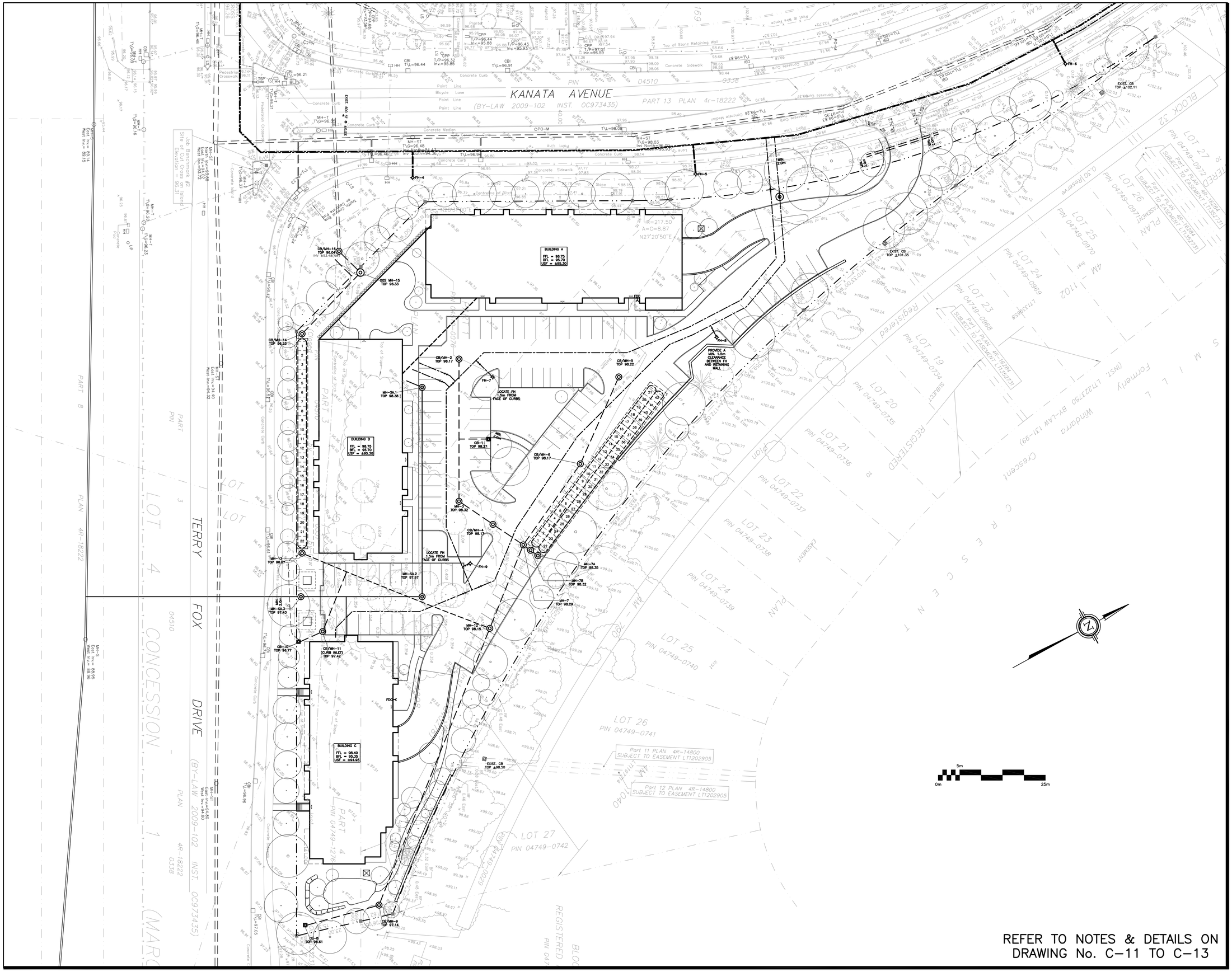

REFER TO NOTES & DETAILS ON DRAWING No. C–11 TO C–13

LEGEND

FFL	FINISHED FLOOR ELEVATION
BFL	BASEMENT FLOOR ELEVATION
USF	UNDERSIDE OF FOOTING
— · · —	PROPERTY LINE
CB	CATCH–BASIN
MH	STORM MANHOLE
CB/MH	CATCH–BASIN/MANHOLE
MH	SANITARY MANHOLE
DMAC	DMA CHAMBER
FH	FIRE HYDRANT
FDC	FIRE DEPARTMENT CONNECTION
VB	VALVE & VALVE BOX
SAN	SANITARY SEWER
ST	STORM SEWER
WS/WM	WATER SERVICE/WATERMAIN
SPL	SPRINGLINE
INV	INVERT
US	UNDERSIDE

KEY PLAN

No.	DATE	REVISION
4	JUL 10–26	RE–ISSUED FOR APPROVAL
3	JAN 26–26	RE–ISSUED FOR APPROVAL
2	OCT 28–25	RE–ISSUED FOR APPROVAL
1	JUL 11–25	ISSUED FOR APPROVAL

D. B. GRAY ENGINEERING INC.
Stormwater Management - Grading & Drainage - Storm & Sanitary Sewers - Watermains
700 Long Point Circle 613-425-8044
Ottawa, Ontario d.gray@dbgrayengineering.com

Project
PROPOSED 6–STOREY APARTMENT BUILDINGS
475 TERRY FOX DRIVE
OTTAWA, ONTARIO

Drawing Title
SITE PLAN

Engineer's Seal
LICENSED PROFESSIONAL ENGINEER
D.B. GRAY
17016502
JUL 10–26
PROVINCE OF ONTARIO
NOT VALID UNLESS SIGNED & DATED

Drawn	D.B.G
H. Scale	1:400
V. Scale	
Date	JUL 11–25
Job No.	24103

Drawing No.
C–1
of 22

Plan #19347 File No. D07–12–25–0104

REFER TO NOTES & DETAILS ON DRAWING No. C–11 TO C–13

KANATA AVENUE

(BY–LAW 2009–102 INST. OC973435)

40mm ASPHALT RESURFACING SHALL EXTEND A MINIMUM 300mm BEYOND TRENCH AND TO NEAREST CURB LINE WITHIN 1m AS PER CITY OF OTTAWA ROAD CUT RESURFACING POLICY

APPROXIMATE EXTENT OF ROAD CUT REINSTATEMENT IN ACCORDANCE WITH CITY OF OTTAWA DRAWING No. R10

EXIST. 600 ST @ ±0.5%

EXIST. 600 ST @ ±1%

200 PVC WM

FH–4

LOCATE FH 0.6m FROM BACK OF SIDEWALK

INSTALL A FLEXIBLE GASKET (TO CITY OF OTTAWA STANDARDS) AROUND 600 mm PIPE. APPLY HYDRAULIC CEMENT IN ANNULAR SPACE AROUND PIPE AND MAKE CONNECTION WATERTIGHT.

CB/MH–16
TOP 96.04
INV 93.48(NW)
INV 93.66(E)

MIN. 2.0m (TYP.)

OGS MH–15
TOP 96.33
INV 93.68(W)
INV 93.74(S)

PARKADE BELOW

BUILDING A

FFL = 98.75
BFL = 95.70
USF = ±95.30

AREA DRAIN
(DRAINS TO SUMP REFER TO MECHANICAL)

FDC

CB/MH–14
TOP 96.23
INV 95.56(N)
INV 94.21(SE)
INV 94.21(N)
ICD IN OUTLET PIPE PLUG STYLE
103.20 L/s @ 1.35m
(±204mm DIA.)
ORIFICE LOCATED AT BOTTOM OF PLUG

AREA FOUNDATION AND TRENCH DRAINS SUMP & PUMP. PUMP OUTLET TO BE 0.30m ABOVE GRADE TURN END OF PIPE DOWN ON TO SPLASH PAD

22 – SOLENO HYDROSTOR HS180 CHAMBERS C/W 450 HDPE ACCESS PIPES

C+009.6

D+009.7

A

MH–SA.1
TOP 98.38
INV 94.95(SW)
INV 94.89(SE)

A+116.0

150 PVC WS

3m–SUBDRAIN (TYPICAL)

A+103.7

A+106.2
B+000.0

CB/MH–2
TOP 98.17
INV 95.92

A+113.0
C+000.0

A+115.0
D+000.0

FH–7

MIN. 3.0m

LOCATE FH 1.5m FROM FACE OF CURBS

A+070.2

CB/MH–5
TOP 98.22
INV 95.92

200 PVC WM

E+093.4

CB–1
TOP 98.27
INV 96.02

CB/MH–6
TOP 98.17
INV 95.84(NW)
INV 95.84(SE)

BUILDING B

FFL = 98.75
BFL = 95.70
USF = ±95.30

Job Benchmark #2
Site of Cut Cross on Island
Elevation = 96.31

MH–S
East Inv.= 89.14
West Inv.= 89.15

MH–ST
North Inv.=93.88
East Inv.=94.02
West Inv.=93.72

MH–ST
East Inv.=94.40
West Inv.=94.32

EXIST. 375 PVC SAN @ ±0.15%

REFER TO NOTES & DETAILS ON DRAWING No. C–11 TO C–13

LEGEND

FFL	FINISHED FLOOR ELEVATION
BFL	BASEMENT FLOOR ELEVATION
USF	UNDERSIDE OF FOOTING
	PROPERTY LINE
CB	CATCH–BASIN
MH	STORM MANHOLE
CB/MH	CATCH–BASIN/MANHOLE
MH	SANITARY MANHOLE
DMAC	DMA CHAMBER
FH	FIRE HYDRANT
FDC	FIRE DEPARTMENT CONNECTION
VB	VALVE & VALVE BOX
SAN	SANITARY SEWER
ST	STORM SEWER
WS/WM	WATER SERVICE/WATERMAIN
SPL	SPRINGLINE
INV	INVERT
US	UNDERSIDE
X	SEWER NOTE (REFER TO DWG C–13)

KEY PLAN

No.	DATE	REVISION
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1	FEB 27–25	PRELIMINARY

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Project
PROPOSED 6–STOREY APARTMENT BUILDINGS
475 TERRY FOX DRIVE
OTTAWA, ONTARIO

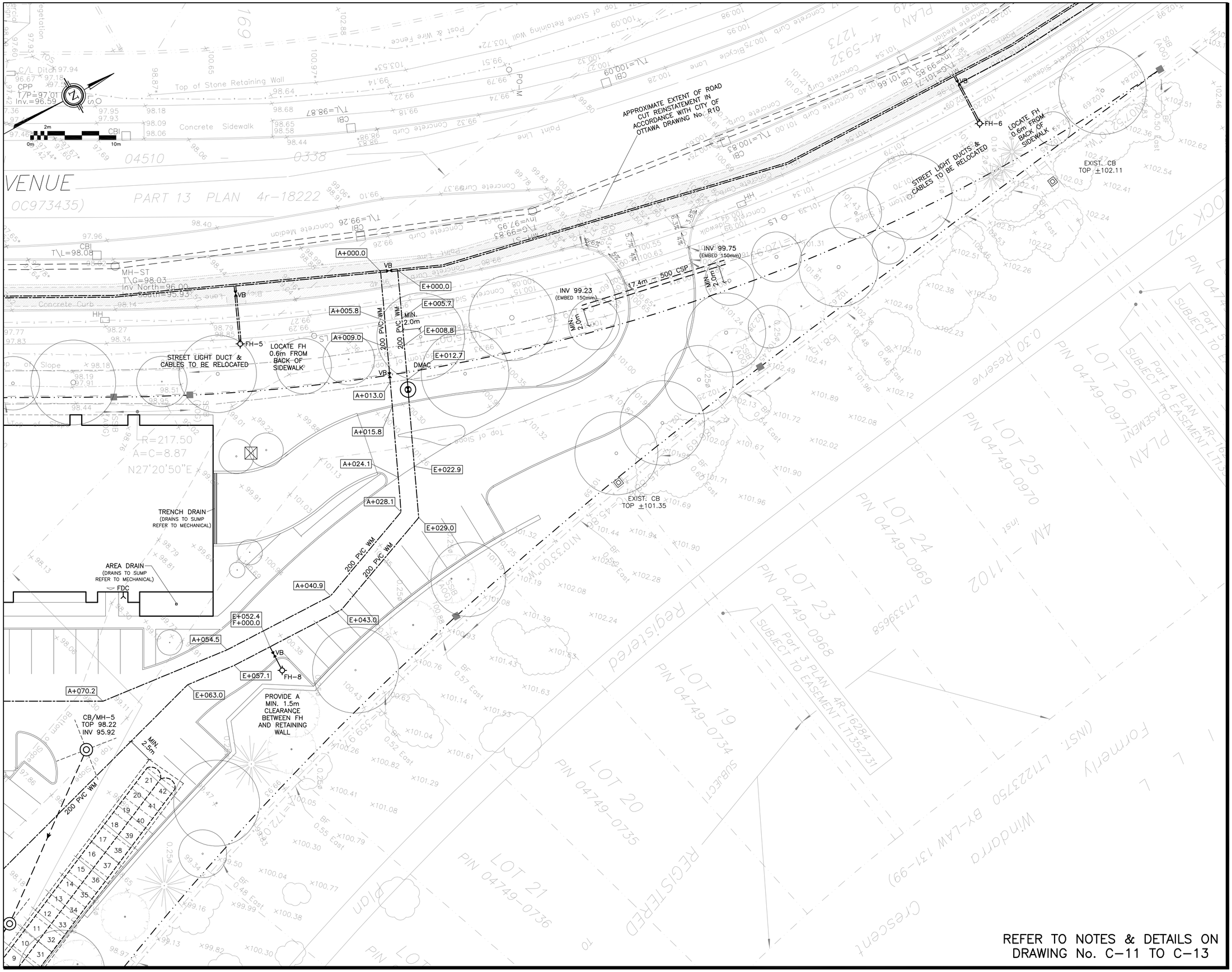
Drawing Title
SITE SERVICING PLAN
(SW CORNER)

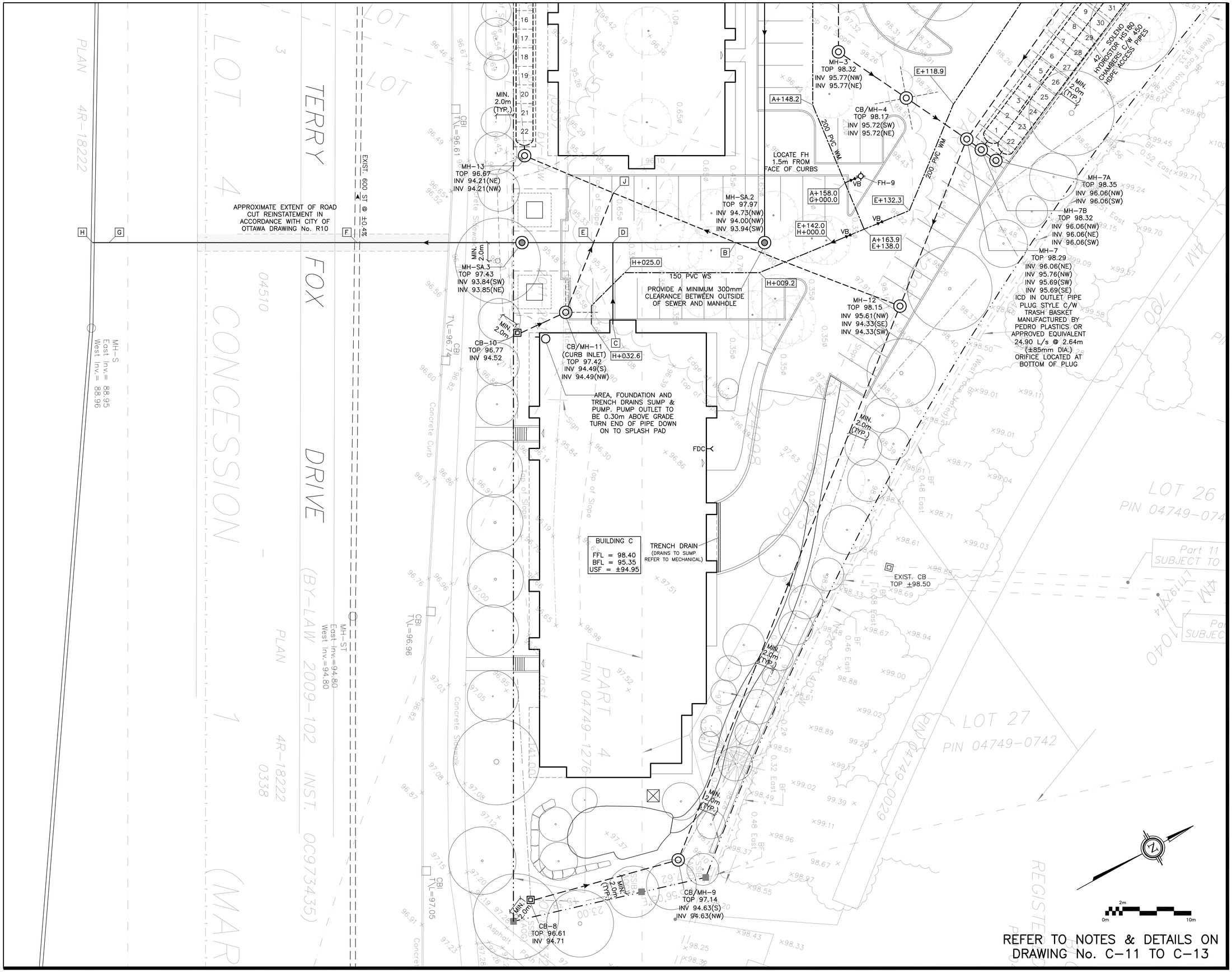
Engineer's Seal
LICENSED PROFESSIONAL ENGINEER
D.B. GRAY
17016502
JUL 10–26
PROVINCE OF ONTARIO
NOT VALID UNLESS SIGNED & DATED

Drawn	D.B.G
H. Scale	1:200
V. Scale	
Date	FEB 27–25
Job No.	24103

Drawing No.
C–2
of 22

Plan #19347 File No. D07–12–25–0104


APPROXIMATE EXTENT OF ROAD CUT REINSTATEMENT IN ACCORDANCE WITH CITY OF OTTAWA DRAWING No. R10
STREET LIGHT DUCTS & CABLES TO BE RELOCATED
LOCATE FH 0.6m FROM BACK OF SIDEWALK
FH-6
FH-5
FH-8
EXIST. CB TOP ±102.11
EXIST. CB TOP ±101.35
INV 99.75 (EMBED 150mm)
INV 99.23 (EMBED 150mm)
17.4m 500 CSP
MIN. 2.0m
A+000.0
E+000.0
A+005.8
E+005.7
A+009.0
E+008.8
E+012.7
A+013.0
A+015.8
A+024.1
E+022.9
A+028.1
E+029.0
A+040.9
E+043.0
E+052.4
F+000.0
A+054.5
E+057.1
A+070.2
E+063.0
200 PVC WM
DMAC
VB
TRENCH DRAIN (DRAINS TO SUMP REFER TO MECHANICAL)
AREA DRAIN (DRAINS TO SUMP REFER TO MECHANICAL)
FDC
PROVIDE A MIN. 1.5m CLEARANCE BETWEEN FH AND RETAINING WALL
CB/MH-5 TOP 98.22 INV 95.92
MIN. 2.5m
R=217.50
A=C=8.87
N27°20'50"E
PART 13 PLAN 4r-18222
LOT 26 PIN 04749-0971
LOT 25 PIN 04749-0970
LOT 24 PIN 04749-0969
LOT 23 PIN 04749-0968
LOT 20 PIN 04749-0735
LOT 21 PIN 04749-0736
Concrete Sidewalk
Concrete Curb
Top of Stone Retaining Wall
Post & Wire Fence
Concrete Median
Concrete Curb
Point Line
Bicycle Lane
Concrete Sidewalk
Concrete Curb
Concrete Median
Concrete Curb
Concrete Sidewalk
Concrete Curb
Concrete Median
Concrete Curb
Concrete Curb
Concrete Curb



LEGEND

FFL	FINISHED FLOOR ELEVATION
BFL	BASEMENT FLOOR ELEVATION
USF	UNDERSIDE OF FOOTING
	PROPERTY LINE
CB	CATCH-BASIN
MH	STORM MANHOLE
CB/MH	CATCH-BASIN/MANHOLE
MH	SANITARY MANHOLE
DMAC	DMA CHAMBER
FH	FIRE HYDRANT
FDC	FIRE DEPARTMENT CONNECTION
VB	VALVE & VALVE BOX
SAN	SANITARY SEWER
ST	STORM SEWER
WS/WM	WATER SERVICE/WATERMAIN
SPL	SPRINGLINE
INV	INVERT
US	UNDERSIDE
X	SEWER NOTE (REFER TO DWG C-13)

KEY PLAN

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1	FEB 27-25	PRELIMINARY

D. B. GRAY ENGINEERING INC.
Stormwater Management - Grading & Drainage - Storm & Sanitary Sewers - Watermains
700 Long Point Circle 613-425-8044
Ottawa, Ontario d.gray@dbgrayengineering.com

