

THE CORPORATION OF THE TOWN OF AMHERSTBURG

BY-LAW NO. 2011-10

A by-law to authorize the signing of a Development Agreement.

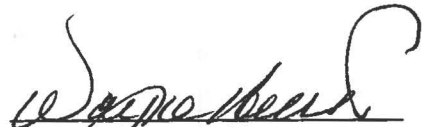
WHEREAS C.D.L. Recyclers Inc. has proposed the development of property at 7078 Smith Industrial Drive for purposes of manufacturing and assembly of car parts;

AND WHEREAS the Council of the Town of Amherstburg and owners of the said property have agreed to the terms and conditions of a Development Agreement in the form annexed hereto;

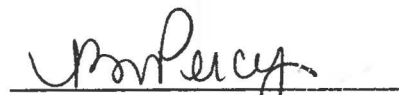
NOW THEREFORE THE COUNCIL OF THE CORPORATION OF THE TOWN OF AMHERSTBURG HEREBY ENACTS AS FOLLOWS:

1. That the Mayor and Clerk be and they are hereby authorized to execute the original and copies of a Development Agreement in the form annexed hereto 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 24th day of January, 2011.



Mayor- Wayne Hurst



Clerk- Brenda M. Percy

The applicant(s) hereby applies to the Land Registrar.

yyyy mm dd Page 1 of 15

Properties

PIN 01551 - 0049 LT
 Description PLAN-2 SEC 12M237; LT 17 PL 12M237; AMHERSTBURG
 Address 7078 SMITH INDUSTRIAL DRIVE
 AMHERSTBURG

Consideration

Consideration \$ 0.00

Applicant(s)

The notice is based on or affects a valid and existing estate, right, interest or equity in land

Name THE CORPORATION OF THE TOWN OF AMHERSTBURG
 Address for Service 271 Sandwich St. St.
 Amherstburg, ON
 N9V 2A5

I, Lory Bratt, AMCT, Planning Coordinator, have the authority to bind the corporation.

This document is not authorized under Power of Attorney by this party.

Party To(s)*Capacity**Share*

Name	C.D.L. RECYCLERS INC.	Registered Owner
Address for Service	7084 Smith Industrial Dr. McGregor, On NOR 1JO	

This document is being authorized by a municipal corporation Lory Bratt, AMCT, Planning Coordinator.

This document is not authorized under Power of Attorney by this party.

Statements

This notice is pursuant to Section 71 of the Land Titles Act.

This notice is for an indeterminate period

Schedule: See Schedules

Signed By

Armando Felice Antonio DeLuca	500-251 Goyeau Street Windsor N9A 6V2	acting for Applicant(s)	Signed	2011 02 08
Tel 519-258-0615				
Fax 5192586833				

I have the authority to sign and register the document on behalf of the Applicant(s).

Submitted By

MOUSSEAU DELUCA MCPHERSON PRINCE	500-251 Goyeau Street Windsor N9A 6V2	2011 02 08
Tel 519-258-0615		
Fax 5192586833		

Fees/Taxes/Payment

Statutory Registration Fee	\$60.00
Total Paid	\$60.00

The applicant(s) hereby applies to the Land Registrar.

File Number

Applicant Client File Number : 24870

Party To Client File Number : 24870

TOWN OF AMHERSTBURG
DEVELOPMENT AGREEMENT

BETWEEN:

C.D.L. RECYCLERS INC.

-AND-

THE CORPORATION OF THE TOWN OF AMHERSTBURG

DEVELOPMENT AGREEMENT

Registered Feb. 8, 2011.

THIS AGREEMENT made in triplicate this 24th day of January, 2011.

BETWEEN:

C.D.L. RECYCLERS INC.
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 Owner intends to develop the said lands for the manufacturing and assembly of car parts 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 of the said lands requires the Owner to enter into a Development Agreement;

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 and Site Servicing
- SCHEDULE "C" - Elevations
- SCHEDULE "D" - Storm Water Detention Calculations
- SCHEDULE "E" - Listing of Plant and Landscape Materials

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;
 - (e) Site Servicing Plan.
4. Schedule "C" hereto shows:
 - (a) Elevations Drawings
5. Schedule "D" hereto shows:
 - (a) Stormwater Detention Calculations
6. Schedule "E" hereto shows:
 - (a) Listing of Plant and Landscape Materials
7. The Owner shall be responsible for consulting with and obtaining any necessary approvals from Hydro One, Union Gas and Bell Canada regarding any matters that relate to services provided by Hydro One, Union Gas and Bell Canada.
8. 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.
9. The Owner shall be responsible for consulting with and obtaining any necessary approval from the authority having jurisdiction regarding the private septic system.
10. All of the exterior walls of the building shall be as per the elevation drawings as shown on Schedule "C" hereto.
11. All parking and loading areas and lanes and driveways shall be paved with asphalt or a concrete Portland cement or other like material capable of 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.
12. The Owner shall maintain a minimum of parking spaces, as designated on Schedule "B".
13. 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.
14. 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.

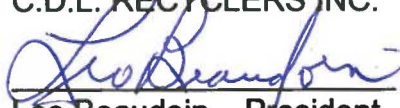
15. Snow removal from the parking or loading areas and lanes, driveways and walkways shall be the responsibility of the Owner.
16. The Owner shall install and maintain a system for the disposal of storm and surface water as indicated on Schedules "B" and "D" so that no such water will flow along the 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.
17. 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.
18. 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.
19. The Owner shall landscape and maintain in plants and ground cover acceptable to the Corporation those lands so indicated on Schedules "B" and "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.
20. 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.
21. 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 him 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.
22. 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.

23. 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.
24. 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.
25. 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.
26. In the event that an Owner should fail to obey a stop work order issued under Section 23 hereof, the Owner recognizes the right of the Corporation to apply to the Courts for a restraining order.
27. In the event that an Owner should fail to correct a deviation or deficiency after notice pursuant to Section 24 or after notice of an opinion, which Council of the Corporation determines is correct under Section 25, 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 notices 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.
28. 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.
29. 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 if its performance of the said obligations.
30. 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.

