

AGREEMENT MADE UNDER SECTION 41 OF THE PLANNING ACT, R.S.O. 1990

THIS AGREEMENT made this _____ day of _____, 2018.

BETWEEN:

THE CORPORATION OF THE TOWN OF ST. MARYS

(Hereinafter called the “Town”)

OF THE FIRST PART

AND:

RICK MURPHY HOLDINGS LTD.

(Hereinafter called the “Owner”)

OF THE SECOND PART

WHEREAS the Owner is the owner of the lands described as Lots 14, 15, 16, 17, 18, 19 & 20 West Side Thomas Street, Plan 235, St. Marys; Lots 16, 17, 18, 19 & 20 East Side Ontario Street, Plan 235, St. Marys; save and except Part 1 on Reference Plan 44R-5423; S/T R151468 St. Marys, in the Town of St. Marys in the County of Perth hereto being all of PIN 53242-0048 (LT) all in the Registry Office for the Land Titles Division of Perth (No. 44) (hereinafter referred to as the “Lands”).

AND WHEREAS the Town has imposed the provisions of Section 41 of the Planning Act, R.S.O. 1990 in respect to the land;

AND WHEREAS this Agreement is being entered into by the parties hereto as a condition to the approval of the plans and drawings referred to in Subsection 4 of Section 41 of the Planning Act, R.S.O. 1990;

AND WHEREAS this Agreement shall be registered against “the lands” to this Agreement and the Town is entitled to enforce the provisions thereof against the Owner and, subject to the provisions of the Registry Act and the Land Titles Act, any and all subsequent owners of the land, in accordance with Subsection 10 of Section 41 of the Planning Act, R.S.O. 1990;

NOW THEREFORE WITNESSETH that for the sum of TWO DOLLARS (\$2.00) paid to the Town by the Owner (receipt whereof is hereby acknowledged), and in consideration of the Town approving the plans and drawings for the development of “the lands”, the Owner covenants and agrees with the Town to provide, to the satisfaction of and at no expense to the Town, the following:

1. The Owner Agrees:

- (a) that all buildings and structures to be erected on the Lands shall be located in accordance with the building locations as shown on Drawings 1, 3, 4 attached hereto as part of Schedule “A”;
- (b) that all services including sanitary sewers and appurtenances, storm sewers and approved storm water management, and water main and appurtenances shall be as shown on Drawings 1, 3, 4, 6 and 7 attached hereto as part of Schedule “A” and shall be maintained by the Owner at its expense on an ongoing basis;
- (c) that all utility services to the property line including sanitary sewers and appurtenances, storm sewers and approved storm water management, and water main and appurtenances be installed under the authority and supervision of the Town of St. Marys. Utility service installations shall be facilitated by the Town, at the request of the proponent. The proponent shall be responsible for any and all costs associated with the required utility services. Utility services shall be according to Drawings 1, 3, 4, 6 and 7 attached hereto as part of Schedule “A”;
- (d) that all necessary provisions for service connections on the Lands shall be made to the satisfaction of the Town;
- (e) that access to and from the Lands shall be designed and constructed at the sole risk and expense of the Owner and shall be located and constructed as shown on Drawings 1, 3 and 4 attached hereto as Schedule “A”;
- (f) that the internal driveways, vehicle parking areas, vehicle maneuvering areas and pedestrian walkways shall be designed and constructed at the sole risk and expense of the Owner and shall be locate and constructed as shown on Drawings 1, 3 and 4 attached hereto as part of Schedule “A”;
- (g) that vehicle parking areas and walkways shall be designed to have regard for accessibility for persons with disabilities;

- (h) that landscaping shall be provided in accordance with Drawings 1 and 3 attached hereto as part of Schedule “A”. All landscaped materials shall be maintained by the Owner on an ongoing basis;
- (i) that during construction, the Owner shall provide protection for any existing trees with temporary fencing to the extent of the drip line;
- (j) that erosion and sediment controls shall be provided for the site during construction to the satisfaction of the Town as shown on Drawing 5 and as detailed on Drawing 7 attached hereto as part of Schedule “A”;
- (k) that final grades and elevations shall be established to the satisfaction of the Town and shall be in accordance with the grading and elevations as shown on Drawing 3 attached hereto as part of Schedule “A”;
- (l) that all lighting facilities to be used and/or provided shall not have negative impact onto any adjacent or abutting properties and shall be as shown on Drawings 8a) to 8g) attached hereto as part of Schedule “A” and shall be located as shown on Drawing 4 attached hereto as part of Schedule “A”;
- (m) that all hydro cables be located underground on the Lands;
- (n) that waste storage facilities shall be located as shown on Drawing 1 attached hereto as part of Schedule “A”;
- (o) that snow storage shall be on the property as shown on Drawing 1 attached hereto as part of Schedule “A”;
- (p) that the development on the Lands including but not limited to driveways, buildings, structures, paved areas, landscaping and lot grading shall be maintained at the sole risk and expense of the Owner on an ongoing basis;
- (q) that any and all development on the Lands shall be to Town standards and the provisions of the Town’s Zoning By-law in effect at the time of development;
- (r) that all uses on the Lands and within the buildings on the Lands shall be in accordance with the provisions of the Town’s Zoning By-law Z1-1997, as amended.

2. Schedule “A” consists of the following drawings:

- a) Drawing One prepared by NA Engineering Associates Inc. on May 22, 2018 and numbered as A101, revision 8; having a file number as 17-1092C_Aa and a project number as 17-1092;
 - b) Drawing Two prepared by NA Engineering Associates Inc. on April 25, 2018 and numbered as C101, revision 4; having a file number as 17-1092C_Aa and a project number as 17-1092;
 - c) Drawing Three prepared by NA Engineering Associates Inc. on May 22, 2018 and numbered as C102, revision 4; having a file number as 17-1092C_Aa and a project number as 17-1092;
 - d) Drawing Four prepared by NA Engineering Associates Inc. on May 22, 2018 and numbered as C103, revision 6; having a file number as 17-1092C_Aa and a project number as 17-1092;
 - e) Drawing Five prepared by NA Engineering Associates Inc. on April 25, 2018 and numbered as C104, revision 5; having a file number as 17-1092C_Aa and a project number as 17-1092;
 - f) Drawing Six prepared by NA Engineering Associates Inc. on February 23, 2018 and numbered as C105, revision 2; having a file number as 17-1092C_Aa and a project number of 17-1092;
 - g) Drawing Seven prepared by NA Engineering Associates Inc. on April 25, 2018 and numbered as C201, revision 2; having a file number as 17-1092C_Aa and a project number of 17-1092;
 - h) Drawings Eight “8a” to “8g” provided by RAB Design Lighting Inc.
- 3. Schedule “A”, as described in paragraph 2. above and attached hereto shall form part of this Agreement.
 - 4. The Owner shall enter into a Separate Agreement for electricity with Festival Hydro Inc.
 - 5. Entrances to the buildings shall be kept clear of any obstructions including snow accumulation at the responsibility of the owner.
 - 6. The owner shall be responsible for the cost of any signage and the installation of said signage required for this site.
 - 7. The Owner agrees that the abutting street to be used for access during construction shall be kept in good and usable condition during the said construction and all necessary care

will be taken to see that mud and soil is not tracked or pulled onto any public street or sidewalks. If damaged or muddied, such streets or sidewalks shall be restored and/or cleaned up by the owner at his own expense. The owner acknowledges that he has the responsibility to correct or clean muddied streets used for access during construction. If the owner fails to complete said work, then the provision of paragraph 10 of this Agreement shall apply.

8. Minor adjustments to the requirements of this Site Plan Agreement may be made subject to the approval of the Town provided that the spirit and intent of the Agreement is maintained. Such minor adjustments shall not require an amendment to this Agreement; however, the written approval of the Town is required before such minor adjustments can be made.
9. Nothing in this Agreement constitutes a waiver of the obligation of the Owner to comply with the Zoning By-law of the Town, Ontario Building Code or any other By-laws of the Town or any restrictions or regulations lawfully imposed by any other authorities having jurisdiction in connection therewith.
10. In the event of the failure by the Owner to comply with any of the provisions of this Agreement, the Town, its servants or agents, on seven (7) days' notice in writing to the Owner of its intention and forthwith in the case of any emergency, shall at its sole discretion have the right to rectify such failure to comply to its satisfaction and recover the expense incurred by the Town in a like manner as municipal taxes.
11. The Owner agrees to deposit with the Town a refundable security deposit in the amount of Fifteen Thousand Dollars (\$15,000.00) at the time of application for a building permit so as to ensure due performance of the requirements of this Agreement and to repair damaged public services including curb, road and sidewalk. The security deposit shall be refunded without interest or penalty when the Owner's architect or engineer provides a certificate to the Town that the conditions of this Agreement have been completed and any damaged public services have been repaired to the satisfaction of the Town.

Furthermore, the Owner agrees to deposit with the Town, at the time of application for building permit, a refundable security deposit in the amount of Five Thousand Dollars (\$5,000.00) for landscaping as outlined in paragraph 1(h). The security deposit shall be refunded without interest or penalty when the Owner's Landscape architect or engineer

provides a certificate to the Town that the landscaping, for which the deposit covered, has been completed in accordance with this agreement.

12. If any notice is required to be given by the Town to the Owner in respect to this Agreement, such notice shall be sent by registered mail, registered courier or delivered personally by the Town employee or its agent to:

Rick Murphy
Rick Murphy Holdings Ltd.
590 Widder Street East
St. Marys Ontario
N4X 0A6

or to such other addresses of which the Owner has notified the Town in writing, and any such notice mailed, sent or delivered shall be deemed good and sufficient notice under the terms of this Agreement.

13. Any provision of this Agreement which is prohibited or unenforceable shall be ineffective to the extent of such prohibition or unenforceability and shall be severed from the balance of this Agreement, all without affecting the remaining provisions of this Agreement.
14. This Agreement shall be registered against the Lands by the Town and all costs associated with the said registration shall be the responsibility of the Owner. The covenants, agreements, conditions and understandings herein contained on the part of the Owner shall run with the Lands and shall enure to the benefit of and be binding upon the parties hereto and their respective successors, heirs, executors, administrators and assigns.
15. Execution of this Agreement shall be deemed to be authorization by all parties to the solicitor for the Town to register same in the appropriate Land Registry Office, without further written authorization.
16. The failure of a Party at any time to require performance by the other Party of any obligation under this Agreement shall in no way affect the first Party's right thereafter to enforce such obligation, nor shall any such waiver be taken or held to be a waiver of the performance of the same or any other obligation hereunder at any later time.
17. The parties hereto covenant and agree that at all times and from time to time hereafter upon every reasonable written request so to do, they shall make, execute, deliver or cause to be made, done, executed and delivered, all such further acts, deeds, assurances and

things as may be required for more effectively implementing and carrying out the true intent and meaning of this Agreement including any amendments to this Agreement required to effect the registration of this Agreement.

18. The parties hereto acknowledge and agree that this agreement is further to and does not remove any of the Owner's obligations under any prior Agreements.
19. The Owner agrees on behalf of itself and its heirs, executors, administrators, successors and assigns to indemnify the Town from all losses, damages, costs, changes and expenses which may be claimed or recovered against the Town by any person or persons arising either directly or indirectly as a result of any action taken by the Owner pursuant to this agreement.
20. The Owner hereby covenants and agrees to save harmless the Town from any loss whatsoever arising out of or pursuant to the execution of this Agreement and the issuing of a building permit whether final or conditional for any construction on the Lands. This indemnification shall apply to all claims, demands, costs and expenses in respect to the development of the Lands as set out in this Agreement.

IN WITNESS WHEREOF the Owner has hereunto set its hand and seal and the Town has hereunto affixed its corporate seal under the hands of its Mayor and Clerk.

RICK MURPHY HOLDINGS LTD.

Per: _____
Rick Murphy
Rick Murphy Holdings Ltd.

(I have authority to bind the Corporation.)

THE CORPORATION OF THE TOWN OF ST. MARYS

Per: _____
Mayor: Al Strathdee

Per: _____
CAO/Clerk: Brent Kittmer

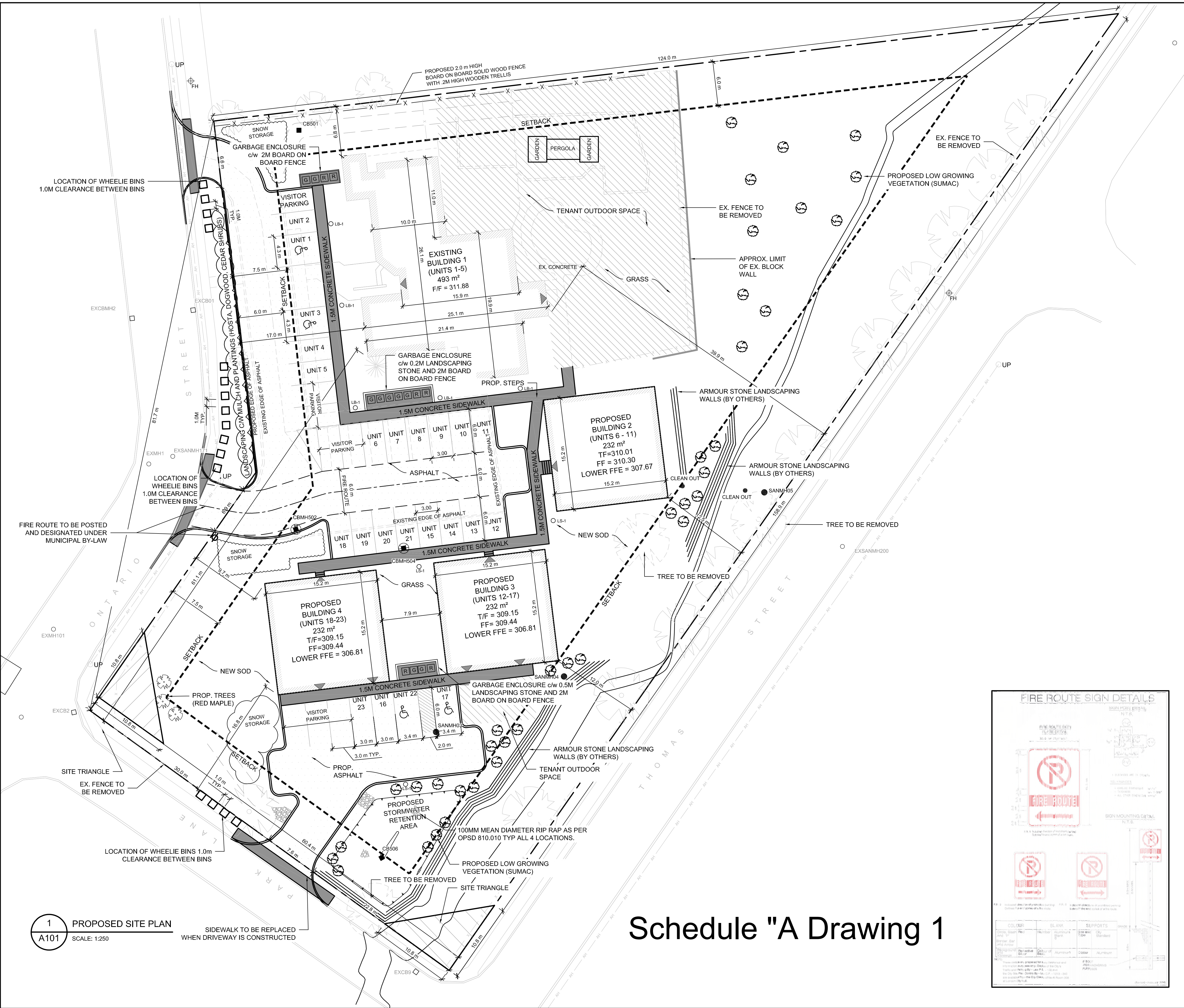
(We have the authority to bind the Corporation.)

NOTES TO SPA

1. It is the Owner's responsibility to fulfill the obligations contained in this Site Plan Agreement. It is also the Owner's responsibility to submit a request for the refund of deposits in writing when all of the work has been completed to the standards of this Site Plan Agreement.
2. The Owner shall enter into a separate agreement for electricity with Festival Hydro Inc., 1887 Erie Street, PO Box 397, Stratford ON N5A 6T5, 519-273-4703.
3. Any sign erected on the subject property shall be in conformity with the Town's current sign by-law. The owner shall apply for a separate sign permit.

Schedule “A”

Attach Drawings 1, 2, 3, 4, 5, 6, 7 and 8 a) to 8g)



TYPICAL LEGEND

- FH FIRE HYDRANT
- STW WATER VALVE
- STW NEW STORM MANHOLE
- SAMH EXISTING STORM MANHOLE
- SAMH PROP. SANITARY MANHOLE
- CB EXISTING CATCH BASIN
- CB PROP. CATCH BASIN
- CBM EXISTING STORM CATCH BASIN MANHOLE
- CBM PROP. STORM CATCH BASIN MANHOLE
- LP EXISTING LIGHT POLE
- LP PROP. LIGHT POLE
- LS-1 LIGHT STANDARD- RAB AL1-LED
- LS-2 LIGHT STANDARD- RAB RAY6-LED
- GUY GUY POLE
- INDICATES PROP. CONCRETE
- INDICATES PROP. ASPHALT
- G GARBAGE RECEPTACLE
- R RECYCLE RECEPTACLE

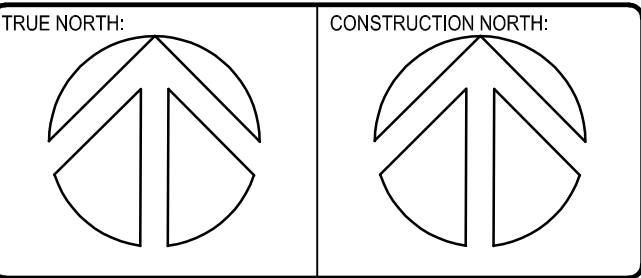
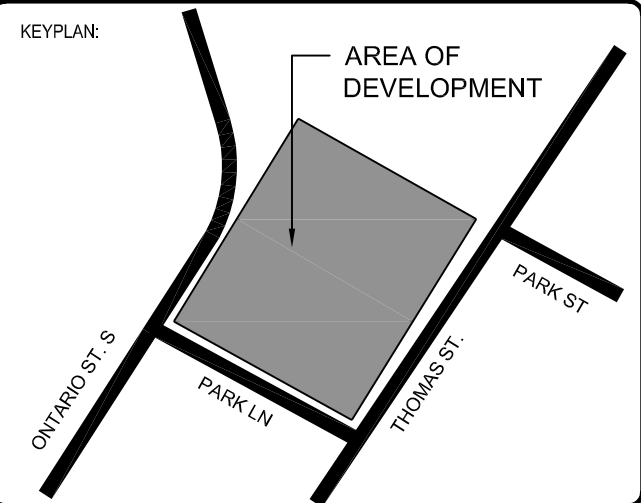
SITE DATA RESIDENTIAL ZONE 5 (R5)				
DESCRIPTION	PROPOSED	EXISTING	TOTAL	REQ'D BY ZBL
LOT AREA	8,978.7 m²	8,978.7 m²	8,978.7 m²	900 m² (UNIT 1) + 90 m² * 22 (UNIT 2 - 23) = 2,280 m² MIN.
LOT FRONTAGE	81.7 m	81.7 m	81.7 m	30.5 m MIN.
SET BACK	FRONT	9.7 m	17.0 m	9.7 m
	SIDE	INT.: 6.8 m EXT.: 16.8 m	INT.: 6.8 m EXT.: 61.1 m	INT.: 6.8 m EXT.: 16.8 m
	REAR	12.0 m	39.9 m	12.0 m
LOT DEPTH	66.2 m	66.2 m	66.2 m	37.0 m MIN.
LOT COVERAGE	8%	5%	13%	35% MAX
LANDSCAPED OPEN SPACE	68%	83%	68%	35% MIN
ACCESSORY BUILDING AREA	0	0	0	-
BUILDING AREA (GROUND FLOOR)	696 m²	493 m²	1,189 m²	-
GROSS BUILDING AREA (TOTAL ALL FLOORS)	2,088 m²	493 m²	2,581 m²	-
NO. PARKING SPACES	31.0	-	31.0	1.25 PER UNIT * 23 UNITS = 28.75 SPACES
NO. B.F. SPACES	4.0	-	4.0	1 PER 25 SPACES
BUILDING HEIGHT	11.7 m	8.5 m	11.7 m	13.5 m MAX
NO. STOREYS	3.0	-	3.0	3 MAX
NO. DWELLING UNITS	23	-	23	-
DRIVEWAY WIDTH AT PROPERTY LINE	7.6 m	6.9 m	7.6 m	9.0 m MAX

- TOPO SURVEY NOTES**
- PLAN OF EXISTING TOPOGRAPHICAL INFORMATION, IS BASED ON SURVEY DATED NOVEMBER 25, 2016. PREPARED BY NA GEOMATICS INC. ONTARIO LAND SURVEYORS.
 - ALL GRADES BASED ON GEODETIC DATUM. ALL DIMENSIONS IN METRES UNLESS OTHERWISE NOTED.
 - SITE BENCH LOCATED AS THE FINISHED FLOOR LEVEL OF EXISTING STONE BUILDING ELEV= 311.88

PLANTING SCHEDULE		
NAME	QUANTITY	SIZE
RED MAPLE (ACER RUBRUM)	3	1.8 M HIGH
HOSTA (TOKUDAMA FLAVOCIRCINALIS)	20	1 GALLON
SUMAC (RHUS TYPHINA)	36	1 GALLON
GREY DOGWOOD (CORNUS REACEMOSA)	10	1 GALLON
CEDAR SCRUB (THYJA OCCIDENTALIS)	8	1 GALLON

NOTE

LOTS 14, 15, 16, 17, 18, 19 & 20 ON THE WEST SIDE OF THOMAS STREET and LOTS 16, 17, 18, 19 & 20 ON THE EAST SIDE OF THOMAS STREET, REGISTERED PLAN NO. 235, IN THE TOWN OF ST. MARYS.