Project
PROPOSED 6-STOREY APARTMENT BUILDINGS
475 TERRY FOX DRIVE
OTTAWA, ONTARIO

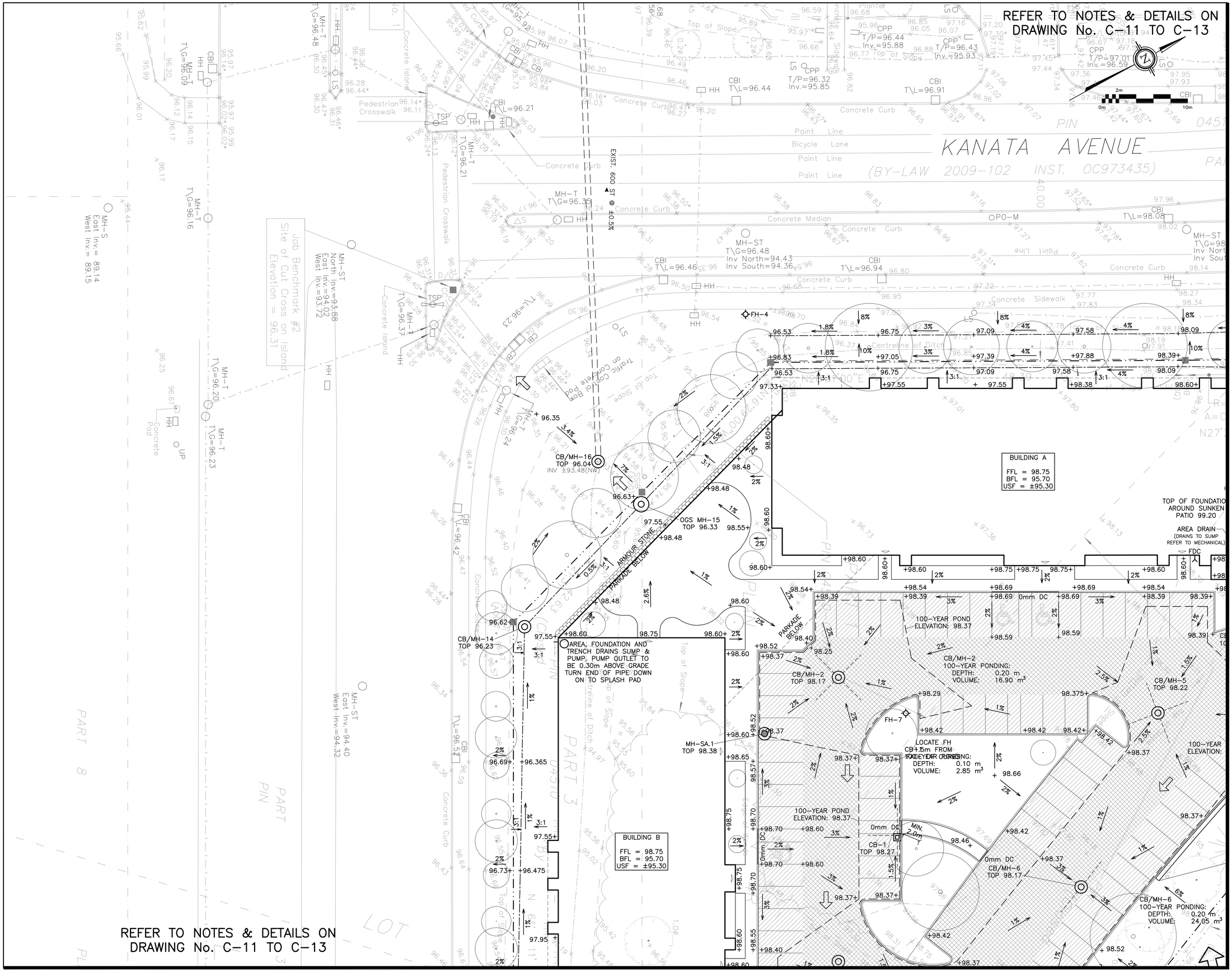
Drawing Title
SITE SERVICING PLAN
(SE CORNER)

Engineer's Seal
LICENSED PROFESSIONAL ENGINEER
D.B. GRAY
17016502
JUL 10-26
PROVINCE OF ONTARIO
NOT VALID UNLESS SIGNED & DATED

Drawn	D.B.G
H. Scale	1:200
V. Scale	
Date	FEB 27-25
Job No.	24103

Drawing No.
C-4
of 22

Plan #19347 File No. D07-12-25-0104



LEGEND

FFL	FINISHED FLOOR ELEVATION
BFL	BASEMENT FLOOR ELEVATION
USF	UNDERSIDE OF FOOTING
	PROPERTY LINE
CB	CATCH-BASIN
MH	STORM MANHOLE
CB/MH	CATCH-BASIN/MANHOLE
MH	SANITARY MANHOLE
DMAC	DMA CHAMBER
FH	FIRE HYDRANT
FDC	FIRE DEPARTMENT CONNECTION
×99.99	EXISTING ELEVATION
+99.99	PROPOSED ELEVATION
2%	PROPOSED SLOPE
	EMERGENCY OVERLAND FLOW
T.O.S	TOP OF SLOPE
B.O.S	BOTTOM OF SLOPE
	CENTERLINE OF SWALE
	150mm BARRIER CURB
DC	DEPRESSED CURB
	LIGHT-DUTY PAVEMENT
	HEAVY-DUTY PAVEMENT

KEY PLAN

No.	DATE	REVISION
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Project
PROPOSED 6-STOREY
APARTMENT BUILDINGS
475 TERRY FOX DRIVE
OTTAWA, ONTARIO

Drawing Title
GRADING PLAN
(SW CORNER)

Engineer's Seal
LICENSED PROFESSIONAL ENGINEER
D.B. GRAY
17016502
JUL 10-26
PROVINCE OF ONTARIO
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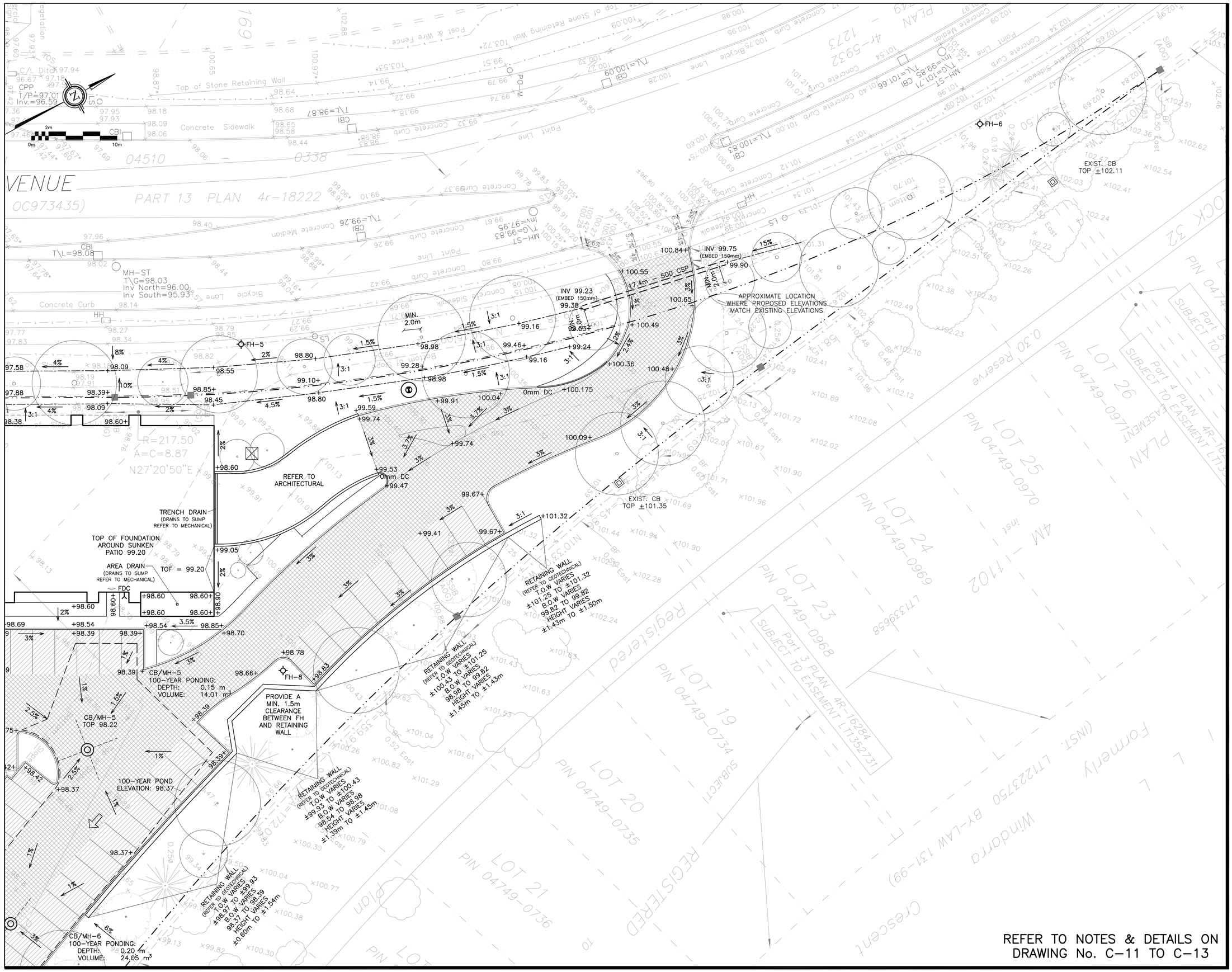
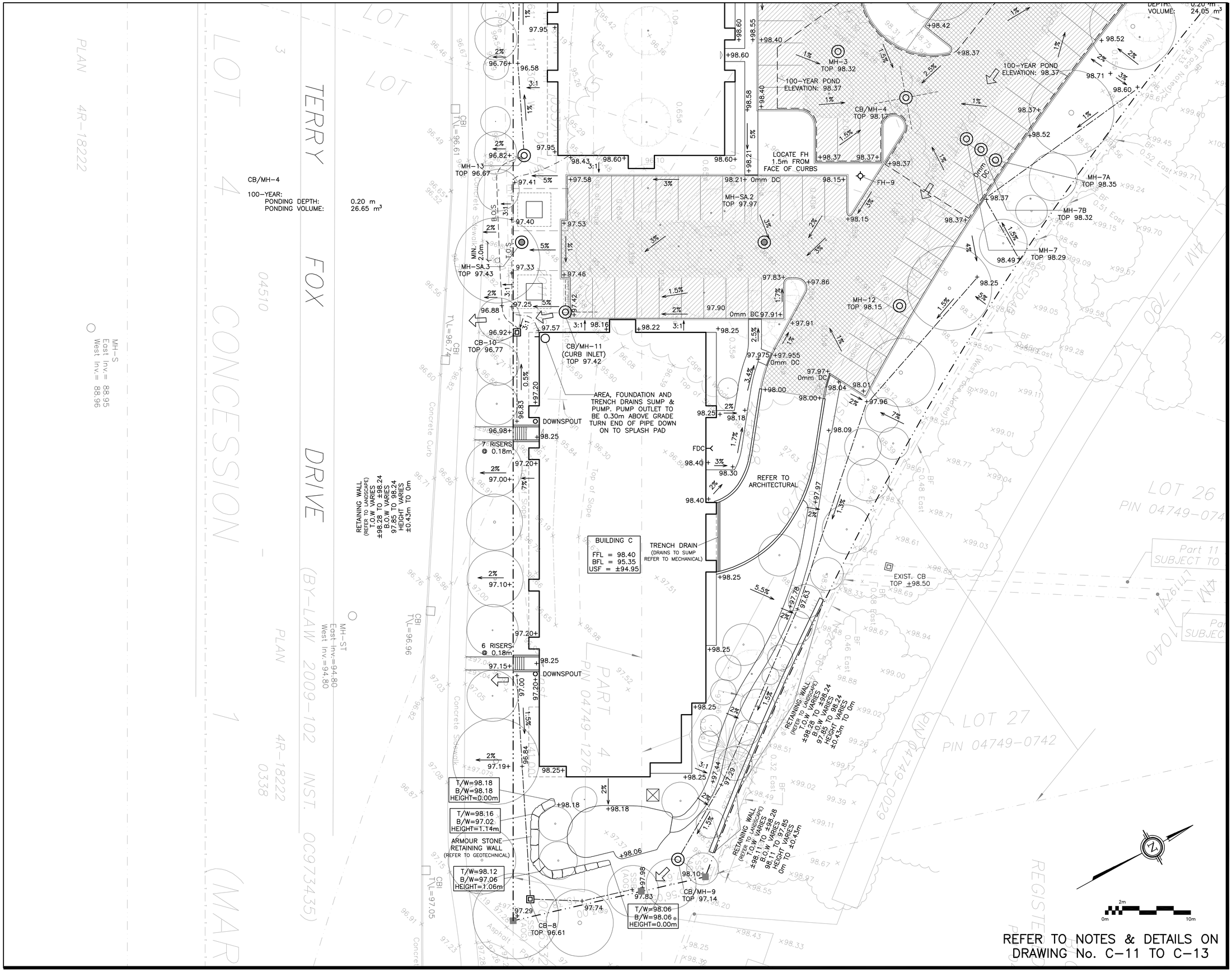
Drawn	D.B.G
H. Scale	1:200
V. Scale	
Date	FEB 27-25
Job No.	24103

Drawing No.
C-5
of 22

Plan #19347 File No. D07-12-25-0104


REFER TO NOTES & DETAILS ON DRAWING No. C-11 TO C-13
APPROXIMATE LOCATION WHERE PROPOSED ELEVATIONS MATCH EXISTING ELEVATIONS
INV 99.75 (EMBED 150mm)
INV 99.23 (EMBED 150mm)
500 CSP
EXIST. CB TOP ±102.11
EXIST. CB TOP ±101.35
FH-5
FH-6
FH-8
REFER TO ARCHITECTURAL
TRENCH DRAIN (DRAINS TO SUMP REFER TO MECHANICAL)
TOP OF FOUNDATION AROUND SUNKEN PATIO 99.20
AREA DRAIN (DRAINS TO SUMP REFER TO MECHANICAL)
TOF = 99.20
FDC
CB/MH-5 100-YEAR PONDING: DEPTH: 0.15 m VOLUME: 14.01 m³
CB/MH-5 TOP 98.22
PROVIDE A MIN. 1.5m CLEARANCE BETWEEN FH AND RETAINING WALL
100-YEAR POND ELEVATION: 98.37
CB/MH-6 100-YEAR PONDING: DEPTH: 0.20 m VOLUME: 24.65 m³
RETAINING WALL (REFER TO GEOTECHNICAL) T.O.W VARIES ±101.25 B.O.W VARIES 99.82 TO 99.82 HEIGHT VARIES ±1.43m TO ±1.50m
RETAINING WALL (REFER TO GEOTECHNICAL) T.O.W VARIES ±100.43 TO ±101.25 B.O.W VARIES 98.98 TO 99.82 HEIGHT VARIES ±1.45m TO ±1.43m
RETAINING WALL (REFER TO GEOTECHNICAL) T.O.W VARIES ±99.93 TO ±100.43 B.O.W VARIES 98.54 TO 98.98 HEIGHT VARIES ±1.39m TO ±1.45m
RETAINING WALL (REFER TO GEOTECHNICAL) T.O.W VARIES ±98.97 TO ±99.93 B.O.W VARIES 98.37 TO 98.39 HEIGHT VARIES ±0.60m TO ±1.54m
MH-ST T\G=98.03 Inv North=96.00 Inv South=95.93
CB/MH-6
Concrete Sidewalk
Top of Stone Retaining Wall
Concrete Curb
Concrete Median
Point Line
Bicycle Lane
Concrete Sidewalk
Concrete Curb
Concrete Curb Median
Post & Wire Fence
Top of Stone Retaining Wall
Concrete Sidewalk
Concrete Curb
Concrete Median
Concrete Sidewalk
Concrete Curb
Concrete Curb Median
Point Line
Bicycle Lane
Concrete Sidewalk
Concrete Curb
Concrete Curb Median
Point Line
Concrete Curb



LEGEND

FFL	FINISHED FLOOR ELEVATION
BFL	BASEMENT FLOOR ELEVATION
USF	UNDERSIDE OF FOOTING
	PROPERTY LINE
CB	CATCH-BASIN
MH	STORM MANHOLE
CB/MH	CATCH-BASIN/MANHOLE
MH	SANITARY MANHOLE
DMAC	DMA CHAMBER
FH	FIRE HYDRANT
FDC	FIRE DEPARTMENT CONNECTION
×99.99	EXISTING ELEVATION
+99.99	PROPOSED ELEVATION
2%	PROPOSED SLOPE
	EMERGENCY OVERLAND FLOW
T.O.S	TOP OF SLOPE
B.O.S	BOTTOM OF SLOPE
	CENTERLINE OF SWALE
	150mm BARRIER CURB
DC	DEPRESSED CURB
	LIGHT-DUTY PAVEMENT
	HEAVY-DUTY PAVEMENT

KEY PLAN

No.	DATE	REVISION
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1	FEB 27–25	PRELIMINARY

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Project
PROPOSED 6–STOREY APARTMENT BUILDINGS
475 TERRY FOX DRIVE
OTTAWA, ONTARIO

Drawing Title
GRADING PLAN
(SE CORNER)

Engineer's Seal
LICENSED PROFESSIONAL ENGINEER
D.B. GRAY
17016502
JUL 10–26
PROVINCE OF ONTARIO
NOT VALID UNLESS SIGNED & DATED

Drawn	D.B.G
H. Scale	1:200
V. Scale	
Date	FEB 27–25
Job No.	24103

Drawing No.
C–7
of 22

Plan #19347 File No. D07–12–25–0104

REFER TO NOTES & DETAILS ON DRAWING No. C–11 TO C–13

KANATA AVENUE

(BY–LAW 2009–102 INST. OC973435)

BUILDING A
FFL = 98.75
BFL = 95.70
USF = ±95.30

BUILDING B
FFL = 98.75
BFL = 95.70
USF = ±95.30

INSTALL SEDIMENT CAPTURE FILTER SOCK INSERT IN EXIST. CBI

INSTALL SEDIMENT CAPTURE FILTER SOCK INSERT IN EXIST. CBIs

STRAW BALE FLOW CHECK DAM

CB/MH–16 TOP 96.04 INV ±93.48(NW)

OGS MH–15 TOP 96.33

CB/MH–14 TOP 96.23

INSTALL SEDIMENT CAPTURE FILTER SOCK INSERT IN CB/MH

CB/MH–2 TOP 98.17

CB/MH–5 TOP 98.22

MH–SA.1 TOP 98.38

FH–7

LOCATE FH 1.5m FROM FACE OF CURBS

CB–1 TOP 98.27

CB/MH–6 TOP 98.17

Job Benchmark #2
Site of Cut Cross on Island
Elevation = 96.31

REFER TO NOTES & DETAILS ON DRAWING No. C–11 TO C–13

LEGEND

FFL	FINISHED FLOOR ELEVATION
BFL	BASEMENT FLOOR ELEVATION
USF	UNDERSIDE OF FOOTING
	PROPERTY LINE
CB	CATCH–BASIN
MH	STORM MANHOLE
CB/MH	CATCH–BASIN/MANHOLE
MH	SANITARY MANHOLE
DMAC	DMA CHAMBER
FH	FIRE HYDRANT
FDC	FIRE DEPARTMENT CONNECTION
×99.99	EXISTING ELEVATION
+99.99	PROPOSED ELEVATION
2%	PROPOSED SLOPE
	EMERGENCY OVERLAND FLOW
T.O.S	TOP OF SLOPE
	CENTERLINE OF SWALE
	150mm BARRIER CURB
DC	DEPRESSED CURB
	SILT FENCE BARRIER

KEY PLAN

No.	DATE	REVISION
4	JUL 10–26	RE–ISSUED FOR APPROVAL
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Ottawa, Ontario d.gray@dbgrayengineering.com

Project
PROPOSED 6–STOREY APARTMENT BUILDINGS
475 TERRY FOX DRIVE
OTTAWA, ONTARIO

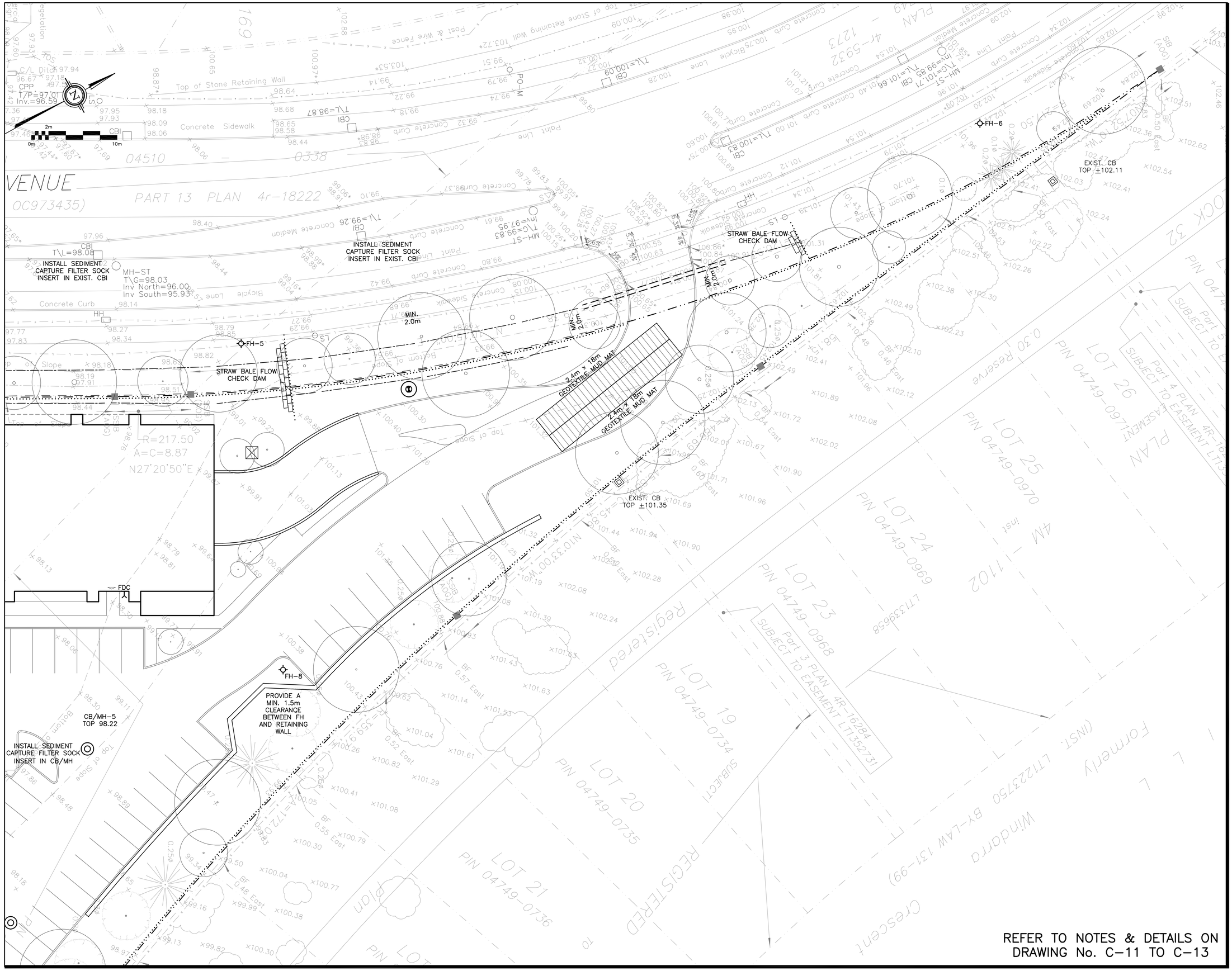
Drawing Title
EROSION & SEDIMENT CONTROL PLAN
(SW CORNER)

