of Public Services and that all Agreements to Purchase affecting the subject property will provide a notice regarding the restriction pertaining to occupancy. Such notice will be required on all Agreements to Purchase until such time as the required works, excluding the top coat of asphalt and sidewalk, are completed

to the satisfaction of the Manager of Public Services;

- i) a letter is received from the Applicant confirming support for the building permit issuance.

2.0 DEVELOPMENTS UNDER SITE PLAN AGREEMENTS

2.1 SPECIFIC SITE PLAN REQUIREMENTS

Preconstruction is recommended with the Manager of Development Services to review all requirements and supporting documentation. The Applicant should meet with the Manager of Development Services so that all points of view can be thoroughly discussed. Some of the items to be included on the site plan or any site plan agreement would include the following:

- 1) Grading and Surface Runoff, Etc.
 - a) Existing elevations should be shown on a 10-20m grid and this information should include any drainage ditches, depressions, swales or surface features with important elevations shown on same. Existing elevations should be provided for abutting lands within a 50 metre zone, where possible, around the subject site.
 - b) Proposed elevations should be shown on the plan in addition to existing elevations. Elevations should include those existing and proposed at corners of buildings and corners of lots, and any other elevations required to make sure that the general drainage pattern being proposed will function.
 - c) Any catchbasin system required to accommodate the drainage together with proposed outlets to the municipal drainage systems must be shown on the plans.

Note: The purpose of the above drainage scheme is to contain all water on the lot and to prevent surface water from running onto adjacent lands. In addition, the drainage scheme should accommodate any drainage which flows naturally to the lot preserving the riparian rights of the adjacent lands.

- 2) All proposed fencing, landscaped or grassed areas should be shown on the plan including retaining walls where applicable.

3) Roof Water

All roof leads should be indicated on the plan showing the proposed direction of flow. Roof water downspouts may not discharge onto or across driveways and sidewalks.

4) Parking Areas and Driveways

The parking layout should be shown including the dimensions of the proposed spaces, etc.

5) Outside Storage of Garbage

The type and location of this type of consideration should be shown on the plan (see Town Standard Drawing SP1 and SP2 in Appendix 4).

6) Sampling maintenance holes should be shown at the front lot line for all commercial and industrial applications.

7) Ingress/Egress

The location, width, and intersection setbacks for all drives/entrances must be shown on the plan.

It should be noted that the conditions indicated above can usually be shown on the site plan. Reference should also be given to the above mentioned facilities in the Site Plan Agreement. The Site Plan Agreement should also include conditions regarding “perpetual” maintenance of such items as landscaping, shrubbery and so forth.

2.1.1 Site Plan Agreement

All developments must proceed in accordance with the requirements of this Development Manual and Site Plan Agreement.

The Site Plan Agreement will set out specific requirements for the particular development. Where in conflict, the Site Plan Agreement will supersede the requirements of this manual.

The Site Plan Agreement is prepared by the Manager of Development Services in consultation with the Town's Solicitor and administrative staff and approved by Council.

Building permits cannot be issued and no work can proceed in the development until the Agreement is executed by both parties and all financial securities and insurance are provided.

A flow chart illustrating the steps in the site plan development process is included in Appendix 1.

A typical Site Plan Agreement is included in Appendix 3. This typical Site Plan Agreement should be used for format only. Specific details of the Site Plan Agreement will be set out as part of the process that is outlined in this manual. A typical site plan is also shown in Appendix 3.

2.1.2 Securities

The Town shall only accept the following forms of security:

- a) certified cheque
- b) irrevocable letter of credit (self renewing and without burden of proof)

The minimum security for developments under the site plan process shall be 50 percent of the cost of on-site improvements exclusive of buildings and structures.

For all off-site works, the Applicant will be required to provide security in the amount of 100 percent of the cost of the works. Applicant's Consulting Engineer to supply certified estimate of the cost of the works or the successful tender prices.

Once the Town has inspected and approved the construction of the on-site improvements, the Applicant will be required to provide a security during the one year maintenance period in the amount of fifteen (15) percent of the cost of the site improvements.

Where the security deposit may be insufficient to correct any deficiencies related to the works for the project, and the Applicant does not proceed with the remedying of the deficiency within 30 days or as otherwise determined by the Town after being requested to do so, the Town will utilize the existing security to have the outstanding works completed. In the event that the cost of remedying the deficiencies exceeds the value of the security, the Town will request the Applicant to submit additional securities or

pursue other methods available to the Town for the collection of the outstanding costs. The Town will retain the amount of security sufficient to rectify deficiencies until all works are complete. Cost of deficiencies to be certified by the Applicant's Consulting Engineer.

It is critical, when constructing, to adhere to the approved Development Plans. All Applicants/Owners must ensure their Project Supervisors/Contractors have the approved Site Plan Agreement in their possession.

2.2 DEVELOPMENT PLAN REQUIREMENTS FOR APPROVAL OF PLANS AND DRAWINGS

All site plans are to have a title block containing the name and address of the project, the lot and plan number, drawing name and number, scale and date. All development plans, excluding building elevation plans, should be co-ordinated using the same base plan.

Upon completion and acceptance of services, the Applicant's Consulting Engineer will submit "As Constructed" drawings to the Town as per Section 1.6.4.

2.2.1 General Site Plan

Details of development to be included on the plan: (these items below must be incorporated in a Land Use Schedule/Coverage Table);

- a) net lot area;
- b) maximum building coverage;
- c) maximum gross floor area of existing and/or proposed building(s) including specific uses by type (ie., commercial, floor area devoted to public use, residential, warehouse/storage, etc);
- d) maximum building height;
- e) maximum number of units, if residential;
- f) required and actual number of parking spaces provided - calculations are to be shown indicating parking spaces required based on actual floor area of specific uses (refer to Zoning By-law);
- g) parking area coverage;
- h) minimum number of loading spaces;
- i) rentable units (for residential apartment buildings).

Note:

- a) For information regarding any of the above items, please refer to Town of Amherstburg Zoning By-law (as amended) and/or the office of the Manager of Development Services.
- b) Floor plans are not to be shown on the general site plan.
- c) Applicant's should also be aware of the Town's Official Plan policies relative to: limited front yard parking abutting Sandwich Street, enhanced landscaping policies, gateway policies, special attention to architectural interest such as roof line, height, building materials etc., and special heritage considerations for downtown areas.

The General Site Plan must include:

- a) scale/north point, date;
- b) site dimensions (including area in square metres or ha.);
- c) fire routes to be designated;
- d) abutting streets and alleys (including r.o.w. width);
- e) speed bumps;
- f) buildings to be retained and/or enlarged (including dimensions);
- g) road widening;
- h) buildings to be erected and/or additions to existing building (including dimensions);
- i) distance between building(s) and nearest lot line(s);
- j) parking areas and loading spaces (including number of spaces, size, aisle width, curbs, surface treatment);
- k) pedestrian walkways;
- l) distance from parking areas to buildings and lot lines;
- m) landscaped areas including earth berms;
- n) sampling maintenance holes
- o) lot ending;
- p) landscaping features (including proposed trees, shrubs, hedges, labelled as to species, size and existing features, if any, to be retained);
- q) overhead and underground wires with clearances;
- r) flood lights;
- s) walls, fences;
- t) meters and transformers;
- u) barrier posts;
- v) refuse storage areas;

- w) signs (if freestanding) signs must comply with sign by-law;
- x) other freestanding structures (including utility vaults, poles, light standards);
- y) geodetic benchmark elevation;
- z) existing and proposed fencing; and
- aa) any other relevant data. (i.e. natural heritage features)
- bb) stormwater management details

The Elevation Drawings must include:

- a) scale, date;
- b) full view of all sides of the building(s) (including features such as awnings, canopies, overhangs, balconies, etc.);
- c) dimensions of buildings, the location and size of all doors, windows and other openings;
- d) all visible exterior finishes labelled as to type; and
- e) all wall, roof, projecting or fascia signs labelled as to type and size.

2.2.1.1 Zoning By-Law Requirements

Yard dimensions (front, side and rear) for all buildings and structures existing and proposed setbacks are to be shown as described in the Zoning Bylaw.

Front, side and rear lot lines (designated);

Existing and proposed loading doors and bays, loading areas and intended truck traffic;

Existing and proposed roadways, driveways and parking areas with reference to surface treatment, (ie., gravel or asphalt); and

Provision for barrier-free parking.

2.2.1.2 Building Code/Fire Code Regulations and Requirements

Traffic circulation and Fire route signs/lanes including proper lane widths, turning radii and sign locations;

Existing and proposed location of any exterior walkways, stairs, escalators, building entrances;

All new buildings are required to provide barrier-free access from the parking area to the main entrance door, including provisions for illumination, signage, etc., in accordance the Ontario Building Code (OBC);

If the building is classified under Part 3, the building size and construction relative to occupancy must be specified on all drawings in accordance with the OBC (See Articles 3.2.2.15 to 3.3.3.02). Fire Services and Building Services require this information in order to review plans of Part 3 buildings to determine if adequate fire access routes and fire hydrants have been provided;

Building Code requirements dealing with fire fighting access, Siamese connections, fire access routes, streets, location of fire hydrants, etc. must be addressed in accordance with Section 3.2.5 and Article 3.2.2.6;

All Part 3 buildings must be provided with an adequate water supply for fire fighting in accordance with OBC. Hydrant flow tests shall be provided and certified by a Professional Engineer registered with PEO.

Building area (ie. Footprint), building use, number of storeys, location of fire hydrants.

2.2.1.3 Amend Approved Site Plan

The Applicant may request in writing to the Development Services that the approved site plan be amended.

An amendment to the Agreement will follow the same process as set out in Section 2.2.

The Applicant shall not proceed with respect to the works described in the amending agreement until Council has approved the execution of the amending agreement.

2.2.2 Landscape Plan

A separate landscaping plan, prepared by a Landscape Architect, is required.

The following items shall be included on the plan:

- a) Location of all proposed plant material, planting beds and sodded areas, and other surface treatments;

- b) Location of existing vegetation to be retained or removed;
- c) Location of traffic signs;
- d) Plant listing showing index, name, size, quantity, etc. (refer to Appendix 7, Schedule A - Suggested Tree/Shrub species);
- e) Location of play areas, special activity/amenity areas, pathways, open space areas;
- f) Existing and proposed fencing;
- g) North arrow.
- h) Existing and new fire hydrants.

Note:

Any sodding, planting or work on lands abutting the property from the lot lines to sidewalk and curbing, shall be to the satisfaction of the Town.

Tree species shall be in accordance with the Town's Tree By-law which is provided for information in Appendix 7.

2.2.3 Underground Parking Layout

If applicable, the underground parking layout shall show ramps, stairwells, driveways and parking spaces for floor or floors.

2.2.4 Site Servicing/Grading Plans

The servicing and grading plans must include and/or clearly indicate:

- a) north arrow
- b) geodetic bench mark description and elevation (to be provided by the Manager of Public Services Office upon request);

- c) location and size of Town's sanitary sewer systems abutting the site (existing and proposed);
- d) sanitary laterals and connections (existing and proposed) - location, size, grade (slopes) and class of pipe;
- e) location and size of Town storm drainage systems abutting the site (existing and proposed);
- f) storm sewer laterals and connections (existing and proposed) - location, size, grade (slope) and class of pipe;
- g) sampling maintenance holes, to be located on the right-of-way side of the property line;
- h) location and size of existing and proposed Town watermain systems abutting the site;
- i) watermain piping (existing and proposed) - location, size connections and class of pipe. All watermain work on Town property to be constructed by Town forces at Applicant's expense;
- j) location and size of water meter to be determined by the Amherstburg Public Works;
- k) location of nearest Town hydrants and on-site hydrants;
- l) all proposed services to building;
- m) show invert and finish grade elevations of all maintenance holes;
- n) catchbasins (existing and proposed) - locations, proposed and existing elevations for grates, inverts, class of pipes and grades;
- o) all grade elevations should be shown as follows:
 - Existing 797.3;
 - Proposed 797.3;

Note: Use two decimal places for imperial units and three decimal places for metric units

- p) every parking area, where storm sewers are available, shall be drained by catchbasins as follows:
- Debris traps to be installed on all catchbasins;
- q) parking areas with less than 500 square metres shall be drained by at least one catchbasin;
- r) parking areas with all surfaces larger than 500 square metres shall have at least one catchbasin for each 500 to 1,000 square metres unless designed by a Professional Engineer and approved by the Municipal Engineer;
- s) location of downspouts for roof drainage
- Note:** roof drainage is to be connected directly to storm sewers unless approved otherwise by the Manager of Public Services and the Chief Building Official;
- t) all surface drainage routes including swales, ditches, watercourses and their invert elevations and flow direction (no surface drainage routes permitted over driveways or sidewalks);
- u) all abutting streets, right-of-ways, easements;
- v) existing grades of abutting roads and proposed grades through new entrances;
- w) elevations on a 10 metre grid along the site property lines including lot corners and to a minimum of 10 metres (maximum of 50 m) beyond the property boundaries so that existing drainage patterns may be evaluated;
- x) the overall existing and proposed surface drainage pattern on the site is to be shown by flow directional arrows;
- y) proposed drainage swales with preferred grades of 1%; minimum grades of 0.6%;
- z) ground floor elevations of the building and ground elevation at all building corners, entrances, catchbasins, tops and bottoms at slopes and other locations, as required, to establish the surface drainage system;

- aa) location of all existing and proposed curbs with types, retaining walls and edge of asphalt if no curb required;
- bb) top of curb elevation (proposed and existing) and detail of curb showing height from top to top of asphalt;
- cc) all new and proposed sidewalks to be indicated on drawing with proposed elevations (sidewalks are to be continuous through driveways);
- dd) based on available storm sewers, any lands which may require storm water management;
- ee) the location of hydro transformers must be identified;
- ff) legend detailing all symbols used (ie., catchbasins, retaining wall, road, property line, building line, existing and proposed elevations);
- gg) entrance to location, distance from intersection, other entrance/exit separations, widths of entrance.

All storm and sanitary building services are to be laid out in accordance with the OBC.

Note:

The approval of plans does not exempt the Applicant's bonded Contractor from the requirements to obtain the various permits normally required to complete a construction project, such as, but not limited to, the following:

- a) sewer permits
- b) building permits
- c) sewage system permits (Town or MOE)
- d) sign permits
- e) temporary advertising
- f) entrance permit
- g) ERCA permit
- h) hoarding
- i) traffic plan for sidewalk or road closure/restriction

For all redevelopment sites, existing sewer laterals on the Town's right-of-way must be video inspected by the Applicant prior to connection (must be noted on plan). Results will be reviewed by the Manager of Public Services.

All works to be completed in accordance with Town and Provincial Standards or detailed Town Standard Drawings as enclosed. Refer to OPSD and OPSS specifications and drawings for all other details;

Varying site conditions may require standards other than those listed above.

2.3 TYPICAL SITE PLAN DRAWINGS

A typical site plan drawing has been included in Appendix 3.

2.4 SANITATION REQUIREMENTS

2.4.1 Garbage Container Location/Size

Garbage container enclosures must be shown and dimensioned to scale on site plan. All garbage enclosures shall be designed in accordance with the Town's Standard Drawing SP1- Wood Garbage Enclosure and SP-2 - Masonry Garbage Enclosure in Appendix 4.

Garbage enclosures for medical, dental and drug stores must be lockable.

2.4.2 Truck Turning Servicing

All trucks must have access directly to the refuse bin. SU9 design templates to be used (minimum).

2.5 SEWER SPECIFICATIONS

2.5.1 General

- a) Maintenance holes, sampling maintenance holes, catchbasins and any other appurtenances shall conform to Ontario Provincial Standard Drawing Details and related requirements as set out in Section 1.4 of this manual for subdivision developments.

- b) Where outfalls to waterways or drainage courses are required, the Applicant's Consultant will supply an outfall design for submission to all appropriate agencies for approval and permits. Erosion protection (i.e. cable mat, gabion stone baskets, rip rap, etc.) shall be required for all outlets and shall conform to the specifications of the Ministry of the Environment and Ministry of National Resources and ERCA.

2.5.2 Grades

All finished lot and service grades shall be in accordance with the grades shown on the approved plans. The Applicant shall provide a benchmark (based on Canadian Geodetic Datum) on the site or in close proximity to the site to be used for the construction of the works.

2.5.3 Sanitary Sewer

2.5.3.1 Peak Flows

Since peak sewage flows vary greatly with type and density of development, each case must be considered on an individual basis.

2.5.3.2 Capacities

Allowable outlet capacity to be approved by the Manager of Public Services.

The capacity and the size of the service leaving the building shall be checked by the Chief Building Official.

2.5.3.3 Minimum Requirements

- a) Pipe Sizes

The following minimum pipe sizes will be considered provided they have adequate capacities.

- i) Minimum size of sanitary service connection is 125 millimetres in diameter from the main to the property line.

- Where the public mains are less than 525 millimetres in diameter, pipe sizes 125 millimetres to 250 millimetres in diameter are considered for the service connection.

b) Slopes

Minimum slopes for sanitary sewer lines shall be as specified in the latest edition of the Ontario Building Code.

c) Cover

- i) Sanitary - check that adequate depth of cover is provided to obtain frost protection. Insulation is required if depth to top of pipe is less than 1.2 metres in local traffic area and landscaped areas. Insulation shall be installed as per the requirements of the Chief Building Official.
- ii) Line Assignments - maintain 3.0 metres minimum clearance from centre of sewer lines to property lines and buildings. More separation may be required depending on the depth of the sewer line.

Maintain 1.8 metres minimum separation between centre lines of sanitary and storm sewers and other utilities, 3.0 metre clearance to poles. More clearance may be required depending on the vertical separation.

2.5.3.4 Maintenance Holes

Design and installation of maintenance holes shall be in accordance with the requirements of Section 1.4 of this manual.

Transitions in sizes, grades or direction of sewer pipes are to be accomplished by means of maintenance holes.

At maintenance holes, where changes in sewer pipe diameter occur, keep crowns of pipe continuous. Where no change in pipe diameter occurs, MOE guidelines shall be followed for a drop through maintenance holes or in the presence of a bend.

Where the difference in elevation between the incoming pipe invert and the outgoing pipe centreline is greater than 900 millimetres, a drop structure must be provided in accordance with MOE guidelines.

Interior drop maintenance holes may be approved on an individual basis by the Manager of Public Services.

2.5.3.5 Pipe Bedding and Trench Width

Refer to Section 1.4 of this manual in addition to the requirements of OPSD.

2.5.3.6 Sampling Maintenance Holes

The Town requires all new commercial and industrial developments to install a sampling maintenance hole on its service connection in the Town's road allowance adjacent to the property line.

For any existing commercial and industrial developments that require a severance, or for which a site plan is required, a sanitary sampling maintenance hole will be required.

2.5.4 Storm Sewer

2.5.4.1 General Design Criteria

a) Drainage Requirements

All open areas shall drain to the storm sewer. When storm sewers are not available, an alternative drainage system designed by a Professional Engineer registered in the Province of Ontario will be required.

Drainage from roof areas shall be contained on site. Control flow roof drain specifications shall be shown. Location of roof drains shall be shown. Drainage boundaries for roof shall be shown where roof encompasses a large area.

Drainage area plans and design calculations (see storm sewer design sheet Appendix 5) are required when:

- a) the storm system is complicated
- b) the site has three or more subcatchment areas
- c) a storm water management system is required
- d) requested by the Town

2.5.4.2 Minimum Requirements

a) Pipe Sizes

The following minimum pipe sizes will be considered provided they have adequate capacities.

- i) Minimize size of storm service connections is 150 millimetres in diameter from the main to the property line.

b) Slopes

Minimum slopes for storm sewer lines shall be as set out in the latest edition of the Ontario Building Code.

c) Cover

- i) Storm - the minimum cover from the pipe crown to finish grade is to be preferably 1.2 metres or greater.

2.5.4.3 Pipe Bedding and Trench Width

Refer to Section 1.4 of this manual in addition to the requirements of OPSD.

2.5.4.4 Maintenance Holes

Installation of maintenance holes shall be in accordance with the requirements of Section 1.4 of this manual.

Transitions in sizes, grades or direction of sewer pipes are to be accomplished by the means of maintenance holes.

At maintenance holes where changes in pipe diameter occur, keep crowns of pipe continuous to maintain energy gradient.

2.5.4.5 Catchbasins

Refer to Section 1.4.2.6 of this manual in addition to OPSD.

In grassed areas with no traffic, a 600 mm diameter HDPE pipe or concrete sump pit catchbasin will be permitted.

2.5.4.6 Drainage During Development

Sedimentation controls must be installed. Storm water shall be controlled on site to a proper outlet.

2.5.4.7 Outfalls

As per OPSD standards.

2.5.4.8 Flood Plain Guidelines

See Town's Official Plan and Zoning By-Law in addition to ERCA's requirements.

2.5.5 Storm Water Management Facilities, Design and Construction

All storm water management reports or measures must be prepared by, and the installation of works supervised by, a Professional Engineer licensed in the Province of Ontario. Refer to Section 1.4.2.12 for details.

Where stormwater quality treatment is required but cannot be addressed in a conventional stormwater facility, the Applicant's Consulting Engineer may consider commercially available treatment units (i.e. Stormceptor, Vortex, etc.) which are approved for use by the MOE. The Applicant's Consulting Engineer should review the preferred treatment unit with the Manager of Public Services prior to finalizing the selection process.

2.6 WATERWORKS DESIGN STANDARDS

2.6.1 Standard Specifications

The Town's standard specifications for the construction of watermain is included in Appendix 2.

2.6.2 Trench Backfill

Refer to the Town's standard specifications for the construction of watermain is included in Appendix 2.

2.6.3 Water Services for Fire Protection Systems

Where the proposed fire protection system requires a service larger than that specified in this manual, the Applicant's Consulting Engineer shall submit a request for a larger service for fire protection to the Manager of Public Services for review and approval.

2.6.4 Water for Irrigation Systems

The Applicant's Consulting Engineer shall submit a request for a service for irrigation purposes to the Manager of Public Services for review and approval.

2.7 ROADS

2.7.1 Entrance Design to a Municipal Street

- a) Commercial entrance as shown in Municipal Standard Drawings to be used. Any variations to be approved by Manager of Public Services.
- b) Sidewalks straight through driveways.
- c) Barrier curb to be cut using special curb cutting equipment.

- d) Paving stones to have a minimum 300 mm base of Granular 'A' with a levelling course.

2.7.2 Pavement Design Criteria (on Public Right-of-Way)

Refer to Section 1.2 in this manual.

2.7.3 Emergency Access

Must be designed to carry emergency vehicles including fire trucks. All fire routes are to be shown on the site plan and shall meet the requirements of the OBC.

2.7.4 Pedestrian Access and Sidewalks

May be required pending site plan review.

Minimum sidewalk width shall be 1.5 metres.

See Section 1.2.7 for further details on sidewalk construction for "new" and "built-up" areas.

2.7.5 Parking Areas

Parking lot grades will be a minimum of 0.5% and a maximum of 5%. Depressions shall not exceed 300 mm in depth.

All parking lot areas are to be hard-surfaced (i.e. concrete, asphalt, paving stones).

2.8 BUILDING ENVELOPE / FOOTPRINT

Refer to Zoning By-Law/Planning Department.

2.8.1 Locations - Setbacks

Refer to Zoning By-Law/Planning Department.

2.8.2 Finished Floor Grades

- a) Finished floor grades are to be set at a minimum of 300 mm above 1:100 year storm floodline elevation as determined by the Essex Region Conservation Authority.
- b) Exterior lot grading to be directed to adequate outlets.

2.8.3 Loading Docks

- a) As required by the Zoning By-Law.
- a) Follow the requirements of the Ontario Building Code and Institute of Traffic Engineers guidelines.
- c) For local industrial roads, trucks will be allowed into the road from the site.
- d) For collector industrial roads, all truck movements on site.

2.8.4 Emergency Exits

Emergency exits may not swing open into traffic lanes. Emergency exits shall be recessed into the building or protected with a sidewalk outside the building.

2.9 FINANCIAL MATTERS

2.9.1 Municipal Service Fees

Refer to Sections 1.8.1 and 1.8.2.

2.9.2 Park Fees

Refer to Section 1.8.3.

2.9.3 Water Connection Charges

Water connection charges where applicable shall be as follows:

- | | | |
|----|----------------------------------|--|
| a) | frontage charge fee | \$2,000.00 |
| b) | meter charge fee | \$375.00 |
| a) | cost of service installation fee | \$Actual cost (estimated at \$625) (fee to be refunded if cost <\$625) |

2.9.4 Easements, Land Conveyances

All easements and land conveyances are to be shown on the Site Plan and will occur upon execution of the Site Plan Agreement.

2.10 INSPECTION REQUIREMENTS

- a) Development Services Department will be responsible for storm and sanitary services on the site. Public Works Department will be responsible for water services on the site (extending to the meter) and municipal services on the public road allowance.
- b) Sewer and water inspections must be performed before backfilling takes place.
- c) On-site sewage systems falling under Part 8 of the OBC shall be inspected by the Town. All other on-site systems shall be inspected by the MOE.
- d) The Applicant's Consulting Engineer will be required to "sign off" on the implementation of the SWM measures (before any securities are released) confirming that the works were constructed in accordance with the approved drawings and will work as intended.

2.11 FENCING

- a) Refer to Zoning By-Law and Site Plan Agreement.
- b) The height, type and construction details of all fences are to be shown on the Site Plan.

3.0 RESIDENTIAL SERVICING REQUIREMENTS

(For areas not under site plan control)

3.1 INDIVIDUAL GRADING PLANS, STORM AND WATER

Servicing of infill lot requires plans detailing proposed building locations, both sewer connection locations and sizes, water service size and location, proposed driveway location, rear yard drainage and swaling, and the proposed building elevation in reference to the abutting street centerline elevation. Where applicable, ERCA floodplain requirements must be addressed.

3.2 FOOTING DRAINS - SUMP PUMP DETAIL

A back flow valve shall be installed on the sump pump connection.

3.3 RESIDENTIAL DRIVEWAY DETAIL

- a) See Appendix 4 for driveway construction details.
- b) Location and width of driveway to be shown on the plan.
- c) The Application for Enclosing Roadside Ditches is available at the Development Services Department. Town Standard Drawings R6, R7 and R8 for the ditch enclosures are provided in Appendix 4. The application along with the appropriate sketches must be completed and the appropriate fee paid at the Development Services Department. Prior to construction, the Applicant must contact the Public Works Department for consultation.
- d) For driveways over municipal drains, the applicant must contact the Drainage Superintendent for direction.

3.4 CORNER SITE TRIANGLES

Refer to Zoning By-law and Figure 1.2 in Section 1.2.

3.5 SANITARY SYSTEMS

- a) On-site sanitary systems under Part 8 of the OBC shall be reviewed and approved by the Town.
- b) Where the property is serviced by municipal sanitary sewers, a cleanout is required on the property line (see Standard Drawing S1 in Appendix 4).
- c) Connections to a low pressure sanitary main must be designed by a Professional Engineer and stamped drawings submitted to the Chief Building Official.

3.6 WATER SERVICES

The water service connection application form is available at the Building Department. The application form is also shown on Standard Drawing W8 in Appendix 4. The application must be completed and paid for at the Building Department. The Applicant must contact the Public Works Department at least 7 days prior to requiring the service. The Public Works Department will tap the water main and install a curb stop at the property line. The Applicant is responsible for the copper line from the curb stop to the meter. Before covering the copper line the Applicant must arrange inspection through the Public Works Department.

A continuous length of Type "K" copper is required between the property line shut off and the water meter. If the length is less than 30 metres; couplers are not acceptable. If the distance is greater than 30 metres and less than 60 metres, one coupler may be used at the 30 metre mark. If the distance is greater than 60 metres, a meter pit shall be installed at the property line (at the Owner's expense) and plastic water service pipe may be used on the private property. A meter pit shall be installed at the property line (at the Applicant's expense) if the Applicant wishes to install a plastic water service of any length on private property.

4.0 REQUIREMENTS FOR BUILDING PERMITS

In accordance with the requirements of the Ontario Building Code, construction cannot commence on any buildings until a building permit is issued. This is Provincial legislation administered by the Town. The Town does not have the authority to waive this Provincial legislative requirement.

4.1 TOWN'S BUILDING BY-LAW

See Appendix 8.

4.2 CHART FOR THE DETERMINATION OF NEED FOR STRUCTURAL ENGINEER OR ARCHITECT

Refer to OBC.

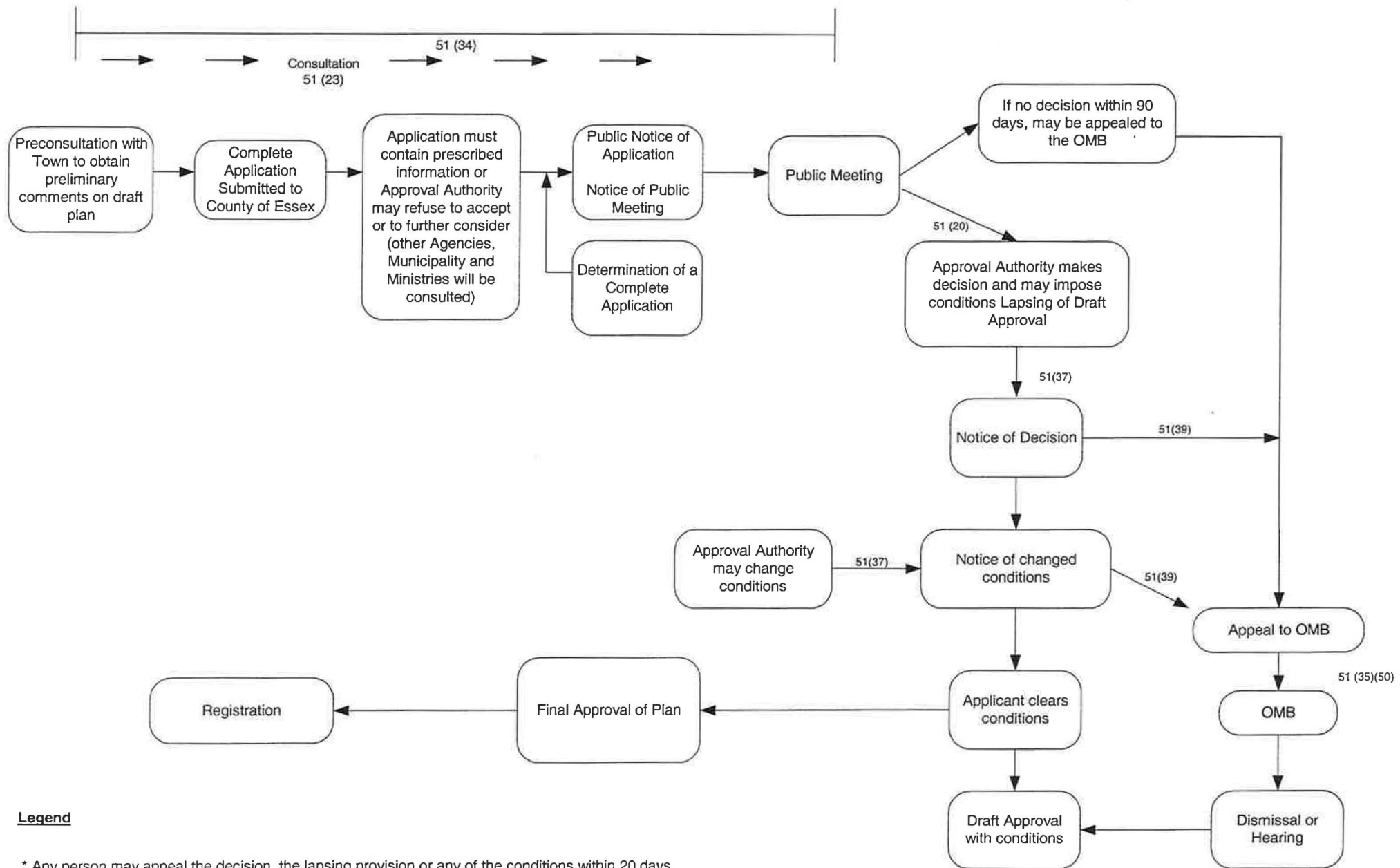
4.3 INSPECTION REQUIREMENTS

The Applicant or his agent shall notify the Chief Building Official within 24 hours when each stage of construction (for which the Building Code requires an inspection) is complete and ready for an inspection.

APPENDIX 1

DEVELOPMENT REVIEW FLOW CHARTS

PLAN OF SUBDIVISION



Legend

* Any person may appeal the decision, the lapsing provision or any of the conditions within 20 days
Applicant or public body may appeal any conditions of approval before final approval (ss.51(43))

** Approval authority to forward record within 15 days (ss.51(35))

FIGURE A1

OFFICIAL PLAN AMENDMENT

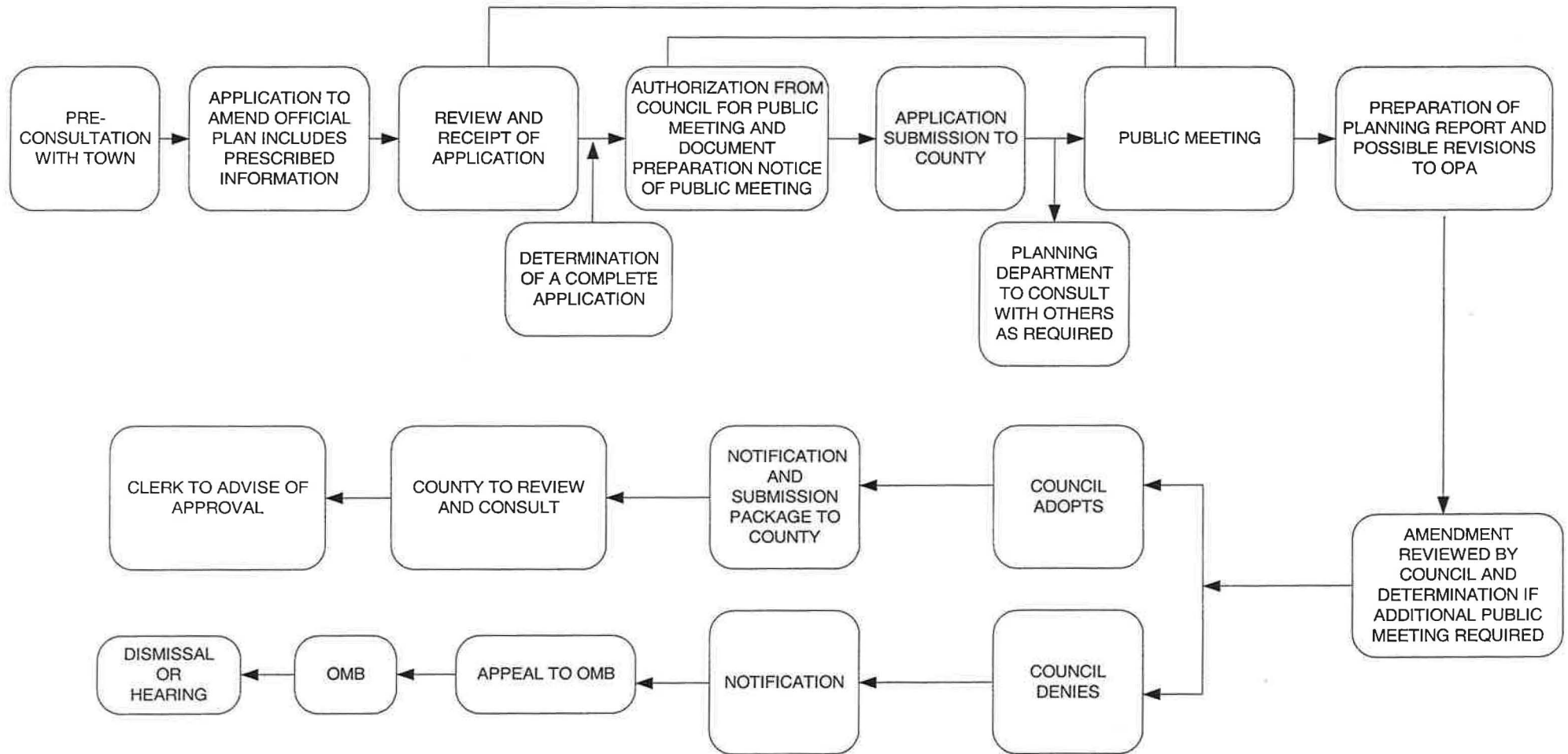


FIGURE A2

ZONING BY-LAW AMENDMENT

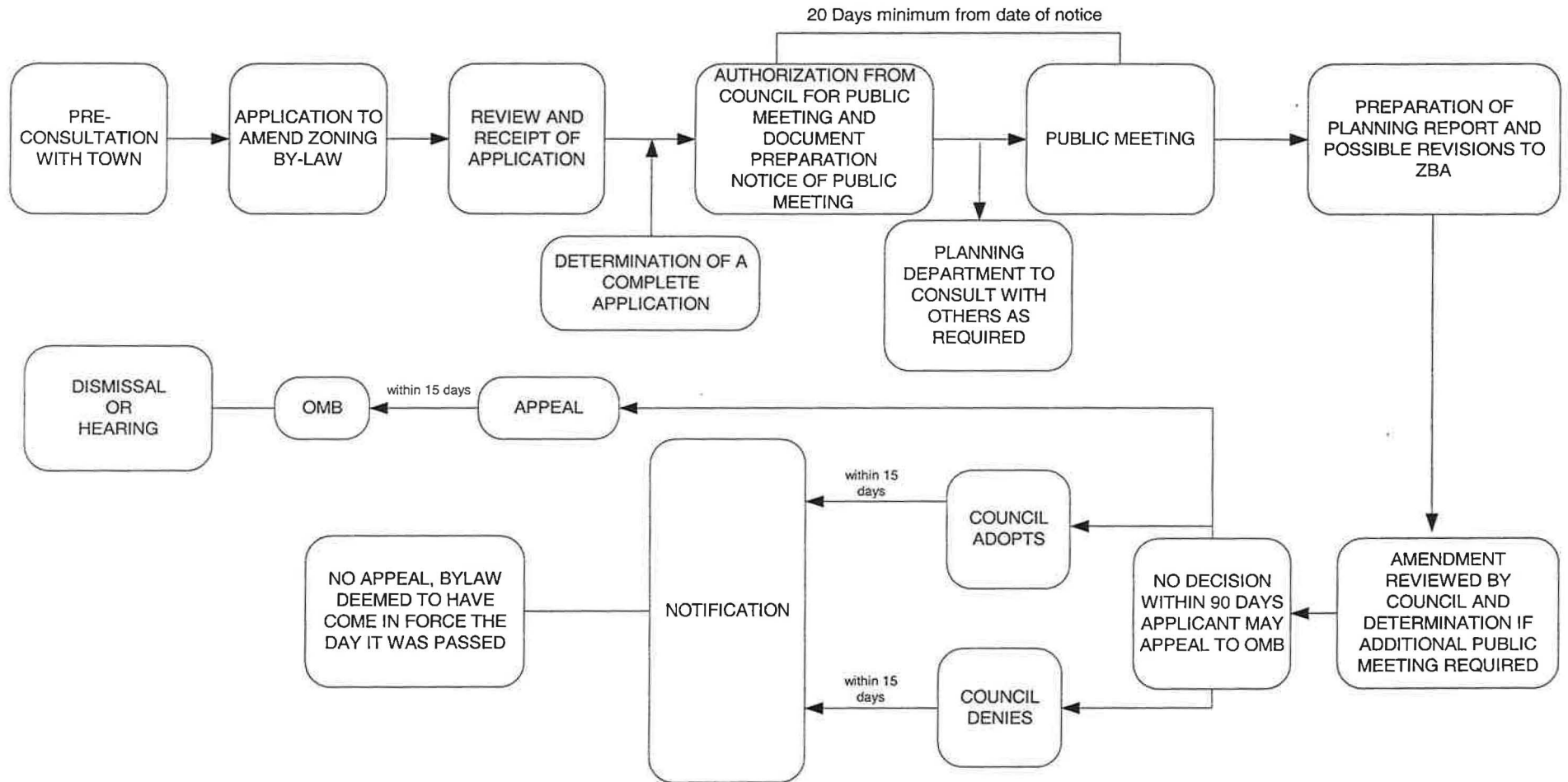
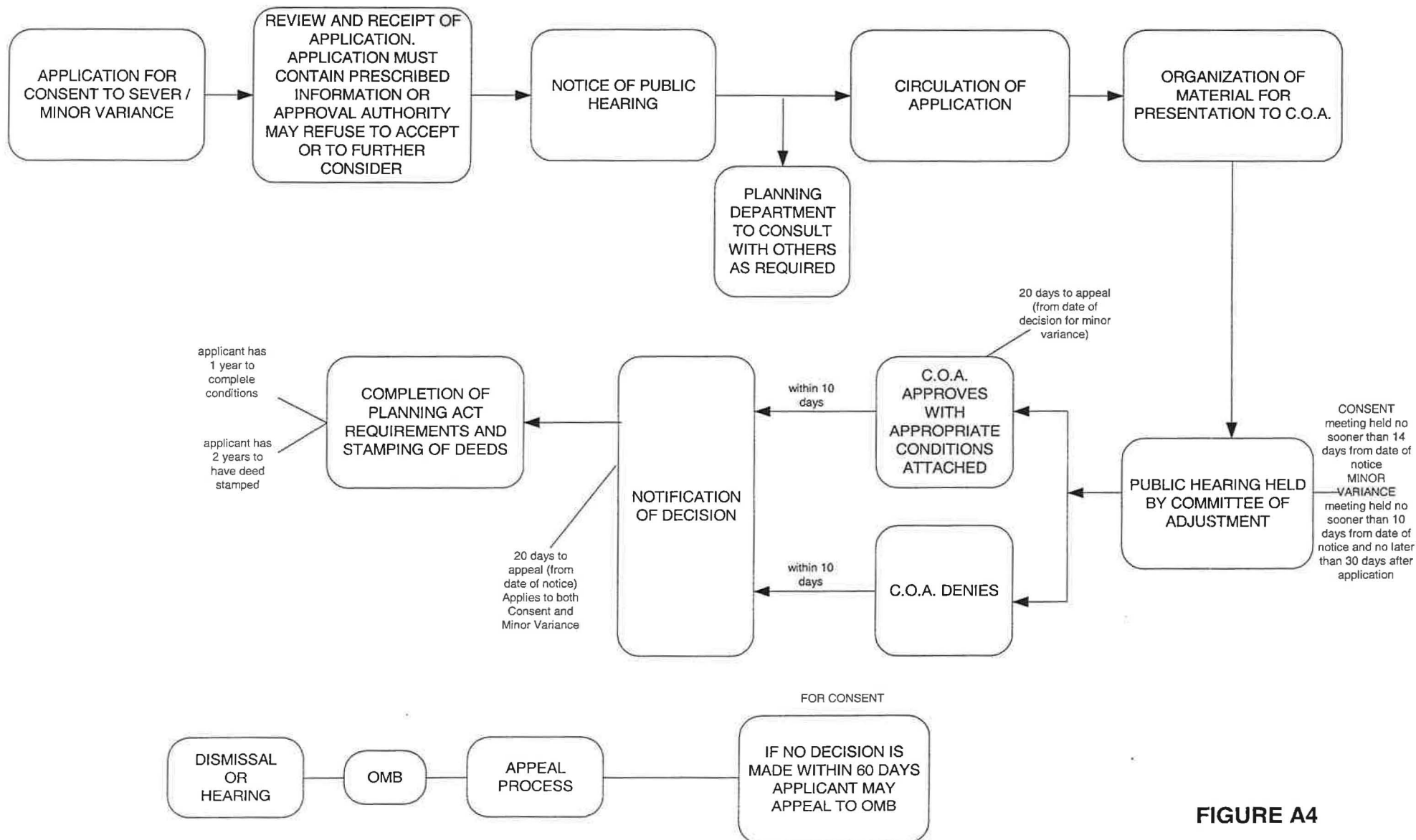