REV	DATE	DESCRIPTION	DWNGK	APPR
8	2018MAY22	REISSUED FOR SITE PLAN APPLICATION	JHKDR	KDR
7	2018MAY17	REISSUED FOR SITE PLAN APPLICATION	JHKDR	KDR
6	2018APR25	REISSUED FOR SITE PLAN APPLICATION	JHKDR	KDR
5	2018MAR28	REISSUED FOR SITE PLAN APPLICATION	JHKDR	KDR
4	2018FEB23	ISSUED FOR SITE PLAN APPLICATION	JHPRM	KDR
3	2018FEB20	ISSUED FOR CLIENT REVIEW	JHPRM	KDR
2	2018FEB05	AS PER UTRCA COMMENTS	KDRBPM	KDR
1	2017FEB01	ISSUED FOR CLIENT REVIEW	KDRBPM	KDR
0	2017DEC21	ISSUED FOR ZONING AMENDMENT	KDRBPM	KDR
2	2017DEC18	ISSUED FOR CLIENT REVIEW	KDRBPM	KDR

DISCLAIMER:
CONTRACTOR TO REVIEW DRAWINGS AND VERIFY DIMENSIONS ON SITE.
REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION AND/OR SHOP FABRICATION.
ALL DRAWINGS AND RELATED DOCUMENTS ARE THE COPYRIGHT PROPERTY OF NA ENGINEERING INC. REPRODUCTION OF DRAWINGS AND RELATED DOCUMENTS IN PART OR WHOLE IS FORBIDDEN WITHOUT WRITTEN PERMISSION FROM NA ENGINEERING ASSOCIATES INC.

NA ENGINEERING ASSOCIATES INC.
Consulting Engineers

STRATFORD 107 ERIE ST (519) 273 3205
LONDON 90 ALBERT ST (519) 432 0000
KINCARDINE 933 QUEEN ST (519) 396 1000
PICKERING 1305 PICKERING PKWY (416) 278 7991

Structural • Municipal • Mechanical • Electrical
Environmental • Fire Protection • Building Science
www.naeng.com

APPROVED BY:

VERIFIED BY:

CLIENT:

WILDWOOD HOMES
1436 KILALLY ROAD, SIDE UNIT
LONDON, ON.
N5V 5A3
519-284-3402

PROJECT:

NEW HOUSEING DEVELOPMENT AT
121 ONTARIO ST.
ST. MARYS, ON.

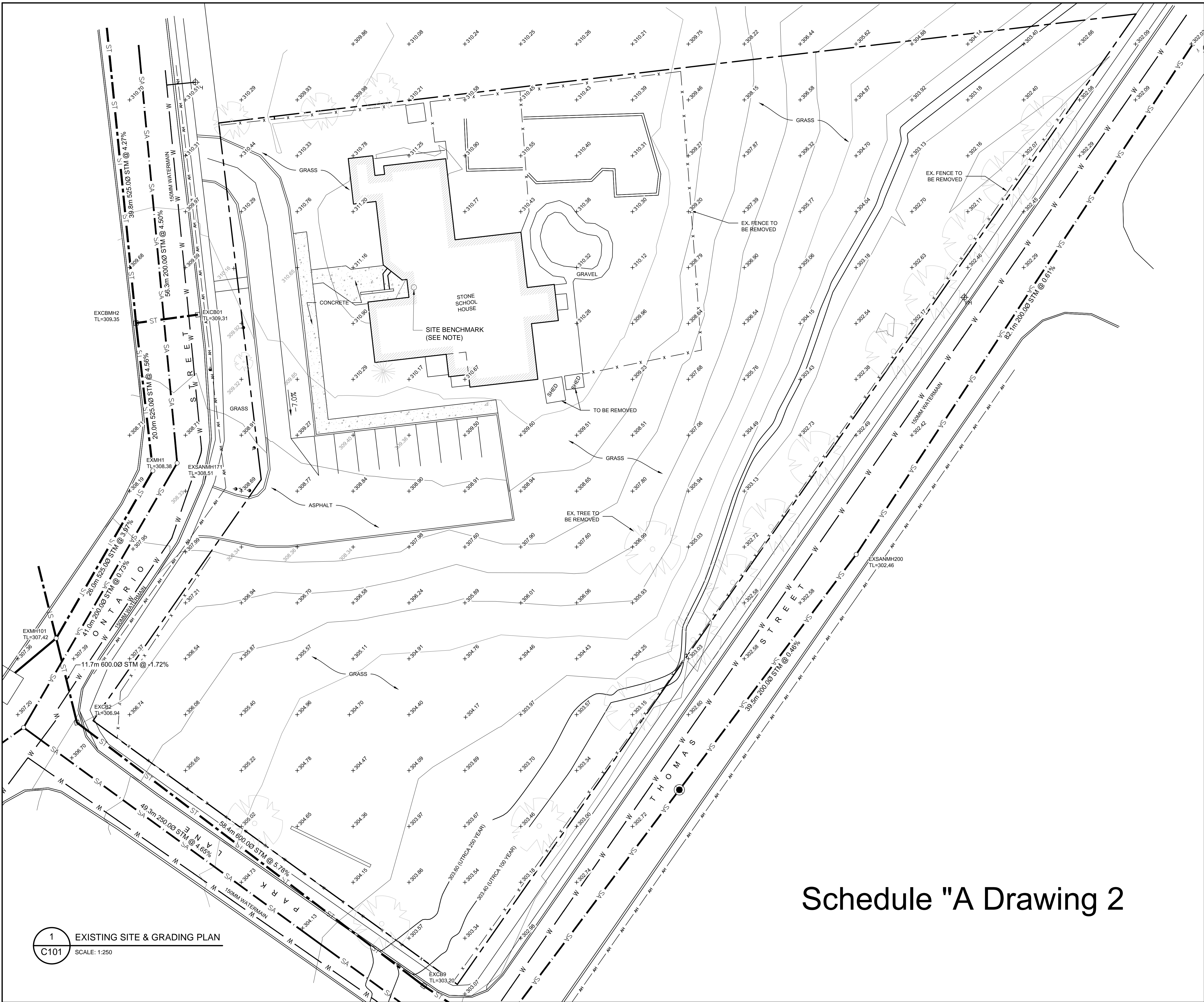
DRAWING TITLE:

PROPOSED SITE PLAN

EC NO:	DWN:	CHK:	APPROVED BY:
	JH/KDR	BPM	KDR
DATE OF ISSUE:	FILE NO:	SUPV DESIGN ENG:	
2018MAY22	17-1092C_Aa	-	
SCALE:	SIZE:	SUB-TYPE:	PROJECT NO:
AS SHOWN	D		17-1092

CLIENT DWG NO:		
DWG NO:	A101	REV: 8

16042017 9:08:04 AM



Schedule "A Drawing 2

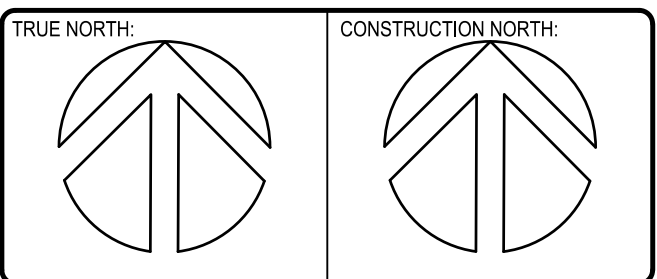
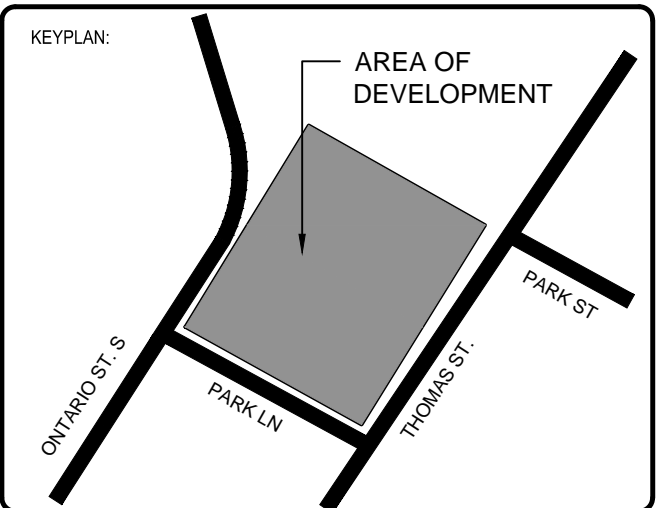
1 EXISTING SITE & GRADING PLAN
C101 SCALE: 1:250

TYPICAL LEGEND

FH	FIRE HYDRANT
WV	WATER VALVE
GV	GAS VALVE
STMH	NEW STORM MANHOLE
STMH	EXISTING STORM MANHOLE
SAMH	NEW SANITARY MANHOLE
SAMH	EXISTING SANITARY MANHOLE
CB	NEW CATCH BASIN
CB	EXISTING CATCH BASIN
CBMH	NEW STORM CATCH BASIN MANHOLE
CBMH	EXISTING STORM CATCH BASIN MANHOLE
EMH	EXISTING ELECTRICAL MANHOLE
	DIRECTION OF SURFACE WATER FLOW
	DIRECTION OF SWALE WATER FLOW
	EXISTING ELEVATION
	PROPOSED ELEVATION
W	EXISTING WATERMAIN
W	NEW WATERMAIN
ST	EX. STORM WATER PIPE
ST	NEW STORM WATER PIPE
SA	EX. SANITARY PIPE
SA	NEW SANITARY PIPE
LP	LIGHT POLE
UP	UTILITY POLE
BOL	BOLLARD
X	FENCE
SIGN	SIGN
HT	HYDRO TOWER
PED	PEDESTAL
---	LIMIT OF WORK
UE	UNDERGROUND ELECTRICAL
C	CABLE LINE
SILT	SILT FENCE
---	PROPERTY LINE
U	UTILITY
AH	AERIAL HYDRO
TOP	TOP OF BANK
PF	PIPE FLOW DIRECTION
GP	GUY POLE
	INDICATES NEW CONCRETE
	INDICATES NEW ASPHALT
G	GARBAGE RECEPTACLE
R	RECYCLE RECEPTACLE

TOPO SURVEY NOTES

- PLAN OF EXISTING TOPOGRAPHICAL INFORMATION, IS BASED ON SURVEY DATED NOVEMBER 25, 2016. PREPARED BY NA GEOMATICS INC, ONTARIO LAND SURVEYORS.
- ALL GRADES BASED ON GEODETIC DATUM. ALL DIMENSIONS IN METRES UNLESS OTHERWISE NOTED.
- SITE BENCH LOCATED AS THE FINISHED FLOOR LEVEL OF EXISTING STONE BUILDING ELEV= 311.88



REV	DATE	DESCRIPTION	DWGNO	APPD
4	2018APR25	REISSUED FOR SITE PLAN APPLICATION	JHKDR	KDR
3	2018MAR28	REISSUED FOR SITE PLAN APPLICATION	JHKDR	KDR
2	2018FEB23	ISSUED FOR SITE PLAN APPLICATION	JHPRM	KDR
1	2018FEB01	ISSUED FOR CLIENT REVIEW	JHKDR	KDR

DISCLAIMER:
CONTRACTOR TO REVIEW DRAWINGS AND VERIFY DIMENSIONS ON SITE.
REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION AND/OR SHOP FABRICATION.
ALL DRAWINGS AND RELATED DOCUMENTS ARE THE COPYRIGHT PROPERTY OF NA ENGINEERING INC. REPRODUCTION OF DRAWINGS AND RELATED DOCUMENTS IN PART OR IN WHOLE IS FORBIDDEN WITHOUT WRITTEN PERMISSION FROM NA ENGINEERING ASSOCIATES INC.

NA ENGINEERING ASSOCIATES INC
Consulting Engineers

STRATFORD 107 ERIE ST (519) 273 3205
LONDON 90 ALBERT ST (519) 432 0000
KINCARDINE 933 QUEEN ST (519) 396 1000
PICKERING 1305 PICKERING PKWY (416) 278 7991

Structural • Municipal • Mechanical • Electrical
Environmental • Fire Protection • Building Science
www.naeng.com

APPROVED BY:	VERIFIED BY:

CLIENT:

WILDWOOD HOMES
1436 KILALLY ROAD, SIDE UNIT
LONDON, ON.
N5V 5A3
519-284-3402

PROJECT:

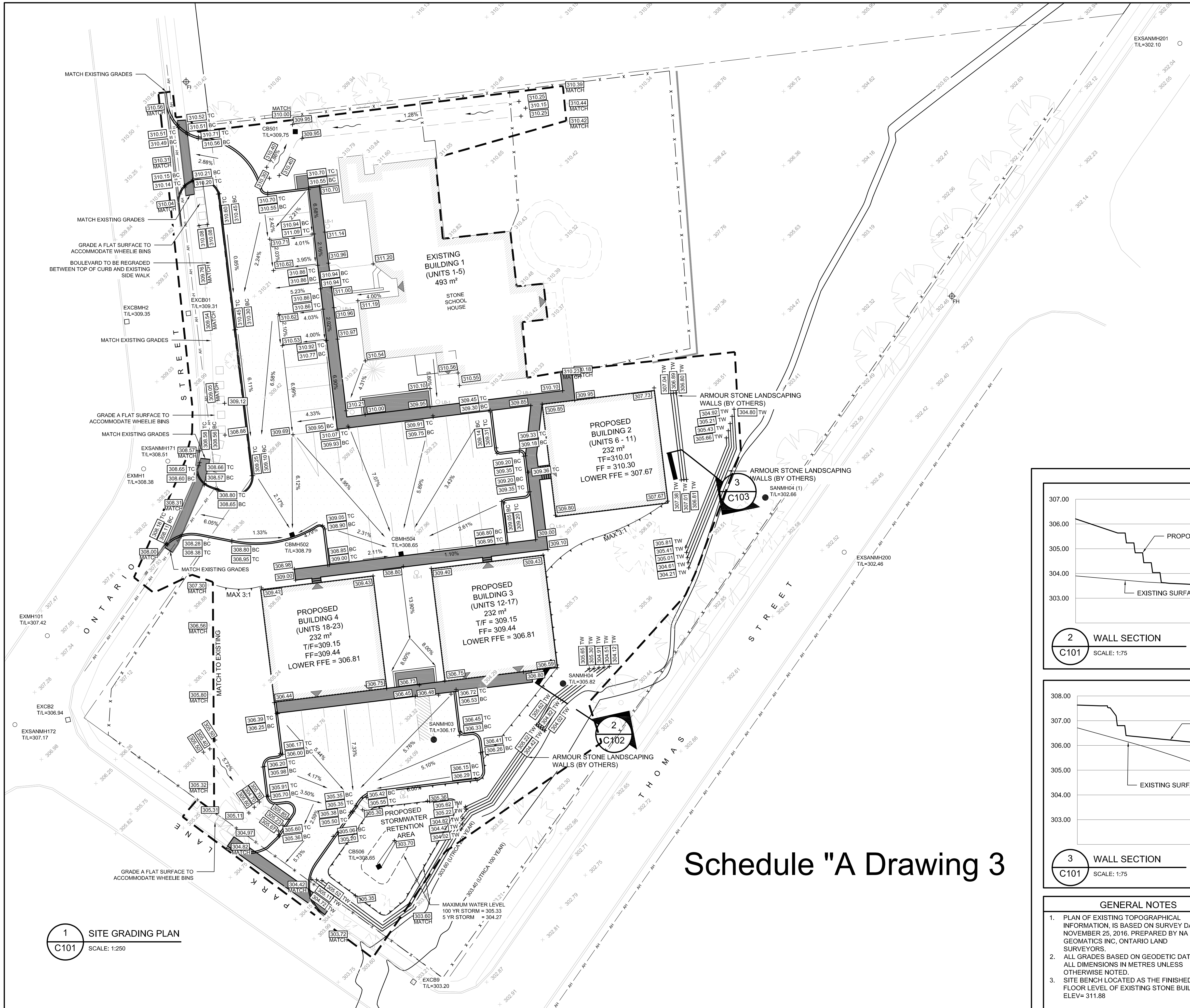
MULTI DWELLING DEVELOPMENT AT
121 ONTARIO ST.
ST. MARYS, ON.