Engineer's Seal
LICENSED PROFESSIONAL ENGINEER
D.B. GRAY
17016502
JUL 10–26
PROVINCE OF ONTARIO
NOT VALID UNLESS SIGNED & DATED

Drawn	D.B.G
H. Scale	1:200
V. Scale	
Date	JUL 11–25
Job No.	24103

Drawing No.
C–8
of 22

Plan #19347 File No. D07–12–25–0104



REFER TO NOTES & DETAILS ON DRAWING No. C-11 TO C-13

LEGEND

FFL	FINISHED FLOOR ELEVATION
BFL	BASEMENT FLOOR ELEVATION
USF	UNDERSIDE OF FOOTING
	PROPERTY LINE
CB	CATCH-BASIN
MH	STORM MANHOLE
CB/MH	CATCH-BASIN/MANHOLE
MH	SANITARY MANHOLE
DMAC	DMA CHAMBER
FH	FIRE HYDRANT
FDC	FIRE DEPARTMENT CONNECTION
×99.99	EXISTING ELEVATION
+99.99	PROPOSED ELEVATION
2%	PROPOSED SLOPE
	EMERGENCY OVERLAND FLOW
T.O.S	TOP OF SLOPE
	CENTERLINE OF SWALE
	150mm BARRIER CURB
DC	DEPRESSED CURB
	SILT FENCE BARRIER

KEY PLAN

No.	DATE	REVISION
4	JUL 10-26	RE-ISSUED FOR APPROVAL
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2	OCT 28-25	RE-ISSUED FOR APPROVAL
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Ottawa, Ontario d.gray@dbgrayengineering.com

Project
PROPOSED 6-STOREY APARTMENT BUILDINGS
475 TERRY FOX DRIVE
OTTAWA, ONTARIO

Drawing Title
EROSION & SEDIMENT CONTROL PLAN
(NE CORNER)

Engineer's Seal
LICENSED PROFESSIONAL ENGINEER
D.B. GRAY
17016502
JUL 10-26
PROVINCE OF ONTARIO
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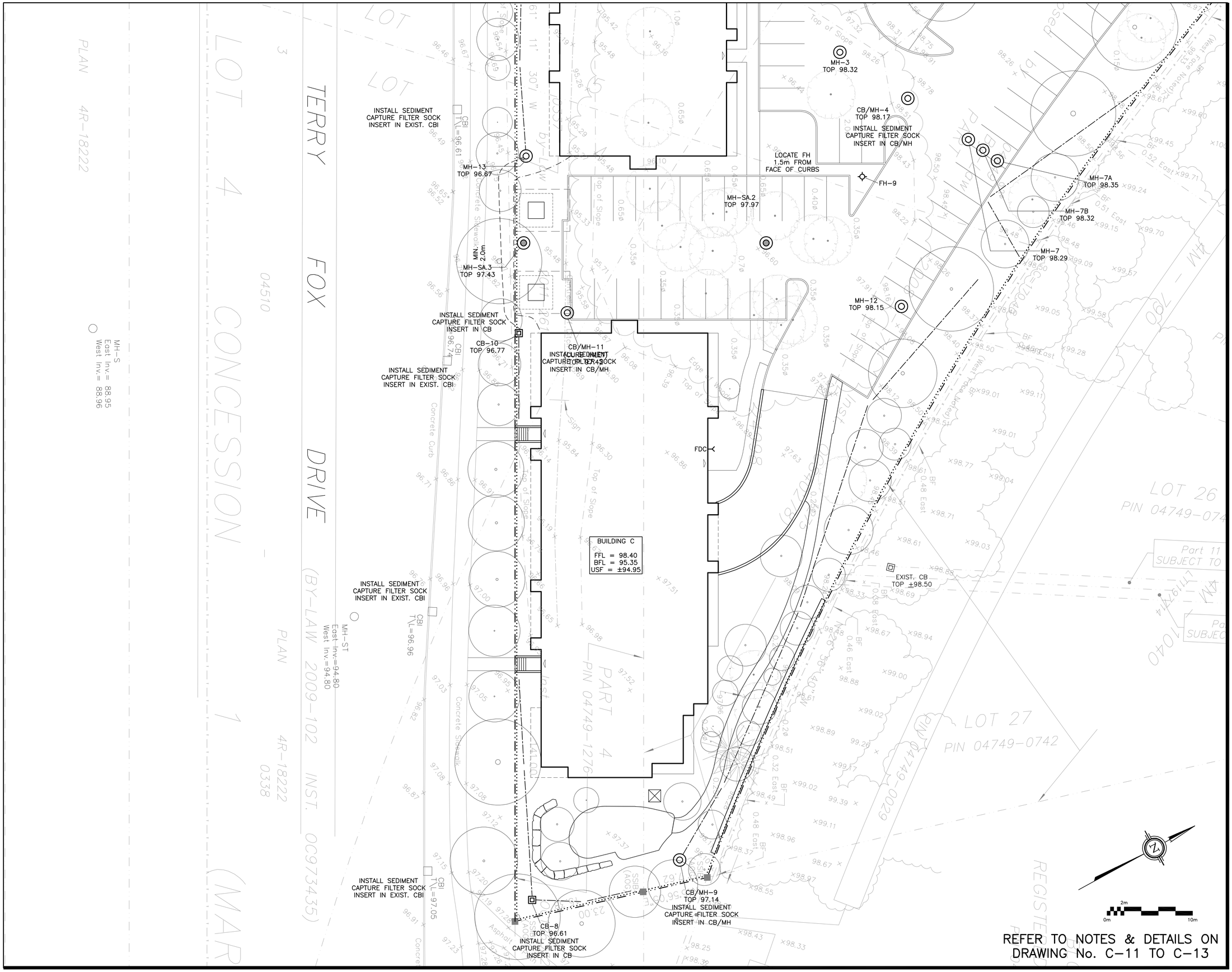
Drawn	D.B.G
H. Scale	1:200
V. Scale	
Date	JUL 11-25
Job No.	24103

Drawing No.
C-9
of 22

Plan #19347 File No. D07-12-25-0104


TERRY FOX DRIVE
(BY-LAW 2009-102 INST. OC973435)
LOT 4 CONCESSION 1 (MAR
PLAN 4R-18222
PART 4
PIN 04749-1276
LOT 26
PIN 04749-074
LOT 27
PIN 04749-0742
Part 11
SUBJECT TO
BUILDING C
FFL = 98.40
BFL = 95.35
USF = ±94.95
MH-3
TOP 98.32
CB/MH-4
TOP 98.17
INSTALL SEDIMENT CAPTURE FILTER SOCK INSERT IN CB/MH
LOCATE FH 1.5m FROM FACE OF CURBS
FH-9
MH-7A
TOP 98.35
MH-7B
TOP 98.32
MH-7
TOP 98.29
MH-12
TOP 98.15
MH-SA.2
TOP 97.97
MH-13
TOP 96.67
MH-SA.3
TOP 97.43
MIN. 2.0m
INSTALL SEDIMENT CAPTURE FILTER SOCK INSERT IN EXIST. CBI
INSTALL SEDIMENT CAPTURE FILTER SOCK INSERT IN CB
CB-10
TOP 96.77
CB/MH-11
TOP 96.43
INSTALL SEDIMENT CAPTURE FILTER SOCK INSERT IN CB/MH
FDC
EXIST. CB
TOP ±98.50
CB/MH-9
TOP 97.14
INSTALL SEDIMENT CAPTURE FILTER SOCK INSERT IN CB/MH
CB-8
TOP 96.61
INSTALL SEDIMENT CAPTURE FILTER SOCK INSERT IN CB
MH-S
East Inv.= 88.95
West Inv.= 88.96
MH-ST
East Inv.=94.80
West Inv.=94.80
CBI
T/L=96.61
CBI
T/L=96.96
CBI
T/L=97.05
Concrete Sidewalk
Concrete Curb
Asphalt
Top of Slope
Edge of Wood
Sign
Bollard
Top of Slope
Top of Slope
Top of Slope

1. GENERAL

1.1 USE BAR SCALE TO CONFIRM ACTUAL PLOT SCALE. EXISTING AND NEW ELEVATIONS AND INVERTS SHOWN ARE GEODETIC AND ARE IN METERS. ALL PIPE DIMENSIONS ARE NOMINAL AND IN MILLIMETERS UNLESS OTHERWISE NOTED.
1.2 UNLESS OTHERWISE STATED "ENGINEER" REFERS TO D. B. GRAY ENGINEERING INC.
1.3 SITE BOUNDARIES AND EXISTING GRADES AND OTHER FEATURES DERIVED FROM TOPOGRAPHIC SURVEY PREPARED BY ANNIS O'SULLIVAN, VOLLEBEKK LTD JOB No. 25113-24. IT IS THE RESPONSIBILITY OF THE USER OF THE SURVEY PLAN AND THESE DRAWINGS TO VERIFY THAT THE JOB BENCHMARK HAS NOT BEEN ALTERED OR DISTURBED AND THAT ITS RELATIVE ELEVATION AND DESCRIPTION AGREE WITH THE INFORMATION SHOWN ON SURVEY PLAN AND THESE DRAWINGS.
1.4 REFER TO ARCHITECTURAL AND LANDSCAPE SITE PLANS FOR EXACT LOCATIONS OF BUILDINGS, PAVED AREAS, SIDEWALKS, PLANTERS ETC. LAYOUT SHALL BE COMPLETED BY THE CONTRACTOR AND SHALL BE REVIEWED BY THE OWNER'S REPRESENTATIVE PRIOR TO CONSTRUCTION. AT ALL TIMES THE CONTRACTOR IS RESPONSIBLE FOR THE ACCURACY OF THE LAYOUT INCLUDING LINES AND GRADES.
1.5 REFER TO TREE CONSERVATION REPORT FOR TREE PROTECTION REQUIREMENTS.
1.6 REFERENCE THE LATEST REVISION AND ALL ADDENDUMS OF THE GEOTECHNICAL INVESTIGATION BY PATERSON GROUP INC. FILE: PG7418-1. CONSTRUCTION SHALL CONFORM TO THE GEOTECHNICAL INVESTIGATION TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER INCLUDING: SUB-GRADE PREPARATION AND CONSTRUCTION OF THE PAVEMENT STRUCTURE; EXCAVATION AND BACKFILLING; SERVICE TRENCH EXCAVATION AND PIPE BEDDING AND BACKFILL; AND THE COMPACTION OF MATERIALS.
1.7 DRAWINGS ARE TO BE READ IN CONJUNCTION WITH SITE SERVICING STUDY STORMWATER MANAGEMENT REPORT No. 24103 PREPARED BY D. B. GRAY ENGINEERING INC.
1.8 CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH THE OCCUPATIONAL HEALTH AND SAFETY ACT AND CURRENT CITY OF OTTAWA STANDARD SPECIFICATIONS AND DRAWINGS.
1.9 ONTARIO PROVINCIAL STANDARD SPECIFICATIONS AND DRAWINGS SHALL APPLY WHERE NO CITY OF OTTAWA STANDARD SPECIFICATIONS OR DRAWINGS ARE AVAILABLE.
1.10 REINSTATE AREAS DISTURBED BY CONSTRUCTION TO PRE-CONSTRUCTION CONDITIONS.
1.11 REINSTATE CITY PROPERTIES TO CITY STANDARDS AND TO CITY OF OTTAWA'S SATISFACTION.

2. EROSION AND SEDIMENT CONTROL PLAN

2.1 THE CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES TO PROVIDE PROTECTION OF THE AREA DRAINAGE SYSTEM AND THE RECEIVING WATER COURSE DURING CONSTRUCTION ACTIVITIES. THIS INCLUDES LIMITING THE AMOUNT OF EXPOSED SOIL, USING SEDIMENT CAPTURE FILTER SOCK INSERTS IN CATCH BASINS AND MANHOLES AND INSTALLING SILT FENCES AND OTHER EFFECTIVE SEDIMENT TRAPS. DO NOT REMOVE UNTIL CONSTRUCTION IS COMPLETE.
2.2 PRIOR TO COMMENCEMENT OF CONSTRUCTION AT ALL MUNICIPAL CATCH BASINS ADJACENT TO THE SITE AND AT ANY MANHOLES OR CATCH BASINS THAT WILL RECEIVE DISCHARGE FROM DE-WATERING OPERATIONS AND ALL NEW CATCH BASINS AS THEY ARE INSTALLED: INSTALL SEDIMENT CAPTURE FILTER SOCK INSERTS (TERRAFIX GEOSYNTHETICS INC SILTSACK OR APPROVED EQUAL). INSPECT AT THE END OF EACH DAY AND AFTER EACH RAINFALL. REMOVE SEDIMENT AS RECOMMENDED BY THE MANUFACTURER. IMMEDIATELY REPAIR OR REPLACE ANY DAMAGED FILTER SOCK INSERTS. DO NOT REMOVE UNTIL CONSTRUCTION IS COMPLETE.
2.3 INSTALL A SILT FENCE BARRIER AROUND STOCKPILED SEDIMENT OR SOIL. PRIOR TO COMMENCEMENT OF CONSTRUCTION INSTALL A SILT FENCE BARRIER AS SHOWN ON PLANS. INSPECT ALL SILT FENCES AT THE END OF EACH DAY AND AFTER EACH RAINFALL. REMOVE SEDIMENT DEPOSITS WHEN THE LEVEL OF DEPOSITS REACHES ONE THIRD THE HEIGHT OF THE FENCE. IMMEDIATELY REPAIR OR REPLACE ANY DAMAGED SECTIONS OF FENCE. DO NOT REMOVE ANY SILT FENCES IN ANY PHASE UNTIL CONSTRUCTION IS COMPLETE.
2.5 ANY MATERIAL DEPOSITED ON A PUBLIC ROAD SHALL BE REMOVED BY SWEEPING AND SHOVELING OR VACUUMING AND DISPOSING SEDIMENT IN A CONTROLLED AREA. DO NOT SWEEP OR HOSE MATERIAL INTO ANY STORMWATER CONVEYANCE SYSTEM.
2.6 CONSTRUCTION IS CONSIDERED COMPLETE WHEN THE FOLLOWING CONDITIONS HAVE BEEN MET:
A. ALL STRUCTURES HAVE BEEN BUILT.
B. ALL HARD SURFACES HAVE BEEN CONSTRUCTED.
C. ALL PROPOSED GRASSED AREAS ARE EITHER SODDED OR HAVE A FULL COVERAGE OF WELL ESTABLISHED TURF AND HAVE HAD A MINIMUM OF ONE FULL GROWING SEASON (MAY 15TH TO SEPTEMBER 15TH).
D. THERE ARE NO AREAS OF EXPOSED EARTH.
E. ALL STOCKPILED MATERIALS HAVE BEEN REMOVED.
2.7 REMOVE EROSION AND SEDIMENT CONTROL MEASURES WHEN CONSTRUCTION IS COMPLETE.

3. GRADING & DRAINAGE

3.1 NEW GRADES TO MATCH EXISTING AT PROPERTY LINE. NO EXCESS DRAINAGE WILL BE DIRECTED TOWARDS THE ADJACENT PROPERTIES DURING OR AFTER CONSTRUCTION. THERE WILL BE NO ALTERATION TO EXISTING GRADE AND DRAINAGE PATTERNS ON PROPERTY LINE.
3.2 ALL AREAS SHALL BE GRADED TO ENSURE ADEQUATE DRAINAGE AWAY FROM BUILDINGS TO CATCH BASINS, SWALES, DITCHES AND OTHER APPROVED DISPOSAL AREAS. GRADING SHALL BE GRADUAL BETWEEN FINISHED SPOT ELEVATIONS SHOWN ON DRAWINGS TO PREVENT PONDING (OTHER THAN PONDING REQUIRED FOR STORMWATER MANAGEMENT).
3.3 WHETHER RESULT OF POOR WORKMANSHIP OR DAMAGE: DEFECTIVE GRADING SHALL BE CORRECTED.
3.4 CONCRETE CURBS SHALL BE CONSTRUCTED TO CITY OF OTTAWA DRAWING NO. SC1.1. CONCRETE SIDEWALK SHALL BE CONSTRUCTED TO CITY OF OTTAWA DRAWING NO. SC4. CONCRETE CURBS WITH CONCRETE SIDEWALK SHALL BE CONSTRUCTED TO CITY OF OTTAWA DRAWING NO. SC1.4. MONOLITHIC CONCRETE CURB AND SIDEWALK SHALL BE CONSTRUCTED TO CITY OF OTTAWA DRAWING NO. SC2. DEPRESSED CONCRETE CURBS FOR PEDESTRIAN TRAFFIC SHALL BE 0 mm. CONCRETE CURBS SHALL BE TO CITY OTTAWA SPECIFICATION SECTION F-3531. CONCRETE SIDEWALKS SHALL BE TO CITY OF OTTAWA SPECIFICATION SECTION F-3511. CONCRETE SHALL BE CSA 32 MPa, CLASS C-2, THE AIR ENTRAINMENT SHALL BE 5% TO 8% PRIOR TO PLACEMENT AND THE SLUMP SHALL BE LESS THAN 40 mm ± 20 mm FOR EXTRUDED CONCRETE CURBS AND LESS THAN 90 mm FOR PLACED CONCRETE CURBS AND SIDEWALK.
3.5 WHETHER RESULT OF POOR WORKMANSHIP, USE OF DEFECTIVE PRODUCTS OR DAMAGE: DEFECTIVE PORTIONS OF CURBS, SIDEWALK AND ASPHALT SHALL BE CORRECTED OR REMOVED AND REPLACED.
3.6 ALL PROPOSED RETAINING WALLS SHALL BE SETBACK A MINIMUM 0.15m FROM PROPERTY LINE INCLUDING THE WALL FOUNDATION AND FOOTINGS. ALL PROPOSED RETAINING WALLS GREATER THAN 1.0m IN HEIGHT SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN ONTARIO. RETAINING WALLS OVER 0.6 m IN HEIGHT MAY REQUIRE A GUARD RAIL (SEE ARCHITECTURAL).

