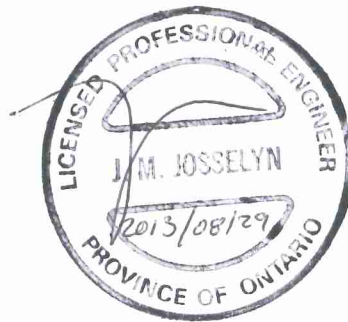


**Servicing Report  
For  
129 South Street  
in the Town of Gananoque**

**JEI Project 1243**



**JOSELYN ENGINEERING INCORPORATED**  
1225 Gardiners Road, Suite #105  
Kingston, Ontario, K7P 0G3  
(613) 634-9278

August 29, 2013

## **1. Introduction**

Josselyn Engineering Inc. has been retained by CaraCo Development Corporation to prepare a servicing analysis for the property identified as 129 South Street, located on the north shore of the St. Lawrence River, in the Town of Gananoque. A concept plan of the overall development is attached as Appendix A.

The subject property is presently occupied by a Marina. The proposed use is to construct a six storey Residential Condominium Building consisting of 100 residential units.

Application is being made for Official Plan and Zoning By-law Amendment for the subject property. The proposed planning approvals would permit the redevelopment of the site with an apartment tower replacing the existing private marina facility.

Total site area is approximately 0.67 ha (1.67 acres). The property consists of Lots 673, 674, 675, 676, 677 and parts of Lots 671 and 672 of Compiled Plan 86 (East) Town of Gananoque.

This report is to advise on the following.

- Determine the perimeter municipal servicing available and determine if sufficient capacity is available within the existing sanitary, storm and water works to service the lands, and identify constraints on development that may exist.
- Determine the location and availability of other utility servicing, including Bell, Gas, Hydro and Communications.
- Assess Stormwater management for the proposed development

## **2. Existing Conditions**

The subject lands are located on the north shore of the St. Lawrence River and fronts on South Street, which is a municipal road built to an urban standard. The road is paved, with curb/gutter, and with municipal services.

## **3. Proposed Development**

The proposed new development will consist of the construction of a six storey condominium residence consisting of 100 units with floor area of 2,400m (26,700 sq. ft.) and underground parking and paved parking and landscaped areas. See attached concept plan as Appendix A.

#### **4. Sanitary Sewer**

There is an existing municipally owned 200 mm diameter sanitary sewer on South Street. A sketch showing the location of this sewer, as provided by Town of Gananoque Public Works, is attached as Appendix B.

Sanitary design flows from the project can be estimated as follows. The calculated peak flow based on a population of 3 persons per unit and a peak factor of 4 is 4.86 litres per second. Infiltration flow factor of 0.14 l/ha.s for the site is calculated as 0.09 l/s. The total flow from the site is estimated as 4.95 litres per second. Sanitary sewage flows to the East End Sewage Pumping Station and is then conveyed to the Town sewage lagoons. The Town of Gananoque has advised that there is sufficient capacity in the system for this development

There is an existing 135mm diameter sanitary sewer service, connected to the 200mm sanitary sewer on South Street, which provided sanitary servicing for the site. A minimum 200 mm diameter sanitary service at 1% gradient is more than adequate for the design flow. The existing sanitary service will be replaced with a new 200mm service. A sanitary manhole will be installed on the new sanitary service for sampling purposes (MISA MH) to allow the Town of Gananoque access for sampling. The Site plan agreement will make provision for right to access.

#### **5. Water Service**

There is a 300 mm watermain on South Street, which should be sufficient for this development proposal. A sketch showing the location of this watermain, as provided by Town of Gananoque Public Works, is attached as Appendix B.

The previous land use site plan drawing shows there is an existing 20mm water service on the site connected to the 300mm municipal watermain on South Street which is unsuitable for the proposed development. This service will be disconnected at the main.

There is an existing municipal fire hydrant on the west side of South Street immediately opposite the site property connected to the municipal watermain. The installation of a 200mm water service will suffice for the development connected to the 300 mm municipal watermain on South Street. A live tap to the existing municipal main for the 200 mm water service would be constructed by the developer at the developers cost.

A hydrant flow test was undertaken by the developer with Lakeshore Hydrant Services Inc. performing the flow testing. The Town of Gananoque Public Works Department was in attendance for the flow testing procedure to operate the municipal hydrant. Results of the hydrant flow test are attached as Appendix C. From the Hydrant Flow Test it is shown that

the watermain flows in this area are very strong and it is calculated that the available flows at 20 psi is in the area of 14000 USGPM. The Town of Gananoque has advised that the flows are not reliant on booster station so the flows available are 'firm capacity' in the system.

## **6. Storm water management**

### **6.1. Existing Conditions**

The site is currently a marina, with several buildings and also has two residential dwellings (101 A/B & 119 South Street) on the site. These residences and marina buildings would be removed from the site. The site is currently a mix of hard surfaces and soft landscaped areas. The topography of the site is such that the land naturally drains to the south. A copy of a topographical survey by Hopkins, Cormier, Chitty, OLS is attached as Appendix D.

Drainage from the entirety of the site discharges to the St. Lawrence River.