FIGURE A3

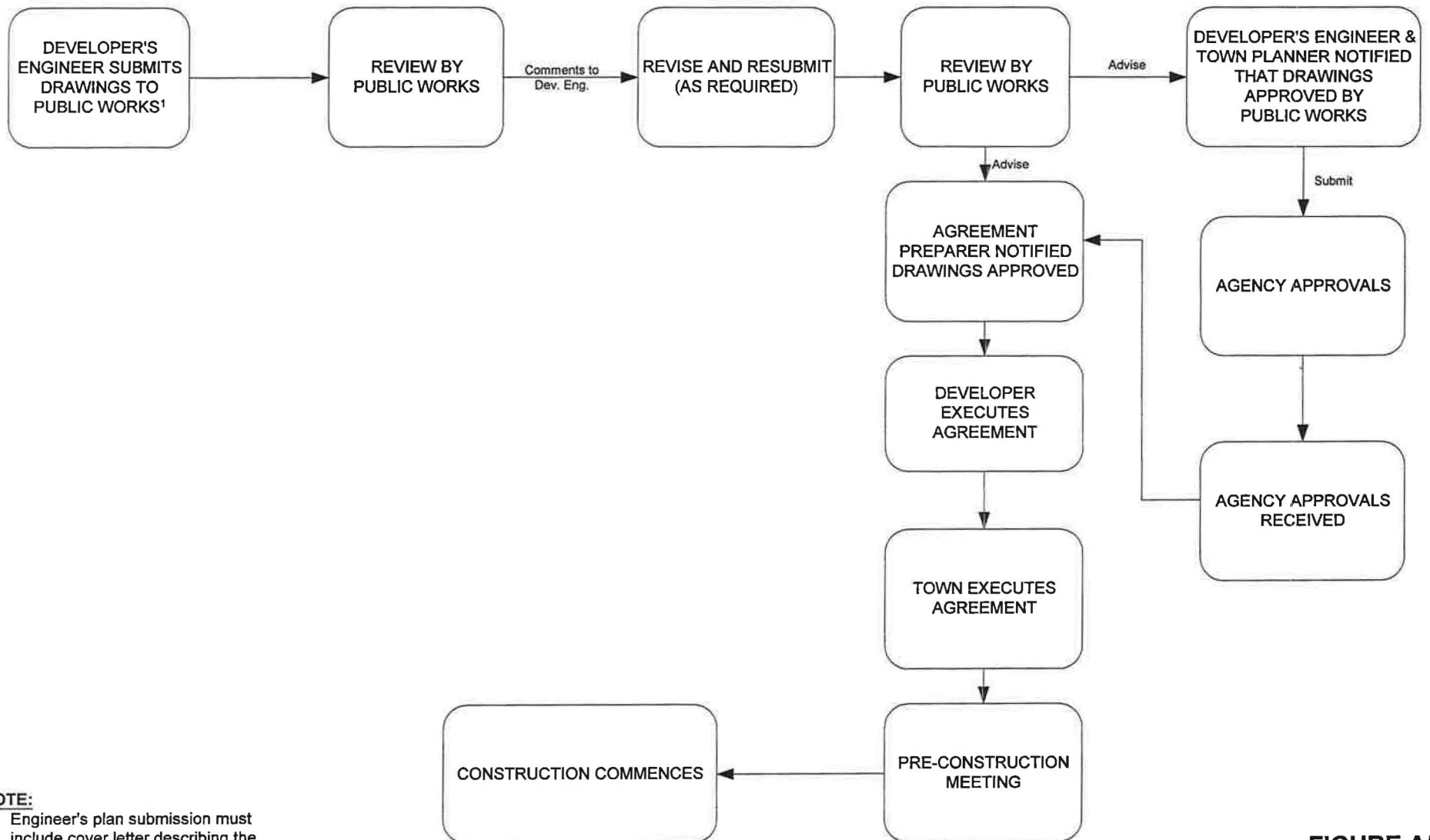
CONSENT / MINOR VARIANCE



ALSO, APPROVAL AUTHORITY MAY CHANGE CONDITIONS 53(23)

FIGURE A4

CONSTRUCTION DRAWING APPROVAL



NOTE:

1. Engineer's plan submission must include cover letter describing the project.

FIGURE A5

ASSUMPTION AND ACCEPTANCE OF SERVICES

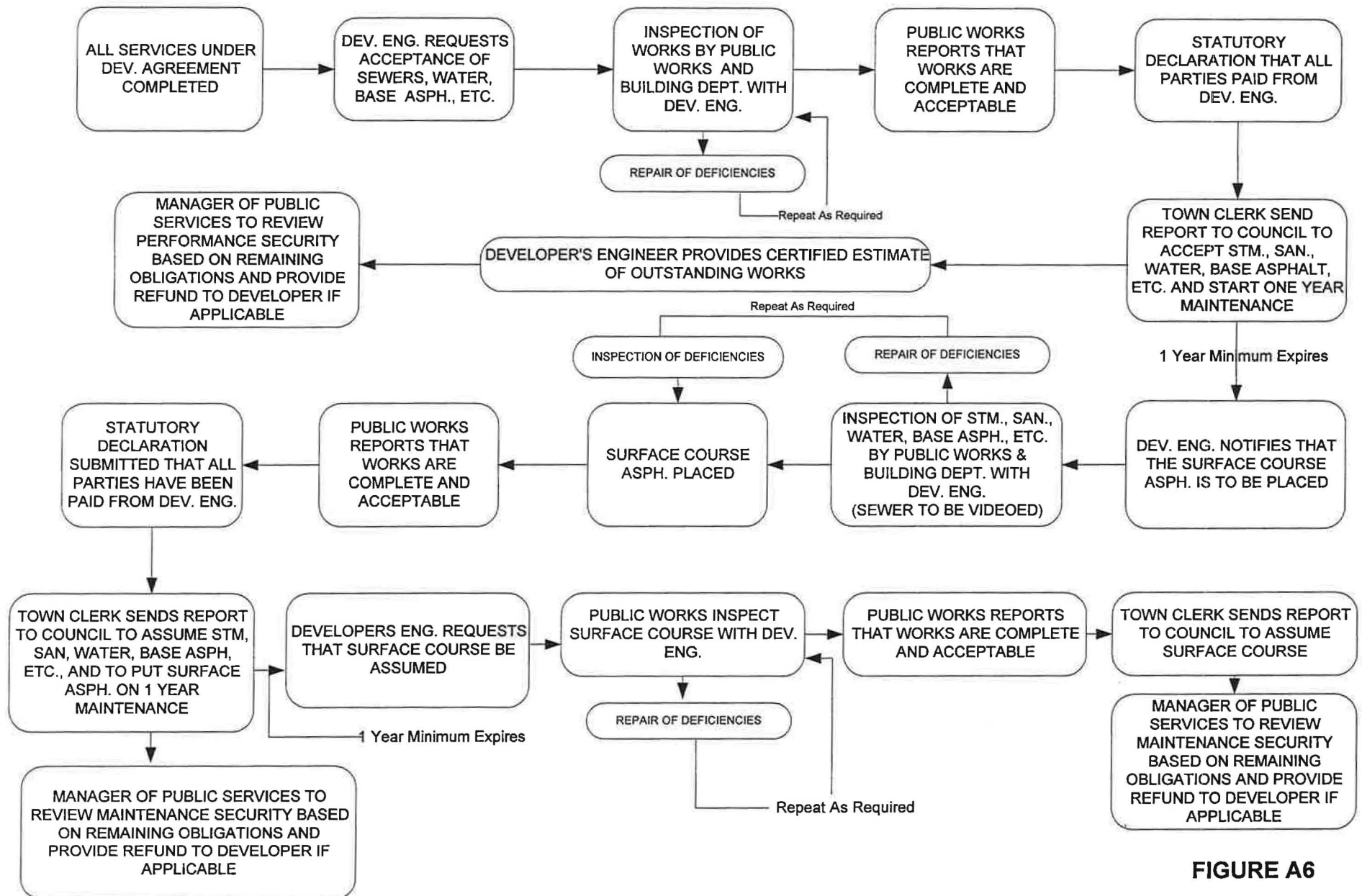


FIGURE A6

CALCULATION OF SECURITIES AND DEPOSITS (including oversizing charges)

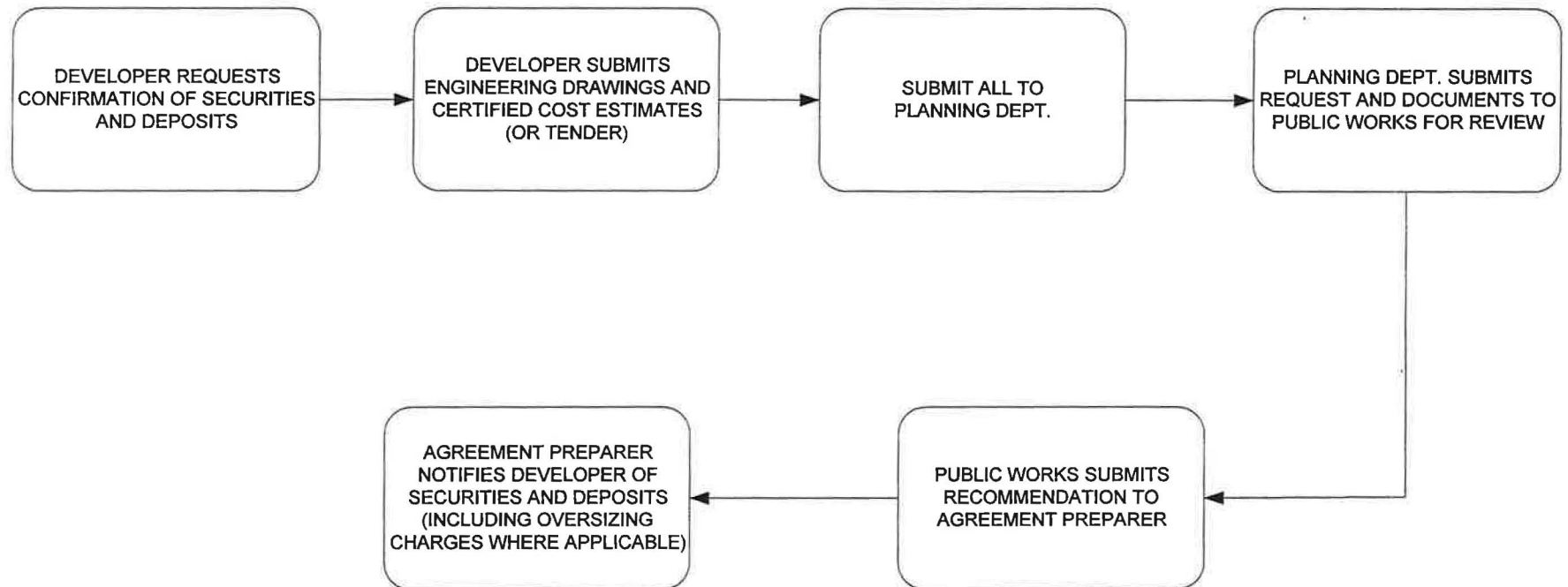


FIGURE A7

SITE PLAN CONTROL

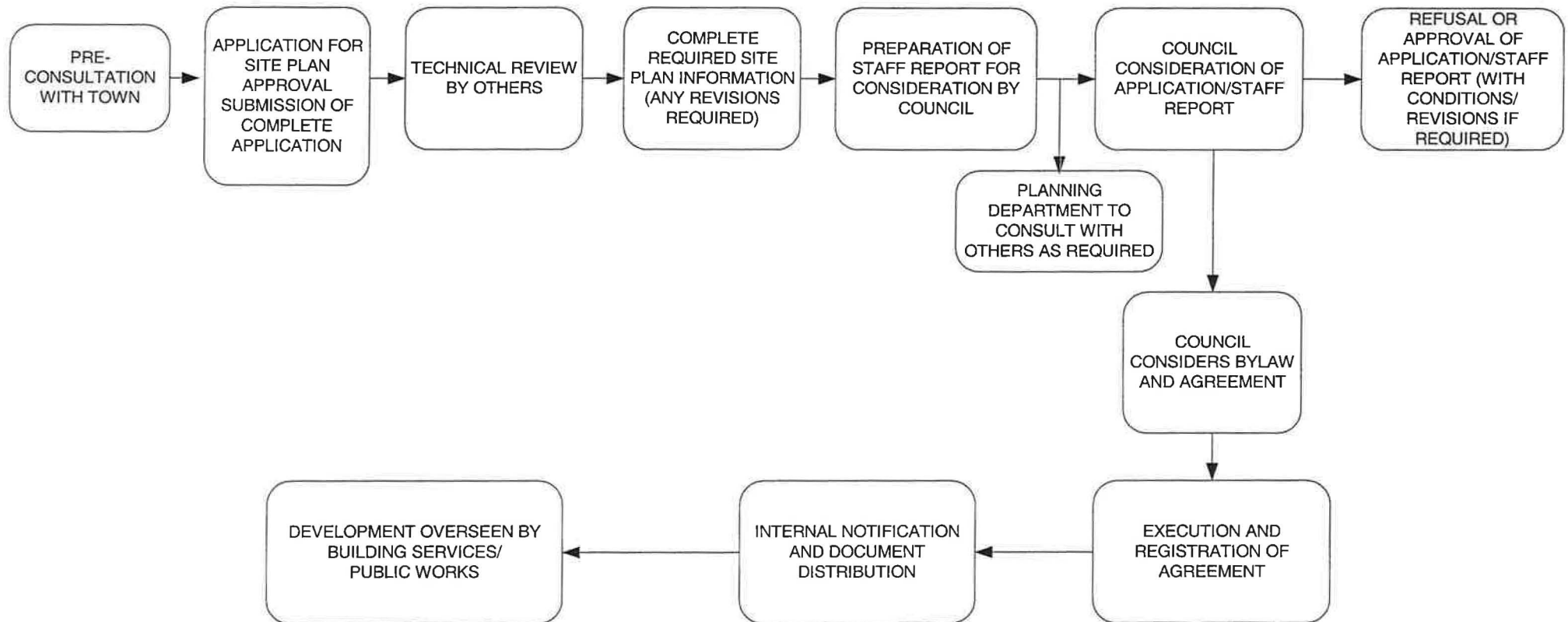


FIGURE A8

APPENDIX 2

WATERMAIN SPECIFICATIONS

SPECIFICATIONS FOR THE CONSTRUCTION
OF WATERMAINS
IN THE
TOWN OF
AMHERSTBURG



Revision No. 2, May 2009

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SPECIFICATIONS FOR THE CONSTRUCTION OF

WATERMAINS

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SPECIFICATIONS

FOR THE CONSTRUCTION OF WATERMAINS

SECTION 1 - GENERAL

GENERAL

This Specification and the accompanying drawings contemplate the furnishing of all labour, materials, equipment and supplies required for the performance of all operations relating to the Watermain System. All work shall be done in a first class and workmanlike manner, complete in all respects, and including all items specified herein, or as necessary for the accomplishment of a complete, satisfactory and approved installation.

SECTION 2 – MATERAILS

SUMMARY OF MATERIALS

Note no substitutions to the materials list below will be accepted unless pre-approved by the Town of Amherstburg in writing.

Material Type	Manufacturer	Brand Name	Part Number/ Notes
Watermain	Ipex	Blue Brute/ Centurion	Class 150, SDR 18
	Ipex	TerraBrute	Class 150, SDR 18
Valves	Canada Valve	Darling 55	Push - On
Valve Boxes	Canada Valve		3 Piece, Screw Type
Hydrants	Mueller	Century	5' – 6" Bury w/ Stortz
Fittings/ Bends	Ipex		Push-On, Fabricated Fittings for C900 and C905 Pipe
Restrainers	Sigma	One Loc	
Service Saddles	Ipex	Pre Tapped Tee Teck	
Main Stops	Cambridge Brass		Ball Type, Non Lead
Curb Stops	Cambridge Brass		Ball Type, Non Lead
Curb Boxes	Mueller/ Bibby		A7 (4.5' – 5.5')
Meter Pits			(See Dwgs for Components)

Material Type	Manufacturer	Brand Name	Part Number/ Notes
Sample Stations	Kupferle Foundry	Eclipse No. 88	1.7m bury, on a 750mm pedestal
Tapping Sleeves	Mueller		#H615 M.J. type for Cast Iron Pipe
	Robar		#1606 for PVC Pipe
Tapping Valves	Mueller		#H686 double disc or #H687 resilient seal
Blow - Offs	Kupferle Foundry	Mainguard No. 77	1.5m bury, with a 2" FIP inlet

SUPPLIER OF MATERIALS

Canadian suppliers and manufacturers are preferred to be used for all Contracts; however, non-Canadian materials may be used if CSA approved and only with the expressed approval of the Town of Amherstburg in writing.

WATERMAIN MATERIALS

All pipe shall be Polyvinyl Chloride (PVC) pressure pipe. The pipe shall be manufactured to cast iron outside diameters, be colour coded blue, and shall have an integral wall-thickened bell end designed for joint assembly using elastomeric seals manufactured by IPEX Inc. under the trade name "Blue Brute" or "Centurion", or approved equal by the Town of Amherstburg in writing. All joints shall be bell and spigot with rubber gaskets conforming to ASTM D3139.

PVC pipe in sizes 150 mm through 300 mm (6" to 12") shall be Class 150 DR18 conforming to AWWA C900 and shall be certified by the Canadian Standards Association to CSA B137.3M. Pipe to be utilized for directional drilling shall also be manufactured by IPEX Inc. under the trade name "TerraBrute", or approved equal by the Town of Amherstburg in writing.

PVC pipe in sizes 350mm to 900 mm (14" to 36") shall be designed to accommodate working pressure plus surge pressure and shall conform to AWWA C905 and shall be certified by the Canadian Standards Association to CSA B137.3. All watermain pipe is to be delivered to site with both ends capped and sealed by the manufacturer. Any pipe arriving to site without capped ends will be rejected and replaced at the contractor's expense. Pipe shall be inspected by the Public Works for approval and acceptance prior to installation. The pipe manufacturer shall match the PVC fitting manufacturer.

VALVES AND VALVE BOXES

The Contractor will be required to furnish and place in position where shown on the drawings or as may be directed by the Developer's Engineer or the Town's Representative, gate valves, and to properly install screw-type or auger-type, cast-iron, valve boxes where the same are required. All valve boxes shall be fitted with a two-finger hold lid. The top of the valve box must be set flush with the finished grade or the proposed finished grade of the road. The direction of the opening of the valves shall be counter-clockwise, i.e. to the left. Each valve shall be Canada Valve "Darling" 55 N.R.S. with split wedge, push on, non-rising stem or approved equal by the Town of Amherstburg in writing.

Valve boxes shall be three pieces, cast-iron boxes equal to Canada Valve Pattern No. 1321, three piece screw-type boxes with No. 6 round boxes or equal. Two piece valve boxes WILL

NOT be accepted. PVC Valve Boxes. Valve boxes shall be set so that the tops are flush with the existing ground level or as directed by the Developer's Engineer or the Town's Representative at the time of construction.

Valves installed at a depth greater than 1.70 metres shall be equipped with an operating rod extension.

Tracer wire shall be run on the outside of the valve box. A small hole shall be supplied in the valve box approx. 75mm from the top for the wire to enter the valve box.

See attached Typical Valve Setting detail.

HYDRANTS

The Contractor shall install compression type hydrants without frost jackets. Each hydrant shall have two (2) 65 mm fire hose nozzles, with one Storz Pumper Connection. Hydrants shall be minimum of 1.70 m bury and shall be in accordance with A.W.W.A. Specifications C502. All fire hose nozzles shall be fitted with C.S.A. standard threads. Storz nozzle to be bronze to ASTM B584, nozzle cap to be cast iron and painted black.

Hydrants shall be Mueller "Century" fire hydrants (or approved equal), with push-on base and plugged drain holes. All hydrants shall open to the left, i.e. counter clockwise. All hydrants shall be shop painted #2 Yellow.

The Contractor shall connect all hydrants to the main using 150 mm diameter pipe of the same type as used for the watermain. A 150 mm diameter valve and box shall be placed on the hydrant connection between the main and the hydrant. The "stub" pipe between the hydrant and the valve is to have a 450mm length where possible. Care must be taken to have all valves and hydrants plumb. The Contractor shall also place rodding between the hydrant and valve, and the valve and tee. Hydrants shall be located in a position as shown on the drawings or as directed by the Developer's Engineer or the Town's Representative. Granular "A" material, shall be placed around the base of the hydrant in the amount sufficient, in the opinion of the Developer's Engineer or the Town's Representative. Valves, fittings and 150 mm pipe connections for the hydrants shall conform to the provisions of the appropriate clauses of this specification. Hydrants shall be set so that the bottom of the ground line flange is 10 cm above final grade at hydrant barrel. The cost of the porous material, the rodding, the 150 mm valve and box, the 150 mm diameter hydrant connection and the fitting on the main as well as all labour and other materials required to install the hydrant shall be included in the Contractor's unit price for hydrants.

The Contractor should note that some hydrants will be installed at a greater depth than 1.70 metres. Provisions for a deeper bury hydrant shall be included in his Tender Price.

See Hydrant Installation detail.

SPECIALS, FITTINGS AND TAPPINGS

Fittings for 100, 150 and 200mm (4, 6, and 8") PVC pipe shall be injection moulded, colour coded blue with push-on gasketed joints conforming to AWWA C907 and be certified by the Canadian Standards Association to CSA B137.2. Injection moulded fittings shall be produced from 400 psi HDB compound as manufactured by IPEX Inc. or approved equal by the Town of Amherstburg in writing. Fittings for 250mm and larger PVC pipe shall be fabricated from PVC pipe, colour coded blue and certified by the Canadian Standards Association to CSA B137.3 as manufactured by IpeX Inc. or approved equal. Fittings 250mm and 300mm (10 & 12") shall be manufactured from segments of AWWA C900 PVC pipe, bonded together and over-wrapped with fibreglass-reinforced polyester to meet the requirements of the standard. Fittings 350mm to 900mm (14 & 36") shall be manufactured from segments of AWWA C905 PVC pipe, bonded together and over-wrapped with fibreglass-reinforced polyester to meet the requirements of the standard. The pressure ratings of the pipe shall match the pressure ratings of the fabricated fittings.

Special fittings, bends, tees, crosses or branch tappings or any kind, shall be installed in the

line where shown on the drawings or as may be more specifically located by the Developer's Engineer or the Town's Representative at the time of construction. All bends, tees and other fittings which might tend to "draw" or blow-out shall be securely anchored in a suitable fashion with restraining glands conforming to UNI-B-13-92 and manufacturer's specifications, in an amount sufficient in the opinion of the Developer's Engineer or the Town's Representative without extra remuneration to the contractor. All bends, fittings, tappings, etc. shall be suitably bedded in such a fashion as to prevent any unnecessary movement and to the full satisfaction of the Developer's Engineer or the Town's Representative. Any mechanical fittings shall have cathodic protection.

PRIVATE SERVICE CONNECTIONS

Private service connections shall be installed where directed by the Engineer or the Town's Representative, and shall be of the size and materials as specified. Where such connections are made, they shall be backfilled with approved material across all roadways. All private service connections shall have a suitable corporation main cock, prefabricated PVC tee (in new mains) or teck stainless steel 304, 18 gauge double bolt service saddles with AWWA taper (CC) outlet thread (on existing mains), curb stop, and cast-iron shut-off box with screw-type cap. The Contractor's tender price for all such connections shall include the cost of supplying each service with cocks, tees or saddles, curb stops, and shut-off boxes, together with all necessary labour for tapping the main (the Town will perform the tap on the watermain where saddles are placed and the cost for such work will be billed to the contractor), excavating, pipe laying and sand backfilling or punching under pavements where applicable. Where such connections are laid across a street having a paved surface, they shall be punched under the pavement, and the pavement surface shall not be disturbed in any manner.

All corporation stop inlet threads shall be wrapped with 3 or 4 wraps of Teflon pipe thread tape. Connections shall be lead free compression type for all copper services. All brass including ball in contact with potable water will be heavy wall design made of No Lead material as defined in section 4 of current C800 specification. Threading and tolerances will be in accordance with the latest revisions of AWWA C800 specifications. Parts not in contact with potable water may be made of other material suited for buried water services as specified in AWWA C800. All ball valves, couplings and adaptors are pressure rated for 300psi. All fittings will have a lifetime guarantee against lead leachate from the casting. All ball valves will be leak tested in the open and closed position. No lead fittings will be Cambridge Brass or approved equal. Curb boxes shall be D1 #7 or A726- #7 adjustable for 1.5m to 1.8m bury complete with T4 36" or 35" type 304 stainless steel rods. Water service lines, 50mm diameter or less, shall be Type "K" soft copper conforming to ASTM B.88. The boxes must be supplied and installed to provide for a minimum of 150 mm adjustment above and below finished grade. The copper service running from the main to the property line curb stop shall be one continuous piece of service pipe. The service running from the curb stop to the water meter shall be 61 m (200 ft) maximum with one coupler. If a meter shall be located and further than 61m (200 ft) from the curb stop a meter pit shall be installed on the property line. Corporation stops shall be tapped into the main at the 2 o'clock position. Service pipe shall have a minimum of 1.70 metres of cover from final grade. There will be no substitutions in materials allowed without the Town's approval.

See Typical Water Service Installation detail and Water Service with Meter Pit detail.

SAMPLE STATIONS

When required to be supplied by the Town water sample stations shall be Eclipse No. 88 manufactured by Kupferle Foundry, St. Louis, MO. Sampling stations shall be 1.7m bury, on a 750mm pedestal, with a 19mm FIP inlet, and 19mm nozzle. All stations shall be enclosed in a lockable nonremovable, aluminium-cast housing. When opened, the station will require no key for operation and the water will flow in an all brass waterway. All working parts will also be of brass and be removable from above ground with no digging. A copper vent tube will enable

each station to be pumped free of standing water to prevent freezing and to minimize bacteria growth.

Sample station bases shall be precast concrete as manufactured by Underground Specialties or approved equal by the Town of Amherstburg in writing.

See Sampling Station and Base detail.

TAPPING SLEEVES AND TAPPING VALVES

Tapping sleeves and valves shall be used when new pipe is being connected into the existing distribution system. Tapping sleeves shall be Mueller #H615 M.J. type for cast-iron or Ductile Iron watermain and Robar #1606 for PVC pipe. Tapping sleeves shall be grouted as per the manufacture's recommendations.

Tapping valves shall be Mueller #H686 double disc tapping valve or Mueller #H687 resilient seal tapping valve opening counter clockwise.

BLOW-OFFS

Blow-offs shall be constructed at dead ends of all watermains and shall be shown on the accompanying drawings. Blow-offs shall be Mainguard No. 77 non-freezing, self draining type with a 1.5m bury. These blow-offs will be furnished with a 2" FIP inlet, a non-turning operating rod, and shall open to the left. All of the working parts shall be of bronze-to-bronze design, and be serviceable from above grade with no digging. The outlet shall also be bronze and be 2 ½" NST. Blow-offs shall be lockable to prevent unauthorized use as manufactured by Kupferle Foundry Co. or approved equal. Where blow-offs are placed as a temporary termination points in a water distribution system mainline valves matching the size of the distribution pipe shall be placed directly before the blow-off. Where blow-offs are placed as a permanent termination point a 2" diameter non-draining ball valve with box and rod shall be placed directly before the blow-off.

Before removing temporary blow-offs the Contractor shall ensure that a large hole is excavated in the area of the blow-off to collect discharging water. A pump, in good working conditions, shall be standing ready to pump excess water to a storm drain.

All work is to be done carefully to avoid contamination of existing mains and fittings. It will be the responsibility of the Contractor to notify affected Water Department customers of water shutdown when doing this work.

See attached Watermain Blow-off detail.

SECTION 3 – CONSTRUCTION PROCEDURES

STORAGE AND HANDLING OF WATERMAIN PIPE & FITTINGS

All materials shall be stored and handled by the Contractor at his own expense. He shall be responsible for the safe storage of all materials, for obtaining storage areas, for the safe transportation and distribution of the materials at the job site and their inspection to determine defects and breakage. No additional recompense will be allowed to the Contractor for any loss incurred by him in the storage and handling of the materials. Pipe, fittings, valves, hydrants and all accessories and appurtenances must be loaded and unloaded by lifting with means of a hoist or skidding so as to avoid shock or damage. Chains shall not be used for lifting watermain pipe, hydrants or fittings, only certified nylon slings will be approved for this exercise. Under no circumstances shall any watermain materials or materials for watermain appurtenances be dropped. Pipe handled on skidways shall not be skidded or rolled against pipe already on the ground.

LOCATION OF TRENCHES

Watermains shall be laid in trenches in locations and elevations as shown on the drawings in general, or as may be specifically directed or laid out by the Developer's Engineer or the Town's Representative, at the time of construction.

The trench shall be located so that the location of the new watermain shall have a minimum clearance of 0.15 m with respect to all other pipes, fittings, etc. above, on or below the ground level. The Contractor will be responsible at all times for a complete investigation to determine the location of all such utilities or structures, known or unknown, and he shall indemnify and save harmless, the Engineer and the Town for any responsibility, injury or liability arising from any damages to such utilities or structures by the Contractor. He shall further contact or notify any such Utility, Company or Commission of his intention to carry out work in the area and co-operate with such Utility, Company or Commission in the location, maintenance and preservation of any such utilities. The location of the pipes and appurtenances as shown on the drawings is approximate and may be changed by the Developer's Engineer or the Town's Representative if deemed advantageous in the progress of the work. The trench is to be excavated where directed. If any part of the bottom of the trench is found to be unsound or in any way unsuitable to lay the pipe, in the Developer's Engineer's or the Town's Representative opinion, the Developer's Engineer or the Town's Representative may direct that the location of the trench be changed, if it is possible to avoid unsound soil by so doing.

EXCAVATIONS

All excavations shall be made in compliance with the plans and in such a manner, and to such depths and widths, as will give ample room for installing the pipe; for bracing, sheeting or otherwise supporting the sides of the excavation; and for the pumping of ground water, if encountered. The Contractor is fully responsible for the safety of all his men and equipment and must conform completely with the provisions of the "Construction Safety Act."

The bottoms of the trenches must be carefully excavated. The pipe shall be bedded with graded sand. The sand shall be graded to the elevations and shape of the bottom of the pipe and recessed to receive the hubs of bells and spigots. Corrections in depth of excavation, caused by excavating to an extent greater than that required for the excavation of the pipes, shall be made by bedding the pipe with Granular "A" material as per O.P.S.S. 1010, placed at the time the pipes are being installed and at the expense of the Contractor. The trenches shall be excavated to the depths given by the Developer's Engineer or the Town's Representative and only so far in advance of the pipe laying as permitted by the said Engineer or Representative. The minimum depth of cover over all watermains shall be 1.70 metres from the average ground surface near the watermain location to the top of the pipe, except where otherwise noted on the plans.

If any part of the bottom of the trench is found to be unsound or in any way unsuitable in the Developer's Engineer's or Town Representative's opinion, to lay watermain pipes, the Contractor shall remove as much material as may be required and shall replace the unsound material with sufficient approved granular material to form a sound bed for the pipes. The Contractor shall make provisions for such additional excavation and supplying and placing of the granular material and he shall be paid extra for this work.

Where pipes occur in disturbed or filled ground, the excavation shall be done only after the backfill has been finally settled and the Contractor shall provide all shoring, bracing or sheet-piling necessary to maintain the banks of this excavation and he shall remove the same as the work progresses and as the filling is accomplished unless otherwise ordered by the Developer's Engineer or the Town's Representative.

The arrangement of shoring must be such as to prevent any movement of the trench banks. All timber used in shoring shall be removed on completion of the work. Timber which cannot be removed shall remain in place at the expense of the Contractor.

No extras will be allowed for excavating any hardpan, boulders, rocks, quick-sand, ice or other obstacles found in the excavation or in the line of the trench or for any pumping, or baling of

water required in the prosecution of the work. The trench must be drained or pumped in order to avoid the necessity of making joints under water. The trench must also be drained to avoid any possibility of ground water entering the pipe in the trench.

Where the watermain is to be laid close to existing pole lines, trees, buildings or structures, the Contractor must use a type of equipment which will permit excavating in confined areas. If, in the opinion of the Developer's Engineer or the Town's Representative, the type of equipment being used by the Contractor is causing damage to trees, poles, buildings, or other structures, he may direct the Contractor to cease operations until such time as suitable machinery can be placed into operation at the site of the work.

INSTALLATION OF PIPES

PVC pipe shall be laid in accordance with "Recommended Practice for the Installation of PVC Pressure Pipe", UNI-B-3-92, published by the Uni-Bell PVC Pipe Association.

All pipes and castings shall be carefully swept and cleaned, and all spigots and sockets shall be wiped so as to render them clean and dry. In any case where mud or any foreign substance shall be found on the spigot or in the sockets, the same shall be removed or washed out with water, and the pipe wiped perfectly dry and clean before the pipe is joined and no joint shall be made unless these are perfectly dry and clean. All open branches, etc., shall be plugged at night and a proper plug shall always be kept in front of the pipe so as to prevent any foreign substance from entering the pipe. The price bid for laying pipe shall include setting of all fittings and specials and the supplying of the same.

The pipe, when laid in the trenches, shall conform exactly to the required lines and grades indicated by the stakes or figures given by the Developer's Engineer or the Town's Representative, or by their directions, as the work progresses and on curves and angles, only the required bends for each curvature or angle shall be used. All valves, connections and branches shall be set or laid exactly at the required points and in an approved manner and the cost for setting same shall be included in the contractor's Tender for furnishing, delivering and setting such items.

All hydrants, caps and bends which are liable to "draw" or blow-out shall be securely stayed with restraining glands conforming to UNI-B-13-92 and manufacturer's specifications, as directed and as shown on the plan, in a satisfactory manner and without extra remuneration to the contractor. The Developer's Engineer or the Town's Representative will determine the number of joints past the fitting to be restrained. The Contractor shall be liable for any damage caused by the "drawing" or blowing off of any such hydrants, caps or bends, or for any damage caused by blow-outs, etc., of any pipe with which he is making connection.

All concrete blocking under fixtures shall be place and supported by undisturbed soil. Concrete blocking shall be placed so that the pipe and fittings will be accessible for repairs.

At times when pipe laying is not in progress, the open ends of the pipe shall be closed by means of a water-tight plug or other means approved by the Developer's Engineer or the Town's Representative.

The water-tight plug shall remain in place until the trench is pumped dry, if ground water is encountered. The Contractor shall note that he will be required to supply and install a tracer wire along the total length of the Water Distribution System. Tracer wire shall be 12 gauge TWN multi-strand copper and shall be fastened to the main at suitable intervals to prevent separation of the wire and the main. The wire should be attached to the main according to the pipe manufacturer's recommendations. Wire shall be spiced together using DryConn Waterproof Connectors, specifically DryConn King 6 Blue Connectors.

PIPE JOINTING

All watermain joints or couplings shall be connected in strict accordance with the manufacturer's specifications and instructions. Lubricants shall be NSF-61 approved and of the same type or as supplied by the pipe manufacturer and shall be used on all joints at all times. Only those methods approved by the manufacturer shall be used in the joining of any

pipe or appurtenances. Substitution of appurtenances or accessories will not be permitted. Each pipe joint shall allow for expansion and contraction and shall also have a removable gasket.