4. SITE SERVICES

4.1 CONNECTION TO WATERMAIN BY CITY OF OTTAWA FORCES, CONTRACTOR SHALL PROVIDE EXCAVATION, BACKFILL AND REINSTATEMENT.
4.2 THE WATER PRESSURE IS EXPECTED TO ABOVE 80 PSI. INSTALL A PRESSURE REDUCING VALVE (PRV) IN EACH BUILDING IMMEDIATELY AFTER THE WATER METER.
4.3 WATER METER SHALL BE INSTALLED AS PER CITY OF OTTAWA DWG. No. W31 (38 & 50mm W31) OR W32 (>75mm).
4.4 ALL WATER SERVICE AND WATERMAIN MATERIALS AND CONSTRUCTION METHODS TO CITY OF OTTAWA STANDARDS AND ONTARIO PROVINCIAL STANDARDS SPECIFICATIONS (OPSS & OPSD). WATER SERVICE AND WATERMAIN MATERIALS MATERIALS SHALL BE PVC DR18 TO AWWA C-900, CSA B137.3 & CITY OF OTTAWA STANDARDS. METALLIC WARNING TAPE SHALL BE INSTALLED OVER ALL WATERMAINS. PROVIDE THRUST BLOCKS AS PER CITY OF OTTAWA DWG. No. W25.3 & W25.4 AT ALL VALVES, TEES, CAPS, BENDS, REDUCERS AND HYDRANTS OR OTHER FITTINGS WHERE CHANGES OCCUR IN PIPE DIAMETER OR DIRECTION. RESTRAINING AS PER AS PER CITY OF OTTAWA DWG. No W25.5 & W25.6.ALL CONNECTIONS, RESTRAINT RODS AND VALVE BOLTS TO BE STAINLESS STEEL. CATHODIC PROTECTION & ANODE INSTALLATION AS PER CITY OF OTTAWA DWG. No W40, W42, W44 & W47.
4.5 PROVIDE A MINIMUM 2.4 m COVER OVER WATER SERVICE CONNECTION AND WATERMAIN. WHERE THE MINIMUM COVER IS NOT POSSIBLE INSULATE AS PER CITY OF OTTAWA DWG. No. W22. WHERE LESS THAN 2.4 m CLEARANCE FROM AN OPEN STRUCTURE (EG. MANHOLES, CATCH BASINS & WINDOW WELLS) PLACE INSULATION AROUND WATERMAIN AND WATER SERVICE CONNECTIONS AS PER CITY OF OTTAWA DWG. No. W23.
4.6 WATERMAINS INSTALLED PARALLEL TO A SEWER SHALL BE LAID WITH A MINIMUM 2.5m BARREL TO BARREL HORIZONTAL SEPARATION FROM SEWERS AND SEWER MANHOLES.
4.7 THE WATERMAIN AND WATER SERVICE CONNECTIONS SHALL CROSS ABOVE SEWER AS PER CITY OF OTTAWA DRAWING No. W25.2: PROVIDE A MINIMUM 250mm BARRELL TO BARRELL VERTICAL SEPARATION. IF IT IS NOT POSSIBLE FOR THE WATERMAIN TO CROSS ABOVE A SEWER THE WATERMAIN SHALL CROSS BELOW THE SEWER AS PER CITY OF OTTAWA DRAWING No. W25: PROVIDE A MINIMUM 500m BARREL TO BARREL VERTICAL SEPARATION AND ENSURE THAT THE WATER PIPE IS CENTERED AT THE POINT OF CROSSING SO JOINTS ARE AS FAR AS POSSIBLE FROM THE SEWER.
4.8 FIRE HYDRANTS:
LOCATE FIRE HYDRANT LEAD A MINIMUM 2m FROM OUTSIDE EDGE OF CATCH BASINS AND MANHOLES. THE HYDRANT SHALL BE INSTALL WITH THE BREAKABLE FLANGE 50mm TO 150mm ABOVE FINISHED GRADE. THERE SHALL BE NO VEGETATION OR OTHER OBSTRUCTIONS IN FRONT OF HYDRANT AND WITHIN 1.5m OF FIRE HYDRANT.
PRIVATE HYDRANTS:
LOCATE PRIVATE FIRE HYDRANT AS PER CITY OF OTTAWA DWG. No. W18. INSTALL FIRE HYDRANT AS PER CITY OF OTTAWA DWG. No. W19. LOCATE FIRE HYDRANT AS INDICATED ON PLAN (1.5 TO 2.5m FROM FACE OF CURB). THE FIRE HYDRANT SHALL BE RED WITH WHITE BONNETS AND CAPS TO CITY STANDARDS.
MUNICIPAL HYDRANTS:
LOCATE PRIVATE FIRE HYDRANT AS PER CITY OF OTTAWA DWG. No. W18. INSTALL FIRE HYDRANT AS PER CITY OF OTTAWA DWG. No. W19. LOCATE FIRE HYDRANT AS INDICATED ON PLAN (0.6m FROM BACK OF CURB). THE FIRE HYDRANT SHALL BE PAINTED AS PER CITY OF OTTAWA STANDARDS. AT THE END OF CONSTRUCTION PERFORM A FIRE FLOW TEST AND SUBMIT REPORT TO THE ENGINEER AND COLOUR CODE THE BONNETS AND CAPS AS PER CITY OF OTTAWA AND NFPA STANDARDS.
4.9 ALL SEWER MATERIALS AND CONSTRUCTION METHODS TO CITY OF OTTAWA STANDARDS AND ONTARIO PROVINCIAL STANDARDS SPECIFICATIONS (OPSS & OPSD). SEWER MATERIAL SHALL BE PVC OR REINFORCED CONCRETE. PVC SEWERS SHALL BE SDR-35 (SDR-28 FOR DIAMETERS 150mm OR LESS) AND SHALL CONFORM TO CSA B182.2 AND SHALL HAVE BELL AND SPIGOT JOINTS WITH RUBBER GASKETS. REINFORCED CONCRETE SEWERS SHALL CONFORM TO CSA 257.2 CL 50-D WITH RUBBER GASKETS TO CSA A-257.3. WHERE INDICATED ON PLAN STORM SEWER MATERIAL MAY BE HDPE (HIGH-DENSITY POLYETHYLENE) DUAL WALL PIPE WITH AN EXTERIOR CORRUGATED WALL AND INTERIOR SMOOTH WALL TO CSA B182.8 WITH BELL AND SPIGOT WATER TIGHT JOINTS; ADS CANADA N-12 ST IB PIPE OR APPROVED EQUAL.
HIGH GROUNDWATER CONDITIONS:
THE GEOTECHNICAL ENGINEER SHALL DETERMINE WHICH STORM AND SANITARY SEWER PIPES WILL BE INSTALLED MORE THAN 0.6 M BELOW THE ACCEPTED SEASONALLY HIGH GROUNDWATER TABLE (SHGWT). SEWERS INSTALLED MORE THAN 0.6 M BELOW THE SHGWT SHALL BE PRESSURE RATED PIPE, DESIGNED FOR FORCEMAINS: PVC SDR 41 PIPE CONFORMING TO CSA B137.3 OR CSA B182.2.
4.10 SEWERS SHALL HAVE A MINIMUM 2.0m OF COVER OR SHALL BE INSULATED AS PER CITY OF OTTAWA STANDARD DRAWING S35.
4.11 PROVIDE A MINIMUM 250 mm BARREL TO BARREL VERTICAL SEPARATION WHERE A SEWER CROSSES A SEWER. WHERE 250 MM SEPARATION CANNOT BE ACHIEVED FILL SPACE BETWEEN SEWERS WITH UNSHRINKABLE FILL (U-FILL). U-FILL SHALL EXTEND A MINIMUM 300 mm BEYOND OUTSIDE OF PIPES. INSTALL A 6 mm POLY BOND BREAKER BETWEEN U-FILL AND PIPES.
4.12 THE SANITARY BUILDING DRAIN SHALL BE INSTALLED WITH A NORMALLY OPEN FULL-PORT BACKWATER VALVE TO CITY OF OTTAWA STANDARDS AND TO CITY OF OTTAWA DWG. NO. S14.1 OR S14.2. THE BACKWATER VALVE SHALL BE INSTALLED SO THAT ALL PLUMBING FIXTURES ABOVE THE EXTERIOR GRADE ELEVATION DRAINS TO THE DOWNSTREAM SIDE OF THE VALVE AND ALL FIXTURES BELOW THE EXTERIOR GRADE ELEVATION DRAINS TO THE UPSTREAM SIDE OF THE VALVE.
4.13 CONNECT PROPOSED SANITARY SEWER SERVICE CONNECTION TO EXISTING MUNICIPAL SANITARY SEWER AS PER CITY OF OTTAWA DWG No. S11.1 (FLEXIBLE MAIN SEWER).
4.14 MANHOLES & CATCH BASINS:
A. PRECAST MANHOLE UNITS: TO OPSS 1351 AND OPSD 701.010 WITH BASE SLAB OR MONOLITHIC BASE. TOP SECTIONS ECCENTRIC CONE OR FLAT LAB TOP TYPE WITH OPENING OFFSET FOR VERTICAL LADDER INSTALLATION.
B. MANHOLE STEPS: TO OPSD 405.01
C. ADJUSTING RINGS: TO ASTM C 478M.
D. ALUMINUM SURFACES IN CONTACT WITH OR CAST INTO CONCRETE SHALL HAVE POLYETHYLENE ANCHOR INSULATING SLEEVES.
E. PRECAST CATCH BASIN SECTIONS: TO OPSS 1351.
F. JOINTS: SHALL BE MADE WATERTIGHT USING BUTYL BASED, FLEXIBLE WATERSTOP/JOINT SEALANT MATERIAL.
G. SANITARY SEWERS: BENCH TO PROVIDE A SMOOTH U-SHAPED CHANNEL PER OPSD 701.021. SLOPE INVERT TO ESTABLISH SEWER GRADE.
H. STORM SEWERS: MANHOLES SHALL HAVE A 300mm SUMP AND CATCH BASINS SHALL HAVE A 600mm SUMP.
I. FRAMES, GRATES AND COVERS TO CITY OF OTTAWA DRAWINGS OR OPSD (AS PER CATCH BASIN & MANHOLE SCHEDULE). GRATES AND COVERS TO BEAR EVENLY ON FRAMES.
J. GRANULAR BEDDING AND BACKFILL: OPSS GRANULAR A. RE-CYLCLED GRANULAR MATERIALS ARE NOT PERMITTED.
K. PRIOR TO INSTALLATION SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR REVIEW.

4.15 AS INDICATED ON PLANS: AT ALL CATCH BASINS AND CATCH BASIN MANHOLES PROVIDE MINIMUM 3m LONG, 150mm DIAMETER, PERFORATED SUB-DRAINS AT 300 mm BELOW THE SUB-GRADE LEVEL; HDPE C/W FILTER FABRIC SOCK & END PLUG (BOSS 1000 OR APPROVED EQUAL).
4.16 THE INLET CONTROL DEVICES (ICDs) LOCATED IN THE OUTLET PIPE OF MANHOLE MH-6 AND CATCH BASIN MANHOLE CB/MH-13 SHALL BE PLUG STYLE WITH TRASH BASKET AND A ROUND ORIFICE (WITH THE ORIFICE LOCATED AT THE BOTTOM OF THE PLUG) MANUFACTURED BY PEDRO PLASTICS (OR APPROVED EQUAL) AND SIZED BY THE MANUFACTURER FOR A DISCHARGE RATE AS INDICATED ON PLAN. PRIOR TO INSTALLATION SUBMIT SHOP DRAWING TO ENGINEER FOR APPROVAL.

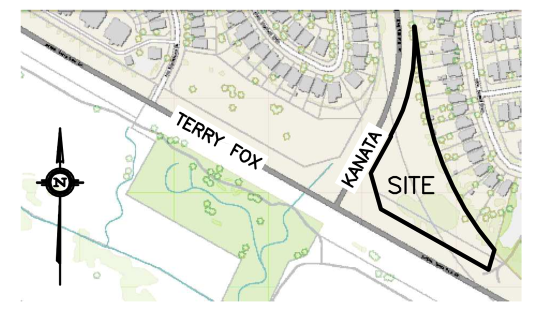
5. CONSTRUCTION:

5.1 PRIOR TO COMMENCING WORK:
G. OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND APPROVALS FROM THE AUTHORITIES.
H. SIZE, DEPTH AND LOCATION OF EXISTING INFRASTRUCTURE (SERVICES, UTILITIES, AND STRUCTURES) AND ARE NOT NECESSARILY SHOWN ON DRAWINGS AND THOSE INDICATED ON THE DRAWINGS ARE DERIVED FROM AVAILABLE INFORMATION AND ARE FOR GUIDANCE ONLY AND MUST BE CONFIRMED ON SITE BEFORE COMMENCING ANY WORK. COMPLETENESS AND ACCURACY ARE NOT GUARANTEED. NOTIFY ALL APPLICABLE OWNERS, UTILITY COMPANIES AND AUTHORITIES HAVING JURISDICTION OF PROPOSED WORK AND LOCATE AND CLEARLY IDENTIFY ALL EXISTING INFRASTRUCTURE ON THE SITE AND ADJACENT TO THE SITE. UNDERGROUND LOCATES (INCLUDING BUT NOT LIMITED TO ONTARIO ONE CALL: 1-800-400-2255) SHALL BE CONDUCTED PRIOR TO THE COMMENCEMENT OF ANY EXCAVATION. CONFIRM LOCATIONS OF BURIED INFRASTRUCTURE BY CAREFULLY EXCAVATING TEST PITS AND REPORT ANY DIFFERENCES TO THE ENGINEER. ANY ISSUES ARISING FROM FAILURE OF CONTRACTOR TO DETERMINE THE SIZE, DEPTH AND LOCATION ALL EXISTING INFRASTRUCTURE WILL BE AT THE CONTRACTOR'S EXPENSE.
I. EXISTING GRADE ELEVATIONS SHOWN ON DRAWINGS ARE DERIVED FROM AVAILABLE INFORMATION AND ARE FOR GUIDANCE ONLY AND MUST BE CONFIRMED ON SITE BEFORE COMMENCING CONSTRUCTION. COMPLETENESS AND ACCURACY ARE NOT GUARANTEED. REPORT ANY DIFFERENCES TO ENGINEER.
J. COORDINATE AND SCHEDULE WORK WITH THE OWNER, AUTHORITIES AND OTHER TRADES.
K. SCHEDULE WORK TO PROVIDE THE MINIMUM DISRUPTION TO SERVICES.
L. INSTALL CONSTRUCTION FENCING AROUND THE AREA OF WORK. DO NOT REMOVE FENCING UNTIL WORK IS COMPLETE.
5.2 MAINTAIN AND PROTECT FROM DAMAGE, SERVICES, UTILITIES AND STRUCTURES ENCOUNTERED.
5.3 PROTECT EXISTING BUILDINGS, TREES AND OTHER PLANTS, LAWNS, FENCING, SERVICE POLES, WIRES, PAVEMENT, SURVEY BENCH MARKS AND MONUMENTS AND OTHER SURFACE FEATURES FROM DAMAGE WHILE WORK IS IN PROGRESS. DO NOT DISTURB SOIL WITHIN BRANCH SPREAD OF TREES OR SHRUBS THAT ARE TO REMAIN.
5.4 PROVIDE TRAFFIC CONTROL AND SAFETY MEASURES AS REQUIRED BY THE AUTHORITIES, INCLUDING ANY NECESSARY PERSONNEL AND THE SUPPLY, INSTALLATION, REMOVAL AND REPLACEMENT OF ALL NECESSARY SIGNAGE AND BARRIERS. IF APPLICABLE, PROVIDE TRAFFIC MANAGEMENT PLAN AS PER CITY OF OTTAWA REQUIREMENTS.
5.5 FENCE OFF ALL OPEN EXCAVATIONS AT THE END OF EACH WORK DAY. FENCES SHALL BE INSTALLED AND MAINTAINED A GOOD AND EFFECTIVE CONDITION.
5.6 REMOVE OBSTRUCTIONS, ICE AND SNOW, FROM SURFACES TO BE EXCAVATED.
5.7 CUT PAVEMENT AND / OR SIDEWALK NEATLY ALONG LIMITS OF PROPOSED EXCAVATION IN ORDER THAT SURFACE MAY BREAK EVENLY AND CLEANLY.
5.8 COORDINATE AND PAY FOR GEOTECHNICAL INSPECTIONS AND COMPACTION TESTS OF; SERVICING TRENCHES (SUB-GRADE, PIPE BEDDING AND EACH LAYER OF SURROUND MATERIAL, AND BACKFILL); AND PAVEMENT STRUCTURES (SUB-GRADE, SUB-BASE, BASE AND ASPHALT); TO THE SATISFACTION OF THE GEOTECHNICAL CONSULTANT AND ENGINEER. SUBMIT GEOTECHNICAL INSPECTIONS AND COMPACTION REPORTS TO ENGINEER FOR REVIEW. A MINIMUM ON ONE SET OF INSPECTIONS AND COMPACTION TESTS SHALL BE COMPLETED ON EACH PIPE SEGMENT GREATER THAN 15 m IN LENGTH. A MINIMUM ONE SET OF INSPECTION AND COMPACTION TESTS SHALL BE COMPLETED FOR EVERY 500 m^2 OF PAVEMENT AREA.
5.9 CUT AND FILL AS NECESSARY TO ACHIEVE THE PROPOSED GRADE ELEVATIONS. DISPOSE OF SURPLUS AND UNSUITABLE EXCAVATED MATERIAL OFF SITE. ANY REQUIRED FILL SHALL BE CLEAN WELL GRADED SAND TO OPSS 1004 UNLESS OTHERWISE DIRECTED BY GEOTECHNICAL ENGINEER. FILL SHALL BE COMPACTED TO NOT LESS THAN 95% OF CORRECTED MAXIMUM DRY DENSITY. FILL MATERIAL AND THE PLACEMENT AND COMPACTION OF THE FILL MATERIAL AS PER THE GEOTECHNICAL REPORT AND TO THE SATISFACTION OF THE GEOTECHNICAL CONSULTANT. PLACE MATERIAL IN UNIFORM LAYERS NOT EXCEEDING 300mm COMPACTED THICKNESS.
5.10 PROTECT WORK AREA AGAINST FLOODING AND DAMAGE DUE TO SURFACE RUN-OFF. DEWATER AS REQUIRED TO KEEP WORK AREA FREE OF WATER. DISCHARGE FROM DEWATERING OPERATIONS SHALL BE DIRECTED TO A SEDIMENT CONTROL MEASURE AND/OR A VEGETATED DISCHARGE AREA. ENSURE THAT THE DISCHARGED WATER DOES NOT CAUSE EROSION OR OTHER DAMAGE TO ADJACENT LANDS.
5.11 EXCAVATION, TRENCHING, & BACKFILL:
A. SHORE AND BRACE EXCAVATIONS, PROTECT SLOPES AND BANKS AND PERFORM ALL WORK IN ACCORDANCE WITH ONTARIO REGULATION 213/91 UNDER THE ONTARIO OCCUPATIONAL HEALTH AND SAFETY ACT AND OTHER AUTHORITIES HAVING JURISDICTION.
B. KEEP EXCAVATIONS FREE OF WATER WHILE WORK IS IN PROGRESS. PROTECT OPEN EXCAVATIONS AGAINST FLOODING AND DAMAGE DUE TO SURFACE RUN-OFF.
C. EXCAVATION SHALL NOT INTERFERE WITH BEARING CAPACITY OF ADJACENT FOUNDATIONS.
D. DO NOT OBSTRUCT FLOW OF SURFACE DRAINAGE OR NATURAL WATERCOURSES.
E. EXCAVATE TO LINES, GRADES, ELEVATIONS AND DIMENSIONS AS INDICATED.
F. EARTH BOTTOMS OF EXCAVATIONS TO BE UNDISTURBED SOIL, LEVEL, FREE FROM LOOSE, SOFT OR ORGANIC MATTER.
G. ALL STRUCTURES WITHIN PAVED AREAS SHALL HAVE 4:1 FROST TAPERS FROM FROST LINE TO SUB-GRADE.
H. CORRECT OVER-EXCAVATION WITH GRANULAR A COMPACTED TO NOT LESS THAN 95% OF CORRECTED MAXIMUM DRY DENSITY.
I. SUB-GRADE AND AREAS TO BE BACKFILLED TO BE FREE FROM DEBRIS, SNOW, ICE, WATER AND FROZEN GROUND.
J. DO NOT USE BACKFILL MATERIAL WHICH IS FROZEN OR CONTAINS ICE, SNOW OR DEBRIS.
K. PIPE BEDDING AND SURROUND MATERIAL SHALL BE OPSS GRANULAR A. SURROUND MATERIAL FOR CONCRETE PIPE MAY BE CLEAN WELL GRADED SAND. RE-CYLCLED GRANULAR MATERIALS ARE NOT PERMITTED.
L. DO NOT USE BEDDING, SURROUND OR BACKFILL MATERIAL WHICH IS FROZEN OR CONTAINS ICE, SNOW OR DEBRIS.
M. PIPE BEDDING SHALL BE 150mm THICK. SHAPE BED TRUE TO GRADE AND TO PROVIDE CONTINUOUS, UNIFORM BEARING SURFACE FOR PIPE.
N. PLACE SURROUND MATERIAL AROUND PIPES TO FULL WIDTH OF TRENCH AND TO 300mm ABOVE PIPES.
O. PLACE BEDDING AND SURROUND MATERIAL IN UNIFORM LAYERS NOT EXCEEDING 150mm COMPACTED THICKNESS. PLACE FILL AND BACKFILL MATERIAL IN UNIFORM LAYERS NOT EXCEEDING 300mm COMPACTED THICKNESS.
P. COMPACT EACH LAYER TO 95% OF CORRECTED DRY DENSITY BEFORE PLACING SUCCEEDING LAYER.
Q. DO NOT BACKFILL AROUND OR OVER CAST-IN-PLACE CONCRETE WITHIN 24 HOURS AFTER PLACING OF CONCRETE.
R. BACKFILL MATERIALS WITHIN 1.8m OF PROPOSED GRADE SHALL MATCH THE MATERIALS EXPOSED ON THE TRENCH WALLS. BACKFILL BELOW 1.8m OF THE PROPOSED CAN CONSIST OF EITHER ACCEPTABLE NATIVE MATERIAL; ROCK; OR IMPORTED GRANULAR MATERIAL CONFORMING TO OPSS GRANULAR B TYPE I OR II. ANY ORGANIC SOILS OR TOPSOIL, IF ENCOUNTERED, SHALL BE REMOVED FROM THE EXCAVATION. IF ROCK IS USED AS BACKFILL IT SHALL BE WELL SHATTERED AND GRADED AND 200mm OR SMALLER IN DIAMETER. TO PREVENT INGRESS OF FINE MATERIAL INTO VOIDS IN THE ROCK FILL, THE UPPER SURFACE OF THE ROCK FILL SHALL BE COVERED WITH 150mm LAYER OF COMPACTED, WELL GRADED CRUSHED STONE PLACED ON GEOTEXTILE FABRIC.
5.12 PIPES:
A. HANDLE PIPE USING METHODS APPROVED BY MANUFACTURER.
B. LAY, CUT AND JOIN PIPES IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
C. USE ONLY FITTINGS AS RECOMMENDED BY PIPE MANUFACTURER.
D. LAY PIPES ON PREPARED BED, TRUE TO LINE AND GRADE AND ENSURE BARREL OF EACH PIPE IS IN CONTACT WITH SHAPED BED THROUGHOUT ITS FULL LENGTH, FREE OF SAGS OR HIGH POINTS.
E. DO NOT EXCEED MAXIMUM JOINT DEFLECTION RECOMMENDED BY PIPE MANUFACTURER.
F. WHENEVER WORK IS SUSPENDED, INSTALL REMOVABLE WATERTIGHT BULKHEAD AT OPEN END OF LAST PIPE LAID TO PREVENT ENTRY OF FOREIGN MATERIALS.
G. WHEN STOPPAGE OF WORK OCCURS, BLOCK PIPES TO PREVENT CREEP DURING DOWN TIME. MAKE WATERTIGHT CONNECTIONS TO MANHOLES.
H. JOINTS SHALL BE STRUCTURALLY SOUND AND WATERTIGHT.
I. REPAIR OR REPLACE PIPE, PIPE JOINT OR BEDDING FOUND DEFECTIVE.
5.13 SEWERS AND SEWER SERVICE CONNECTIONS:
A. CONSTRUCT TRENCHES AS PER CITY DWG S6 & S7.
B. RIGID STRUCTURES, INSTALL PIPE JOINTS NOT MORE THAN 1.2 m FROM SIDE OF STRUCTURE.
C. MAINTAIN EXISTING SEWAGE FLOWS DURING CONSTRUCTION.
D. PERFORM FIELD TESTS FOR QUALITY CONTROL OF ALL SANITARY SEWERS. SPECIFICALLY, THE LEAKAGE TESTING SHALL BE COMPLETED IN ACCORDANCE WITH OPSS 410. REPAIR AND RETEST SEWER LINE AS REQUIRED. REPAIR VISIBLE LEAKS REGARDLESS OF TEST RESULTS.
E. CONDUCT TWO CCTV INSPECTIONS OF SEWERS. FIRST INSPECTION AFTER COMPLETION OF CONSTRUCTION. SECOND INSPECTION IMMEDIATELY PRIOR TO END OF WARRANTY PERIOD. A PAN AND TILT CAMERA SHALL BE USED. REPAIR SEWER LINE AS REQUIRED. SUBMIT REPORTS AND DVDS TO ENGINEER.
F. CONDUCT DYE TEST OF SANITARY SEWERS AND COORDINATE WITH ENGINEER. DYE TEST SHALL BE WITNESSED BY ENGINEER.
5.14 WATERMAINS AND WATER SERVICE CONNECTIONS:
A. CONSTRUCT TRENCHES AS PER CITY DWG W17.
B. INSTALL AND TEST TRACER WIRE ON THE WATER SERVICE CONNECTION AS PER 4.3.12 OF THE CITY OF OTTAWA WATER DISTRIBUTION DESIGN GUIDELINES AND DRAWING W36.
C. PRESSURE TESTING AS PER AWWA C-605-5 AND CITY OF OTTAWA DESIGN GUIDELINES – WATER DISTRIBUTION SECTION 4.6.13.
D. CHLORINATION AS PER AWWA C-651-05 AND CITY OF OTTAWA DESIGN GUIDELINES – WATER DISTRIBUTION SECTION 4.6.13 & CITY DWG. W46.
5.16 MANHOLES & CATCH BASINS:
A. SET PRECAST CONCRETE BASE ON 150 mm MINIMUM OF GRANULAR BEDDING COMPACTED TO 100% CORRECTED MAXIMUM DRY DENSITY.
B. JOINTS: SHALL BE MADE WATERTIGHT WITH RUBBER RING GASKETS TO CITY OF OTTAWA STANDARDS.
HIGH GROUNDWATER CONDITIONS:
THE GEOTECHNICAL ENGINEER SHALL DETERMINE WHICH STORM AND SANITARY MANHOLES WILL BE INSTALLED MORE THAN 0.6 m BELOW THE ACCEPTED SEASONALLY HIGH GROUNDWATER TABLE (SHGWT) AND PROVIDE THE SHGWT ELEVATION AT EACH MANHOLE. ALL MANHOLE JOINTS INSTALLED MORE THAN 0.6 m BELOW THE SHGWT SHALL BE EXTERNALLY WRAPPED WITH MINIMUM 300 mm WIDE STRIP OF WATERPROOF MEMBRANE.
C. NEW OPENINGS IN STORM MANHOLES AND CATCH BASINS: MACHINE CORE DRILL INTO MANHOLE AND MAINTAIN STRUCTURAL INTEGRITY OF MANHOLE. INSTALL A FLEXIBLE GASKET TO CITY OF OTTAWA STANDARDS AND USE HYDRAULIC CEMENT IN ANNULAR SPACE AROUND PIPE AND MAKE WATERTIGHT.
D. NEW OPENINGS IN SANITARY MANHOLES: MACHINE CORE DRILL INTO MANHOLE TO CREATE BENCHING. BENCHING SHALL BE A SMOOTH U-SHAPED CHANNEL. THE TRANSITION FROM THE NEW TO EXISTING BENCHING SHALL BE EVEN AND CONTINUOUS. MAINTAIN STRUCTURAL INTEGRITY OF MANHOLE. INSTALL A FLEXIBLE GASKET TO CITY OF OTTAWA STANDARDS AND USE HYDRAULIC CEMENT IN ANNULAR SPACE AROUND PIPE AND MAKE WATERTIGHT.
E. CLOSE ANY UNUSED OPENINGS USING A TIGHT-FITTING MECHANICAL PLUG OR A CAPPED PVC PIPE INSTALLED WITH A FLEXIBLE GASKET TO CITY OF OTTAWA STANDARDS AND USE HYDRAULIC CEMENT IN ANNULAR SPACE AROUND PLUG OR PIPE AND MAKE WATERTIGHT.
F. PLACE GRANULAR BACKFILL MATERIALS IN A UNIFORM LAYERS TO COMPACTED THICKNESS OF 150mm, COMPACT TO 95% CORRECTED MAXIMUM DRY DENSITY.
G. PLACE FRAME AND COVER ON TOP SECTION TO ELEVATION AS INDICATED. IF ADJUSTMENT REQUIRED USE CONCRETE RINGS TO A MAXIMUM OF 300mm.
H. CLEAN UNITS OF DEBRIS, FOREIGN AND SURPLUS MATERIALS. REMOVE FINS AND SHARP PROJECTIONS. PREVENT DEBRIS FROM ENTERING SYSTEM.
I. PERFORM FIELD TESTS FOR QUALITY CONTROL OF ALL SANITARY SEWERS. SPECIFICALLY, THE LEAKAGE TESTING SHALL BE COMPLETED IN ACCORDANCE WITH OPSS 407.
5.17 MAINTAIN RECORD DRAWINGS AND ACCURATELY RECORD DEVIATIONS FROM THE ORIGINAL CONTRACT DOCUMENTS CAUSED BY SITE CONDITIONS AND CHANGES MADE BY CHANGE ORDER OR ADDITIONAL INSTRUCTIONS. UPDATE DAILY AND MAKE AVAILABLE ON-SITE FOR REVIEW THROUGHOUT THE CONSTRUCTION PERIOD. RECORD DRAWINGS SHALL INCLUDE BUT NOT NECESSARILY LIMITED TO CHANGES OF DIMENSION AND DETAIL; CHANGES TO GRADE ELEVATIONS; AND HORIZONTAL AND VERTICAL LOCATIONS OF UNDERGROUND SERVICES, UTILITIES AND APPURTENANCES REFERENCED TO A PERMANENT SURFACE STRUCTURE. SUBMIT DRAWINGS TO ENGINEER AT THE END OF CONSTRUCTION. SUBMIT A RECORD DRAWING OF "AS-BUILT" GRADE ELEVATIONS, PREPARED BY AN OLS SURVEYOR, TO THE ENGINEER AT THE END OF CONSTRUCTION.
5.18 REINSTATE ALL AREAS DISTURBED BY CONSTRUCTION. REINSTATE PAVEMENTS, CURBS AND SIDEWALKS, TO THICKNESS, STRUCTURE AND ELEVATION WHICH EXISTED BEFORE CONSTRUCTION. REINSTATE LANDSCAPED AREAS TO THE CONDITION AND ELEVATION WHICH EXISTED BEFORE CONSTRUCTION.
5.19 CLEAN AND REINSTATE AREAS AFFECTED BY THE WORK.