There is an existing storm sewer on the north side of South Street directly in front of the subject site with road side catch basins. Cataraqui Region Conservation Authority will have input into the development of this plan, both as a regulatory agency, and a commenting authority. CRCA permit will be required under Ontario Regulation 148/06. CRCA would also provide comments based on their interests, which would focus on proper sediment and erosion controls, stormwater management, and flood-proofing standards. A wave uprush study has been prepared by Riggs Engineering Ltd, dated June 12.

### **6.2. Quality Control**

The CRCA has confirmed that quality control of runoff will be required, to a normal level of protection, as defined by the Ministry of the Environment Stormwater Management Design Guidelines. This can be achieved in a number of ways, including grassed swales promoting filtration and infiltration, or through the use of an oil/grit separator MH.

### **6.3 Quantity Control**

The CRCA has confirmed that quantity control for this project is not required, as the runoff discharges directly to the St. Lawrence River, where there are no concerns for increased runoff. Erosion and sediment control, both during construction, and in the long term, will be required.

## **7. Utilities**

### **7.1. Electrical Distribution**

Electrical service is provided by Eastern Ontario Power. Preliminary indications provided by Caraco identify the requirement for a 3 Phase 600 amp 340/600 volt service, subject to confirmation by the project's Electrical Consultant. Eastern Ontario Power has confirmed that 3-phase electrical service is not available on South Street, and the closest source for 3-phase power is several blocks away. Only single phase service is available at the present, however capital upgrades are forecast for 2014 which will extend 3-phase servicing to the intersection of Stone Street and Pine Street. Extension of 3-phase servicing to this project could be constructed at the developer's cost via overhead lines to the site.

It is suggested by Eastern Ontario Power that an on-site transformer be incorporated into the design of the building, and that individual units be provided with 120/208 distribution, to facilitate individual metering.

### **7.2. Telephone**

The Bell service is to be provided by Bell Canada. Adequate telephone service can be provided from South Street.

### **7.3. Natural Gas**

The natural gas provider is Union Gas. Adequate service can be provided from South Street

## **8. Conclusions and Recommendations**

Based on the above, the following conclusions are made, and recommendations presented.

- Sanitary sewer for this site is available via the existing sanitary sewer main on South Street.
- Water service can be provided by the 300 mm main on South Street.

- Stormwater Management will be specific to the site, and will be required by the Town of Gananoque, and Cataraqui Region Conservation Authority to meet control guidelines.
- Provision of other utility services will be determined when a development application is made.

**Appendices**

**Appendix A – concept site plan (preliminary)**

**Appendix B – Sanitary sewer and Watermain location sketch**

**Appendix C – Hydrant Flow Test (2)**

**Appendix D - Topographical Survey Plan by Hopkins, Cormier, Chitty, OLS**

**Appendix A  
Concept Site Plan (Preliminary)**





Architects  
Constructors  
Managers

Chamberlain Architect  
Services Limited  
5096 South Service Road  
Suite 103  
Burlington, Ontario L7L 5H4  
CANADA  
Tel: 905.631.7777  
Fax: 905.631.7717  
www.chamberlain-online.com