DRAWING TITLE:

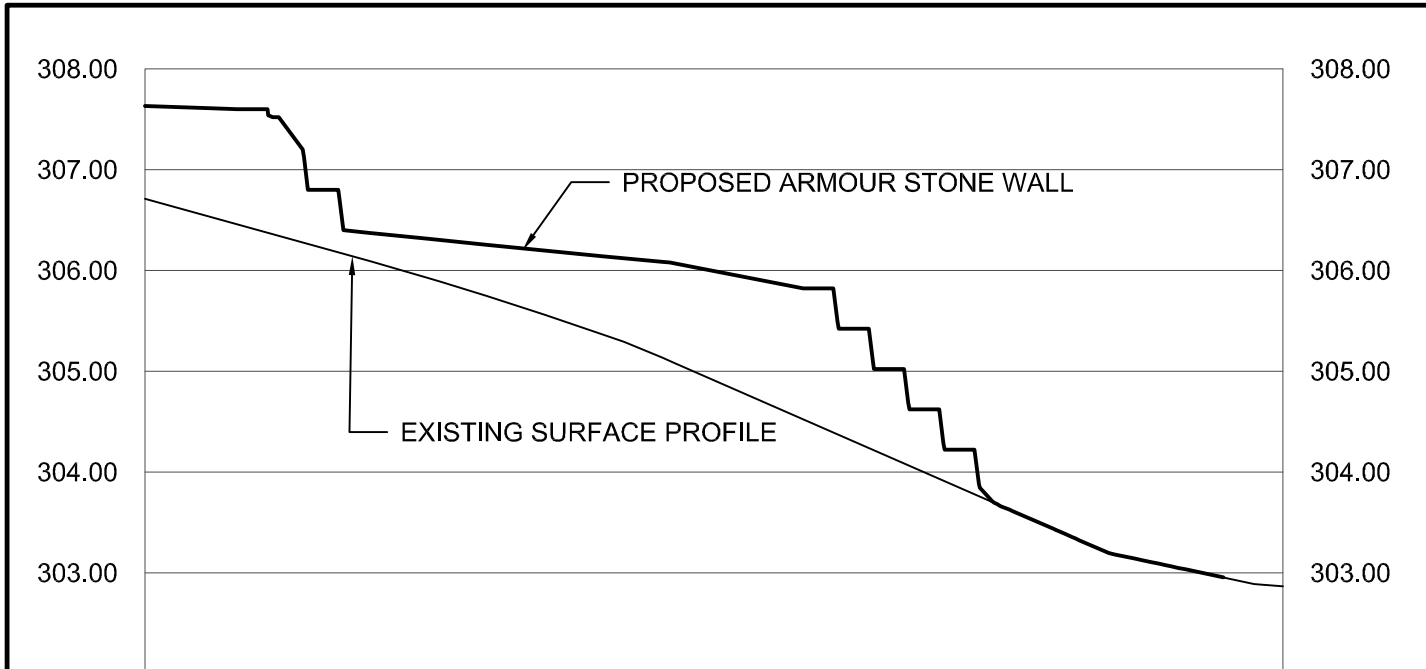
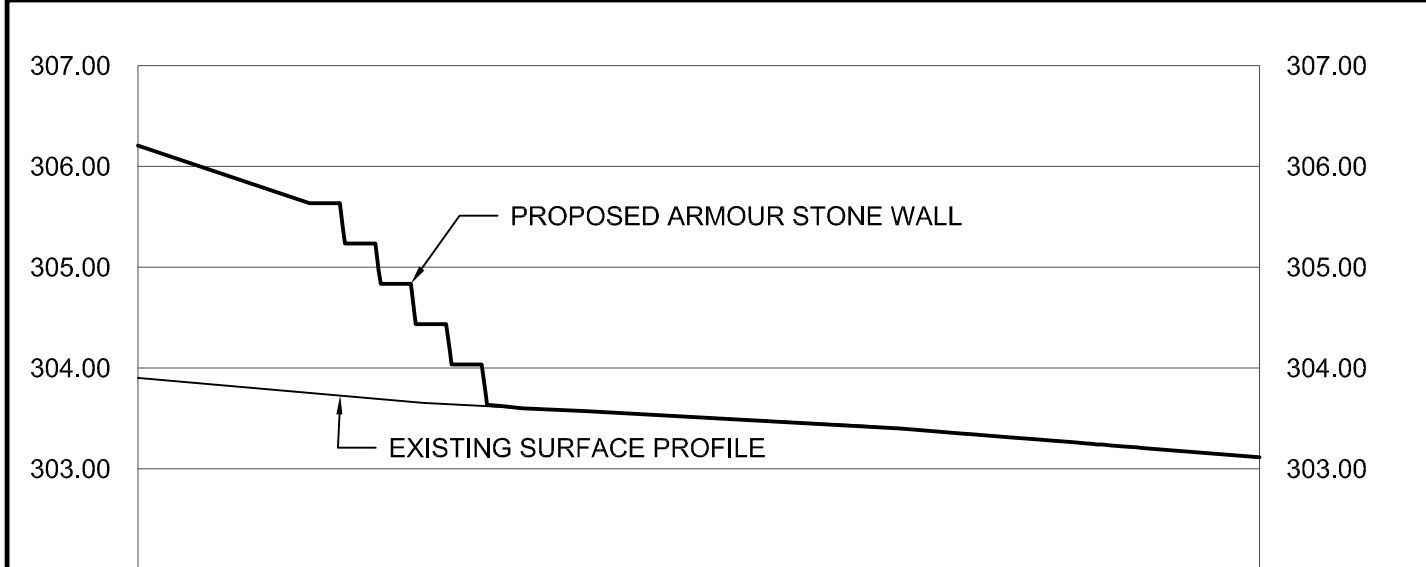
EXISTING SITE & GRADING PLAN

EC NO:	DWN:	CHK:	APPROVED BY:
	JH/KDR	BPM	KDR
DATE OF ISSUE:	FILE NO:	SUPV DESIGN ENG:	
2018APR25	17-1092C_Aa	-	
SCALE:	SIZE:	SUB-TYPE:	PROJECT NO:
AS SHOWN	D		17-1092

CLIENT DWG NO:

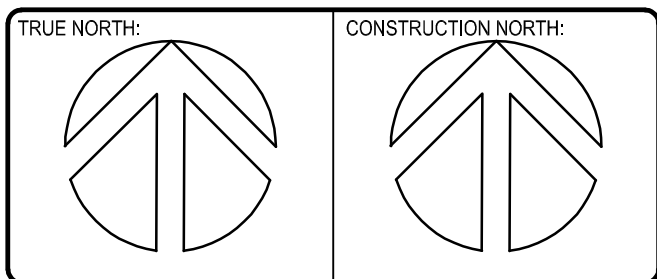
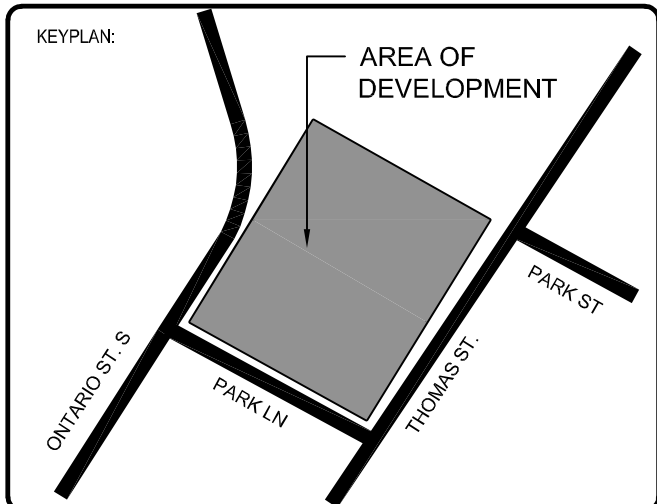


TYPICAL LEGEND	
FH	FIRE HYDRANT
GV	GAS VALVE
STMH	NEW STORM MANHOLE
STMH	EXISTING STORM MANHOLE
SAMH	NEW SANITARY MANHOLE
SAMH	EXISTING SANITARY MANHOLE
CB	NEW CATCH BASIN
CB	EXISTING CATCH BASIN
CBMH	NEW STORM CATCH BASIN MANHOLE
CBMH	EXISTING STORM CATCH BASIN MANHOLE
X.X%	DIRECTION OF SURFACE WATER FLOW
X.X%	DIRECTION OF SWALE WATER FLOW
100.00	EXISTING ELEVATION
100.00	PROPOSED ELEVATION
100.00 BC	PROPOSED ELEVATION - BOTTOM CURB
100.00 TC	PROPOSED ELEVATION - TOP CURB
W	EXISTING WATERMAIN
W	NEW WATERMAIN
ST	EX. STORM WATER PIPE
ST	NEW STORM WATER PIPE
SA	EX. SANITARY PIPE
SA	NEW SANITARY PIPE
OLP	LIGHT POLE
OLP	UTILITY POLE
BOL	BOLLARD
LS-1	LIGHT STANDARD- RAB AL1-LED
LB-2	LIGHT BOLLARD- RAB RAY6-LED
X	FENCE
SIGN	SIGN
HT	HYDRO TOWER
PED	PEDESTAL
---	LIMIT OF WORK
UE	UNDERGROUND ELECTRICAL
C	CABLE LINE
SILT	SILT FENCE
---	PROPERTY LINE
U	UTILITY
SP	SPRINKLER PIPE
---	TOP OF BANK
■	INDICATES NEW CONCRETE
□	INDICATES NEW ASPHALT



- GENERAL NOTES**
- PLAN OF EXISTING TOPOGRAPHICAL INFORMATION, IS BASED ON SURVEY DATED NOVEMBER 25, 2016. PREPARED BY NA GEOMATICS INC, ONTARIO LAND SURVEYORS.
 - ALL GRADES BASED ON GEODETIC DATUM. ALL DIMENSIONS IN METRES UNLESS OTHERWISE NOTED.
 - SITE BENCH LOCATED AS THE FINISHED FLOOR LEVEL OF EXISTING STONE BUILDING ELEV= 311.88

- TOPO SURVEY NOTES**
- PLAN OF EXISTING TOPOGRAPHICAL INFORMATION, IS BASED ON SURVEY DATED NOVEMBER 25, 2016. PREPARED BY NA GEOMATICS INC, ONTARIO LAND SURVEYORS.
 - ALL GRADES BASED ON GEODETIC DATUM. ALL DIMENSIONS IN METRES UNLESS OTHERWISE NOTED.
 - SITE BENCH LOCATED AS THE FINISHED FLOOR LEVEL OF EXISTING STONE BUILDING ELEV= 311.88



REV	DATE	DESCRIPTION	DWNGK	APPR
4	2018MAY22	REISSUED FOR SITE PLAN APPLICATION	JHKOR	KDR
3	2018MAY17	REISSUED FOR SITE PLAN APPLICATION	JHKOR	KDR
2	2018APR25	REISSUED FOR SITE PLAN APPLICATION	JHKOR	KDR
1	2018MAR28	REISSUED FOR SITE PLAN APPLICATION	JHKOR	KDR
0	2018FEB23	ISSUED FOR SITE PLAN APPLICATION	JHKOR	KDR
A	2017DEC18	ISSUED FOR CLIENT REVIEW	KDRBPM	KDR

DISCLAIMER:
CONTRACTOR TO REVIEW DRAWINGS AND VERIFY DIMENSIONS ON SITE.
REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION AND/OR SHOP FABRICATION.
ALL DRAWINGS AND RELATED DOCUMENTS ARE THE COPYRIGHT PROPERTY OF NA ENGINEERING INC. REPRODUCTION OF DRAWINGS AND RELATED DOCUMENTS IN PART OR IN WHOLE IS FORBIDDEN WITHOUT WRITTEN PERMISSION FROM NA ENGINEERING ASSOCIATES INC.

NA ENGINEERING ASSOCIATES INC
Consulting Engineers

STRATFORD 107 ERIE ST (519) 273 3205
LONDON 90 ALBERT ST (519) 432 0000
KINCARDINE 933 QUEEN ST (519) 396 1000
PICKERING 1305 PICKERING PKWY (416) 278 7991

Structural • Municipal • Mechanical • Electrical
Environmental • Fire Protection • Building Science
www.naeng.com

APPROVED BY: _____ **VERIFIED BY:** _____

CLIENT:
WILDWOOD HOMES
1436 KILALLY ROAD, SIDE UNIT
LONDON, ON.
N5V 5A3
519-284-3402

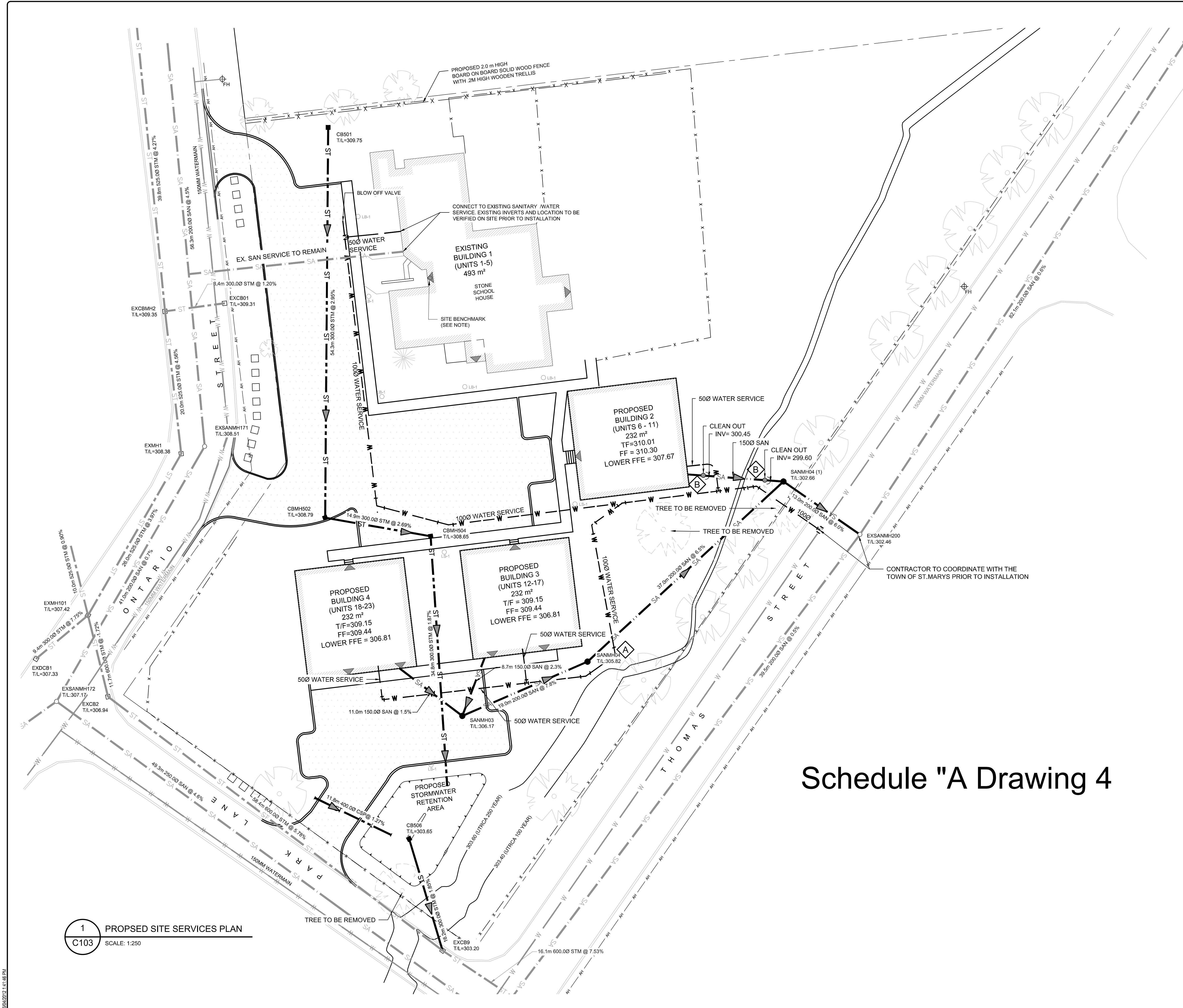
PROJECT:
DEVELOPMENT FEASIBILITY STUDY
121 ONTARIO ST.
ST. MARYS, ON.

DRAWING TITLE:
SITE GRADING PLAN

EC NO:	DWN:	CHK:	APPROVED BY:
	KDR	BPM	KDR
DATE OF ISSUE:	FILE NO:	SUPV DESIGN ENG:	
2018MAY22	17-1092C_Aa	-	
SCALE:	SIZE:	SUB-TYPE:	PROJECT NO:
AS SHOWN	D		17-1092

CLIENT DWG NO: _____

DWG NO: **C102** **REV:** **4**



TYPICAL LEGEND

FM	FIRE HYDRANT
STMH	NEW STORM MANHOLE
STMH	EXISTING STORM MANHOLE
SAMH	NEW SANITARY MANHOLE
SAMH	EXISTING SANITARY MANHOLE
CB	NEW CATCH BASIN
CB	EXISTING CATCH BASIN
CBMH	NEW STORM CATCH BASIN MANHOLE
CBMH	EXISTING STORM CATCH BASIN MANHOLE
W	EXISTING WATERMAIN
W	NEW WATERMAIN
ST	EX. STORM WATER PIPE
ST	NEW STORM WATER PIPE
SA	EX. SANITARY PIPE
SA	NEW SANITARY PIPE
UP	LIGHT POLE
UP	UTILITY POLE
LS-1	LIGHT STANDARD- RAB AL1-LED
LS-2	LIGHT BOLLARD - RAB RAY6-LED
X	FENCE
SIGN	SIGN
---	PROPERTY LINE
AH	AERIAL HYDRO
---	TOP OF BANK
---	PIPE FLOW DIRECTION
---	GUY POLE
■	INDICATES NEW CONCRETE
■	INDICATES NEW ASPHALT

NOTES

A INSTALL EXTERNAL DROP STRUCTURE AS PER OPSD 1003.030

B 45° VERTICAL BEND c/w CLEANOUT COMPRISED OF TEE-WHY FITTING AND 150 VERTICAL RISER & CAP TO SUIT.

SANITARY		STORM	
INVERTS CHART		INVERTS CHART	
NO.	INVERTS	NO.	INVERTS
EXSANMH200	NE - 298.700 SW - 298.700 NW - 298.730	EXCB9	N - 301.700 SE - 301.610 NW - 301.610
SANMH03	NE - 304.770 N - 304.800 NW - 304.830	EXCB2	N - 305.000 SE - 304.990
EXSANMH172	NE - 305.620 SE - 304.520 SW - 305.670	CBMH502	N - 306.150 E - 306.100
EXSANMH173	NW - 301.017 SW - 298.347 NE - 298.308	EXMH1	N - 306.590 SW - 306.510
EXSANMH201	SW - 299.200	EXCBMH2	N - 307.520 S - 307.500 E - 307.800
SANMH04 (1)	SW - 299.540 SE - 299.510 W - 299.570	EXMHCB10	NE - 301.650
SANMH04	SW - 303.286 NE - 301.950	EXMH101	NE - 305.480 S - 304.800 SW - 305.900 N - 305.710
EXSANMH171	SW - 305.920 N - 306.120	EXDCB1	NE - 306.630
		CB506	S - 302.000
		CB501	S - 307.750
		EXMHCB9	SW - 301.150 SE - 300.400 NW - 300.400
		CBMH504	W - 305.700 S - 305.650
		EXCB01	W - 307.700

- TOPO SURVEY NOTES**
- PLAN OF EXISTING TOPOGRAPHICAL INFORMATION, IS BASED ON SURVEY DATED NOVEMBER 25, 2016. PREPARED BY NA GEOMATICS INC. ONTARIO LAND SURVEYORS.
 - ALL GRADES BASED ON GEODETIC DATUM. ALL DIMENSIONS IN METRES UNLESS OTHERWISE NOTED.
 - SITE BENCH LOCATED AS THE FINISHED FLOOR LEVEL OF EXISTING STONE BUILDING ELEV= 311.88

KEYPLAN:

AREA OF DEVELOPMENT

ONTARIO ST
PARK LN
THOMAS ST

TRUE NORTH:
CONSTRUCTION NORTH:

-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
6	2018MAY22	REISSUED FOR SITE PLAN APPLICATION	JHKOR	KDR	
5	2018MAY17	REISSUED FOR SITE PLAN APPLICATION	JHKOR	KDR	
4	2018APR26	REISSUED FOR SITE PLAN APPLICATION	JHKOR	KDR	
3	2018MAR22	REISSUED FOR SITE PLAN APPLICATION	JHKOR	KDR	
2	2018FEB23	ISSUED FOR SITE PLAN APPLICATION	JHKOR	KDR	
1	2018FEB01	ISSUED FOR CLIENT REVIEW	KDRBPM	KDR	
0	2017DEC21	ISSUED FOR ZONING AMENDMENT	KDRBPM	KDR	
A	2017DEC18	ISSUED FOR CLIENT REVIEW	KDRBPM	KDR	
REV	DATE	DESCRIPTION	DWGCHK	APPR	

DISCLAIMER:
CONTRACTOR TO REVIEW DRAWINGS AND VERIFY DIMENSIONS ON SITE.
REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION AND/OR SHOP FABRICATION.
ALL DRAWINGS AND RELATED DOCUMENTS ARE THE COPYRIGHT PROPERTY OF NA ENGINEERING INC. REPRODUCTION OF DRAWINGS AND RELATED DOCUMENTS IN PART OR IN WHOLE IS FORBIDDEN WITHOUT WRITTEN PERMISSION FROM NA ENGINEERING ASSOCIATES INC.

NA ENGINEERING ASSOCIATES INC
Consulting Engineers

STRATFORD 107 ERIE ST (519) 273 3205
LONDON 90 ALBERT ST (519) 432 0000
KINCARDINE 933 QUEEN ST (519) 396 1000
PICKERING 1305 PICKERING PKWY (416) 278 7991

Structural ■ Municipal ■ Mechanical ■ Electrical
Environmental ■ Fire Protection ■ Building Science
www.naeng.com

APPROVED BY:
VERIFIED BY:

CLIENT:
WILDWOOD HOMES
1436 KILALLY ROAD, SIDE UNIT
LONDON, ON.
N5V 5A3
519-284-3402

PROJECT:
MULTI DWELLING DEVELOPMENT AT
121 ONTARIO ST.
ST. MARYS, ON.

