SAN STRUCTURE TABLE						
NAME	RIM ELEV.	INVERT IN	INVERT IN AS–BUILT	INVERT OUT	INVERT OUT AS–BUILT	DESCRIPTION
EXMH09A	101.41	SE99.848 S99.858		NW99.828		1200ø OPSD 701.010
MH1A	103.34	E101.753		W101.623		1200ø OPSD 701.010
MH2A	103.49	E101.029		N99.924		1200ø OPSD 701.010

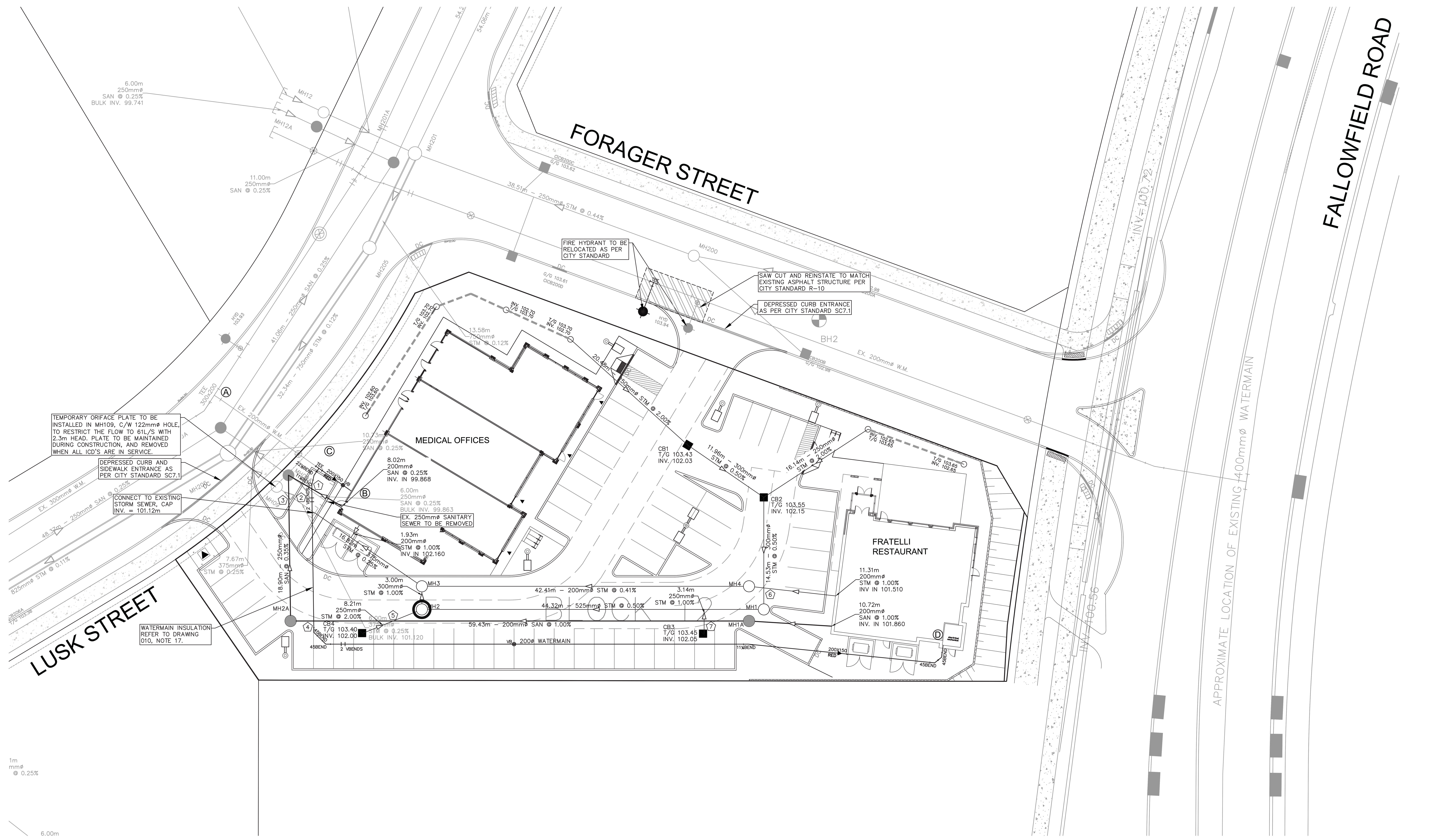
CROSSING SCHEDULE

1	200 mm ø W/M	1.000 m	CLEARANCE OVER	200 mm ø SAN
2	200 mm ø W/M	0.250 m	CLEARANCE OVER	375 mm ø STM
3	375 mm ø STM	0.974 m	CLEARANCE OVER	250 mm ø SAN
4	200 mm ø W/M	0.250 m	CLEARANCE OVER	200 mm ø SAN
5	200 mm ø STM	0.521 m	CLEARANCE OVER	200 mm ø SAN
6	300 mm ø STM	0.260 m	CLEARANCE OVER	200 mm ø STM
7	250 mm ø STM	0.255 m	CLEARANCE OVER	200 mm ø SAN

