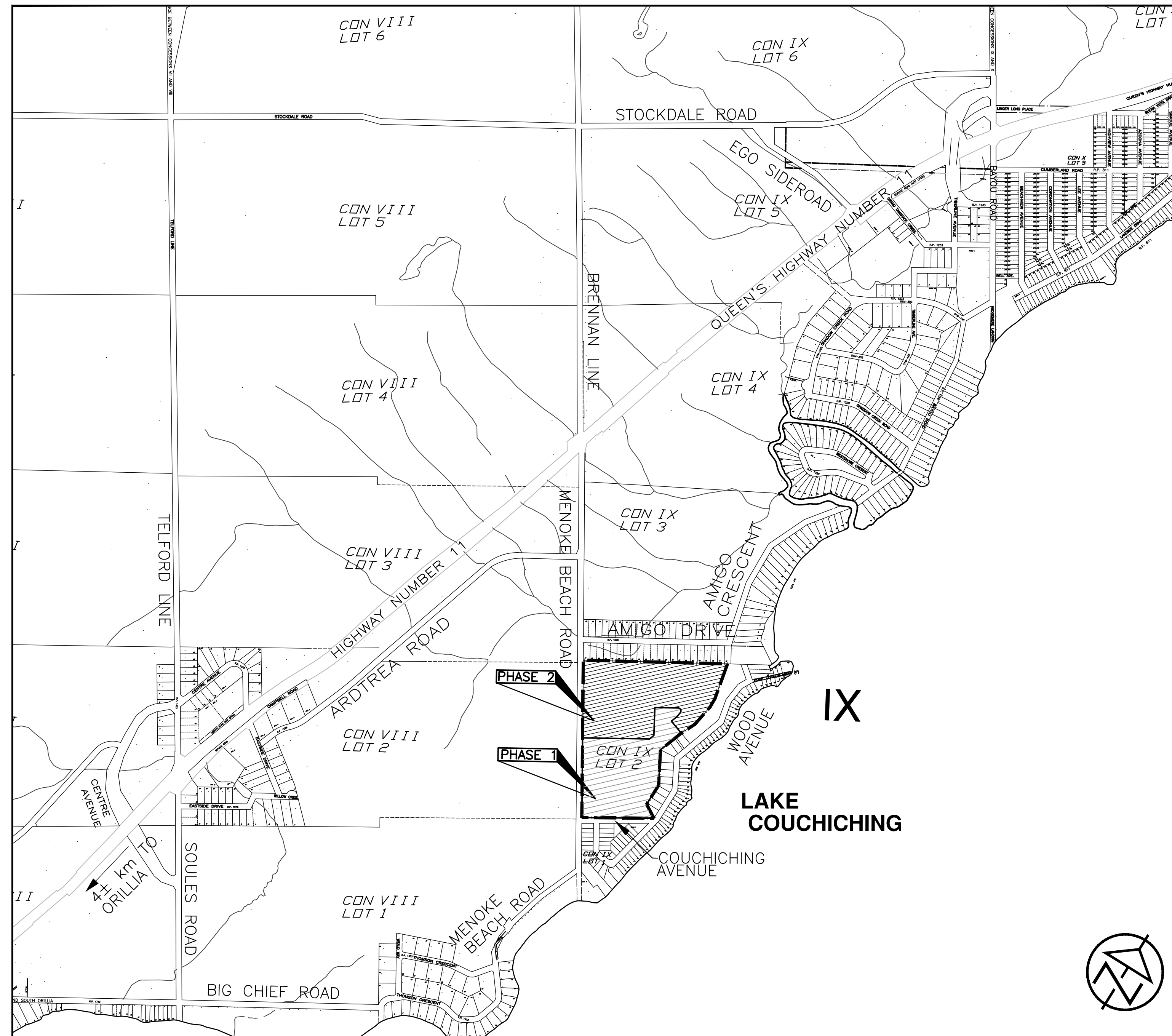


TOWNSHIP OF SEVERN

MENOKE BEACH DEVELOPMENTS - BLOCK 'C' SUBDIVISION

MENOKE BEACH SUBDIVISION - PHASE 2

FIRST SUBMISSION



KEY PLAN

SCALE NTS

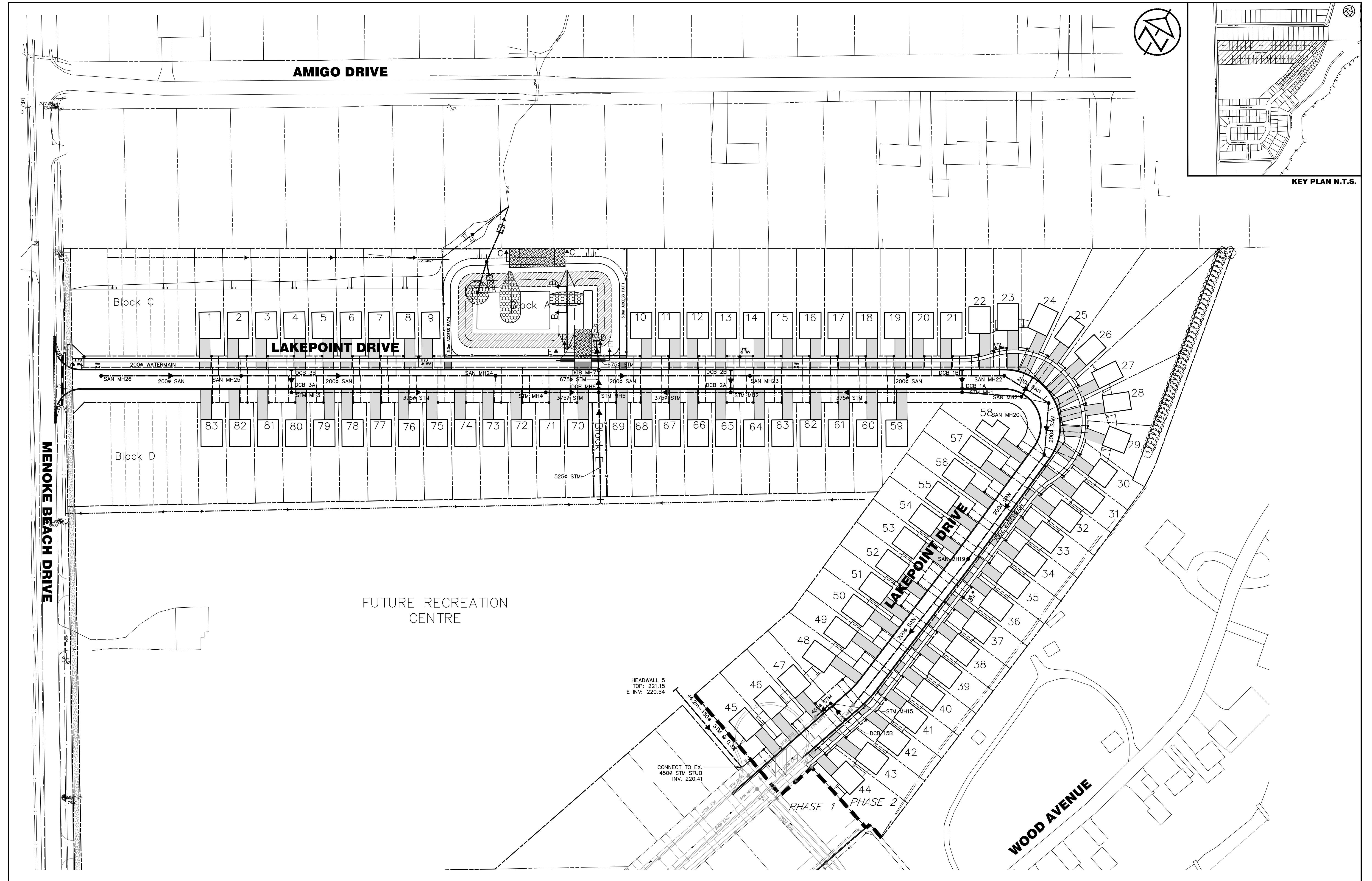
TOWNSHIP OF SEVERN MENOKE BEACH DEVELOPMENTS INC. BLOCK 'C' SUBDIVISION MENOKE BEACH SUBDIVISION - PHASE 2 FIRST SUBMISSION