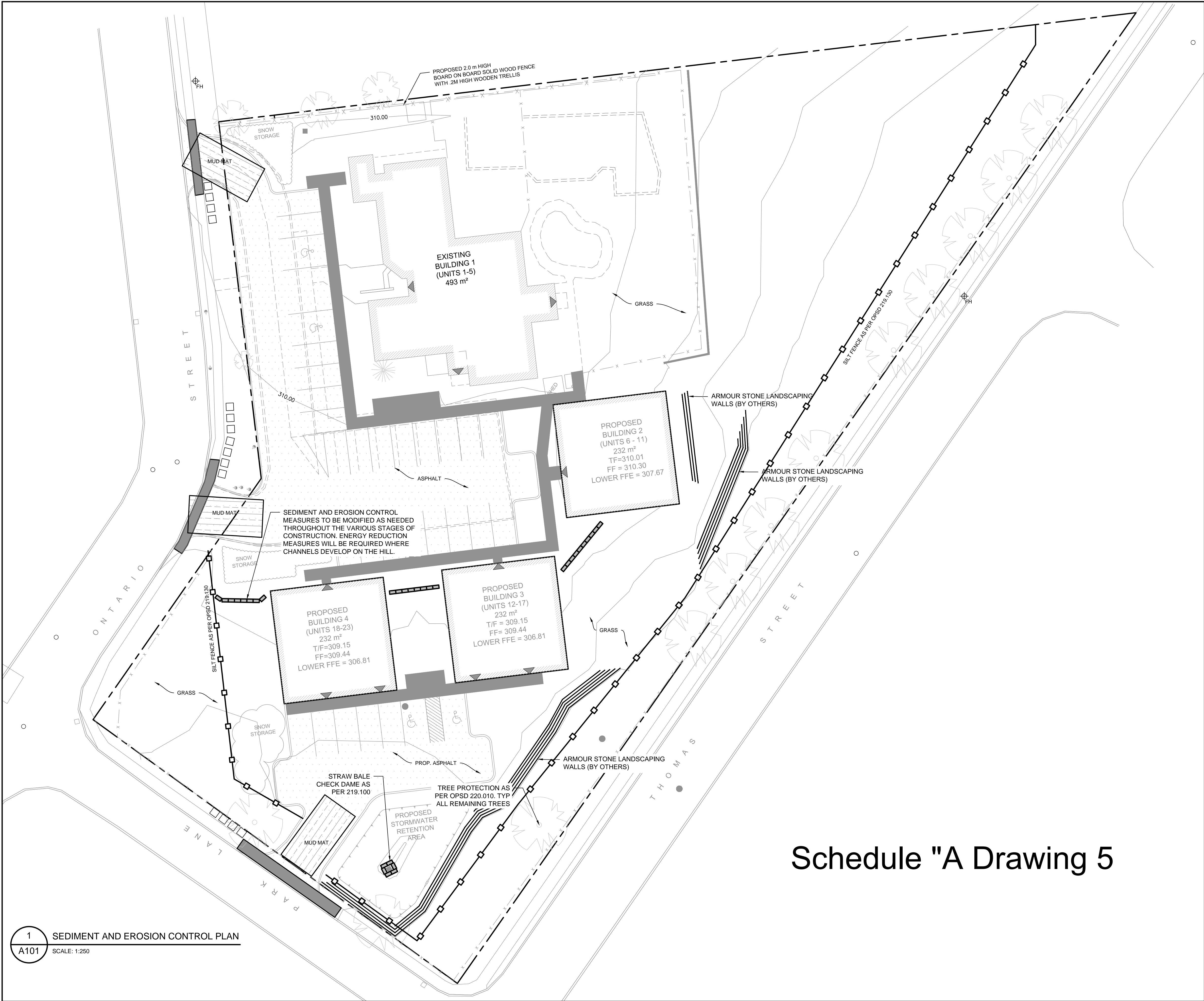
DRAWING TITLE:
PROPOSED SITE SERVICES PLAN

EC NO:	DWN:	CHK:	APPROVED BY:
	JH/KDR	BPM	KDR
DATE OF ISSUE:	FILE NO:	SUPV DESIGN ENG:	
2018MAY22	17-1092C_Aa	-	
SCALE:	SIZE:	SUB-TYPE:	PROJECT NO:
AS SHOWN	D		17-1092

CLIENT DWG NO:

Schedule "A Drawing 4

18/04/2017 1:46 PM



STMH

STMH

SAMH

SAMH

CB

CB

CBMH

CBMH

NEW STORM MANHOLE

EXISTING STORM MANHOLE

NEW SANITARY MANHOLE

EXISTING SANITARY MANHOLE

NEW CATCH BASIN

EXISTING CATCH BASIN

NEW STORM CATCH BASIN MANHOLE

EXISTING STORM CATCH BASIN MANHOLE

HEAVY DUTY SILT FENCE

PROPERTY LINE

INDICATES NEW CONCRETE

INDICATES NEW ASPHALT

STRAW BALE

SEDIMENT AND EROSION CONTROL NOTES

1. ALL CATCH BASINS AND MANHOLES ARE TO BE EQUIPPED WITH SILT SACS DURING THE CONSTRUCTION PERIOD.

2. 5m x 10m MUD MAT TO BE AT INSTALLED AT THE ENTRANCES OF THE SITE DURING CONSTRUCTION. STONE PAD TO BE A MINIMUM 450 mm THICK. FIRST 5 m TO BE 50 mm CLEAR STONE WITH THE REMAINING 5 m 150 mm RIP-RAP MATERIAL.

3. CONTRACTOR IS RESPONSIBLE TO PROTECT ALL EXPOSED SURFACES AND CONTROL ALL RUNOFF DURING CONSTRUCTION.

4. PROTECT ALL CATCHBASINS, MANHOLES, SEWERS AND PIPE ENDS FROM SEDIMENT INTRUSION. THIS APPLIES TO ANY NECESSARY DEWATERING AND SHALL BE DISCHARGED INTO A TEMPORARY ON SITE SEDIMENT BASIN. CONTRACTOR TO CAP OPEN PIPE END AT DAY'S END OF PIPE CONSTRUCTION.

5. THE CONTRACTOR SHALL MINIMIZE AREA DISTURBED AND MAINTAIN EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION.

6. KEEP ALL SUMPS CLEAN DURING CONSTRUCTION. CONTRACTOR TO CLEAN AND REMOVE ACCUMULATED SEDIMENT FROM ALL SEDIMENT FENCE AND FLOW CHECKS ONCE SEDIMENT ACCUMULATION REACHED HALF OF THE HEIGHT OF THE STRUCTURE.

7. MONITOR WEATHER FORECASTS FOR PENDING SIGNIFICANT RAIN EVENTS AND CONDUCT INSPECTION OF ALL SEDIMENT AND EROSION CONTROL MEASURES ON SITE PRIOR TO THE RAIN EVENT TO ENSURE THEIR PROPER INSTALLATION. MAKE CORRECTIVE MEASURES AS REQUIRED.

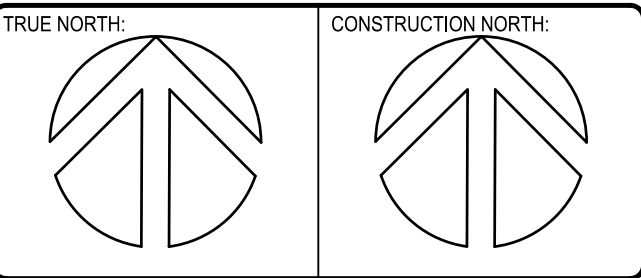
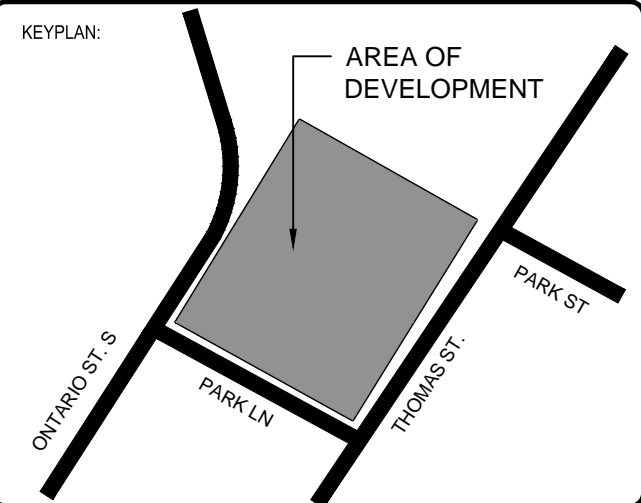
8. CONTRACTOR TO PREVENT WIND-BLOWN DUST.

9. SILT FENCES SHALL BE INSTALLED ALONG THE PROPERTY LINE ON ALL SIDES OF THE PROPERTY IN ACCORDANCE WITH OPSD 219.130.

10. DURING THE GRADING AND CONSTRUCTION OF THIS DEVELOPMENT, SILT FENCING OR OTHER EROSION/SEDIMENT CONTROL MEASURES, AS DEEMED NECESSARY, SHALL BE EMPLOYED AND INSTALLED ALONG THE BOUNDARIES OF EACH LOT (OR PARCEL) TO CONTROL AND PREVENT SEDIMENT TRANSPORT. ALL EROSION/SEDIMENT CONTROLS SHOULD BE REGULARLY INSPECTED AND MAINTAINED THROUGHOUT CONSTRUCTION AND SHOULD NOT BE REMOVED UNTIL CONSTRUCTION IS COMPLETE. A PERMANENT VEGETATIVE COVER HAS BEEN ESTABLISHED AND AS DIRECTED BY THE ENGINEER OR THE MUNICIPALITY'S DESIGNATE. THE DEVELOPER OR HIS AGENT SHALL UNDERTAKE INSPECTIONS ON A REGULAR BASIS AND AFTER EACH SIGNIFICANT RAINFALL EVENT.

11. ALL EROSION AND SEDIMENT CONTROL MEASURES TO BE INSTALLED PRIOR TO ANY CONSTRUCTION ACTIVITIES.

12. ADDITIONAL SILT FENCING SHOULD BE AVAILABLE IN CASE IMMEDIATE REPAIR IS REQUIRED.



5	2018APR25	REISSUED FOR SITE PLAN APPLICATION	JHKDR	KDR
4	2018MAR28	REISSUED FOR SITE PLAN APPLICATION	JHKDR	KDR
3	2018FEB16	ISSUED FOR SITE PLAN APPLICATION	JHBPM	KDR
2	2018FEB05	AS PER UTRCA COMMENTS	KDRBPM	KDR
1	2017FEB01	ISSUED FOR CLIENT REVIEW	KDRBPM	KDR
0	2017DEC21	ISSUED FOR ZONING AMENDMENT	KDRBPM	KDR
2	2017DEC18	ISSUED FOR CLIENT REVIEW	KDRBPM	KDR
REV	DATE	DESCRIPTION	DWGCHK	APPD

DISCLAIMER:
CONTRACTOR TO REVIEW DRAWINGS AND VERIFY DIMENSIONS ON SITE.
REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION AND/OR SHOP FABRICATION.
ALL DRAWINGS AND RELATED DOCUMENTS ARE THE COPYRIGHT PROPERTY OF NA ENGINEERING INC. REPRODUCTION OF DRAWINGS AND RELATED DOCUMENTS IN PART OR IN WHOLE IS FORBIDDEN WITHOUT WRITTEN PERMISSION FROM NA ENGINEERING ASSOCIATES INC.

NA

ENGINEERING

ASSOCIATES INC

Consulting Engineers

STRATFORD 107 ERIE ST (519) 273 3205

LONDON 90 ALBERT ST (519) 432 0000

KINCARDINE 933 QUEEN ST (519) 396 1000

PICKERING 1305 PICKERING PKWY (416) 278 7991

Structural • Municipal • Mechanical • Electrical

Environmental • Fire Protection • Building Science

www.naeng.com

APPROVED BY:

VERIFIED BY:

CLIENT:

WILDWOOD HOMES
1436 KILALLY ROAD, SIDE UNIT
LONDON, ON.
N5V 5A3
519-284-3402

PROJECT:

MULTI DWELLING DEVELOPMENT AT
121 ONTARIO ST.
ST. MARYS, ON.

DRAWING TITLE:

PROPOSED SEDIMENT AND
EROSION CONTROL PLAN

EC NO:	DWN:	CHK:	APPROVED BY:
2018APR25	JH/KDR	BPM	KDR
DATE OF ISSUE:	FILE NO:	SUPV DESIGN ENG:	
AS SHOWN	17-1092C_Aa	-	
SCALE:	SIZE:	SUB-TYPE:	PROJECT NO:
	D		17-1092

CLIENT DWG NO:

DWG NO:

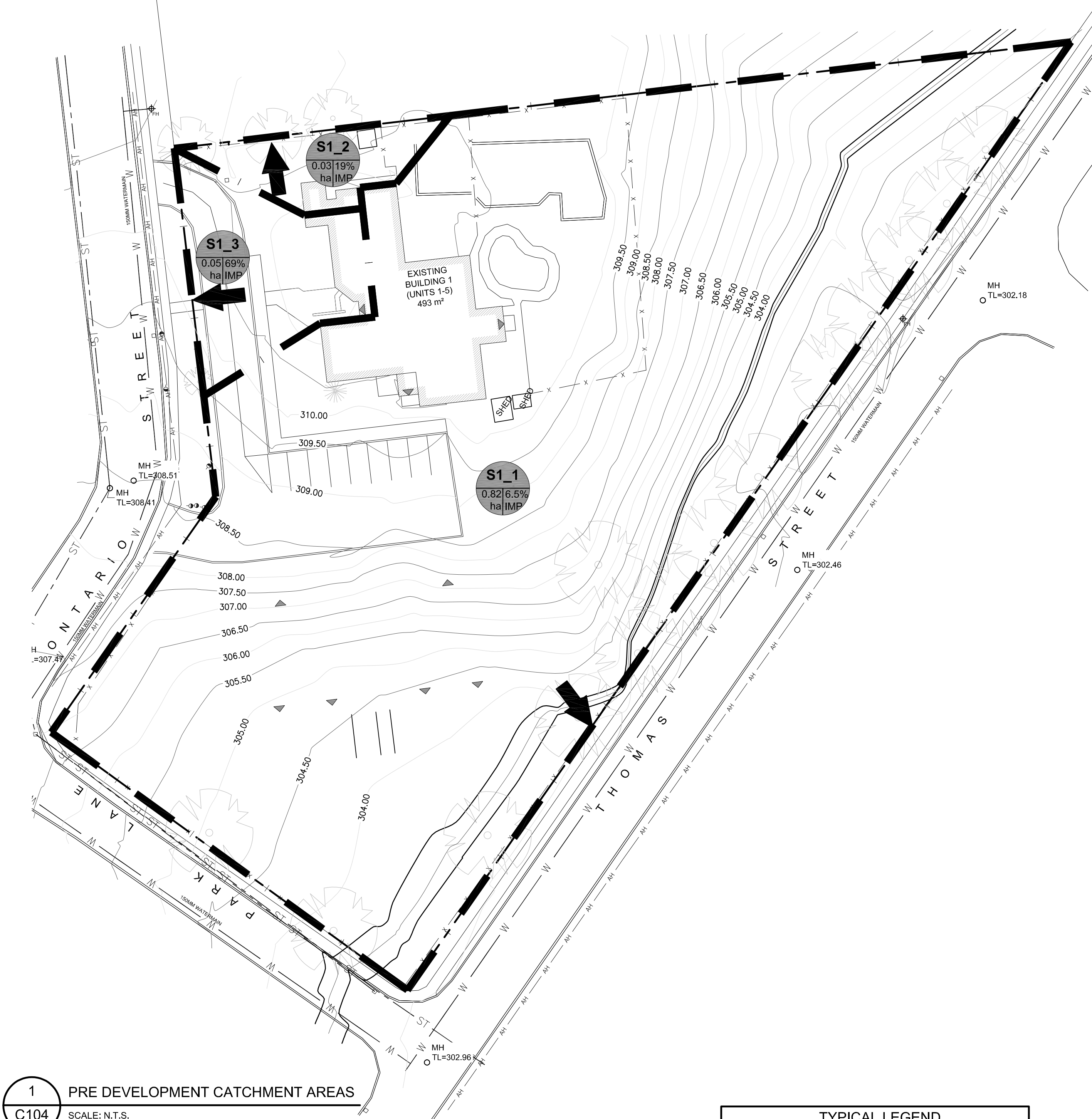
C104

REV:

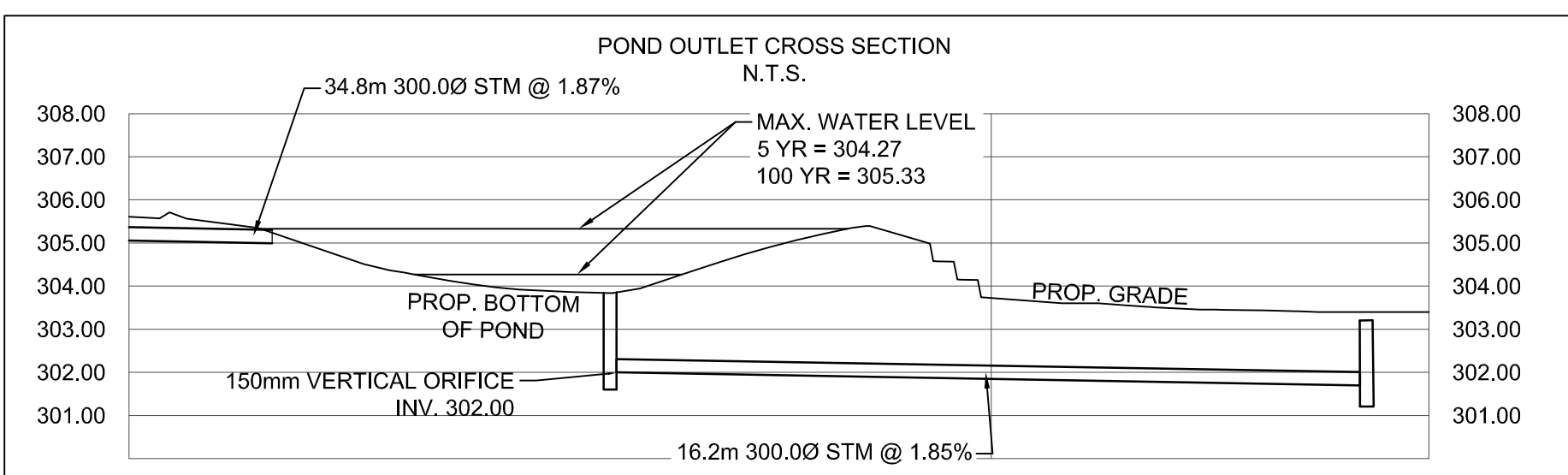
5

Schedule "A Drawing 5

Schedule "A Drawing 6

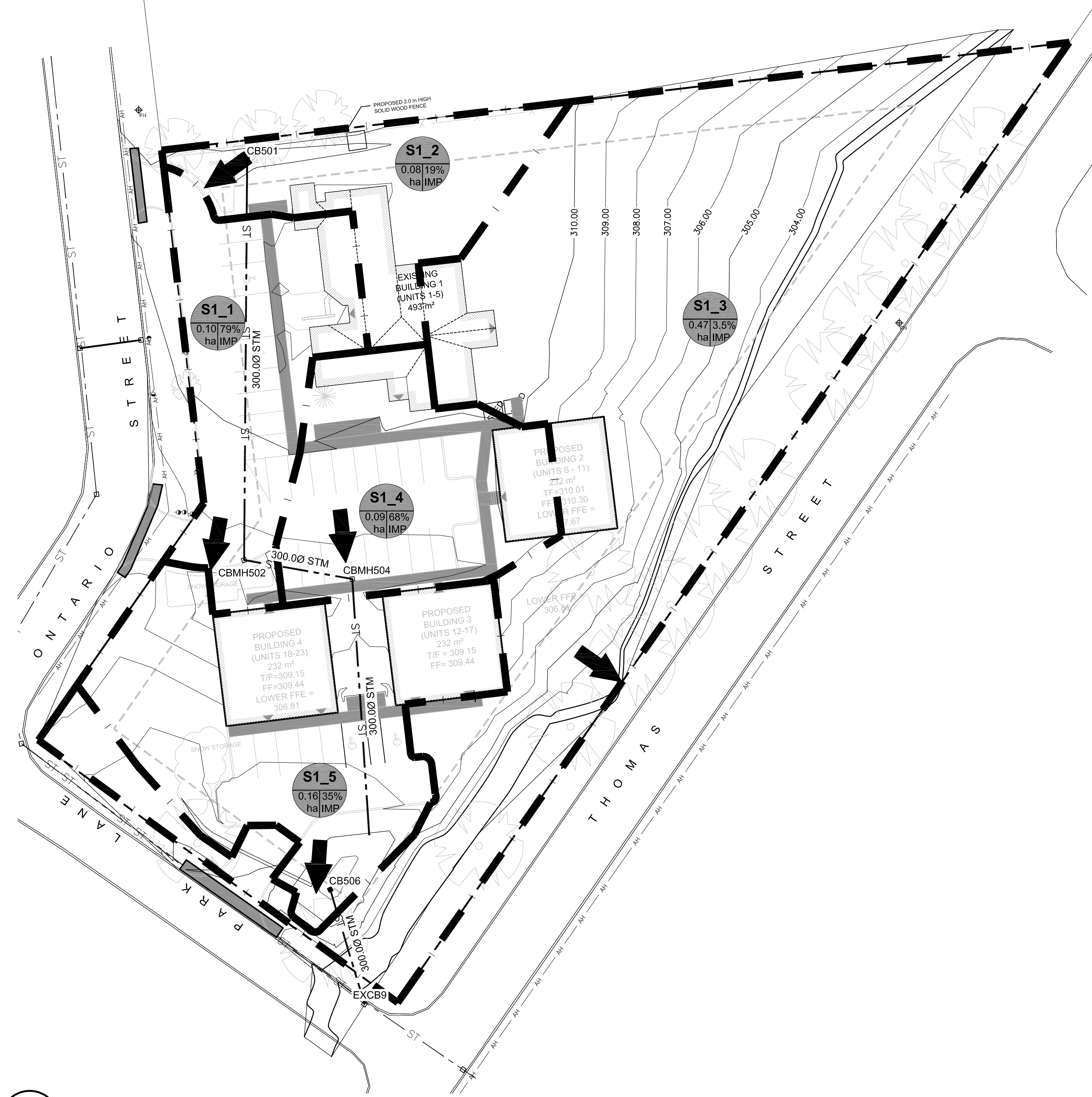


1 PRE DEVELOPMENT CATCHMENT AREAS
C104 SCALE: N.T.S.



TYPICAL LEGEND

- STMH ● NEW STORM MANHOLE
- STMH ○ EXISTING STORM MANHOLE
- SAMH ● NEW SANITARY MANHOLE
- SAMH ○ EXISTING SANITARY MANHOLE
- CB ■ NEW CATCH BASIN
- CB □ EXISTING CATCH BASIN
- CBMH ■ NEW STORM CATCH BASIN MANHOLE
- CBMH ○ EXISTING STORM CATCH BASIN MANHOLE
- EMH ○ EXISTING ELECTRICAL MANHOLE
- SUB-CATCHMENT BOUNDARY
- w- EXISTING WATERMAIN
- w- NEW WATERMAIN
- st- PROP. STORM WATER PIPE
- st- PROP. STORM WATER PIPE
- - - PROPERTY LINE
- ➔ OVERLAND FLOW ROUTE
- S1_1 CATCHMENT NAME
- 0.82/3% % IMPERVIOUS
- AREA (ha)