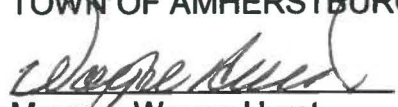
31. All facilities and matters required by this Agreement shall be provided and maintained by the Owner at its sole risk and expense to the satisfaction of the Corporation and in accordance with the standards determined by the Corporation and in default thereof and without limiting other remedies available to the Corporation, the provisions of Section 446 of the Municipal Act shall apply.
32. 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 Corporation's Director of Engineering and Infrastructure. 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.
33. 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 lands

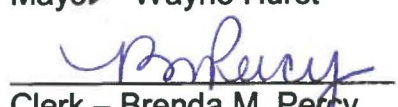
IN WITNESS WHEREOF the Owner executed this Agreement.

OWNER:
C.D.L. RECYCLERS INC.


Léo Beaudoin – President

THE CORPORATION OF THE
TOWN OF AMHERSTBURG


Mayor – Wayne Hurst


Clerk – Brenda M. Percy

Authorized and approved by By-law
No. 2011-10 enacted the 24th day of
January, 2011.

SCHEDULE "A"

The following is a description of the land to which this instrument applies:

Plan 2, SEC 12M237,
Lot 17, Plan 12M-237,
Town of Amherstburg,
County of Essex,
Province of Ontario

OWNER:
C.D.L. RECYCLERS INC.


Leo Beaudoin – President

THE CORPORATION OF THE
TOWN OF AMHERSTBURG


Mayor – Wayne Hurst


Clerk – Brenda M. Percy

SITE WORK GENERAL NOTES:

- ALL WORK SHALL CONFORM TO THE TOWN OF AMHERSTBURG AND OPES STANDARDS AS APPLICABLE.
- PRIOR TO COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, ELEVATIONS AND FIELD CONDITIONS. IN THE EVENT THAT DIMENSIONS, ELEVATIONS OR FIELD CONDITIONS VARY FROM DESIGN DRAWINGS, THE ENGINEER SHALL BE NOTIFIED.
- PRIOR TO COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR SHALL FIELD VERIFY HORIZONTAL AND VERTICAL LOCATIONS OF ALL EXISTING SEWERS AND UTILITIES TO BE CONNECTED TO PRIOR TO CONSTRUCTION STAKING. IF NEEDED, THE ENGINEER SHALL BE NOTIFIED AND THE PLANS SHALL BE ADJUSTED ACCORDINGLY.
- PRIOR TO COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR SHALL REVIEW AND COORDINATE ALL PROPOSED GRADES, SEWER PIPE SIZES, AND STORM AND SANITARY STRUCTURE RM ELEVATIONS. IN THE EVENT OF ANY DISCREPANCIES THE ENGINEER SHALL BE NOTIFIED AND THE PLANS SHALL BE ADJUSTED ACCORDINGLY.
- THE CONTRACTOR AND HIS WORKERS SHALL UNDERTAKE ALL WORK ON THIS PROJECT IN COMPLIANCE WITH THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS, ONTARIO AS REQUIRED BY SUCH AS AMENDED.
- THE LOCATIONS OF EXISTING UTILITIES ARE APPROXIMATE ONLY. THE CONTRACTOR IS RESPONSIBLE FOR ACCURATELY LOCATING UTILITIES PRIOR TO CONSTRUCTION AND FOR ADEQUATELY PROTECTING EXISTING UTILITIES DURING CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
- EXCAVATE TO THE DEPTH OF THE FINAL SUBGRADE ELEVATION TO ALLOW FOR GRADE CHANGES AND THE PLACEMENT OF THE RECOMMENDED PAVEMENT SYSTEM.
- TRENCH BACKFILL UNDER THE PAVEMENT AREAS AND WITHIN 3 FEET OF PAVEMENT AREAS SHALL BE ALL GRANULAR "A" BASE TO BE COMPACTED TO 100% S.P.A.D.D.
- ALL NATIVE MATERIAL COMPACTED TO 95% S.P.A.D.D.
- REMOVE ROOTS, SOFT SOIL AND REPLACE WITH GRANULAR "B" TYPE 1 MATERIAL COMPACTED TO 95% S.P.A.D.D.
- RESTORE BOULEVARD TO MATCH EXISTING OR BETTER.
- ALL EXISTING GRAVE AREAS DISTURBED DURING CONSTRUCTION SHALL BE RESTORED WITH A MINIMUM OF 4" OF CLEAN TOPSOIL, GRASS SEED AND HYDRO MULCH.
- ALL PVC STORM AND SANITARY SEWER PIPE SHALL CONFORM TO ASTM D-3034.
- WATERMAIN PIPE SHALL BE PVC TO CSD 813.2 CLASS 150 IN ACCORDANCE WITH A.W.W.A. C900-06.
- DEFLECTIONS IN THE WATERMAIN, WHETHER HORIZONTAL OR VERTICAL, SHALL BE WITHIN MANUFACTURER'S SPECIFICATIONS AND SHALL FOLLOW MANUFACTURER'S RECOMMENDATIONS AS TO PROCEDURE. ALL LOCATIONS WHERE BENDS HAVE BEEN DETAILED AND ARE REQUIRED SHALL BE INSTALLED AS PER THE PUBLIC UTILITIES COMMISSION STANDARDS.
- STORM AND SANITARY SEWERS LOCATED PARALLEL TO WATERMANS SHALL BE CONSTRUCTED IN SEPARATE TRENCHES MAINTAINING A MINIMUM CLEAR HORIZONTAL SEPARATION OF 6'-0".
- PROVIDE A MINIMUM OF 3" VERTICAL SEPARATION BETWEEN STORM AND SANITARY SEWERS PASSING OVER WATERMANS. THE LENGTH OF THE WATER PIPE SHALL BE IN ACCORDANCE WITH THE RECOMMENDED STRUCTURAL SUPPORT FOR THE SEWER TO PREVENT EXCESSIVE DEFLECTION OF JOINTS AND SETTLING.
- 8"x4" STANDARD PRECAST CATCH BASIN SHALL HAVE 2" DEEP BUMPS AND GULLY TRAPS.
- SUB-DRAINS FOR CATCH BASINS SHALL BE 4" DIA. BIO 10' WRAPPED WITH FILTER SOCK X 8 FEET LONG AT 1.0% SLOPE.
- ALL MANHOLES SHOWN SHALL BE 4'-0" DIAMETER U.I.D.
- ALL MANHOLES SHALL HAVE A MINIMUM OF TWO (2) CONCRETE RINGS TO ADJUST THE RM ELEVATION TO THE FINAL GRADE. MANHOLES SHALL BE SET AT AN ELEVATION RELATIVE TO FINISHED PAVEMENT ELEVATION.
- ALL SANITARY MANHOLES SHALL HAVE CONCRETE BENCHING.
- CATCH BASIN MANHOLES SHALL HAVE CATCH BASIN GRATES AND FRAME TYP.
- CATCH BASIN LEADS SHALL BE 4" DIA. PVC SDR 26 PIPE AT 1.0% SLOPE MIN. U.I.D.
- THE LENGTH OF STORM SEWER LINES ARE THE HORIZONTAL CENTRE TO CENTRE DISTANCE BETWEEN MANHOLES AND/OR CATCH BASINS. THE DISTANCES INDICATED ON THE PLANS ARE APPROXIMATE AND CAN VARY DUE TO ALIGNMENT.
- ALL DIMENSIONS SHOWN ARE TO EDGE OF ASPHALT. ALL ELEVATIONS INDICATED ARE AT THE EDGE OF ASPHALT U.I.D.