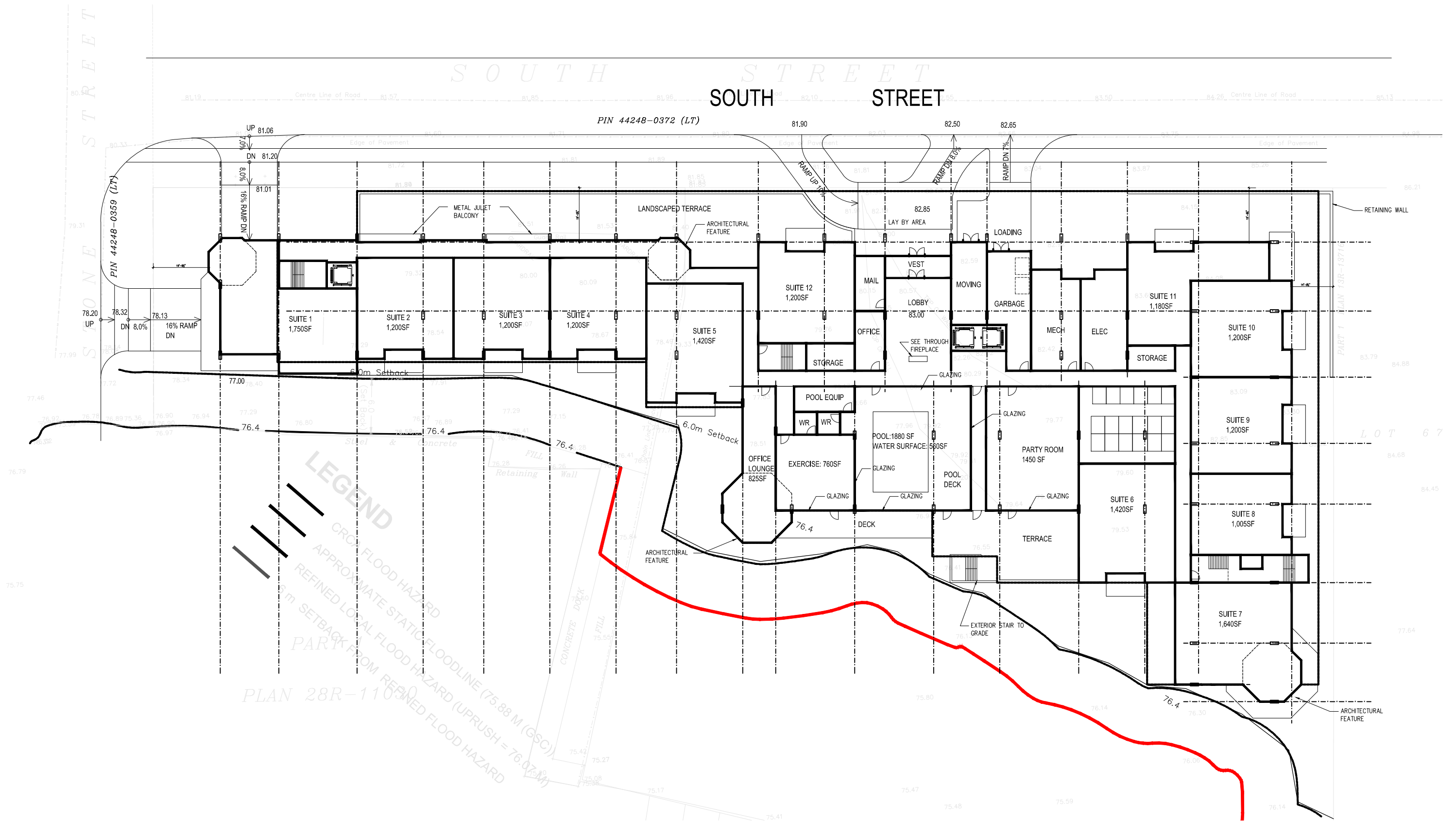
# GANANOQUE CONDOMINIUM

SOUTH STREET  
GANANOQUE, ONTARIO

# GROUND FLOOR PLAN

Project number	113036
Date	JULY 29, 2013
Scale	1:400
Drawn by	HC

# A2





Architects  
Constructors  
Managers

Chamberlain Architect  
Services Limited

5096 South Service Road  
Suite 103  
Burlington, Ontario L7L 5H4  
CANADA

Tel: 905.631.7777  
Fax: 905.631.7717

www.chamberlainipd.com