CONNECTING TO EXISTING MAINS

The Contractor shall make suitable connections to existing watermain, whether the connections are made from steel, concrete, cast-iron or asbestos cement water pipe. He shall provide any necessary adaptor fittings or reducers required to make such connections and the cost of such connections shall be included in his price for laying watermain. He shall take all necessary precautions to prevent contamination of the existing watermain. The Contractor shall allow in his Tender Price for all the necessary materials, labour and inconveniences or other contingencies in making the required connections as shown on the drawings. The Contractor shall further take note that the location of the existing mains as shown on the drawings is approximate and he is to satisfy himself as to the exact nature, extent and location of these mains prior to making the connection and he shall not hold the Developer's Engineer or the Town liable for any inaccuracy, error or omission with reference to the information shown on the drawings.

Prior to making any connection to existing watermain, the Contractor shall give at least 24 hours notice to the operating authority having jurisdiction over the watermain. All cutting in to existing watermain by the Contractor shall be to the complete satisfaction of the operating authority owning the watermain.

During the progress of the work or at any other time, the Contractor shall not shut down or charge or open any watermain or operate any gate valve for the purpose of making a connection or charging any watermain installed by the Contractor or for any other purpose. Operation of valves shall be performed solely by employees of the operating authority of the watermain.

Before capping or plugging existing watermain, the Contractor is to excavate a large hole in the area of the work in order to collect discharging water. The Contractor shall then pump the discharged water into a nearby storm drain. All new material, plugs, caps, etc. will be chlorine-washed before assembly into the final system. All work to be done carefully to avoid contamination to existing mains and fittings. It will be the responsibility of the Contractor to contact affected water customers when existing watermain are being shut down. The Contractor shall notify them at least 12 hours prior to any watermain being shut down as to the exact time and duration that the water will be out of service.

DEFLECTION

Wherever it is necessary to deflect the pipe from a straight line, either in a vertical or horizontal plane, the amount of deflection shall not exceed that as required for a satisfactory making up of the joint and as recommended by the manufacturer. If, in the opinion of the inspector, the deflection is excessive, he will order the job stopped and the Developer's Engineer or the Town's Representative will inspect the job and if necessary, will order the use of specials in order to provide the necessary deflection.

CUTTING PIPE

The cutting of all watermain pipes for the insertion of valves, fittings or other appurtenances shall be done in a neat and workmanlike manner without damage to the pipe. Pipe ends shall be cut square at right angles to the axis of the pipe, deburred and bevelled. The chamfer should be approximately 15 degrees. Using the factory pipe as a guide, the cut length should be chamfered to approximately the same angle and distance back (38mm- 1 ½"). A power sander or abrasive disk, a bevelling tool, and a rasp or file may be used to chamfer the pipe. When assembling to iron fittings only a short bevel of approximately 3mm (1/8") should be

made to the cut edge.

SUPPORTING GAS MAINS, BURIED UTILITIES SEWERS AND OTHER STRUCTURES

The Contractor is to take note of any gas mains, buried telephone cables and other structures. He shall be required to completely support and maintain these utilities and structures at his own expense, and shall be liable for all expenses incurred due to damage to these structures and shall indemnify the Corporation from all claims arising from such damage and be wholly responsible therefore. The Contractor shall receive no additional remuneration because of the fact that the watermain may run parallel to or along side of or across or over or under such buried gas mains, utilities, sewers or other structures.

See Support of Utilities Over Excavations detail.

BACKFILLING

The pipes shall be bedded throughout the full length of the watermain using clean graded sand, according to the Watermain Pipe Bedding detail. All such bedding shall be thoroughly rammed into place and tamped by hand. Materials used for bedding shall be supplied and installed by the Contractor and the cost for the bedding material shall be included in the Tender Price for supplying and laying the Watermain pipe. After the pipe has been laid and the joints inspected and approved and permission to backfill the trench has been given, the remaining portion of the trench shall be backfilled with material approved by the Developer's Engineer or the Town's Representative clear of stone, rocks, cement, asphalt and all other foreign material. Without limiting the decision of the Developer's Engineer or the town's representative at the site, the Contractor will be permitted to backfill the remainder of the trench with graded sand.

The costs incurred for carrying out all backfilling operations shall be included in the unit price in the Tender for laying watermain pipe.

The backfill material shall be compacted in place using a water jetting or flooding method to a minimum of 95% Standard Proctor Density. The Contractor shall take note that the Developer's Engineer or the Town's Representative may conduct Proctor Density tests from time to time to ascertain the degree of compaction being obtained by him. If the result of the Proctor Density test using the standard procedure indicates that the desired density is not being obtained, the Developer's Engineer or the Town's Representative may order the Contractor to make such alterations in the method of backfilling as required to produce the necessary density. These alterations may be in the form of requiring the Contractor to provide additional compacting equipment, requiring the Contractor to change the moisture content by either adding or deleting water or by requiring the contractor to place the material in a different depth of layer. The Contractor shall make every effort to achieve the proper compaction and density of the backfill material in order to reduce ultimate settlement of the backfill.

The Contractor shall be responsible for any damage to the pipes on account of his backfilling operations. No material will be backfilled directly into the trench from a height of greater than 1.20 metres. All backfilling shall be carried out with extreme care to make sure that materials are deposited over the pipe as gently as possible to avoid damage to the watermain.

Equipment used for backfilling shall meet with the approval of the Developer's Engineer or the Town's Representative.

RESTORATION

The Contractor shall restore the total construction site area as quickly as possible after the

construction work has been completed. Evidence of grass growing (not weeds) in seeded areas is a must before any holdback monies will be paid to the Contractor.

All lawn areas must have 100 mm of black organic topsoil spread over the disturbed areas, to blend in with the existing lawn contours. These areas shall be hand raked, with no debris ie; stones, rocks, branches, twigs, garbage, lumps of dirt etc. left behind. The restoration areas shall then be seeded with good quality grass seed.

All boulevard areas shall be graded to blend in with preconstruction ground contours, using 100 mm black organic topsoil. Prior to seeding, the disturbed areas shall be clean of any debris similar to that listed previously. The restoration areas shall be seeded with good quality grass seed.

The Contractor shall be responsible to water the seeded areas for a fourteen (14) day period from the date the seed is applied. The seed must be watered a minimum of every other day for that fourteen (14) day period. Rain days during that period can be counted as a watered day.

Quantities have been included in the Form of Tender for the repair and/or restoration of the road surface along the length of the project. The quantities noted are assumed or estimated quantities it does not necessarily mean that the total amount will be paid. Care must still be taken by the Contractor during the construction period to keep the damage to the road surface to a minimum.

The Contractor may be requested to return to the sight to spread and compact additional Granular "A" material to build up the road trench restoration because of settlement, more than would normally be required.

Up until the time the final payment will be made at the end of the 45 day holdback period, the Contractor will be paid for Granular "A" material, supplied and placed according to the appropriate tender item. The Contractor will also be paid for time spent per return visit according to the appropriate tender item. However, after the final payment has been made, no additional remuneration can be made for return visits to the site. The Contractor should include an anticipated cost in his tender items.

INSPECTOR'S POWERS

Inspectors are required to see that the provisions of the Specifications are faithfully adhered to, especially as regards to the quality of workmanship and materials. An inspector may stop the work entirely if there is not a sufficient quantity of suitable and approved material on the ground to carry it on properly, or for any good and sufficient cause. Any work done in the absence of an inspector may be ordered to be opened up for thorough examination and must be rebuilt or replaced as directed and at the Contractor's sole expense. No approval by any inspector shall be taken as or construed as an acceptance of defective or improper work or material, which must in every case, be removed and properly replaced whenever discovered at any stage of the work. Orders given by an inspector relating to the quality or type of material and workmanship shall be at once obeyed by the Contractor, but inspectors have not the power to set out work, or give any stakes, lines, levels or grades. Any orders or directions, other than as herein provided for given by inspectors shall not be binding upon the Commission or the Contractor.

SECTION 4 – TESTING & DISINFECTION

OVERVIEW OF TESTING PROCEDURES

Task

Responsibility

New watermain installation

Contractor (Developer's engineer and PWD to oversee work)

Tie-in to existing water system	Contractor (Developer's engineer and PWD to oversee work)
Flushing	Contractor (PWD to operate existing mainline valves)
Sterilization	Contractor (Developer's engineer and PWD to oversee work)
First samples	PWD will take samples and deliver to laboratory
Second samples	PWD will take samples and deliver to laboratory
Pressure testing	Contractor (Developer's engineer and PWD to oversee work) (after receiving approved samples)
Installation of private services (Services may be installed at time of mainline)	Contractor (Developer's engineer and PWD to oversee work) Contractor to flush all private services
Final water samples	PWD will take samples and deliver to laboratory
Main put into service	PWD will open existing valves

CLEANING WATERMAINS

Prior to the main shall being sterilized with chlorine a swab shall be passed through the newly installed pipe. This work shall be done by the Contractor at his own expense and shall be performed in the presence of the Developer's Engineer and/ or the Town's Representative in a manner approved by them. Only a new swab clean of debris and dirt shall be passed through the new system.

DISINFECTING OF WATERMAINS

Before being placed in service, the entire main shall be sterilized with chlorine. This work shall be done by the Contractor at his own expense and shall be performed in the presence of the Developer's Engineer and/ or the Town's Representative in a manner approved by them. The Contractor will furnish and install a corporation cock on the main with a sufficient length of pipe to bring the same up to the surface of the ground so it is readily accessible (chlorination copper piping). All disinfecting of watermains shall be in accordance with OPSS 701.07.23. Sufficient chlorine shall be added into the line to give a concentration of 50 mg/L minimum throughout the system. The chlorine solution shall remain in the lines for 24 hours and all valves and hydrants shall be operated during that time so that all parts of the system are sterilized. At the end of 24 hours, 25 mg/L shall remain at any point in the system. The lines shall then be flushed out until no more than 4 mg/L of chlorine remains at any point in the system.

The Contractor will supply and install hose suitable to the Developer's Engineer or the Town's Representative for flushing hydrants as part of the sterilization procedure. The Contractor will move the hose from hydrant to hydrant as required by the Developer's Engineer or the Town's Representative. When the sterilization procedure is completed to the satisfaction of the Developer's Engineer and the Town's Representative, the Contractor shall remove the chlorination copper piping from the corporation stop in the presence of the Developer's Engineer or the Town's Representative.

The Contractor shall note that the discharge of chlorinated water shall be in accordance with "Environmental Construction Guidelines for Municipal Road, Sewage and Water Projects" by Municipal Engineers Association, Appendix "B" which states as follows:

Discharge of Chlorinated Water

Chlorinated water, as used in the disinfection of watermains and reservoirs, can be very toxic to aquatic organisms and it should not be disposed of without careful thought to its effect on the receiving water or sewage treatment plant (STP).

Chlorinated water can be discharged to:

- a) Sanitary Sewers - This is a safe course to follow especially if the volume is not great and there is a considerable distance from the point of addition to the STP. However, if there is a large volume, e.g with a reservoir, it is essential to contact the municipality to ensure that the operation of the STP is not adversely affected by a hydraulic overload or a massive slug of water with a high chlorine residual. The Amherstburg STP shall be notified by the contractor 24 hours prior to discharging into the sanitary system.
- b) Receiving Waters - This can be detrimental to aquatic life and many fish kills have resulted. Water with a free chlorine residual should not be discharged to a stream or lake. If a combined chlorine residual is present, the concentration at the edge of the mixing zone (where allowed) should be below 0.002 mg/L. The de-chlorinator shall be pre approved by the Town's Representative.
- c) Storm Sewer - This should be thought of as directly connected with the receiving water and the same restrictions should apply, even though there could be considerable dilution during wet weather.
- d) Drainage Ditch - Discharge to an open ditch is a good alternative, especially if the point of addition is a considerable distance from the receiving water and the ditch is unlined and is full of weeds and other organic material. Sunlight and high temperatures would help to dissipate the chlorine quickly.

If the above conditions cannot be met, a slow discharge of the chlorinated water to a sanitary sewer or ditch can be used. This is easier and cheaper than dechlorination. If dechlorination is necessary (i.e. with direct discharge to a small stream), there are several chemicals that can be used effectively. Adequate mixing and dosage of the chemical with the chlorinated water must be ensured. The amount of dechlorination chemical required can easily be determined from the following equation.

Excess chlorine residual x Factor = Dechlorination chemical required.

This can be worked out in mg/L lbs or whatever units are appropriate.

There are five chemicals that can be used to dechlorinate the water:

- i) Hydrogen Peroxide - (Factor = 0.479) - This is probably the best chemical when discharging to an environmentally sensitive watercourse. It is cheap and an overdose will only add more oxygen to the stream.
- ii) Sulphur Dioxide - (Factor = 0.901) - This chemical is cheap but it will slightly lower the pH in the receiving water.
- iii) Sodium Thiosulphate - (Factor = 2.225) - This will cause some sulphur turbidity but an excess is harmless.
- iv) Sodium Sulphite - (Factor = 1.775) - Excess will lower the dissolved oxygen in the stream.
- v) Sodium Pyrosulphite - (Sodium Metabisulphite) - (Factor = 1.338) - Excess will lower the dissolved oxygen in the stream.

For example, a total chlorine residual of 21 mg/L measured in a disinfected watermain of 11,000 L (2400 gal.) for discharge at only 1 mg/L Cl_2 could be neutralized with hydrogen peroxide. The dosage required would be $20 \text{ mg/L} \times 0.479 = 9.6 \text{ mg/L}$ and the total amount needed would be $9.6 \times 11000 = 105.6 \text{ gm of H}_2\text{O}_2$. This would represent, in terms of 35% commercial grade hydrogen peroxide (sp. gr. 1.13 g/ml), $105.6 \times (100/35) \times (1/1.13) = 267 \text{ ml}$ of concentrate.

SAMPLING

After the watermain is disinfected the Public Works Department will take two separate groups of water samples for bacteriological testing 24 hours apart to confirm the main has been sterilized. Once the Public Works Department has confirmation of two consecutive satisfactory sample groups from the laboratory the contractor may pressure test the area affected. After hydrostatic testing and installation of all private services (if not completed at the time of mainline installation) the Public Works Department will take additional samples for final confirmation, and after approval is received the water distribution system may be placed into service.

HYDROSTATIC TESTING

After the installation is sterilized and 2 consecutive approved water samples are received, a pressure and leak test shall be made by the contractor.

The test shall be witnessed by the Developer's Engineer and/ or the Town's Representative. The test section shall be either a section between valves or the completed watermain. Test pressure shall be 1035 kPa (150 psi). The test section shall be filled slowly with water and all air shall be removed from the pipeline. A 24hr absorption period may be allowed before starting the test. The test section shall be subjected to the specified continuous test pressure for two hours.

The leakage is the amount of water added to the test section to return to the specified test pressure after the two hour test duration. The measured leakage shall be compared with the allowable leakage as calculated for the test section. The allowable leakage is 2.22 litres per millimetre of pipe diameter per kilometre of watermain per day.

APPENDIX 3

TYPICAL SITE PLAN AGREEMENT

AMENDING DEVELOPMENT AGREEMENT

Registered _____, 2007.

THIS AGREEMENT made in triplicate this 14th day of May, 2007.

BETWEEN:

[REDACTED]

hereinafter called the "OWNER"
OF THE FIRST PART

-and-

**THE CORPORATION OF THE TOWN
OF AMHERSTBURG**

hereinafter called the "CORPORATION"
OF THE SECOND PART

WHEREAS the lands affected by this Agreement are described in Schedule "A" attached hereto, and are hereinafter referred to as the "said lands";

AND WHEREAS the Owner warrants it is the registered owner of the said lands;

AND WHEREAS, in this Agreement the "Owner" includes an individual, an association, a partnership or corporation and, wherever the singular is used therein, it shall be construed as including the plural;

AND WHEREAS the Official Plan in effect in Amherstburg designated parts of the area covered by the Official Plan as a Site Plan Control area;

AND WHEREAS the Corporation passed By-law [REDACTED] on [REDACTED] for the execution of a Development Agreement for a [REDACTED] the subject property;

AND WHEREAS the Owner proposes the upgrading and renovation to the [REDACTED] on the said lands in accordance with the Site Plan attached hereto as schedule "B", and hereinafter referred to as the "Site Plan";

AND WHEREAS the Corporation as a condition of development or redevelopment of the said lands requires the Owner to enter into an Amending Development Agreement insofar as it relates to the redevelopment of the [REDACTED] on the subject property;

NOW THEREFORE THIS AGREEMENT WITNESSETH that in consideration of other goods and valuable consideration and the sum of FIVE (\$5.00) DOLLARS of lawful money of Canada, now paid by each of the parties hereto to each of the other parties hereto, (the receipt of which is hereby acknowledged), the Owner hereby covenants and agrees with the Corporation as follows:

1. The following Schedules, which are identified by the signatures of the parties to this Agreement, and which are attached hereto, are hereby made a part of this Agreement as fully and to all intents and purposes as though recited in full herein:

SCHEDULE "A" - Legal description of the said lands

SCHEDULE "B" - Site Plan

SCHEDULE "C" - Site Servicing Plan

SCHEDULE "D" - Grading Plan

SCHEDULE "E" - Landscape Plan

SCHEDULE "F" - (i) [REDACTED]

(ii) [REDACTED]

SCHEDULE "G" - (i) [REDACTED]

(ii) [REDACTED] Plan Elevations

SCHEDULE "H" - [REDACTED]

SCHEDULE "I" - Pylon Sign

2. Schedule "A" hereto describes the lands affected by this Agreement.
3. Schedule "B" hereto shows:
 - (a) The location of all buildings and structures to be erected;
 - (b) The location and provision of off-street vehicular loading and parking facilities and access driveways including driveways for emergency vehicles;
 - (c) Walkways and all other means of pedestrian access;
 - (d) The location and provision for the collection and storage of garbage and other waste materials.
4. Schedule "C" hereto shows:
 - (a) Site Servicing
5. Schedule "D" hereto shows:
 - (a) Grading Plan
6. Schedule "E" hereto shows:
 - (a) Landscape Plan and Details
7. Schedule "F" hereto shows:
 - (a) [REDACTED] Layout and Elevations
8. Schedule "G" hereto shows:
 - (a) [REDACTED] Plans and Details and Elevations
9. Schedule "H" hereto shows:
 - (a) [REDACTED]
10. Schedule "I" hereto shows:
 - (a) Pylon Sign

11. The Owner shall be responsible for consulting with and obtaining any necessary approvals from Essex Power Line Corporation, Union Gas and Bell Canada regarding any matters that relate to services provided by Essex Power Lines Corporation, Union Gas and Bell Canada.
12. The Owner shall be responsible for consulting with and obtaining any necessary approval from the Ministry of the Environment and the Essex Region Conservation Authority.
13. The Owner shall be responsible for consulting with and obtaining any necessary approvals from TSSA (Technical Safety Standard Association).
14. All of the exterior walls of the building shall be as per the elevation drawings as shown on Schedule "G" hereto.
15. All parking or loading areas and lanes and driveways shall be paved with asphalt or a concrete Portland cement or other like material capable or permitting accessibility under all climatic conditions, as shown on Schedule "B" and together with crushed stone, slag, gravel, crushed brick, tile cinders or like materials, having a combined depth of at least 15.2 cm and with provisions for drainage facilities.
16. The Owner shall maintain a minimum of parking spaces, as designated on Schedule "B".
17. All walkways on the said lands, where so designated on Schedule "B", shall be constructed of either concrete or interlocking paving stone by the Owner to the satisfaction of the Corporation.
18. If any curbs, sidewalks, boulevards or highway surfaces of the Corporation are damaged during the development by the Owner, such damage shall be repaired or replaced by the Owner.
19. Snow removal from the parking or loading areas and lanes, driveways and walkways shall be the responsibility of the Owner.
20. The Owner shall install and maintain a system for the disposal of storm and surface water as indicated on Schedules "C" and "D" so that no such water will flow along the surface from the said lands onto any adjoining lands. All storm and surface water disposal systems shall be to the satisfaction of the Corporation's Engineer and separated from the sanitary sewer.
21. Any garbage or refuse that is stored outside shall be stored in a non-combustible container and maintained so that the garbage or refuse does not blow or fall out of the container.
22. Any and all lighting shall be installed and maintained in accordance with the standards set out in the Town's Development Manual, so as to not, in the opinion of the Corporation, interfere with the use or enjoyment of adjacent properties or with the safe flow of traffic on abutting or adjacent streets.

23. The Owner shall landscape and maintain in plants and ground cover acceptable to the Corporation those lands so indicated on Schedule "E". The Owner agrees that the site will be inspected on an annual basis and any deficiencies will require immediate correction in accordance with the approved site plan.
24. All driveways for emergency vehicles shall:
 - (1) Be connected with a public thoroughfare;
 - (2) Be designed and constructed to support expected loads imposed by firefighting equipment;
 - (3) Be surfaced with concrete, asphalt or other like material capable of permitting accessibility under all climatic conditions;
 - (4) Have a clear width of 3 metres at all times;
 - (5) Be located not less than 3 metres and not more than 15.2 metres measured horizontally and at right angles from the face of the building;
 - (6) Have an overhead clearance not less than 4.5 metres;
 - (7) Have a change in gradient of not more than 1 in 12.5 over a minimum distance of 15.2 metres; and
 - (8) Have approved signs displayed to indicate the emergency route.
25. If the Ontario Building Code requires that an architect or professional engineer or both shall be responsible for the field review of any new building or extension provided for in this Agreement, the Owner shall not occupy or use or permit to be occupied or used any said new building or extension until after an architect or professional engineer has given to the Corporation a letter addressed to the Corporation and signed by certifying that all services on or in the said lands, required for this development or redevelopment, newly installed by the Owner in connection with this development or redevelopment and not contained within a building, have been installed and completed in a manner satisfactory to the architect or professional engineer.
26. The Corporation through its servants, officers and agents including its building inspector, plumbing inspector, fire chief, public works head and municipal engineer may from time to time and at any time enter on the premises of the Owner to inspect:
 - (1) The progress of development;
 - (2) The state of maintenance as provided for in this Agreement.
27. In the event of any servant, officer or agent of the Corporation determining upon inspection the development is not proceeding in strict accord with the plans and specifications filed, such servant, officer or agent shall forthwith place a notice requiring all work to be stopped upon the premises and forward a copy by registered mail to the Owner at his last address as shown by the revised assessment rolls, and the Owner shall forthwith correct the deficiency or deviation.
28. In the event of any servant, officer or agent of the Corporation upon inspection being of the opinion that the state of maintenance is not satisfactory, such servant, officer or agent shall forthwith forward notice of such opinion to the Owner by registered mail at his last address as shown from the revised assessment rolls, and the Owner shall forthwith correct the deficiency or appeal to Council of the Corporation as hereinafter provided.

29. In the event that an Owner should disagree with the opinion of the servant, officer or agent of the Corporation as to the state of maintenance, such Owner shall appear before Council of the Corporation, which after hearing the Owner, shall express its opinion as to whether the maintenance is satisfactory by resolution, which shall constitute a final determination of the matter.
30. In the event that an Owner should fail to obey a stop work order issued under Section 27 hereof, the Owner recognizes the right of the Corporation to apply to the Courts for a restraining order.
31. In the event that an Owner shall fail to correct a deviation or deficiency after notice pursuant to Section 28 or after notice of an opinion, which Council of the Corporation determines is correct under Section 29, the Council of the Corporation may by law direct or default of the matter or thing being done by the Owner, after two (2) weeks notice to it by registered mail at the last shown address of the Owner pursuant to the revised assessment rolls of passage of such by-law, that such matter or thing be done by the Corporation at the expense of the Owner, which expense may be recovered by action or like manner as municipal taxes.
32. In the event of an Owner wishing to change at any time any of the buildings, structures or facilities described in the plans annexed or referred to in Section 3 hereof, it shall make application to Council of the Corporation for approval and shall not proceed with such change until approval is given by such Council, or in default by the Ontario Municipal Board, under the procedure set out in Section 41 of the Planning Act, R.S.O. 1990 herebefore referred to.
33. This Agreement and the provisions thereof do not give to the Owner or any person acquiring any interest in the said lands any rights against the Corporation with respect to the failure of the Owner to perform or fully perform any of its obligations under this Agreement or any negligence of the Owner in its performance of the said obligations.
34. In the event that no construction on the said lands has commenced within one (1) year from the date of registration of this Agreement, the Corporation may, at its option, on one month's notice to the Owner, declare this Agreement to be subject to re-negotiation, whereupon the Owner agrees that it will not undertake any construction on the said lands until this Agreement has been re-negotiated.
35. The Owner and Corporation agree that it is the Corporation's intent to undertake a traffic study of the ~~Southwest Planning District~~ area. The Owner agrees that if traffic modifications are required in this area as a result of this development the Owner will share in a proportionate obligation of the recommended changes. The proportionate share will be determined by the traffic study.
36. All facilities and matters required by this Agreement shall be provided and maintained by the Owner at its sole risk and expense to the satisfaction of the Corporation and in accordance with the standards determined by the Corporation and in default thereof and without limiting other remedies available to the Corporation, the provisions of Section 469 of the Municipal Act shall apply.

37. A financial guarantee (certified cheque or irrevocable letter of credit – self renewing without burden of proof) for 50% of the value of on-site improvements exclusive of buildings and structures is required as part of the site plan agreement in addition to financial security in the amount of 100% for all off-site works required as part of this development. The Owner's engineer is required to provide a certified estimate of the cost of the on-site and off-site work for consideration and approval by the Town's Public Works Manager. Once the Town has inspected and approved the construction of the on-site and off-site works, the Owner will be required to provide security for a one year maintenance period in the amount of 15% of the cost of on-site and off-site improvements.
38. This Agreement shall be registered against the land to which it applies, at the expense of the Owner, and the Corporation shall be entitled, subject to the provisions of the Registry Act and the Land Titles Act, to enforce its provisions against the Owner named herein and any and all subsequent owners of the land.

IN WITNESS WHEREOF the Owner executed this Agreement.

OWNER:

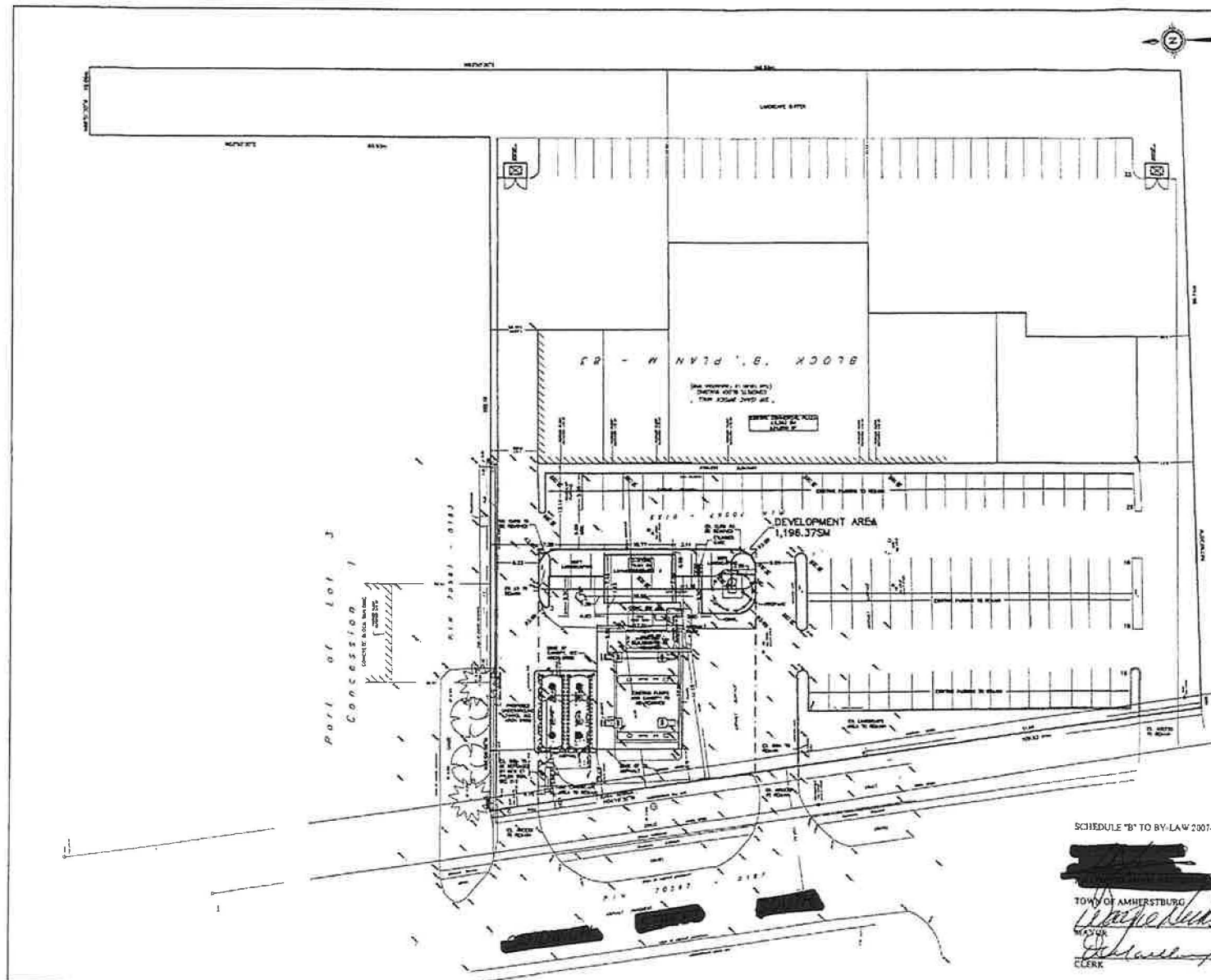
2017549 Ontario Limited
Joseph Abraham, President

THE CORPORATION OF THE
TOWN OF AMHERSTBURG

Mayor Wayne Hurst

Clerk David Mailloux

Authorized and approved by
By-law 2007-41 enacted the
14th day of May, 2007.



SITE PLAN TOWN OF AMHERSTBURG

KEY MAP, N.T.S.



DETAILS OF DEVELOPMENT

DATA	REQUIRED	PROVIDED
ZONING	CH - COMMERCIAL HIGHWAY ZONE	
EXTRAITS		
RY	15.0m	27.15m
RY	15.0m	25.82m (5m)
INT.SY	7.0m	8.05m (5m)
INT.SY	7.0m	7.22m (5m)
LOT AREA	1,181.18	
DEVELOPMENT AREA	1,196.37 sq.m.	
BUILDING AREA	2,363 sq.m.	
EXISTING PLAZA	3,353 sq.m.	
C-STORE	80 ACRES	
BUILDING COVERAGE	50.2%	
LANDSCAPE AREA	2,436.11 sq.m. (56.4%)	
IMPERVIOUS AREA	8,561.89 sq.m. (58.0%)	
PARKING REQUIRED (1 per 25 sq. m.)	2,363 sq.m./25 = 94 SPACES	
PARKING PROVIDED	112	



NOT FOR TENDER
NOT FOR CONSTRUCTION

1	DATE	BY	REVISION
2	DATE	BY	REVISION
3	DATE	BY	REVISION

APPROVALS

DESIGN	DATE	DATE	DATE
DESIGN	DATE	DATE	DATE
SCALE	DATE	DATE	DATE

SCHEDULE "B" BY BY-LAW 2007-41

TOWN OF AMHERSTBURG

CLERK

PROJECT FILE NO.
TP-05-0489c.DWG

SHEET NO.
SP 1

 CLEAN OUT
 FIVE @ BOX
 FIVE @ CHASSIS
 HYBRID
 8 BLENDED HIGH 8
 EX STORM 8.4
 NEW STORM 8.4
 EX. SHERIDAN 8.4
 NEW BUFFALO 8.4
 EX. CATCH BASIN
 EX. CATCH BASIN
 NEW CATCH BASIN
 HYD. COARSE C.B.
 NEW CATCH BASIN
 100.00
 FLOODGATE
 FLOODGATE MAJOR

CX. SANITARY SERVICE
 NEW CONTACT SERVICE
 EX. STORM SERVICE
 NEW STORM SERVICE
 CX. GAS SERVICE
 NEW GAS SERVICE
 CX. WATER SERVICE
 NEW WATER SERVICE
 CX. BELL SERVICE
 NEW BELL SERVICE
 EX. UNDERGROUND
 HYDRO SERVICE
 EX. OVERHEAD HYDRO
 SERVICE
 CX. CLEVELAND
 ELEVATOR (OPPOSED)
 EX. CLEVELAND
 TO BROADEN
 NEW CONC. CLUSE
 CHURCH CONC. CLUSE
 TO HANSON
 CHURCH CONC. CLUSE
 TO HANSON

	DECIDUOUS TREE
	CONIFEROUS TREE
	DECIDUOUS SHRUB
	CONIFEROUS SHRUB
	FERN FROND

[illegible]

PLANT MATERIAL -

[illegible]

PROVIDE TYPICAL 150MM DEPTH = 22.5 MM TO BE
RECORDED.

ALL BED TO CONFORM TO THE STANDARD MURPHY AND
GEOMETRIC SPECIFICATIONS.

NO SHALL BE 1" GRADE MURPHY SPIN, FOR
KEYPOINT BULGERS, TEN FEET AND 170
PERCENTAGE, APPROX.

ALL THE WAY TO BE RETURNED TO ORIGINAL
CONDITION WHEN CONSTRUCTION IS COMPLETE.

ANALYSIS SHOULD BE MADE FROM (DATE OF INSTALLATION)
UNTIL FILL ACCEPTANCE (DATE FROM FROM INSTALLATION)
WATER BED SUBSIDENCE TO MAXIMUM 10% UNDER
AND CONTINUALLY USED TO DEPTH OF 10MM.

PERMITS SHOULD BE MADE ONE MONTH AFTER STARTING
WATER BED FROM TYPICAL 150MM DEPTH OF 15%
OF 1 IN. OF IMPROVED/STANDARD AND WATER AS WELL
WARRANT SHOULD BE MADE AS WELL.

NO. TO BE RECORDED ON ALL BED.

TREE PROTECTION.
A SHOCK FENCE IS TO BE ERECTED AROUND ALL EXISTING TREES WITHIN THE CONSTRUCTION AREA TO 1 METRE BEYOND THE SHAP LINE.
NO HEAVY EQUIPMENT IS TO BE OPERATED WITHIN THE PROTECTED AREA OF TREES TO BE SAVED.
WHERE POSSIBLE, AN EXCAVATION SHOULD BE SITED OUT WITH THE SHAP LINE OF THE TREES TO BE SAVED.
FLORISTS WITHIN THE PROTECTED AREA IS TO BE AVOIDED.
ANY EXISTING TREES WHICH ARE DAMAGED DURING CONSTRUCTION ARE TO BE REPLACED TO AN ACCEPTABLE CONDITION OR REPLACED WITH A TREE OF THE SAME SPECIES.

PROVIDE AN AUTOMATIC IRRIGATION SYSTEM FOR 100%
COVERAGE OF ALL 2-4 IN. BEDS AND TROPHY AREAS.

The diagram shows a tree with a central trunk and several branches. The trunk is enclosed within a rectangular container that is partially buried in the ground, indicated by a cross-section of the earth. This visualizes the concept of a tree structure where a specific part (the trunk) is 'rooted' or anchored within a defined space or system, while the branches extend outwards.

A black and white photograph of a rectangular planter box with two small potted plants inside. The planter box is made of a material with a cross-hatched pattern. The plants are in small pots and have spiky, upright foliage. The planter box is sitting on a surface, and there are some small plants or weeds growing around its base.

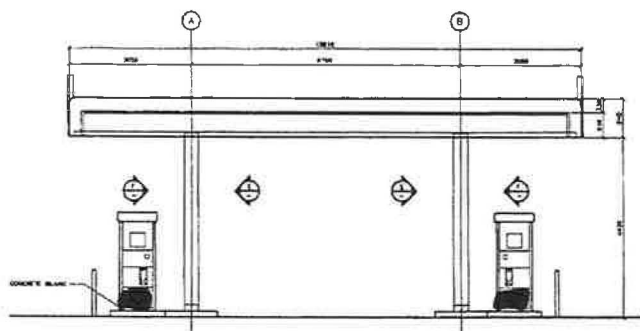
TOWN OF AMHERSTBURG
 Mayor
 Clerk

ON SUNDAY EVENING
AMHERSTBURG — ONTARIO

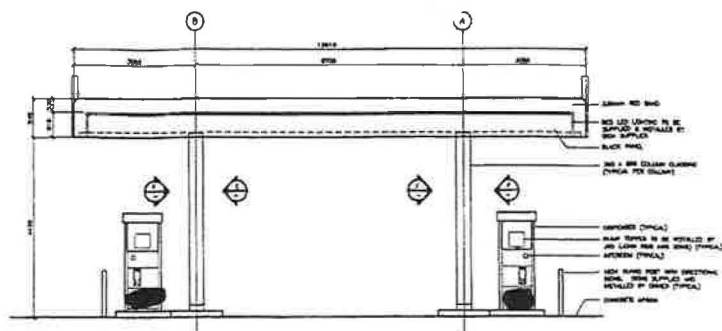
TIME	1:200	DATE	MARCH 2007
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FROM FROM: 61253824

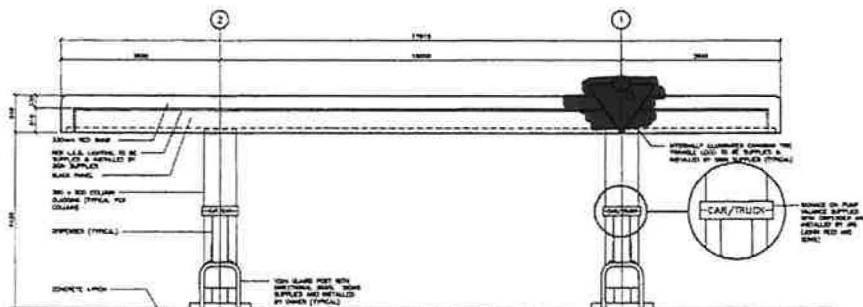
At a glance are a selection from various guides
To assist MEMBERS AND VISITORS, please contact: 0208 855 5555



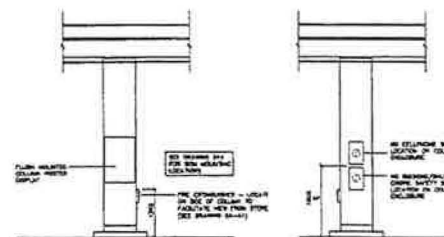
1 FRONT ELEVATION (FACING SANDWICH STREET SOUTH)
SCALE: 1/8"



2 REAR ELEVATION (FACING C-STORE)
SCALE: 1/8"

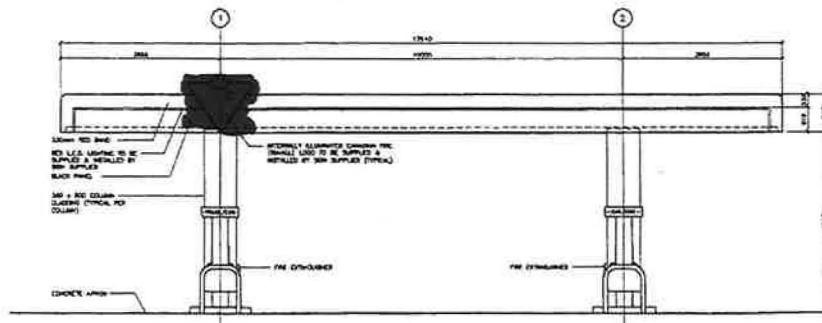


3 LEFT ELEVATION
SCALE: 1/8"



4 ELEVATION
SCALE: 1/8"

5 ELEVATION
SCALE: 1/8"



6 RIGHT ELEVATION
SCALE: 1/8"

REVISIONS	DATE	BY	APP

CANOPY SIGN AREAS	AREA	TYPE	AREA

- NOTES:
1. DIMENSIONS OF FUEL PUMPS TO BE CONFIRMED BASED ON THE SPECIFIC REQUIREMENTS.
 2. FINAL LOCATION OF FUEL, SAFETY SCHEDULE AND FURNISHING MATERIALS TO BE DETERMINED BY THE OWNER. ALL FUEL SAFETY SCHEDULES TO BE REVIEWED BY CODES.
 3. FINAL ELECTRICAL CONNECTIONS FOR SIGN ET SCOPED CONTRACTOR.