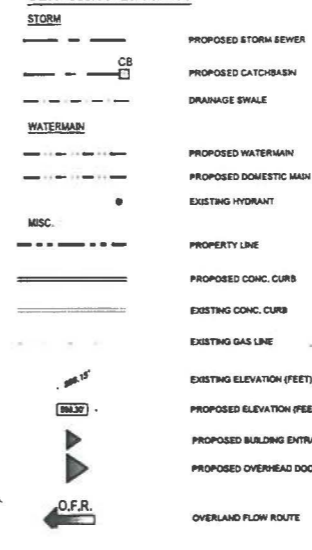
OPS FOR STORM STRUCTURES:

- CATCH BASINS SHALL BE PRECAST CONCRETE AND SHALL CONFORM TO OPSD 705.02 U.I.D.
CATCH BASIN FRAMES AND GRATES SHALL CONFORM TO OPSD 705.02 U.I.D.
MANHOLES SHALL BE PRECAST CONCRETE AND SHALL CONFORM TO OPSD 701.01 & 701.02
MANHOLE FRAMES AND COVERS SHALL CONFORM TO OPSD 401.01

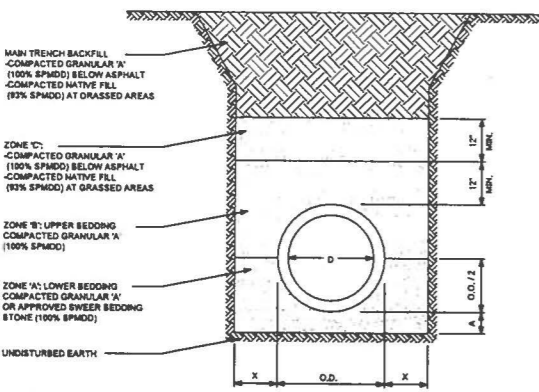
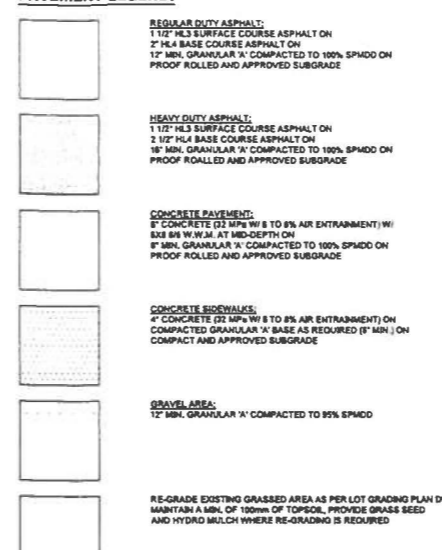
SIDEWALK AND CONCRETE PAVEMENT JOINT NOTES:

- SIDEWALKS SHALL HAVE BAYS SPACING EQUAL TO ITS WIDTH AND EXPANSION JOINTS EVERY FOURTH BAY.
- JOINTS SHALL BE TOGGLES. THE DEPTH OF THE JOINT SHALL BE 3/4" AND THE WIDTH SHALL BE 1/4".
- EXPANSION JOINTS SHALL BE 1/2" THICK FULL DEPTH PREMOULDED JOINT FILLER.
- INSTALL 1/2" THICK PREMOULDED JOINT FILLER BETWEEN SIDEWALK AND CONCRETE CURB.
- ALL SIDEWALK EDGES INCLUDING TOLLED AND EXPANSION JOINTS SHALL BE FINISHED WITH A 1/4" RADIUS.

SERVICING LEGEND:

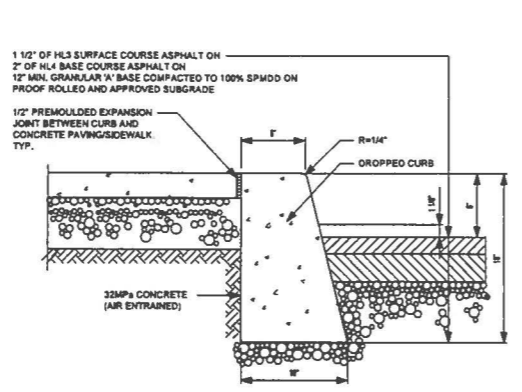
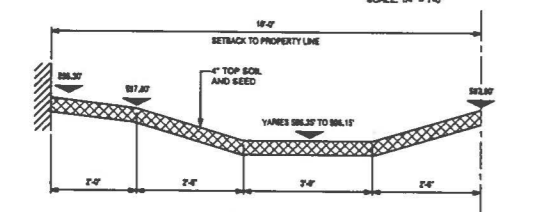