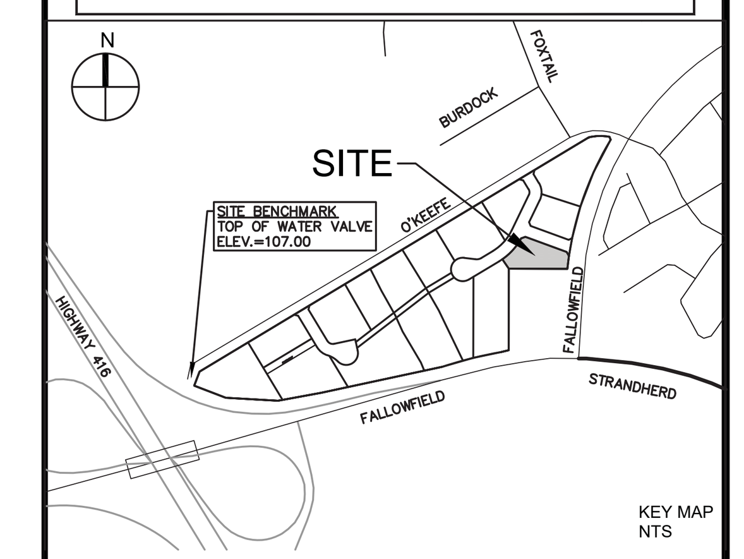
REVISED 2020-01-16

WATERAIN SCHEDULE					
	Station	Description	Finished Grade	Top of Waterain	As Built Waterain
A	0+000.00	EXISTING 300X200TEE	103.68	101.28	
	0+013.30	EXISTING V&VB	103.83	101.43	
C	0+016.55	TEE	103.81	101.41	
	0+019.30	RED 200X150	103.89	101.49	
	0+020.35	VB	103.90	101.50	
B	0+021.64	BUILDING SERVICE	103.89	101.49	
C	0+000.00	TEE	103.81	101.41	
	0+001.11	22.5 BEND	103.67	101.27	
	0+002.36	11.25 BEND	103.67	101.27	
	0+004.07	V BEND	103.67	101.27	
	0+00457	V BEND	103.69	101.96	
	0+021.51	45 BEND	103.46	101.73	
	0+023.67	45 BEND	103.48	101.74	
	0+025.67	V BEND	103.47	101.72	
	0+026.17	V BEND	103.47	101.07	
	0+048.08	VB	103.57	101.17	
	0+078.45	11.25 BEND	103.78	101.38	
	0+090.59	RED 200X150	103.83	101.43	
	0+102.73	45 BEND	104.00	101.60	
	0+103.88	45 BEND	104.02	101.62	
D	0+105.44	BUILDING SERVICE	104.05	101.65	

STM STRUCTURE TABLE						
NAME	RIM ELEV.	INVERT IN	INVERT IN AS–BUILT	INVERT OUT	INVERT OUT AS–BUILT	DESCRIPTION
EXMH09	102.79	SE101.105		NW101.085		1200ø OPSD 701.010
MH1	103.70	N101.877		W101.677		1200ø OPSD 701.010
MH2	103.51	E101.455 W101.816		N101.395		1200ø OPSD 701.010
MH3	103.61	E101.192 S101.365		NW101.162		1200ø OPSD 701.010
MH4	103.70	E101.397		W101.367		1200ø OPSD 701.010



SEE 010 FOR NOTES, LEGEND, CB TABLE AND DETAILS



KEY MAP
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Project Title
115 LUSK STREET

LICENSED PROFESSIONAL ENGINEER
D. G. Yannoulopoulos
2020/03/06
PROVINCE OF ONTARIO

Drawing Title
SERVICING PLAN

Scale 1:250

Design	Date
WZ/RM	NOVEMBER 2019
Drawn	**Checked**
EH	DGY
Project No.	**Drawing No.**
122508	001

CITY PLAN No.####
CITY FILE No. ####

UTILITY LEGEND

	TRANSFORMER
	TRANSFORMER C/W CONCRETE WINGS
HSG	HYDRO SWITCHGEAR
HMH	HYDRO MANHOLE
	BELL PEDESTAL
GLB	BELL GRADE LEVEL BOX (l=600mm, w=1200mm, d=750mm) C/W 1.5 x 3.0m easement
FC	BELL FIBER CABINET (l=1200mm, w=750mm, d=500mm)
CSP	BELL CENTRAL SPLITTING POINTS (l=1175mm, w=1200mm, d=500mm)
	ROGERS PEDESTAL
	ROGERS VAULT (l=1000mm, w=1000mm, d=1200mm) C/W 1m x 2m easement
P30	STREET LIGHT
D	STREET LIGHT DISCONNECT
	STREET LIGHT GROUNDING
H/B/T/G/S	JOINT UTILITY TRENCH
H	HYDRO CABLE AND DUCTS
B	BELL CABLE
BB	BELL DUCTS
T	ROGERS CABLE
TT	ROGERS DUCTS
G	GAS
S	STREET LIGHT CABLE
	UTILITY DROP LOCATIONS
10–DUCTS 6–H 4–T	CONCRETE ENCASED DUCT BANK C/W NUMBER OF DUCTS
CMB	COMMUNITY MAILBOX
	PROPOSED TREE LOCATION
	ROOT MANAGEMENT BARRIER