2 POST DEVELOPMENT CATCHMENT AREAS
C104 SCALE: N.T.S.

TABLE 1: STORMWATER MANAGEMENT INPUT DATA

SUB-CATCHMENT	AREA (ha)	% IMPERVIOUS	SLOPE (%)	FLOW LENGTH	N IMPER	N PERV	DSTORE IMPERV (mm)	DSTORE PERV (mm)	SCS CURVE
PRE-DEVELOPMENT CONDITIONS									
S1_1	0.82	6.5	12	95	0.013	0.24	2.5	5	79
S1_2	0.03	19	15	11	0.013	0.24	2.5	5	79
S1_3	0.05	69	6.5	20	0.013	0.24	2.5	5	79
POST-DEVELOPMENT CONDITIONS									
S1_1	0.1	79	8	45	0.013	0.24	2.5	5	79
S1_2	0.08	19	15	13	0.013	0.24	2.5	5	79
S1_3	0.47	3.5	20	56	0.013	0.24	2.5	5	79
S1_4	0.09	68	4.5	33	0.013	0.24	2.5	5	79
S1_5	0.16	35	17	34	0.013	0.24	2.5	5	79

TABLE 3: SWM POND STORAGE & WATER LEVEL

RETURN PERIOD (YEARS)	AVAILABLE STORAGE (m³)	REQUIRED STORAGE (m³)	MAXIMUM WATER ELEVATION (m)	MAXIMUM DEPTH (m)
2		40	303.99	0.29
5		70	304.27	0.57
10		90	304.56	0.86
25		108	305.16	1.46
50		110	305.29	1.59
100	112.73	111	305.33	1.63

TABLE 2: PRE-DEVELOPMENT VS POST-DEVELOPMENT RUNOFF RATES

OUTLET	RETURN PERIOD (YEARS)	PRE-DEVELOPMENT SUB-CATCHMENT	DEVELOPMENT RUNOFF RATE	DEVELOPMENT SUB-CATCHMENT	POST-DEVELOPMENT UNCONTROLLED RUNOFF RATE (L/s)	POST-DEVELOPMENT CONTROLLED RUNOFF RATE (L/s)	DIFFERENCE POST - PRE (L/s)
SOUTH / SOUTH EAST - THOMAS ST. AND PARK LANE	2	S1_1	30.85	S1_1, S1_2, S1_3, S1_4 & S1_5	24.79	19.59	42.05
	5		82.04		58.92	31.59	87.13
	10		118.58		80.47	40.63	116.42
	25		164.91		110.11	55.07	155.61
	50		199.98		134.58	72.06	188.87
NORTH - NEIGHBOURING PROPERTY	2	S1_2	2.65	S1_1, S1_2, S1_3, S1_4 & S1_5	0	0	-2.65
	5		4.92		0	0	-4.92
	10		6.40		0	0	-6.40
	25		8.34		0	0	-8.34
	50		9.80		0	0	-9.80
WEST - ONTARIO ST.	2	S1_3	11.28	S1_1, S1_2, S1_3, S1_4 & S1_5	0	0	-11.28
	5		8.77		0	0	-8.77
	10		13.62		0	0	-13.62
	25		16.81		0	0	-16.81
	50		20.88		0	0	-20.88
TOTAL	2	S1_1, S1_2 & S1_3	27.13	S1_1, S1_2, S1_3, S1_4 & S1_5	24.79	19.59	42.05
	5		42.07		58.92	31.59	87.13
	10		100.58		80.47	40.63	116.42
	25		141.79		110.11	55.07	155.61
	50		194.13		134.58	72.06	188.87
TOTAL	100	S1_1, S1_2 & S1_3	273.77	S1_1, S1_2, S1_3, S1_4 & S1_5	159.66	123.86	247.96
	100		273.77		159.66	123.86	247.96

KEYPLAN:

AREA OF DEVELOPMENT

ONTARIO ST. S. PARK LN. THOMAS ST. PARK ST.

TRUE NORTH:

CONSTRUCTION NORTH:

REVISIONS:

REV	DATE	DESCRIPTION	DWG/CHK	APPD
2	2018FEB23	ISSUED FOR SITE PLAN APPLICATION	KDR/BPM	KDR
1	2018FEB01	ISSUED FOR CLIENT REVIEW	KDR/BPM	KDR
0	2017DEC21	ISSUED FOR ZONING AMENDMENT	KDR/BPM	KDR
A	2017DEC18	ISSUED FOR CLIENT REVIEW	KDR/BPM	KDR

DISCLAIMER:

CONTRACTOR TO REVIEW DRAWINGS AND VERIFY DIMENSIONS ON SITE. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION AND/OR SHOP FABRICATION.

ALL DRAWINGS AND RELATED DOCUMENTS ARE THE COPYRIGHT PROPERTY OF NA ENGINEERING INC. REPRODUCTION OF DRAWINGS AND RELATED DOCUMENTS IN PART OR IN WHOLE IS FORBIDDEN WITHOUT WRITTEN PERMISSION FROM NA ENGINEERING ASSOCIATES INC.

NA ENGINEERING ASSOCIATES INC.
Consulting Engineers

STRATFORD 107 ERIE ST. (519) 273 3205
LONDON 90 ALBERT ST. (519) 432 0000
KINCARDINE 933 QUEEN ST. (519) 396 1000
PICKERING 1305 PICKERING PKWY. (416) 278 7991

Structural • Municipal • Mechanical • Electrical
Environmental • Fire Protection • Building Science
www.naeng.com

APPROVED BY:

VERIFIED BY:

CLIENT:

WILDWOOD HOMES
1436 KILALLY ROAD, SIDE UNIT
LONDON, ON.
N5V 5A3
519-284-3402

PROJECT:

MULTI DWELLING DEVELOPMENT AT
121 ONTARIO ST.
ST. MARYS, ON.

DRAWING TITLE:

PROPOSED SITE SERVICES PLAN

EC NO:

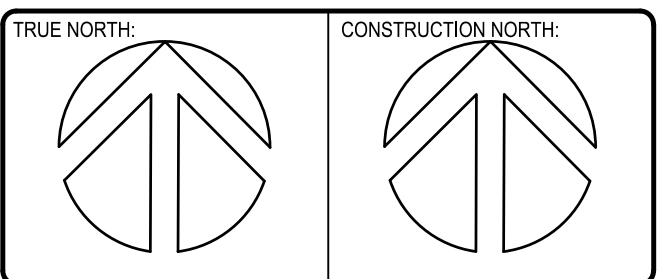
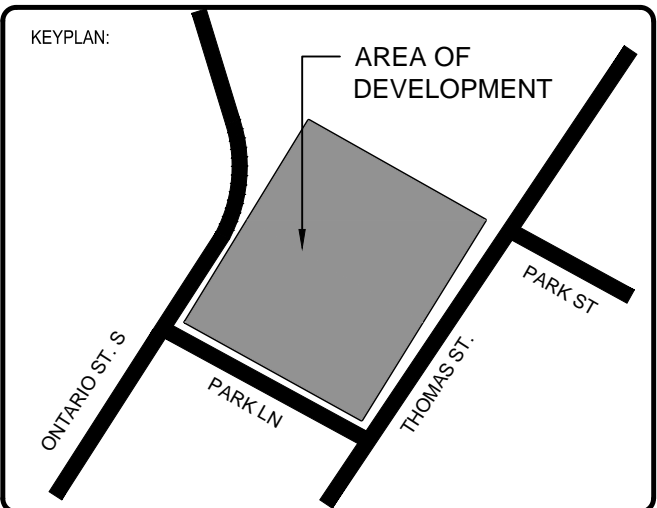
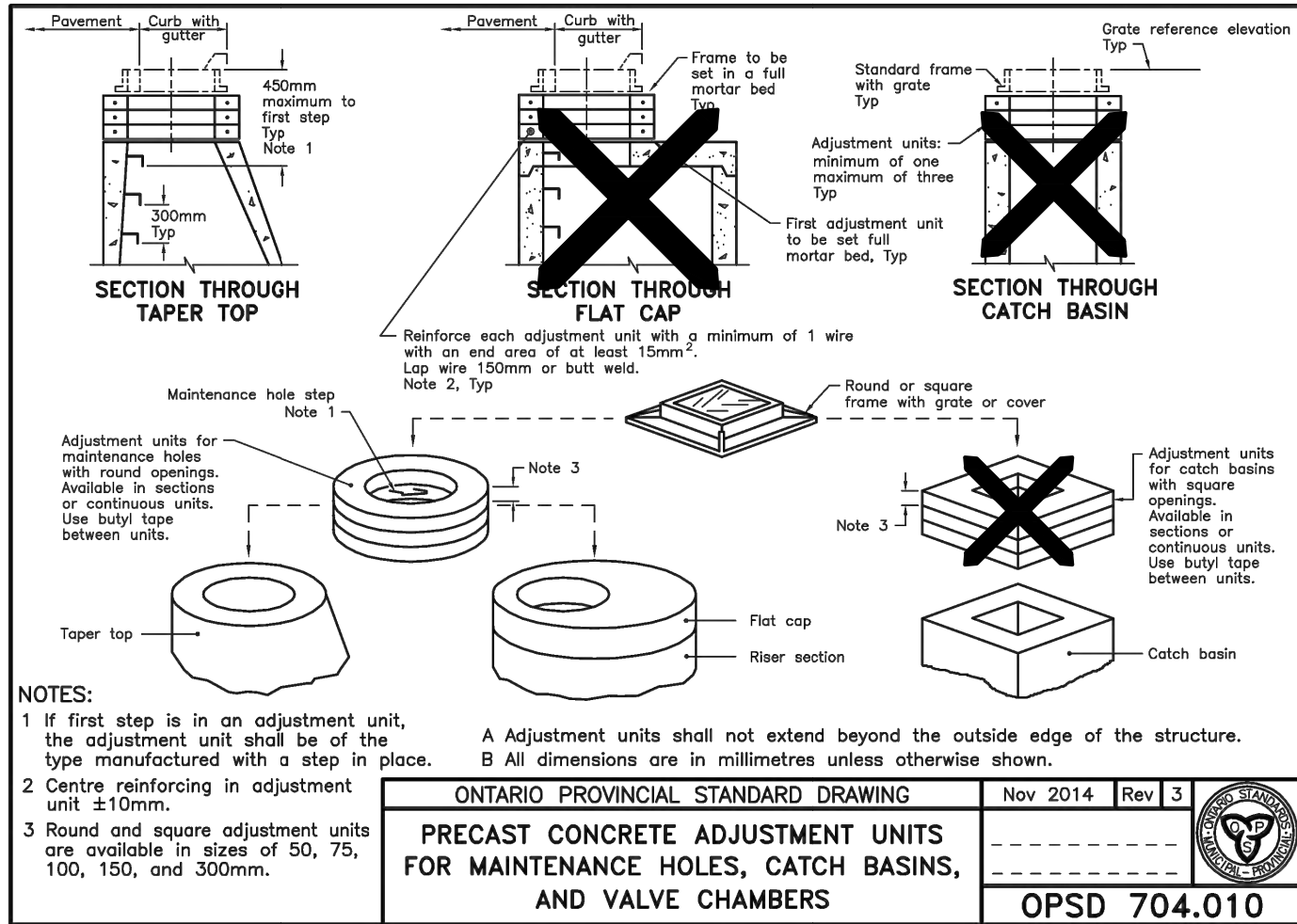
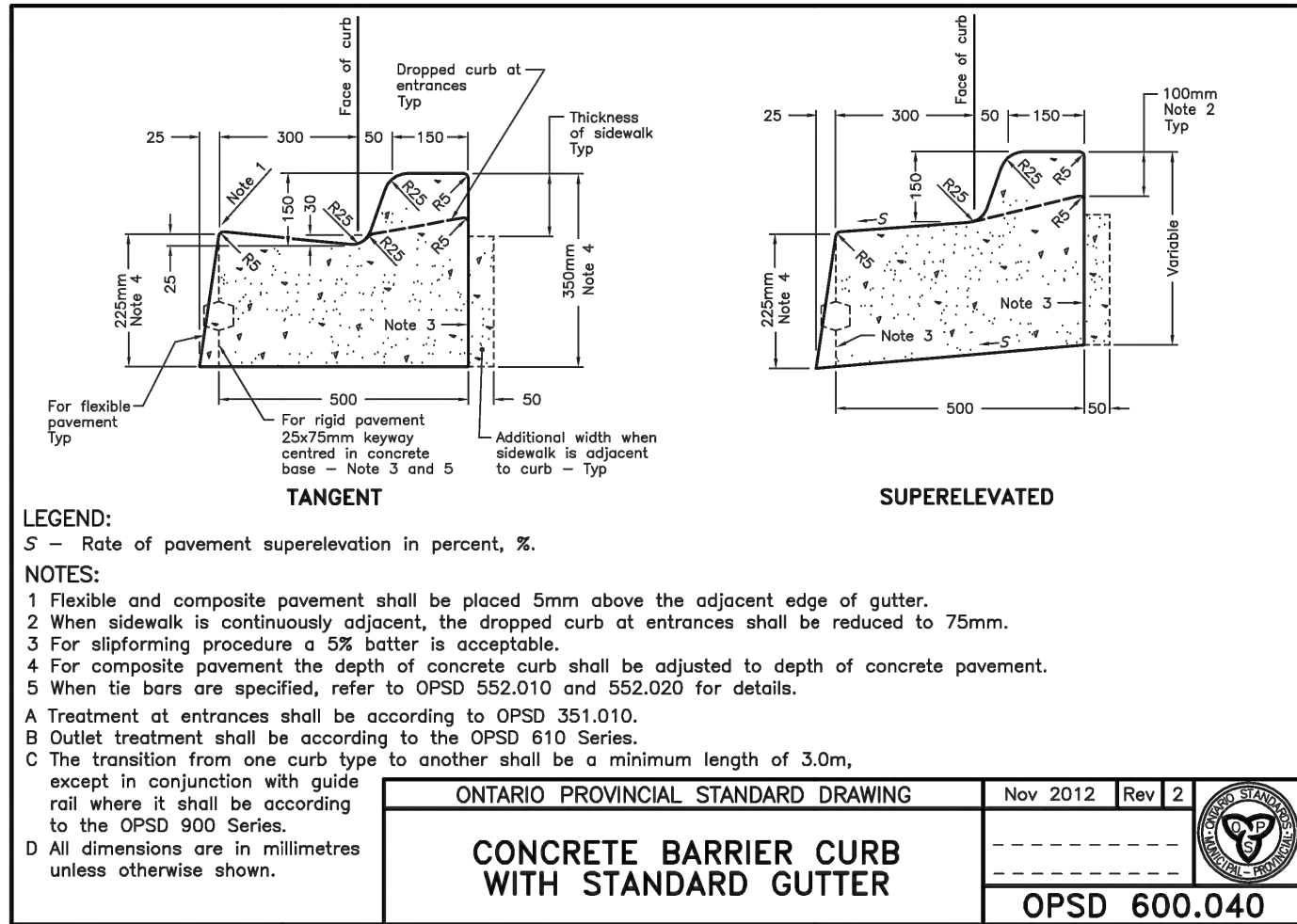
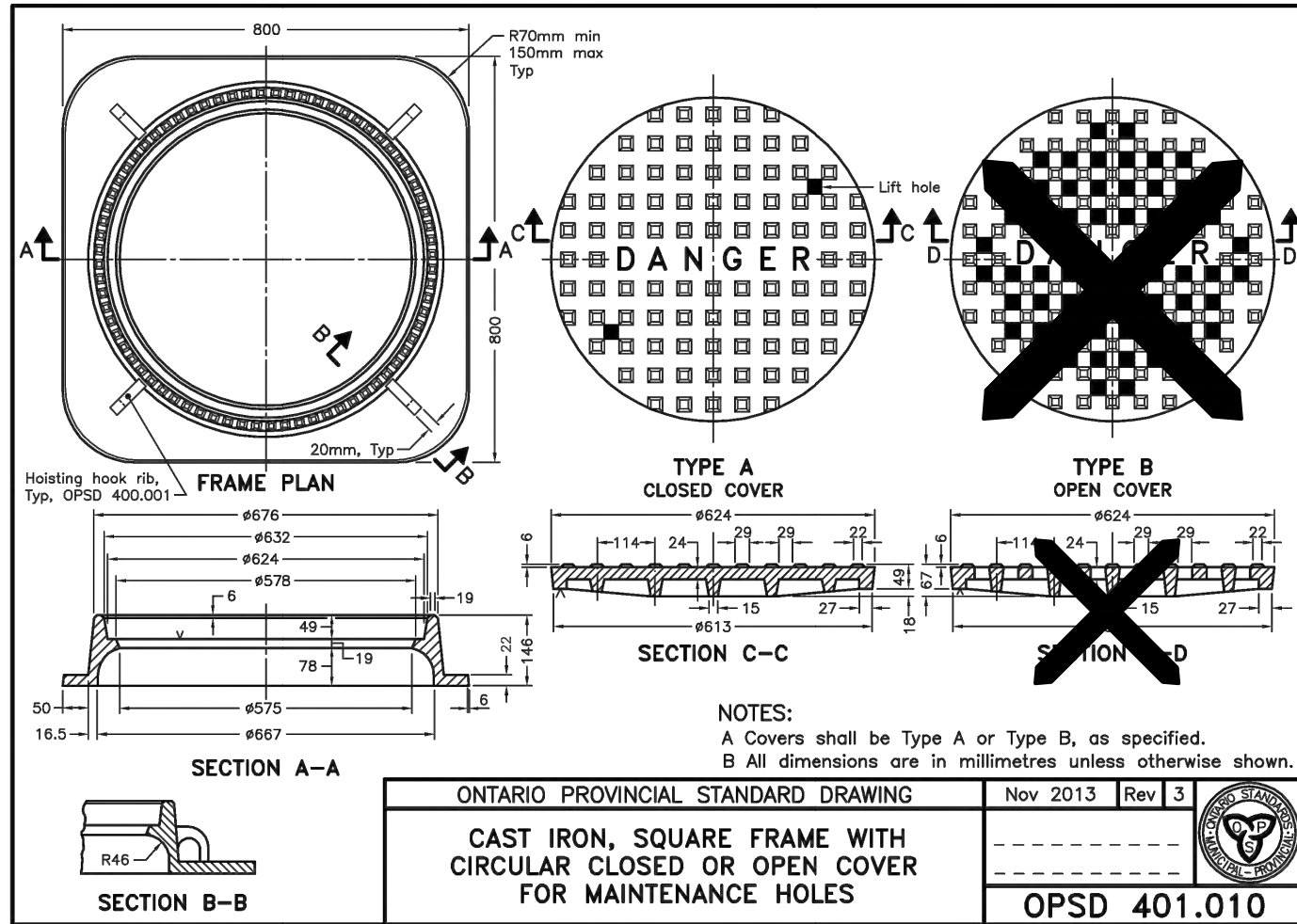
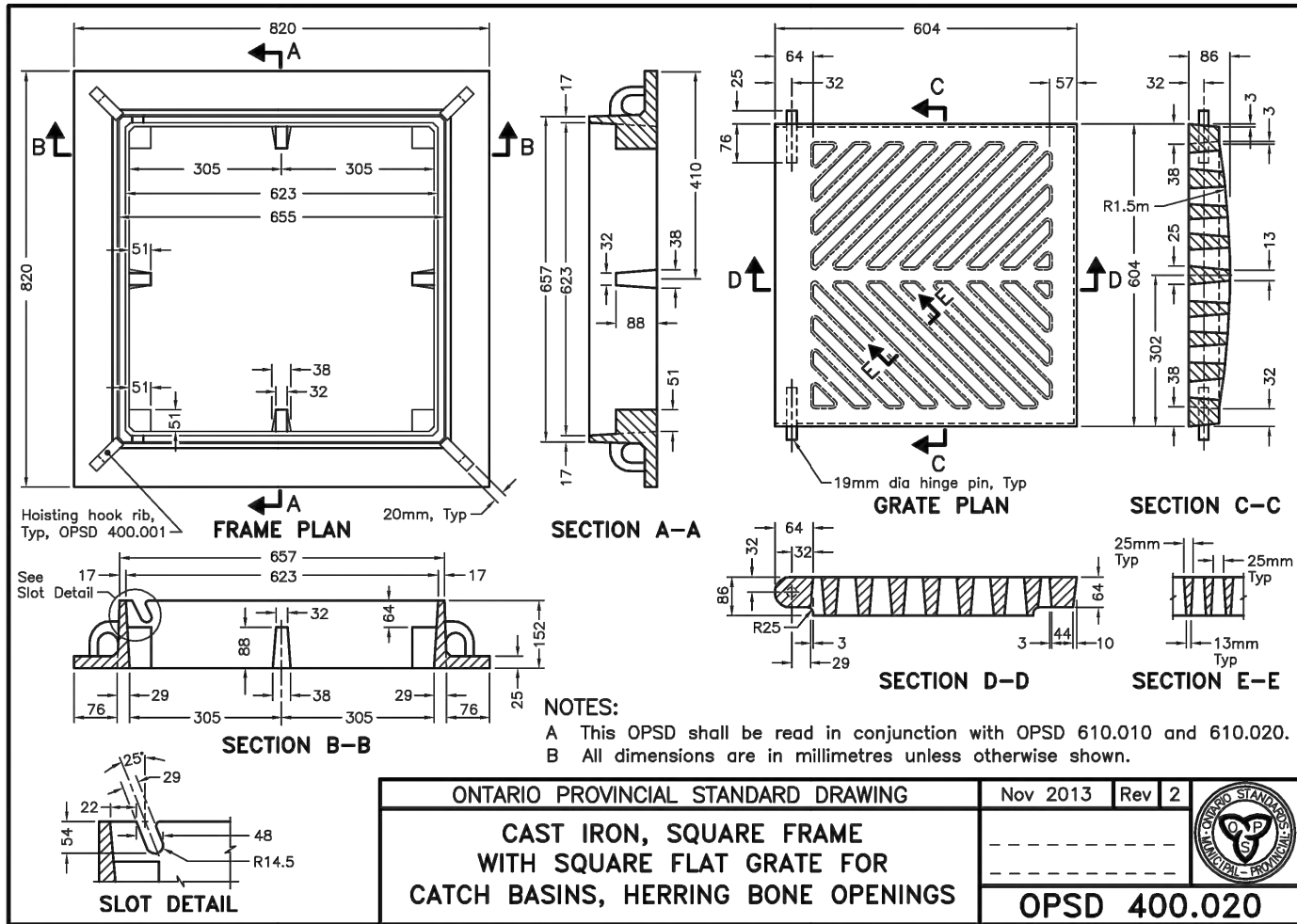
DWN: JH/KDR **CHK:** BPM **APPROVED BY:** KDR