PAVEMENT LEGEND:



NOTE:
1. THE PIPE BED SHALL BE CAREFULLY SHAPED TO RECEIVE THE BOTTOM OF THE PIPE.
2. BACKFILL IN ACCORDANCE WITH OPSD-803.03 AND OPSD 803.04

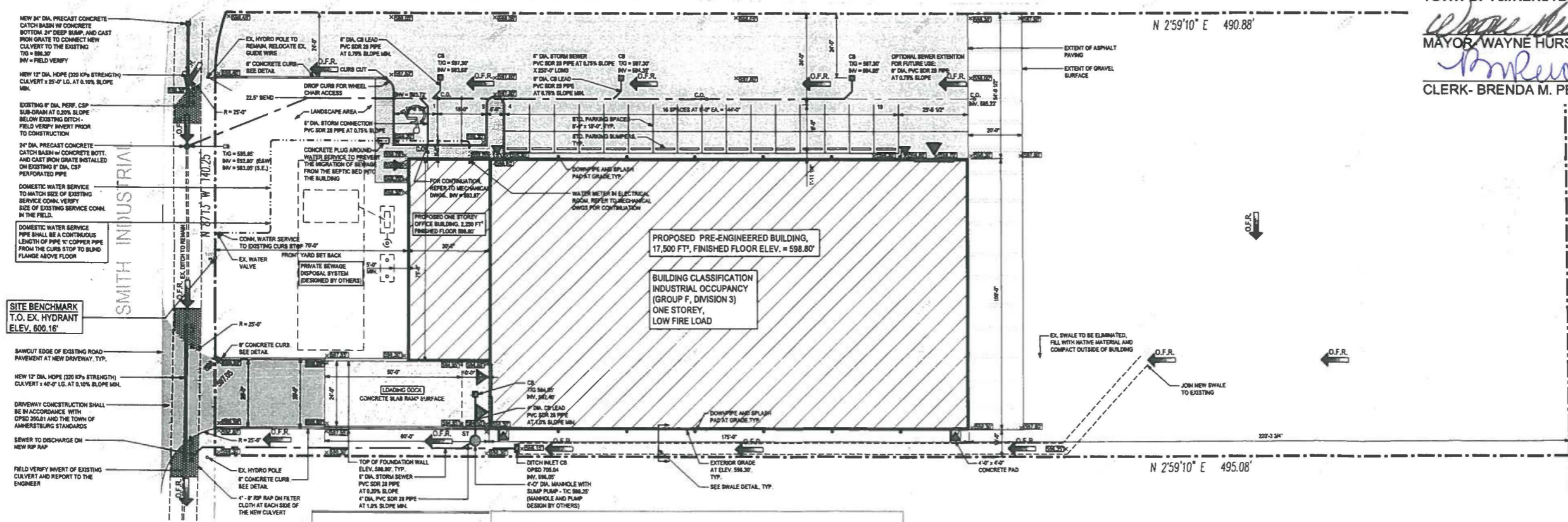
BEDDING FOR SEWER PIPE - CLASS 'B'
SCALE: 1/4" = 1'-0"



CURB DETAIL
SCALE: 1/2" = 1'-0"

SITE STATISTICS

SITE AREA	81,140 SF
BUILDING AREA	19,750 SF
BUILDING COVERAGE	24.3%
LANDSCAPE AREA	41,430 SF
PARKING REQD (1 SP. / 1076 SF)	18 SPACES
PARKING PROVIDED	19 SPACES



SCHEDULE "B" TO BY-LAW 2011-10

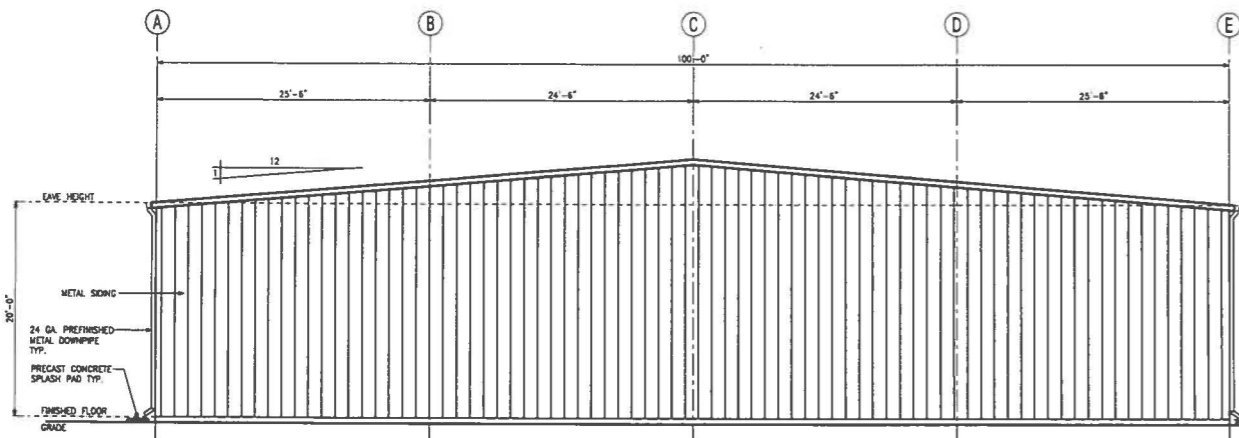
CDL RECYCLERS INC.