SCHEDULE 7"(i) TO BY-LAW 2007-41

TOWN OF AMHERSTBURG
Mayor
Clerk



POWER OF ATTORNEY

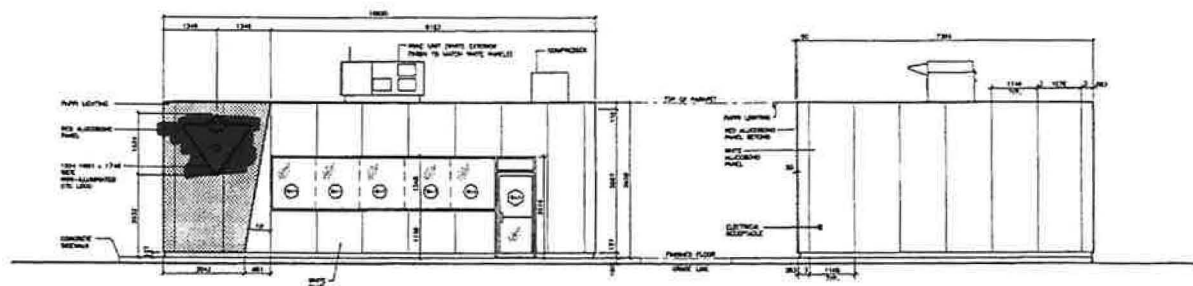
AMHERSTBURG, ONTARIO

AMHERSTBURG, ONTARIO

ELEVATIONS

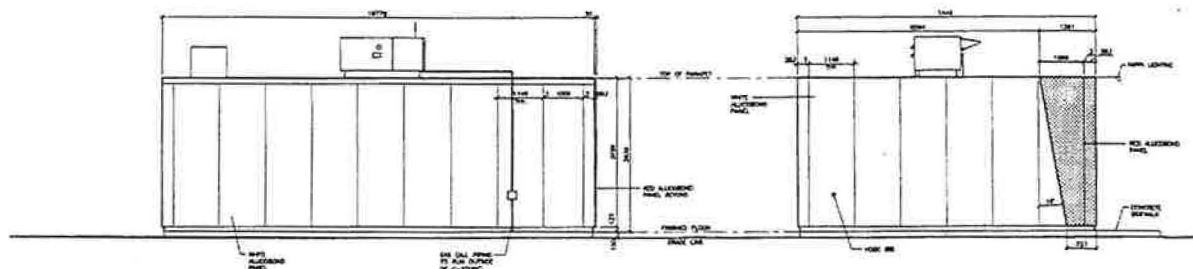
REVISION	DATE	BY	APP

CA-A2



A FRONT ELEVATION
SCALE: 1/8" = 1'-0"

B RIGHT ELEVATION
SCALE: 1/8" = 1'-0"



C REAR ELEVATION
SCALE: 1/8" = 1'-0"

D LEFT ELEVATION
SCALE: 1/8" = 1'-0"

NO.	REVISIONS	DATE	BY	APP.
1				
2				
3				
4	REVISED FOR INFORMATION	10-17-10	J.A.A.	

BUILDING SQ. FT. AREAS			
NO.	DESCRIPTION	AREA	TYPE
1	UNFINISHED FLOOR	1,000	SQ. FT.
2	FINISHED FLOOR	1,100	SQ. FT.
TOTAL SQ. FT. AREA		2,100	

- GENERAL NOTES:**
1. TO NOT SCALE DRAWING
 2. ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE NOTED
 3. SEE FOR MANUFACTURER'S DRAWINGS FOR EXACT SIZES, QUANTITIES AND DIMENSIONS OF ALL MATERIALS. DIMENSIONS TO BE SHOWN AND NOTED IN MANUFACTURER'S DRAWINGS.
 4. NOTES TO ALUMINUM PANEL MANUFACTURER'S SHOP DRAWINGS FOR PANEL CONNECTION DETAILS.
 5. SEE DRAWING FOR PANEL DETAILS.

TOWN OF AMHERSTBURG
 Mayor: [Signature]
 Clerk: [Signature]



OWNER: [Redacted]

LOCATION: [Redacted]

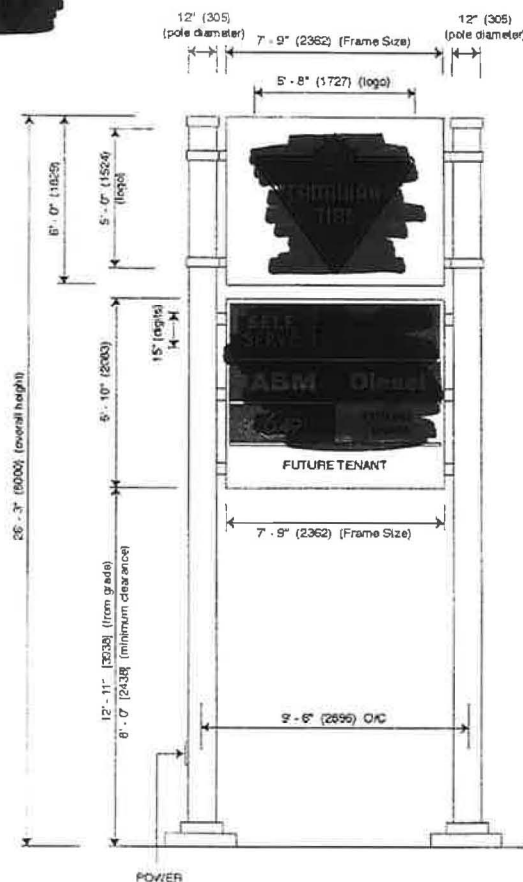
AMHERSTBURG, ONTARIO

EXTERIOR ELEVATIONS

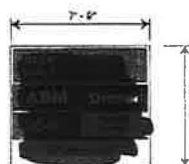
REVISION	DATE	BY	APP.
1	10-17-10	J.A.A.	
2	10-17-10	J.A.A.	
3	10-17-10	J.A.A.	
4	10-17-10	J.A.A.	

CS-A2

[illegible]



OPPOSITE SIDE
DIGITS AND DIESEL
ARE TO BE ROADSIDE



SIGN BOX = 52.06 ft² (4.82m²)

TOTAL SIGN AREA = 66.12 ft² (6.14m²)
MAXIMUM SIGN AREA = 108 ft² (10m²)
DIFFERENCE = 41.88 ft² (3.86m²)

SUPPLY AND INSTALL

ONE (1) D/F ILLUMINATED PYLON

- 1/2" ALUMINUM FACE / FILLER
- 3/16" WHITE ACRYSTEEL PUSH THROUGH LOGO WITH 2" PANNED FACE AND 1/2" FILLER
- H.O. FLUORESCENT ILLUMINATION

- 3/16" CLEAR LEXAN FACE WITH 3M GRAPHICS APPLIED TO FIRST SURFACE
- 'SELF SERVE' TO BE WHITE ON BLACK BACKGROUND
- 4 DIGIT HDD DATA CONTROLLED SYSTEM (15" TALL DIGITS) (DIGITS ARE ALWAYS ROADSIDE)
- WIRELESS REMOTE
- 4 DIGIT HDD RF CONTROLLED SYSTEM
- HDD UNIT "A" PRICE POINT, HOUSES THE RF ANTENNA. UNIT "A" IS TO BE INSTALLED FACING THE KIOSK. THE ANTENNA NEEDS TO BE IN LINE OF SIGHT WITH THE CONTROLLER

- 3/16" WHITE SG CW 3M GRAPHICS APPLIED TO FIRST SURFACE
- 'ABM' TO BE WHITE W/ BLACK KEYLINE ON RED 3M VINYL #3630-33 BACKGROUND

- 3/16" WHITE SG CW 3M GRAPHICS APPLIED TO FIRST SURFACE
- 'DIESEL' TO BE WHITE ON BLACK 3M VINYL # 3630-22 BACKGROUND

- 3/16" WHITE SG CW 3M GRAPHICS APPLIED TO FIRST SURFACE
- 'S49' AND 'LOTTO' COPIES TO BE WHITE
- SHADOW ON NUMBERS AND OUTLINE TO BE SILVER GREY 3M VINYL # 3630-51 (TBC)
- DOT TO BE RED 3M VINYL #3630-33
- BACKGROUND TO BE SULTAN BLUE 3M VINYL #3630-157

- 3/16" WHITE SG CW 3M GRAPHICS
- EXACT TENANT TO BE DETERMINED

- 1 1/2" F-38 FRAME
- ALUMINUM FILLER
- H.O. FLUORESCENT ILLUMINATION
- TWO (2) 12" DIA POLES
- ALL EXPOSED METAL TO BE PAINTED CTC WHITE 1007A 4-2-1-1

***SITE CHECK REQUIRED

	PMS 485C		3M #3630-51 Silver Grey (TBC)
	3M #3630-33 Red		White
	PMS 288C		
	3M #3630-157 Sultan Blue		

Client
Location
Project No.

Sign Type
D/F Illuminated Pylon Sign

Scale Date
1/4" = 1'-0" 12.13.2008

Drawn Approved
K.B. J.

Drawing No. Revision
PP 04185-A 0

No. Description Revision Dates
0 - 00.00.2008

Approved:

Approved by:

Date:

Notes

1.000000

TOWN OF AMHERSTBURG

Mayor

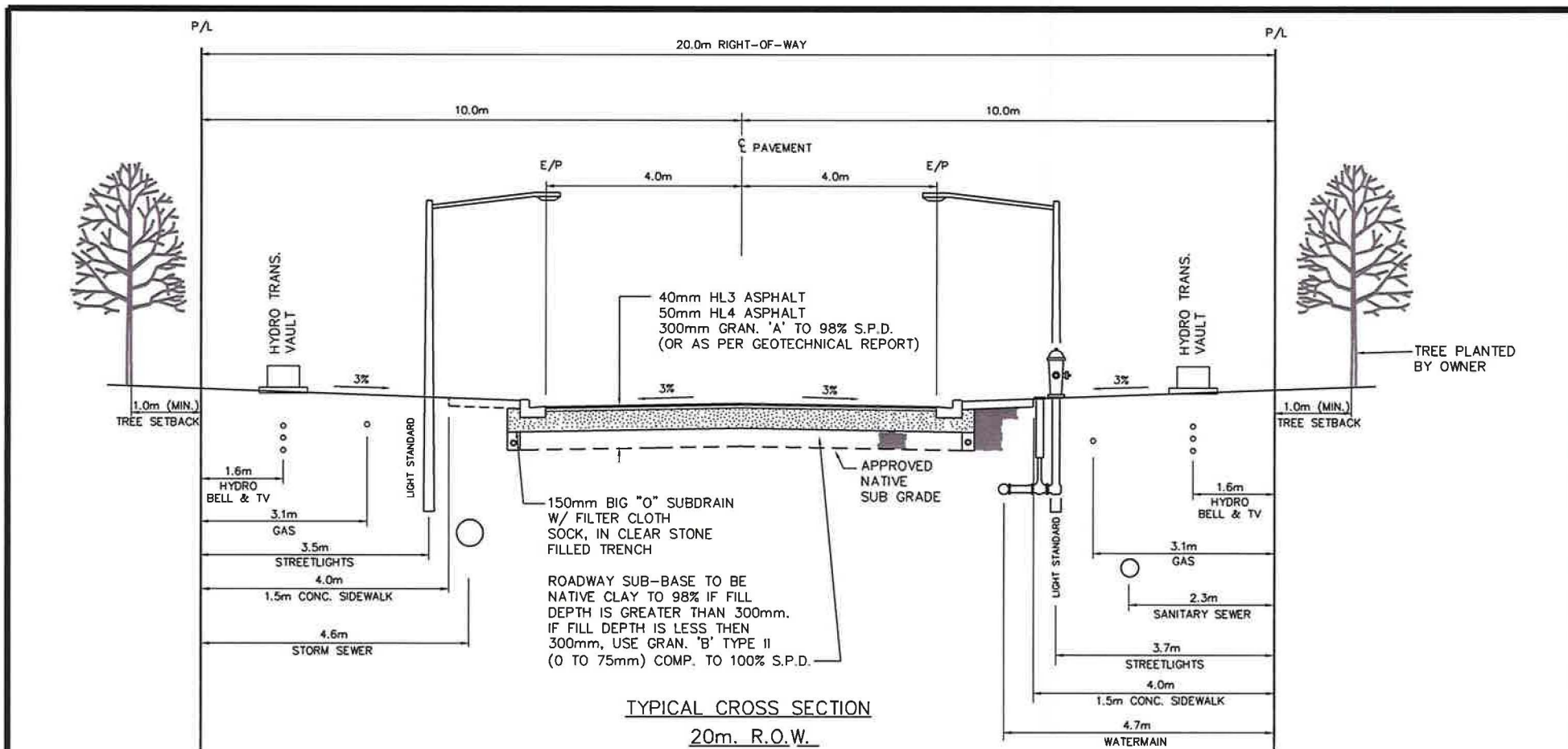
Manager

Clerk

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APPENDIX 4

TOWN STANDARD DRAWINGS AND FORMS



SCALE: NTS

NOTES:

1. SIDEWALK WHEELCHAIR RAMPS AND ONE SIDEWALK PANEL (IN EACH DIRECTION WHERE FUTURE SIDEWALKS WILL BE EXTENDED) WILL BE CONSTRUCTED PRIOR TO THE MAINTENANCE PERIOD COMMENCING.
2. REMAINING SIDEWALKS WILL BE COMPLETED ONE (1) YEAR AFTER THE WHEELCHAIR RAMPS HAVE BEEN CONSTRUCTED (EXCLUSIVE OF MAINTENANCE PERIOD).
3. APPLICANTS (OR APPLICANT'S HOUSE BUILDER) WILL BE RESPONSIBLE TO UPGRADE EXISTING SIDEWALK FROM 125mm THICKNESS TO 150mm THICKNESS AT TIME OF DRIVEWAY CONSTRUCTION AS WELL AS REPLACE ANY DAMAGED SIDEWALK PANELS.
4. SIDEWALKS WILL EXTEND STRAIGHT THROUGH AN ASPHALT, PAVING STONE OR COLOURED CONCRETE DRIVEWAYS (EXISTING OR NEW). FOR NON-COLOURED CONCRETE DRIVEWAYS, THE APPLICANT (OR APPLICANT'S HOUSE BUILDER) WILL DEFINE SIDEWALK ACROSS THE DRIVEWAY USING EXPANSION JOINT, DUMMY JOINT OR SAWCUT.
5. SURFACE COURSE ASPHALT WILL BE PLACED WITHIN ONE YEAR OF INITIAL ACCEPTANCE OF UNDERGROUND WORKS, BASE ASPHALT AND CURB AND GUTTER AFTER THE START OF THE MAINTENANCE OR AS APPROVED BY THE MANAGER OF PUBLIC WORKS.



TOWN OF AMHERSTBURG

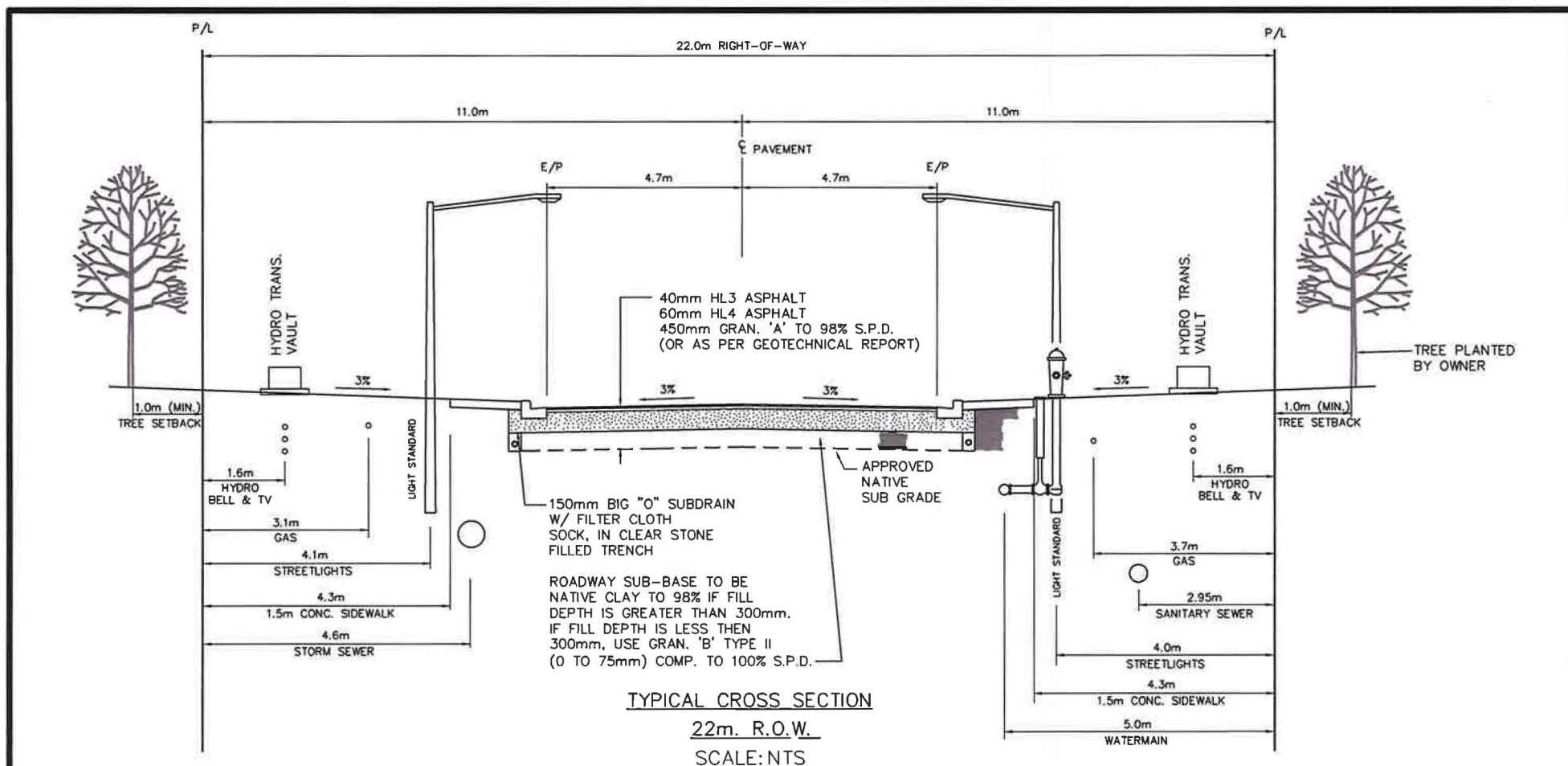
**TYPICAL CROSS-SECTION
FOR LOCAL ROADS
20m RIGHT-OF-WAY**

Date 08 25 2004

Drawing No.

R1

Last Revision 05 12 2009



NOTES:

1. SIDEWALK WHEELCHAIR RAMPS AND ONE SIDEWALK PANEL (IN EACH DIRECTION WHERE FUTURE SIDEWALKS WILL BE EXTENDED) WILL BE CONSTRUCTED PRIOR TO THE MAINTENANCE PERIOD COMMENCING.
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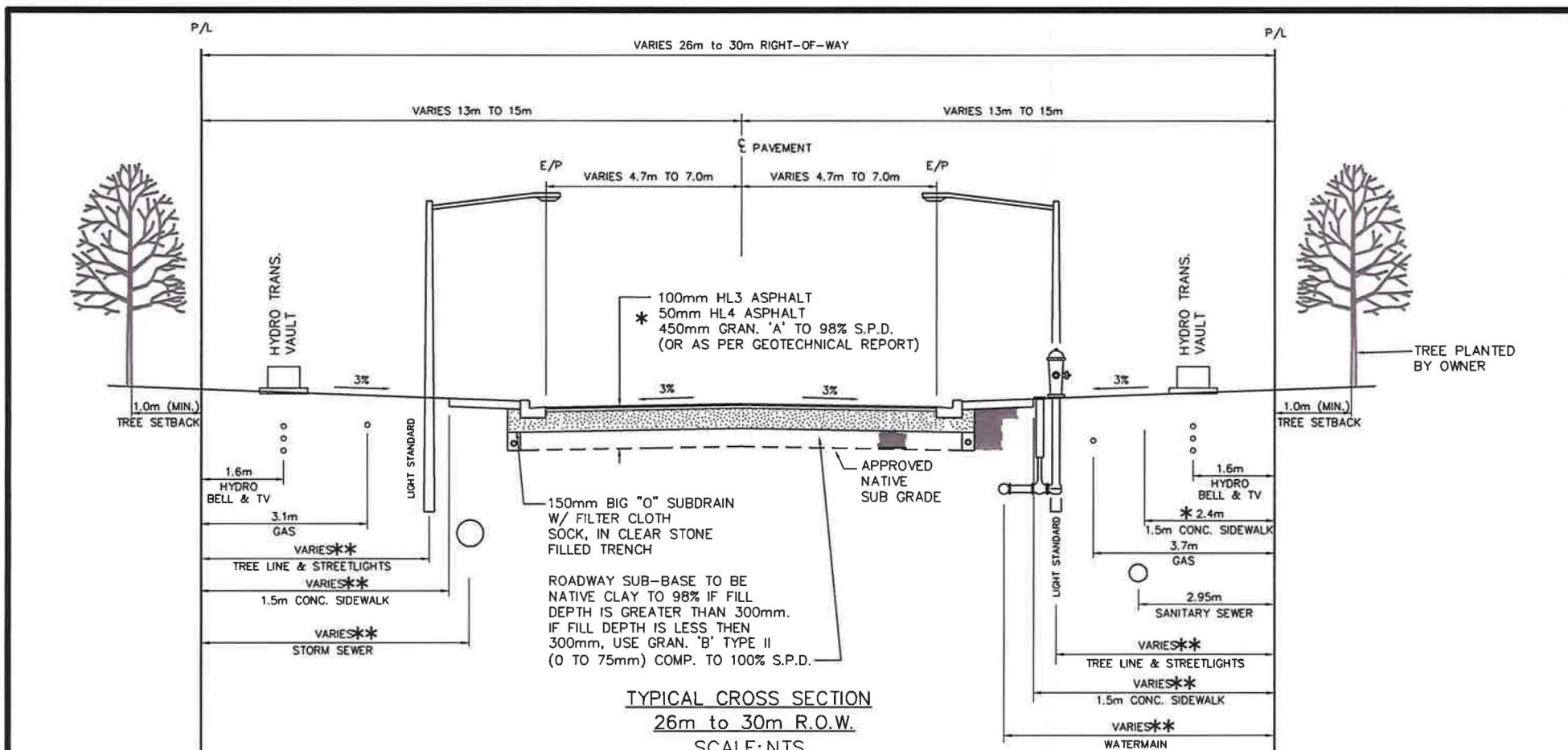
TOWN OF AMHERSTBURG

TYPICAL CROSS-SECTION FOR COLLECTOR ROAD 22m RIGHT-OF-WAY

Date 08 25 2004

Drawing No. R2

Last Revision 05 12 2009



NOTES:

**** SERVICE CORRIDOR OFFSETS TO BE CONFIRMED WITH MANAGER OF PUBLIC SERVICES**

1. SIDEWALK WHEELCHAIR RAMPS AND ONE SIDEWALK PANEL (IN EACH DIRECTION WHERE FUTURE SIDEWALKS WILL BE EXTENDED) WILL BE CONSTRUCTED PRIOR TO THE MAINTENANCE PERIOD COMMENCING.
2. REMAINING SIDEWALKS WILL BE COMPLETED ONE (1) YEAR AFTER THE WHEELCHAIR RAMPS HAVE BEEN CONSTRUCTED (EXCLUSIVE OF MAINTENANCE PERIOD).
3. APPLICANTS (OR APPLICANT'S HOUSE BUILDER) WILL BE RESPONSIBLE TO UPGRADE EXISTING SIDEWALK FROM 125mm THICKNESS TO 150mm THICKNESS AT TIME OF DRIVEWAY CONSTRUCTION AS WELL AS REPLACE ANY DAMAGED SIDEWALK PANELS.
4. SIDEWALKS WILL EXTEND STRAIGHT THROUGH AN ASPHALT, PAVING STONE OR COLOURED CONCRETE DRIVEWAYS (EXISTING OR NEW). FOR NON-COLOURED CONCRETE DRIVEWAYS, THE APPLICANT (OR APPLICANT'S HOUSE BUILDER) WILL DEFINE SIDEWALK ACROSS THE DRIVEWAY USING EXPANSION JOINT, DUMMY JOINT OR SAWCUT.
5. SURFACE COURSE ASPHALT WILL BE PLACED WITHIN ONE YEAR OF INITIAL ACCEPTANCE OF UNDERGROUND WORKS, BASE ASPHALT AND CURB AND GUTTER AFTER THE START OF THE MAINTENANCE OR AS APPROVED BY THE MANAGER OF PUBLIC WORKS.



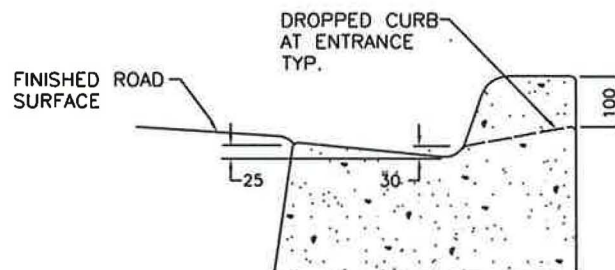
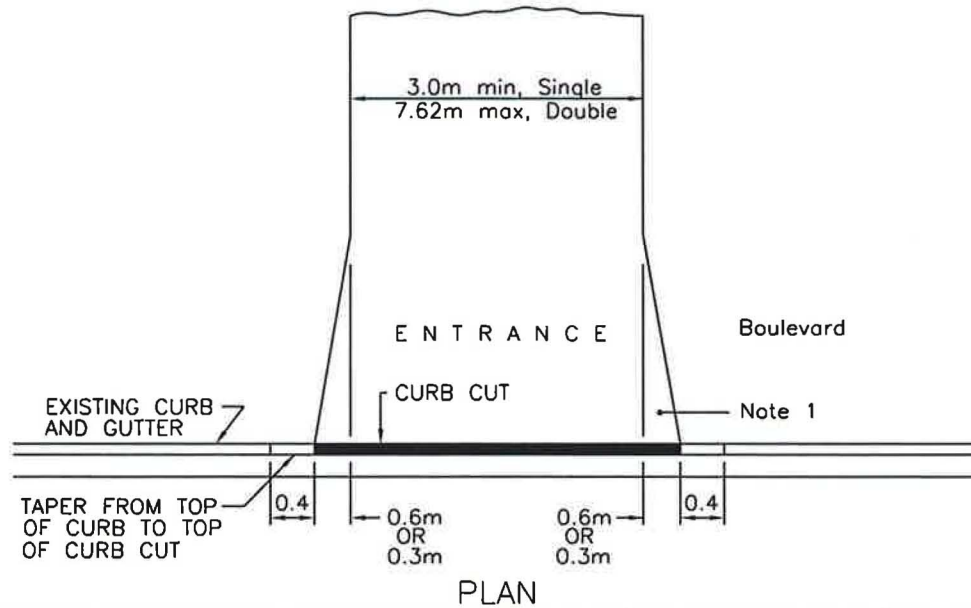
TOWN OF AMHERSTBURG

**TYPICAL CROSS-SECTION
FOR ARTERIAL ROAD
26m - 30m RIGHT-OF-WAY**

Date 08 25 2004

Drawing No. R3

Last Revision 05 12 2009



NOTES

1. DRIVEWAY WIDTHS BETWEEN 3.0 METRES AND 6.0 METRES TO HAVE A 0.60 METRE WIDE FLARE, DRIVEWAY WIDTHS OVER 6.0 METRES TO HAVE 0.3 METRE WIDE FLARE.
2. DRIVEWAYS LOCATED NEAR STREET INTERSECTIONS MUST HAVE 9.0m METRE CLEAR SITE DISTANCE FROM INTERSECTION PROPERTY CORNER TO NEAR EDGE OF DRIVEWAY FLARE



TOWN OF AMHERSTBURG

**DRIVEWAY CURB CUT FOR
CONCRETE BARRIER CURB**

Date

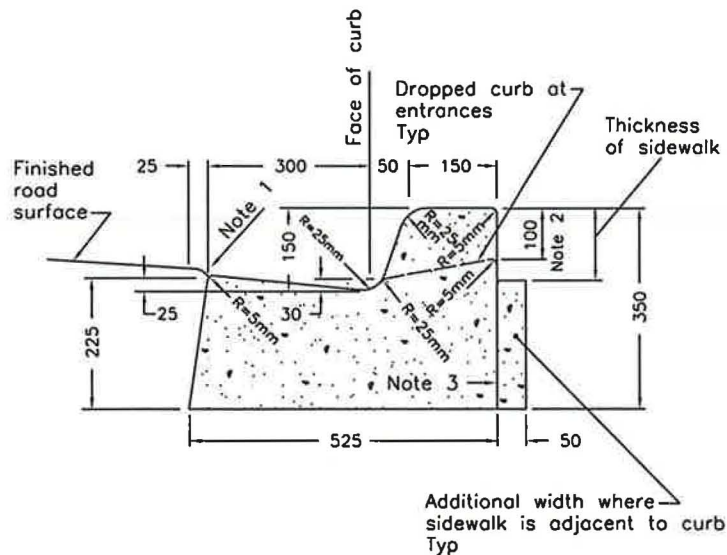
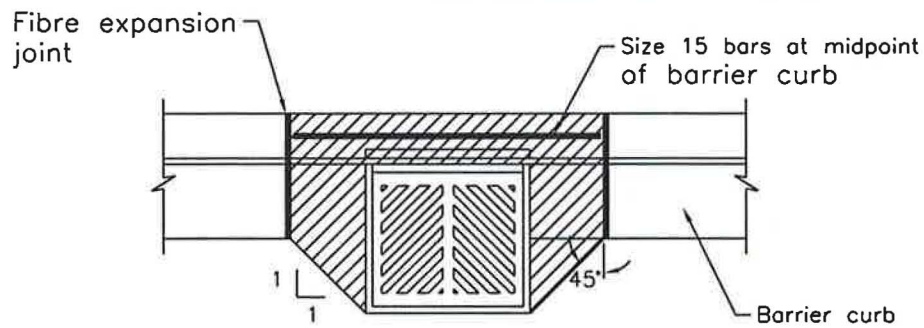
08 25 2004

Drawing No.

R4

Last Revision

08 25 2004



LEGEND:

S – Rate of pavement superelevation in percent, %.

NOTES:

- 1 Flexible pavement shall be 5mm above the adjacent edge of gutter.
- 2 Where sidewalk is continuously adjacent, reduce the dropped curb at entrances to 75mm.
- 3 For slipforming procedure, a 5% batter is acceptable.
- A Treatment at entrances shall conform with OPSD-351.01.
- B Outlet treatment shall conform with OPSD-610 Series.
- C The length of transition from one curb type to another shall be 3.0m, except in conjunction with guide rail, it shall conform to OPSD-900 Series.
- D All dimensions are in millimetres unless otherwise shown.



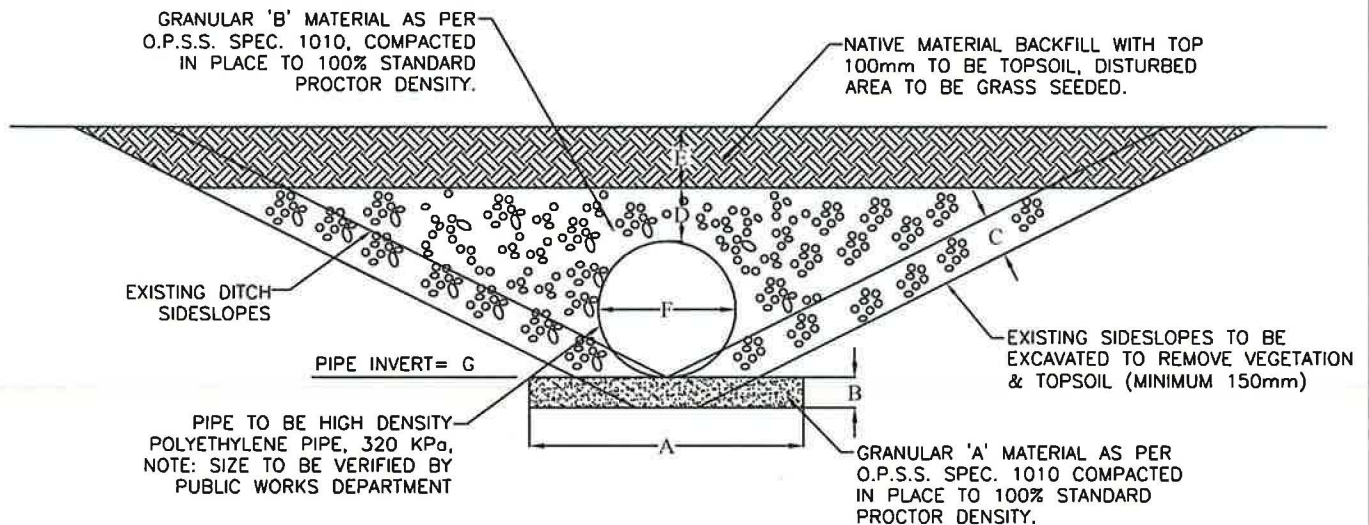
TOWN OF AMHERSTBURG

**CONCRETE BARRIER CURB
WITH STANDARD GUTTER
FOR FLEXIBLE PAVEMENT**

Date 08 25 2004

Drawing No. **R5**

Last Revision 08 25 2004



DIMENSIONS

A= DIAMETER OF PIPE + 300mm

B= 150mm

C= 150mm (MINIMUM)

D= 150mm (MINIMUM) (FOR DRIVEWAYS SEE BELOW)

E= VARIES + 100mm TO BRING GRADE TO FINISHED ELEVATION
FOR DRIVEWAYS (SEE BELOW)

F= DIAMETER OF PIPE TO BE VERIFIED BY PUBLIC WORKS DEPARTMENT

G= GENERALLY BOTTOM OF EXISTING DITCH, MUST BE VERIFIED
BY PUBLIC WORKS DEPARTMENT.

NOTE: FOR DRIVEWAY ENCLOSURES E MUST BE 300mm OF GRANULAR 'A' MATERIAL WITH D BEING GRANULAR 'B' MATERIAL BOTH COMPACTED TO 100% STANDARD PROCTOR DENSITY.



TOWN OF AMHERSTBURG

**TYPICAL CROSS-SECTION
FOR DITCH ENCLOSURES**

Date

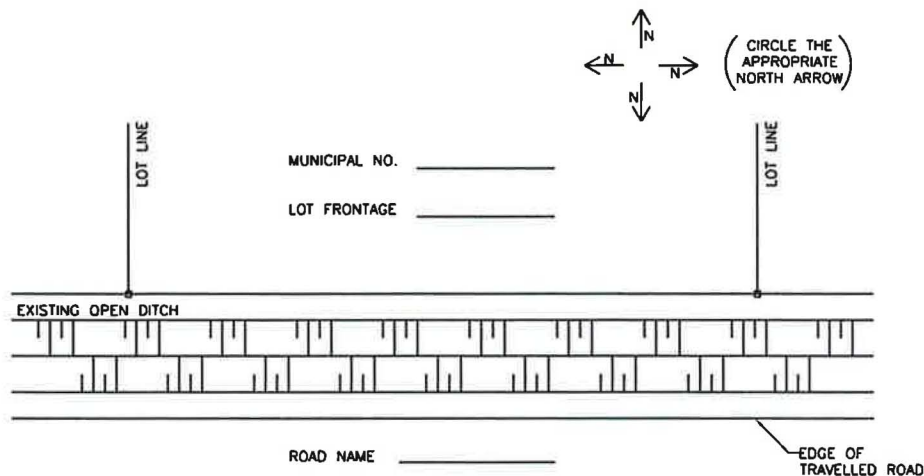
08 25 2004

Drawing No.

R6

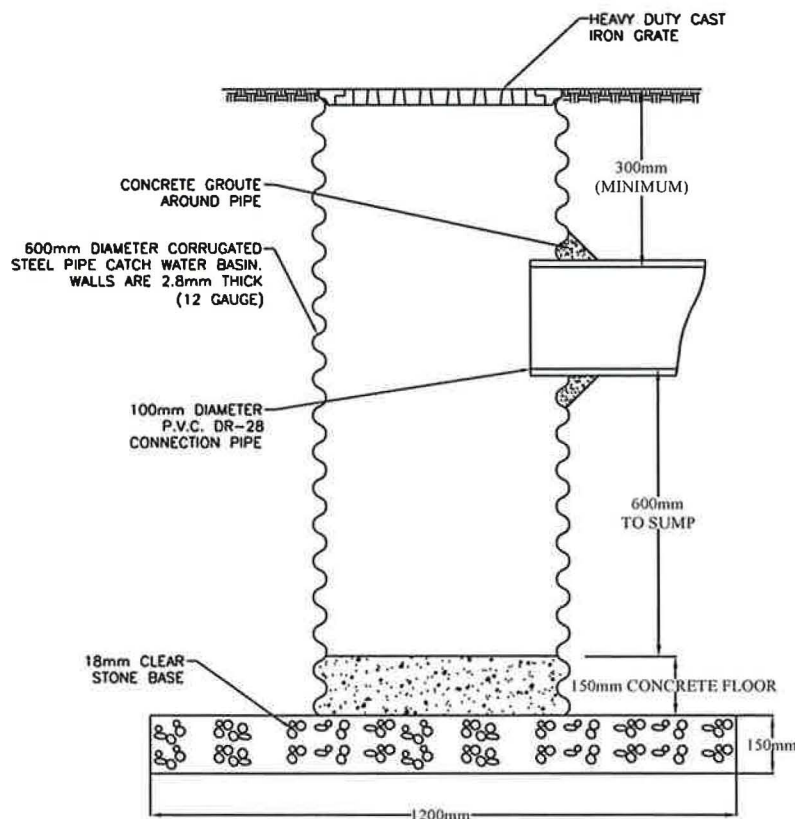
Last Revision

08 25 2004



NOTE: (1) OWNER MUST SHOW THE LOCATION OF THE PROPOSED DITCH ENCLOSURE ON THE ABOVE PLAN, WITH REFERENCE TO SIDE LOT LINES. ANY AND ALL WORK, INCLUDING HEADWALLS MUST BE CARRIED OUT WITHIN THE LOT FRONTAGE OF THE SUBJECT PROPERTY. THE WORKS SHALL NOT EXTEND IN FRONT OF THE NEIGHBORING PROPERTIES.

NOTE: (2) IF THE TOTAL LENGTH OF THE FRONTAGE IS BEING ENCLOSED THE OWNER SHALL ALSO INSTALL A CATCH WATER BASIN ALONG THE LOT FRONTAGE, WITH THE FINISHED GROUND ELEVATIONS SET SO THAT RAIN WATER WILL RUN OVERLAND TO THE CATCH WATER BASIN, THIS MUST BE SHOWN ON THE ABOVE PLAN.