DATE OF ISSUE: 2018FEB23 **FILE NO:** 17-1092C_Aa **SUPV DESIGN ENG:** -

SCALE: AS SHOWN **SIZE:** D **SUB-TYPE:** PROJECT NO: 17-1092

CLIENT DWG NO:

DWG NO: C105 **REV:** 2



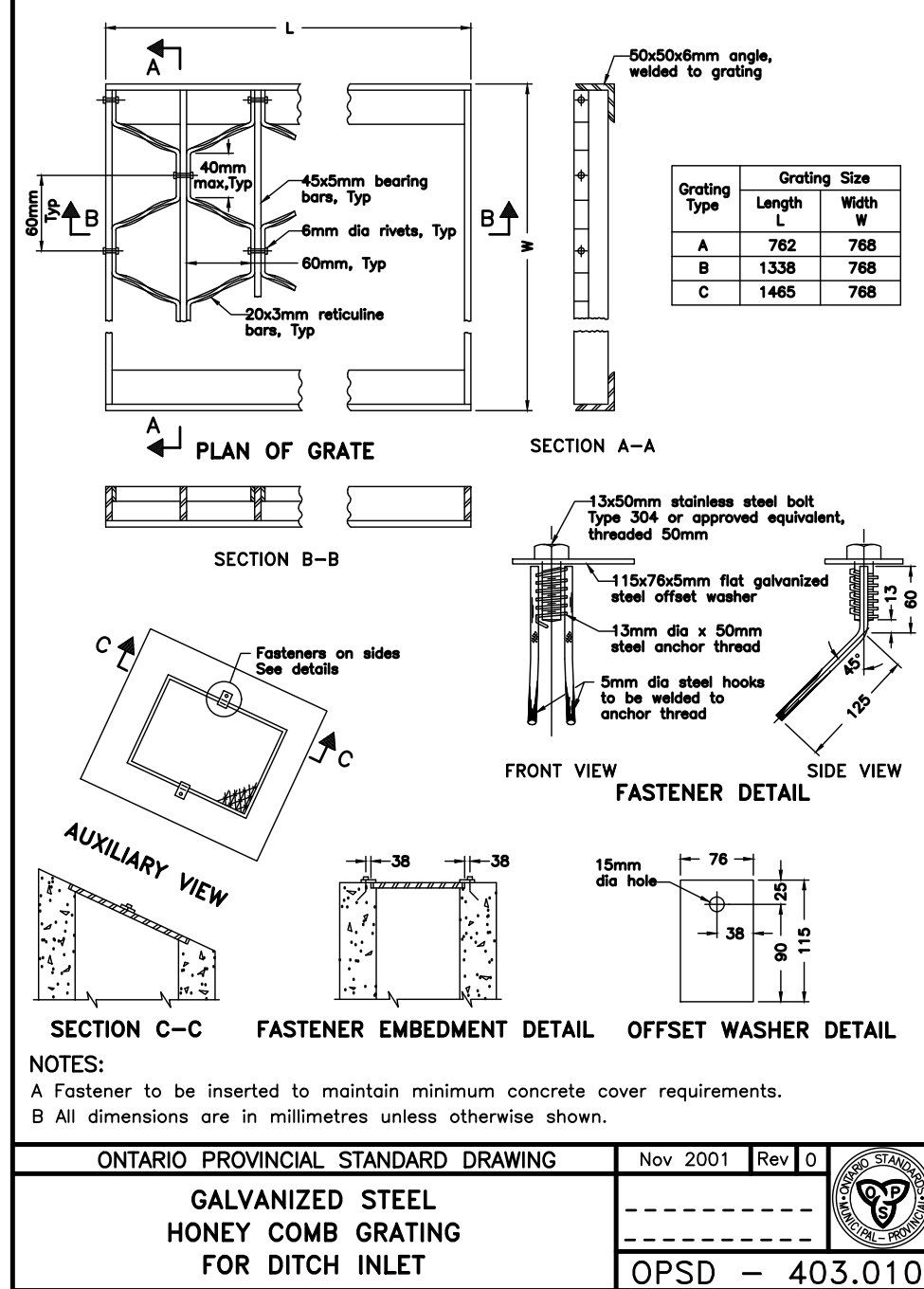
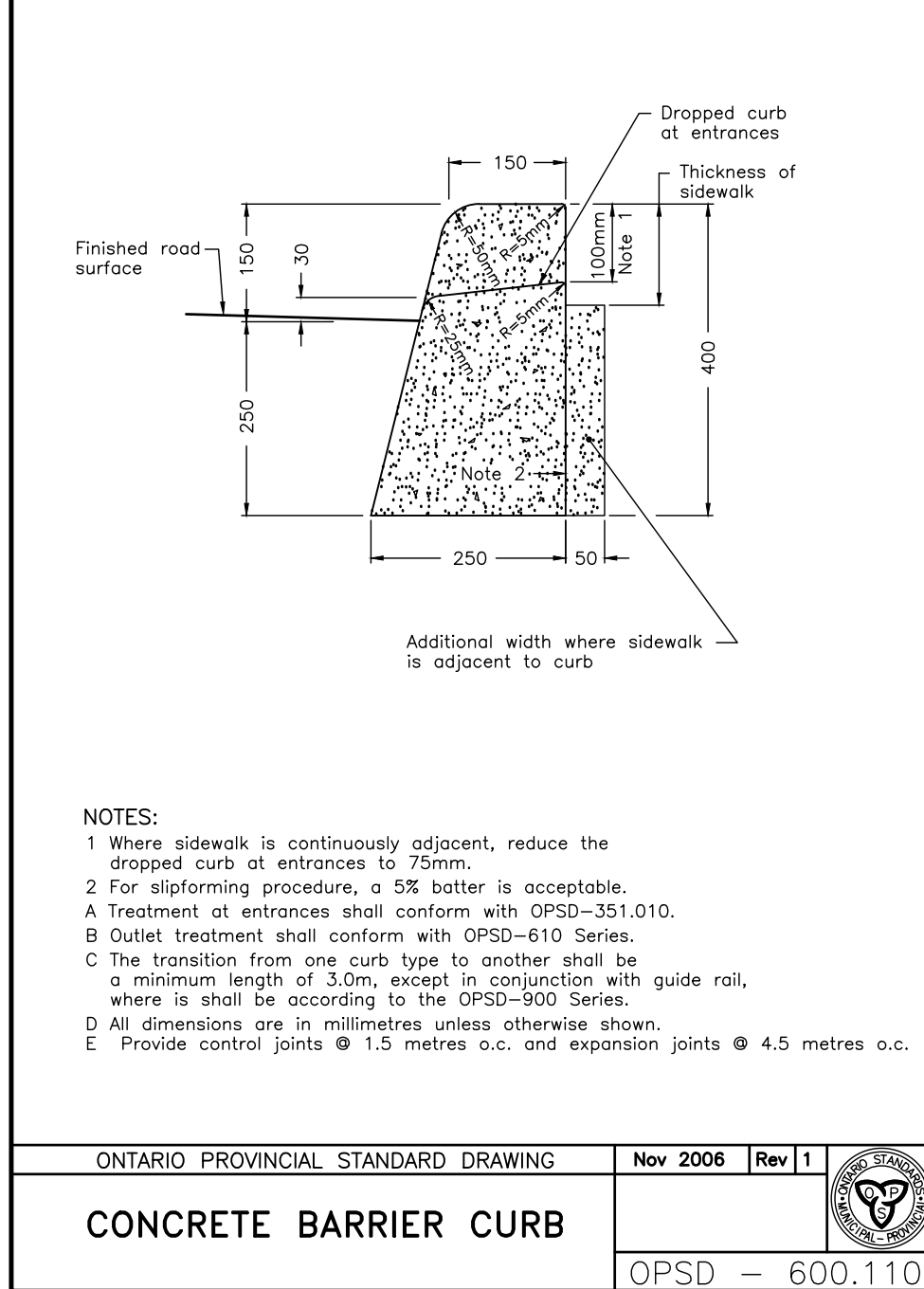
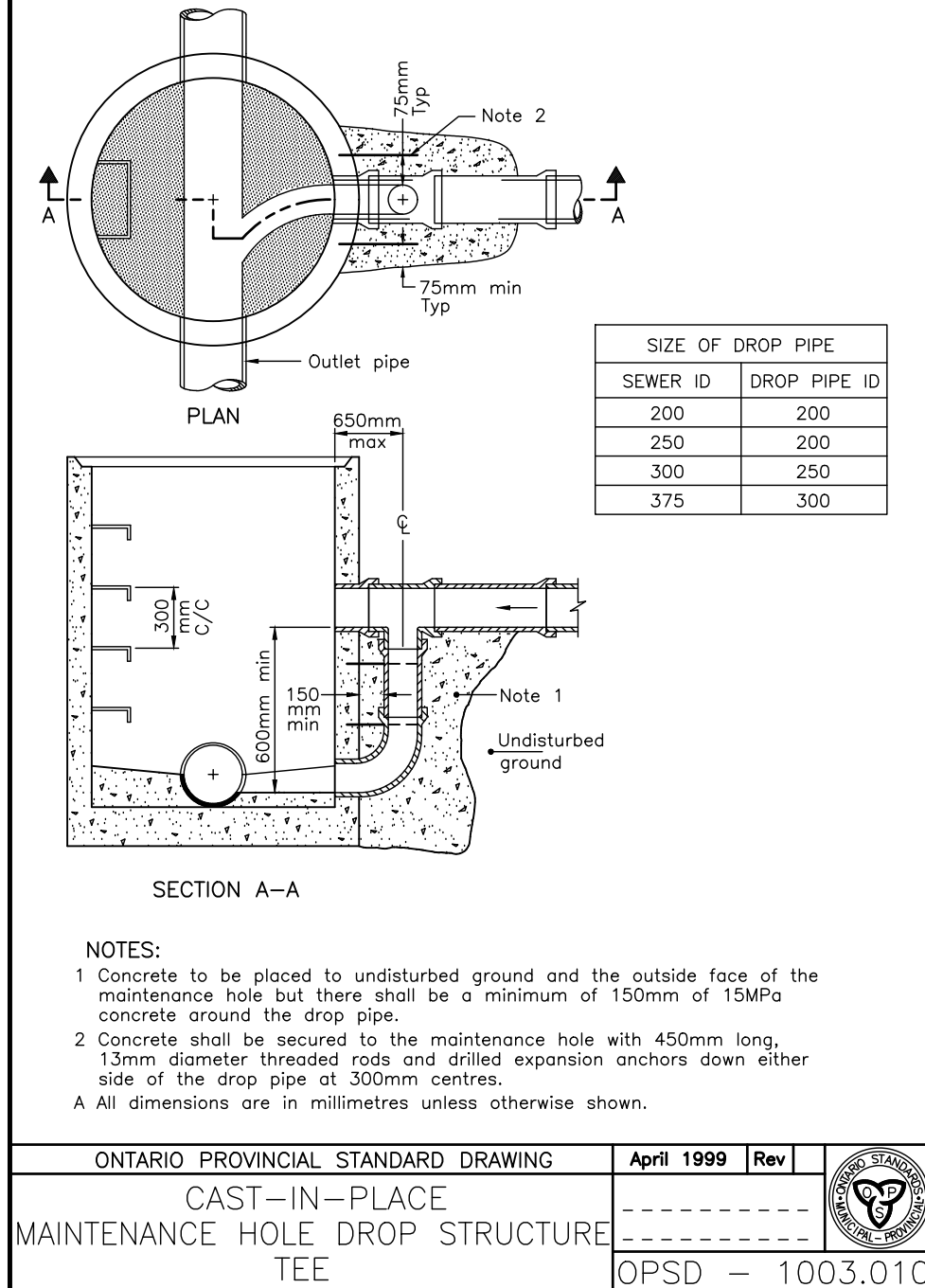
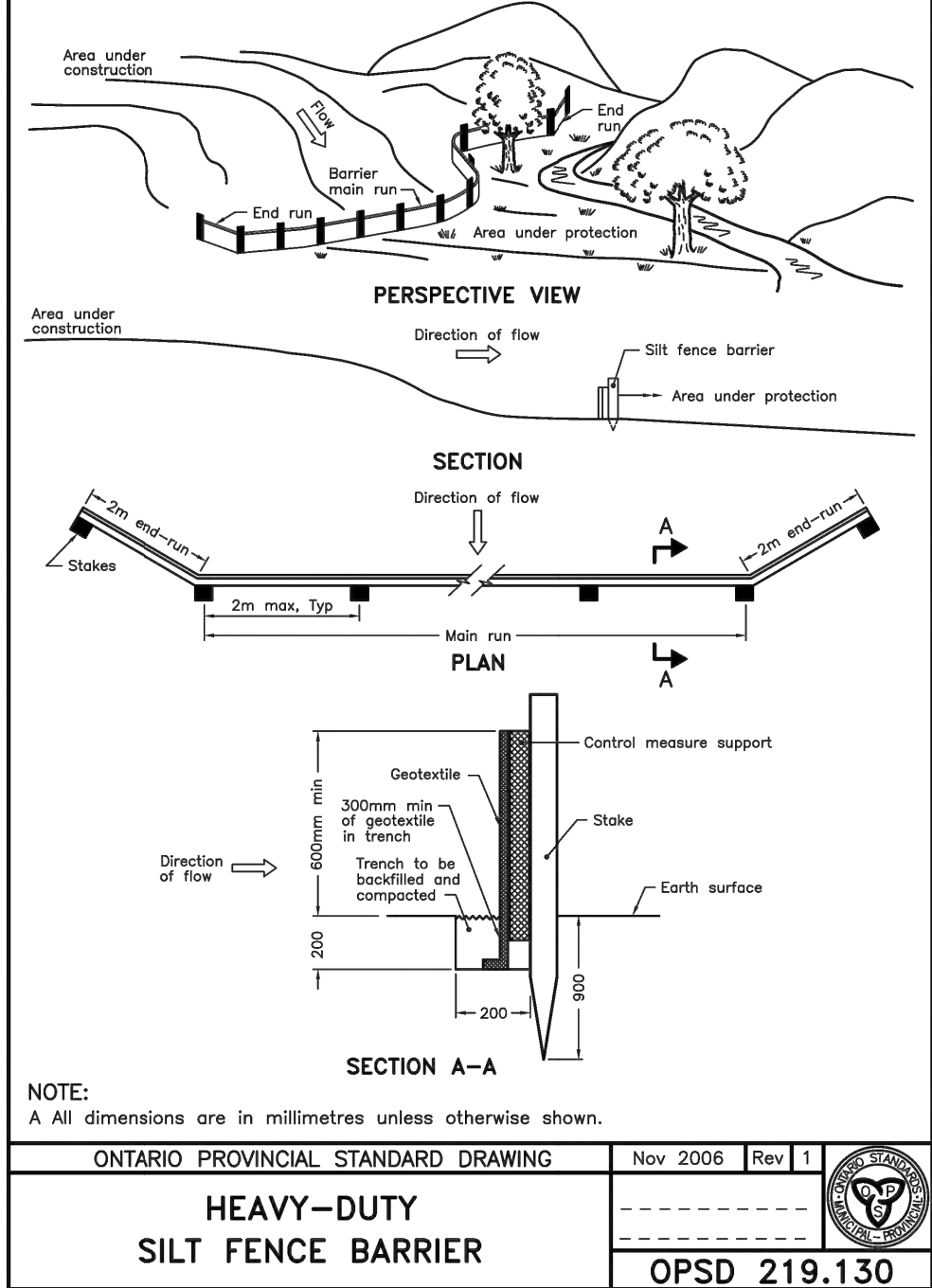
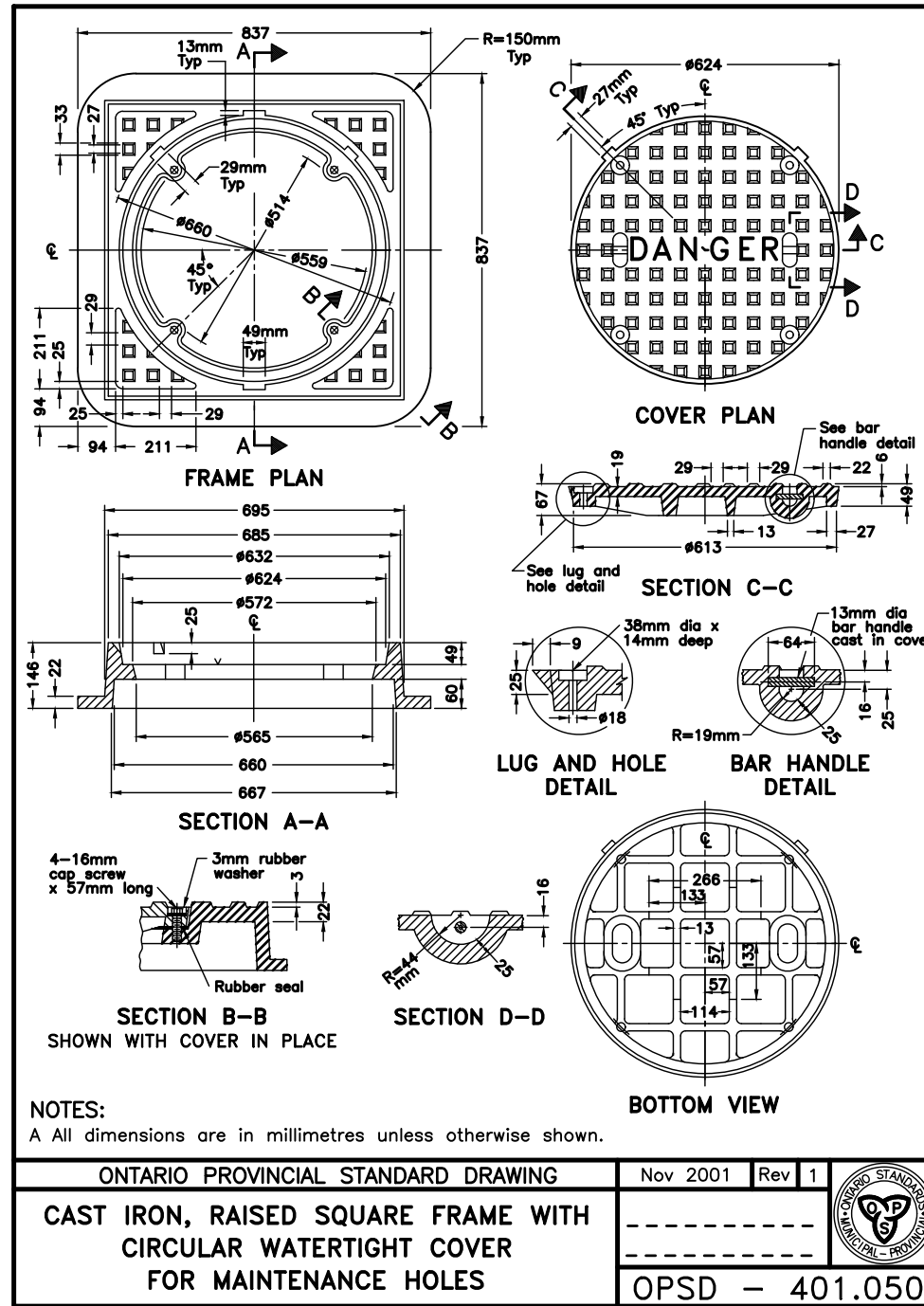
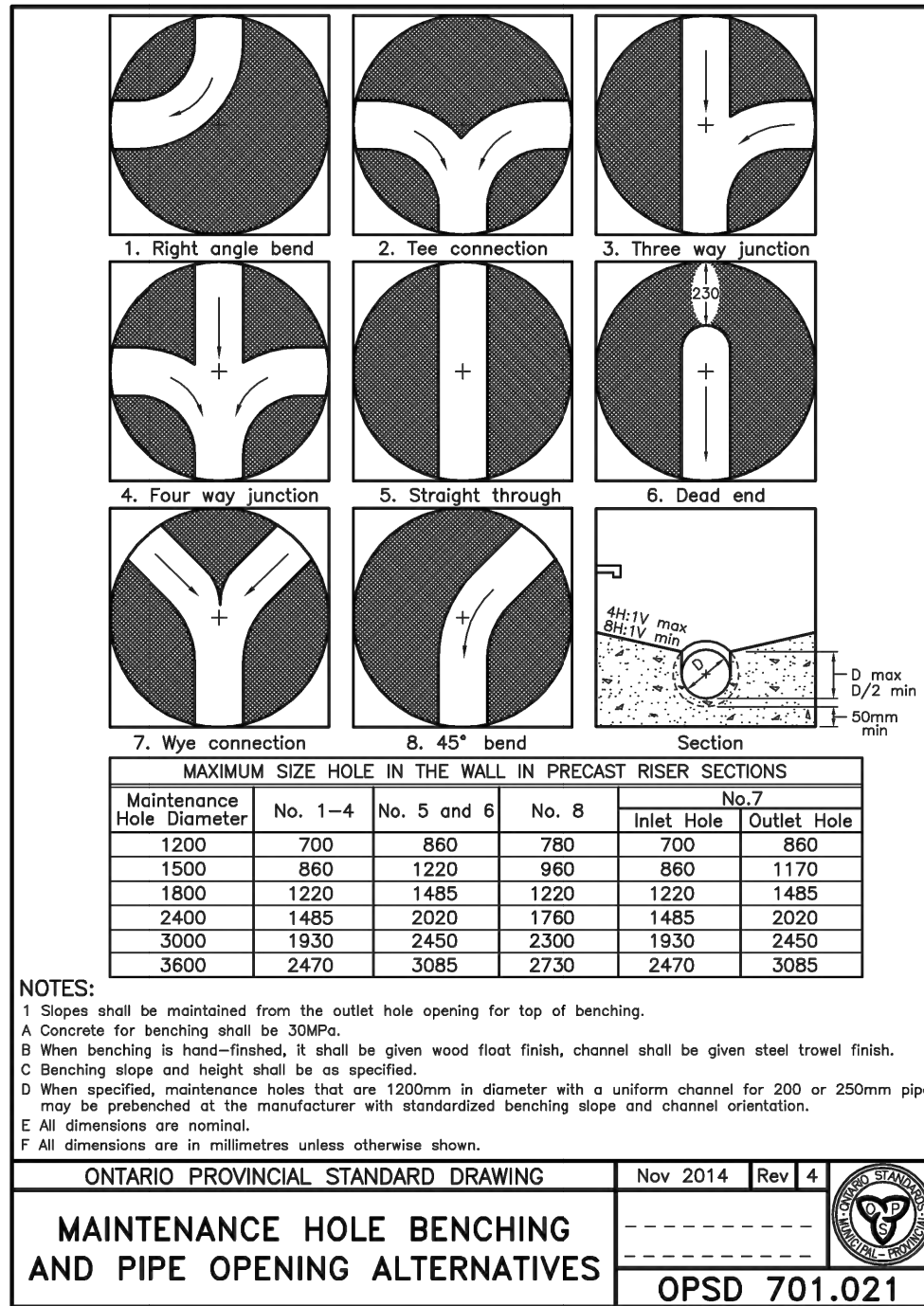
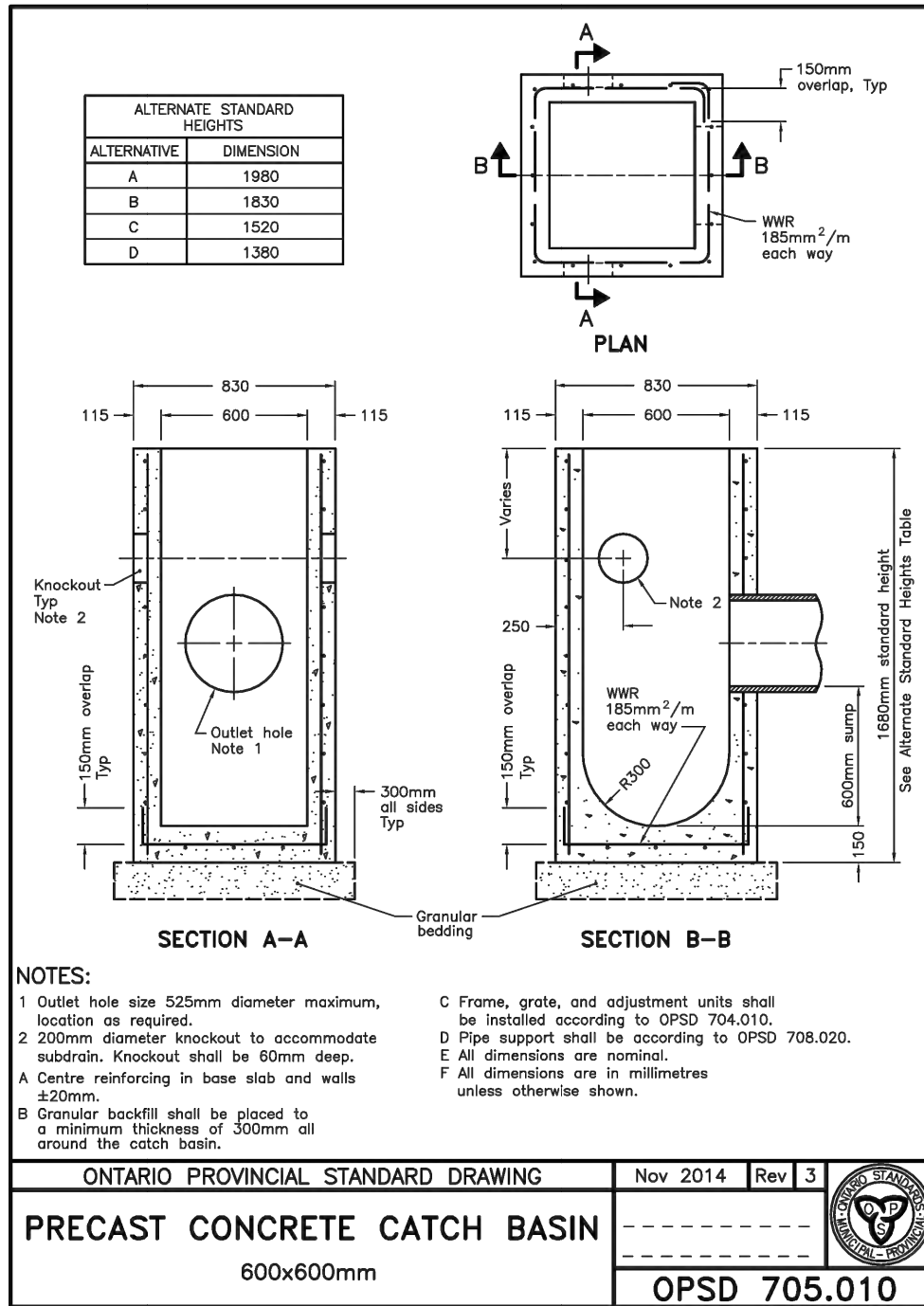
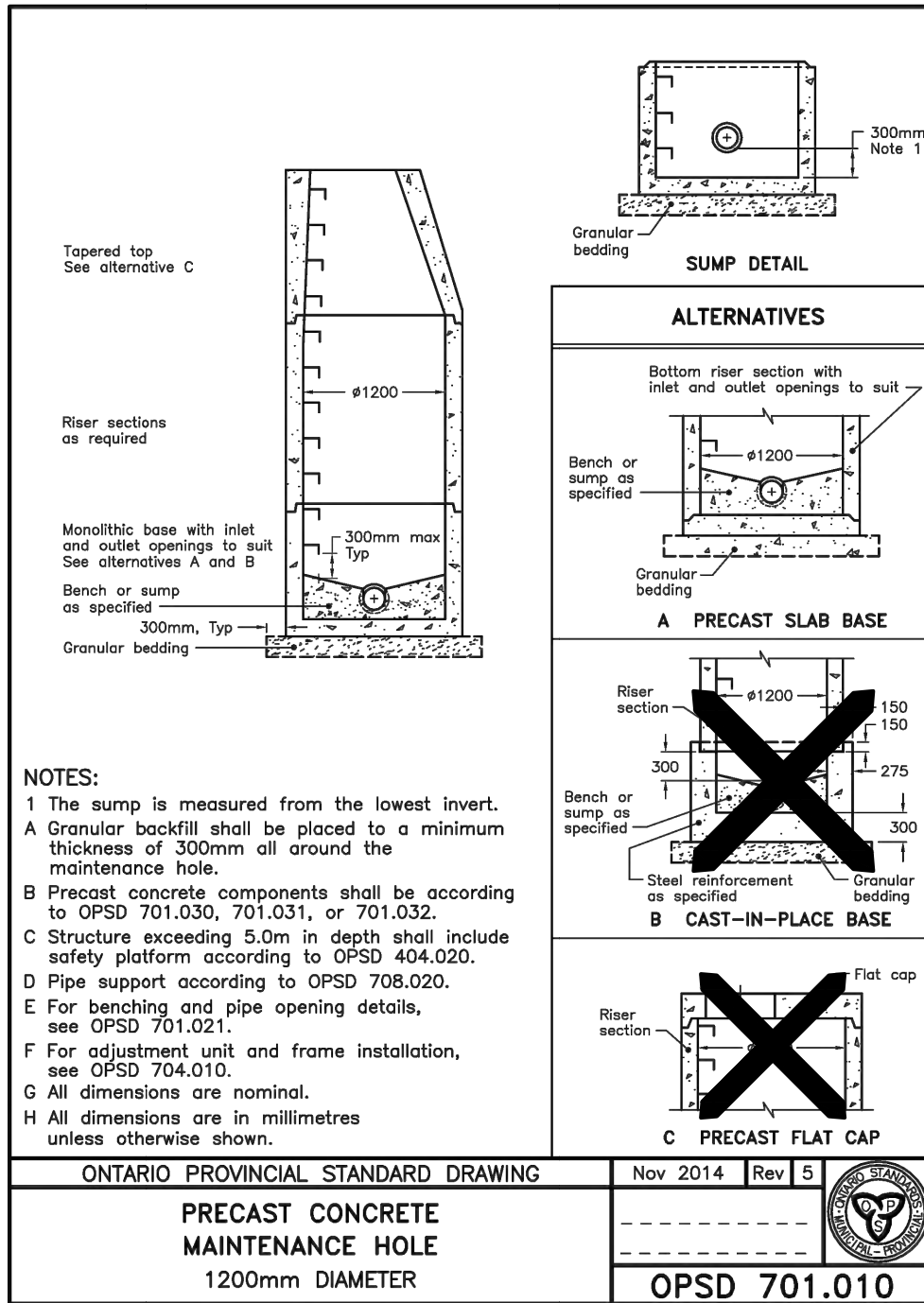
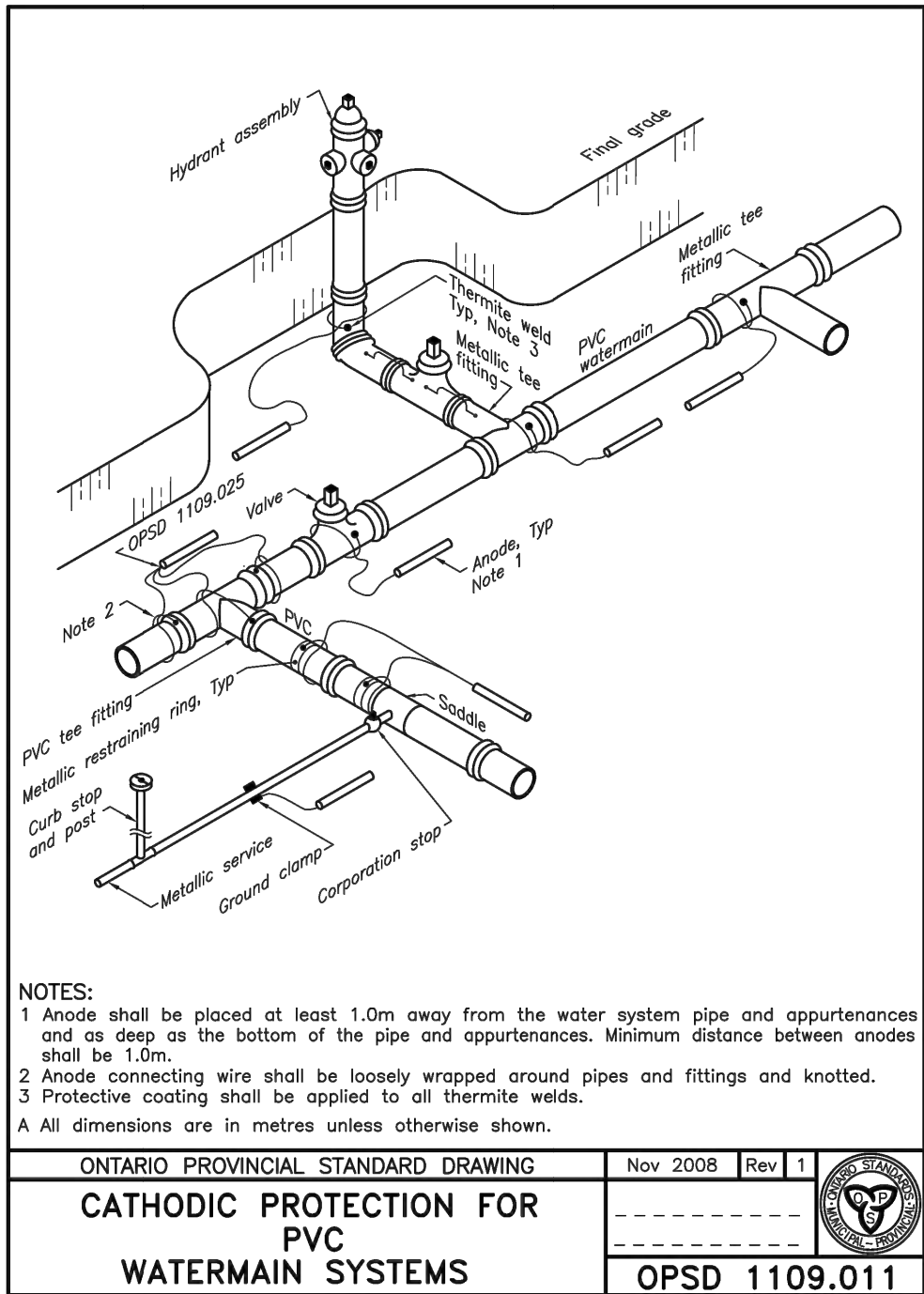
REV	DATE	DESCRIPTION	DRAWN	APPD
2	2018APR25	REISSUED FOR SITE PLAN APPLICATION	JHKDR	KDR
1	2018MAR28	REISSUED FOR SITE PLAN APPLICATION	JHKDR	KDR
0	2018FEB23	ISSUED FOR SITE PLAN APPLICATION	JHKDR	KDR
A	2018FEB01	ISSUED FOR CLIENT REVIEW	KDRBPM	KDR

DISCLAIMER:
CONTRACTOR TO REVIEW DRAWINGS AND VERIFY DIMENSIONS ON SITE. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION AND/OR SHOP FABRICATION.
ALL DRAWINGS AND RELATED DOCUMENTS ARE THE COPYRIGHT PROPERTY OF NA ENGINEERING INC. REPRODUCTION OF DRAWINGS AND RELATED DOCUMENTS IN PART OR IN WHOLE IS FORBIDDEN WITHOUT WRITTEN PERMISSION FROM NA ENGINEERING ASSOCIATES INC.