Leo Beaudoin
LEO BEAUDOIN, PRESIDENT

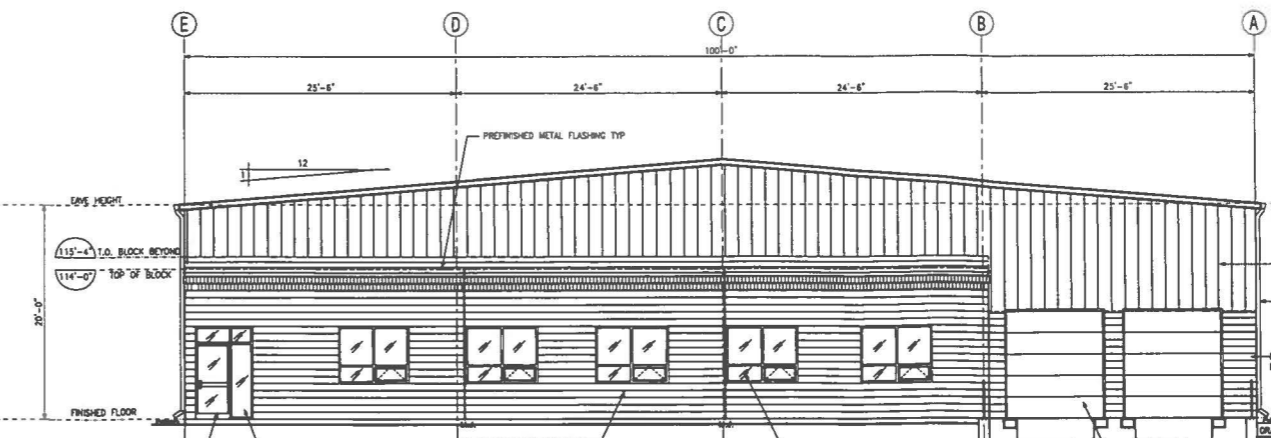
TOWN OF AMHERSTBURG

Wayne Hurst
MAYOR WAYNE HURST

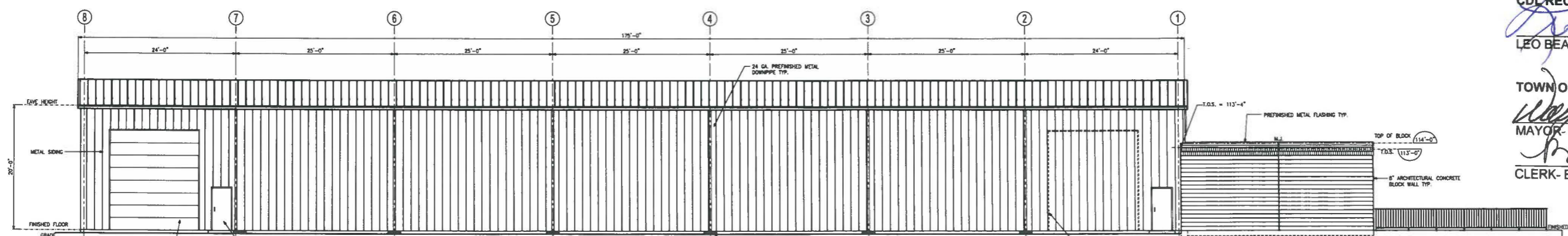
Brenda M. Percy
CLERK- BRENDA M. PERCY



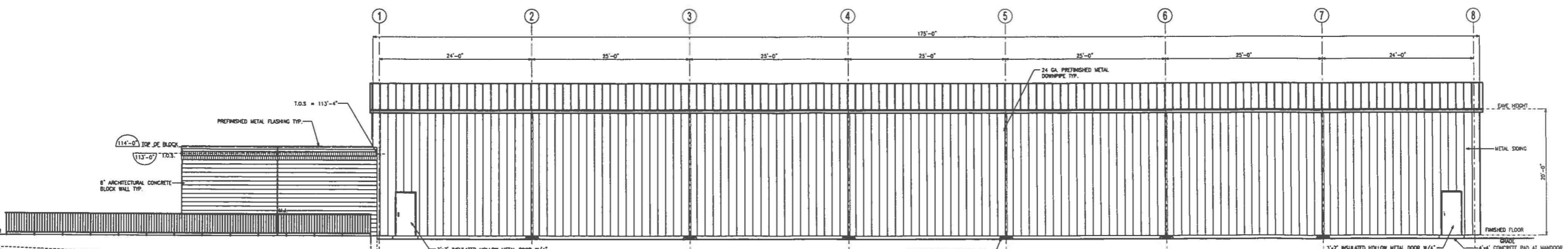
SOUTH ELEVATION
SCALE: 1/8"=1'-0"



NORTH ELEVATION
SCALE: 1/8"=1'-0"



EAST ELEVATION
SCALE: 1/8"=1'-0"



WEST ELEVATION
SCALE: 1/8"=1'-0"

SCHEDULE "C" TO BY-LAW 2011-10

CDL RECYCLERS INC.
Leo Beaudoin
LEO BEAUDOIN, PRESIDENT

TOWN OF AMHERSTBURG
Wayne Hurst
MAYOR WAYNE HURST
Brenda M. Percy
CLERK- BRENDA M. PERCY

ALEO ASSOCIATES INC.
CONSULTING ENGINEERS
804 ERIE STREET EAST, WINDSOR, ONTARIO, CANADA N9A 3Y4
TELEPHONE (519) 254-7826 FACSIMILE (519) 254-0895



DATE	NO.	ISSUED FOR
2010.12.08	1	PERMIT

DATE	DEC. 2010
SCALE	AS SHOWN
DRAWN BY	C.T.
AUTOCAD REF.	4171-54.dwg

PROJECT TITLE	NEW BUILDING FOR CDL RECYCLERS (2010) 7076 SOUTH INDUSTRIAL DRIVE AMHERSTBURG, ONTARIO
SHEET TITLE	BUILDING ELEVATIONS

PROJECT NUMBER	4171
SHEET NUMBER	S4 of 5

ALEO ASSOCIATES INC.
CONSULTING ENGINEERS
NEW BUILDING FOR CDL RECYCLERS (2010), AMHERSTBURG, ONTARIO

ALEO ASSOCIATES INC., CONSULTING ENGINEERS

804 ERIE STREET EAST, SUITE 100, WINDSOR, ONTARIO, N9A 3Y4, TEL.: (519) 254-7926, FAX: (519) 254-0895

PROJECT NAME: CDL
 PROJECT No.: 4171
 PREPARED BY: P.A.A.
 DATE: December 16, 2010
 FILE NAME: 4171_1-5year_December.16.2010.wb3

SCHEDULE "D" TO BY-LAW 2011-10

CDL RECYCLERS INC.