6. PAVEMENT

6.1 PAVEMENT STRUCTURE:
LIGHT DUTY PAVEMENT:
50mm HL-3 OR SUPERPAVE 12.5 ASPHALTIC CONCRETE
150mm OPSS GRANULAR A BASE
300mm OPSS GRANULAR B TYPE II SUB-BASE
HEAVY DUTY PAVEMENT:
40mm HL-3 OR SUPERPAVE 12.5 ASPHALTIC CONCRETE
50mm HL-8 OR SUPERPAVE 19.0 ASPHALTIC CONCRETE
150mm OPSS GRANULAR A BASE
400mm OPSS GRANULAR B TYPE II SUB-BASE
6.2 RE-CYLCLED GRANULAR MATERIALS ARE NOT PERMITTED.
ASPHALTIC CONCRETE SHALL BE PERFORMANCE GRADE PG58-34.
HOT MIX ASPHALT MATERIALS SHALL BE ACCORDING TO OPSS 1150 OR 1151.
6.3 ALL EXISTING ASPHALT TO BE REMOVED SHALL BE HAULED TO A FACILITY APPROVED FOR ACCEPTING SUCH MATERIALS. REMOVE ALL MATERIALS TO THE SUB-GRADE LEVEL. REMOVE ORGANIC OR UNSUITABLE MATERIAL FROM SUB-GRADE WHERE ENCOUNTERED TO THE SATISFACTION OF THE GEOTECHNICAL CONSULTANT. SUB-GRADE TO BE FREE FROM DEBRIS, SNOW, ICE, WATER AND FROZEN GROUND. COMPACT SUB-GRADE TO 95%.
6.4 CONSTRUCT GRANULAR BASE AND SUB-BASE TO DEPTH AND GRADE IN AREAS INDICATED.CONSTRUCT A 5H:1V FROST TAPER IN SUB-GRADE SURFACE AS A TRANSITION BETWEEN DIFFERING PAVEMENT STRUCTURES AND BETWEEN PAVEMENT AND CURBS AND SIDEWALKS.
6.5 ENSURE NO FROZEN MATERIAL IS PLACED. PLACE MATERIAL ONLY ON CLEAN UNFROZEN SURFACE, FREE FROM SNOW OR ICE.
6.6 PLACE MATERIAL TO FULL WIDTH IN UNIFORM LAYERS NOT EXCEEDING 300mm COMPACTED THICKNESS. SHAPE EACH LAYER TO SMOOTH CONTOUR AND COMPACT TO SPECIFIED DENSITY BEFORE SUCCEEDING LAYER IS PLACED.
6.7 COMPACT SUB-BASE MATERIAL TO DENSITY OF NOT LESS THAN 98% CORRECTED MAXIMUM DRY DENSITY. FILL OVER-EXCAVATED SUB-GRADE WITH SUB-BASE MATERIAL, COMPACT TO 98%. COMPACT BASE AND SHOULDER MATERIAL TO DENSITY NOT LESS THAN 100% CORRECTED MAXIMUM DRY DENSITY.
6.8 IN AREAS NOT ACCESSIBLE TO ROLLING EQUIPMENT, COMPACT TO SPECIFIED DENSITY WITH MECHANICAL TAMPERS.
6.9 REPLACE PAVEMENT DISTURBED BY CONSTRUCTION AND REPLACE WITH PAVEMENT STRUCTURE ABOVE.
6.10 WHERE NEW ASPHALT COMES IN CONTACT WITH EXISTING PAVEMENT: SAWCUT EXISTING ASPHALT LAYER TO CREATE A CLEAN STRAIGHT EDGE. TACK COAT SHALL BE APPLIED TO ASPHALT SURFACES AT WHICH JOINTS ARE TO BE MADE INCLUDING EXISTING PAVEMENT SURFACES THAT HAVE BEEN CUT, GROUND OR MILLED. TACK COAT THE SURFACE OF ALL BINDER COURSES AND BUTTING CONCRETE SURFACES. SURFACES TO BE TACK COATED SHALL BE FREE OF STANDING WATER AND CONTAMINATION, SUCH AS MUD, LOOSE AGGREGATE OR DEBRIS AND SHALL BE DRY AND CLEAN WHEN THE TACK COAT IS APPLIED. TACK COAT SHALL BE PLACED SUFFICIENTLY AHEAD OF THE PAVING OPERATION TO ALLOW FOR CURING. PAVING AND CONSTRUCTION EQUIPMENT SHALL NOT BE PERMITTED ONTO THE TACK COAT UNTIL IT HAS SET. TACK COAT MATERIAL SHALL CONSIST OF SS-1 EMULSIFIED ASPHALT DILUTED WITH AN EQUAL VOLUME OF WATER. THE UNDILUTED MATERIAL SHALL BE ACCORDING TO OPSS 1103.
6.11 SHAPE BASE TO SMOOTH CONTOUR AND COMPACT TO NOT LESS THAN 100% CORRECTED MAXIMUM DRY DENSITY BEFORE BEGINNING PAVING OPERATIONS.
6.12 APPLY ASPHALTIC CONCRETE ONLY WHEN BASE OR PREVIOUS COURSE IS DRY AND AIR TEMPERATURE IS ABOVE 5 DEG.C
6.13 ROLL UNTIL ROLLER MARKS ARE ELIMINATED AND COMPACTED TO NOT LESS THAN 95% OF DENSITY. COMPACT WITH HOT TAMPERS IN AREAS INACCESSIBLE TO A ROLLER. BEVEL EDGES ADJACENT TO GRANULAR SURFACES.
6.14 FINISH SURFACE SMOOTH, TRUE TO GRADE.
6.15 KEEP VEHICULAR TRAFFIC AND OTHER LOADS OFF NEWLY PAVED AREAS UNTIL 24 HOURS AFTER PAVING.
6.16 DIVERT UNUSED AND WASTE ASPHALT TO A FACILITY APPROVED FOR ACCEPTING SUCH MATERIALS.
6.17 APPLY TRAFFIC PAINT AS IDENTIFIED ON PLAN. TRAFFIC PAINT: NON-DARKENING, HOMOGENEOUS, UNIFORM AND SMOOTH, FREE FROM SKIN, DIRT AND OTHER FOREIGN PARTICLES. APPLY TO DRY PAVEMENT SURFACE FREE FROM FROST, ICE, DUST, OIL, GREASE AND OTHER FOREIGN MATERIALS. PROTECT PAVEMENT MARKINGS UNTIL DRY.

KEY PLAN



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D. B. GRAY ENGINEERING INC.
Stormwater Management - Grading & Drainage - Storm & Sanitary Sewers - Watermains
700 Long Point Circle 613-425-8044
Ottawa, Ontario d.gray@dbgrayengineering.com

Project
PROPOSED 6-STOREY APARTMENT BUILDINGS
475 TERRY FOX DRIVE
OTTAWA, ONTARIO

Drawing Title
NOTES

Engineer's Seal
LICENSED PROFESSIONAL ENGINEER
D.B. GRAY
17016502
JUL 10-26
PROVINCE OF ONTARIO
NOT VALID UNLESS SIGNED & DATED

Drawn	D.B.G
H. Scale	1:200
V. Scale	
Date	JUL 11-25
Job No.	24103

Drawing No.
C-11
of 22

Plan #19347 File No. D07-12-25-0104

WATER SERVICE / WATERMAIN PROFILE TABLE

200mm PVC PRESSURE CLASS 235 DR18

STATION	DESCRIPTION	GRADE ELEVATION	TOP OF PIPE	DEPTH OF COVER	NOTES
A+000.0	200mm x 200mm TEE	±99.29	96.89	2.40	–
A+005.8	–	±99.61	96.89	2.72	START OF 50mm THICK INSULATION IN ACCORDANCE WITH CITY OF OTTAWA DRAWING No. W22
A+009.0	–	98.93	96.89	2.04	℄ SWALE
A+012.1	VALVE & VALVE BOX	99.22	96.89	2.33	ON PROPERTY LINE
A+013.0	–	98.92	96.89	2.03	℄ SWALE
A+015.8	–	99.81	96.92	2.89	END OF 50mm THICK INSULATION IN ACCORDANCE WITH CITY OF OTTAWA DRAWING No. W22
A+024.1	–	99.52	97.00	2.70	–
A+028.1	45° BEND	99.44	97.04	2.40	–
A+040.9	22.5° BEND	99.05	96.65	2.40	–
A+054.5	5° BEND	98.65	96.25	2.40	–
A+070.2	22.5° BEND	98.30	95.90	2.40	–
A+103.7	45° BEND	98.30	95.40	2.90	–
A+106.2 (B+000.0)	200mm x 150mm TEE	98.20	95.40	2.80	–
A+111.8	–	98.25	95.40	2.85	250 ST INV 95.90 200 WM TOP 95.40
A+113.0 (C+000.0)	200mm x 150mm TEE	98.30	95.40	2.90	–
A+114.0	VALVE & VALVE BOX	98.30	95.40	2.90	–
A+115.0 (D+000.0)	200mm x 150mm TEE	98.35	95.40	2.95	–
A+116.0	45° BEND	98.35	95.40	2.95	–
A+148.2	22.5° BEND	98.30	95.40	2.90	–
A+158.0 (G+000.0)	200mm x 150mm TEE	98.15	95.30	2.85	–
A+163.9 (E+138.2)	200mm x 200mm TEE	98.15	95.20	2.95	–
E+000.0	200mm x 200mm TEE	±99.38	96.98	2.40	–
E+005.7	–	±99.66	96.94	2.72	START OF 50mm THICK INSULATION IN ACCORDANCE WITH CITY OF OTTAWA DRAWING No. W22
E+008.8	–	98.96	96.92	2.04	℄ SWALE
E+012.0	–	99.15	96.92	2.23	PROPERTY LINE
E+012.9	–	98.95	96.92	2.03	℄ SWALE
E+014.0	DMA CHAMBER IN ACCORDANCE WITH CITY OF OTTAWA DRAWING No. W3 (TOP ELEVATION: 99.65)	99.32	96.92	2.40	END OF 50mm THICK INSULATION IN ACCORDANCE WITH CITY OF OTTAWA DRAWING No. W22
E+015.6	–	99.85	96.93	2.92	
E+022.9	–	99.59	97.00	2.59	–
E+029.0	45° BEND	99.45	97.05	2.40	–
E+043.0	22.5° BEND	99.05	96.65	2.40	–
E+052.4 (F+000.0)	200mm x 150mm TEE	98.80	96.40	2.40	–
E+057.1	5° BEND	98.65	96.25	2.40	–
E+063.0	22.5° BEND	98.45	96.05	2.40	–

WATER SERVICE / WATERMAIN PROFILE TABLE

200mm PVC PRESSURE CLASS 235 DR18

STATION	DESCRIPTION	GRADE ELEVATION	TOP OF PIPE	DEPTH OF COVER	NOTES
E+084.4	–	98.35	95.40	2.95	300 ST INV 95.90 200 WM TOP 95.40
E+093.6	11.25° BEND	98.35	95.35	3.00	–
E+118.9	11.25° BEND	98.25	95.20	3.05	–
E+121.4	–	98.25	95.20	3.05	300 ST INV 95.70 200 WM TOP 95.20
E+132.3	45° BEND	98.30	95.20	3.10	–
E+136.0	VALVE & VALVE BOX	98.15	95.20	2.95	–
E+138.0 (A+164.0)	200mm x 200mm TEE	98.15	95.20	2.95	–
E+140.0	VALVE & VALVE BOX	98.15	95.20	2.95	–
E+142.0 (H+000.0)	200mm x 150mm REDUCER	98.15	95.20	2.95	–

150mm PVC PRESSURE CLASS 235 DR18

STATION	DESCRIPTION	GRADE ELEVATION	TOP OF PIPE	DEPTH OF COVER	NOTES
B+000.0 (A+106.4)	200mm x 150mm TEE	98.20	95.40	2.80	–
B+001.0	VALVE & VALVE BOX	98.20	95.40	2.80	–
B+005.5	FIRE HYDRANT	98.50	95.40	3.10	–
C+000.0 (A+113.2)	200mm x 150mm TEE	98.30	95.40	2.90	–
C+001.8	22.5° BEND	98.30	95.40	2.90	–
C+002.8	VALVE & VALVE BOX	98.30	95.40	2.90	–
C+009.6	–	98.37	95.40	2.97	WATERTIGHT CAP
D+000.0 (A+115.2)	200mm x 150mm TEE	98.35	95.40	2.95	–
D+001.4	22.5° BEND	98.35	95.40	2.95	–
D+002.4	VALVE & VALVE BOX	98.35	95.40	2.95	–
D+009.7	–	98.54	95.40	3.14	WATERTIGHT CAP
F+000.0 (E+052.6)	200mm x 150mm TEE	98.80	96.40	2.40	–
F+001.0	VALVE & VALVE BOX	98.80	96.40	2.40	–
F+003.1	FIRE HYDRANT	98.95	96.40	2.55	–
G+000.0 (A+158.2)	200mm x 150mm TEE	98.15	95.30	2.85	–
G+001.0	VALVE & VALVE BOX	98.35	95.30	3.05	–
G+002.0	FIRE HYDRANT	98.40	95.30	3.10	–
H+000.0 (E+142.2)	200mm x 150mm REDUCER	98.15	95.20	2.95	–
H+005.7	–	97.90	95.20	2.70	200 WM US 95.00 375 ST TOP 94.65
H+009.2	22.5° BEND	97.85	95.20	2.65	–
H+025.0	45° BEND	97.65	95.05	2.60	–
H+026.9	–	97.60	95.05	2.55	200 WS US 94.85 200 SAN TOP 94.20
H+030.4	45° BEND	97.45	95.05	2.40	–
H+032.6	–	98.09	95.05	3.04	WATERTIGHT CAP

KEY PLAN

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D. B. GRAY ENGINEERING INC.
Stormwater Management - Grading & Drainage - Storm & Sanitary Sewers - Watermains
700 Long Point Circle 613-425-8044
Ottawa, Ontario d.gray@dbgrayengineering.com

Project
PROPOSED 6–STOREY APARTMENT BUILDINGS
475 TERRY FOX DRIVE
OTTAWA, ONTARIO

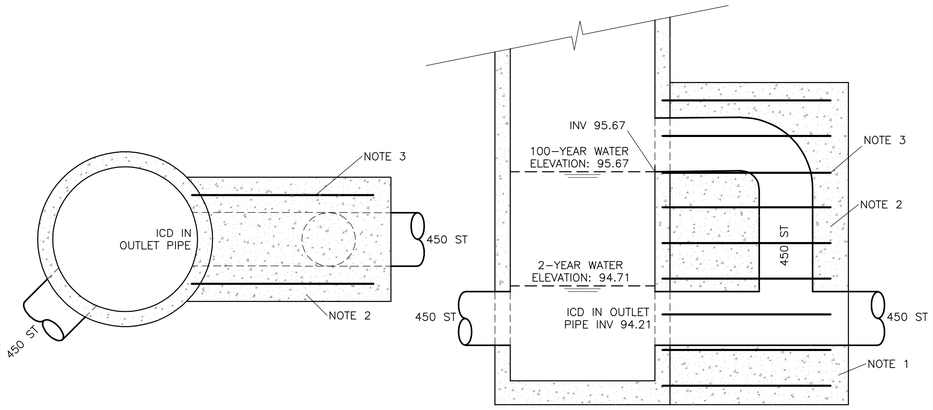
Drawing Title
DETAILS

Engineer's Seal
LICENSED PROFESSIONAL ENGINEER
D.B. GRAY
17016502
JUL 10–26
PROVINCE OF ONTARIO
NOT VALID UNLESS SIGNED & DATED

Drawn	D.B.G
H. Scale	1:200
V. Scale	
Date	JUL 11–25
Job No.	24103

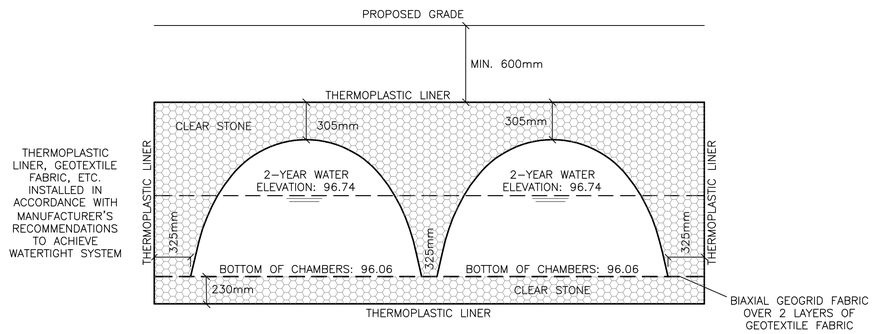
Drawing No.
C–12
of 22

Plan #19347 File No. D07–12–25–0104

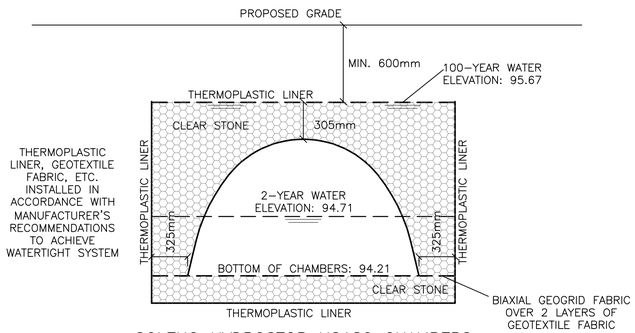


OVERFLOW DROP PIPE:
1. CONCRETE SHALL BE PLACED TO UNDISTURBED GROUND AND OUTSIDE FACE OF MANHOLE.
2. THERE SHALL BE A MINIMUM OF 300mm 15MPa CONCRETE AROUND DROP PIPE.
3. CONCRETE SHALL BE SECURED TO THE MANHOLE WITH MINIMUM 1.5m LONG 25mm DIAMETER THREADED RODS AND DRILLED EXPANSION ANCHORS DOWN EITHER SIDE OF OVERFLOW PIPE AT 300mm CENTERS.