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STM-1	STORM DRAINAGE PLAN
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LG-1	LOT GRADING PLAN
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PP-1	PLAN & PROFILE LAKEPOINT DRIVE - STA. 0+384 to 0+660
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PP-3	PLAN & PROFILE LAKEPOINT DRIVE - STA. 0+850 to 1+040
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LEGEND

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	EXISTING CABLE PEDESTAL
	EXISTING BELL MAINTENANCE HOLE
	EXISTING BELL PEDESTAL
	EXISTING BELL POLE
	EXISTING HYDRO POLE
	EXISTING HYDRO GUY POLE
	EXISTING HYDRO GUY WIRE
	EXISTING GAS MARKER
	EXISTING STANDARD IRON BAR
	EXISTING TRAFFIC SIGN
	EXISTING DECIDUOUS TREE
	PROPOSED DECIDUOUS TREE
	PROPOSED SANITARY SEWER/ SIZE/ DIRECTION OF FLOW
	PROPOSED STORM SEWER/ SIZE/ DIRECTION OF FLOW
	PROPOSED WATER MAIN/SIZE
	PROPOSED STORM SERVICE
	PROPOSED SANITARY SERVICE
	PROPOSED WATER SERVICE
	PROPOSED PROPERTY LINE
	PROPOSED DITCH
	PROPOSED LOT LINE
	PROPOSED CENTERLINE
	PROPOSED EDGE OF ASPHALT
	PROPOSED EDGE OF SHOULDER
	PROPOSED GAS MAIN
	PROPOSED SANITARY MAINTENANCE HOLE/ NUMBER
	PROPOSED SANITARY CLEANOUT
	PROPOSED DITCH INLET CATCHBASIN
	PROPOSED STORM MAINTENANCE HOLE/ NUMBER
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	PROPOSED TRAFFIC SIGN
	PROPOSED TRAFFIC SIGNAL
	PROPOSED HYDRO POLE
	PROPOSED HYDRO TRANSFORMER
	PROPOSED HYDRO KIOSK
	PROPOSED CABLE VAULT
	PROPOSED UTILITY DUCT CROSSING
	PROPOSED BELL PEDESTAL
	PROPOSED BELL GRADE LEVEL BOX
	PROPOSED STREET LIGHT POWER PEDESTAL
	PROPOSED MAILBOX LOCATION



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BENCHMARKS
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 NAIL IN HP LOCATED AT SOUTHEAST CORNER OF INTERSECTION OF MENOKE BEACH DRIVE & AMIGO DRIVE.
 TBM2 - ELEVATION 221.90
 NAIL IN HP ON EAST SIDE OF MENOKE BEACH DRIVE AT NORTH OF ENTRANCE TO 3795 MENOKE BEACH DRIVE.