SEDIMENT EROSION LEGEND

	HEAVY DUTY SILT FENCE
	SNOW FENCE
	STRAW BALE CHECK DAM
	STRAW BALE CHECK DAM WITH FILTER CLOTH
	ROCK CHECK DAM
CB	SEDIMENT SACK PLACED UNDER EXISTING CB COVER
▨	TEMPORARY MUD MAT 0.15m THICK 50mm CLEAR STONE ON NON WOVEN FILTER CLOTH

GENERAL LEGEND

	LIMIT OF CONSTRUCTION
	PHASING LINE
	BARRIER CURB
	MOUNTABLE CURB
	DEPRESSED BARRIER CURB
	CONCRETE SIDEWALK
	TACTILE WALKING SURFACE INDICATOR
	ASPHALT SIDEWALK / PATHWAY
BUS	BUS STOP CONCRETE / ASPHALT

SERVICING LEGEND

MH118A	SANITARY MANHOLE
200mmø SAN	SANITARY SEWER
MH109 MH118	STORM MANHOLE
825mmø STM	STORM SEWER - LESS THAN 900Ø
900mmø STM	STORM SEWER - 900Ø AND GREATER
200ø WATERMAIN	WATERMAIN
CB100 T/G 104.10	STREET CATCHBASIN C/W TOP OF GRATE
CICB101 G/G 104.25	CURB INLET CATCHBASIN C/W GUTTER GRADE
DCB100 T/G 104.10	DOUBLE CATCHBASIN C/W TOP OF GRATE
DCICB101 G/G 104.25	DITCH INLET CATCHBASIN C/W GUTTER GRADE
CBMH100 T/G 103.59	CATCHBASIN MANHOLE C/W TOP OF GRATE
CBMH101 T/G 103.59	DITCH INLET MANHOLE C/W TOP OF GRATE
CB100 T/G 104.10	ICD LOCATION
RYCB T/G 104.35	REAR YARD CATCHBASIN IN ROAD CONNECTING STRUCTURE C/W SOLID GRATE
T/G 104.35 INV 103.35	REAR YARD "TEE" CATCHBASIN (300Ø) C/W TOP OF GRATE AND INVERT OUT
T/G 104.50 INV 103.50	REAR YARD "END" CATCHBASIN (300Ø) C/W TOP OF GRATE AND INVERT OUT
T/G 104.35 INV 103.35	REAR YARD "CUSTOM ANGLED " CATCHBASIN (450Ø) C/W TOP OF GRATE AND INVERT OUT
T/G 104.35 INV 103.35	REAR YARD "THREE WAY" CATCHBASIN (450Ø) C/W TOP OF GRATE AND INVERT OUT
	PERFORATED REAR YARD SUBDRAIN
300mmø CSP	CSP CULVERT C/W DIAMETER
V&VB	VALVE AND VALVE BOX
V&VC	VALVE AND VALVE CHAMBER
HYD 104.35	FIRE HYDRANT C/W BOTTOM OF FLANGE ELEVATION
200ø WM RED 150ø WM	WATERMAIN REDUCER
2 VBENDS	VERTICAL BEND LOCATION
	SINGLE SERVICE LOCATION
	DOUBLE SERVICE LOCATION
BH 12 102.00	INFERRED BEDROCK (SEE GEOTECHNICAL REPORT)
HGL 101.79	100 YEAR STORM HYDRAULIC GRADE LINE AT MANHOLE
S/T HGL 101.79	STRESS TEST STORM HYDRAULIC GRADE LINE AT MANHOLE
108 102.40	UNDERSIDE OF FOOTING ELEVATION (WITH LOT #)
	CLAY SEAL IN SEWER / WATERMAIN TRENCH

GRADING LEGEND

	PROPOSED SWALE C/W FLOW DIRECTION
0.5%	PROPOSED DITCH C/W FLOW DIRECTION AND SLOPE
1.3%	SLOPE C/W FLOW DIRECTION
	MAJOR OVERLAND FLOW ROUTE
104.62	PROPOSED SPOT GRADE
104.40 (S)	PROPOSED SWALE GRADE
104.50 (S)HP	PROPOSED SWALE HIGH POINT GRADE
104.60 103.59	LOT CORNER GRADE C/W EXISTING GRADE
86.45 EX	TIE INTO EXISTING GRADE
96.79	FULL STATIC PONDING GRADE
	RETAINING WALL
105.30 T/W	TOP OF RETAINING WALL GRADE
	TERRACING 3:1 MAXIMUM UNLESS NOTED OTHERWISE
103.50 B/W	PROPOSED BOTTOM OF RETAINING WALL GRADE
	PRESSURE REDUCING VALVE (Based on the higher of the sewer obverts, or hydraulic grade line)
F.FL. 96.32	FINISHED FLOOR ELEVATION
T.FND. 95.96	TOP OF FOUNDATION ELEVATION
U.S.F. 93.36	UNDERSIDE OF FOOTING ELEVATION
RISERS 0	TOTAL NUMBER OF RISERS
M.U.S.F	MINIMUM UNDERSIDE OF FOOTING
M.G.G.	MINIMUM GARAGE GRADE
WU	WALKUP UNIT
WO	WALKOUT UNIT
NS	NON-STANDARD FOUNDATION (Frost cover not provided for standard unit)
BS	BACKSPLIT UNIT (1.5m frost cover on footings)
F F	NOISE FENCE LOCATION
F F	NOISE FENCE GATE