OVERFLOW DROP PIPE
AT MANHOLE CB/MH–14
N.T.S



SOLENO HYDROSTOR HS180 CHAMBERS
N.T.S



SOLENO HYDROSTOR HS180 CHAMBERS
N.T.S

SEWER NOTES
(REFER TO DRAWINGS C–2 TO C–4)

A	INV 95.03	F	600 ST INV ±94.62 200 SAN TOP 93.98
B	375 ST INV 94.28 200 SAN TOP 94.13	G	67.5° VERTICAL LONG RADIUS BEND INV 93.69
C	INV 94.07	H	200 SAN INV 89.16 375 SAN SPL 89.16
D	200 SAN SPL 93.98 200 SAN SPL 93.98	I	250 ST SPL 95.96 250 ST SPL 95.96
E	250 ST INV 94.38 200 SAN TOP 94.08	J	250 ST SPL 94.43 375 ST SPL 94.43

SANITARY SEWERS

FROM	TO	SEWER DATA
A	MH–SA.1	3.9m – 200 PVC @ 2%
MH–SA.1	MH–SA.2	48.8m – 200 PVC @ 0.32%
C	D	9.5m – 200 PVC @ 2%
MH–SA.2	MH–SA.3	28.3m – 200 PVC @ 0.32%
MH–SA.3	H	50.1m – 200 PVC @ 0.32%

STORM SEWERS

FROM	TO	SEWER DATA
CB–1	I	6.9m – 250 PVC @ 2.5%
CB/MH–2	MH–3	33.2m – 250 PVC @ 0.432%
MH–3	CB/MH–4	9.6m – 250 PVC @ 0.432%
CB/MH–4	MH–7	8.5m – 300 PVC @ 0.34%
CB/MH–5	CB/MH–6	22.2m – 300 PVC @ 0.34%
CB/MH–6	MH–7	23.1m – 375 PVC @ 0.34%
MH–7	MH–12	21m – 300 PVC @ 0.34%
CB–8	CB/MH–9	17.8m – 250 PVC @ 0.432%
CB/MH–9	MH–12	69.6m – 250 PVC @ 0.432%
CB–10	CB/MH–11	6.1m – 250 PVC @ 0.432%
CB/MH–11	J	15.2m – 250 PVC @ 1%
MH–12	MH–13	47.2m – 375 PVC @ 0.25%
CB/MH–14	MH–15	19.7m – 450 CONC @ 2.39%
MH–15	CB/MH–16	7.1m – 450 CONC @ 0.195%

SANITARY MANHOLES

REF	TOP	SIZE	TYPE	INVERT AT INLET	INVERT AT OUTLET	NOTES
MH–SA.1	98.38	1200mm	PRECAST CONCRETE MANHOLE	94.95(SW)	94.89(SE)	IN ACCORDANCE WITH OPSD 701.010 & CITY OF OTTAWA STANDARDS – FRAME & COVER IN ACCORDANCE WITH CITY OF OTTAWA DRAWING No. S25 & S24
MH–SA.2	97.97	1200mm	PRECAST CONCRETE MANHOLE	94.73(NW) 94.00(NW)	93.94(SW)	IN ACCORDANCE WITH OPSD 701.010 & CITY OF OTTAWA STANDARDS – FRAME & COVER IN ACCORDANCE WITH CITY OF OTTAWA DRAWING No. S25 & S24 DROP STRUCTURE WYE IN ACCORDANCE WITH 1003.020
MH–SA.3	97.43	1200mm	PRECAST CONCRETE MANHOLE	93.85(NE)	93.84(SW)	IN ACCORDANCE WITH OPSD 701.010 & CITY OF OTTAWA STANDARDS – FRAME & COVER IN ACCORDANCE WITH CITY OF OTTAWA DRAWING No. S25 & S24

CATCH–BASIN AND STORM MANHOLES

REF	TOP	SIZE	TYPE	INVERT AT INLET	INVERT AT OUTLET	NOTES
CB–1	98.27	600mm x 600mm	PRECAST CONCRETE CATCH–BASIN	–	96.02	IN ACCORDANCE WITH OPSD 705.010 & CITY OF OTTAWA STANDARDS – FRAME & COVER IN ACCORDANCE WITH CITY OF OTTAWA DRAWING No. S19
CB/MH–2	98.17	1200mm	PRECAST CONCRETE CATCH–BASIN/MANHOLE	–	95.92	IN ACCORDANCE WITH OPSD 701.010 & CITY OF OTTAWA STANDARDS – FRAME & COVER IN ACCORDANCE WITH CITY OF OTTAWA DRAWING No. S25 & S28.1
MH–3	98.32	1200mm	PRECAST CONCRETE MANHOLE	95.77(NW)	95.77(NE)	IN ACCORDANCE WITH OPSD 701.010 & CITY OF OTTAWA STANDARDS – FRAME & COVER IN ACCORDANCE WITH CITY OF OTTAWA DRAWING No. S25 & S24.1
CB/MH–4	98.17	1200mm	PRECAST CONCRETE CATCH–BASIN/MANHOLE	95.72(W)	95.72(NE)	IN ACCORDANCE WITH OPSD 701.010 & CITY OF OTTAWA STANDARDS – FRAME & COVER IN ACCORDANCE WITH CITY OF OTTAWA DRAWING No. S25 & S28.1
CB/MH–5	98.22	1200mm	PRECAST CONCRETE CATCH–BASIN/MANHOLE	–	95.92	IN ACCORDANCE WITH OPSD 701.010 & CITY OF OTTAWA STANDARDS – FRAME & COVER IN ACCORDANCE WITH CITY OF OTTAWA DRAWING No. S25 & S28.1
CB/MH–6	98.17	1200mm	PRECAST CONCRETE CATCH–BASIN/MANHOLE	95.84(NW)	95.84(SE)	IN ACCORDANCE WITH OPSD 701.010 & CITY OF OTTAWA STANDARDS – FRAME & COVER IN ACCORDANCE WITH CITY OF OTTAWA DRAWING No. S25 & S28.1
MH–7	98.29	1200mm	PRECAST CONCRETE MANHOLE	96.06(NE) 95.76(NW) 95.69(SW)	95.69(SE)	IN ACCORDANCE WITH OPSD 701.010 & CITY OF OTTAWA STANDARDS – FRAME & COVER IN ACCORDANCE WITH CITY OF OTTAWA DRAWING No. S25 & S24.1 ICD IN OUTLET PIPE
MH–7A	98.35	1200mm	PRECAST CONCRETE MANHOLE	96.06(NW)	96.06(SW)	IN ACCORDANCE WITH OPSD 701.010 & CITY OF OTTAWA STANDARDS – FRAME & COVER IN ACCORDANCE WITH CITY OF OTTAWA DRAWING No. S25 & S24.1
MH–7B	98.32	1200mm	PRECAST CONCRETE MANHOLE	96.06(NW) 96.06(NE)	96.06(SW)	IN ACCORDANCE WITH OPSD 701.010 & CITY OF OTTAWA STANDARDS – FRAME & COVER IN ACCORDANCE WITH CITY OF OTTAWA DRAWING No. S25 & S24.1
CB–8	96.61	600mm x 600mm	PRECAST CONCRETE CATCH–BASIN	–	94.71	IN ACCORDANCE WITH OPSD 705.010 & CITY OF OTTAWA STANDARDS – FRAME & COVER IN ACCORDANCE WITH CITY OF OTTAWA DRAWING No. S19
CB/MH–9	97.14	1200mm	PRECAST CONCRETE CATCH–BASIN/MANHOLE	94.63(S)	94.63(NW)	IN ACCORDANCE WITH OPSD 701.010 & CITY OF OTTAWA STANDARDS – FRAME & COVER IN ACCORDANCE WITH CITY OF OTTAWA DRAWING No. S25 & S28.1
CB–10	96.77	600mm x 600mm	PRECAST CONCRETE CATCH–BASIN	–	94.52	IN ACCORDANCE WITH OPSD 705.010 & CITY OF OTTAWA STANDARDS – FRAME & COVER IN ACCORDANCE WITH CITY OF OTTAWA DRAWING No. S19
CB/MH–11	97.42	1200mm	PRECAST CONCRETE CATCH–BASIN/MANHOLE	94.49(S)	94.49(NW)	IN ACCORDANCE WITH OPSD 701.010 & CITY OF OTTAWA STANDARDS – FRAME & COVER IN ACCORDANCE WITH CITY OF OTTAWA DRAWING No. S28
MH–12	98.15	1200mm	PRECAST CONCRETE MANHOLE	95.61(NW) 94.33(SE)	94.33(SW)	IN ACCORDANCE WITH OPSD 701.010 & CITY OF OTTAWA STANDARDS – FRAME & COVER IN ACCORDANCE WITH CITY OF OTTAWA DRAWING No. S25 & S24.1
MH–13	96.67	1200mm	PRECAST CONCRETE MANHOLE	94.21(NE)	94.21(NW)	IN ACCORDANCE WITH OPSD 701.010 & CITY OF OTTAWA STANDARDS – FRAME & COVER IN ACCORDANCE WITH CITY OF OTTAWA DRAWING No. S25 & S24.1
CB/MH–14	96.23	1200mm	PRECAST CONCRETE CATCH–BASIN/MANHOLE	94.21(SE)	95.56(N) 94.05(N)	IN ACCORDANCE WITH OPSD 701.010 & CITY OF OTTAWA STANDARDS – FRAME & COVER IN ACCORDANCE WITH CITY OF OTTAWA DRAWING No. S25 & S28.1 ICD IN OUTLET PIPE
MH–15	96.33	CDS PMSU2025–5	PRECAST CONCRETE MANHOLE	93.74(S)	93.68(W)	TO OPSD 701.010 & CITY OF OTTAWA STANDARDS – FRAME & WATERTIGHT COVER TO OPSD 401.030
CB/MH–16	96.04	1200mm	PRECAST CONCRETE CATCH–BASIN/MANHOLE	93.66(E)	±93.48(NW)	IN ACCORDANCE WITH OPSD 701.010 & CITY OF OTTAWA STANDARDS – FRAME & COVER IN ACCORDANCE WITH CITY OF OTTAWA DRAWING No. S25 & S28.1

KEY PLAN

No.	DATE	REVISION
4	JUL 10–26	RE–ISSUED FOR APPROVAL
3	JAN 26–26	RE–ISSUED FOR APPROVAL
2	OCT 28–25	RE–ISSUED FOR APPROVAL
1	JUL 11–25	ISSUED FOR APPROVAL

D. B. GRAY ENGINEERING INC.
Stormwater Management - Grading & Drainage - Storm & Sanitary Sewers - Watermains
700 Long Point Circle 613-425-8044
Ottawa, Ontario d.gray@dbgrayengineering.com

Project
PROPOSED 6–STOREY
APARTMENT BUILDINGS
475 TERRY FOX DRIVE
OTTAWA, ONTARIO

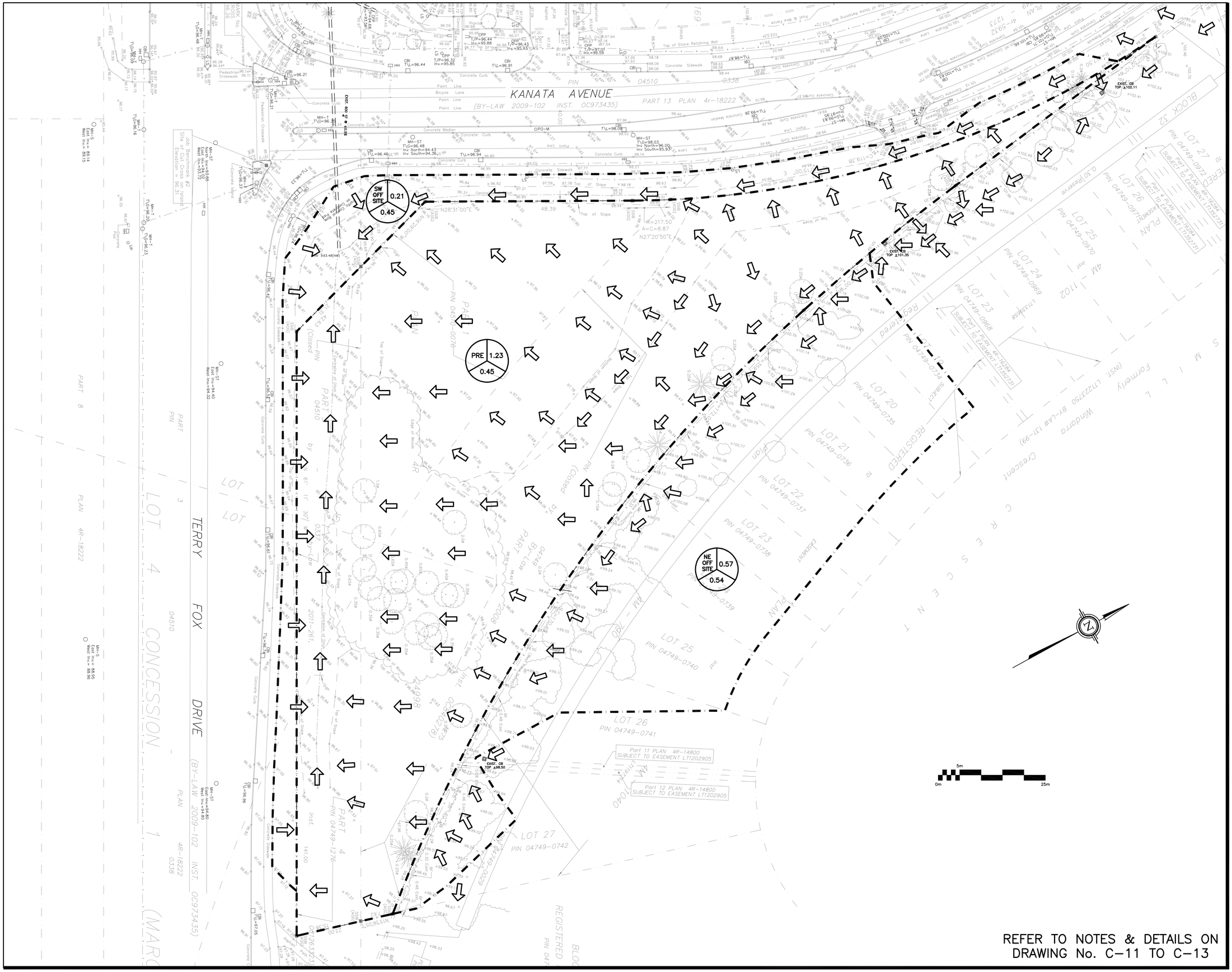
Drawing Title
DETAILS

Engineer's Seal
LICENSED PROFESSIONAL ENGINEER
D.B. GRAY
17016502
JUL 10–26
PROVINCE OF ONTARIO
NOT VALID UNLESS
SIGNED & DATED

Drawn	D.B.G
H. Scale	1:200
V. Scale	
Date	JUL 11–25
Job No.	24103

Drawing No.
C–13
of 22

Plan #19347 File No. D07–12–25–0104



LEGEND

DRAINAGE AREA — AREA (ha)

X — XXX

0.XX

2-YEAR RUNOFF COEFFICIENT

KEY PLAN

No.	DATE	REVISION
2	JUL 10-26	RE-ISSUED FOR APPROVAL
1	JAN 26-26	ISSUED FOR APPROVAL

D. B. GRAY ENGINEERING INC.

Stormwater Management - Grading & Drainage - Storm & Sanitary Sewers - Watermains

700 Long Point Circle — 613-425-8044

Ottawa, Ontario — d.gray@dbgrayengineering.com

Project

PROPOSED 6-STOREY APARTMENT BUILDINGS
475 TERRY FOX DRIVE
OTTAWA, ONTARIO

Drawing Title

PRE-DEVELOPMENT DRAINAGE PLAN

Engineer's Seal

LICENSED PROFESSIONAL ENGINEER
D.B. GRAY
17016502
JUL 10-26
PROVINCE OF ONTARIO

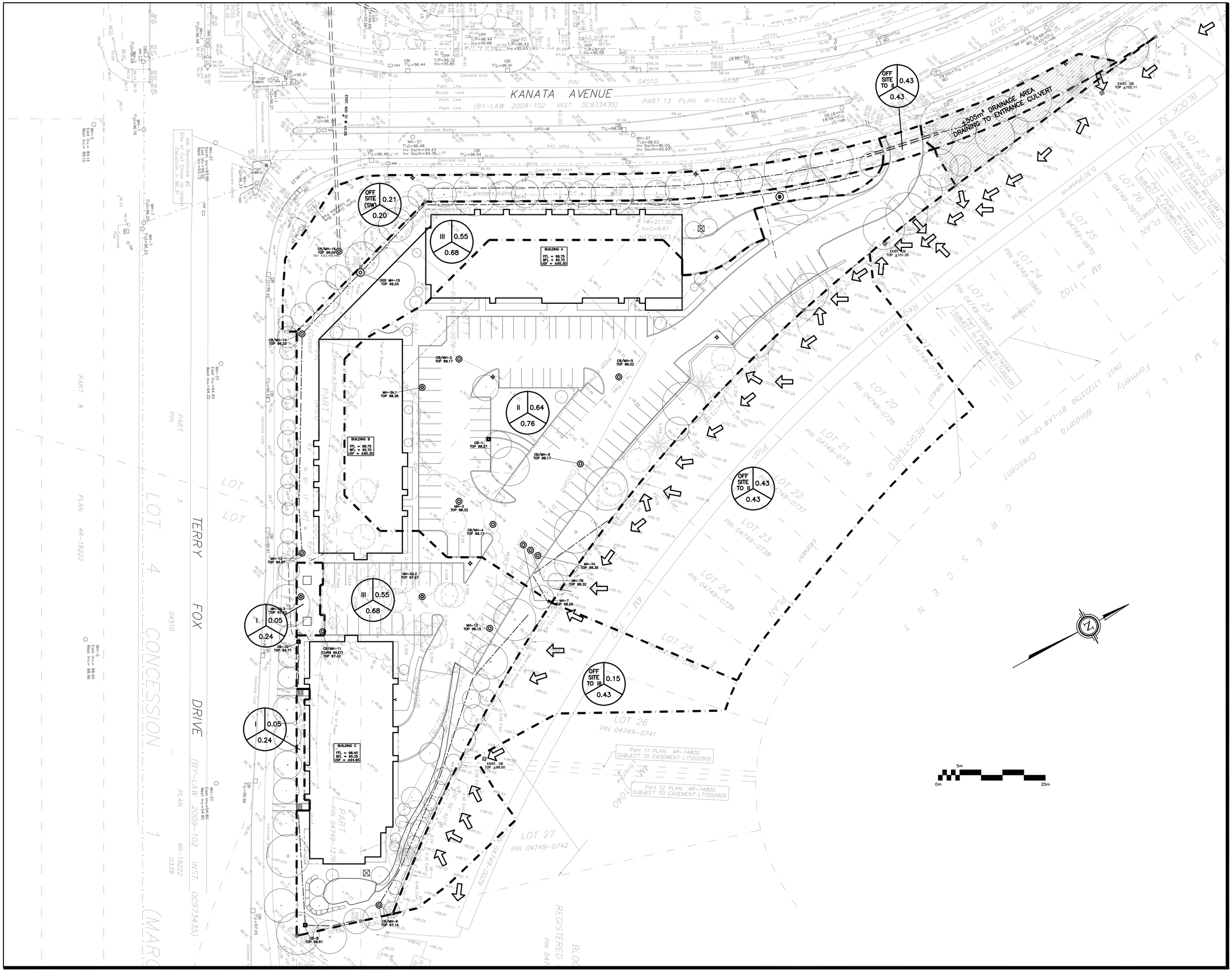
NOT VALID UNLESS SIGNED & DATED

Drawn	D.B.G
H. Scale	1:400
V. Scale	
Date	JAN 26-26
Job No.	24103

Drawing No.

C-14 of 22

Plan #19347 File No. D07-12-25-0104



LEGEND

DRAINAGE AREA — AREA (ha)

X — XXX

0.XX

2–YEAR RUNOFF COEFFICIENT

KEY PLAN

No.	DATE	REVISION
4	JUL 10–26	RE–ISSUED FOR APPROVAL
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D. B. GRAY ENGINEERING INC.