TOWN OF AMHERSTBURG

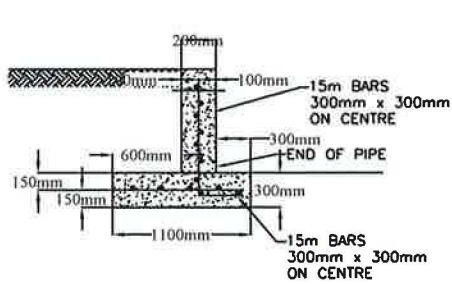
**DITCH ENCLOSURE SITE PLAN
AND CATCH WATER BASIN**

Date 08 25 2004

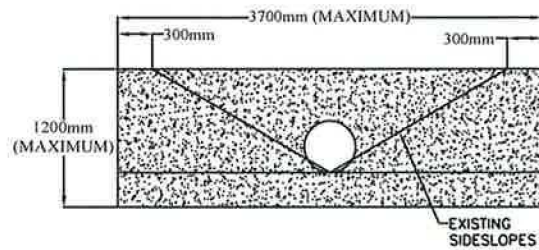
Drawing No.

R7

Last Revision 08 25 2004

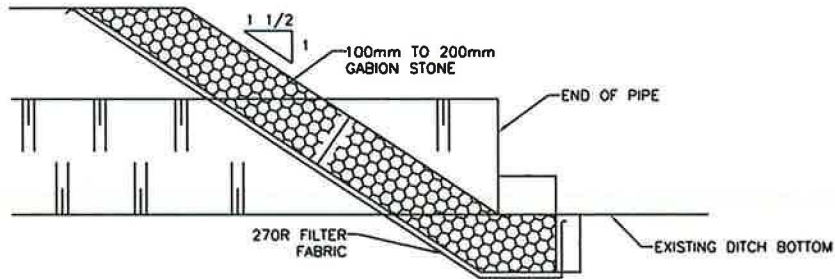


PROFILE SECTION

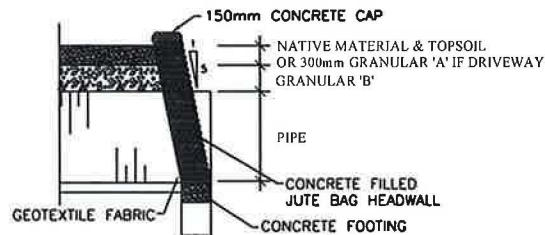


END SECTION

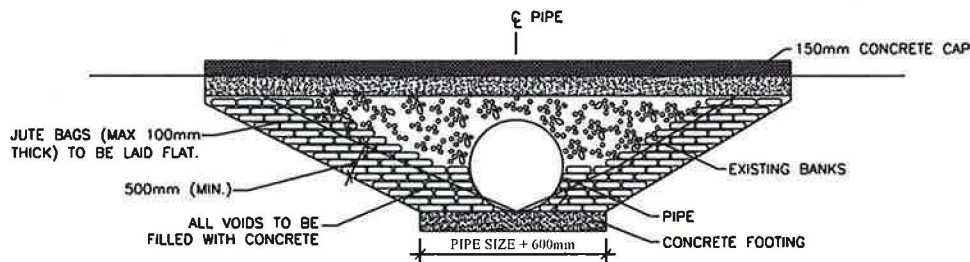
POURED CONCRETE HEADWALL



SLOPED GABION STONE HEADWALL



CROSS SECTION



END SECTION

CONCRETE FILL JUTE BAG HEADWALL



TOWN OF AMHERSTBURG

DITCH ENCLOSURE HEADWALLS

Date

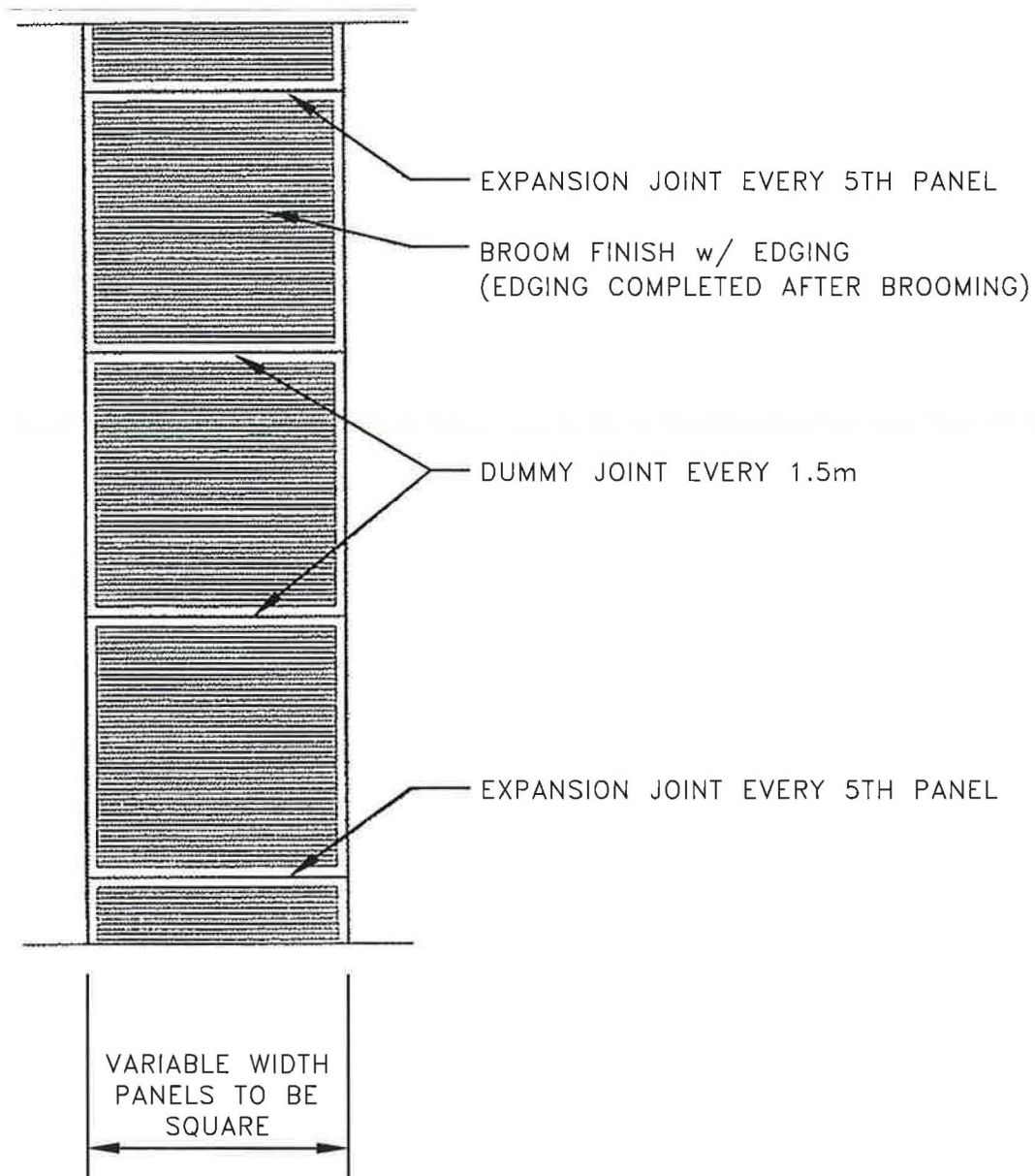
08 25 2004

Drawing No.

R8

Last Revision

08 25 2004



TOWN OF AMHERSTBURG

SIDEWALK JOINTING / FINISHING DETAIL

Date

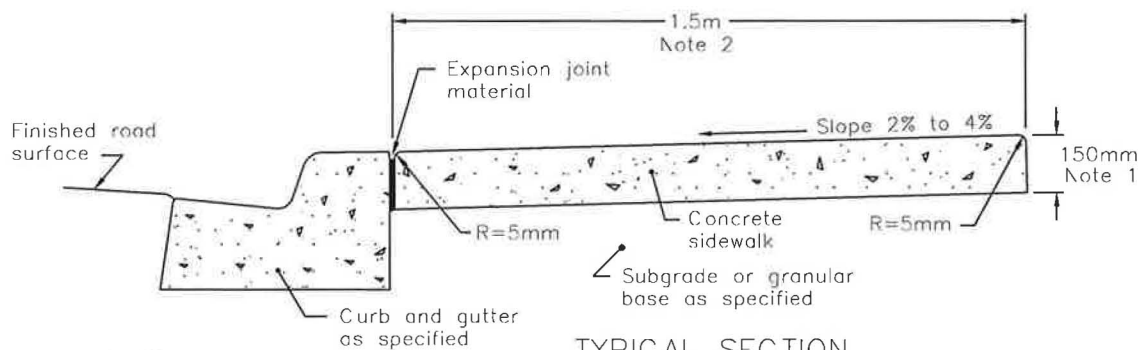
12 01 2008

Drawing No.

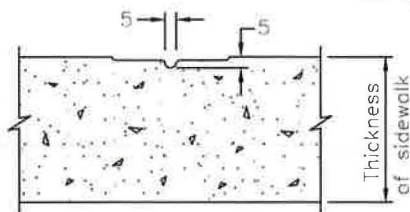
R9

Last Revision

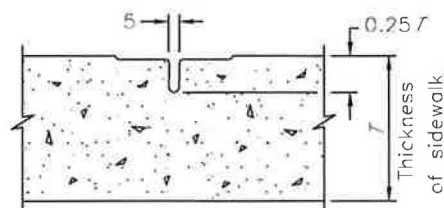
05 12 2009



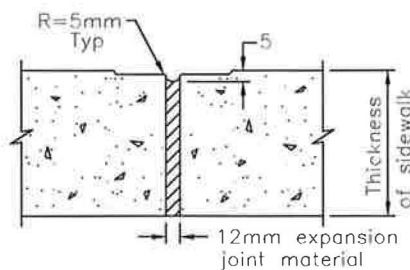
TYPICAL SECTION



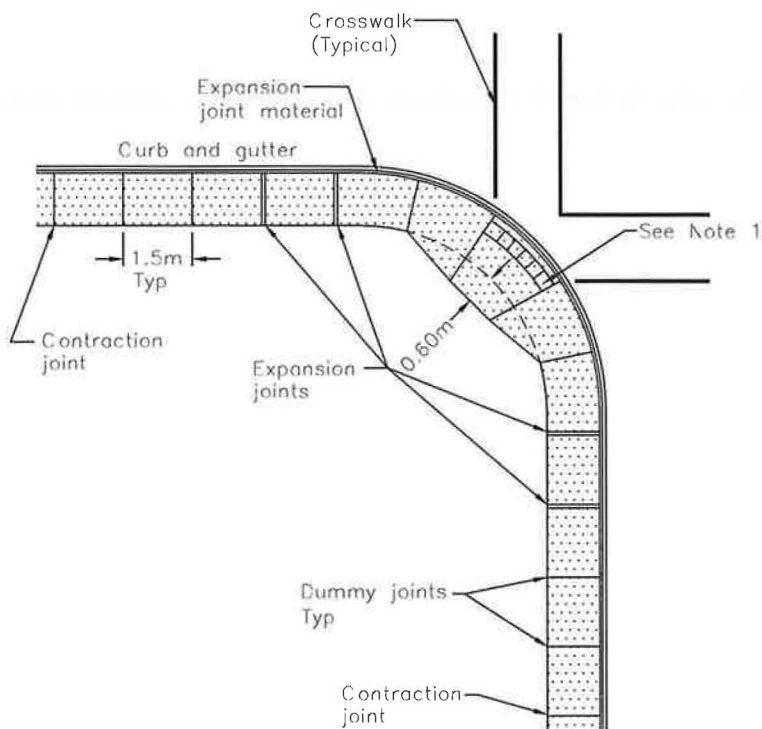
DUMMY JOINT



CONTRACTION JOINT



EXPANSION JOINT



JOINT LAYOUT

NOTES:

1. Patterned concrete 300mm wide across entire panel at crosswalk.

A All dimensions are in millimetres or metres unless otherwise shown.



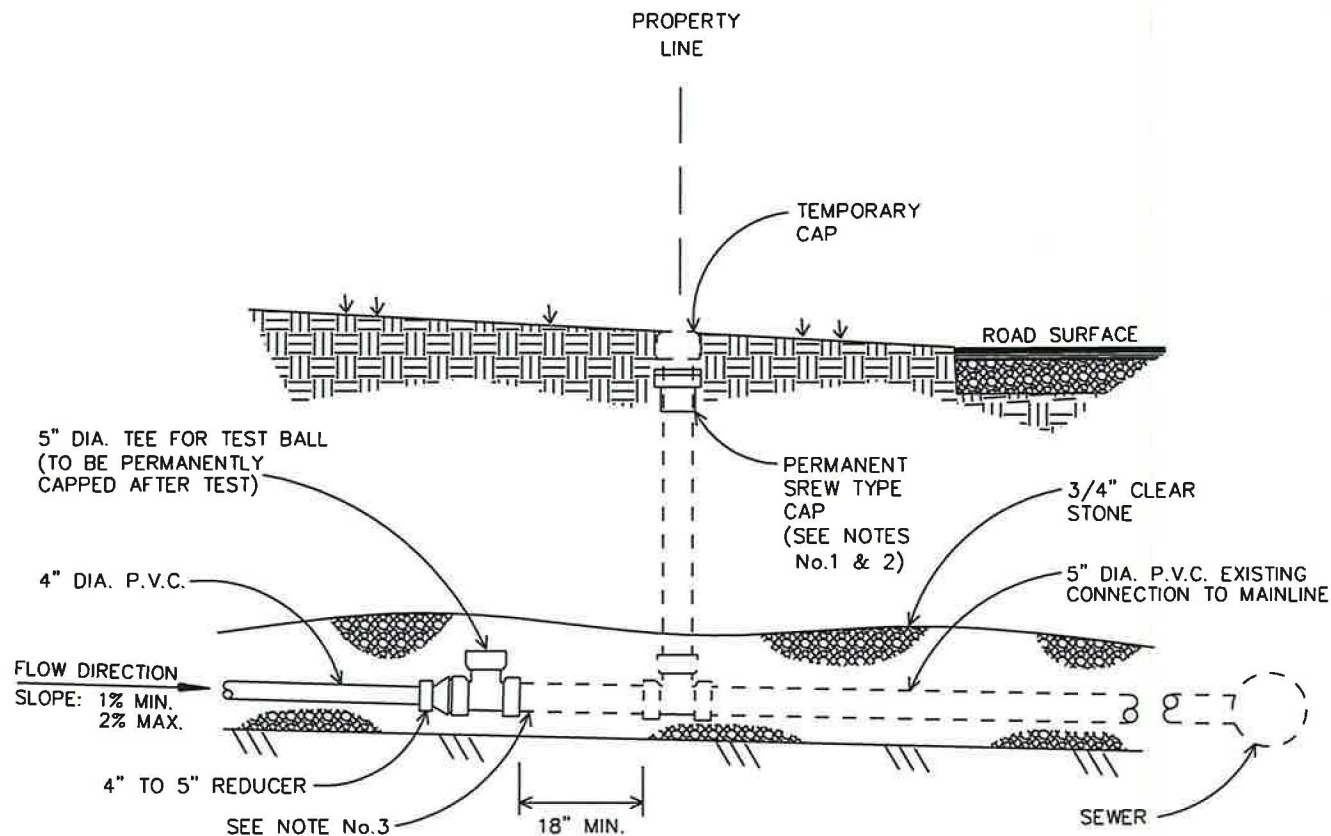
TOWN OF AMHERSTBURG

**CONCRETE SIDEWALK
WHEELCHAIR RAMP**

Date 12 01 2008

Drawing No. **R10**

Last Revision 05 12 2009



NOTES:

1. A P.V.C. FEMALE ADAPTOR w/
THREADED COVER PLUG TO BE
INSTALLED IN LANDSCAPED AREAS,
APPROX. 4-6" BELOW GRADE.
MANUFACTURED BY MULTI FITTINGS
OR APPROVED EQUAL.
2. A CAST IRON SQUARE FRAME AND
BOLTED COVER TO BE INSTALLED IN
GRAVEL DRIVEWAYS, APPROX. 4-6"
BELOW GRADE. CLEAN-OUT COVERS
LOCATED IN EXISTING OR FUTURE
PAVED DRIVEWAYS MUST BE INSTALLED
TO FINISH GRADE. MANUFACTURED BY
BIBI OR APPROVED EQUAL.
3. TEMPORARY CAP FOUND ON STUB END
OF P.D.C. AT PROPERTY LINE TO BE
REMOVED ONLY IN PRESENCE OF TOWN
INSPECTOR.
4. DASHED LINES DENOTES EXISTING
PIPING.
5. SOLID LINES DENOTES PROPOSED
PIPING.

CLEAN-OUT DETAIL
N.T.S.



TOWN OF AMHERSTBURG

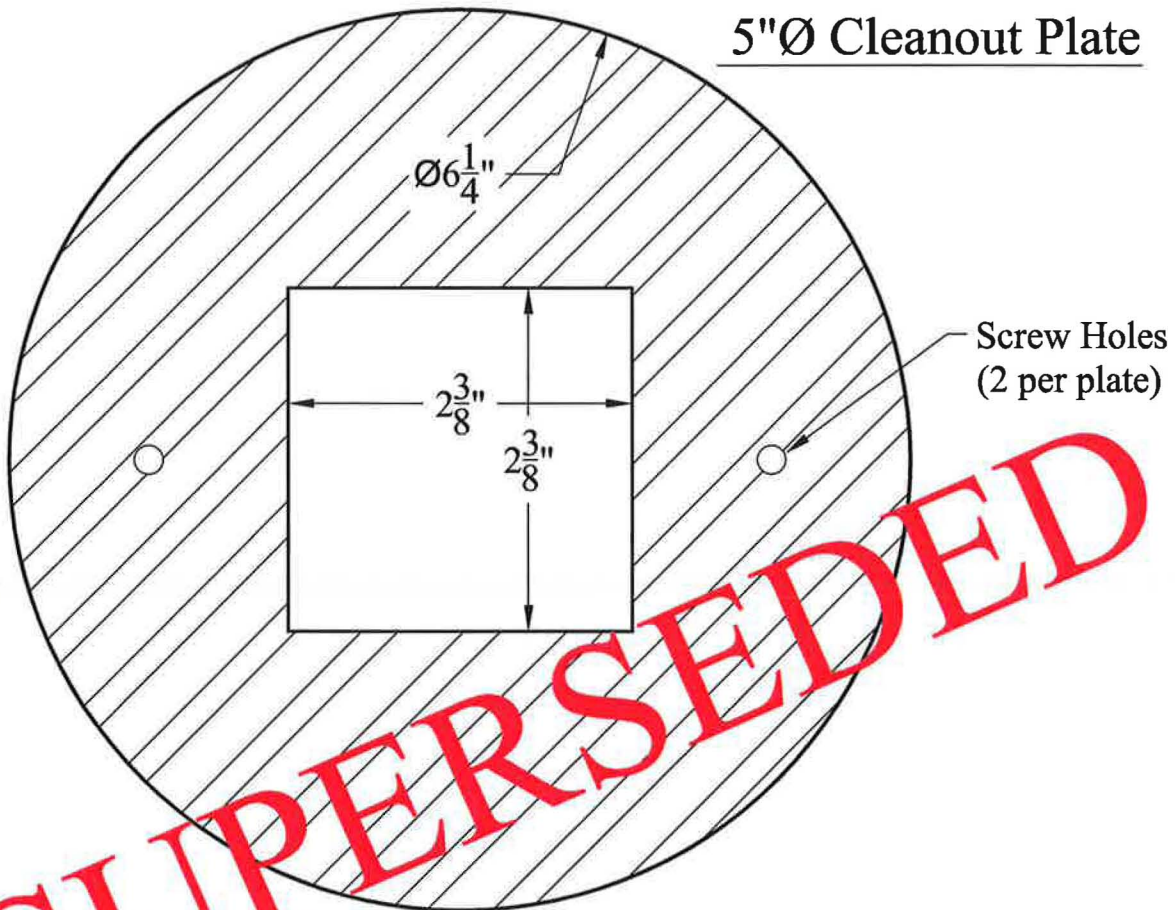
CLEAN-OUT DETAIL

Date 08 25 2004

Drawing No. **S1**

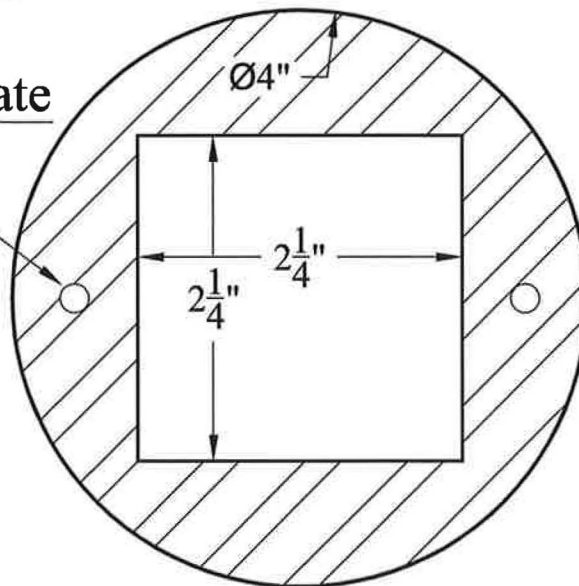
Last Revision 08 25 2004

5"Ø Cleanout Plate



4"Ø Cleanout Plate

Screw Holes
(2 per plate)



Note:
Steel thickness to
be minimum 1/4"



TOWN OF AMHERSTBURG

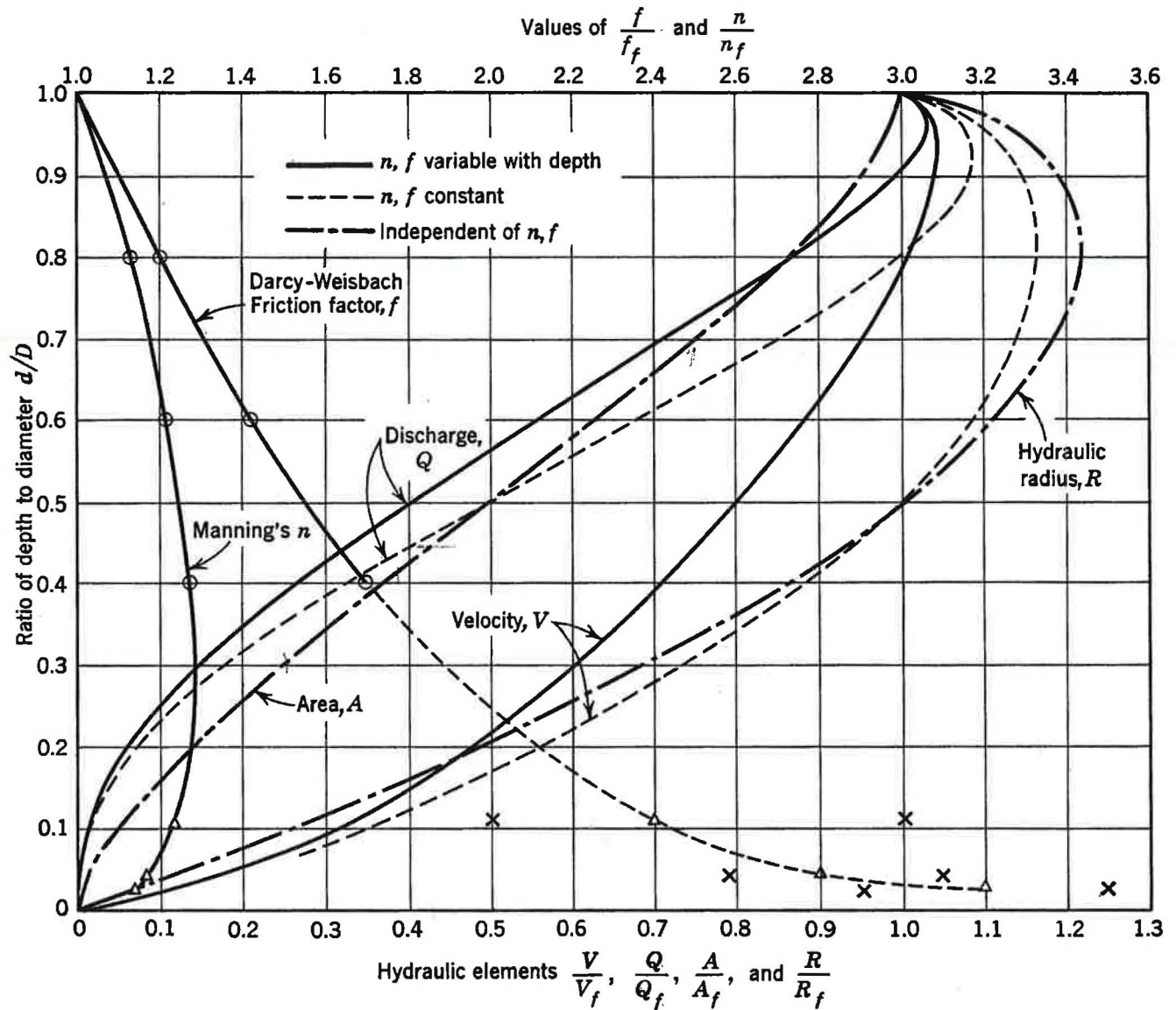
SEWER CLEAN-OUT CAP PLATES

Date 08 25 2004

Drawing No. **S2**

Last Revision 05 12 2009

HYDRAULICS OF SEWERS



Hydraulic-elements graph for circular sewers.



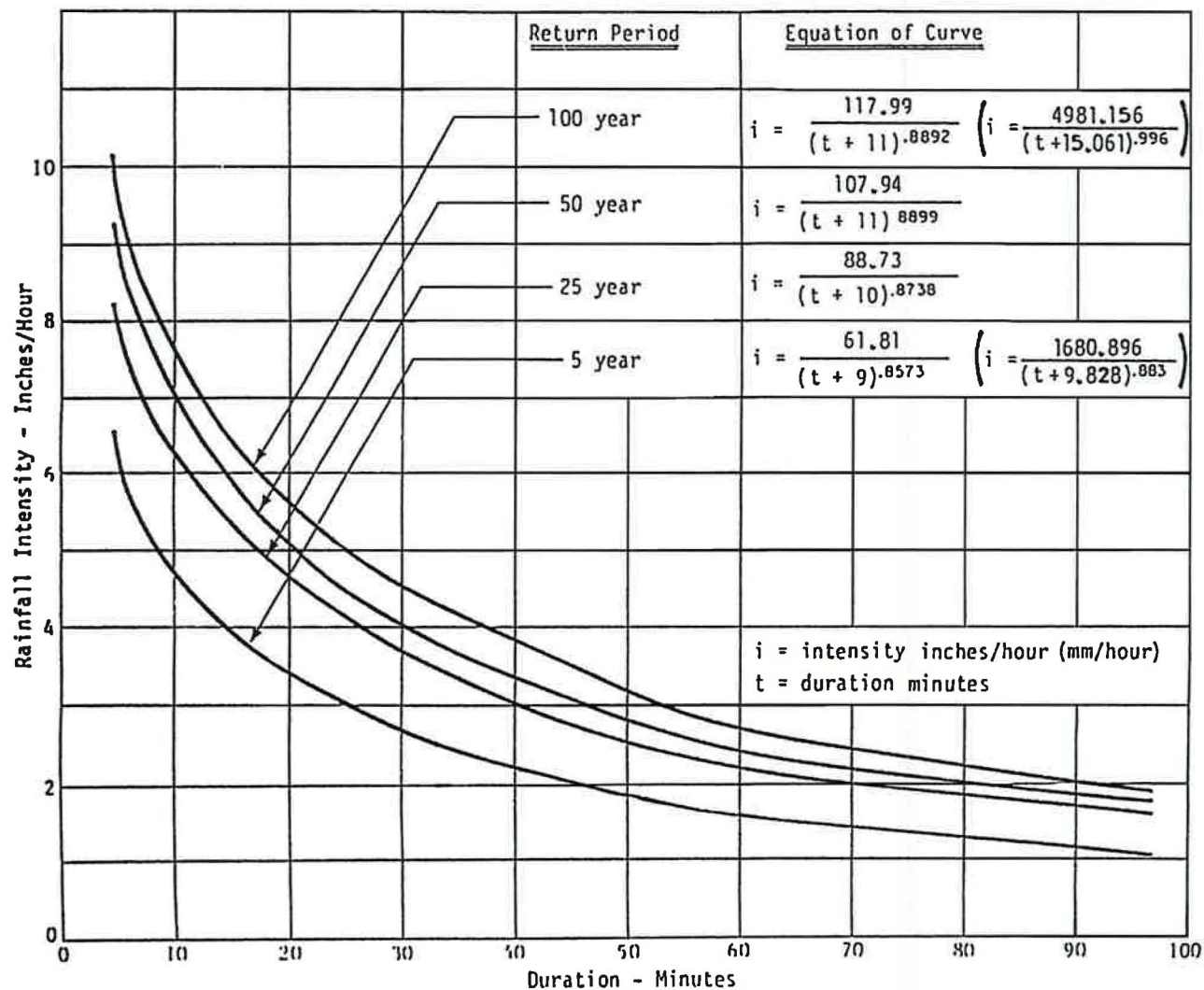
TOWN OF AMHERSTBURG

HYDRAULIC ELEMENTS GRAPH
FOR CIRCULAR SEWERS

Date 08 25 2004

Drawing No. S3

Last Revision 08 25 2004



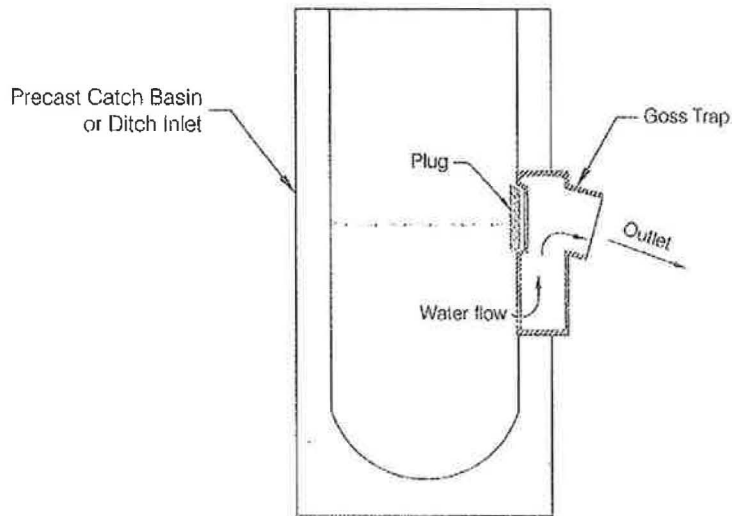
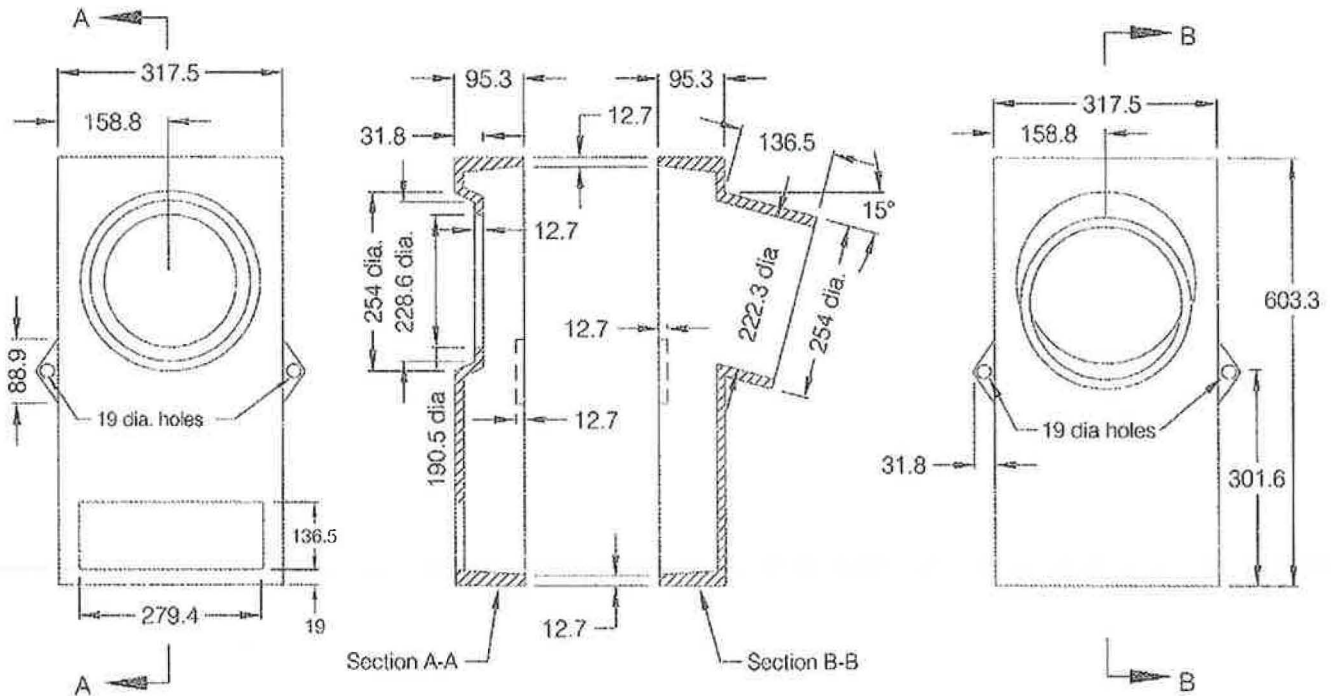
TOWN OF AMHERSTBURG

**ATMOSPHERIC ENVIRONMENT
SERVICES (AES)
I-D-F CURVES**

Date 08 25 2004

Drawing No. **S4**

Last Revision 08 25 2004



NOTES:

1. As illustrated in the diagram above, the goss trap helps prevent substances floating on the surface (i.e. gas, oil, leaves, branches, etc.) from entering the pipe.
2. Cast iron Goss Trap Plugs are available.
3. For other applications contact our Engineering Department.
4. All dimensions in millimetres, unless otherwise shown.



TOWN OF AMHERSTBURG

GOSS TRAP

Date

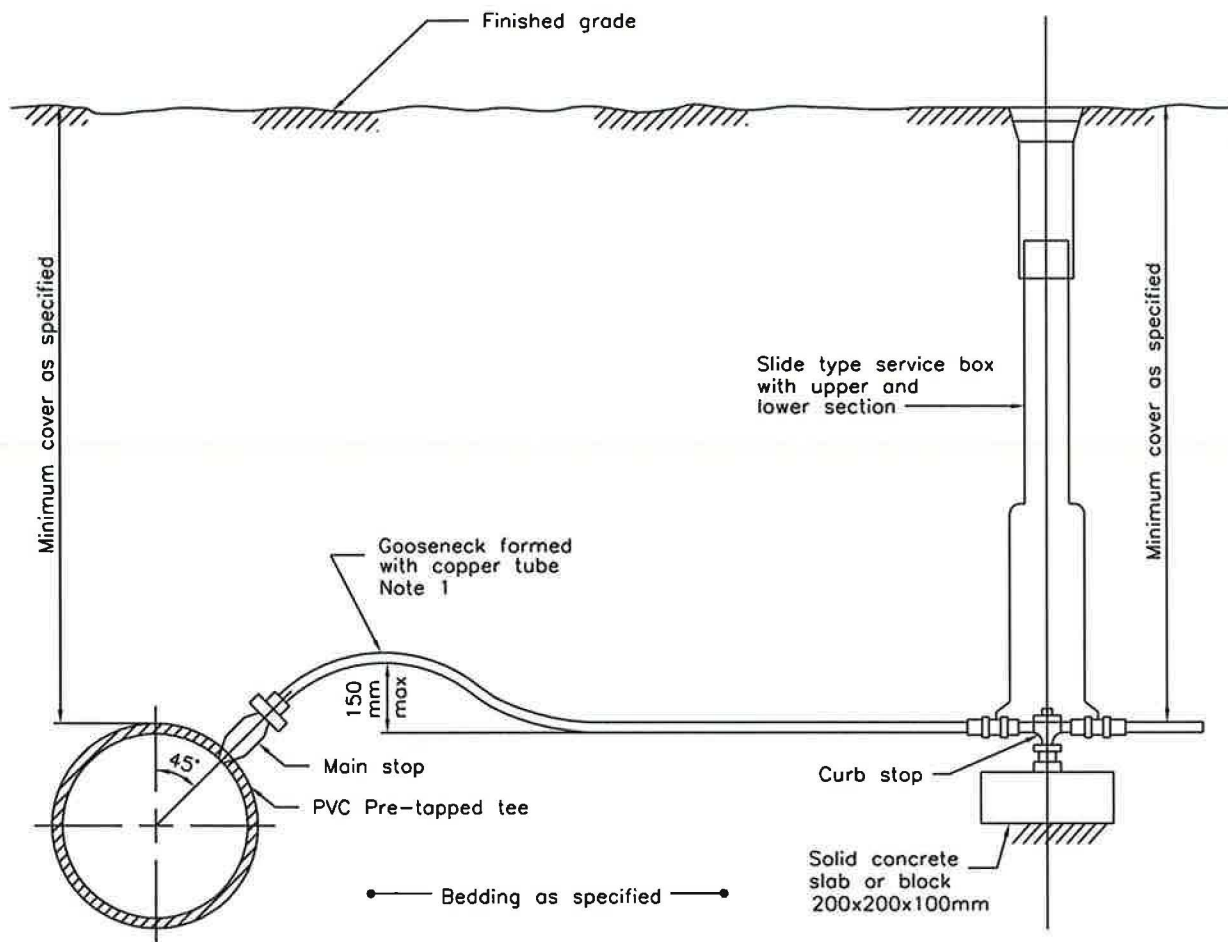
08 25 2004

Drawing No.

S5

Last Revision

12 01 2008



NOTES:

- A Service connections to plastic watermain PVC Pre-tapped Tees.
- B For any junction made in the service pipe, between main stop and curb stop, couplings will not be permitted unless the service length exceeds 20m.
- C All water services to be installed 90° to the longitudinal axis of the watermain.
- D All dimensions are in millimetres or metres unless otherwise shown.