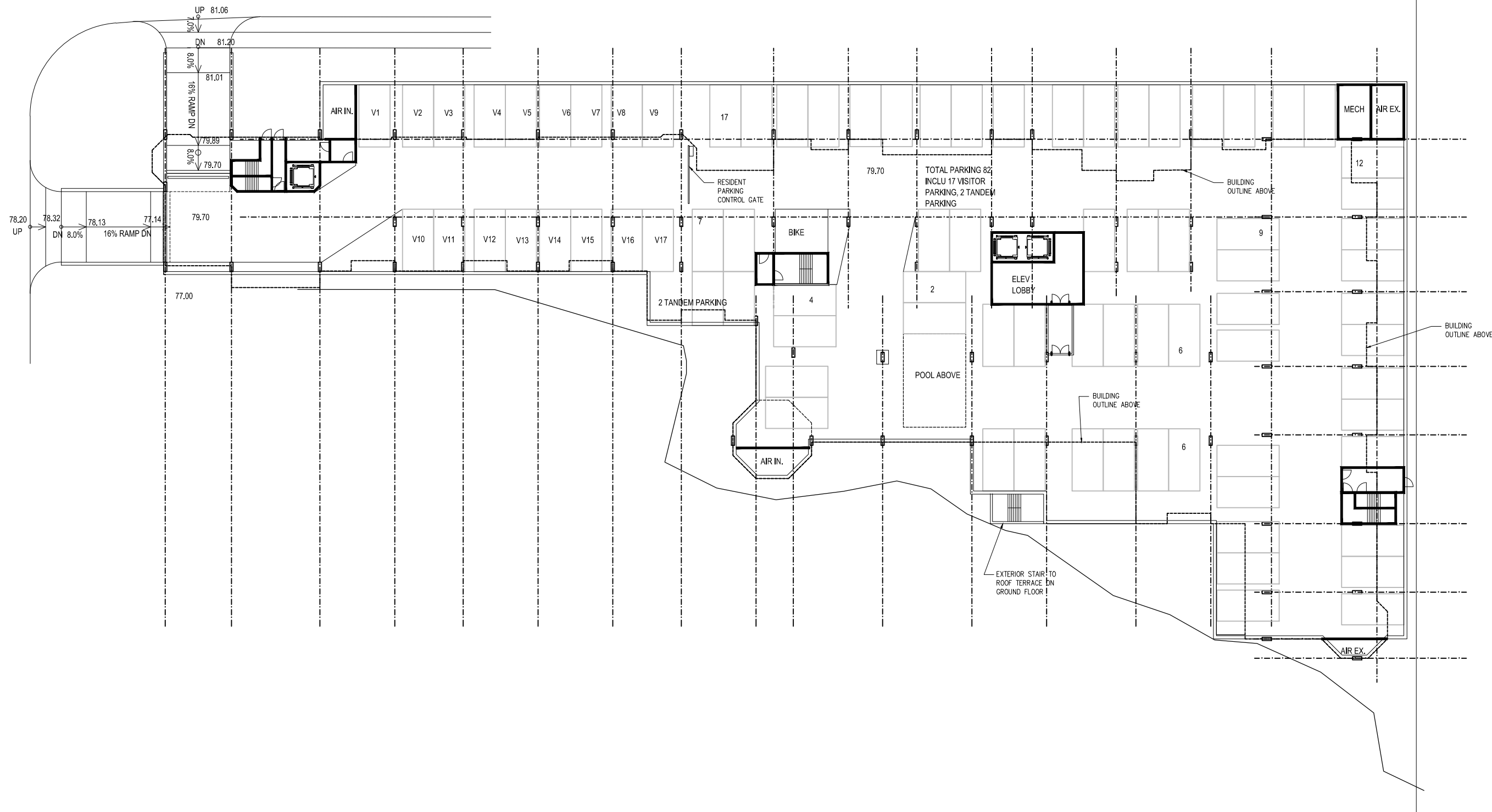
# RIVIYRA CONDOMINIUM

SOUTH STREET & STONE STREET, GANANOQUE, ON

## TYPICAL FLOOR

Project number	113036
Date	AUGUST 23, 2013
Scale	1 : 300
Drawn by	HC

# A3



Architects  
Constructors  
Managers

Chamberlain Architect  
Services Limited  
5096 South Service Road  
Suite 103  
Burlington, Ontario L7L 5H4  
CANADA  
Tel: 905.631.7777  
Fax: 905.631.7717  
www.chamberlain-online.com