Stormwater Management - Grading & Drainage - Storm & Sanitary Sewers - Watermains

700 Long Point Circle — 613-425-8044

Ottawa, Ontario — d.gray@dbgrayengineering.com

Project

PROPOSED 6–STOREY APARTMENT BUILDINGS
475 TERRY FOX DRIVE
OTTAWA, ONTARIO

Drawing Title

POST–DEVELOPMENT DRAINAGE PLAN

Engineer's Seal

LICENSED PROFESSIONAL ENGINEER
D.B. GRAY
17016502
JUL 10–26
PROVINCE OF ONTARIO

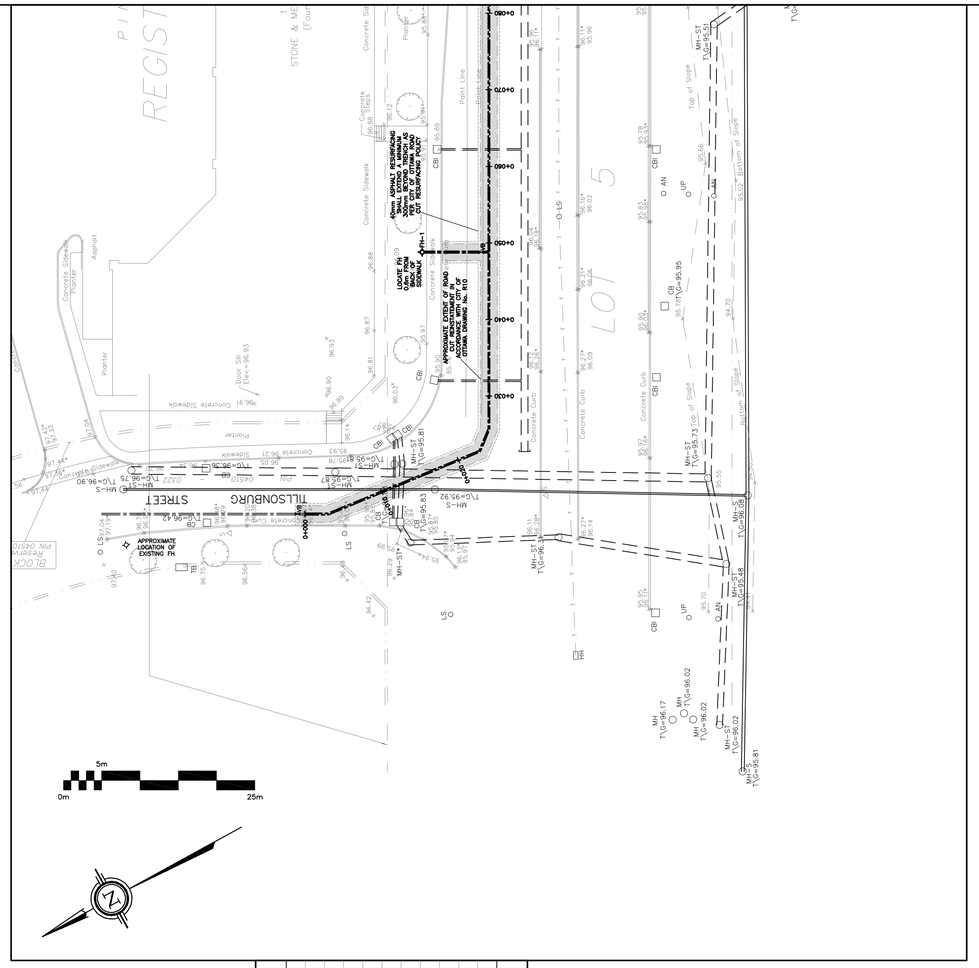
NOT VALID UNLESS SIGNED & DATED

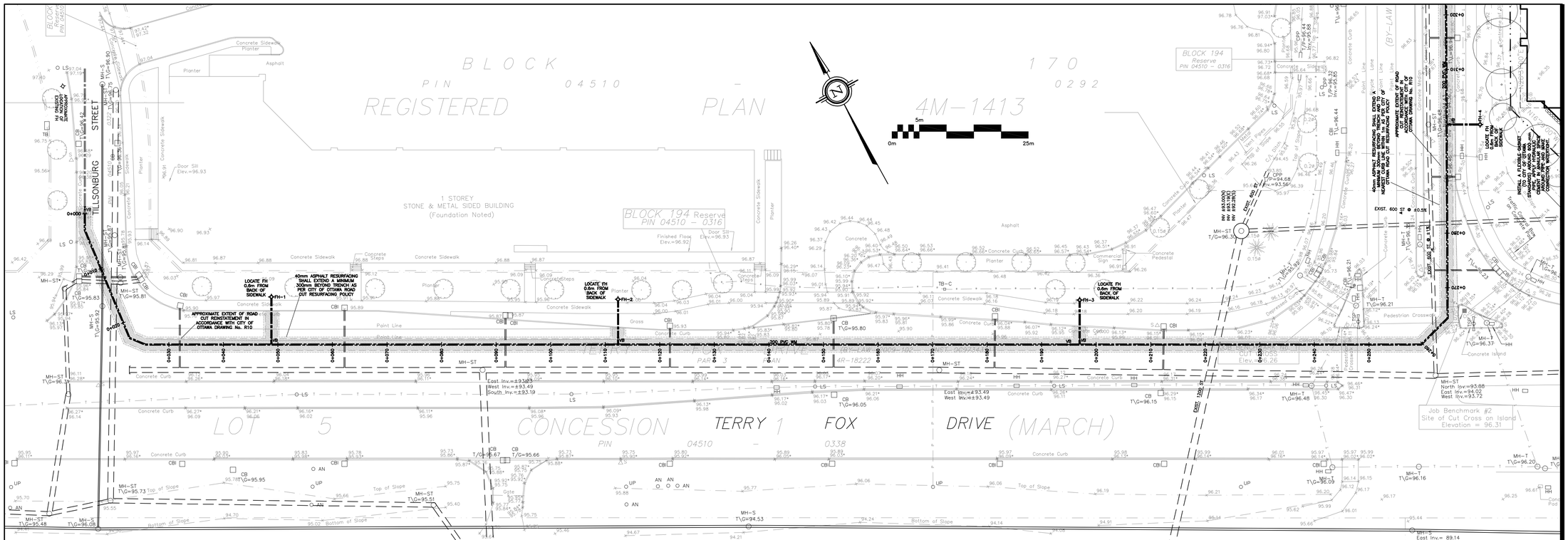
Drawn	D.B.G
H. Scale	1:400
V. Scale	
Date	JUL 11–25
Job No.	24103

Drawing No.

C–15 of 22

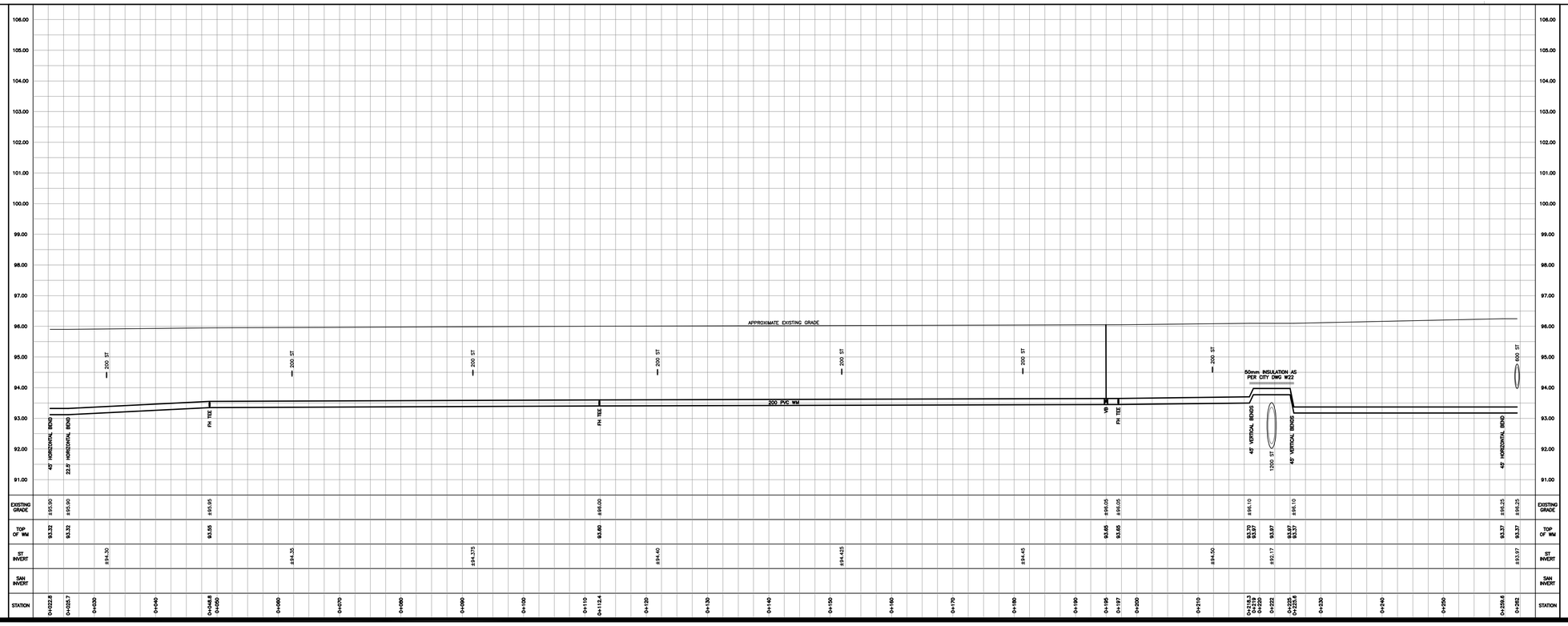
Plan #19347 File No. D07–12–25–0104


TILLSONBURG STREET
LOT 5
REGIST
STONE & ME
(Four
Concrete Sidewalk
Concrete Curb
Concrete Curb Gutter
Point Line
Top of Slope
Bottom of Slope
Asphalt
Planter
Door Sill
(Elev=96.83)
96.91
Concrete Sidewalk
Concrete Sidewalk
Concrete Sidewalk



WORK IN THE MUNICIPAL RIGHT–OF–WAY SHALL COMPLY WITH CITY OF OTTAWA BYLAWS, INCLUDING BUT NOT LIMITED TO, THE ROAD ACTIVITY BY–LAW, AS AMENDED.

THE SIZE, DEPTH AND LOCATION OF EXISTING INFRASTRUCTURE (SERVICES, UTILITIES, AND STRUCTURES) AND ARE NOT NECESSARILY SHOWN ON DRAWINGS AND THOSE INDICATED ON THE DRAWINGS ARE DERIVED FROM AVAILABLE INFORMATION AND ARE FOR GUIDANCE ONLY AND MUST BE CONFIRMED ON SITE BEFORE COMMENCING ANY WORK. COMPLETENESS AND ACCURACY ARE NOT GUARANTEED. NOTIFY ALL APPLICABLE OWNERS, UTILITY COMPANIES AND AUTHORITIES HAVING JURISDICTION OF PROPOSED WORK AND LOCATE AND CLEARLY IDENTIFY ALL EXISTING INFRASTRUCTURE ON THE SITE AND ADJACENT TO THE SITE. UNDERGROUND LOCATES (INCLUDING BUT NOT LIMITED TO ONTARIO ONE CALL: 1–800–400–2255) SHALL BE CONDUCTED PRIOR TO THE COMMENCEMENT OF ANY EXCAVATION. CONFIRM LOCATIONS OF BURIED INFRASTRUCTURE BY CAREFULLY EXCAVATING TEST PITS AND REPORT ANY DIFFERENCES TO THE ENGINEER. ANY ISSUES ARISING FROM FAILURE OF CONTRACTOR TO DETERMINE THE SIZE, DEPTH AND LOCATION ALL EXISTING INFRASTRUCTURE WILL BE AT THE CONTRACTOR'S EXPENSE.



LEGEND

FFL	FINISHED FLOOR ELEVATION
BFL	BASEMENT FLOOR ELEVATION
USF	UNDERSIDE OF FOOTING
	PROPERTY LINE
CB	CATCH–BASIN
MH	STORM MANHOLE
CB/MH	CATCH–BASIN/MANHOLE
MH	SANITARY MANHOLE
DMAC	DMA CHAMBER
FH	FIRE HYDRANT
FDC	FIRE DEPARTMENT CONNECTION
VB	VALVE & VALVE BOX
SAN	SANITARY SEWER
ST	STORM SEWER
WS/WM	WATER SERVICE/WATERMAIN
SPL	SPRINGLINE
INV	INVERT
US	UNDERSIDE

KEY PLAN

No.	DATE	REVISION
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D. B. GRAY ENGINEERING INC.
Stormwater Management - Grading & Drainage - Storm & Sanitary Sewers - Watermains
700 Long Point Circle 613-425-8044
Ottawa, Ontario d.gray@dbgrayengineering.com

Project
PROPOSED 6–STOREY APARTMENT BUILDINGS
475 TERRY FOX DRIVE
OTTAWA, ONTARIO

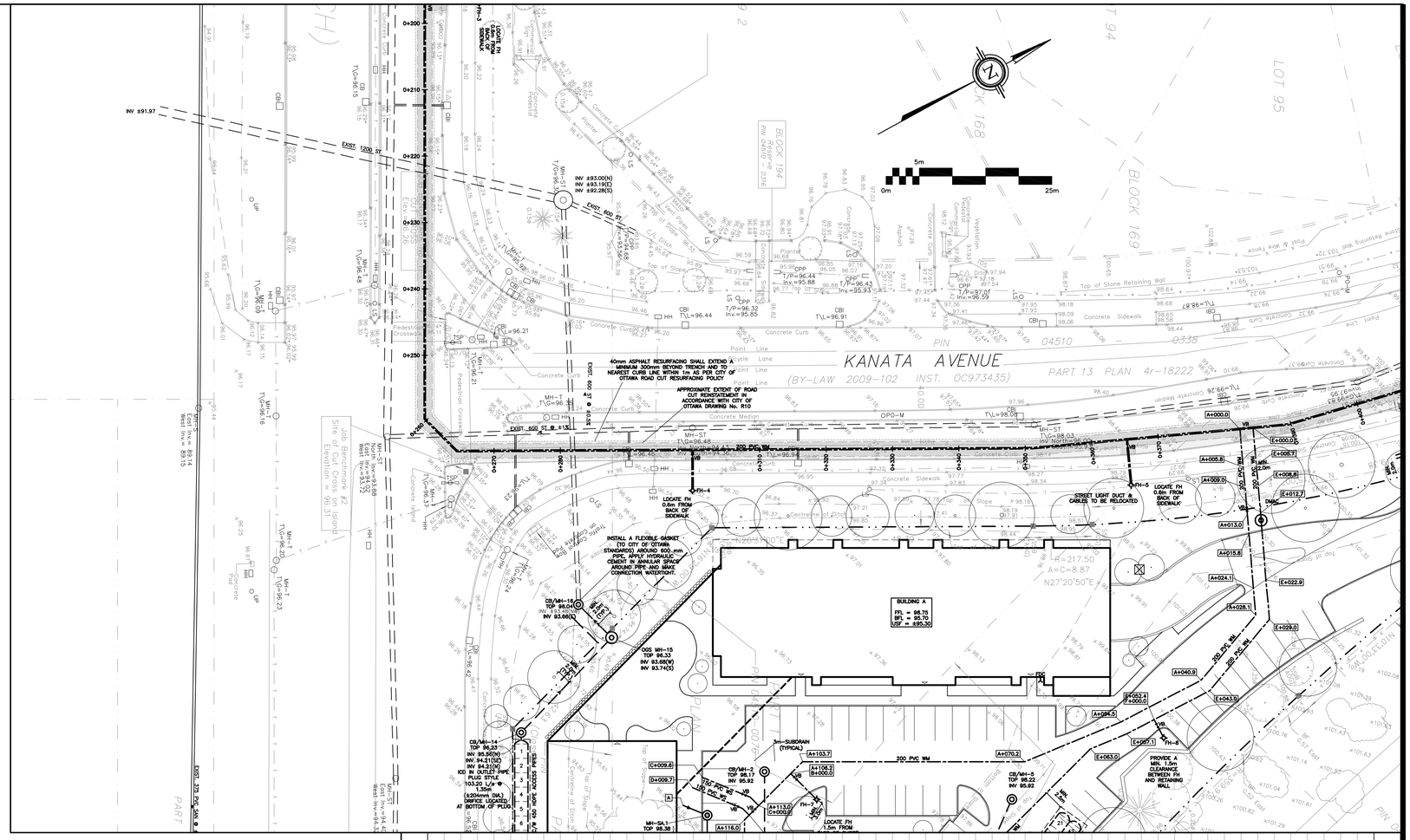
Drawing Title
PLAN & PROFILE
(0+022.8 TO 0+262)

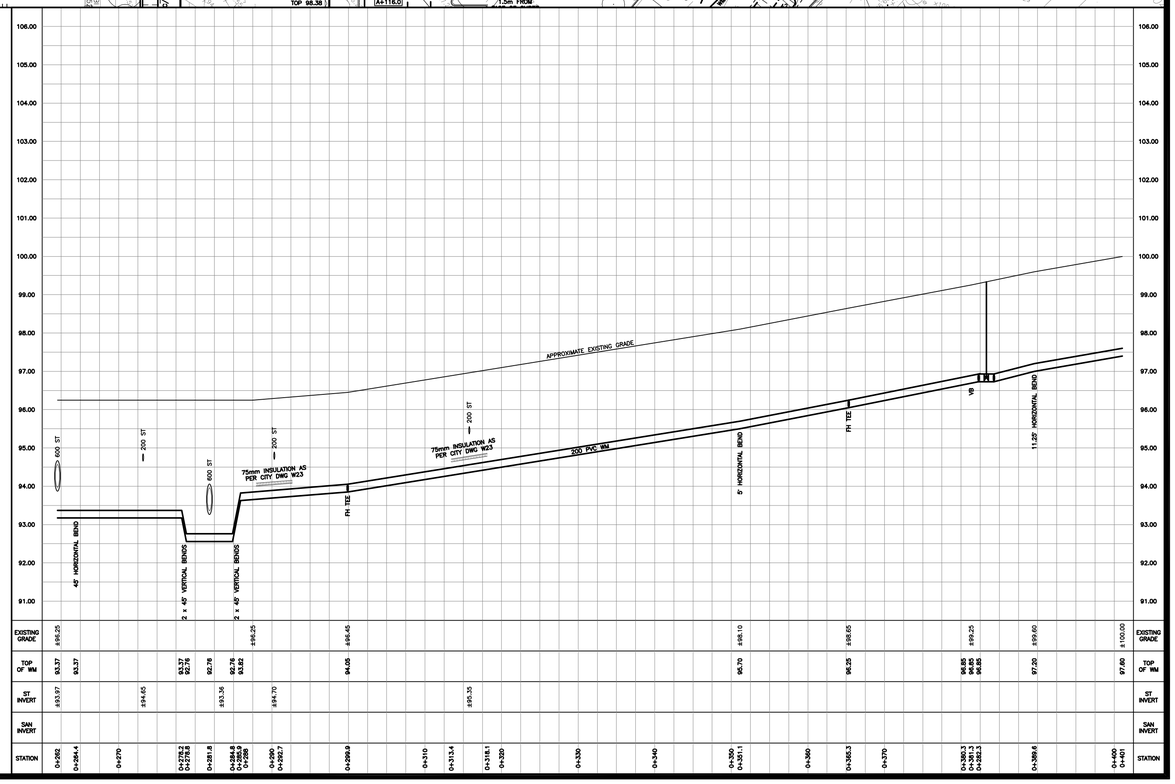
Engineer's Seal
LICENSED PROFESSIONAL ENGINEER
D.B. GRAY
17016502
JUL 10–26
PROVINCE OF ONTARIO
NOT VALID UNLESS SIGNED & DATED

Drawn	D.B.G.
H. Scale	1:400
V. Scale	1:80
Date	OCT 28–25
Job No.	24103

Drawing No.
C–17
of 22

Plan #19347 File No. D07–12–25–0104





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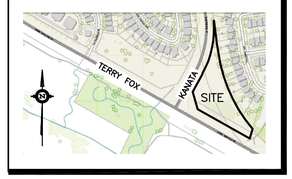
LEGEND

FFL	FINISHED FLOOR ELEVATION
BFL	BASEMENT FLOOR ELEVATION
USF	UNDERSIDE OF FOOTING
	PROPERTY LINE
CB	CATCH-BASIN
MH	STORM MANHOLE
CB/MH	CATCH-BASIN/MANHOLE
MH	SANITARY MANHOLE
DMAC	DMA CHAMBER
FH	FIRE HYDRANT
FDC	FIRE DEPARTMENT CONNECTION
VB	VALVE & VALVE BOX
SAN	SANITARY SEWER
ST	STORM SEWER
WS/WM	WATER SERVICE/WATERMAIN
SPL	SPRINGLINE
INV	INVERT
US	UNDERSIDE

KEY PLAN



No.	DATE	REVISION
3	JUL 10-26	RE-ISSUED FOR APPROVAL
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D. B. GRAY ENGINEERING INC.
Stormwater Management - Grading & Drainage - Storm & Sanitary Sewers - Watermains
700 Long Point Circle 613-425-8044
Ottawa, Ontario d.gray@dbgrayengineering.com

Project
PROPOSED 6-STOREY APARTMENT BUILDINGS
475 TERRY FOX DRIVE
OTTAWA, ONTARIO

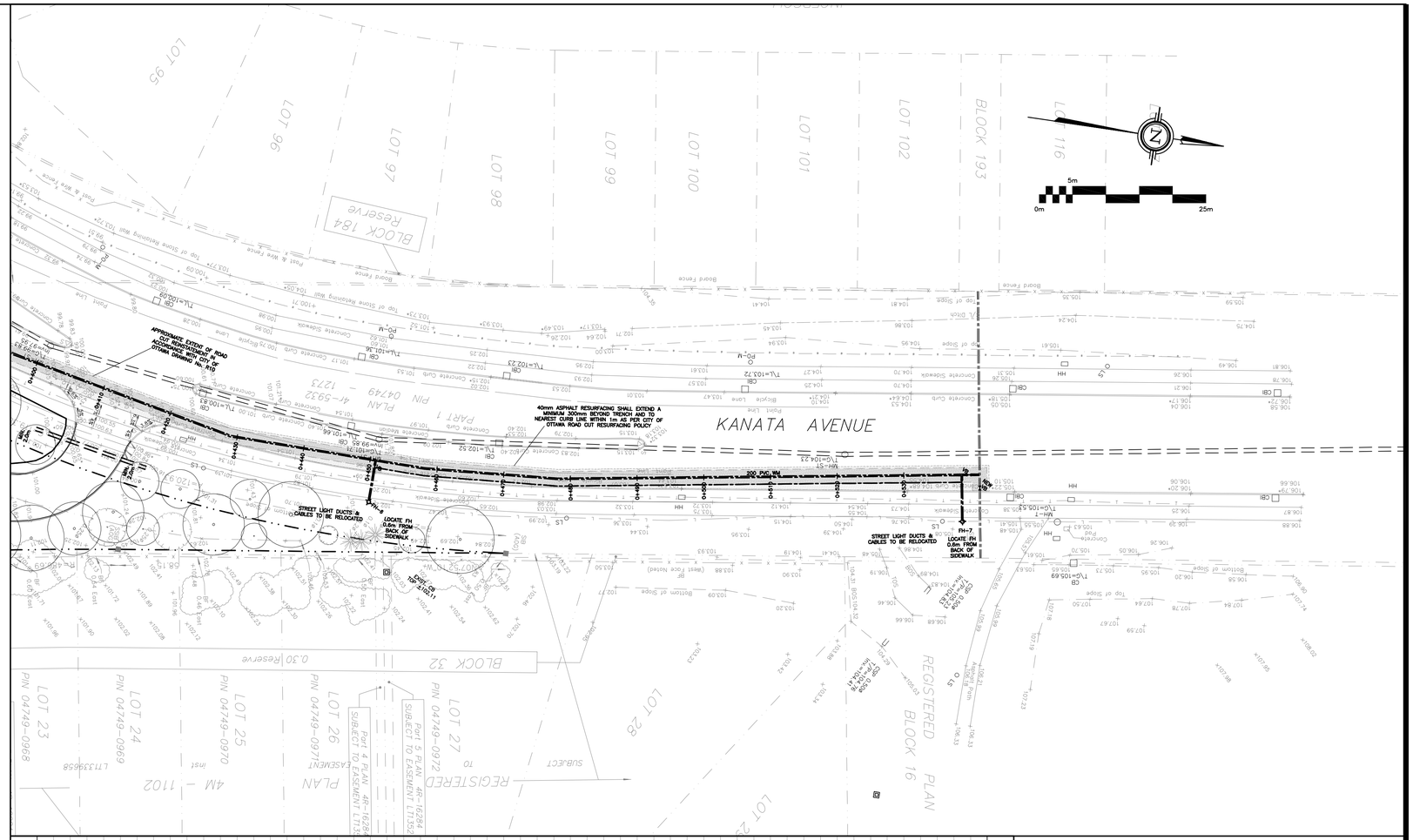
Drawing Title
PLAN & PROFILE
(0+262 TO 0+401)