NOTES

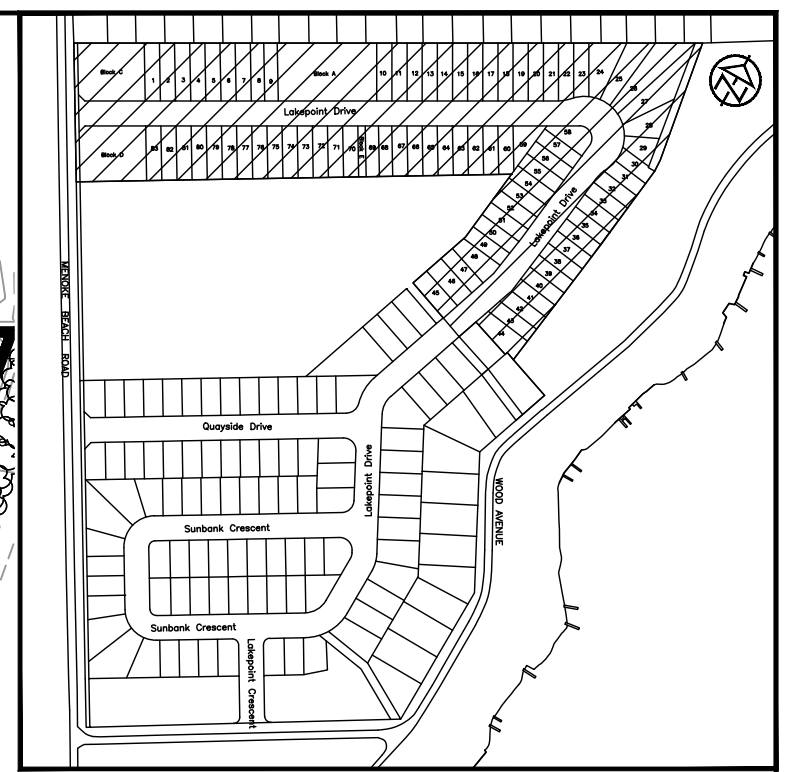
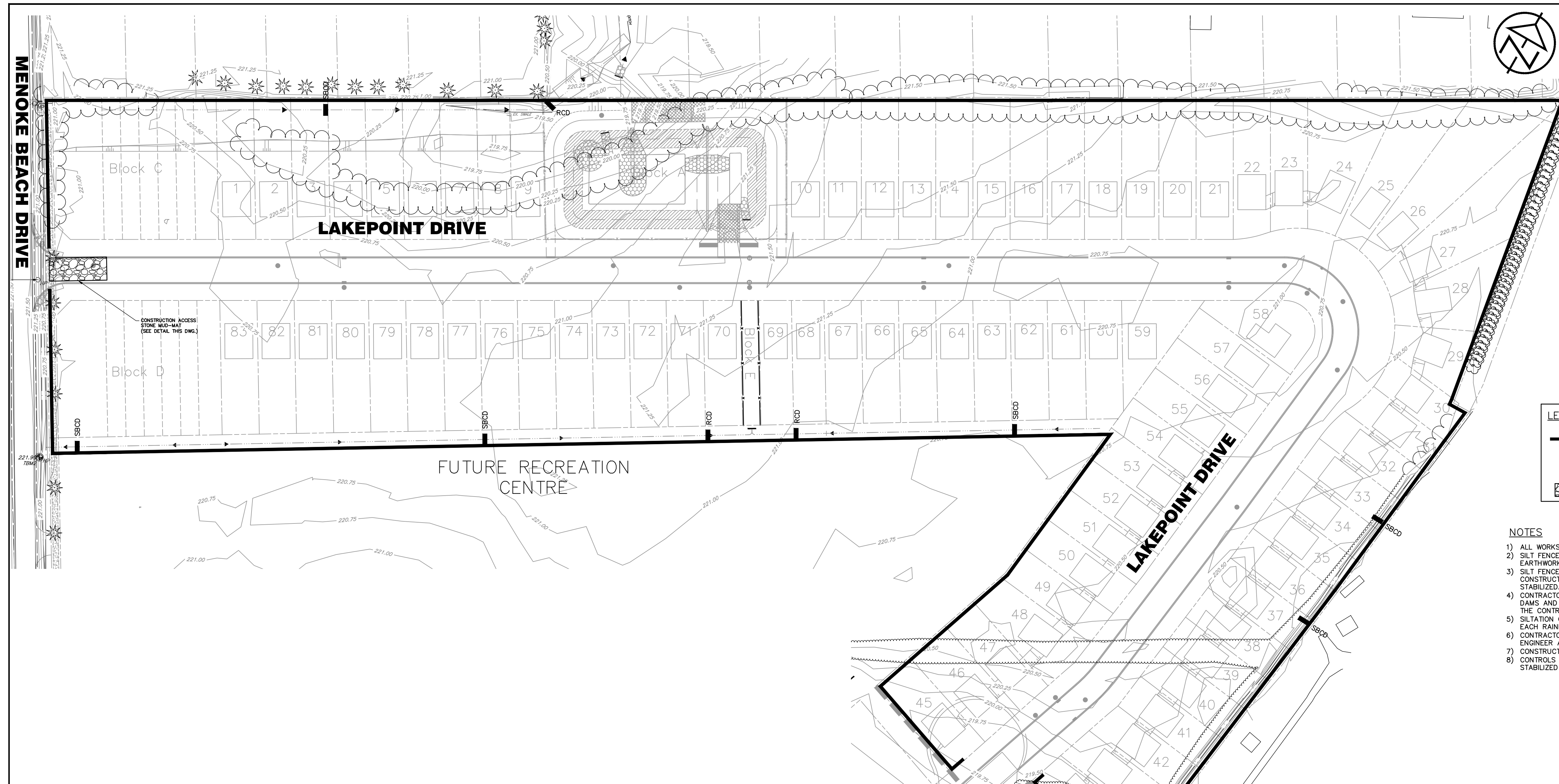
No.	REVISION DESCRIPTION	DATE	ENGINEER STAMP
1.	1ST SUBMISSION	FEB. 2021	