NOTES :

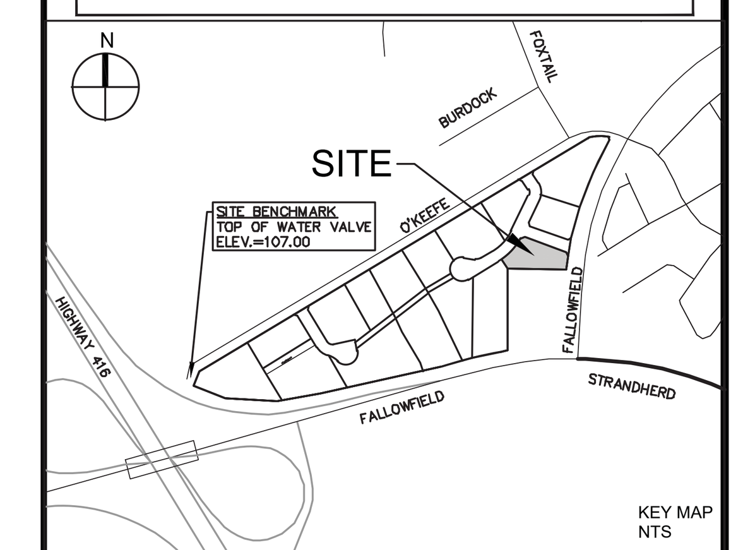
1. ALL MATERIALS AND CONSTRUCTION IS TO BE IN ACCORDANCE WITH THE CURRENT CITY OF OTTAWA STANDARD DRAWINGS & SPECIFICATIONS OR OPSD/OPSS IF CITY DRAWINGS AND SPECIFICATIONS DO NOT APPLY.
2. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE EXACT LOCATION, SIZE, MATERIAL AND ELEVATION OF ALL EXISTING SERVICES AND UTILITIES PRIOR TO CONSTRUCTION AND SHALL PROTECT AND ASSUME RESPONSIBILITY FOR ALL UTILITIES WHETHER OR NOT SHOW ON THESE DRAWINGS.
3. FOR GEOTECHNICAL INFORMATION REFER TO GEOTECHNICAL REPORT PREPARED BY KOLLAARD ASSOCIATES DATED AUGUST 2006.
4. FOR GEODETIC BENCHMARK AND GEOMETRIC LAYOUT OF STREET AND LOTS, REFER TO TOPOGRAPHICAL SURVEY AND PLAN OF SUBDIVISION PREPARED BY ANNIS, O'SULLIVAN, VOLLEBEKK LTD, BENCHMARK BASED ON CAN--NET VIRTUAL REFERENCE SYSTEM NETWORK.
5. ROADWAY SECTIONS REQUIRING GRADE RAISE TO PROPOSED SUB GRADE LEVEL TO BE FILLED WITH ACCEPTABLE NATIVE EARTH BORROW OR IMPORTED OPSS SELECTED SUBGRADE MATERIAL IF NATIVE MATERIAL IS DEFICIENT AS PER RECOMMENDATION OF GEOTECHNICAL ENGINEER.
6. IN AREAS WHERE EXISTING GROUND IS BELOW THE PROPOSED ELEVATION OF SEWER AND WATERMAINS, GRADE RAISING AND FILLING IS TO BE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT. AS PER CITY GUIDELINES ALL WATERMAINS IN FILL AREAS ARE TO BE TIED WITH RESTRAINING JOINTS AND THRUST BLOCKS.
7. SILT FENCE TO BE ERECTED PRIOR TO EARTH WORKS BEING COMMENCED. SILT FENCE TO BE MAINTAINED UNTIL VEGETATION IS ESTABLISHED OR UNTIL START OF SUBSEQUENT PHASE.
8. STRAW BALE SEDIMENT TRAPS TO BE PLACED AND MAINTAINED IN EXISTING AND CONSTRUCTED ROAD SIDE DITCHES. TRAPS TO REMAIN AND BE MAINTAINED UNTIL VEGETATION IS ESTABLISHED (IF APPLICABLE).
9. SILT SACK TO BE PLACED AND MAINTAINED UNDER COVER OF ALL CATCHBASINS. GEOTEXTILE SILT SACK IN STREET CBs TO REMAIN UNTIL ALL CURBS ARE CONSTRUCTED. GEOTEXTILE FABRIC IN RYCBs TO REMAIN UNTIL VEGETATION IS ESTABLISHED. ALL CATCHBASINS TO BE REGULARLY INSPECTED AND CLEANED, AS NECESSARY, UNTIL SOD AND CURBS ARE CONSTRUCTED.