Leo Beaudoin
 LEO BEAUDOIN, PRESIDENT

**NEW BUILDING FOR CDL RECYCLERS (2010)
 7078 SMITH INDUSTRIAL DRIVE, AMHERSTBURG, ONTARIO
 STORM WATER MANAGEMENT CALCULATIONS
 FOR 1:5 YEAR FREQUENCY STORM**

TOWN OF AMHERSTBURG

Wayne Hurst
 MAYOR- WAYNE HURST

A. PRE-DEVELOPED SITE CONDITIONS:

Proposed Drainage Area of New Storm Water System =	81,140 sq.ft	0.7537	ha	C _{und}
Existing Roof Area =	0 sq.ft	0.0000	ha	C = 0.95
Existing Asphalt Pavement & Concrete Area =	0 sq.ft	0.0000	ha	C = 0.90
Existing Grassed Area =	81,140 sq.ft	0.7537	ha	C = 0.20

Brenda M. Percy
 CLERK- BRENDA M. PERCY

B. PROPOSED SITE CONDITIONS:

Proposed Drainage Area of New Storm Water System =	81,140 sq.ft	0.7537	ha	C _{dev}
Proposed Total Roof Area =	19,750 sq.ft	0.1835	ha	C = 0.95
Proposed Total Asphalt and Concrete Area =	16,880 sq.ft	0.1568	ha	C = 0.90
Proposed Gravel Area =	3,080 sq.ft	0.0286	ha	C = 0.50
Proposed Grassed Area =	41,430 sq.ft	0.3849	ha	C = 0.20

C. RUNOFF COEFFICIENTS:

EXISTING(allowable): C_{und} = $\frac{(0.7537 \times 0.20)}{0.7537 \text{ ha}}$

C_{und} = 0.20

PROPOSED: C_{dev} = $\frac{(0.1835 \text{ ha} \times 0.95) + (0.1568 \text{ ha} \times 0.90) + (0.0286 \times 0.50) + (0.3849 \times 0.20)}{0.7537 \text{ ha}}$

C_{dev} = 0.54

D. PRE-DEVELOPED (ALLOWABLE) DISCHARGE FOR 1:5 YEAR FREQUENCY STORM:

Average Runoff Coefficient, C_{und} = 0.20
 Inlet Time = 20.0 minutes
 Intensity, i = 79.4 mm/hr

Where Intensity, i = $125 \times 25.4 / (T+20)$,
 for CITY OF WINDSOR 1:5 year frequency storm

$$Q_{und} = 2.78 \times C_{und} \times i \times A$$

$$= 2.78 \times 0.20 \times 79.4 \times 0.7537$$

$$= 0.419 \times i$$

$$= 33.3 \text{ L/s}$$

E. POST-DEVELOPMENT DISCHARGE FOR 1:5 YEAR FREQUENCY STORM:

Average Runoff Coefficient, C_{dev} = 0.54
 Inlet Time = 20.0 minutes
 Intensity, i = 79.4 mm/hr

Where Intensity, i = $125 \times 25.4 / (T+20)$,
 for CITY OF WINDSOR 1:5 year frequency storm

$$Q_{dev} = 2.78 \times C_{dev} \times i \times A$$

$$= 2.78 \times 0.54 \times 79.4 \times 0.7537$$

$$= 1.13 \times i$$

$$= 89.8 \text{ L/s}$$



Stalin Robertson
A.P.R.

ALEO ASSOCIATES INC., CONSULTING ENGINEERS

804 ERIE STREET EAST, SUITE 100, WINDSOR, ONTARIO, N9A 3Y4, TEL.: (519)254-7926, FAX: (519)254-0895

F. STORM VOLUME CALCULATIONS:

Duration (min.) t	Intensity* (mm/hr) i	$Q_d=2.78CiA$ $Q_d=1.13*i$ (L/s)	Storm Volume (cu.m.) $V1=Q_{dev} t 60$	Relief Volume** (cu.m.) $V2=Q_{und} t 60$	Storage (cu.m.) V1 - V2	Max ***
0	158.75	0.00	0.00	0.00	0.00	
5	127.00	143.51	43.05	9.99	33.06	
10	105.83	119.59	71.76	19.98	51.77	
15	90.71	102.51	92.26	29.97	62.29	
20	79.38	89.69	107.63	39.96	67.67	
25	70.56	79.73	119.59	49.95	69.64	***
30	63.50	71.76	129.16	59.94	69.22	
35	57.73	65.23	136.99	69.93	67.06	
40	52.92	59.80	143.51	79.92	63.59	
45	48.85	55.20	149.03	89.91	59.12	

* Where Intensity, $i = 125 * 25.4 / (T + 20)$, for City of Windsor 1:5 year frequency storm

** $Q_{und} = 33.3$ L/s

**** Maximum volume to be stored = **69.6 cu.m. (2,458 ft³)**

G. STORAGE CALCULATIONS:

Storage is provided on the surface of the asphalt pavement, in the swale and in storm sewer pipes

1:5 year (storage) water surface elevation = 97.50'

Storage volume in above cb's on paved surface = 874 cu.ft.

Storage volume in swale = 1,715 cu.ft.

Storage in 6" PVC storm pipe

$V = 0.196 \text{ ft}^2 \times 370 \text{ ft} = 73 \text{ ft}^3$

Minimum volume of storage provided is 2,662 ft³ > max. volume to be stored is 2,458 ft³

H. DESIGN OF PROPOSED STORMWATER MANAGEMENT SYSTEM:

1:5 year (storage) water surface elev. on site = 97.50'

Estimated 1:5 year water surface elevation in the ex. road side ditch = 97.50'

The 1:5 year (storage) water surface elev. of the site is less or equal to the 1:5 year water surface elev. in the ex. ditch, therefore storage will occur.

Flow restriction is not required.