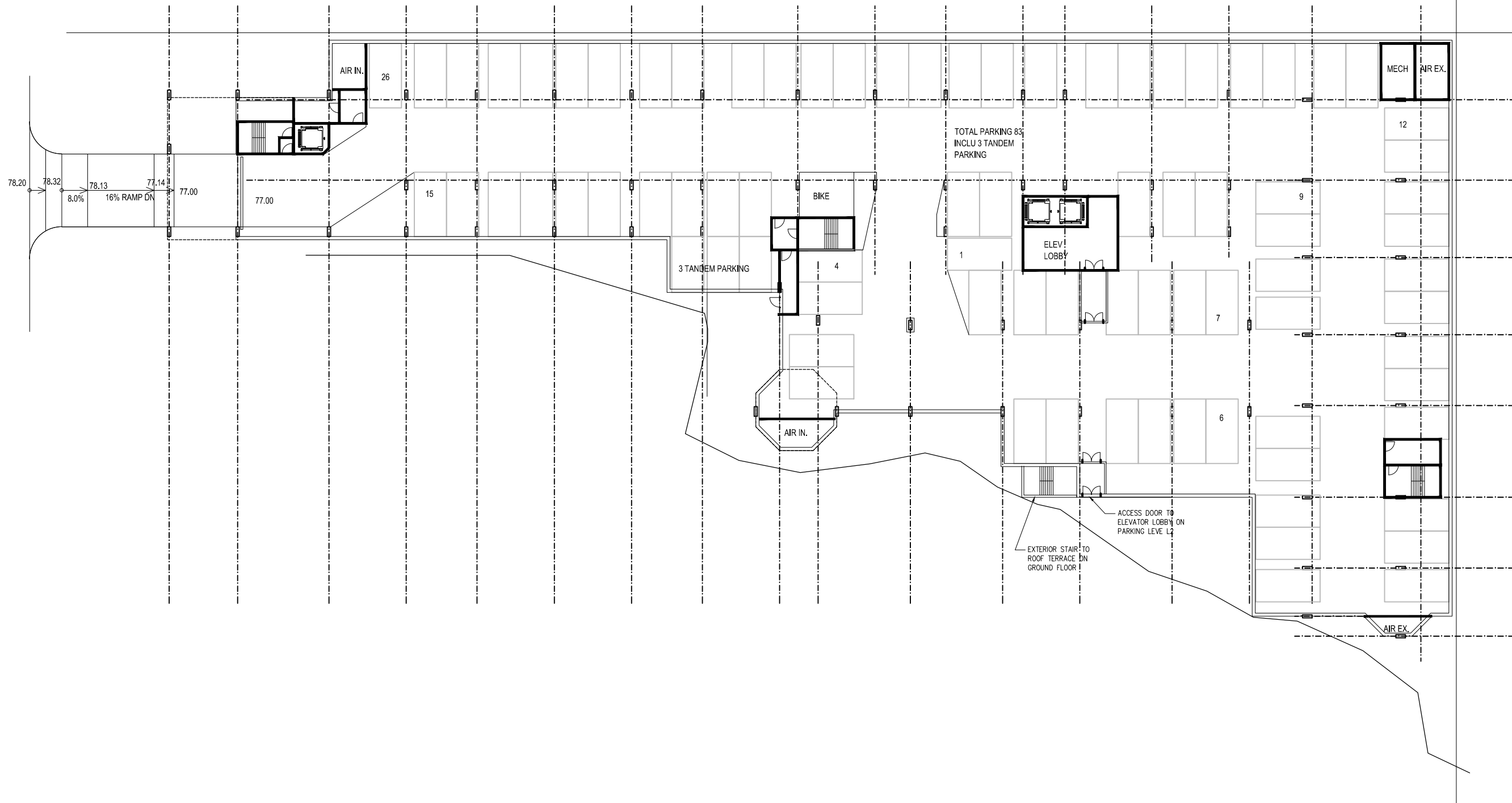
## GANANOQUE CONDOMINIUM

SOUTH STREET  
GANANOQUE, ONTARIO

## UNDERGR. PARKING L1

Project number	113036
Date	JULY 29, 2013
Scale	1:400
Drawn by	HC

# A4



**Chamberlain**

Architects  
Constructors  
Managers

Chamberlain Architect  
Services Limited

5096 South Service Road  
Suite 103  
Burlington, Ontario L7L 5H4  
CANADA

Tel: 905.631.7777  
Fax: 905.631.7717

www.chamberlain-online.com

## GANANOQUE CONDOMINIUM

SOUTH STREET  
GANANOQUE, ONTARIO

## UNDERGR. PARKING L2

Project number	113036
Date	JULY 29, 2013
Scale	1:400
Drawn by	HC

# A5



Architects  
Constructors  
Managers

Chamberlain Architect  
Services Limited  
5096 South Service Road  
Suite 103  
Burlington, Ontario L7L 5H4  
CANADA  
Tel: 905.631.7777  
Fax: 905.631.7717  
www.chamberlain-online.com

## GANANOQUE CONDOMINIUM

SOUTH STREET  
GANANOQUE, ONTARIO

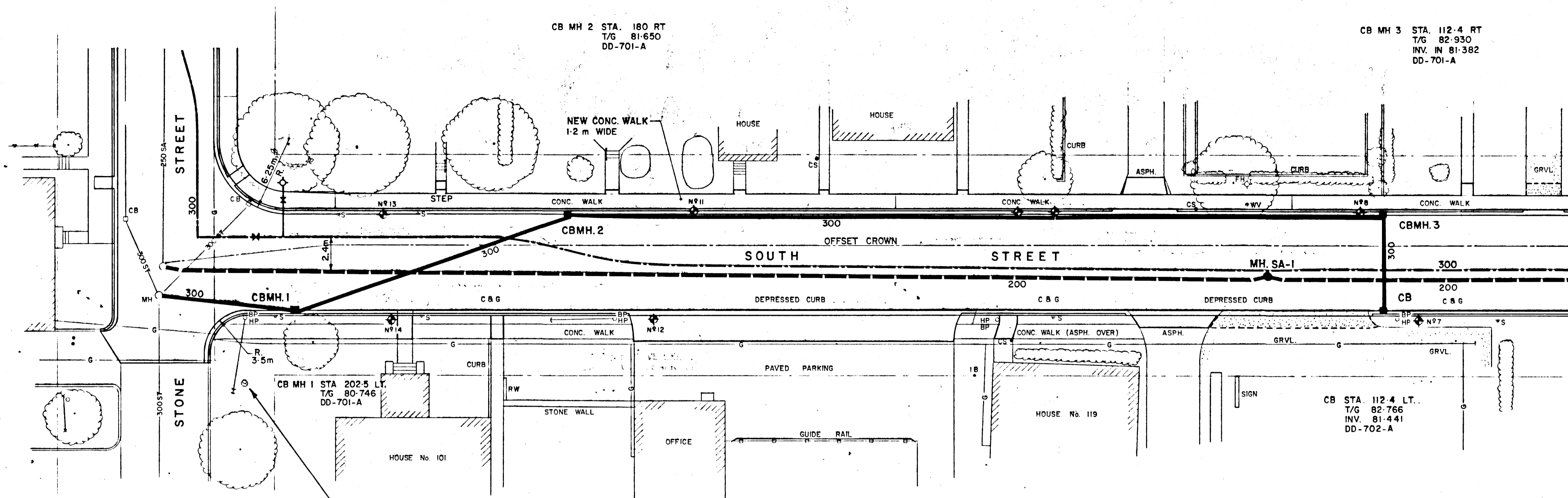
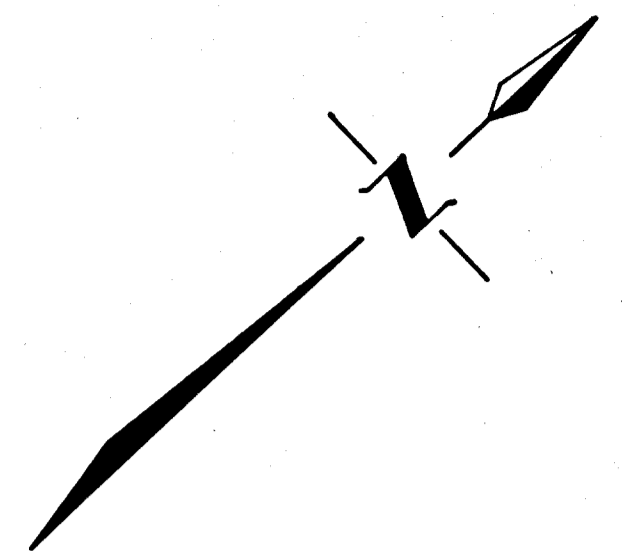
## EXTERIOR CONCEPT