10. ALL CONNECTIONS TO EXISTING WATERMAINS ARE TO BE COMPLETED BY CITY FORCES. CONTRACTOR IS TO EXCAVATE, BACKFILL, COMPACT AND REINSTATE.
11. ALL LEADS FOR STREET CB's TO AND CICB's CONNECTED TO MAIN SHALL BE 250mmØ PVC DR35 @ MIN 2% SLOPE UNLESS NOTED OTHERWISE. ALL LEADS FOR RYCB's CONNECTED TO MAIN SHALL BE 200mmØ PVC DR35 @ MIN 1% SLOPE UNLESS NOTED OTHERWISE.
12. THESE DRAWINGS ARE NOT TO BE SCALED OR USED FOR LAYOUT PURPOSES.
13. THE COMPOSITE UTILITY PLAN HAS BEEN REVIEWED BY IBI GROUP FOR CONFORMITY TO THE DESIGN CONCEPT FOR THE DEVELOPMENT AND FOR GENERAL ARRANGEMENT ONLY AND AS SUCH SHALL NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR ERRORS OR OMISSIONS IN EITHER LAYOUT OR WORKMANSHIP.
14. THIS DRAWING IS A COMPILATION OF OTHER UTILITY DESIGNS AND DOES NOT INDICATE IN ANY WAY THAT THE PARTY SIGNING THIS DRAWING HAS DESIGNED OR APPROVED THE RESPECTIVE UTILITY PLANTS INDICATED ON THIS DRAWING. THE DRAWING WAS PREPARED TO BE USED AS REFERENCE ONLY AS PER REQUIREMENTS OF THE CITY OF OTTAWA. IT IS THE CONTRACTORS RESPONSIBILITY TO ENSURE IT HAS REVIEWED THE CURRENT AND EXISTING DESIGNS BY HYDRO, STREET LIGHTING, BELL, CANADA POST, O.C. TRANSPO, CABLE TV AND ANY OTHER PARTIES INCLUDED BUT NOT MENTIONED AND COMPLETE THE INSTALLATION IN ACCORDANCE WITH THE REQUIREMENTS OF THE STAKEHOLDER UTILITY DESIGNS.
15. THE HGL PROVIDED IS BASED ON HYDRAULIC MODELING COMPLETED USING XPSWMM AND THE 100 YEAR CHICAGO STORM EVENT (C3H10010).
16. ALL UTILITY BOXES (I.E. PEDESTALS, TRANSFORMERS, ETS) ARE TO BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF THE CITY OF OTTAWA'S "GUIDELINES FOR UTILITY PEDESTALS WITHIN THE ROAD RIGHT OF WAY"
17. ANY WATERMAIN WITH LESS THAN 2.4m COVER REQUIRES THERMAL INSULATION AS PER CITY OF OTTAWA STANDARD W22, OR AS APPROVED BY THE ENGINEER.