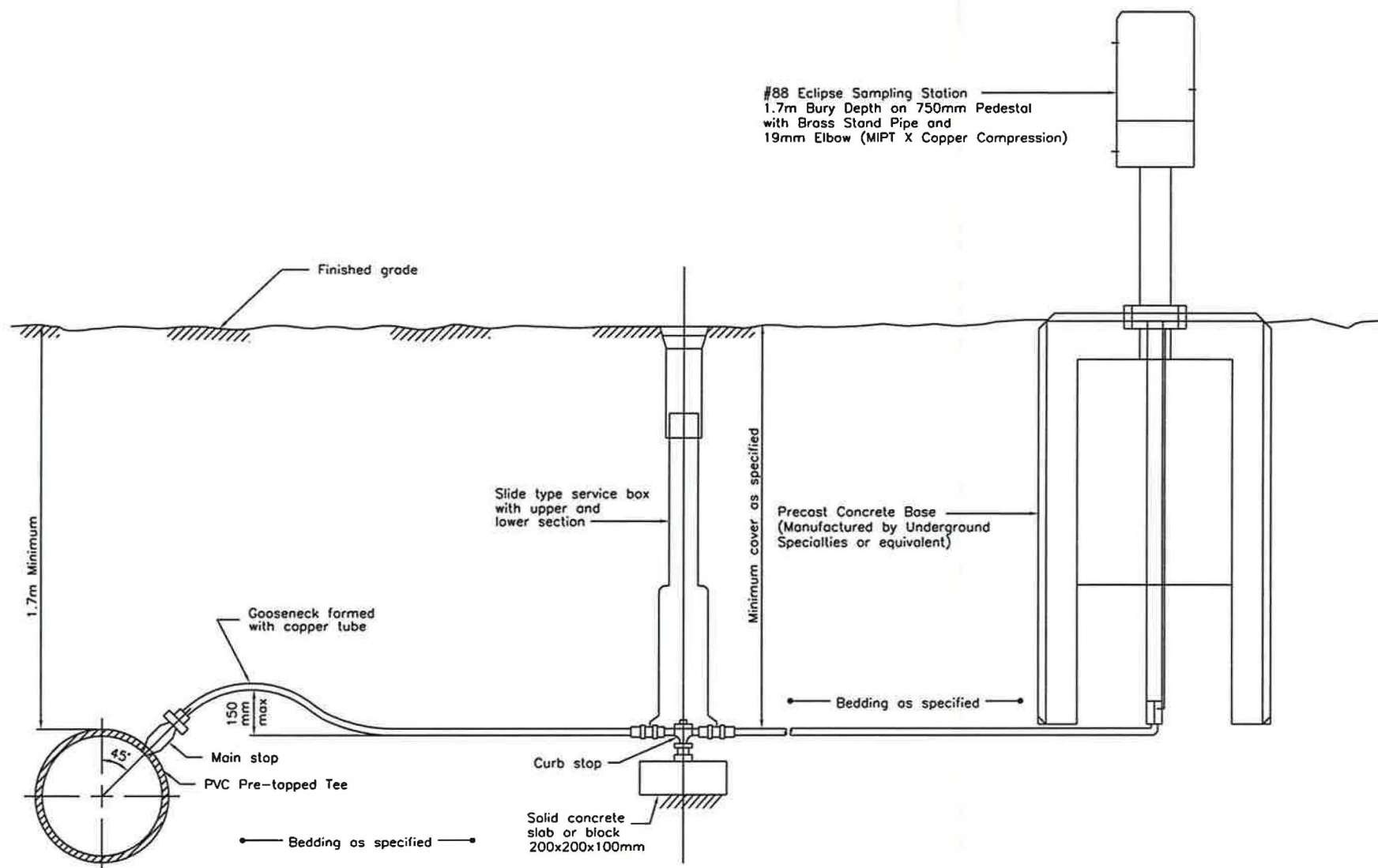
TOWN OF AMHERSTBURG

**TYPICAL WATER SERVICE
INSTALLATION**

Date 08 25 2004

Drawing No. **W1**

Last Revision 08 25 2004



TOWN OF AMHERSTBURG

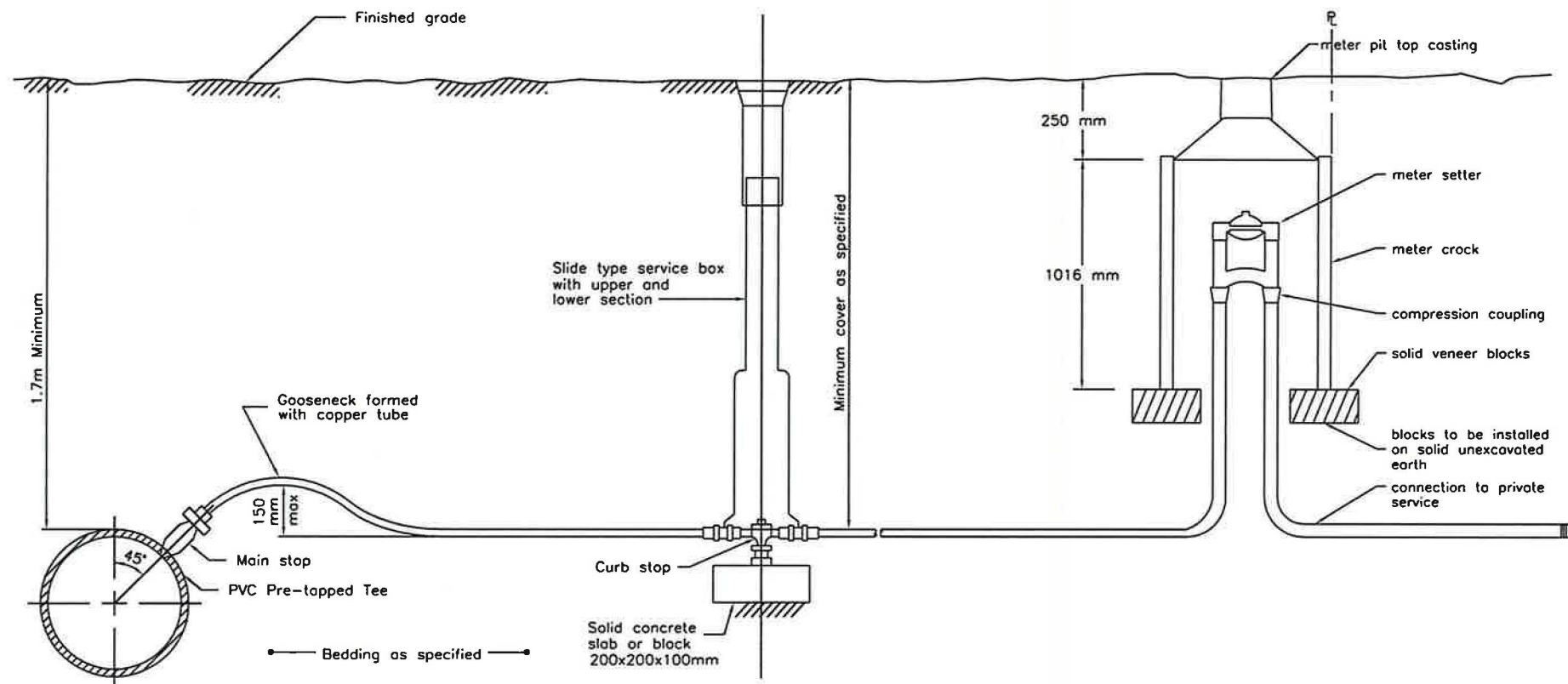
**SAMPLING STATION
AND BASE DETAIL**

Date 08 25 2004

Drawing No.

W2

Last Revision 08 25 2004



NOTES:

- 1 The Contractor shall supply & install to the meter pit & casting.
- 2 All water services to be installed at right angles to the watermain unless approved otherwise.



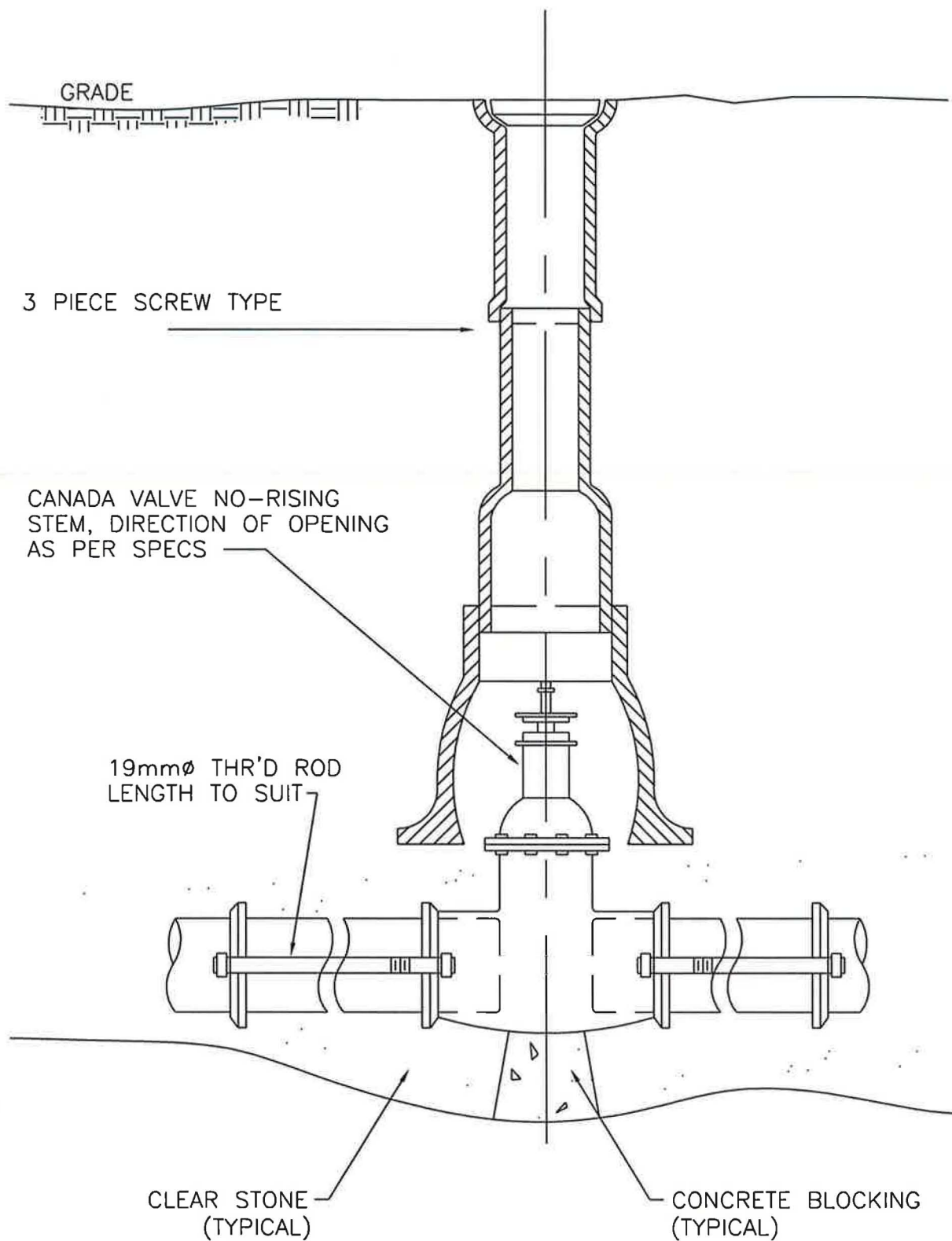
TOWN OF AMHERSTBURG

WATER SERVICE WITH METER PIT DETAIL

Date 08 25 2004

Drawing No. **W3**

Last Revision 08 25 2004



TOWN OF AMHERSTBURG

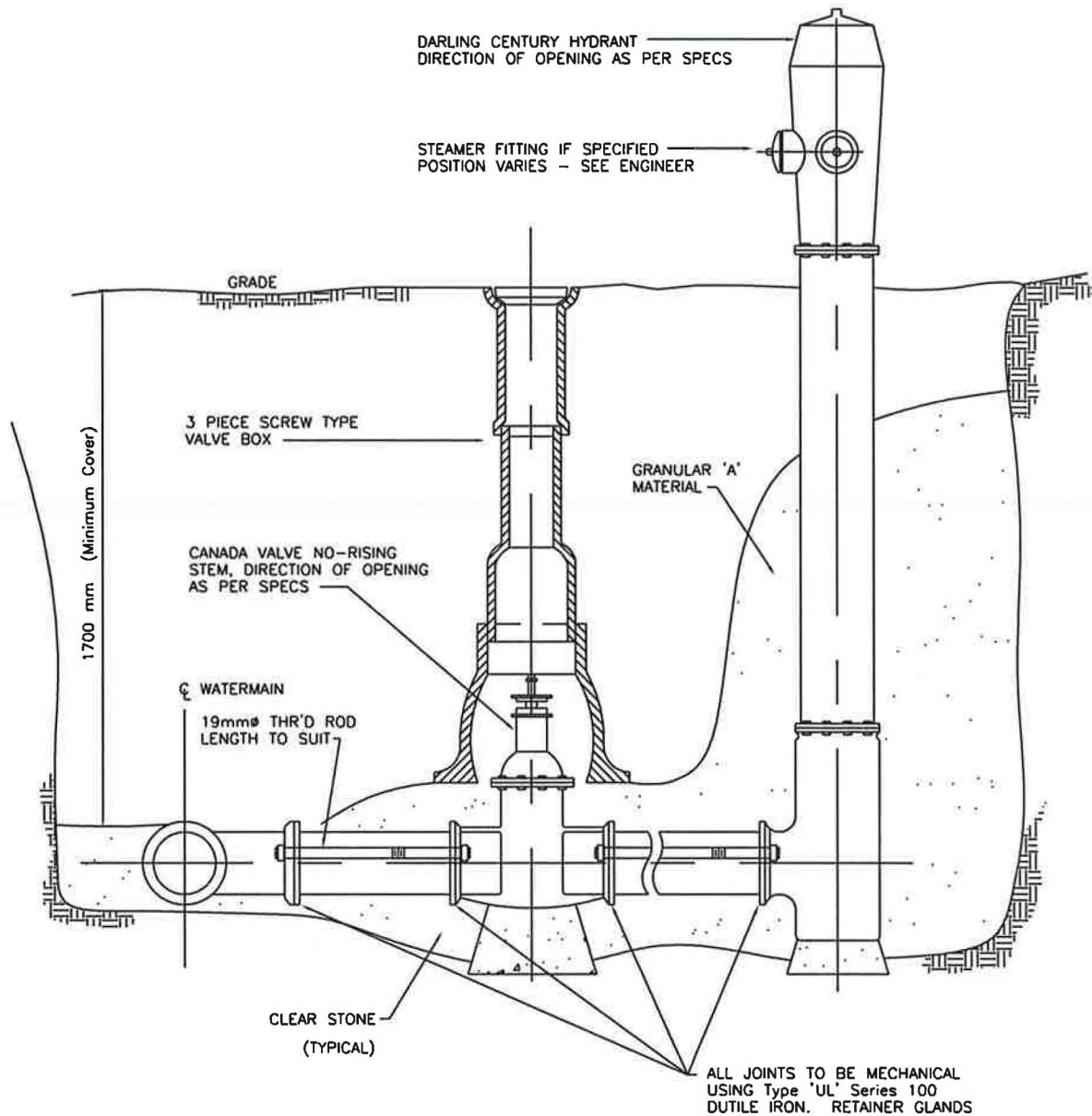
TYPICAL VALVE SETTING

Date 08 25 2004

Drawing No.

W4

Last Revision 08 25 2004



NOTES:

- A Bolts for buried flange to flange connections are to be stainless steel.
 B All dimensions are in millimetres unless otherwise shown.



TOWN OF AMHERSTBURG

HYDRANT INSTALLATION

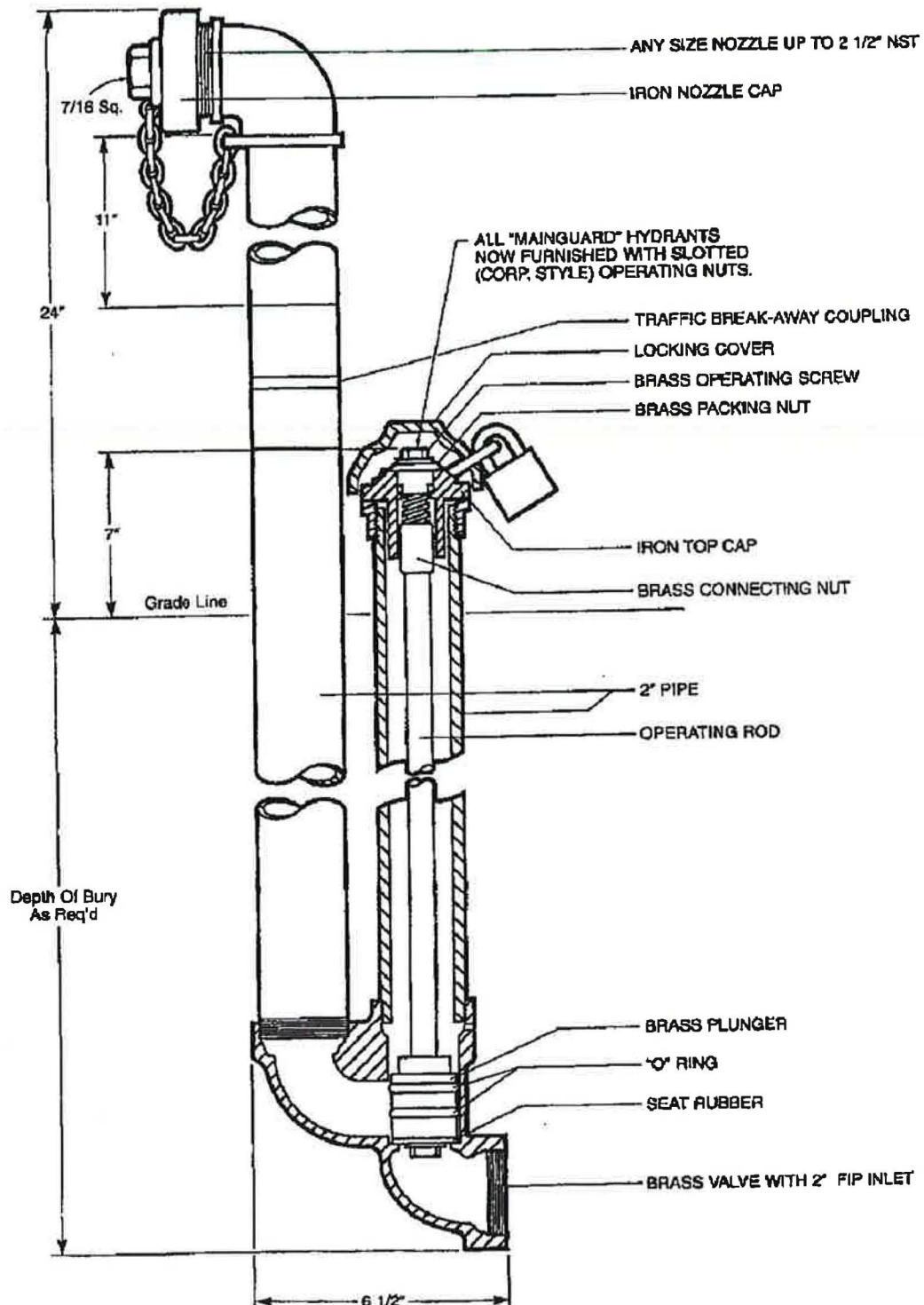
Date 08 25 2004

Drawing No.

W5

Last Revision 08 25 2004

#77 MAINGUARD HYDRANT



TOWN OF AMHERSTBURG

WATERMAIN BLOW-OFF

Date

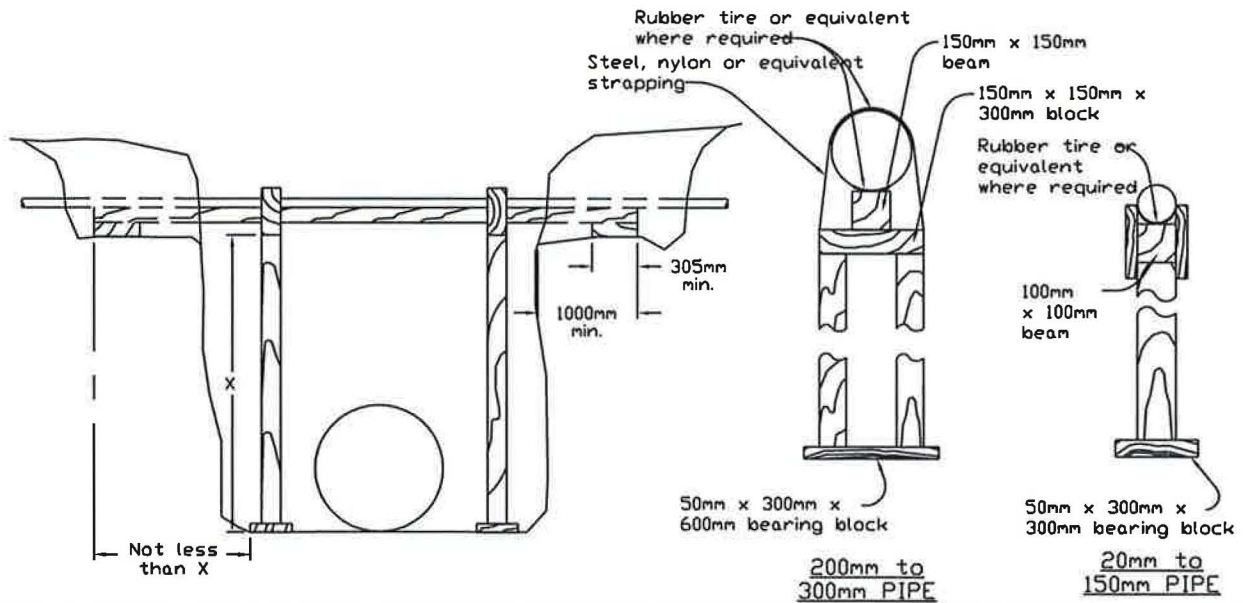
08 25 2004

Drawing No.

W6

Last Revision

08 25 2004

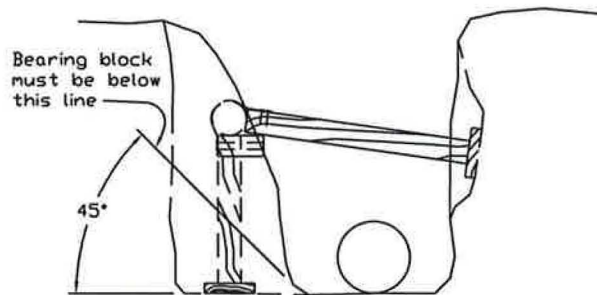


PIPE LINES CROSSING TRENCH

COLUMN DETAILS

NOTE:

100mm x 100mm timber beam required beneath all 20mm to 150mm pipe.
No supports required for pipe when spans are 610mm or under columns to be maximum 1830mm centre to centre.

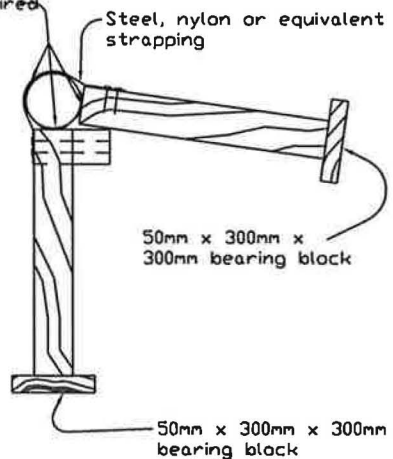


PIPE LINES PARALLEL TO TRENCH

NOTE:

Vertical columns to be a maximum 1830mm centre to centre. Side braces to be spaced as follows:
20mm to 75mm - 3.6m centre to centre
100mm to 300mm - 5.5m centre to centre

Rubber tire or equivalent where required



COLUMN DETAILS

GENERAL NOTES:

- 1- Additional supports will be required at mechanical couplings or valves.
- 2- Pipe coating to be protected from supports & strapping by a piece of rubber tire or equivalent.
- 3- The above designs are suggestions only and the utility assumes no responsibility for workmanship, variable soil conditions or live loads.

PIPE SIZE	COLUMN SIZES	
	COLUMN LENGTH	
	UP TO 3.0m	OVER 3.0m
20mm TO 150mm	100mm x 100mm	150mm x 150mm
200mm to 300mm	2-100mm x 100mm	2-150mm x 150mm
	or 1-150mm x 150mm	or 1-200mm x 200mm



TOWN OF AMHERSTBURG

**SUPPORT OF UTILITIES
OVER EXCAVATIONS**

Date

08 25 2004

Drawing No.

W7

Last Revision

08 25 2004

Town of Amherstburg - Application For Water Permit/Connection/Meter

Date of Application			
Name of Owner		Telephone Number	
Address for Connection		Cell Number	
Size of Service Required			
Name of Contractor		Telephone Number	
		Cell Number	
Date service required by		Payments Required	
Frontage Charges	On mains for which the debt is retired	\$2,000.00	
	On mains for which the debt is not retired The charge will be the same as when the main was installed	\$	
The charges listed below for service installation are a deposit only to initiate the job			
All services are installed on a time and material basis and there will be a <u>refund or charge</u> at the completion of the job depending on it's complexity (Road Bore / Pit)			
3/4" Permit/Meter Fee	\$175.00+\$200.00 to Town of Amherstburg = \$375.00 (If connection is already at the lot line)		
3/4" Connection Fee	\$800.00 Deposit (+ time&material) + \$200.00 to Town of Amherstburg = \$1000.00 Plus Applicable Frontage Charge Balance to be billed on completion		
1" Permit/Meter Fee	\$295.00+\$200.00 to Town of Amherstburg = \$495.00 (If connection is already at the lot line)		
1" Connection Fee	\$800.00 Deposit (+ time&material) + \$200.00 to Town of Amherstburg = \$1000.00 Plus Applicable Frontage Charge Balance to be billed on completion		
All Larger connections (upon approval) will be charged actual cost incurred with a \$1500.00 Deposit			
All water lines are to be copper unless installed after a Meter Pit at the lot line and approved by the Water Superintendent			
All water lines must be 1.5 metres (5') deep and 1.5 metres (5') from the sewer or other utilities			
I / We are aware of the following	All costs incurred to the meter by home owner negligence Freezing or heating (with a torch)		Example:
	Malfunction due to manufacturing defect and natural wear of the meter will be replaced at no charge		
I / We hereby agree	To and abide by the "Conditions" as contained in the by-laws or policies as adopted by the Town of Amherstburg and to hold this application as a contract when signed by the owner and by The Town of Amherstburg		
I / We agree to the following	To pay for the water and the service in accordance with the rates authorized by the Town of Amherstburg revised from time to time		
The applicant must contact the Public Works Department at least 7 day's before the service is required to allow for locates to be scheduled 736-5708			
Amount Received from Applicant	\$	Date	
Signature of Applicant (Contractor)		Date	
Signature of Town Representative		Date	



TOWN OF AMHERSTBURG

WATER PERMIT / CONNECTION METER APPLICATION FORM

Date 08 25 2004

Drawing No.
W8

Last Revision 08 25 2004

SITE BENCH MARK
TOP OF BACK OF CURB IN CENTER OF LOT
ELEVATION = _____

SUMP PIT CATCHBASIN DETAIL

REAR YARD SWALE DETAIL

SECTION THRU SIDE YARDS

SECTION THROUGH FRONT & REAR YARDS

STORM	SANITARY	WATER
SIZE _____ (dia.)	_____ (dia.)	_____ (dia.)
INVERT ELEV. _____	_____	N.A.

ROAD NAME _____

LOT No. _____

MUNICIPAL No. _____

NOTE-IF BASEMENT SANITARY DRAINAGE IS BELOW SPECIFIED MINIMUM BASEMENT FLOOR ELEVATION, SANITARY P.D.C. IS NOT AVAILABLE FOR GRAVITY DRAINAGE, SEWAGE EJECTOR PUMP IS REQUIRED.

I HEREBY AGREE TO GRADE THE LAND WITHIN THE LOT BOUNDARIES IN ACCORDANCE WITH THE ELEVATIONS AND DIMENSIONS AS SHOWN ABOVE. PRIOR TO CONSTRUCTION, I AGREE TO OBTAIN THE AS CONSTRUCTED LOCATIONS FOR ALL LOT SERVICES FROM THE CHIEF BUILDING OFFICIAL FOR THE TOWN OF AMHERSTBURG TO CONFIRM THE INFORMATION CONTAINED ABOVE.

DATE: _____ SIGNED: _____



LOT GRADING & SERVICES INFORMATION

DATE : _____
 ENGINEERING FIRM : _____
 CONTRACTOR OF SERVICES : _____



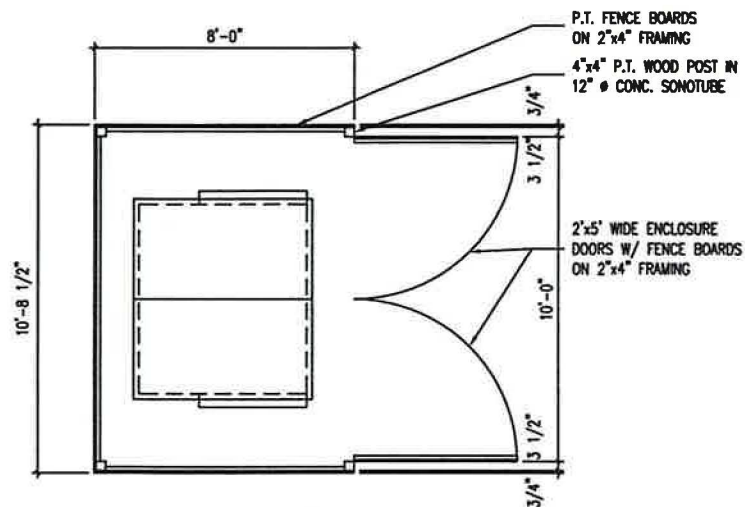
TOWN OF AMHERSTBURG

LOT GRADING AND SERVICES INFORMATION

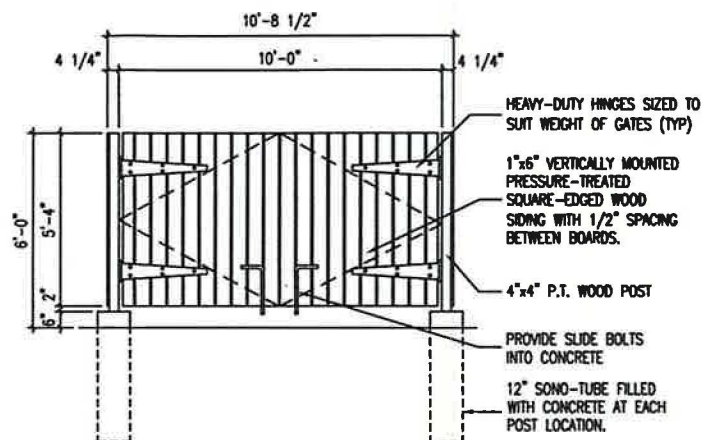
Date 08 25 2004

Drawing No. **LG1**

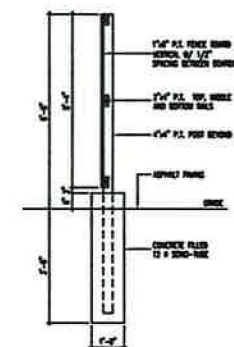
Last Revision 08 25 2004



PLAN VIEW



ELEVATION VIEW



SECTION VIEW



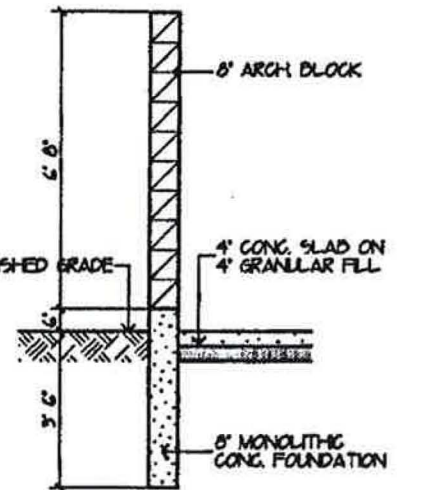
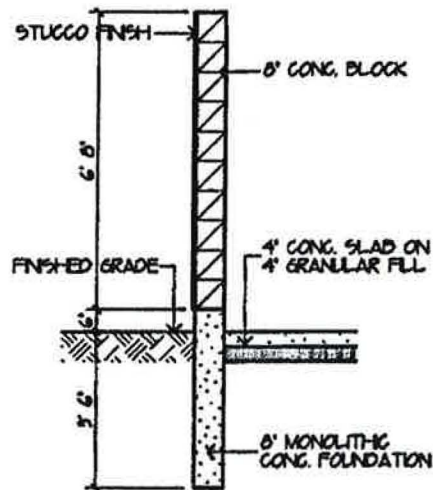
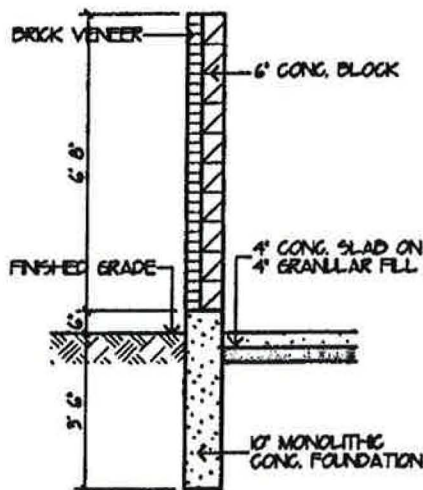
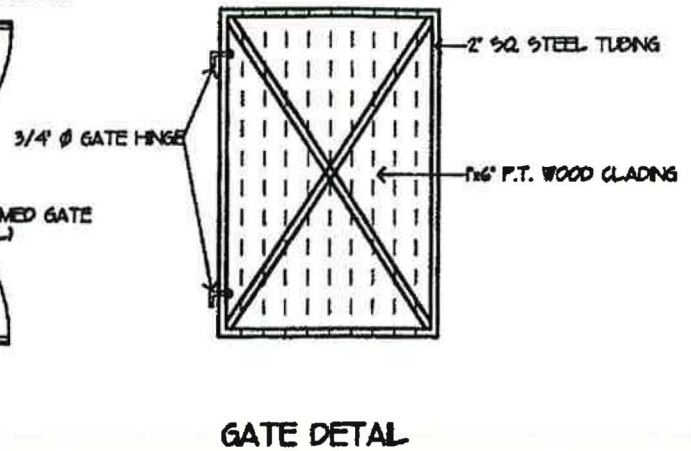
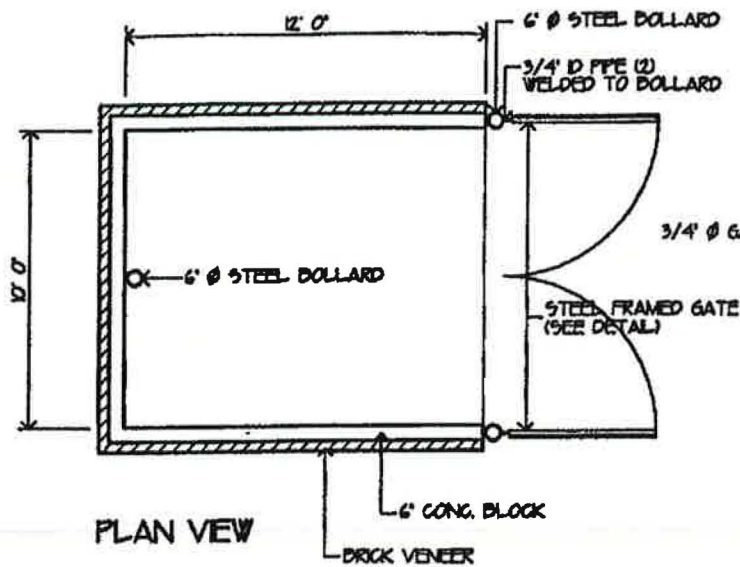
TOWN OF AMHERSTBURG

WOOD GARBAGE ENCLOSURE

Date 08 25 2004

Drawing No. **SP1**

Last Revision 09 07 2004



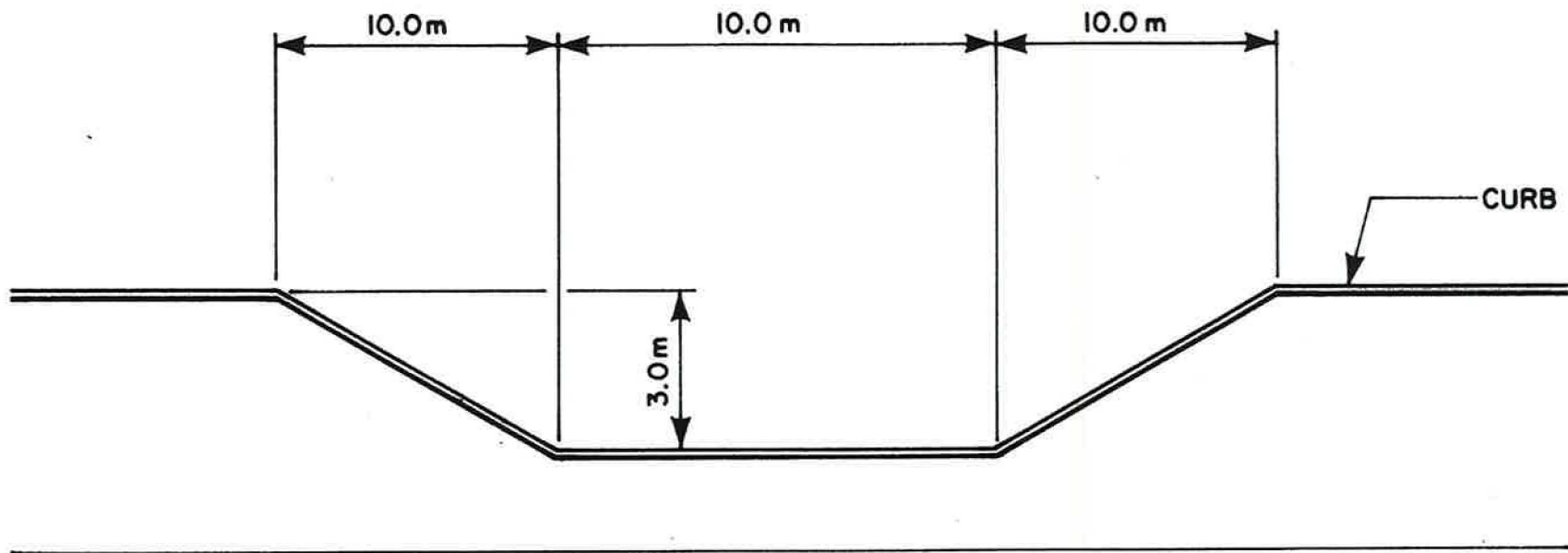
TOWN OF AMHERSTBURG

MASONRY GARBAGE ENCLOSURE

Date 09 07 2004

Drawing No. **SP2**

Last Revision 09 07 2004



TOWN OF AMHERSTBURG

**TYPICAL COMMUNITY
MAILBOX CAR BAY**

Date 08 25 2004

Drawing No. **SP3**

Last Revision 09 07 2004

DAILY ACTIVITY FORM

[illegible]

APPENDIX 5

SANITARY AND STORM SEWER DESIGN SHEETS



TOWN OF AMHERSTBURG

Sewage Generation Factor = 450 l/person/day

SANITARY SEWER DESIGN CHART

PROJECT: _____
DESIGNED BY: _____ PROJECT No: _____
CHECKED BY: _____ DATE: _____

SEWER LOCATION				GROSS TRIBUTARY AREA (ha)						POPULATION					ACCUMULATED SEWAGE FLOW (l/s)						SEWER DESIGN						PROFILE (metres)							
AREA	STREET	FROM	TO	RESIDENT.		COMM.		INDUST.		TOTAL AREA	PER ha.	No. OF LOTS	PER LOT	INCR. POP.	TOTAL POP.	RESIDENTIAL		COMM.	IND.	INFIL.	PEAK DES. FLOW	DIA. (mm)	SLOPE %	n	FULL FLOW (m/s)	CAP (L/s)	LEN-GTH (m)	MH LOSS			FALL IN SEW.	INVERT ELEV.		FINAL GRADE ELEV.
				INCR.	ACC.	INCR.	ACC.	INCR.	ACC.							AREA	POP.											H.I.	O	OTH		U.S.	D.S.	