Project number	113036
Date	JULY 29, 2013
Scale	1:400
Drawn by	HC

# A6

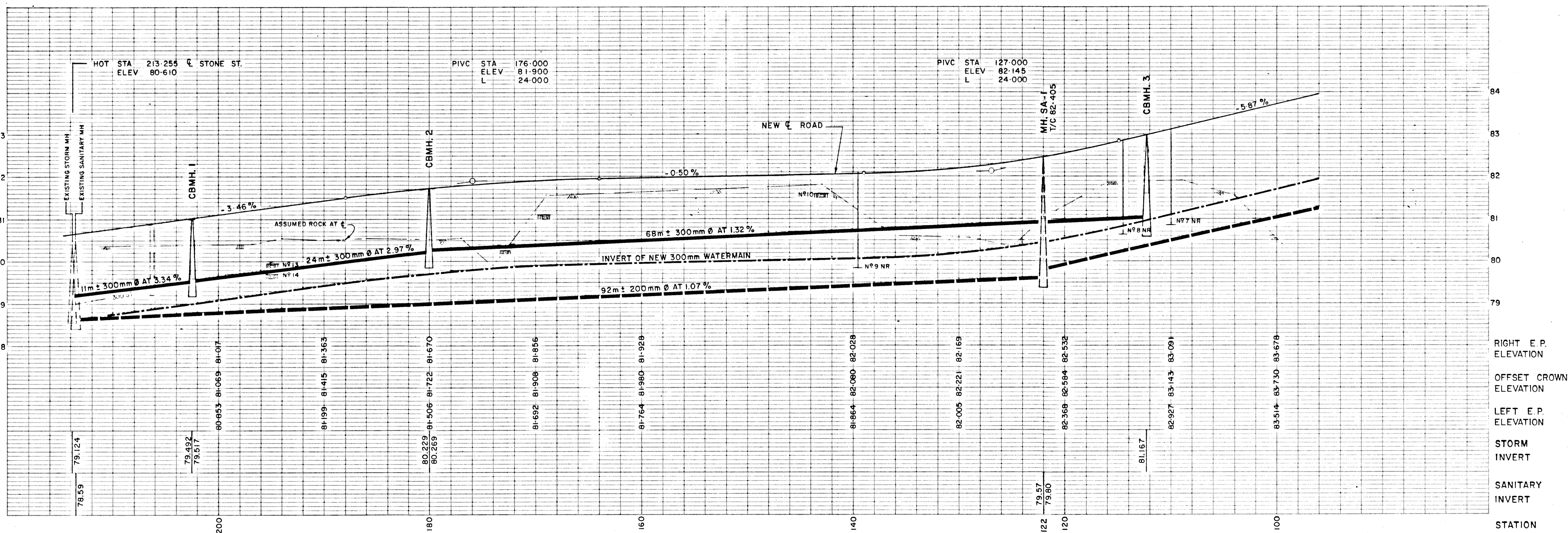
**Appendix B**

**Sanitary sewer and Watermain location sketch**



BENCHMARK - ELEV. 80.842  
 NAIL IN STUMP AT S.E. CORNER  
 OF STONE & SOUTH ST.

PROPOSED SANITARY SEWERS AND  
 WATERMAINS ARE NOT PART OF  
 THIS CONTRACT



BM-2A

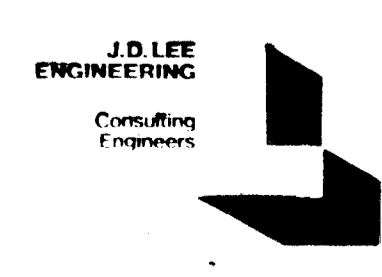
**THIS DRAWING IS APPROVED**  
 FOR  
 CONSTRUCTION PURPOSES  
 By: *[Signature]* Date: 02.13.15 Job No: 1515  
 I. D. LEE ENGINEERING

**WARNING**  
 CONTRACTOR TO CHECK, VERIFY,  
 AND BE RESPONSIBLE FOR ALL  
 UNDERGROUND SERVICES  
 STRUCTURES AND UTILITIES.

**WARNING**  
 SOUNDINGS ARE SHOWN FOR THE  
 INFORMATION OF CONTRACTORS  
 ONLY. REFUSAL OR ASSUMED  
 ROCK SURFACE IS NOT GUARANTEED.