ROADWAY STRUCTURE:

LOCAL ROAD :(530mm)

40mm	- SUPERPAVE 12.5 ASPHALTIC CONCRETE
40mm	- SUPERPAVE 19.0 ASPHALTIC CONCRETE
150mm	- OPSS GRANULAR "A" CRUSHED STONE
300mm	- OPSS GRANULAR "B" TYPE II

SEE 010 FOR NOTES, LEGEND, CB TABLE AND DETAILS



KEY MAP
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DCR/PHOENIX GROUP OF COMPANIES
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Project Title
115 LUSK STREET

LICENSED PROFESSIONAL ENGINEER
D. G. Yannoulopoulos
2020/03/06
PROVINCE OF ONTARIO

Drawing Title
GENERAL NOTES, LEGEND AND CB DATA TABLE

Scale: N.T.S.

Design: WZ/RM	Date: NOVEMBER 2019
Drawn: EH	Checked: DGY
Project No.: 122508	Drawing No.: 010

CITY PLAN No.####
CITY FILE No. ####

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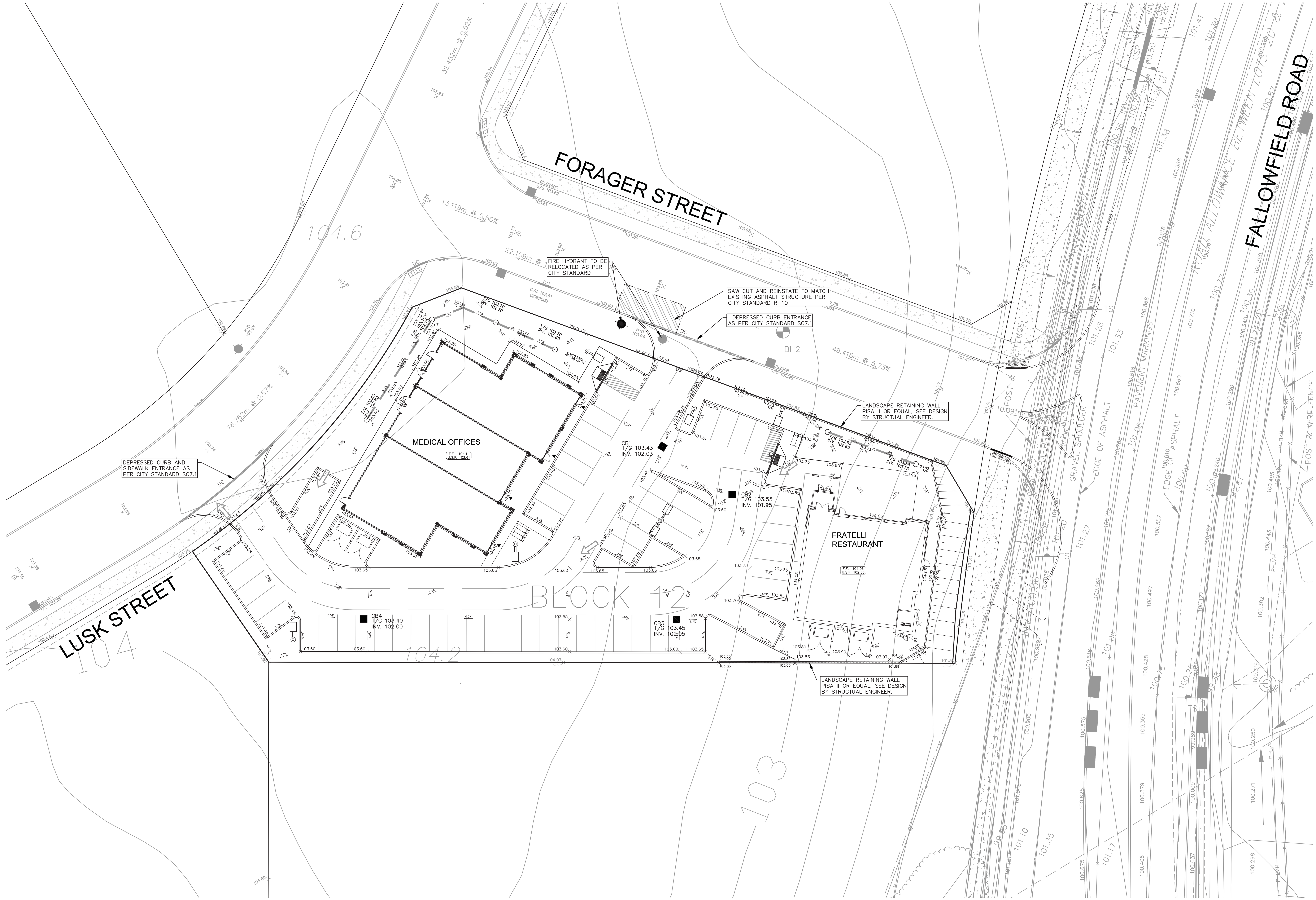

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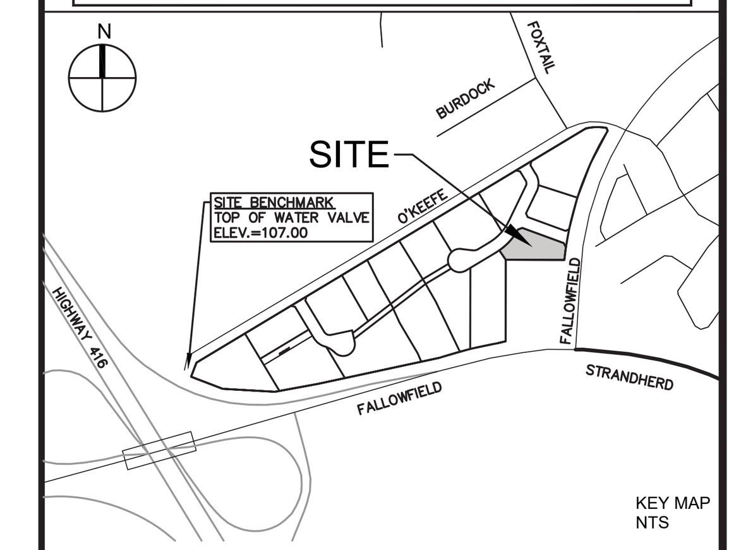

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N

Drawing Title
GRADING PLAN

Scale
2.5 0 2.5 5
1:250

Design	Date
WZ/RM	NOVEMBER 2019
Drawn	Checked
EH	DGY
Project No.	Drawing No.
122508	200