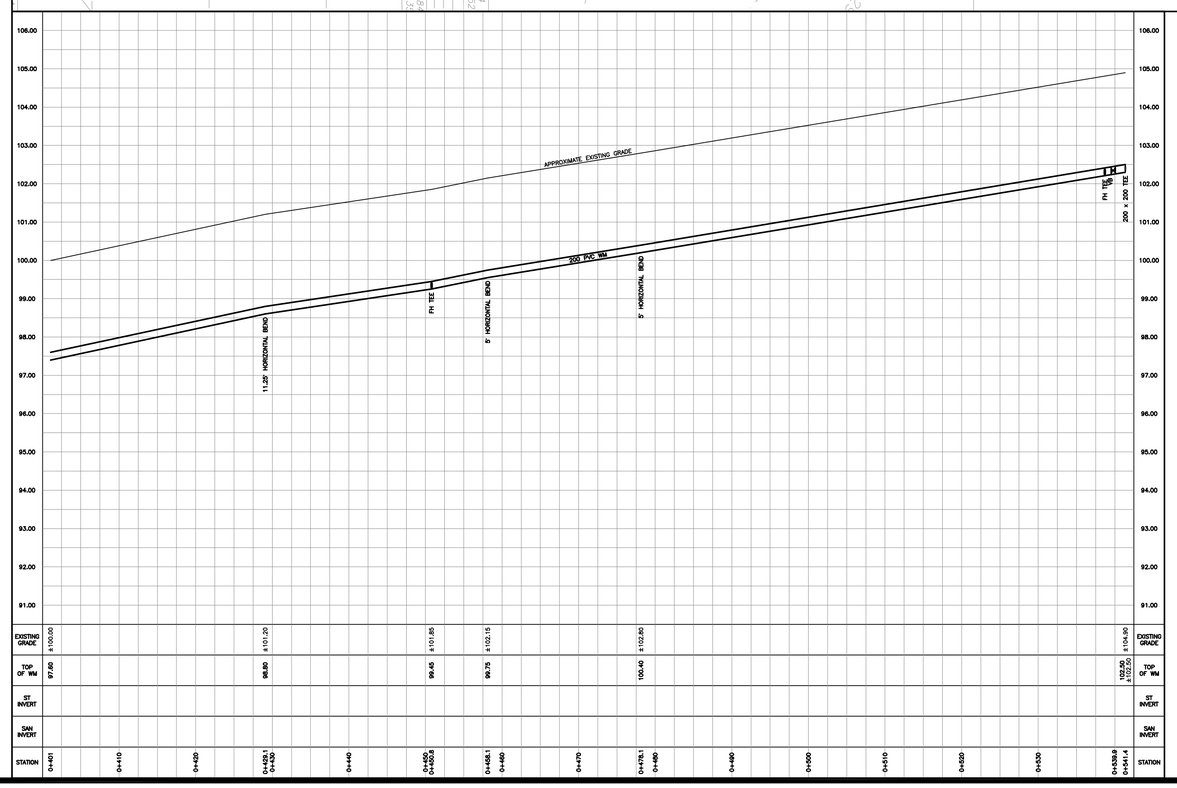
Engineer's Seal
LICENSED PROFESSIONAL ENGINEER
D.B. GRAY
17016502
JUL 10-26
PROVINCE OF ONTARIO
NOT VALID UNLESS SIGNED & DATED

Drawn	D.B.G
H. Scale	1:400
V. Scale	1:80
Date	OCT 28-25
Job No.	24103

Drawing No.
C-18
of 22

Plan #19347 File No. D07-12-25-0104





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LEGEND

FFL	FINISHED FLOOR ELEVATION
BFL	BASEMENT FLOOR ELEVATION
USF	UNDERSIDE OF FOOTING
	PROPERTY LINE
CB	CATCH-BASIN
MH	STORM MANHOLE
CB/MH	CATCH-BASIN/MANHOLE
MH	SANITARY MANHOLE
DMAC	DMA CHAMBER
FH	FIRE HYDRANT
FDC	FIRE DEPARTMENT CONNECTION
VB	VALVE & VALVE BOX
SAN	SANITARY SEWER
ST	STORM SEWER
WS/WM	WATER SERVICE/WATERMAIN
SPL	SPRINGLINE
INV	INVERT
US	UNDERSIDE

KEY PLAN

No.	DATE	REVISION
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D. B. GRAY ENGINEERING INC.
Stormwater Management - Grading & Drainage - Storm & Sanitary Sewers - Watermains
700 Long Point Circle 613-425-8044
Ottawa, Ontario d.gray@dbgrayengineering.com

Project
PROPOSED 6-STOREY APARTMENT BUILDINGS
475 TERRY FOX DRIVE
OTTAWA, ONTARIO

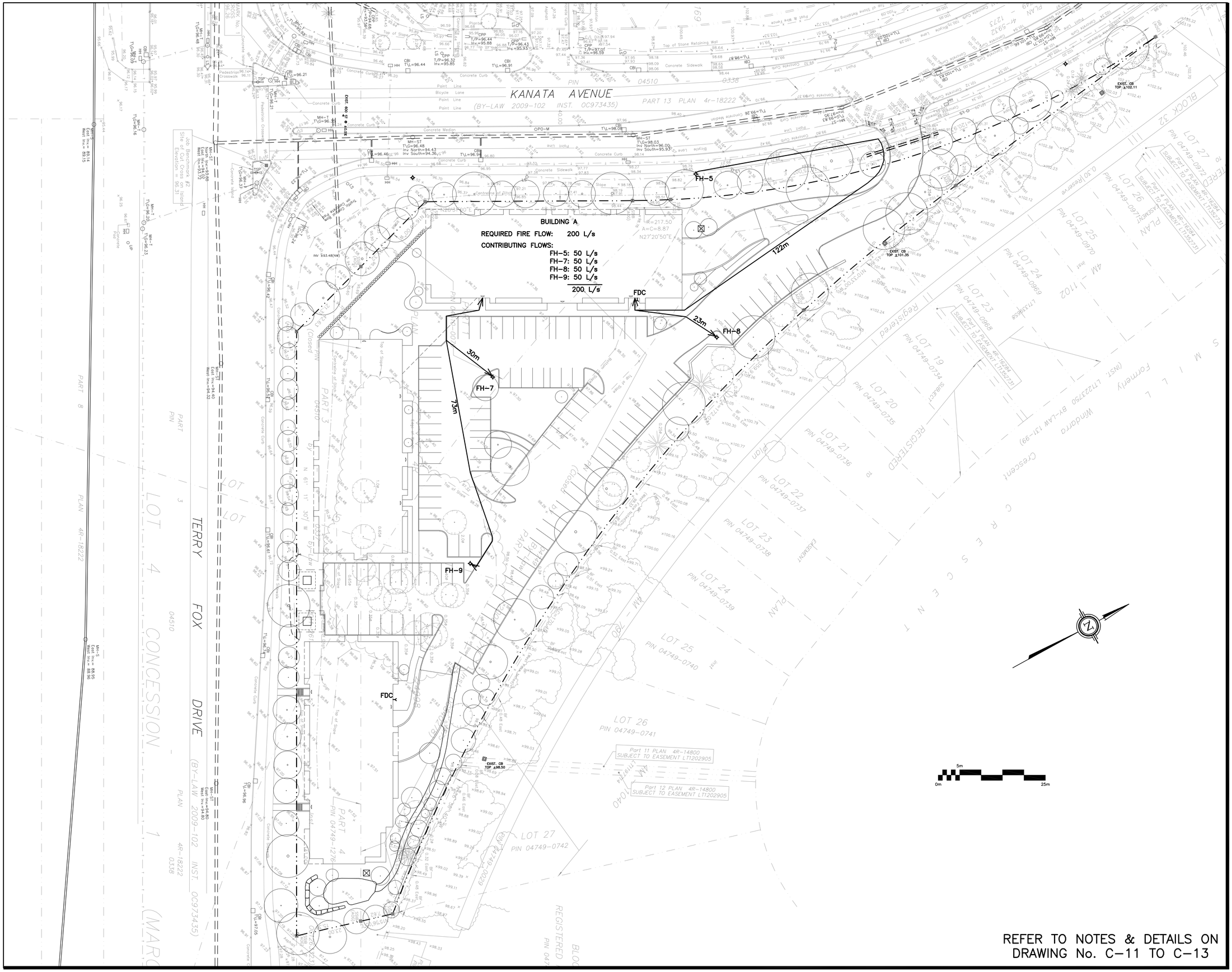
Drawing Title
PLAN & PROFILE
(0+401 TO 0+541.4)

Engineer's Seal
LICENSED PROFESSIONAL ENGINEER
D.B. GRAY
17016502
JUL 10-26
PROVINCE OF ONTARIO
NOT VALID UNLESS SIGNED & DATED

Drawn	D.B.G
H. Scale	1:400
V. Scale	1:80
Date	OCT 28-25
Job No.	24103

Drawing No.
C-19
of 22

Plan #19347 File No. D07-12-25-0104



REFER TO NOTES & DETAILS ON DRAWING No. C-11 TO C-13

LEGEND

FFL	FINISHED FLOOR ELEVATION
BFL	BASEMENT FLOOR ELEVATION
USF	UNDERSIDE OF FOOTING
	PROPERTY LINE
CB	CATCH-BASIN
MH	STORM MANHOLE
CB/MH	CATCH-BASIN/MANHOLE
MH	SANITARY MANHOLE
DMAC	DMA CHAMBER
FH	FIRE HYDRANT
FDC	FIRE DEPARTMENT CONNECTION
VB	VALVE & VALVE BOX
SAN	SANITARY SEWER
ST	STORM SEWER
WS/WM	WATER SERVICE/WATERMAIN
SPL	SPRINGLINE
INV	INVERT
US	UNDERSIDE

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Stormwater Management - Grading & Drainage - Storm & Sanitary Sewers - Watermains
700 Long Point Circle 613-425-8044
Ottawa, Ontario d.gray@dbgrayengineering.com

Project
PROPOSED 6-STOREY APARTMENT BUILDINGS
475 TERRY FOX DRIVE
OTTAWA, ONTARIO

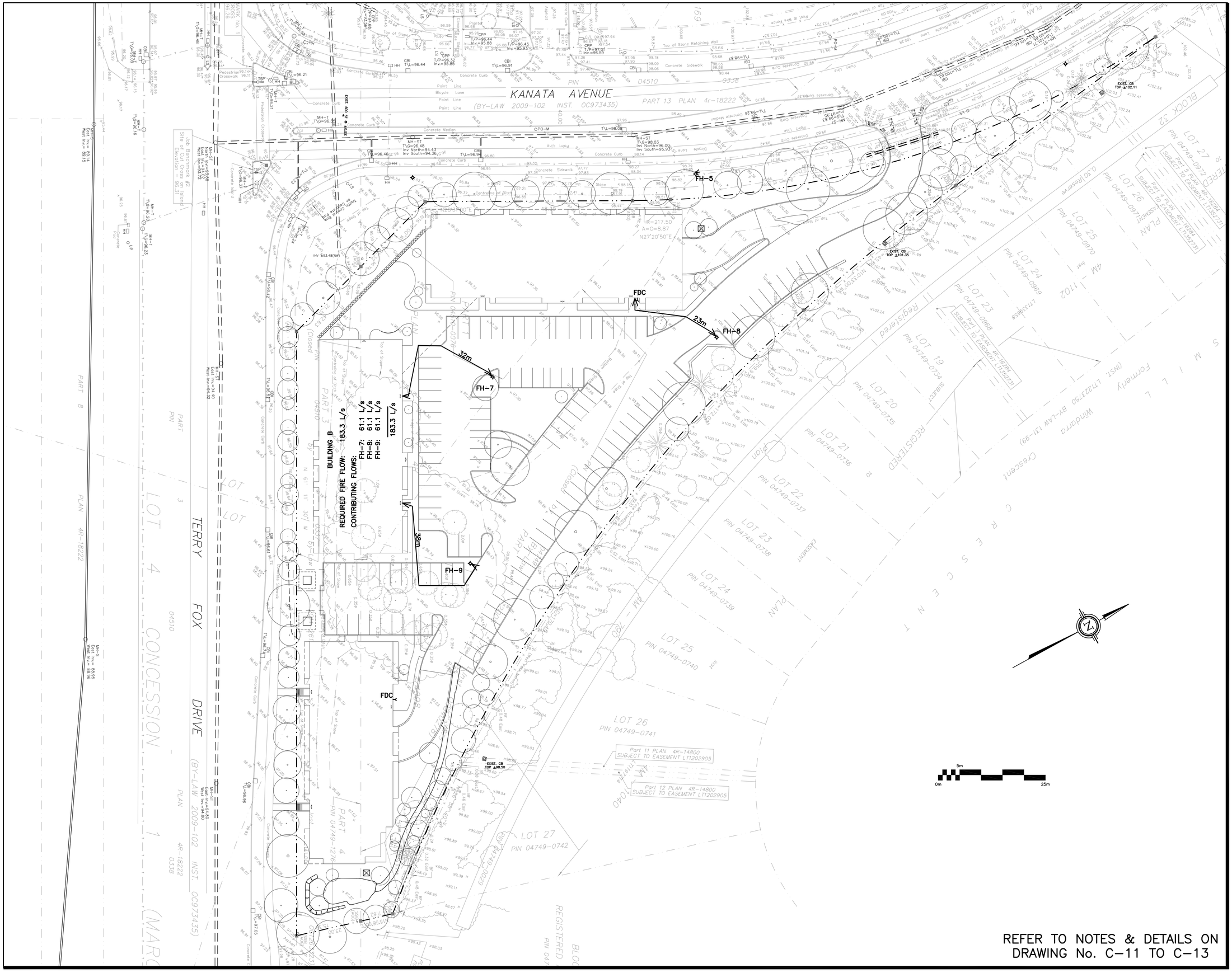
Drawing Title
FIRE HYDRANT COVERAGE BUILDING A

Engineer's Seal
LICENSED PROFESSIONAL ENGINEER
D.B. GRAY
17016502
JUL 10-26
PROVINCE OF ONTARIO
NOT VALID UNLESS SIGNED & DATED

Drawn	D.B.G
H. Scale	1:400
V. Scale	
Date	JUL 11-25
Job No.	24103

Drawing No.
C-20
of 22

Plan #19347 File No. D07-12-25-0104



REFER TO NOTES & DETAILS ON DRAWING No. C-11 TO C-13

LEGEND

FFL	FINISHED FLOOR ELEVATION
BFL	BASEMENT FLOOR ELEVATION
USF	UNDERSIDE OF FOOTING
	PROPERTY LINE
CB	CATCH-BASIN
MH	STORM MANHOLE
CB/MH	CATCH-BASIN/MANHOLE
MH	SANITARY MANHOLE
DMAC	DMA CHAMBER
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US	UNDERSIDE

KEY PLAN

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Project
PROPOSED 6-STOREY APARTMENT BUILDINGS
475 TERRY FOX DRIVE
OTTAWA, ONTARIO

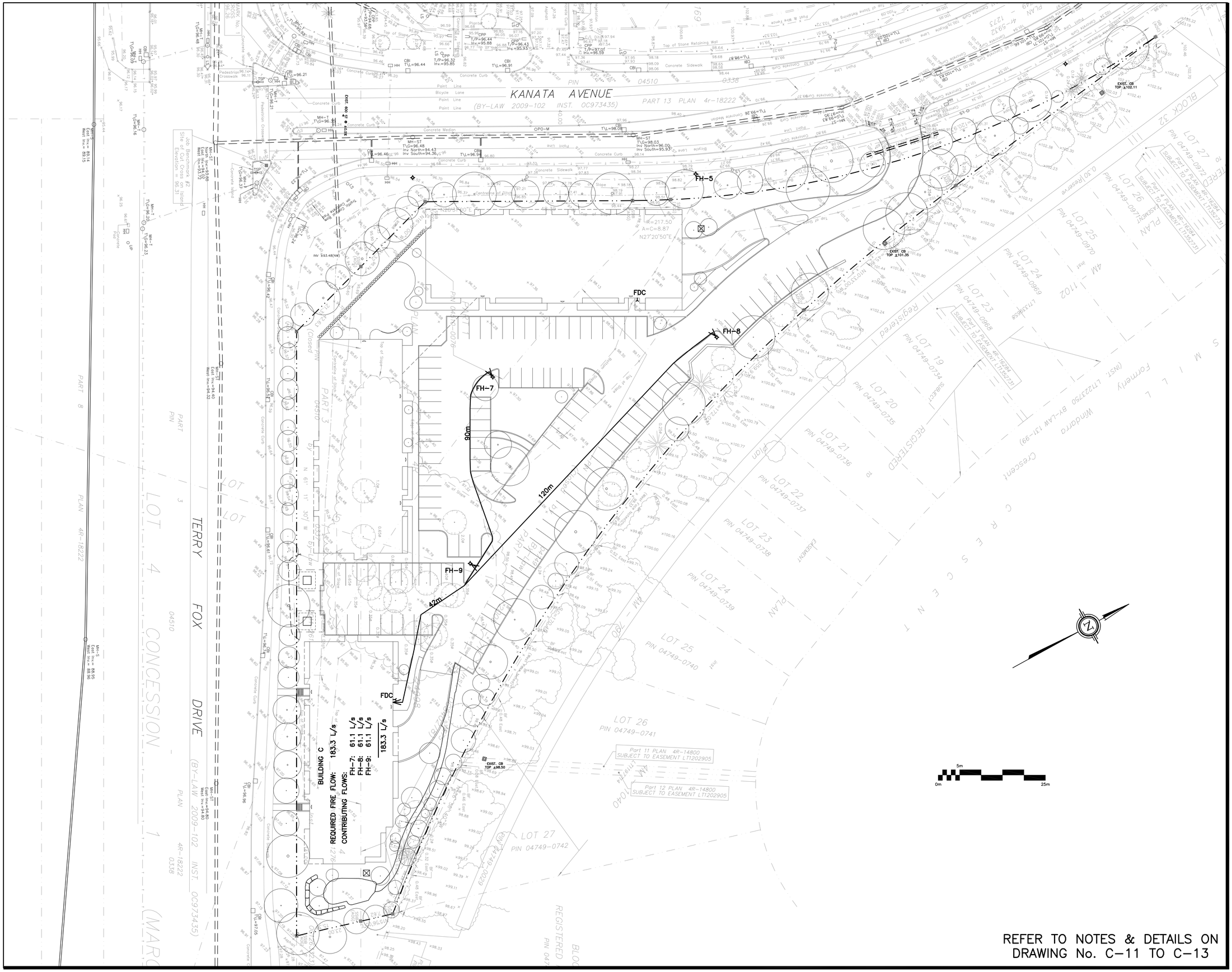
Drawing Title
FIRE HYDRANT COVERAGE BUILDING B

Engineer's Seal
LICENSED PROFESSIONAL ENGINEER
D.B. GRAY
17016502
JUL 10-26
PROVINCE OF ONTARIO
NOT VALID UNLESS SIGNED & DATED

Drawn	D.B.G
H. Scale	1:400
V. Scale	
Date	JUL 11-25
Job No.	24103

Drawing No.
C-21 of 22

Plan #19347 File No. D07-12-25-0104



REFER TO NOTES & DETAILS ON DRAWING No. C-11 TO C-13

LEGEND

FFL	FINISHED FLOOR ELEVATION
BFL	BASEMENT FLOOR ELEVATION
USF	UNDERSIDE OF FOOTING
	PROPERTY LINE
CB	CATCH-BASIN
MH	STORM MANHOLE
CB/MH	CATCH-BASIN/MANHOLE
MH	SANITARY MANHOLE
DMAC	DMA CHAMBER
FH	FIRE HYDRANT
FDC	FIRE DEPARTMENT CONNECTION
VB	VALVE & VALVE BOX
SAN	SANITARY SEWER
ST	STORM SEWER
WS/WM	WATER SERVICE/WATERMAIN
SPL	SPRINGLINE
INV	INVERT
US	UNDERSIDE

KEY PLAN

No.	DATE	REVISION
4	JUL 10-26	RE-ISSUED FOR APPROVAL
3	JAN 26-26	RE-ISSUED FOR APPROVAL
2	OCT 28-25	RE-ISSUED FOR APPROVAL
1	JUL 11-25	ISSUED FOR APPROVAL

D. B. GRAY ENGINEERING INC.
Stormwater Management - Grading & Drainage - Storm & Sanitary Sewers - Watermains
700 Long Point Circle 613-425-8044
Ottawa, Ontario d.gray@dbgrayengineering.com

Project
PROPOSED 6-STOREY APARTMENT BUILDINGS
475 TERRY FOX DRIVE
OTTAWA, ONTARIO

Drawing Title
FIRE HYDRANT COVERAGE BUILDING C

Engineer's Seal
LICENSED PROFESSIONAL ENGINEER
D.B. GRAY
17016502
JUL 10-26
PROVINCE OF ONTARIO
NOT VALID UNLESS SIGNED & DATED

Drawn	D.B.G
H. Scale	1:400
V. Scale	
Date	JUL 11-25
Job No.	24103

Drawing No.
C-22
of 22

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