MENOKE BEACH DEVELOPMENTS INC.
BLOCK 'C' MENOKE BEACH SUBDIVISION
TOWNSHIP OF SEVERN

GENERAL SERVICING PLAN

TATHAM ENGINEERING

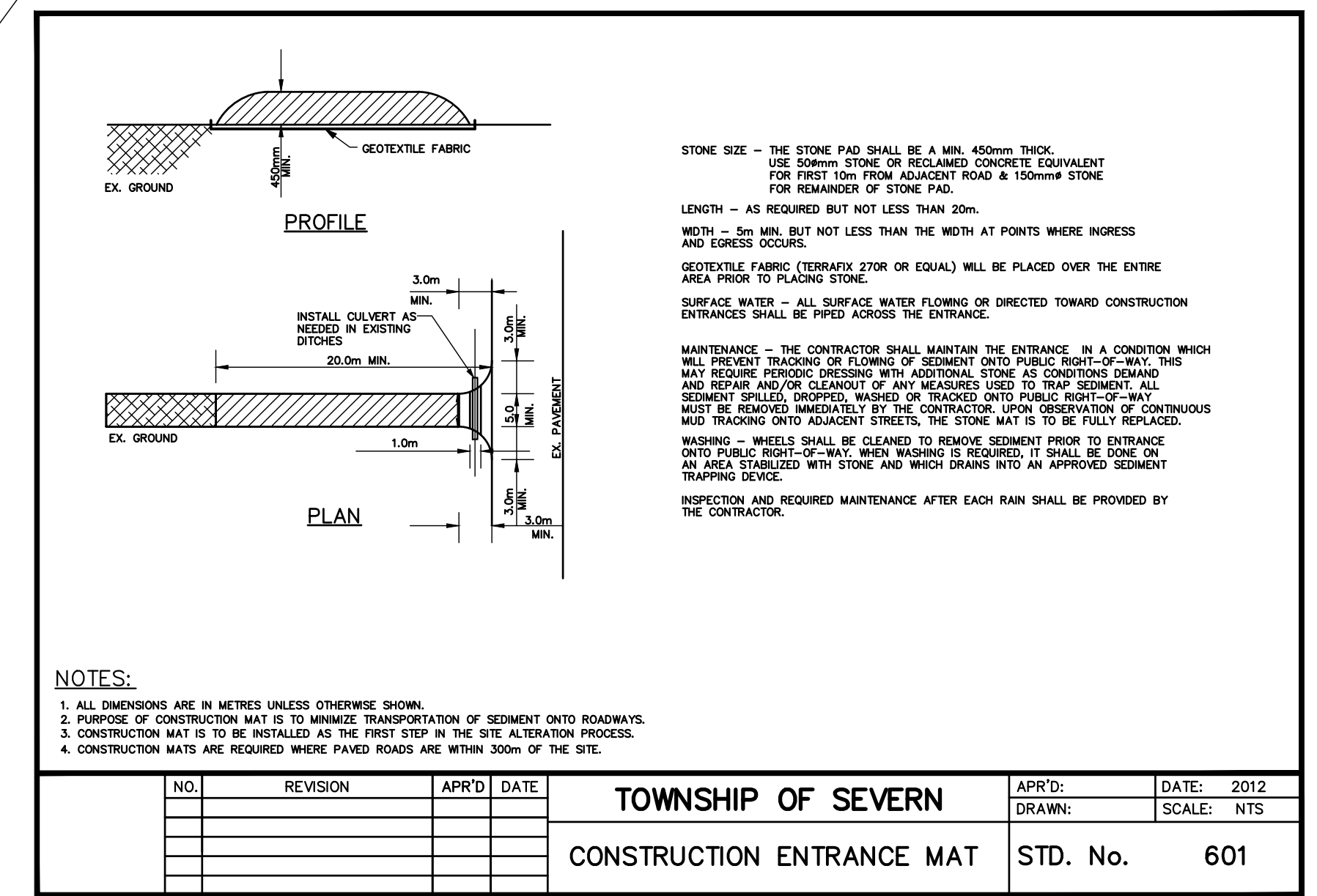
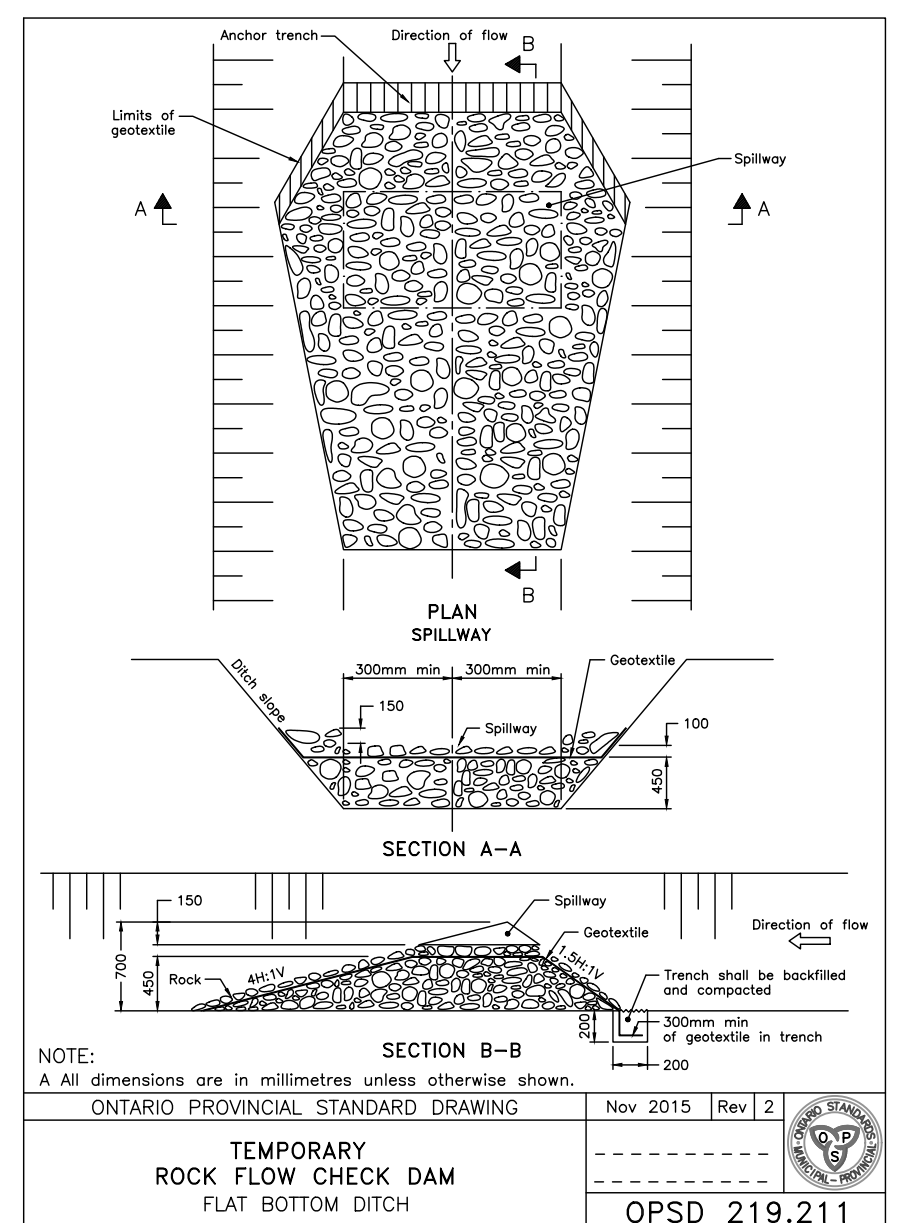