CITY PLAN No.####
CITY FILE No. ####

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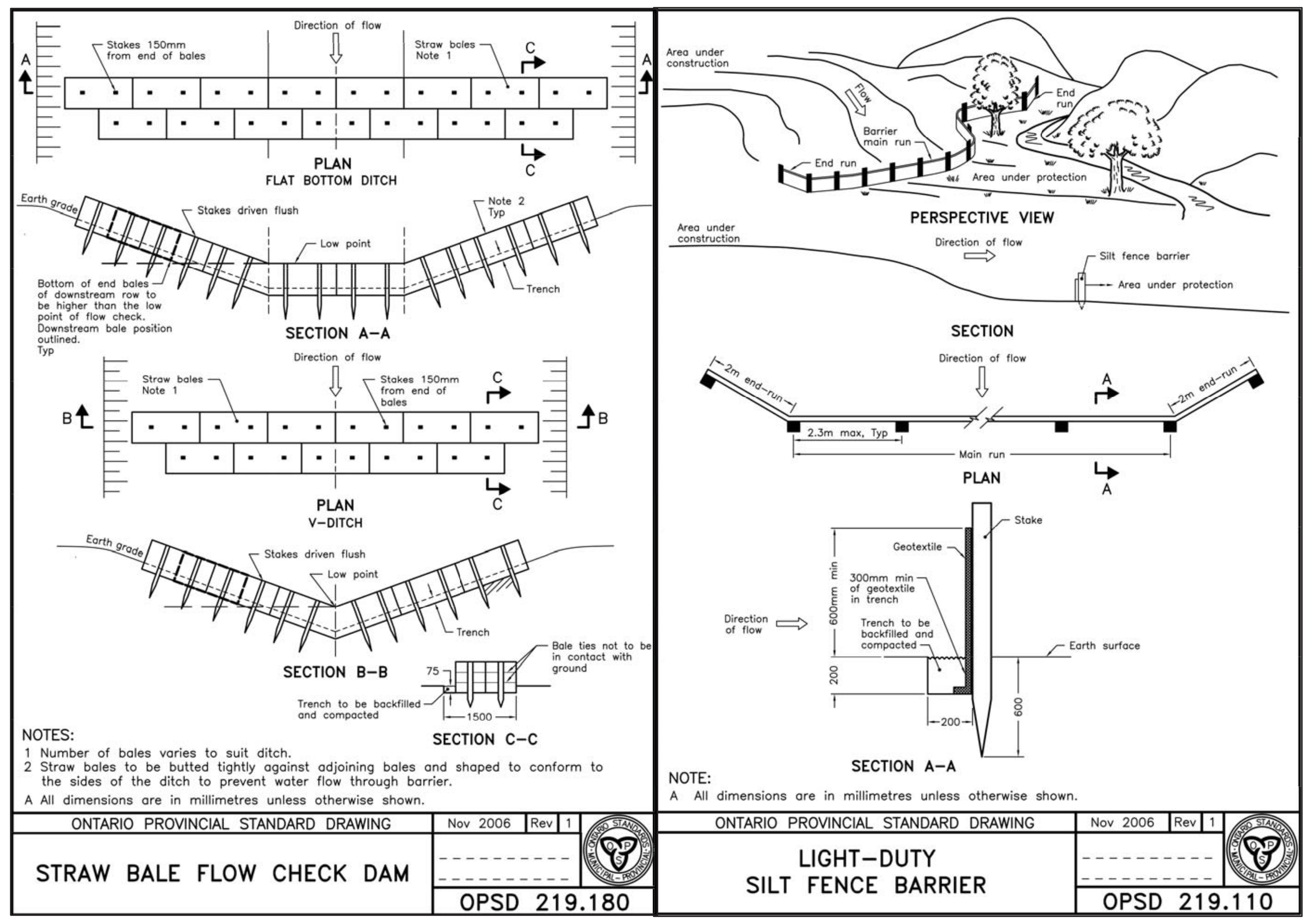

NOTES:

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4. WORKS NOTED ABOVE ARE TO BE INSTALLED, INSPECTED, MAINTAINED AND ULTIMATELY REMOVED BY SERVICING CONTRACTOR.
5. THIS IS A "LIVING DOCUMENT" AND MAY BE MODIFIED IN THE EVENT THE PROPOSED CONTROL MEASURES ARE INSUFFICIENT

LEGEND :

LIGHT DUTY SILT FENCE AS PER OPSD-219.110

SNOW FENCE

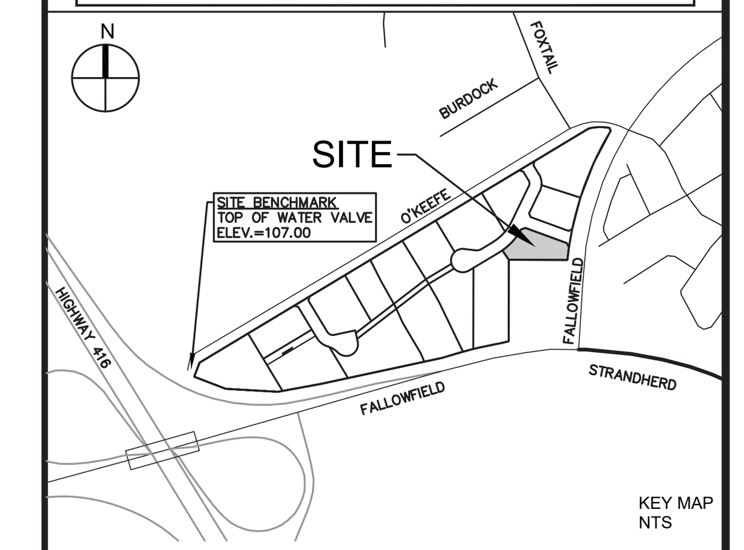
STRAW BALE CHECK DAM AS PER OPSD-219.180