APPENDIX 6

OVERSIZING AND COST RECOVERY POLICY FOR NEW SERVICES

**CORPORATION OF THE TOWN OF AMHERSTBURG
GENERAL POLICY FOR OVERSIZING BASED ON GUIDELINES ON DEVELOPMENT CHARGE
AND LOCAL SERVICE FUNDING FOR
ROAD- RELATED, STORMWATER MANAGEMENT, WATER AND SANITARY SEWER WORKS**

1. Collector Roads
 - 1.1 Collector roads Internal of development - Direct developer responsibility under s.59 of the DCA (as a local service)
 - 1.2 Roads (collector and arterial) external to development - Include in DC calculation to the extent permitted under s.5 (1) of the DCA (dependent on local circumstances)
2. Traffic Signals
 - 2.1 Traffic signalization - Include in DC calculation to the extent permitted under s.5(1) of the DCA.
3. Intersection Improvements
 - 3.1 New roads (collector and arterial) and road (collector and arterial) improvements - Include as part of road costing noted in Item 1.
 - 3.2 Intersections improvements within specific developments and all works necessary to entrances (private and specific subdivision) to the roadway - Direct developer responsibility under s.59 of DCA (as a local service)
 - 3.3 Intersections with County roads and provincial highways - Include in DC calculation to the extent that they are Town responsibility (includes Developer responsibility)
 - 3.4 Intersection improvements on other roads due to development growth increasing traffic - Include in DC calculation.
4. Streetlights
 - 4.1 Streetlights on external roads - Include in area municipal DC (linked to collector road funding source in Item 1)
 - 4.2 Streetlights within specific developments - Direct developer responsibility under s.59 of DCA (as a local service).
5. Sidewalks
 - 5.1 Sidewalks on MTO and County roads - direct developer responsibility through local service provisions (s.59 of DCA)

- 5.2 Sidewalks on area municipal roads - Linked to collector road funding source in Item 1.
- 5.3 Other sidewalks external to development (which are a local service within the area to which plan relates) - Direct developer responsibility as a local service provision (under s.59 of DCA).
- 6. Noise Abatement Measures
 - 6.1 Internal to Development - Direct developer responsibility through local service provisions (s.59 of DCA)
 - 6.2 External to the Development - include in the DC to extent possible.
- 7. Land Acquisition for Road Allowances
 - 7.1 Land Acquisition for arterial roads - Dedication under the Planning Act subdivision provisions (s.51) through development lands; in areas with limited or no development, include in County area municipal DC (to the extent eligible).
 - 7.2 Land Acquisition for collector roads - Dedication under the Planning Act subdivision provision (s.51) through development lands in areas with limited or no development, include in area municipal DC (to the extent eligible).
- 8. Land Acquisition for Easement
 - 8.1 Easement costs external to subdivisions may be included in DC calculation and shall be a direct Developer responsibility.
- 9. Storm Water Management
 - 9.1 Quality and Quantity Works, direct developer responsibility through local services provisions (s.59 of DCA).
 - 9.2 Oversizing of stormwater management works for development external to developments will be subject to best efforts clauses by area municipality.
- 10. Water
 - 10.1 Pumping stations and works (including water towers) associated with Water Zone boundaries to be included within the DC.
 - 10.2 Watermains external to subdivisions over 300 mm included in the DC.
 - 10.3 Oversizing costs of waterworks within the subdivision included in DC above 300 mm nominal diameter.

- 10.4 Connections to trunk mains and pumping stations to service specific areas, to be direct developer responsibility.

- 11. Sanitary Sewer

- 11.1 Major pumping regional stations shall be included in the DC, minor pumping stations to be a direct developer responsibility.
- 11.2 Sanitary sewers greater than 375mm external to subdivisions include in the DC.
- 11.3 Connections to trunk mains and pumping stations to service specific areas, to be direct developer responsibility.
- 11.4 Oversizing costs of sanitary sewer works within the subdivision, which benefits upstream developers, included in DC above 375mm nominal diameter and depth of 5 meters or greater.

- 12. Storm Sewer

- 12.1 Storm sewers greater than 1,800 mm external to subdivisions included in the DC.

- 13. General

- 13.1 All calculations by the Applicant (or Applicant's Engineer) shall be approved by the Town.

APPENDIX 7

MUNICIPAL BY-LAW NO. 2003-40 (TREES)

THE CORPORATION OF THE TOWN OF AMHERSTBURG

BY-LAW NO. 2003-40

Being a By-Law to regulate the planting, preservation,
maintenance and removal of trees in public
places within the Town of Amherstburg.

WHEREAS Section 8, Section 9 of the Municipal Act 2001 S.O. 2001, C. 25 gives Municipalities the powers of a natural person to govern their affairs as they consider appropriate and to enhance their ability to respect to municipal issues;

AND WHEREAS it is deemed expedient to regulate the development and construction including planting, preservation, maintenance and removal of trees in public places within the Town of Amherstburg.

NOW THEREFORE THE COUNCIL OF THE CORPORATION OF
THE TOWN OF AMHERSTBURG HEREBY ENACTS AS FOLLOWS:

1. In this by-law:

- (a) "Town" means the Town of Amherstburg.
- (b) "Park" includes all public parks, playgrounds and sports sports fields under the jurisdiction of the Town.
- (c) "Person" means any person, firm, partnership, association, corporation, company or organization of any kind.
- (d) "Property Line" means the line between the public right-of-way and abutting property.
- (e) "Public Place" includes all parks and all streets or highways.
- (f) "Street" or "Highway" means the entire width of every public way or right-of-way in the Town open for the use of the public for the purpose of vehicular or pedestrian traffic.
- (g) "Trees" include all shrubs, hedges and woody vegetation now or hereafter growing on any public place.
- (h) "Hedges" include all plants of similar variety grown together forming a visual or physical barrier as well as any mass planting or groupings of plants used for visual or physical barriers.
- (i) "Site Triangle" refers to the measured area found at the intersection or corner of two streets where its location is measured back thirty feet (30') from the intersection along each edge forming a triangle free of obstructions.
- (j) "Drip Line" refers to an imaginary line (circle) found under an existing tree as measured by the diameter of the crown from the farthest branch on the opposite side.

2.

PERMISSION TO PLANT

No person may plant any tree in any public place without first having received permission in writing from the Town and any person receiving such permission shall comply with the instructions of the Town.

3. **PROHIBITED SPECIES**

- (a) Schedule "A" attached lists trees acceptable for planting in public places in the Town of Amherstburg;

Existing and future utility and environmental factors shall be considered when recommending specific species of trees for streets or other public places; trees considered undesirable shall not be recommended for general planting, and their use shall be restricted to locations where, because of certain characteristics of adaptability or landscape effect, they can be used to advantage.

- (b) The following species of trees may **NOT** be planted on boulevards in the Town:

Tree of Heaven	Black Walnut
Manitoba Maple	Mulberry
Chinese Elm	
Poplar and Willow (All varieties)	

- (c) If a tree is planted in conflict with the provisions of this by-law, the Town may remove or cause removal of the same.

4. **PRUNING TREES ON PRIVATE PROPERTY**

- (a) Any person owning or occupying real property abutting any street and upon which property there are trees, shall prune using sound and correct horticultural practices, as directed by the Town, and these trees shall be pruned in such a manner that they will not obstruct the passage of pedestrians on sidewalks, obscure street lights, traffic signs, or interfere with power lines, or obstruct the view of any intersection; the minimum height of any portion of a tree nine feet (9') over all sidewalks and fourteen feet (14') over the travelled portion of streets except truck thoroughfares for which the minimum clearance shall be sixteen feet (16').
- (b) If any person fails to prune trees in accordance with Section 4 of this by-law, the Town may prune such trees to cause them to conform with the provisions of Section 4 hereof at the owner's expense.

5. **DANGEROUS TREES**

Where any tree or part thereof is growing upon private property, but overhanging or interfering with the use of any public place and, in the opinion of the Town, endangers the life, health, safety or property of the public and should be corrected or removed, the Owner shall be notified in writing by the Town of the existence of the danger or of the requirement to remove the tree and given reasonable time for its correction or removal; if not corrected or removed within the time allotted, the Town may cause the danger to be corrected or the tree removed, at the owner's expense.

6. DAMAGE OF TREES

No person shall intentionally damage, cut, carve, transplant or, subject to Section 7, remove any tree growing in a public place, attach any rope, wire, nails, advertising posters, or other contrivance to such tree, allow any gaseous, liquid or solid substance which is harmful to such tree to come in contact with it, or set fire to such tree or permit any fire or heat thereof to injure any portion of any tree except as may be approved by the Town.

7. REMOVAL

No person shall remove any tree growing in any public place for the purpose of construction or for any other reason without having obtained written permission from the Town. Every attempt shall be made to retain the tree in its existing location or with the permission of and to the satisfaction of the Town to move the tree and place it in an alternative location. Any person removing a tree shall forward the replacement value of the tree being removed to the Town before removing such tree and shall also, if the Town is to remove such tree, forward the removal costs as determined by the Town in accordance with the accepted formula for tree evaluation of the International Shade Tree Conference Incorporated (latest edition), provided that in the case of the public utility or municipal operations the compensation payable for trees removed shall be the cost of replacing same with suitable trees of a caliper between 4" and 12" caliper as determined necessary by the Town.

8. PUBLIC UTILITIES

Wherever it is necessary for a public utility, or in connection with municipal operations, to trim trees growing in public or perform other operations affecting trees, the Town shall be notified at least two (2) days in advance regarding such trimming or other operation. Any trimming or other work performed on such trees shall be limited to the actual necessities of the services of such utility or municipal operation, and shall be performed in a neat and workmanlike manner to the satisfaction of the Town.

9. PROTECTION WHEN TREES ARE NEAR EXCAVATION

All trees on any public place near any excavation or construction of any building, structure or street work, shall be protected to the satisfaction of the Town, by means of a snow fence barrier or other barrier as necessary. The barrier shall be set within ten feet (10') or within the drip line whichever is greater of any tree growing within the construction or project area.

10. DAMAGE TO ROOT

- (a) No person may deposit, place, store or maintain upon any public place within ten feet (10') or greater of any tree growing thereon, any stone, brick, sand, concrete, other materials, machines or equipment which may impede the free passage of water, air and fertilizer to the roots of any tree growing thereon, or compact the soil around any existing tree or add soil around any existing tree, provided that this provision shall not apply to the operation of a public utility or municipal service.

10. (b) No person shall excavate any ditches, tunnels, trenches or lay any driveway within a radius of ten feet (10') or within the drip line of the tree whichever is greater from any tree growing in a public place without written permission from the Town, provided that this provision shall not apply to the operation of a public utility or municipal service.

11. **PENALTY**

Any person who contravenes any of the provisions of this by-law is guilty of an offense and upon conviction thereof is liable to a fine of not more than one thousand (\$1,000.00) and the provision of the Provincial Offenses Act.

12. **ENFORCEMENT**

The Public Works Supervisor or alternate designated by the Town shall cause the provisions of this by-law to be enforced; provided that any person may refer any matter of dispute to the Council of the Town of Amherstburg whose decision on such matter is final.

READ A FRIST, SECOND AND THIRD TIME AND FINALLY PASSED THIS 9TH DAY OF JUNE, 2003.



MAYOR



CLERK

Certified to be a true copy of
By-Law No. 2003-40 passed by
the Council of the Town of
Amherstburg on the 9th day of June, 2003.

CLERK

SCHEDULE "A"

**GUIDELINES FOR TREE PLANTING
ON THE RIGHT-OF-WAY**

RECOMMENDED TREE SPECIES

1. Only deciduous trees are recommended for street planting (see list below).
2. Where several trees are to be planted, no more than 5 trees of one species are to be planted consecutively.
3. The following trees are coded as to the most suitable and adaptable locations for planting and development:
 - A - Parks and Cemeteries
 - B - Core area of Town
 - C - Residential
4. Whenever possible Carolinian Tree Species should be planted.

* - depicts a Carolinian Tree Species

SHADE TREES (Plant 20' to 30' apart)

<u>AREA</u>	<u>BOTANICAL NAME</u>	<u>COMMON NAME</u>
A/C	Acer Platanoides & var.	Norway Maple - large leaf, dense shade
A/C	Aesculus carnea "Briotti"	Ruby Red Horsechestnut - large leaf, fruitless only
A/C	Cladrastis lutea	Yellowwood - white flower in June
B/C	Corylus colurna	Turkish Hazel - hardy pyramidal tree
C	*Fagus (all species)	Beech - Shallow root, dense shade
A/C	*Fraxinus americana	White Ash - compound dark green leaf
A/C	Fraxinus nigra	Black Ash - compound dark green leaf
B/C	Fraxinus pennsylvanica "Marshall's Seedless"	Marshall's Seedless Ash - no seeds
A	Ginkgo biloba	Maidenhair Tree - use non fruit variety
B/C	*Gleditsia Tiancanthos & var.	Honey Locust - Light open canopy
B/C	*Gymnocladis dioicus	Kentucky Coffeetree - large seed pod
B/C	Liquidambar styraciflua	Sweetgum - corky bark

SCHEDULE "A"
(Continued)

<u>AREA</u>	<u>BOTANICAL NAME</u>	<u>COMMON NAME</u>
C	*Liriodendron tulipifera	Tulip Tree - interesting leaves/flower
B/C	*Nyssa Sylvatica	Blackgum - bright red fall colour
A	Platanus acerifolia	London Plane Tree - sheds bark, large tree
A/C	*Quercus alba	White Oak - dense shade, acorns
A/C	*Quercus rubra	Red Oak - dense shade, acorns
AC	*Quercus macrocarpa	Bur Oak - dense shade, acorns
B/C	Tilia americana	Basswood - small round seed

ORNAMENTAL TREES (Narrow boulevards or under wires)

A/B/C	Acer platanoides columnar	Columnar Norway Maple - upright form
A/C	*Amelachier Arborea	Serviceberry - small tree/bush
A/C	*Cercis canadensis	Eastern Redbud - excellent spring colour
C	*Cornus florida	Flowering Dogwood - red berry, white flower
A/C	Prunus serrulata & var.	Japanese Cherry - pink flower
A/B/C	Pyrus calleryana & var.	Callery Pear - spring flower, fruitless
A/B/C	Quercus robur fastigiata	Columnar English Oak - upright form
A/C	Syringa amarensis japonica	Japanese Tree Lilac - white mid-summer flowers

APPENDIX 8

MUNICIPAL BY-LAW NO. 2002-86 (MUNICIPAL SERVICE FEES)

CORPORATION OF THE TOWN OF AMHERSTBURG

BY-LAW NO. 2002-86

**A by-law establishing a tariff of fees for the
processing of planning related applications.**

WHEREAS the Planning Act, R.S.O. 1990, Chapter P.13, Section 69, Subsection (1), as amended, provides that the Council of a Municipality may, by by-law, establish a tariff of fees for the processing of applications made in respect of planning matters;

AND WHEREAS the Council of the Town of Amherstburg deems it advisable to pass such a by-law;

**NOW THEREFORE THE COUNCIL OF THE CORPORATION OF THE
TOWN OF AMHERSTBURG ENACTS AS FOLLOWS:**

- (1) Pursuant to the provisions of Section 69(1) of the Planning Act, R.S.O. 1990, Chapter P.13, as amended, the following tariff of fees for the processing of planning related applications is hereby established:

**Tariff of Fees
Planning Related Applications**

<u>Nature of Application</u>	<u>Amount of Fee</u>
(a) Application to Amend the Official Plan	\$2000.00 deposit
(b) Application to Amend the Zoning By-law	\$2,000.00 deposit
(c) Consideration of an Application to the Minister of Municipal Affairs and Housing for Approval of a Plan of Subdivision	\$2,000.00 deposit
(d) An Application for the Approval of Site Plans and a Site Plan Agreement for New Development Within a Designated Site Plan Control Area	\$2,000.00 deposit
(e) Consideration of an Application to the Minister of Municipal Affairs and Housing for Approval of a Plan of Condominium	\$2,000.00 deposit
(f) Consideration of an Application for Conversion, Demolition, Renovation or Repair, or Severance Under the Rental Housing Protection Act	\$2,000.00 deposit
(g) Part Lot Control By-law	\$2,000.00 deposit
(h) Holding (H) Removal By-law	\$2,000.00 deposit
(i) Application for Consent to Sever Land	\$500.00 fee
(j) Application for a Minor Variance or Permission to Enlarge, Extend or Alter the Use of a Legal Non-conforming Use	\$500.00 fee

- (2) With respect to Subsections (a), (b), (c), (d), (e), (f), (g) and (h) of Section 1 hereof, if the costs of the Municipality for processing the subject planning applications exceed the amount of the deposit, the applicant shall promptly pay to the Corporation of the Town of Amherstburg such excess amount upon receipt of an invoice therefor from the Municipality; and if the costs of the Municipality for processing the subject applications are less than the amount of the deposit, the Corporation of the Town of Amherstburg shall promptly pay to the applicant the difference.
- (3) This by-law shall come into force and take effect upon the final passing thereof.
- (4) That By-law Number 1998-15 and any other by-laws inconsistent with this by-law are hereby repealed.

Read a first, second and third time and finally passed this 16th day of December, 2002.



Mayor



Clerk

APPENDIX 8

MUNICIPAL BY-LAW NO. 2002-86 (MUNICIPAL SERVICE FEES)

CORPORATION OF THE TOWN OF AMHERSTBURG

BY-LAW NO. 1998 - 19

Being a By-Law to regulate Building & Plumbing
in the Town of Amherstburg.

WHEREAS, the Council of the Town of Amherstburg is responsible for the enforcement of the Building Code Act 1992 within the boundaries of the Town of Amherstburg;

AND WHEREAS, Section 7 of the said Building Code Act authorizes the Councils of Municipalities to pass by-laws respecting the issuance of Construction, Demolition and Change of use Permits;

NOW THEREFORE THE COUNCIL OF THE CORPORATION OF

THE TOWN OF AMHERSTBURG HEREBY ENACTS AS FOLLOWS

1. SHORT TITLE:

This by-law may be cited as "The Building By-Law".

2. DEFINITIONS

- (1) (a) "Act" means the Building Code Act, Chapter 23 S.O. 1992, as amended.
- (b) "Actual value of Construction" means the actual value of the work and materials incorporated into the work thereof and all costs necessarily incidental to the subject matter of construction.
- (c) "Applicant" means the owner of a building or property who applies for a permit or any person or corporation empowered by statute to cause the demolition of a building or buildings and anyone acting under the authority of such person or corporation.
- (d) "Building" means,
 - (i) a structure occupying an area greater than ten square metres consisting of a wall, roof and floor or any of them including all plumbing, works, fixtures and services systems appurtenant thereto; or
 - (ii) a structure occupying an area of ten square metres or less that contains plumbing, appurtenant thereto; or
 - (iii) plumbing not located in a structure; or
 - (iv) structures designated in the building code.
- (e) "Building Code" means the regulations made under Section 34 of the Act.

- (f) "business day" means any day other than a holiday as defined in the Interpretation Act, R.S.O. 1990, Saturday, Boxing Day or day proclaimed by the Head of Council to be a civic holiday.
- (g) "Chief Building Official" means the person appointed by Council to enforce the Act within the Town of Amherstburg under Section 3 of the Act.
- (h) "Chief Fire Official" means the Fire Chief of the Corporation as appointed by Council.
- (i) "Corporation" means the Corporation of the Town of Amherstburg.
- (j) "Council" means the Council of the Corporation of the Town of Amherstburg.
- (k) "estimated value of the work" means the estimated value of the work and materials to be incorporated into the work thereof and all costs necessarily incidental to the subject matter of construction.
- (l) "lot" means a parcel of land, the boundaries of which are on record in the Registry Office for the Registry or Land Titles Division of the County of Essex (No. 12).
- (m) "owner" means the person who appears as the owner of a lot according to the records of the Land Registry Office or a person named under an accepted agreement of purchase and letter of authorization signed by the owner of a lessee who under the terms of a lease is authorized to maintain, alter, improve or repair the property.
- (n) "parking lot" means a lot which contains and the main use of which is, a parking area, whether or not such a parking area is located with a structure.
- (o) "permit" means a written authorization issued by the Chief Building Official to perform work regulated by the Act and the Building Code or to occupy a building or part thereof.
- (p) "permit holder" means the person to whom the permit has been issued and who assumes the primary responsibility for complying with the Act and the Building Code.
- (q) "person" means any individual, association, partnership, company, corporation, firm, agent, trustee and the heirs, executors, or other legal representative of any of the foregoing.

- (r) "plan check" means the review of revised drawings or working drawings which are submitted to the Building Department after a permit has been issued.

3. CLASSES OF PERMITS

The following are prescribed as classes of permits for the purpose of constructing, demolishing or changing the use in a building, as provided for in the Act namely:

- (a) Change of Use Permit - for changing the use of an existing building which may or may not include work for which a construction permit is required.
- (b) Partial Permit - for the construction of a portion of a building prior to the issuance of a permit for the complete building. This shall not be construed to authorize construction beyond the plans for which approval was given nor that approval will necessarily be granted for the entire building.
- (c) Conditional Permit - for commencement of construction, issued at the discretion of the Chief Building Official to authorize any stage of construction, under subsection 8 (3) of the Act.
- (d) Construction Permit - for the construction, addition to and/or renovation of a building or part thereof and/or construction of a parking lot.
- (e) Demolition Permit - for the demolition of a building or part thereof.
- (f) Partial Occupancy Permit - for occupying or using a portion of a building when construction of the entire building is incomplete.
- (g) Sewer Permit - for the construction of storm and sanitary drainage systems not within a building.
- (h) Plumbing Permit - for the construction, addition or alteration of storm and sanitary drainage systems, venting systems and water supply systems within a building, as set forth in Section 7 of the Ontario Building Code.
- (i) Water service pipe permits - for the construction water service piping between buildings on the same property, beyond the Building Control valve or water meter.

4. REQUIREMENTS TO OBTAIN A PERMIT

Construction, Conditional, Change of Use Permit

- (1) An application for a change of use permit, conditional permit, or construction permit shall be in the form prescribed by the Chief Building Official which shall be completed by the owner, and if applicable, by the authorized agent of the owner and shall be accompanied by the following:
 - (a) Construction plans drawn to scale in duplicate and a copy of the specification; or
 - (b) A site plan indicating thereon the location of the proposed building in relation to all lot lines, other buildings on site including those to be demolished, signs, parking lots, refuse bins, loading spaces, septic tanks and their associated beds, water and sewer lines, easements and municipal drains on the same lot and fences, and the existing and finished grades in relation to the first floor elevation of the building referenced to a datum at or adjacent to the site; and
 - (c) A survey of the property where required by the Chief Building Official; and
 - (d) Design calculations or samples of building materials when required by the Chief Building Official; and
 - (e) other supporting documentation as required by the Chief Building Official; and
 - (f) all necessary permits and approvals from other municipal departments or outside agencies having jurisdiction; and
 - (g) Fees as set out in Schedule "A".
 - (h) Valid registration made under the Ontario New Home Warranties Plan Act for single family dwellings being constructed for re-sale, if applicable.
 - (i) Council approval for the alteration or demolition of buildings designated under the Ontario Heritage Act, if applicable.
 - (j) Applicable indemnity and development fees.

Demolition Permit

- (2) An application for a Demolition Permit shall be in the form prescribed by the Chief Building Official which shall be completed by the owner and if applicable, by the authorized agent of the owner and shall be accompanied by:
 - (a) where under Sect. 2.3 of the Building Code, accompanied by structural design characteristics of the building in duplicate, as well as the method of and schedule of demolition; and

- (b) A site plan in duplicate indicating the buildings and structures to be demolished as well as those to remain; and
- (c) all necessary permits and indemnity fee deposits and approvals from other municipal departments or outside agencies having jurisdiction; and
- (d) Fees as set out in Schedule "A",

Partial Occupancy Permit

- (3) An application for a Partial Occupancy Permit shall be in writing, signed by the owner or the authorized agent of the owner, and shall be accompanied by:
 - (a) a statement indicating the expected occupancy date; and
 - (b) the portions of the building to be occupied; and
 - (c) all necessary permits and approvals from other municipal departments or outside agencies having jurisdiction; and
 - (d) the fees as set out in Schedule "A",

Partial Permit

- (4) When approval of a portion of the building project is requested prior to the issuance of a permit for the complete building, application shall be made in the form prescribed by the Chief Building Official and shall be accompanied by:
 - (a) (i) Complete plans in duplicate and specifications covering the portion of the work for which immediate approval is requested; or
 - (ii) where the plans have been prepared by an architect and/or engineer, the construction plans in triplicate and a copy of the specifications; and
 - (b) A site plan indicating thereon the location of the proposed building in relation to all lot lines. Other buildings on site including those to be demolished, signs, parking lots, refuse bins, loading spaces, septic tanks and their associated beds, water and sewer lines, easements and municipal drains on the same lot and fences, and the existing and finished grades in relation to the first floor elevation of the building referenced to a datum at or adjacent to the site, and,
 - (c) A survey of the property where required by the Chief Building Official; and
 - (d) Design calculations or samples of building materials when required by the Chief Building Official and

- (e) Other supporting documentation as required by the Chief Building Official; and
- (f) all necessary permits and approvals from other municipal departments or outside agencies having jurisdiction; and
- (g) fees as set out in Schedule "A"
- (h) Indemnity and applicable development fees must accompany the application.

Sewer Permit

- (5) An application for a sewer permit shall be in the form prescribed by the Chief building Official which shall be completed by the owner, and if applicable, by the authorized agent of the owner and shall be accompanied by:
 - (a) a site plan in duplicate illustrating the location and size of all sewer lines, catch basins, man holes, clean-outs and the buildings, structures and land that they service; and
 - (b) all necessary permits and approvals from other municipal department or outside agencies having jurisdiction; and
 - (c) the fees as set out in Schedule "B"

Plumbing Permit

- (6) An application for Plumbing Permit shall be in the form which described by the Chief Building Official and shall be completed by the owner and if applicable by the authorized agent and shall be accompanied by:
 - (a) plans in duplicate showing the location and size of all waste drain and water lying; and
 - (b) plans illustrating the location of all vent stacks, and describing the method of venting, back water valves, backflow preventers; and
 - (c) the fees set out in Schedule "B"

Water Service Pipe Permit

- (7) An application for a water service pipe permit shall be in the form as described by the Chief Building Official and shall be completed by the owner and if applicable by the authorized agent of the owner and shall be accompanied by:
 - (a) A plan in duplicate showing location and sizes of water pipes to be installed; and
 - (b) all necessary permits and approvals from the municipal departments or outside agencies having jurisdiction; and
 - (c) fees set out in Schedule "B"

5. PLANS AND DRAWINGS

All plans and drawings submitted to the Department of Building shall be in ink, and shall be:

- (a) on paper which has a minimum size of twenty one centimeters by twenty eight centimeters (21 cm. x 28 cm.); and
- (b) drawn to a sufficiently large scale to be readily legible; and
- (c) floor plans are to be drawn at a minimum $1/8" = 1'0"$ or 1:10 (metric).
- (d) Plans shall be drawn to scale in Imperial or metric measurements.

6. REVISION TO PERMIT

In the event that a material change is made to the plans, specification, documents or other information on the basis of which a permit was issued, the owner or authorized agent shall:

- (a) submit revised plans and specifications illustrating the changes and any supporting documentation as may be requested by the Chief Building Official; and
- (b) remit the additional fee to the Chief Building Official. In the event the area of work is reduced, there shall be no refund.

7. PERMIT REVOCATION ABANDONMENT AND TRANSFERS

- (1) An application for a permit shall be deemed to have been abandoned six months after the date of filing of the application with the Chief Building Official unless a permit has been issued.
- (2) Where the application has been abandoned, the drawings, plans and specifications shall be returned to the applicant and fees refunded in accordance with Schedule "C".
- (3) When a permit has been revoked by the Chief Building Official in accordance with the Act, or the owner and/or applicant has requested a cancellation of the permit, fees shall be refunded in accordance with Schedule "C".
- (4) No permit may be transferred unless an application to transfer has been made in a form as prescribed by the Chief Building Official and payment of the fees set out in Schedule "A" has been made and Section 8 of the Act has been complied with.

8. REPEAL

By-law 2346, 2595 (Former Anderdon Township By-law 2595 and Former Township of Malden By-law 85-12 and all amendments thereto, are hereby repealed.

9. EFFECTIVE DATE

This by-law shall come into force and effect immediately upon final passing thereof.

Finally passed this 26 day of JANUARY 1998.

Wayne Duns
Mayor

DePillars
Clerk

SCHEDULE "D"

NOTICE OF REQUIRED INSPECTIONS

1. The person to whom a permit has been issued shall notify the Chief Building Official a minimum of (1) business day in advance - 24 hours.
 - (a) The commencement of the construction of the building
 - (b) The readiness for the inspection and testing of:
 - (1) Sanitary and Storm building sewers.
 - (2) Sanitary and storm sewer bedding.
 - (3) Water service pipes beyond the building control valve.
 - (4) Building drains.
 - (5) Drainage systems and venting systems.
 - (6) Water distribution systems and
 - (7) Plumbing fixtures and plumbing appliances.
 - (c) The readiness to construct the footings.
 - (d) The substantial completion of the footings and foundations.
 - (e) Where the building is within the scope of Part 9 of the Building Code, the substantial completion of:
 - (1) Foundation wall, basement or crawlspace, waterproofing or damproofing drainage layer.
 - (2) Foundation drainage system.
 - (3) Sub surface storm drainage.
 - (4) Structural framing.
 - (5) Insulation, air barriers, vapour barriers.
 - (6) Roughing in of ductwork and piping for heating, ventilating and air conditioning systems and exhaust systems.
 - (f) Where the building is within the scope of Parts of the Ontario Building Code other than Part 9, the substantial completion of:
 - (1) Structural framing for each storey.
 - (2) Insulation, vapour and air barrier systems.
 - (3) Roughing in of heating, ventilation and air conditioning systems and air contaminant extraction systems.
 - (g) Of the commencement of:
 - (1) Masonry fireplaces and masonry chimneys.
 - (2) Factory built fireplaces and allied chimneys.
 - (3) Stoves, ranges and space heaters and add on furnaces, which use solid fuels and their allied chimneys.
 - (h) The substantial completion of all required fire separations and closures and all fire protection equipment such as standpipes, sprinklers, fire alarms and emergency lighting systems.

- (i) The substantial completion of interior finishes heating, ventilating, air conditioning and air contamination extraction equipment.
 - (j) The substantial completion of exterior cladding, fire access routes and site grading.
 - (k) The substantial completion of items included in site plan control by-laws.
 - (l) The completion of construction and installation of components required to permit occupancy by Sections 2.4.3.1 (2) and 2.4.1.3.2 (1) under the Ontario Building Code.
 - (m) The availability and completion of drawing of the building as constructed where requested by the Chief Building Official.
2. To facilitate the final inspection, the person to whom a permit is issued shall notify or cause to notify the Chief Fire Official, 24 hours in advance of the following stages of construction so they may be inspected.
- (a) Substantial completion of all fire protection systems including standpipe, sprinkler, fire alarm and emergency lighting systems.
 - (b) Of the completion of a building only where inspection(s) above is required under the Ontario Fire Code or other applicable legislation.
3. The person to whom a demolition permit has been issued shall notify or cause to notify the Chief Building Official a minimum of 24 hours in advance.
- (a) The commencement of demolition of a building.
 - (b) The completion of the superstructure of the building or parts thereby above grade elevation.
 - (c) The completion of foundation removal but prior to the backfilling and capping of services.
 - (d) Final grading of the Site.

"NOTIFICATION MUST BE CARRIED OUT THROUGH THE BUILDING DEPARTMENT SECRETARY".

APPENDIX 9

TYPICAL SUBDIVISION AGREEMENT

CORPORATION OF THE TOWN OF AMHERSTBURG

BY-LAW NO. 2007-07

**Being a By-law to authorize the execution of a
Subdivision Agreement**

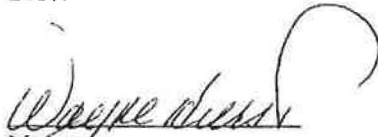
WHEREAS [redacted] has proposed the subdivision and servicing of lands owned by it within [redacted] Plan 12M-322, Part of Lot 1, [redacted] Plan 12R-206, Town of Amherstburg;

AND WHEREAS the Corporation of the Town of Amherstburg have settled with [redacted] the requirements for the provisions of Municipal Services within the area to be subdivided, which requirements are set out in the agreement hereto annexed, and which agreement is ratified and adopted by [redacted]

NOW THEREFORE THE MUNICIPAL COUNCIL OF THE CORPORATION OF THE TOWN OF AMHERSTBURG ENACTS AS FOLLOWS:

1. That the Corporation of the Town of Amherstburg enter into a Subdivision Agreement with [redacted] in the form annexed hereto, and the Mayor and Clerk be and they are hereby authorized to sign the original and copies thereof and affix the Corporate Seal thereto.
2. This By-law shall come into force and effect on the date of final passage hereof.

Read a first, second and third time and finally passed this 22nd day of January 2007.


Mayor


Clerk

SUBDIVISION AGREEMENT
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SCHEDULE "A"	Legal Description
SCHEDULE "B"	Definition of Terms
SCHEDULE "C"	Design Criteria

SUBDIVISION AGREEMENT

THIS AGREEMENT made in triplicate this ___ day of _____, 2007.

BETWEEN:

[REDACTED]
hereinafter called "the Developer"

OF THE FIRST PART;

-and-

**THE CORPORATION OF THE TOWN
OF AMHERSTBURG**

hereinafter called "the Town"

OF THE SECOND PART;

WHEREAS the Developer proposes the subdivision, development, servicing and sale of lands within **[REDACTED]** Town of Amherstburg, County of Essex which lands are more particularly described in Schedule "A" annexed hereto;

AND WHEREAS the County of Essex granted draft plan approval for subdivision of the lands on **[REDACTED]** subject to conditions imposed including a provision that the owner agrees in writing to satisfy all of the requirements, financial and otherwise, of the Town concerning the provision of roads, installation of services, drainage, the dedication and naming of streets, the granting of easements and parkland and other matters;

AND WHEREAS the Developer represents and warrants to the Town that it is now the registered owner of all of the lands described in Schedule "A" annexed hereto and that all of the right, title and interest of its predecessors in title and all the right and authority to complete the subdivision and to develop the lands is vested in it.

NOW THEREFORE IN CONSIDERATION of the premises and of the Town certifying to the County that the requirements of the Town have been met, the parties hereto agree as follows:

1. Recitals

The foregoing Recitals are true in substance and in fact and are hereby incorporated herein by reference.

2. Interpretation

The meanings of various terms used within the Agreement are as indicated in the definitions contained with the attached Schedule "B".

3. Installation of Services

The Developer will design, construct and install Services at its own expense on the Lands in accordance with such design criteria, detailed plans and work schedules to be filed in the office of the Clerk of the Town, with good materials, in a good, workmanlike and timely manner, in accordance with good and accepted engineering practices, and to the satisfaction of the Town, and in all cases the Town engineer, acting reasonably.

4. **Certificate of Liability Insurance**

The Developer will provide to the Town, on or before the commencement of any construction and installation of any of the Services called for herein, a certificate of liability insurance satisfactory to the Town, naming the Town as an additional insured party. The insurance shall protect the Developer and the Town against any liability that might arise out of the construction or installation of any of the Services herein referred to, and the said Developer shall continue such insurance in full force and effect so long as any Services are to be constructed or installed, and for a period of two (2) years after completion and Final Acceptance of the last of such Services. The limits of liability for public liability and property damage coverage under such insurance shall not be less than \$5,000,000.00. Before commencement of the installation of the Services, the Developer's consulting engineer shall provide satisfactory evidence to the Town that the said consulting engineer maintains a policy of public liability insurance and errors and omissions insurance satisfactory to the Town, which policy is to be maintained in full force and effect until the Services are completed and formally accepted by the Town.

5. **Save and Hold Harmless**

The Developer covenants and agrees to save the Town harmless from any and all claims, demands, loss, costs, or damages, including legal costs on a substantial indemnity basis in any way arising from or related to the subdivision and the proposed development thereof, arising or accruing to anyone up to two years after the completion and Final acceptance of the last of the Services in the subdivision.

6. **Drawings and Tenders**

The Developer shall submit all plans, design drawings, grading plans and specification lists, all of which shall carry the seal of the professional engineer who is responsible for such design and be signed by him, to the Town for examination by them and the Town engineer. In the case of any Services to be constructed by contract, the Developer shall also submit to the Town a copy of each set of "information for tenders" documents and each proposed contract together with the names of the proposed contractors and sub-contractors to be engaged. The Developer shall file with the Town work schedules for the construction and installation of all Services, whether by the Developer, the contractors, sub-contractors or others. The Developer shall obtain the approval in writing of the Town to all of the foregoing, except the selection of contractors or sub-contractors before granting any contract or commencing any work. The design criteria contained in Schedule "C" hereto shall constitute the minimum conditions upon which tenders are made, contracts let, or work done. The Developer's consulting engineer, or successor thereto, shall continue to be retained by the Developer until the works are complete and formally accepted by the Town.

7. **Construction of Services by Contractors**

In case of construction of Services by contractors, the Developer shall comply with all of the holdback provisions of the Construction Lien Act. In the construction of all Services the Developer shall indemnify and save

the Town harmless from any and all claims, actions and demands resulting from the construction and installation of Services.

8. **Inspection**

The Town, and its authorized agents, including the Town engineer, shall have the right at any time and from time to time to inspect all Services during and after construction and to inspect and test all materials proposed to be used in the construction of any of the Services. The reasonable costs of such inspections and tests shall be paid by the Developer within 30 days of written demand by the Town. If at any time, the construction of any service or material is, in the opinion of the Town engineer, acting reasonably, not in accordance with the plans and specifications or not in accordance with good engineering practices or any of the provisions of this Agreement, the Town engineer may order the materials to be replaced or the work to be placed in satisfactory condition within such time as he may specify, and in the event of the Developer failing to comply or obtain compliance with such order, the Town engineer may stop work upon such services, or in his sole discretion upon all services. The Developer shall at all times provide all information requested by the Town, its authorized agents and the Town engineer in relation to the various materials and services and shall at any time at his expense expose any municipal service for inspection by the Town engineer. Notwithstanding the generality of the foregoing, the rights of the Town and its authorized agents including the Town engineer hereunder shall be limited to a period of one year after the initial acceptance of the last of the services within or required to facilitate the servicing of lots where such inspection, testing or other action is proposed.

9. **Approval for Commencement of Work**

No work shall commence without the approval of the Town and any work requiring the approval or consent of any other governmental authority shall not commence until such approval or consent has also been obtained. No watermain, sanitary sewer, storm sewer or hydro line shall be connected to any existing municipal services without the written approval of whichever of the Town or the approval of the Authority which has jurisdiction over such municipal system.

10. **Work Schedule/Quality of Work**

The Developer will prepare and submit to the Town, plans for the installation of Services for each phase of the development and will request a pre-construction meeting with the Town and its consultants in order to establish a work schedule acceptable to the Town and shall proceed with reasonable development procedures and in accordance with such work schedule. Subject to Force Majeure, if the Developer fails to proceed with reasonable development procedures and in accordance with the accepted work schedule or if in the opinion of the Town engineer the Services are not being installed in accordance with the drawings, or specifications approved therefore, or in accordance with good engineering practices in a good, workmanlike manner, using good materials, then the Town shall give the Developer thirty (30) days to Cure any default following which and in addition to any other remedy the Town may have, the Town may, without

further notice, enter upon the lands of the Developer and proceed to supply all materials and do all necessary work in connection with the installation of the Services, including the repair or reconstruction of faulty work, and replacement of materials not in accordance with the drawings or specifications and the Town shall charge the cost thereof, including all engineering and other fees to the Developer, who shall forthwith pay the same within thirty (30) days of a written demand therefor by the Town. In the event that the payment is not received within thirty (30) days of the written demand by the Town, the amount expended shall constitute and be a lien and charge upon the lands of the developer and may be collected as real property taxes in accordance with the Municipal Act as amended from time to time.