1	82 07 30	GENERAL	TLK
2	82 12 16	AS BUILT - STORM SEWER & STREET	TLK
3	83 01 18	AS BUILT - WATERMAIN & SANITARY SEWER	TLK



Project	SOUTH & STONE STREETS RECONSTRUCTION		
Client	TOWN OF GANANOQUE		
Title	SOUTH STREET STA. 100 TO STA. 214		
Design	Date: 82 07 15	Scale: 1:200	Job No: 1515
Drawn	Checked: <i>[Signature]</i>	Drawing No: 1309 C	Revision: 3
Sheet			2

**Appendix C**

**Fire Hydrant Flow Test (2 pages)**





## FIRE FLOW TEST RESULTS

**CLIENT:** Josselyn Engineering Inc.  
 1225 Gardiners Road  
 Kingston, ON  
 K7P 0G3

**LOCATION OF TEST:** South Street, Gananoque, ON  
**DATE:** August 12, 2013

Flow Hydrant	Pitot Reading 1 port (psi)	Available Flow (1Port)	Pitot Reading 2 port (psi)	Total Available Flow (2Ports)	Outlet Diameter	Residual Hydrant	Static (psi)	Residual 1 port (psi)	Residual 2 port (psi)	TOTAL FLOW @ 20psi (1 Port)	TOTAL FLOW @ 20psi (2 Port)
Front of 134	50	1186 US gpm.	37 (x2)	2040 US gpm.	2 1/2"	Front of 101	70	66	62	4648 US gpm.	5494 US gpm.

LHS Operator: Terry

# Hydrant Flow Test Report

Test Date 8/14/2013

Test Time

## Location

South Street, Gananoque

## Tested by

## Notes

Caraco

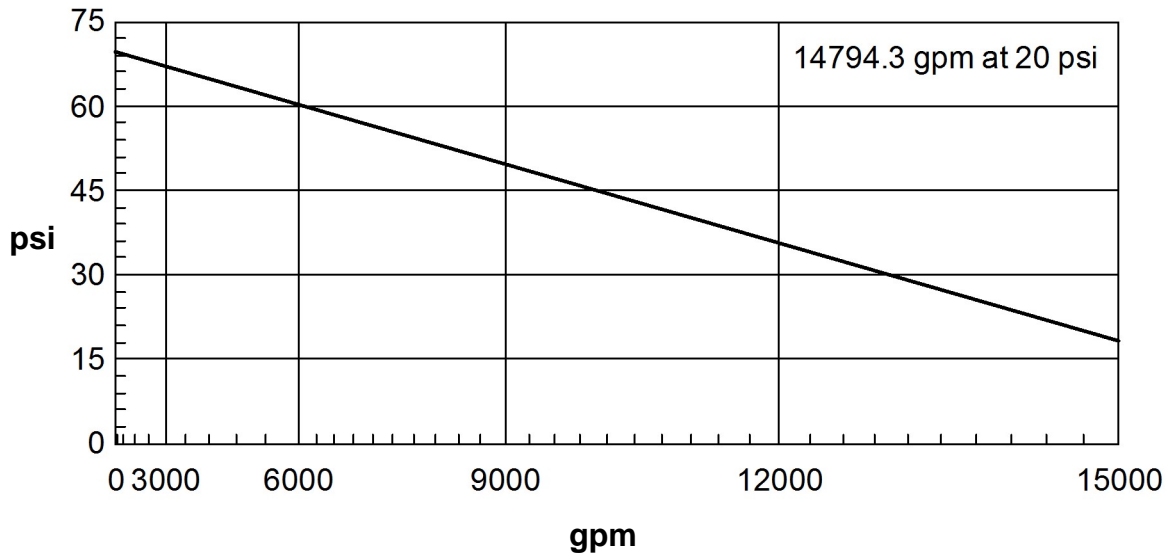
## Read Hydrant

70 psi static pressure  
62 psi residual pressure  
hydrant elevation

## Flow Hydrant(s)

Outlet	Elev	Size	C	Pitot Pressure	Flow
#1					5494 gpm

## Flow Graph



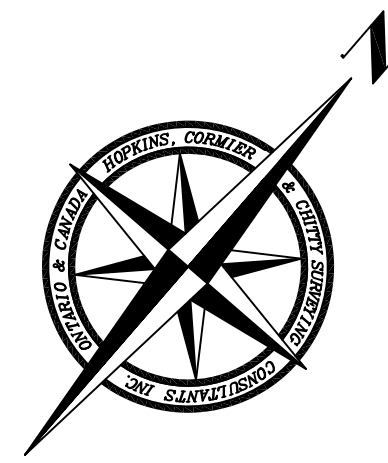
**Appendix D**

**Topographical Survey Plan by Hopkins, Cormier, Chitty, OLS**

**ELEVATION NOTE:**  
 ELEVATIONS ARE GEODETIC AND ARE DERIVED FROM BENCHMARK No. 0011920U2236 BEING A BOLT IN THE NORTHEAST WALL OF THE FORMER CUSTOM HOUSE, 0.3 METRES FROM THE EASTERLY CORNER AND IN SECOND COURSE OF STONEMWORK BELOW THE WATER TABLE. SAID BENCHMARK HAVING A VALUE OF 78.38 METRES CCVD-1928:1978.