ROCK CHECK DAM AS PER OPSD-219.210

CB SILT SACK PLACED UNDER EXISTING CB COVER

7.0 15.0 TEMPORARY MUD MAT 0.15m THICK 50mm CLEAR STONE ON NON WOVEN FILTER CLOTH

SEE 010 FOR NOTES, LEGEND, CB TABLE AND DETAILS



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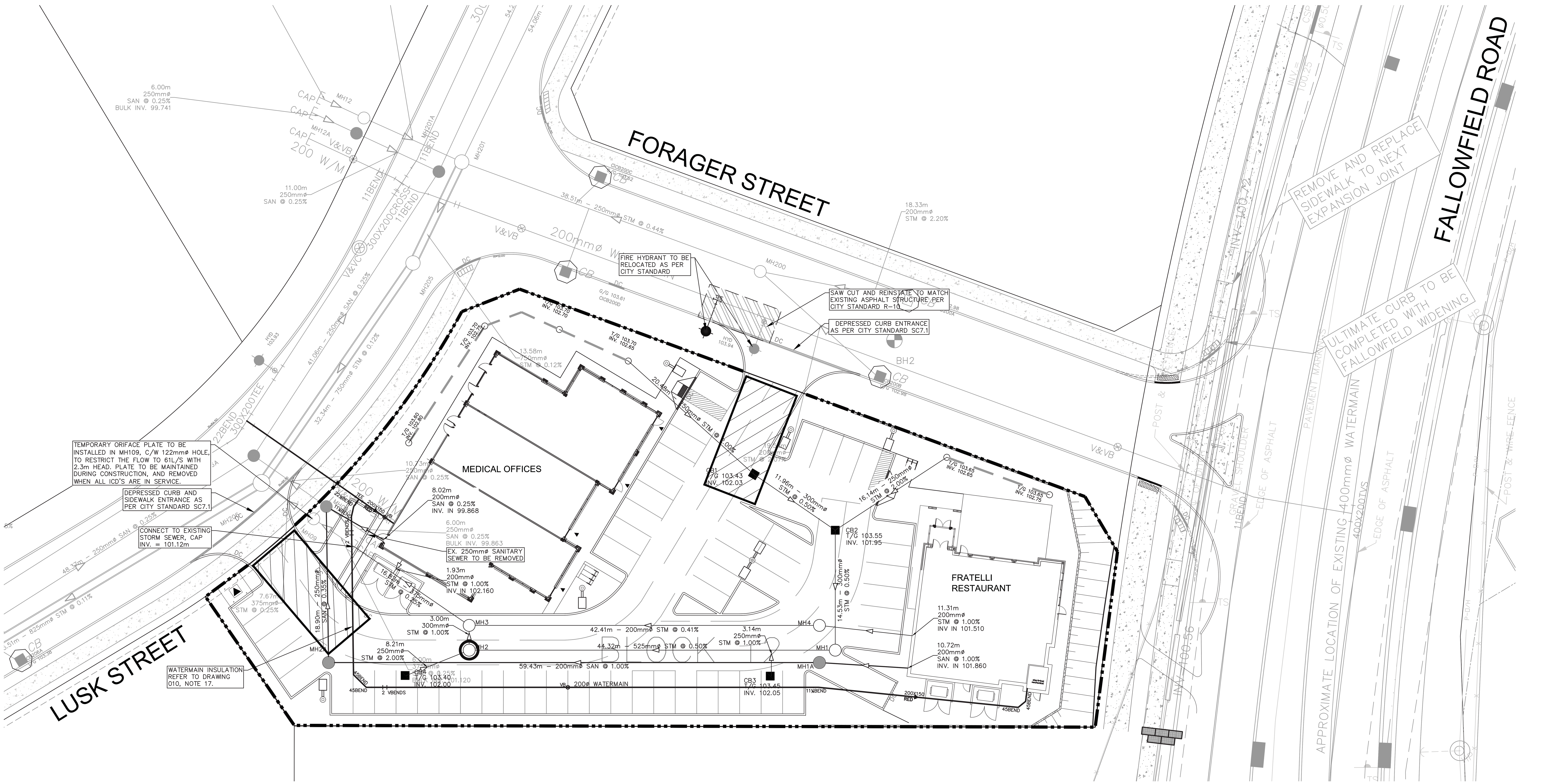

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LICENSED PROFESSIONAL ENGINEER
D. G. Yannoulopoulos
2020/03/06
PROVINCE OF ONTARIO

N

Drawing Title

EROSION AND SEDIMENTATION CONTROL PLAN

Scale

2.5 0 2.5 5
1:250

Design	Date
WZ/RM	NOVEMBER 2019
Drawn	Checked
EH	DGY
Project No.	Drawing No.
122508	900

CITY PLAN No.####

CITY FILE No. ####