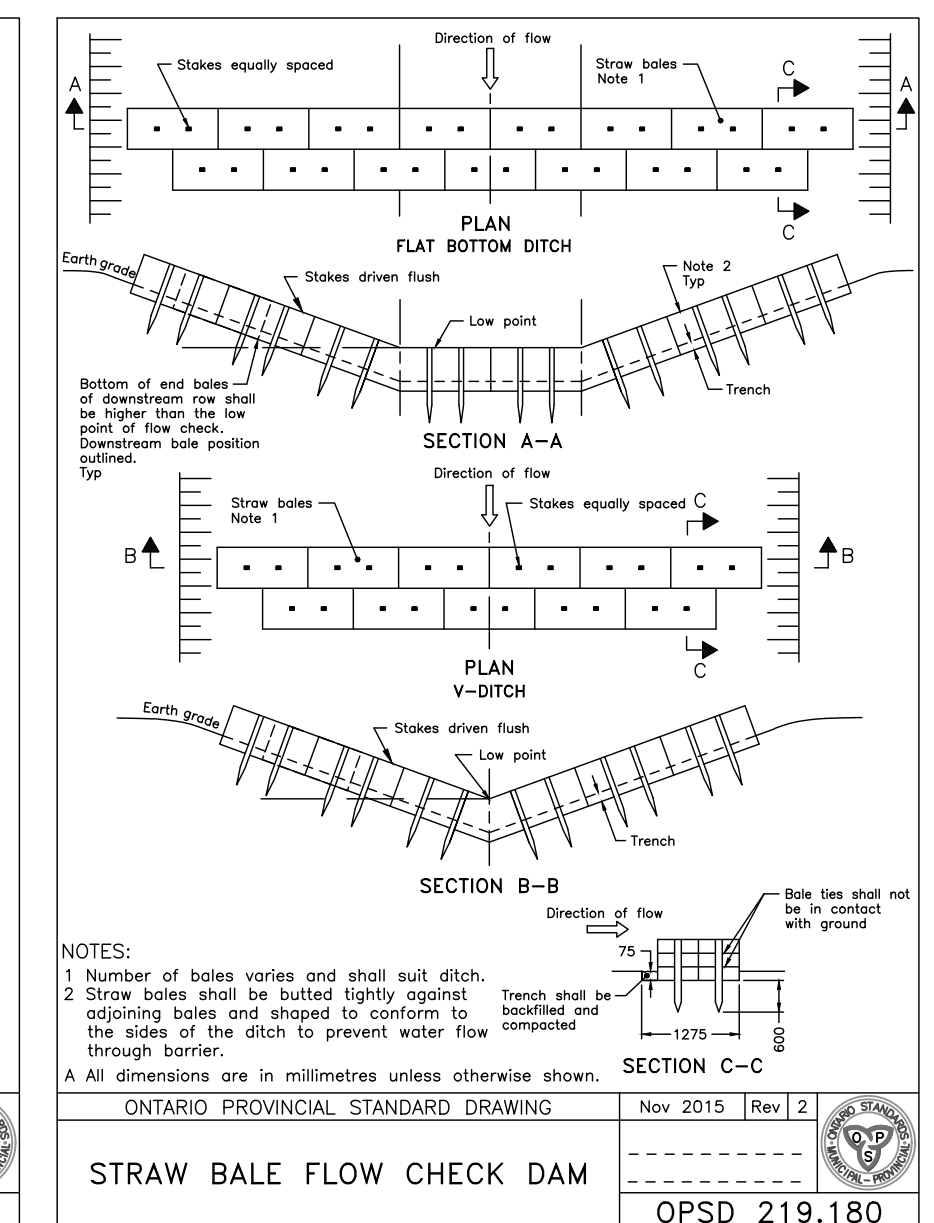
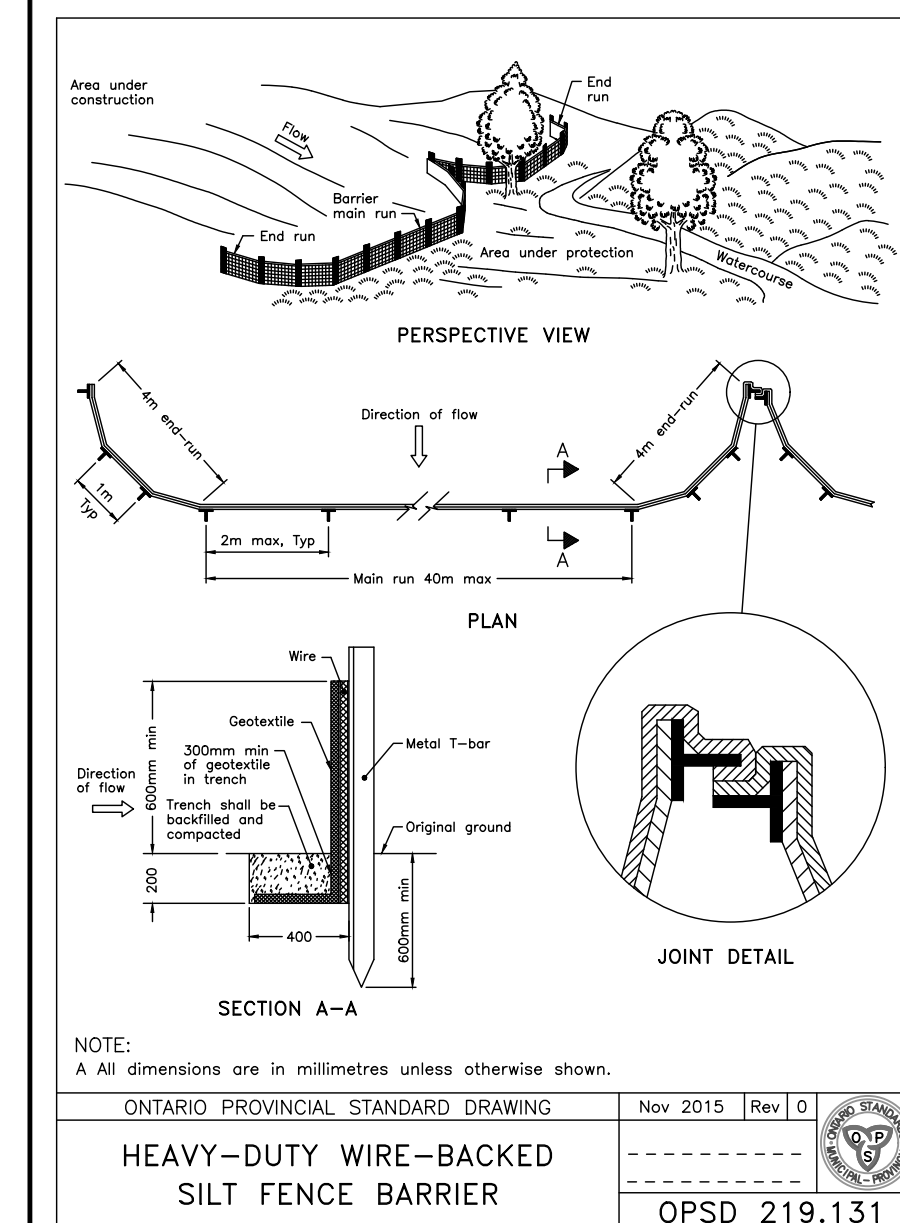
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DRAWN: CU	DATE: APRIL 2020	GS-1
CHECK: TK	SCALE: 1:750	