11. **Developer's Responsibilities Until Final Acceptance**

Until such time as the Town has finally accepted each of the Services, including roadways herein referred to, the Developer shall be responsible therefor. The responsibility of the Developer prior to Final Acceptance by the Town shall include liability for all types of maintenance in connection therewith. If the Developer should in the opinion of the Town or of its agents or employees fail to maintain any Service including roadways, prior to the Final Acceptance by the Town, the Town may without notice in case of emergency, or in any other case on 30 days notice, if such default is not Cured by the Developer during the 30 day notice, maintain the same, but in so doing, the Town shall for all purposes be deemed to have acted as agent for the Developer, without in any way being deemed to have finally accepted such Service, or to have incurred any liability for future maintenance, and the Town shall be entitled to reimbursement for the cost of any such maintenance, within thirty (30) days of written demand therefor, and the Town shall further be relieved of liability for damages caused unintentionally, in the course of such maintenance. Snow removal, salting or sanding by the Town shall not constitute acceptance of the roads by maintenance thereof. The Developer shall also be responsible for the cleaning and flushing of sewers throughout the development until such time as the maintenance period for the construction of the Services has expired. The Town shall have the right to inspect the said sewers from time to time and, if deemed necessary, may require the Developer to clean and flush same immediately, and the Developer hereby agrees to perform such cleaning and flushing on demand to the entire satisfaction of the Town.

12 (a) **Building Permits**

The Developer covenants and agrees on behalf of itself and its successors in title to any lot, not to apply for any building permit for the construction of any building on any lots covered by this agreement until:

- (i) Initial Acceptance of Services
All of the services relating to all of the lots therein have been installed and initially accepted by the Town with the exception of the final asphalt surface course of the roadway.

(ii) Model Homes

The Developer will be allowed to construct one (1) model townhouse in the subdivision prior to the acceptance of services by the Town in accordance with the requirements of the Town's Development Manual.

12 (b) Tree Provisions/Mailbox Requirements

The Developer shall:

i) Tree Provision

Facilitate the planting of a minimum of two trees per block on private property in the front yard of each lot having a minimum diameter of 60 mm. The subject tree to be planted no closer than one (1) metre to any lot line. The trees shall be planted within 12 months of the initial occupancy of the house. Such trees shall be maintained in perpetuity. A list of the acceptable trees is available at the Public Works Department at the Town of Amherstburg. The Developer shall impose a covenant as to the planting and maintenance of the tree in the transfer of each lot conveyed by it; and

(ii) Super Mailboxes

Contact Canada Post to determine the location of super mailboxes throughout the subdivision and shall notify all purchasers of the exact location thereof. The location of super mailboxes also to be satisfactory to the Town.

12 (c) Landscaping Requirements

(i) Front and Sideyards

The front lawn and exterior side yard of each lot shall be sodded, seeded or otherwise landscaped within six months of the construction of a house thereon, and such sodding, seeding or landscaping shall be continued over the unpaved portion of the road allowance, including any lands between a sidewalk and the road, to the back of the curb and gutter in front of such lot. Such sodding, seeding or landscaping shall be maintained in perpetuity. The Developer shall impose a covenant to this effect in the transfer of each lot conveyed by it.

(ii) Retaining Wall

The Developer is required to install a retaining wall for purposes of erosion control in accordance with engineering drawings approved by the Town's Public Works Manager. The said retaining wall is required along the [REDACTED] boundary of the subdivision at the [REDACTED] [REDACTED] then easterly along a portion of the southern boundary [REDACTED] and along the easterly boundary of [REDACTED] [REDACTED]

12 (d) **Registration Requirements**

The Developer covenants and agrees to cause the local Land Registrar to register, immediately after registration of the proposed plan of subdivision, as annexed to each lot in the proposed plan of subdivision, a condition of restriction running with the lands, that such lot is not to be built upon unless the provisions of paragraph 12 of this agreement, limiting entitlement to building permits has been complied with.

13. **Financial Security**

The Developer will provide to the Town, before the commencement of any construction or installation of any service, a labour and materials payment bond, in all respects satisfactory to the Town, covering the proposed Services, and an irrevocable letter of credit (self renewing and without burden of proof), or a certified cheque, or a subdivision bond (the Municipality will not accept any assigned Contractor's bonds), satisfactory to the Town, in an amount equal to 50% of the value set by the Town for all Services to guarantee satisfactory installation of all Services. The labour and materials payment bond is held until the time has lapsed for any liens to be placed on the property. If the provision of Services to the lots requires the construction or installation of any services outside the subdivision, the foregoing provisions as to the labour and materials payment bond and of security equal to 100% of the value for Services shall extend to and be required in connection with any Service extending outside.

14. **Maintenance Security**

The Developer shall provide to the Town an irrevocable letter of credit, (self renewing and without burden of proof), or a certified cheque, or a subdivision bond (the Municipality will not accept any assigned Contractor's bonds), satisfactory to the Town, in an amount equal to 25% of the value set by the Town upon initial acceptance thereof, for all servicing of lots within the subdivision, for a period of one year after completion and initial acceptance by the Town of the last service provided. If the Municipality agrees and/or requests that some of the work be delayed, Performance Securities for 100% of the outstanding works would be required in addition to the Maintenance Security.

15. **Financial Security for Roads and Maintenance Issues**

The Developer will provide to the Town before the commencement of any construction or installation of any service an irrevocable letter of credit (self renewing and without burden of proof), or certified cheque in the amount of \$5,000.00 to guarantee satisfactory maintenance of roads and other lands within the subdivision until placement of final asphalt.

16. **Iron Bars**

The Developer will file with the Town a surveyor's certificate dated within 30 days before the application for initial acceptance by the Town of asphalt surfacing on roadways, to the effect that all Standard Iron Bars shown upon the plan of subdivision have been located or replaced.

17. **Staking of Bars Prior to Construction**

Before the sale of any lot or the issue of any building permit within the subdivision the Developer shall stake to the satisfaction of the Town engineer, the locations of all Standard Iron Bars, and shall maintain such staking to the satisfaction of the Town, its respective servants and agents and the Town engineer, in relation to each lot until the home foundation is installed and all services to the proposed home have been provided. The Developer will provide to the Town engineer on request, and to any proposed builder, all usual information as to grades and levels for each lot within the subdivision.

18. **Developers Responsibilities in Regard to Damages**

The Developer undertakes and agrees to pay for any damage caused to any existing road, road allowance, structure or plant and any costs involved in the relocation of or repair or connection to any existing services arising in any way from or in connection with this agreement or the provision of services called for herein including the changing of grades of existing adjacent roads, and also any taxes or other charges levied or to be levied upon the lands to be subdivided, until such time as the lands have been assessed and entered on the collector's roll according to the proposed and presently registered plans.

19 (a) **Stormwater Management/Drainage Issues**

The development of the subdivision requires special measures to deal with stormwater management. The Owner agrees;

- (i) that prior to final approval, the Owner shall finalize a stormwater management plan to the satisfaction and approval of the Town, the Essex Region Conservation Authority and the Ministry of the Environment;
- (ii) install the stormwater management measures identified above, as a part of the development of the site;
- (iii) conduct regular inspections once every two weeks and after each sizeable storm event of all sediment and erosion control measures recommended in the approved stormwater management plan during the construction phase;
- (iv) maintain an inspection log which shall be made available for review by the municipality and the Ministry of the Environment and Essex Region Conservation Authority, upon request. The log shall state the name of the inspector, date of inspections and the rectification or replacement measures which were taken to maintain the sediment and erosion control measures. Inspections shall continue until the assumption of services by the municipality or until site construction conditions warrant cessation of the visits;
- (v) any lands required for the permanent stormwater management treatment works are to be conveyed to the municipality; and

- (vi) to undertake an engineering analysis to determine the affect of increased runoff due to the development of the site, and to identify stormwater management measures as necessary to control any increases in flows in downstream watercourses, up to and including the 1:100 year design storm, to the satisfaction of the Town and the Essex Region Conservation Authority.
- (vii) to seek statutory approval under the Ontario Water Resources Act for the stormwater management works associated with this plan of subdivision.

19 (b) **Stormwater Management Issues – Catchbasin and Road Maintenance**

All catchbasins will have filter fabric placed under the lid to catch sediment. It will be the Developer's responsibility to ensure the filter fabric is changed periodically as required to allow drainage through the catchbasins. The developer will also be responsible for ensuring the roads are kept in a clean manner during house construction.

19 (c) **Street – Roadside Drain**

The Developer agrees to install a covered drainage system in accordance with engineering drawings approved by the Town's Public Works Manager along ~~Sandwich Street South commencing at the northern boundary of Block 1 and extending southerly to the north boundary of Block 2~~.

19 (d) **Conveyance of Block 1**

The Developer agrees to convey ~~Block 1~~ to the Town which contains the stormwater management system for the ~~Block 1~~ Subdivision.

19 (e) **Design Drawings**

For all the works outlined therein and referred to in this section, the Developer shall provide design drawings, specification lists, tender in the same manner as for services in the subdivision, as detailed in paragraphs 3 through 11 and 13 and 14 hereof, and shall obtain approval of the works as detailed in paragraph 27 hereof.

20. **Additional Work**

If at any time prior to final acceptance of the last of the services by the Town it is of the Town's reasonable opinion that additional works are proven necessary to provide adequately any of the public services specified in the schedules hereto, which were not reasonably foreseeable at the date of this Agreement then the Developer shall construct, install or perform such additional work at the request of the Town provided that, if the Developer disagrees that such additional works are necessary, the question shall be resolved by a single arbitrator if the parties can agree on one, otherwise by a panel of three arbitrators proceeding under the Arbitrations Act. In the event that the Arbitrator finds in favour of the Town then the Developer shall pay the same within thirty (30) days of written demand. In the event that the payment is not received within thirty (30) days of the written demand by the Town, the amount expended shall constitute and be a lien and charge upon the lands of the developer and may be collected as

real property taxes in accordance with the Municipal Act as amended from time to time.

21. **Grading of Topsoil**

The Developer covenants and agrees that topsoil excavated for roadways shall be left and leveled within the subdivision, except as provided in paragraph 22 hereof. Any topsoil that is stockpiled shall be neat and sloped in such a manner that weed cutting can be carried out with mechanical equipment by the Developer to the entire satisfaction of the Town.

22. **Grading/Dumping/Removal of Material**

The Developer shall carry out all grading of all lands, in accordance with the grading plans to be filed in the office of the Clerk of the Town of Amherstburg, and shall forthwith carry out temporary or permanent drainage work that the Town engineer may certify to be necessary to eliminate ponding erosion, channeling of underground water or other drainage problems. The Developer shall neither dump nor permit to be dumped any fill or debris, or remove or permit the removal of any soil or fill from any of the lands to be subdivided without the written consent of the Town engineer. In seeking consent of the Town engineer to the removal of topsoil the Developer shall establish that when final grades are established for all of the lots and blocks within the subdivision there will be topsoil to a depth of at least four inches (4") over the entire area not covered by buildings, roadways and driveways.

23. **Grass and Weeds Maintenance**

The Developer shall be responsible for the proper maintenance of grass and weeds throughout the subdivision under the direction of the Town until such time as a building permit is issued on a lot. The Developer is required to place notice on title of this requirement on each lot conveyed by it.

24. **Rear Yard Drainage**

Rear lot drainage shall be installed on each lot, in connection with the construction of a house thereon, and shall be connected to the storm sewer system. The specifications, design and installation of such rear yard drainage shall be acceptable to, and subject to the approval of the Town engineer. On an application for a building permit on any lot within the lands to be subdivided, the builder shall produce a plan or sketch satisfactory to the Chief Building Official of the proposed rear yard drainage, which shall be in accordance with the Building Code. The installation of such rear yard drainage shall be subject to the same inspections as foundation drains and the Chief Building Official may issue work orders or stop work orders in relation thereto.

25. **Municipal Numbers**

The Developer shall ascertain from the Town the appropriate municipal numbers for each lot, and shall provide such numbers to prospective purchasers, builders and lenders.

26. **Interim Acceptance of Services**

The Developer shall apply for initial acceptance of each individual Service by filing with the Town a certificate under the hand and seal of its project engineer that the construction and/or installation of such Services has been completed in accordance with the design criteria and the plans and specifications therefor approved and filed by the Town before construction, and by filing as-built drawings of such Service, and a certificate of payment therefor and of compliance with the Construction Lien Act. The Town and its authorized agents, including the Town engineer, shall carry out such inspections as they deem necessary, and such Service shall then be deemed to have received Interim Acceptance after the Town engineer certifying that such Service has been completed in accordance with this Agreement, providing that all the covenants of this Agreement have been complied with to the date of such certificate. After Interim Acceptance and after maintenance securities or bonds have been filed, the labour and materials payment bond and the performance bond or security in lieu thereof relating to such service shall be released.

27. **Final Acceptance of Services**

The Town shall have granted Final Acceptance of the Services in each phase upon the Town engineer and the Town being satisfied that all covenants under this Agreement have been fully complied with and all repairs and replacement required during the maintenance period have been carried out within such phase, and then authorizing release of the maintenance securities or bonds. Immediately prior to requesting Final Acceptance of the Services, the Developer shall flush clean and camera inspect the sanitary and storm sewer system. The Developer's consulting engineer shall certify that the Services have been inspected and the camera inspection has been reviewed, and that there are no sumps, cracks, blockages or other deficiencies within the system to the entire satisfaction of the Town.

28. **Town's Fees**

The Developer undertakes, covenants and agrees to pay any planning, engineering, legal, auditing or other fees or disbursements incurred by the Town relating in any way to the proposed subdivision, or the servicing thereof, or to this agreement, including negotiations and preparations prior to its execution and including the entire fees and disbursements of the Town engineer when acting pursuant to the terms of this agreement, and any clerical or administrative expense of the Town relating in any way to or arising from this agreement, forthwith upon being invoiced therefor. The Developer agrees to deposit with the Town on or before the execution of this agreement, the sum of \$2,000.00 to be applied against such fees as may be incurred from time to time, with such deposit to be renewed from time to time as used up, when requested by the Town, any unused balance to be returned to the Developer without interest, on the expiry of the maintenance period.

29. **Easements**

The Developer agrees to provide easements as may be required for services, utility or drainage purposes in a form satisfactory to the Town or utility.

30. **Conveyance of Reserves**

The Developer covenants and agrees to convey to the Town, at the time of registration of the proposed plan of subdivision 0.30 metre reserves along ~~the property boundaries of Lots 1, 7, 8, 9, 10 and 11 adjoining Sandwich Street South.~~

31. **Register Notice of Agreement**

The Developer covenants and agrees to cause the Local Land Registrar to register notice of this agreement against all of the lands affected hereby, immediately after registration of the proposed subdivision, and to obtain acknowledgement, consent and postponement agreements, from any and all encumbrancers registered prior to registration of such notice.

32. **Development Charges**

The Developer acknowledges that the lands subdivided by this agreement are subject to By-law 2004-64 passed August 9, 2004 which established development charges for residential development in the Town, and provided that a development charge of \$7,420.00 be paid for each Townhouse dwelling unit to be constructed (\$8,239.69 as at the passing of this agreement). The Developer further acknowledges that the by-law provides for an annual inflationary adjustment in accordance with the Section 3(4)(a) of the Development Charges Act, and that the above noted figure may change annually. The said development charge shall be paid prior to the issuance of a building permit for each lot together with the applicable development charge for school purposes. The Developer undertakes and agrees to provide that all Offers of Purchase and Sale include information that satisfies Subsection 59(4) of the Development Charges Act.

33. **Town Engineer**

Throughout this agreement the term "Town Engineer" shall mean the professional engineer or firm of professional engineers retained by the Town to carry out the duties referred to in this agreement. Notwithstanding the above, the Town may agree to the use of a single engineering firm. However, should any dispute arise as a result of this agreement, the selected engineering firm shall be responsible to the Town, and the Developer shall be required to retain its own professional engineer.

34. **Use of General Terms**

Throughout this agreement the singular shall be deemed to include the plural, and the masculine, feminine and neuter genders shall be interchangeable as the context and applicable situations may require.

35. **Enforcement of Agreement**

The Developer will not call into question directly or indirectly in any proceeding whatsoever in law or in equity or before any administrative or other tribunal the right of the Town to enter into this agreement and to enforce each and every term, covenant and condition thereof and this provision may be pleaded by the Town in any such action or proceeding as a complete and conclusive estoppel of any denial of such right. If any provision of this agreement shall be found to be or deemed illegal or invalid, the remainder of the agreement shall not be affected thereby.

36. **No Waiver of Rights**

No indulgence or forbearance by the Town shall be deemed to constitute a waiver by the Town of its rights to insist on performance in a full and timely manner of all the covenants contained herein, and any such waiver, in order to be binding, must be in writing and duly authorized by the Town Council. No such waiver of any provisions, conditions or covenants shall be deemed to be a waiver of the right to later require full and timely compliance with the same terms, conditions or covenants, or with any other terms, covenants or conditions of this agreement at any time.

37. **Parkland Dedication**

In satisfaction of the requirement that the owner convey up to 5% of the land included in the plan to the municipality for park purposes, or cash in-lieu thereof. The Developer covenants agrees to pay the Town the sum of \$33,750.00 with said fee to be paid prior to the acceptance of services as detailed in Section 26 of this agreement.

38. **Schools**

In accordance with the requirements of the Greater Essex County District School Board and the Windsor-Essex Catholic District School Board, the Developer is required to place notice on title for purchasers of the lots to be aware that students may not be able to attend the closest school and could be bused to a distant school with available capacity.

39. **Sidewalks**

The Developer shall install sidewalks on one side of the road in accordance to the approved design drawings and the Town's design standards and Development Manual. The timing and installation of the required sidewalks will be determined by the Town's Manager of Public Services. Construction of the sidewalks will not be required until the majority of the dwellings are constructed with exceptions of short sections of indicator sidewalks at new intersections or as directed by the Manager of Public Services. Such indicator sidewalks will provide prospective buyers evidence of proposed sidewalks.

The Developer shall further provide a project sign indicating that sidewalks will be constructed along the easterly part of the roadway. The Developer agrees to register a covenant on title of the property advising property owners of this requirement for each property.

40. **Streetlights**

The Developer shall install streetlights in accordance with the present design standards and the Town's Development Manual, all to be approved by the Town of Amherstburg. All new lights shall be 100 watt, flat lens full cut off fixtures.

41. **Street Signs**

The Developer shall arrange with the Town to install street signs at each intersection and where necessary, all to be done in accordance with present standards and the Town's Development Manual satisfactory to the Manager of Public Services.

42. **Access to Rear Yards**

The Developer covenants and agrees to cause to be registered on title easements for purposes of access to the rear yards of the interior units and maintenance of the rear yard drainage systems.

43. **Methane Abatement**

The Developer shall conduct the necessary geo-technical studies to assess the presence of methane gas. Methane abatement measures will be installed as deemed necessary. The Developer is required to register this as a covenant on the title of each lot to be conveyed by it.

44. **Cure Period**

Throughout this Agreement, where reference is made to the Town undertaking works on behalf of the Developer because of default or some other reason, it is agreed that the Developer will be given thirty (30) days to Cure any such deficiency, default or other problem or commence to Cure default and proceed diligently to remedy same prior to the Town undertaking the required works unless such deficiency, default or other problem is deemed to be an emergency.

45. **Notice**

- (a) Any notice, direction or other instrument required or permitted to be given by any party under this Agreement shall be in writing and shall be sufficiently given if delivered personally, sent by prepaid first-class mail or transmitted by telecopier or other form of electronic communication during transmission of which no indication of failure or receipt is communicated to the sender:

In the case of notice to the Developer:

[REDACTED]
[REDACTED]
[REDACTED] ON [REDACTED]

with a copy to:

[REDACTED]
[REDACTED]
[REDACTED] AMHERSTBURG, ON N9V 2A5

In the case of notice to the Town:

271 Sandwich Street South
AMHERSTBURG, ON N9V 2A5

Attention: The Clerk
Fax: (519) 736-0011

Planning Coordinator
Fax: (519) 736-9859

Manager of Public Works
Fax: (519) 736-7080

- (b) Any such notice, direction or other instrument if delivered personally, shall be deemed to have been given and received on the date on which it was received at such address, or, if sent by mail, shall be deemed to have been given and received on the date which is five (5) days after which it was mailed, provided that if either such day is not a Business Day, then the notice shall be deemed to have been given and received on the Business Day next following such day. Any notice transmitted by telecopier or other form of electronic communication shall be deemed to have been given and received on the date of its transmission provided that if such day is not a Business Day or it is received after the end of normal business hours on the date of its transmission at the place of receipt, then it shall be deemed to have been given and received at the opening of business in the office of the recipient on the first Business Day next following the transmission thereof. If normal mail service, telex, telecopier or other form of electronic communication is interrupted by strike, slowdown, Force Majeure, or other cause, a notice, direction or other instrument sent by the impaired means of communication will not be deemed to be received until actually received, and the party sending the notice shall utilize any other such service which has not been so interrupted to deliver such notice.

46. **Agreement Binding on Parties**

This agreement shall enure to the benefit of, and be binding upon the parties hereto, and their respective heirs, executors, administrators, successors and assigns.

IN WITNESS WHEREOF the Town has hereunto affixed their seals attested by the signatures of their proper signing officers and the Developer has hereunto affixed its seal attested by the signature of its proper signing officer in that regard.

[REDACTED] HARRIS REALTY LIMITED

Per: [REDACTED]

[REDACTED]

I have authority to bind the corporation

THE CORPORATION OF THE
TOWN OF AMHERSTBURG

Per: [Signature]

Mayor Wayne Hurst

Per: [Signature]

Clerk David Mailloux

SCHEDULE "A"

LEGAL DESCRIPTION

Block 9, Plan 1234-323
Part Lot 4, Concession 1
Part 1, Plan 1234-200-10

Town of Amherstburg,
County of Essex,
Province of Ontario

[REDACTED] HARRIS REALTY LIMITED

Per: [REDACTED]

[REDACTED]

I have authority to bind the corporation

THE CORPORATION OF THE
TOWN OF AMHERSTBURG

Per: [REDACTED]

Mayor Wayne Hurst

Per: [REDACTED]

Clerk David Mailloux

SCHEDULE "B"

DEFINITION OF TERMS

The following definitions shall apply in the interpretation of this Agreement:

"Cure" means that the Developer has commenced the works required to address the Event of Default that has been identified and for which notice in accordance with this Agreement has been provided and is proceeding diligently to remedy any deficiency or default.

"Event of Default" means if the Developer fails in the performance of an obligation under this Agreement, and the Town issues a notice of such failure or default and a demand for performance, observance or compliance has been given. In such cases, the Town must allow the Developer a minimum of thirty (30) days to Cure the default (Cure as defined herein) unless such default is determined to be an emergency by the Town in which case a minimum less than thirty (30) days can be established for the Developer to Cure the default.

"Final Acceptance" means the date, commencing no sooner than the expiry of the maintenance period wherein the Developer's Consulting Engineer has provided a declaration to the Town confirming that the works and Services have been completed in accordance with the terms of this Agreement and the Town engineer formally accepts the Services in writing.

"Force Majeure" means and includes acts of God, terrorist attacks, weather conditions, labour disputes, shortage of labour and materials and any happening, condition or thing beyond the control of a person which could not reasonably have been anticipated and avoided by such person which delays or prevents such person from performing any of its obligations hereunder, financial inability excepted.

"Improvements" means modifications to the Town-owned infrastructure that may be reasonably required from time to time.

"Indemnifiers" means jointly and severally.

"Interim Acceptance" means when Services are placed on maintenance by the Town. **"Lands"** means those lands as described in Schedule "A" attached hereto.

"Plan of Subdivision" means a registered plan of the lands where new, separate parcels of land have been created and can be legally used for the sale of lots.

"Services" means the storm sewers, sanitary sewers, waterlines, roads, curbs and hydro services, including those components of infrastructure described in Schedule "C".

"Substantial Performance" means the date that the Developer's Consulting Engineer has provided a declaration to the Town confirming that the works are ready for use or are being used for the purposes intended.

"Town's Infrastructure Work" means the infrastructure work being undertaken by or on behalf of the Town to the portions of the Lands not designated for private development.

[REDACTED] OF HARRIS REALTY LIMITED

Per: [REDACTED]
[REDACTED]

I have authority to bind the corporation

THE CORPORATION OF THE
TOWN OF AMHERSTBURG

Per: [REDACTED]
Mayor Wayne Hurst

Per: [REDACTED]
Clerk David Mailloux

SCHEDULE "C"

DESIGN CRITERIA

FOR SERVICES TO BE PROVIDED IN THE TOWN OF AMHERSTBURG

Sanitary and storm sewers, watermains, curbs and gutters, sidewalks, street lighting and electric service connections shall be constructed in accordance with plans and specifications prepared by a professional engineer, registered to practice in the Province of Ontario, and acceptable to the Town of Amherstburg. Criteria upon which these services are to be designed, are as described in this schedule.

STORM DRAINAGE

- (a) Storm sewers, together with catch waterbasins shall be installed in all streets in the development in accordance with the approved engineering drawings and as approved by the Ministry of the Environment and Energy, E.R.C.A. and the Corporation. A copy of the design calculations shall be submitted to the Corporation.
- (b) Private service connections (including cleanouts) from the storm sewers to the front property line of each building lot shall be provided and the developer shall install one private service connection for each unit. The minimum size of service connections shall be 150 mm. (6") diameter. Private storm service connections and clean-outs shall not be constructed under future driveways. Each storm service shall be provided with a clean out situated at the property line as per clean out detail on the approved engineering drawings.

Storm Sewers shall be designed in accordance with the following criteria:

Design Method	-	rational method
Design Frequency	-	1:5 year
Runoff Coefficient	-	0.33
Minimum Pipe Size	-	300 mm. dia.
Manning Coefficient	-	0.013
Minimum Velocity	-	0.76 m/s
Private Drain Connection	-	150 mm. dia.
Minimum Cover	-	0.9 m.
Maximum Manhole Spacing	-	122 m.
Pipe Material	-	concrete or PVC

Restrictions imposed on the storm sewer outlet by the Town or by the Essex Region Conservation Authority shall be incorporated in the design of the storm sewer system. A stormwater management study shall be completed to the satisfaction of the Town and the Essex Region Conservation Authority. The study shall determine the effect of increased runoff due to development of the site and identify stormwater management measures to control any increases in flows in downstream watercourses up to an including the 100 year design storm. The Developer shall obtain a certificate of approval from the Ministry of the Environment, Design Approval Branch.

SANITARY SEWERS

Sanitary sewers together with necessary appurtenances and service connections from the appropriate sewer to the front property line of each building lot shall be constructed to the approved design of the Ministry of the Environment and Energy and the Corporation. Each building lot shall be provided with access to a sanitary sewer service connection for each unit. The minimum sanitary service connection size shall be 5" in diameter. Each sanitary service shall be provided with a clean out situated at the property line as per clean out detail on the approved engineering drawings. The Developer shall be responsible for all costs associated with the construction of the Ontario Ministry of the Environment and Energy and the Provincial sewage works program across the Developer's property.

Sanitary Sewers shall be designed in accordance with the following minimum design criteria:

Average Daily Flow	-	450 L/cap/day
Peaking Factor	-	harmon formula
Population Density	-	3.5 ppu
Minimum Pipe Size	-	200 mm. dia.
Manning Coefficient	-	0.013
Minimum Cover	-	2.5 m.
Maximum Manhole Spacing	-	122 m.
Private Drain Connection	-	125 mm. dia.
Pipe Material	-	PVC

The Developer shall obtain a certificate of approval from the Ministry of the Environment, Design Approval Branch.

WATERMAINS

The Developer shall construct and install sufficient watermains including hydrants, valves and blow-offs to service the entire subdivision with connections to all lots in accordance with the approved engineering drawings. Each lot shall be serviced by a single water service connected to the mainline.

Minimum Cover	-	1.5 m.
Maximum Hydrant Spacing	-	150 m.
Maximum Valve Spacing	-	150 m. and at intersections
Minimum Pipe Size	-	150 mm. dia.
Lot Connection	-	19 mm. dia.
Pipe Material	-	PVC
Mainline Services Pipe Material	-	Copper

Design and installation shall be in accordance to the Town's watermain specification to the satisfaction of the Town of Amherstburg.

The Developer shall obtain a certificate of approval from the Ministry of the Environment, Design Approval Branch.

ROADS

The Developer shall construct and install roadways and curbs and gutters upon all allowances for roads within the draft plan and upon the detail plans of services, in accordance with the following minimum design criteria:

(a) Roads within the Subdivision

Width (face to face of curb)	-	8.5 m.
Curb and Gutter	-	Barrier type concrete curbs and gutters

Barrier type concrete curbs and gutters shall be constructed on both sides of all roadways including all turning radii. Design and type of curb is shown on the approved engineering drawings. All catch basin grates are to open towards the property line and not towards the street.

Alignment:		
Minimum Turning Radius	-	9 m.
Minimum Road Grade	-	0.30%
Cross Fall Grade	-	2.0% min.
and design parameters recommended by the Ministry of Transportation.		

In general, any trenches crossing under pavement shall be backfilled with granular material acceptable to the Town engineer and such trenches shall be mechanically compacted as required by the Town engineer. Boulevards and other unpaved portions of the allowances for roads (except where forming part of the front lawn of residential lots) must be graded and sodded or seeded by the Developer.

SIDEWALKS

The Developer shall install sidewalks on one side of the road in accordance to the approved design drawings and the Town's design standards and Development Manual. The timing and installation of the required sidewalks will be determined by the Town's Manager of Public Services. Construction of the sidewalks will not be required until the majority of the dwellings are constructed with exceptions of short sections of indicator sidewalks at new intersections or as directed by the Manager of Public Services. Such indicator sidewalks will provide prospective buyers evidence of proposed sidewalks.

The Developer shall further provide a project sign indicating that sidewalks will be constructed along the easterly part of the roadway. The Developer agrees to register a covenant on title of the property advising property owners of this requirement for each property.

STREET LIGHTS

The Developer shall install street lights in accordance with the present design standards and the Town's Development Manual, all to be approved by the Town of Amherstburg. All new lights shall be 100 watt, flat lens full cut off fixtures.

STREET SIGNS

The Developer shall arrange with the Town to install street signs at each intersection and where necessary, all to be done in accordance with present standards and the Town's Development Manual satisfactory to the Manager of Public Services.

HYDRO SERVICE

The Developer shall construct and install a sufficient hydro distribution system to service the entire subdivision with connections to all lots therein and connect the same to the existing hydro distribution system. Individual lot services, where possible, shall be provided on common lot lines so that residential hydro meters face each other. The hydro distribution system within the subdivision shall not be grounded to the water distribution system. All hydro service within the subdivision shall be underground and designed and installed in accordance with the requirements and criteria of the Town of Amherstburg and Hydro One.

TELEPHONE

The Developer shall arrange for Bell Telephone to provide underground telephone service to all of the lots within the subdivision.

GAS

The Developer shall arrange for Union Gas Company to provide underground gas service to all of the lots within the subdivision.

CABLE T.V SERVICE

The Developer shall, at it's own expense, make satisfactory arrangements with the cable company providing cable television service to the municipality to provide for a buried or underground cable television service for this development. The Developer shall provide to the Corporation, upon demand, confirmation from the said cable company that such arrangements have been made.

SERVICE LOCATION

ADJUSTMENTS

The grade of any and all water service boxes, valves chambers, hydrants, manholes, drains and transformer boxes shall be adjusted by the Developer when and as may be required by the Town engineer.

TEMPORARY SERVICE

Upon a connection of any type being made to the hydro or water services, a temporary meter or meters of a type and in a location or locations satisfactory to the Town shall be installed and continuously maintained until all hydro and/or water used within the subdivision, once the same is accepted by the Town, is metered through approved private connections. The Developer shall be responsible for, and will promptly pay or cause to be paid all charges for hydro and water supplied to the subdivision.

DRIVEWAY APPROACHES

Residential driveways and their approaches shall be constructed to a width that complies with the provisions of the Corporation's Zoning By-law, as amended from time to time. Residential approaches shall consist of 250 mm. (10") Granular "A" stone base with interlocking paving stone, concrete or asphalt paving from the back of the curb to the property line.

It is understood and agreed that under no circumstances will the Developer herein be permitted to install a new residential driveway approach within the corner radii of a curb constructed along any street in this development.

It is further understood and agreed that under no circumstances will the Developer or any other persons be permitted to install a new residential driveway approach over any private service connections from the storm or sanitary sewers or water system except where such connections cross driveways laterally (over the shortest possible distance) to enter the dwelling.

This provision is to be specifically brought to the attention of purchasers of lots at the time of purchase.

COMMUNITY MAILBOXES

The Developer will be responsible for negotiating specific locations within the subdivision with Canada Post for the location of community mailboxes.

EASEMENTS

The Developer agrees that such easements as may be required for utility or drainage purposes shall be granted to the appropriate authority.

ROAD ALLOWANCES

All road allowances shown on the draft plan shall be dedicated as public highways and shall be not less than 20.00 m (66') wide and shall be shown on the approved engineering drawings.

REAR YARD DRAINAGE

- (a) Rear yard drainage shall be provided for each building unit in the locations and according to the specifications prescribed by the approved engineering drawings and as approved by the Corporation. Rear yard drainage shall be installed contemporaneously with the construction of dwellings on each building lot. A separate rear yard drainage system, with 300 mm. diameter pre-fabricated polyethylene catch basins in accordance to the rear yard drainage detail shown on the approved engineering drawings, shall be provided for each building unit.
- (b) The Developer shall, at it's own expense, prepare a lot grading and rear yard drainage plan for each individual building unit within this development and shall file same with the Corporation. The lot grading plan shall show proposed dwelling elevation, proposed elevations at lot corners and direction of flow of the year yard drain pipe. The final elevations of all

dwelling and other buildings, minimum opening elevations, where applicable and the final lot grades relating thereto and the rear yard drainage shall conform to the proposed lot grading and rear yard drainage plan filed for that unit. The consulting engineer, or a certified Ontario Land Surveyor, shall certify upon completion of the construction of the dwelling and building on each lot that the said lot grading and rear yard drainage plan has been complied with, in accordance with the approved engineering drawings, and until such time as the said certification has been received by the Corporation, occupancy of the dwelling on the subject building lot shall not be permitted.

SPECIAL SERVICING REQUIREMENTS

The construction of structures shall conform to the following requirements:

- (a) Roof or rain water leaders and weeping tile drains from each respective building must be discharged into the storm sewer. A sump pump connected to the storm sewer must be provided for each building.
- (b) Weeping tile drains shall not be connected to the sanitary sewers.
- (c) Basement floor drains shall be connected to the sanitary sewers provided for each dwelling.
- (d) Rear yard drainage, including 300 mm. diameter pre-fabricated polyethylene catch basins, shall be provided for each building unit in the locations and according to the design and specifications as shown on the approved engineering drawings.
- (e) A lot grading plan shall be included in the final set of plans approved for construction of the works. The consulting engineer or a certified land surveyor shall certify, upon completion of the works, that the lot grades and catch basin elevation are in accordance with the design and that the lands abutting the subdivision are draining adequately. The Developer acknowledges that, until such time as the provisions of this paragraph have been complied with, no occupancy of any building shall be permitted and any and all securities delivered to the Corporation by the Developer herein shall be held to ensure the provisions of this paragraph are complied with.

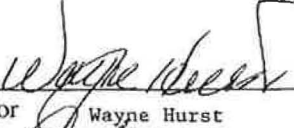
I have the authority to bind the corporation

BOU HARRIS REALTY LIMITED

Per: 

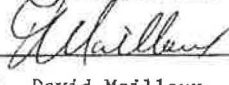
Lou Hurst

**THE CORPORATION OF THE
TOWN OF AMHERSTBURG**

Per: 

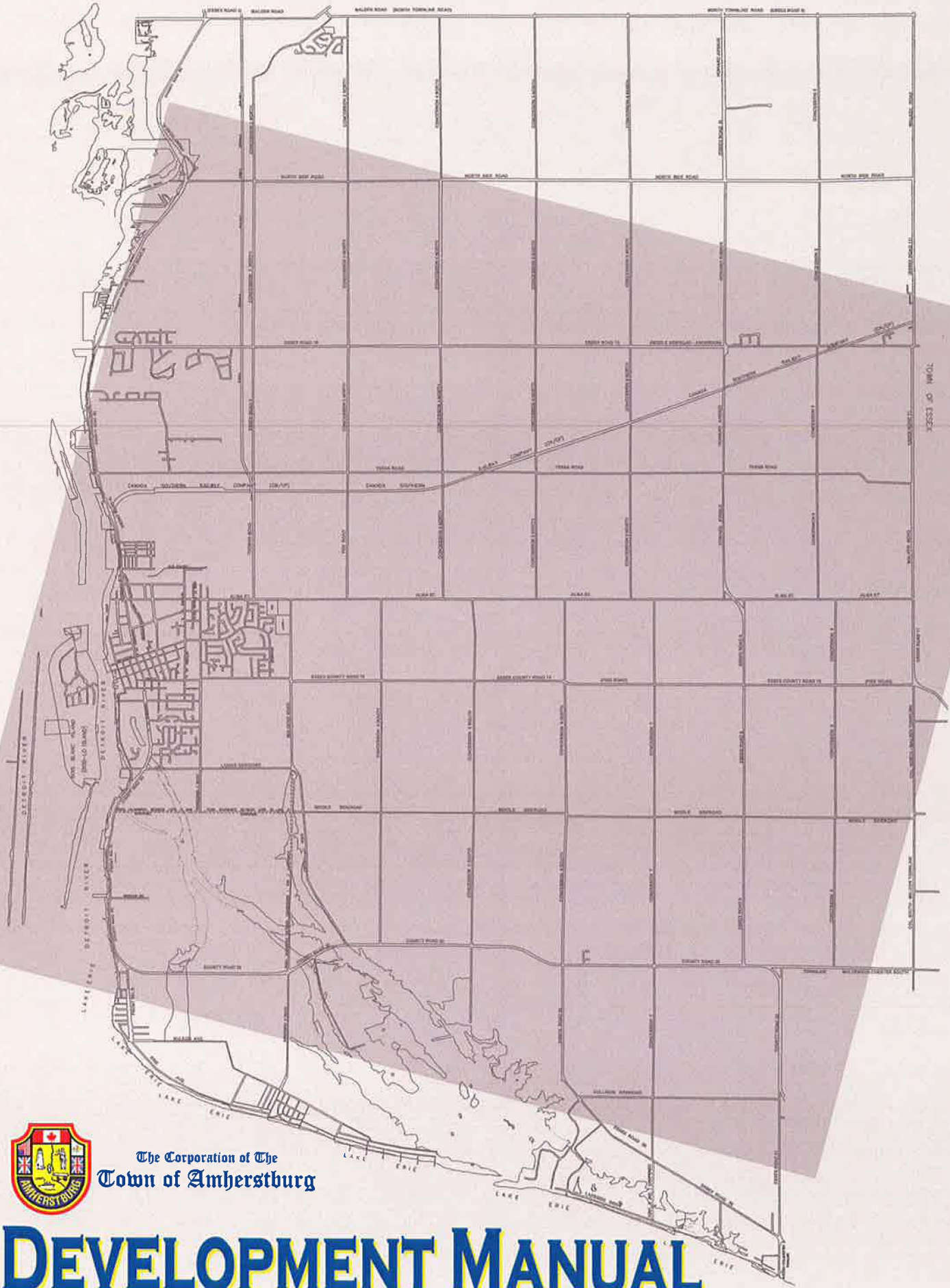
Mayor

Wayne Hurst

Per: 

Clerk

David Mailloux



The Corporation of The
Town of Amherstburg

DEVELOPMENT MANUAL