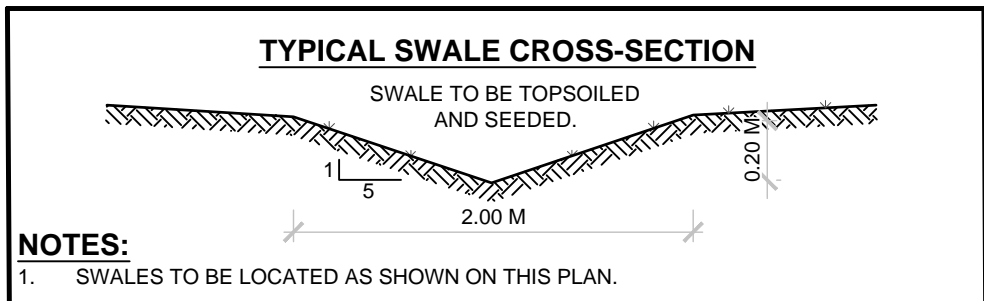
NA ENGINEERING ASSOCIATES INC.
Consulting Engineers

STRATFORD 107 ERIE ST. (519) 273 3205
LONDON 90 ALBERT ST. (519) 432 0000
KINCARDINE 933 QUEEN ST. (519) 396 1000
PICKERING 1305 PICKERING PKWY. (416) 278 7991

Structural • Municipal • Mechanical • Electrical
Environmental • Fire Protection • Building Science
www.naeng.com



- GENERAL CIVIL NOTES**
- ALL GRADES BASED ON GEODETIC DATUM. ALL DIMENSIONS IN METRES UNLESS OTHERWISE NOTED.
 - CONTRACTOR TO BE RESPONSIBLE TO HAVE ALL EXISTING UNDERGROUND UTILITIES WITHIN THE LIMITS OF AND ADJACENT TO THE CONSTRUCTION SITE, LOCATED AND MARKED PRIOR TO COMMENCING CONSTRUCTION. ANY UTILITIES DAMAGED OR DISTURBED DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE GOVERNING BODY AT THE SOLE EXPENSE OF THE CONTRACTOR.
 - PRIOR TO COMMENCING ANY CONSTRUCTION, THE CONTRACTOR MUST VERIFY ALL OUTLET INFORMATION, BENCHMARKS, ELEVATIONS AND DIMENSIONS AND REPORT ANY DISCREPANCIES IMMEDIATELY TO THE ENGINEER.
 - PRIOR TO COMMENCING ANY WORK ON THE INSTALLATION OF SERVICES, AN APPROVED SET OF PLANS AND SPECIFICATIONS MUST BE AVAILABLE ON THE JOB AND SHALL REMAIN THERE WHILE WORK IS BEING DONE.
 - PAVEMENT STRUCTURE FOR MUNICIPAL ROADS:
 - 40MM HL3 FINE SHEET ASPHALT.
 - 50MM HL8 FINE SHEET ASPHALT.
 - 150MM GRANULAR 'A' BASE, COMPACTED TO 100% STANDARD PROCTOR DENSITY.
 - 93MM GRANULAR 'B' BASE, COMPACTED TO 98% STANDARD PROCTOR DENSITY.
 - PAVEMENT STRUCTURE FOR ALL OTHER ASPHALT AREAS:
 - 40MM HL3 FINE SHEET ASPHALT.
 - 40MM HL8 FINE SHEET ASPHALT.
 - 150MM GRANULAR 'A' BASE, COMPACTED TO 100% STANDARD PROCTOR DENSITY.
 - 300MM GRANULAR 'B' BASE, COMPACTED TO 98% STANDARD PROCTOR DENSITY.
 - SUBGRADE TO BE APPROVED BY GEOTECHNICAL ENGINEER PRIOR TO INSTALLATION OF PAVEMENT GRANULAR MATERIALS.
 - ALL STORM SEWER BEDDING FOR PVC PIPE SHALL BE TO MUNICIPAL STANDARDS.
 - ALL AREAS OUTSIDE THE CONSTRUCTION LIMITS OF SITE SHALL NOT BE DISTURBED. ANY DAMAGE TO THOSE AREAS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
 - CONTRACTOR TO BE RESPONSIBLE FOR RESTORING ANY AND ALL ASPHALT, CONCRETE, CURBS, GUTTERS, GRASSED AREAS ETC. DAMAGED DURING CONSTRUCTION. EXISTING SURFACES WHICH ARE DISTURBED SHALL BE RESTORED TO THE GREATER OF THE ORIGINAL CONDITION OR THE STANDARDS AND SATISFACTION OF THE MUNICIPALITY.
 - AT LEAST 48 HOURS PRIOR TO COMMENCING CONSTRUCTION ON ANY EXISTING ROAD ALLOWANCE MAINTAINED BY THE MUNICIPALITY, THE CONTRACTOR IS TO PLACE A SIGNAGE WARNING OF THE CONSTRUCTION WORK TO BE DONE.
 - ANY DEPOSITS REQUIRED BY THE MUNICIPAL ENGINEERING DEPARTMENT ARE TO BE MADE BY THE OWNER.
 - THE CONTRACTOR IS RESPONSIBLE FOR THE CONTROL OF SURFACE AND SUBSURFACE WATER.
 - ALL BEDDING FOR SERVICES TO BE TO THE MUNICIPALITY STANDARDS. ALL SERVICE TRENCHES SHALL BE BACKFILLED WITH SUITABLE MATERIAL ON THE OPINION OF THE GEOTECHNICAL ENGINEER ON SITE MATERIAL, AND COMPACTED TO AT LEAST 98% S.P.M.D.
 - STORM SEWER PIPE TO BE PVC CLASS SDR 35 IN ACCORDANCE WITH CSA - B182.1, ASTM D-3034, ASTM D-2729 OR LATEST AMENDMENT UNLESS NOTED OTHERWISE.
 - STORM SEWERS TO HAVE A MINIMUM 1.6M COVER AS PER THE TOWN OF ST. MARYS STANDARDS.
 - SANITARY SEWER SHALL BE PVC SDR 35 WITH RUBBER GASKET CONNECTIONS AND OF MINIMUM SIZE 200 mm DIAMETER, UNLESS OTHERWISE NOTED. HOUSE SERVICE CONNECTIONS SHALL BE PVC SDR 28 WITH RUBBER GASKET CONNECTIONS AND SHALL BE 125 mm MINIMUM DIAMETER FOR SINGLE DWELLING AND 150 mm DIAMETER FOR WATER SYSTEM.
 - SANITARY SEWERS TO HAVE A MINIMUM 1.5M COVER TO THE OVERT.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE INSTALLATION OF ALL UTILITIES. PROVIDE FOR ALL EXCAVATION, TRENCHING, BACKFILLS AND RESTORATION AS REQUIRED FOR THE INSTALLATION OF UTILITIES NOT SHOWN ON THE SITE SERVICES DRAWINGS.
 - CONTRACTOR IS RESPONSIBLE TO RECORD ALL AS-BUILT INVERTS AND GRADES. RECORD ANY DEVIATION OF PIPE OR STRUCTURE LOCATION. PROVIDE AS-BUILTS TO PROJECT ENGINEER FOR REVIEW UPON COMPLETION PROVIDE AS-BUILTS TO PROJECT ENGINEER FOR REVIEW PRIOR TO PLACEMENT OF TOPSOIL OR PAVING. AT COMPLETION OF WORK, CONTRACTOR TO PROVIDE A COPY OF AN AS-BUILT TOPOGRAPHICAL SURVEY IN BOTH HARD COPY AND AUTOCAD FORMATS. SURVEY TO INCLUDE ALL SURFACE GRADE INFORMATION, TOP OF GRATES/LIDS AND SEWER INFORMATION.
 - CONTRACTOR TO ARRANGE FOR COMPACTION TESTS OF GRANULAR SUB-BASE, BASE, AND EACH LIFT OF ASPHALT. ALSO, TO ARRANGE FOR GRANULAR GRADATION ANALYSIS AND MARSHALL COMPLIANCE TEST.
 - CONTRACTOR SHALL SUPPLY ALL LABOUR AND MATERIALS NECESSARY FOR THE FLUSHING AND STERILIZATION OF THE WATER SERVICE. FINAL COMMISSIONING TO BE IN ACCORDANCE WITH C615-14. FINAL COMMISSIONING PLAN TO BE APPROVED BY THE TOWN OF ST. MARYS PRIOR TO THE COMMENCING WORK ON THE WATER SYSTEM.
 - NEW WATERMAIN AND WATER SERVICE TO BE INSTALLED AT A DEPTH OF 1.7 METRES TO THE OVERT AS PER THE TOWN OF ST. MARYS STANDARDS. CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL OFFSETS IN WATER MAIN AND WATER SERVICE AS REQUIRED TO AVOID OTHER UTILITIES AND STRUCTURES.
 - WATERMAIN SHALL BE POLYVINYL CHLORIDE (PVC) CLASS 150 DR-18 PIPE MANUFACTURED TO AWWA C900-89 AND CSA C933-B137-3M1986 WITH GASKETED BELL END AND CW #8 AWG SOLID COPPER TRACER WIRE.
 - WHERE MINIMUM DEPTH OF COVER FOR STORM, SANITARY AND WATER SERVICES CANNOT BE ACHIEVED, PIPE INSULATION SHALL BE REQUIRED IN ACCORDANCE WITH THE TOWN OF ST. MARYS STANDARDS.



Schedule "A Drawing 7

Schedule "A Drawing 8 a)



RAY6-LED LED Bollard

The RAY6-LED bollard is an architectural bollard in a sleek design that provides uniform, glare free illumination. The RAY6 features a 360° adjustable head and various beam configurations ranging from 60° to 360° to illuminate all angles.



patent pending

APPLICATIONS

The RAY6 bollard is an architectural bollard suitable for landscape and pathway lighting with glare free distribution. Ideal for use in walkways, townhouses, condos, and parkettes.

SPECIFICATIONS

Construction

Unit is a 6" round bollard with a 10" top cap. Body is made from extruded aluminum and has a custom designed twist lock mechanism for secure and easy installation. The cast aluminum base is secured with stainless steel set screws. Body has a powder coat finish.

Optics

Various beam configurations ranging from 60°, 120°, 180°, 240°, 300° and 360°.

LEDs

Unit consists of 6 LED modules which can be removed to direct the light in desired direction. Colour temperature is 5000K standard, 4,000K and 3,000K are available as options.

Electrical

Unit has high efficiency drivers that are 120 - 277 volts standard. 347V, 24V DC and 24V AC are available as options.

Mounting

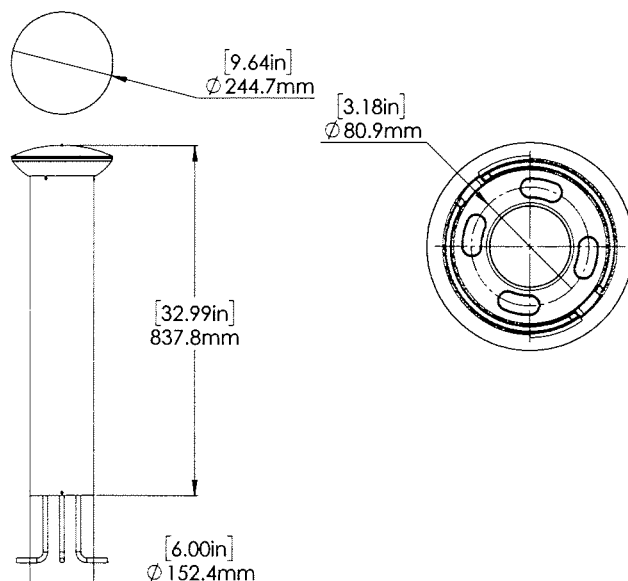
Cast aluminum base is secured with stainless steel screws. Custom twist lock mechanism securely anchors lower body to the base.

Finish

Standard powder coat finish is Bronze. Custom colours are available upon request.

Lumens and wattages will change based on LED Modules being used.

DIMENSIONS



Project	
Type	
Date	
Notes	

Watts	max. 36
Lumens	4,298
Efficacy	121 lumens per watt

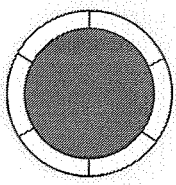
Certifications	cULus, DLC
Working Temperature	-40°C to +40°C
Colour Temperature	5000K (standard)
LED life	100,000 hours
Warranty	5 years



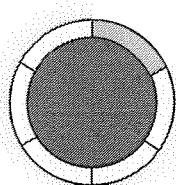
CUSTOM DESIGNED
TWIST LOCK MECHANISM



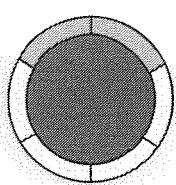
VARIOUS BEAM CONFIGURATIONS



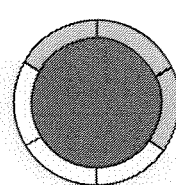
6 LED MODULES
(360°)



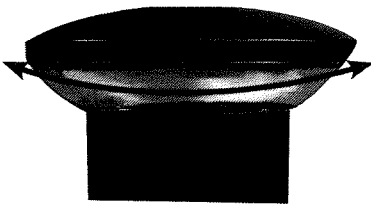
5 LED MODULES
(300°)



4 LED MODULES
(240°)



3 LED MODULES
(180°)



360° ADJUSTABLE HEAD

ORDERING GUIDE

RAY6	-		-		-		-	
		LED35		VOLTAGE		COLOUR TEMP.		LED CONFIGURATION
				B - 120 - 277V*		5K - 5000K*		180°
				C - 347V*		4K - 4000K		240°
						3K - 3000K		300°
								360°
								FINISH
								BRZ - BRONZE*
								CC - CUSTOM COLOUR

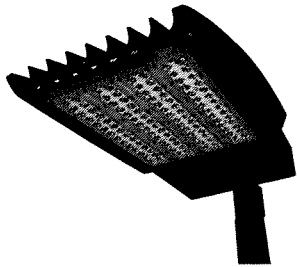
* Standard configuration

Schedule "A" Drawing 8 c)



AL1-LED Area Light

The AL-LED fixtures are high efficiency area lights with multiple beam patterns to suit a variety of applications. Intelligently designed, this series of fixtures provides superior lighting performance and significant energy savings over traditional fixtures



APPLICATIONS

Ideal for parking lots, roadways and perimeter lighting applications.

Project	
Type	
Date	
Notes	

SPECIFICATIONS

Construction

Precision die cast aluminum housing with clear polycarbonate lens. The fixture offers superior heat sinking with air-flow fins on the top. The driver enclosure is separate from the optics for improved thermal management.

Optics

Unit has high efficiency injection molded optics that have an efficacy (lumens/watt) of approx 100. The LEDs have a color temperature of 5000K as standard. 3000K/4000K available as option. The CRI is greater than 70 and the operating temperature range is -40°C to +40°C. LED life of 100,000 hours.

Beam Distribution

Available in T2, T3, T4 and T5 beam patterns for a wide range of applications.

Mounting

The AL series can be arm mounted for round or square poles (arms ordered separately). They can also be ordered with a slip fitter or yoke installed. Also available is a wall bracket that is ordered as an option and shipped separately.

Electrical

The standard unit has a high efficiency driver that operates at 120 - 277V. 347V also available.

Finish

Standard finish is Bronze. Please consult factory for custom colour.

Options

Photocell

AL1-LED Series

Input Watts	62W
Lumens	min. 7,475
Efficacy	min. 115 lumens/watt

Input Watts	100W
Lumens	min. 12,000
Efficacy	min. 120 lumens/watt

Input Watts	120W
Lumens	min. 14,040
Efficacy	min. 120 lumens/watt

Operating Temperature	-40°C to +40°C
-----------------------	-----------------------

Power Factor	> 0.9
--------------	-----------------

Total Harmonic Distortion	≤ 22%
---------------------------	--------------

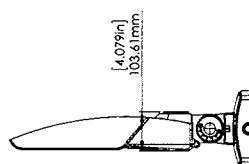
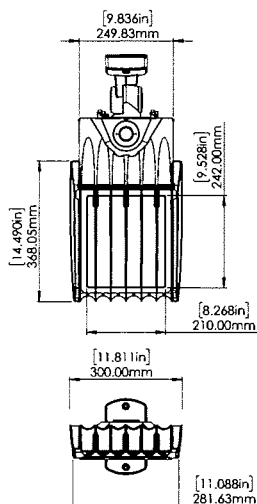
EPA	1
-----	----------

Certification	cULus, DLC
---------------	-------------------

Warranty	5 Years
----------	----------------

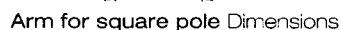
Colour Temperature	5000K (standard) 3000K, 4000K (options)
--------------------	--

DIMENSIONS



RAB®
DESIGN

MOUNTING OPTIONS



ORDERING GUIDE

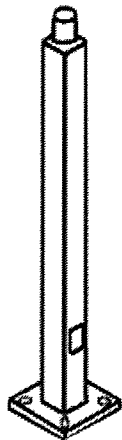
AL1	-		-		-		-		-		-	
WATTS		VOLTAGE	COLOUR TEMP	BEAM	FINISH	DRIVER	OPTIONS	MOUNTING**				
LED60*		B - 120 -	5K - 5000K*	T2 - TYPE 2	BRZ - BRONZE*	DIM -	PC - Photocell	SF - Slipfit				
LED90*		277V*	4K - 4000K	T3 - TYPE 3	CC - CUSTOM	DIMMABLE		WM - Wall Mount				
LED120*		A - 120V	3K - 3000K	T4 - TYPE 4		DRIVER*		S6 - 6" Arm for Square Pole				
		C - 347V		T5 - TYPE 5				S12 - 12" Arm for Square Pole				
								R6 - 6" Arm for Round Pole				
								R12 - 12" Arm for Round Pole				

* Standard configuration

** All mounting configurations sold separately

Schedule "A" Drawing 8 f)

PS4-11-15WT RCL



Square steel poles with welded tenon included for use with floodlights. Designed for ground mounting. Poles are stocked nationwide for quick shipment. Protective packaging ensures poles arrive at the job site good as new.

Color: Bronze

Weight: 134.0 lbs

Project:

Type:

Prepared By:

Date:

Technical Specifications

Other

CSA Listed:

Suitable for wet locations

Shaft:

46,000 p.s.i. minimum yield.

Hand Holes:

Reinforced with grounding lug and removable cover

Base Plates:

Slotted base plates 36,000 p.s.i.

Shipping Protection:

All poles are shipped in individual corrugated cartons to prevent finish damage

Color:

Bronze powder coating

Tenon:

Welded 2 3/8" tenon included

Terms of Sale:

Pole Terms of Sale is available .

Height:

15 FT

Gauge:

11

Wall Thickness:

1/8"

Shaft Size:

4"

Hand Hole Dimensions:

3" x 5"

Bolt Circle:

8 1/2"

Base Dimension:

8"

Weight:

134 lbs

Anchor Bolt:

Galvanized anchor bolts and galvanized hardware and anchor bolt template. All bolts have a 3" hook.

Anchor Bolt Templates:

WARNING Template must be printed on 11" x 17" sheet for actual size. CHECK SCALE BEFORE USING. Templates shipped with anchor bolts and available .

Pre-Shipped Anchor Bolts:

Bolts can be pre-shipped upon request for additional freight charge

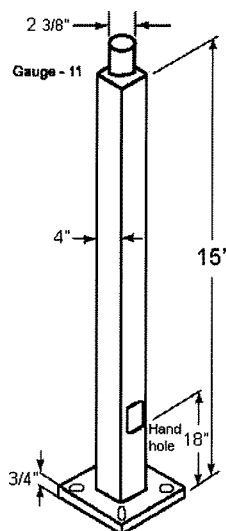
MaxEPA's/Max Weights:

70MPH 14.0 ft_/400 lb
80MPH 10.2 ft_/295 lb
90MPH 7.6 ft_/220 lb
100MPH 5.6 ft_/165 lb
110MPH 4.2 ft_/125 lb
120MPH 3.0 ft_/95 lb
130MPH 2.1 ft_/70 lb
140MPH 1.4 ft_/50 lb
150MPH 0.8 ft_/35 lb.

PS4-11-15WT RCL Schedule "A" Drawing 8 g)



Dimensions



Features

- Designed for ground mounting
- Heavy duty TGIC polyester coating
- Reinforced hand holes with grounding lug and removable cover for easy wiring access
- Anchor Bolt Kit includes pole cap and base cover (sold separately)
- Custom manufactured for each application