LEGEND

	SILT FENCE
	STRAW BALE FLOW CHECK DAM OPSD 219.180
	PERMANENT ROCK CHECK DAM OPSD 219.211
	STONE MUD MAT

- NOTES**
- 1) ALL WORKS TO BE IN PLACE PRIOR TO CONSTRUCTION.
 - 2) SILT FENCE SHALL BE INSTALLED AND INSPECTED PRIOR TO ANY EARTHWORKS TAKING PLACE.
 - 3) SILT FENCE SHALL REMAIN IN PLACE FOR THE DURATION OF THE CONSTRUCTION WORKS AND UNTIL ALL AREAS HAVE BEEN STABILIZED.
 - 4) CONTRACTOR TO INSTALL AND MAINTAIN STRAW BALE FLOW CHECK DAMS AND SILT FENCE AT LOCATIONS SHOWN OR AS DIRECTED BY THE CONTRACT ADMINISTRATOR.
 - 5) SILTATION CONTROL WORKS TO BE INSPECTED BI-WEEKLY AFTER EACH RAINFALL AND REPAIRED AS REQUIRED.
 - 6) CONTRACTOR TO ARRANGE PRE-CONSTRUCTION MEETING WITH ENGINEER AFTER PLACING ALL SILTATION CONTROL WORKS.
 - 7) CONSTRUCT AND MAINTAIN CONSTRUCTION ENTRANCES AS SHOWN.
 - 8) CONTROLS TO REMAIN IN PLACE UNTIL THE SITE HAS BEEN STABILIZED WITH SUFFICIENT GROUND COVER.