**CAUTION:**  
 THIS DRAWING WAS PREPARED FOR THE SOLE USE BY CARACO DEVELOPMENT CORPORATION

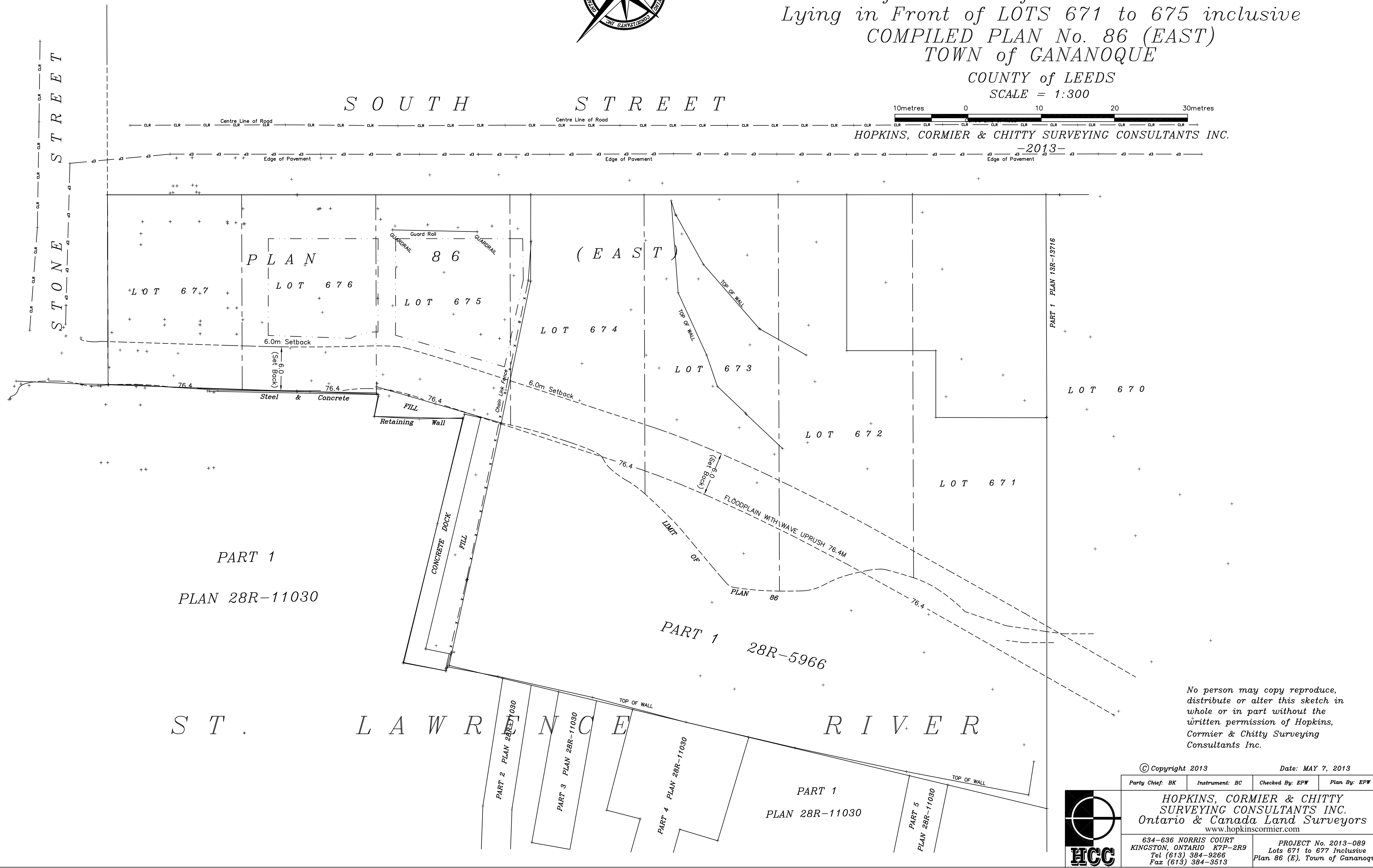
**NOTE:**  
 AS PER THE CATARAQUI REGION CONSERVATION AUTHORITY THE STATIC FLOOD PLAIN IS 75.9 AND THE ADDITIONAL WAVE UPRUSH IS 0.5 METRES. THEREFORE THE CORRESPONDING REGULATORY FLOOD PLAIN ELEVATION IS 76.4 METRES G.S.C.



SKETCH to ILLUSTRATE POSITION OF CONTOUR  
 LOTS 673, 674, 675, 676 & 677 and  
 PART of LOTS 671 and 672  
 and PART of the BED of the ST. LAWRENCE RIVER  
 Lying in Front of LOTS 671 to 675 inclusive  
 COMPILED PLAN No. 86 (EAST)  
 TOWN of GANANOQUE

COUNTY of LEEDS  
 SCALE = 1:300

10metres 0 10 20 30metres  
 HOPKINS, CORMIER & CHITTY SURVEYING CONSULTANTS INC.  
 -2013-



No person may copy reproduce, distribute or alter this sketch in whole or in part without the written permission of Hopkins, Cormier & Chitty Surveying Consultants Inc.

© Copyright 2013		Date: MAY 7, 2013	
Party Chief: BK	Instrument: BC	Checked By: EPW	Plan By: EPW
<b>HOPKINS, CORMIER &amp; CHITTY</b> <b>SURVEYING CONSULTANTS INC.</b> Ontario & Canada Land Surveyors www.hopkinscormier.com			
634-636 NORRIS COURT KINGSTON, ONTARIO K7P-2R9 Tel (613) 384-9266 Fax (613) 384-3513		PROJECT No. 2013-089 Lots 671 to 677 inclusive Plan 86 (E), Town of Gananoque	