STORMWATER STORAGE TO GRAB 77.50'

CB1

$$\frac{STORAGE\ A = 38' \times 30' \times 0.5'}{3}$$

$$A = 170\ FT^2$$

CB2

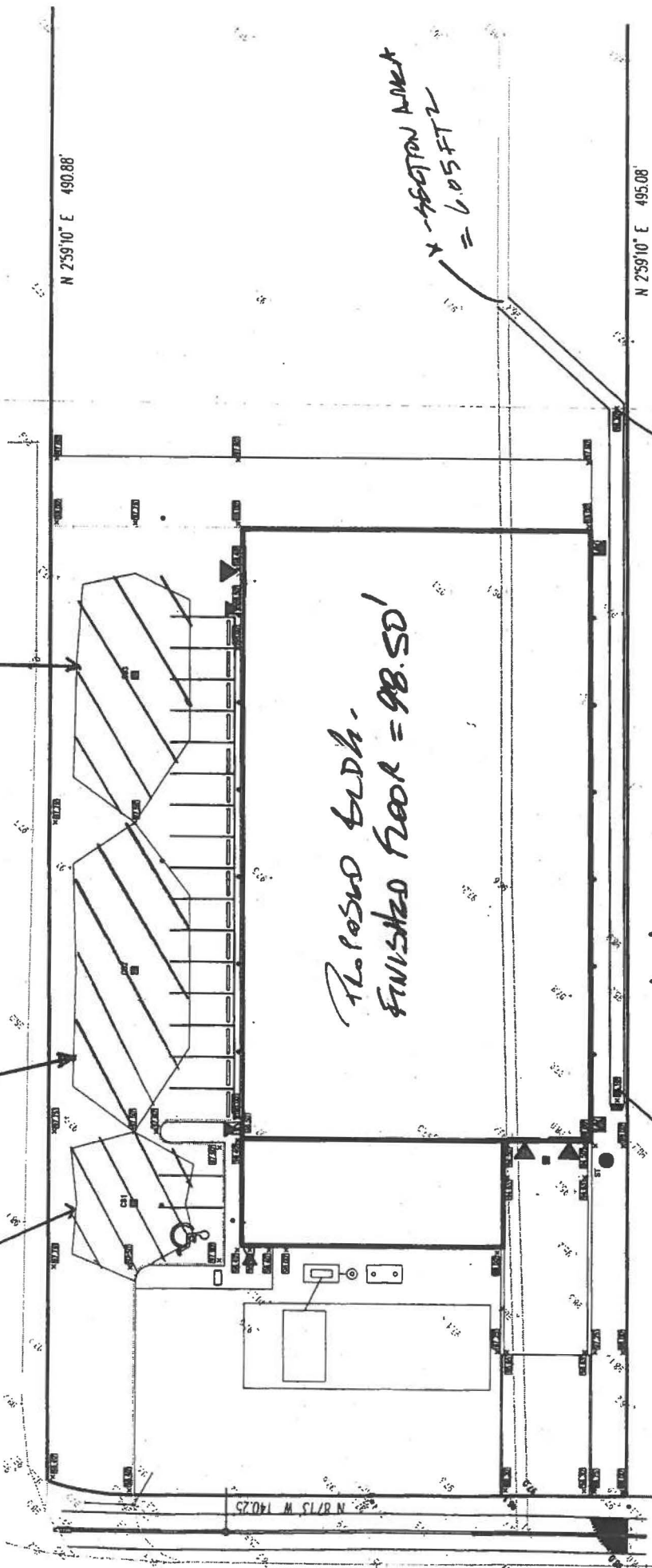
$$\frac{STORAGE\ A = 72' \times 32' \times 0.5'}{3}$$

$$A = 384\ FT^2$$

CB3

$$\frac{STORAGE\ A = 60' \times 34' \times 0.5'}{3}$$

$$A = 320\ FT^2$$



PROPOSED BLDG.
 FINISHED FLOOR = 98.50'

X-SECTION AREA

$$= 6.05\ FT^2$$

X-SECTION AREA

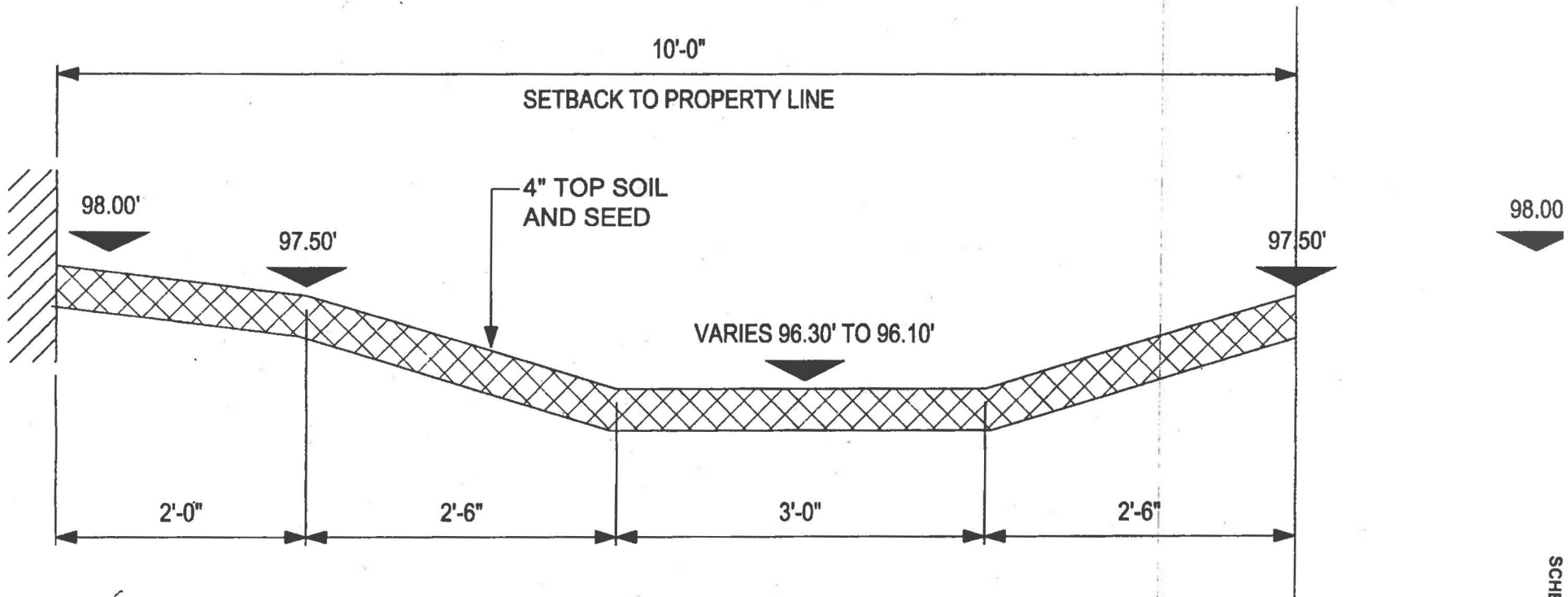
$$= 7.7\ FT^2$$

X-SECTION AREA

$$= 6.6\ FT^2$$

STORAGE A IN SWALE = $(7.7 + 6.6 \sqrt{2}) \times 200\ FT + [(6.6 + 6.05 \sqrt{2}) \times 45]$

$$= 1715\ FT^2$$



SWALE DETAIL

SCALE: N.T.S.

Inspiring Ideas...

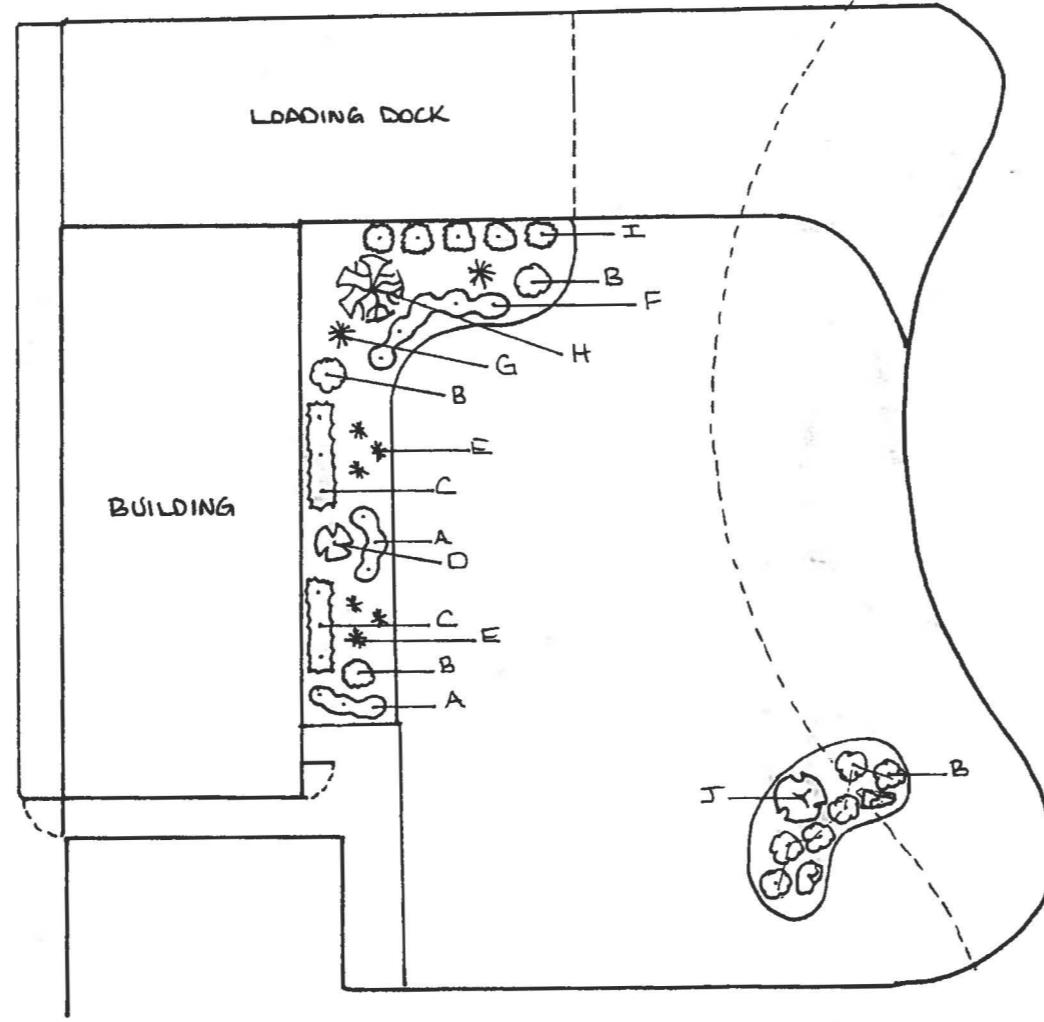
TOP GRADE
LANDSCAPE CONSTRUCTION

519-737-7070
...Unlimited Possibilities!

SCALE: 1/4" = 5'

DESIGNED BY:

J. RIVAIT

PLANT LIST

A	6	BLOODGRASS	3 GL
B	9	DWARF BURNING BUSH	3 GL
C	6	GLOBE YEW	FIP
D	1	KOREAN LILAC STD.	7 GL
E	6	STELLA D'ORD DAYLILY	2 GL
F	6	GOLDMOUND SPIREA	5 GL
G	2	TALL DRN. GRASS	5 GL
H	1	WEEPING CHERRY	B/B
I	5	EMERALD CEDAR	6'
J	1	ORNAMENTAL PEAR	B/B

SITE NOTES:

- QUALITY #1 TOPSOIL FOR BED RENO'S
- CANADA RED MULCH TOPDRESSING 4-6" TH
- COMMERCIAL GRADE POLY EDGING TO RETAIN ALL LANDSCAPE BEDS
- BOULDERS ARE WATERWORN

SCHEDULE "E" TO BY-LAW 2011-10

CDL RECYCLERS INC.


LEO BEAUDOIN, PRESIDENT

TOWN OF AMHERSTBURG


MAYOR WAYNE HURST


CLERK- BRENDA M. PERCY