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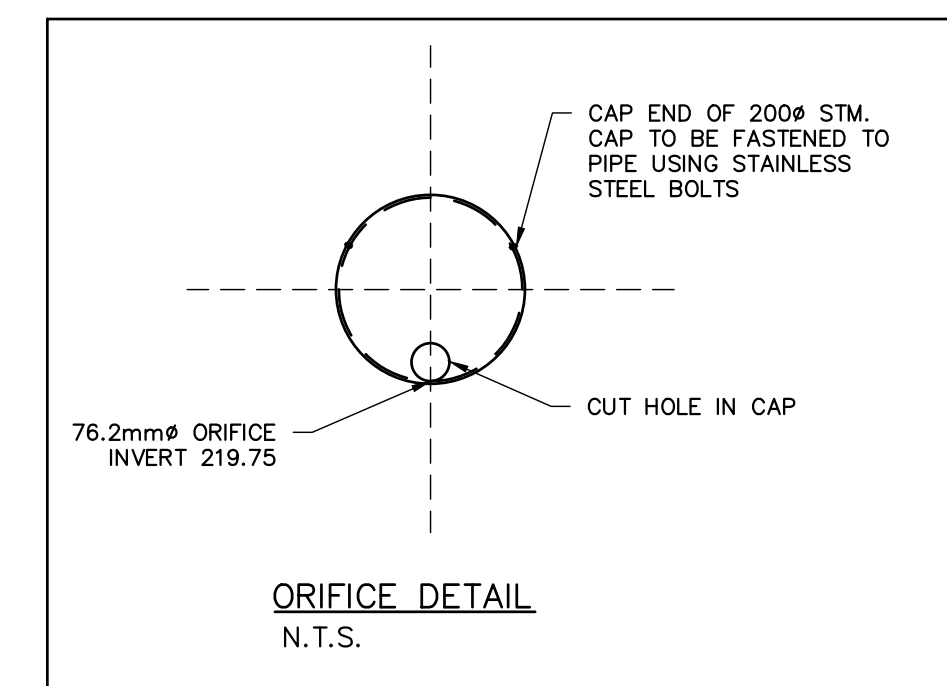
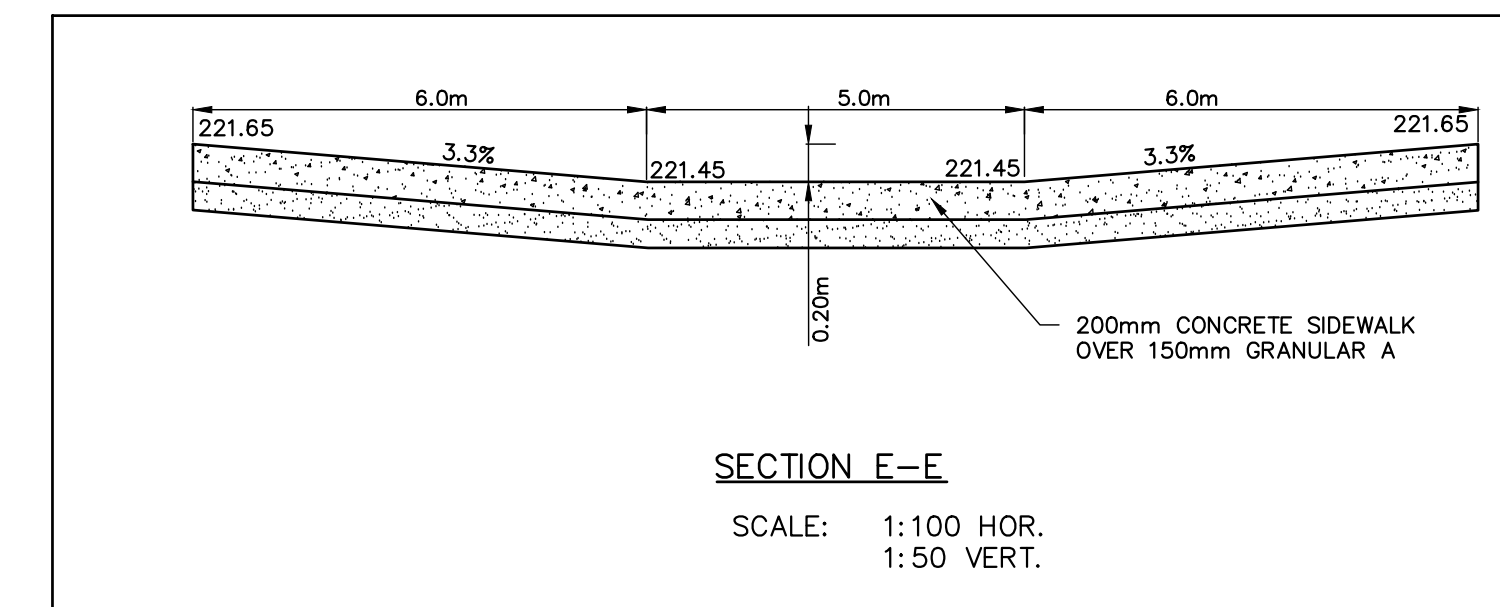
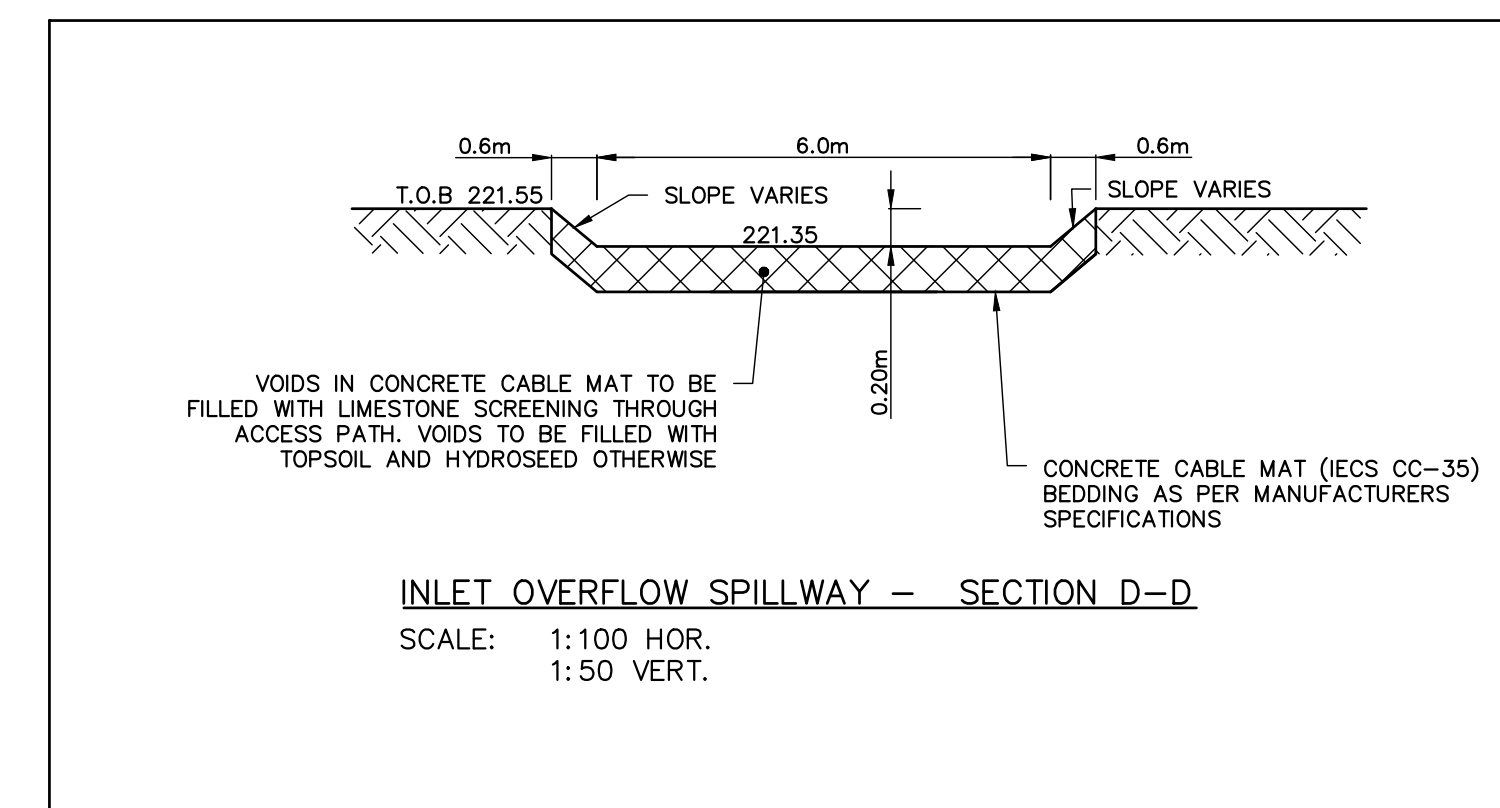
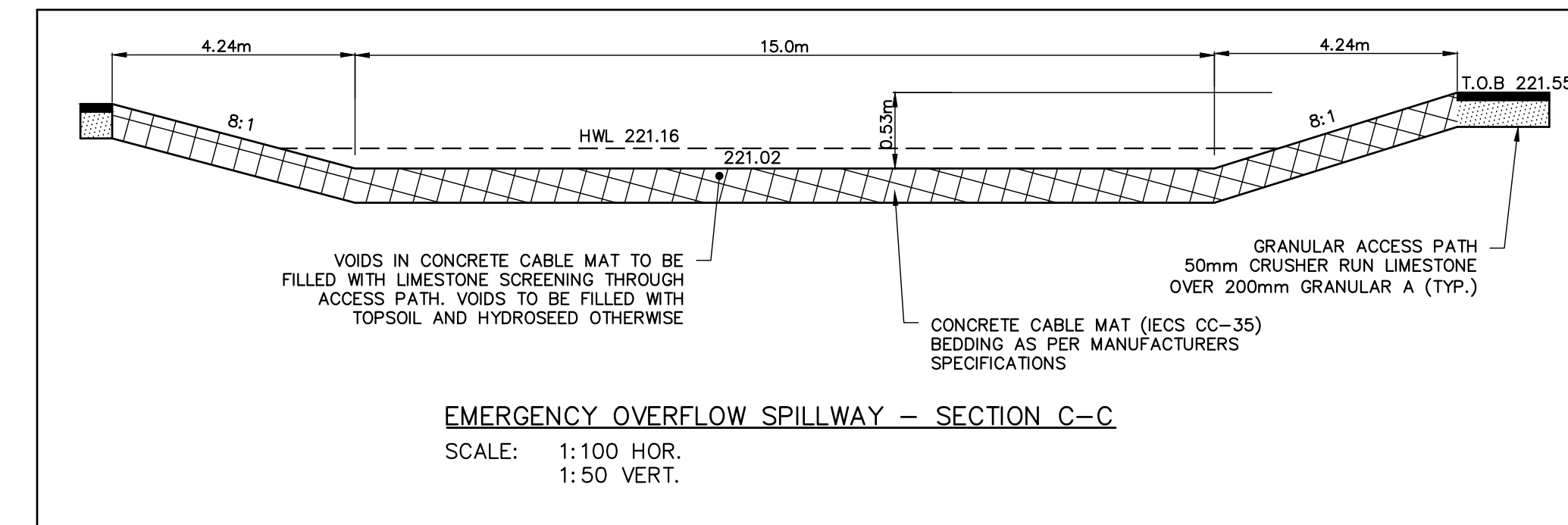
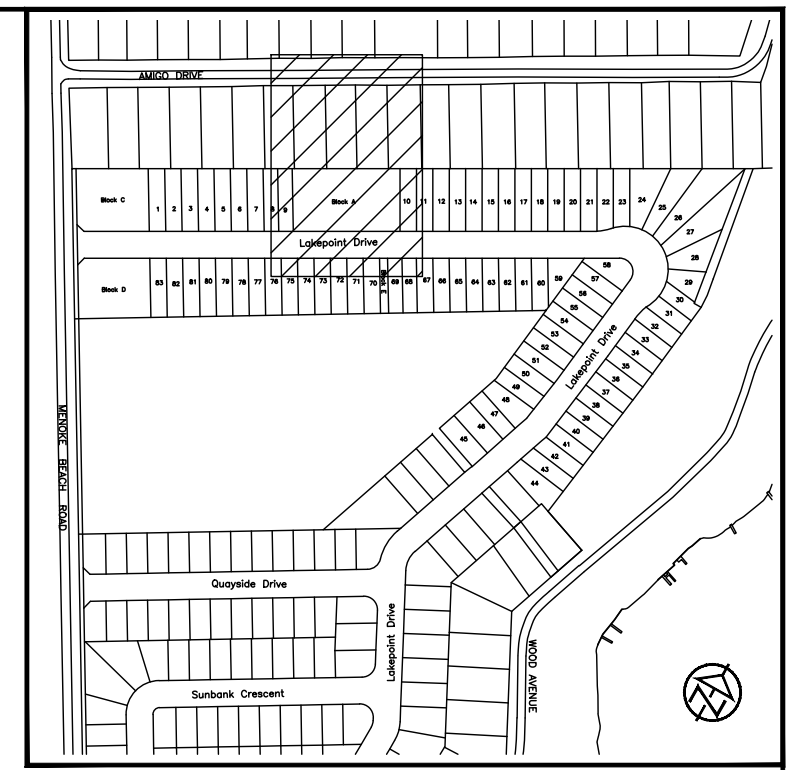
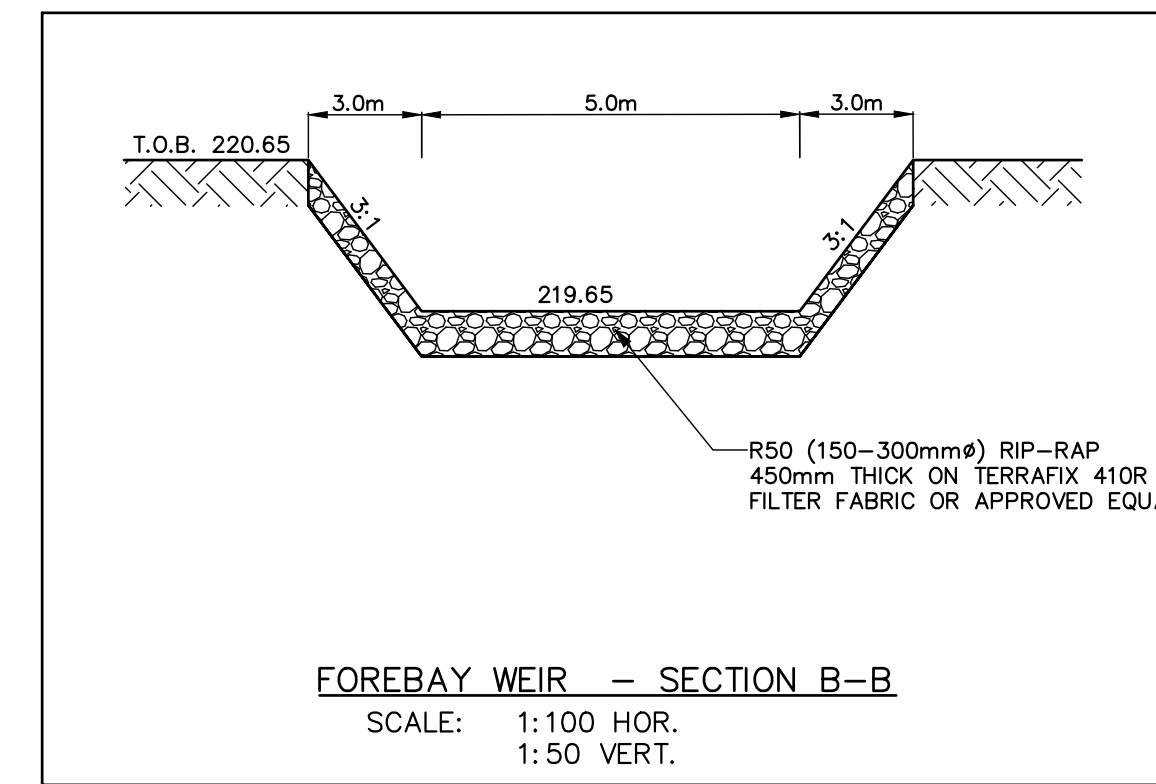
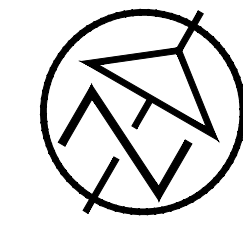
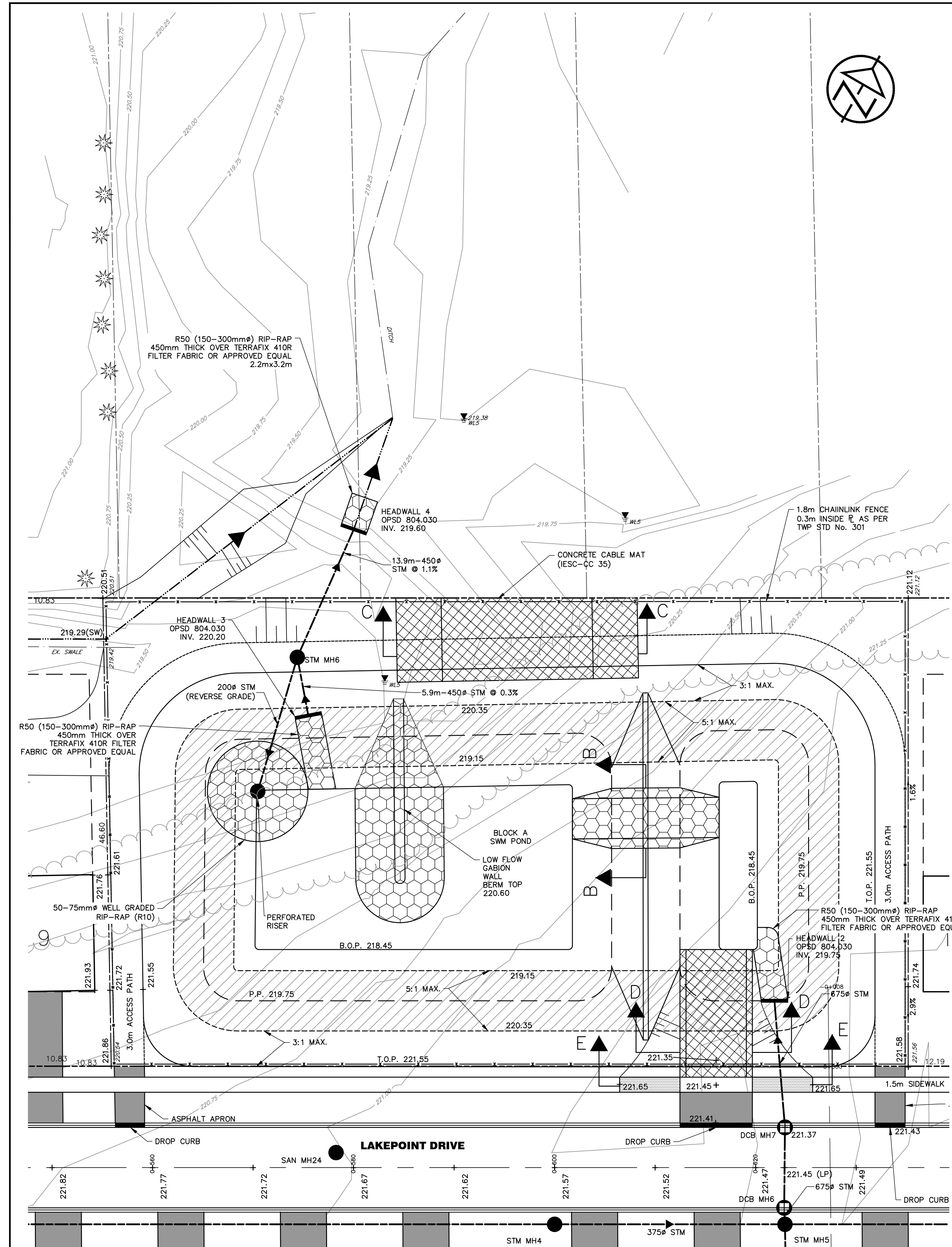
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No.	REVISION DESCRIPTION	DATE	ENGINEER STAMP
1.	1ST SUBMISSION	FEB. 2021	

MENOKE BEACH DEVELOPMENTS INC.
BLOCK 'C' MENOKE BEACH SUBDIVISION
TOWNSHIP OF SEVERN
SILTATION & EROSION CONTROL PLAN

TATHAM ENGINEERING
DESIGN: CU
DRAWN: CU
CHECK: TK
FILE: 304844-9
DATE: APRIL 2020
SCALE: 1:750
DWG: SC-1



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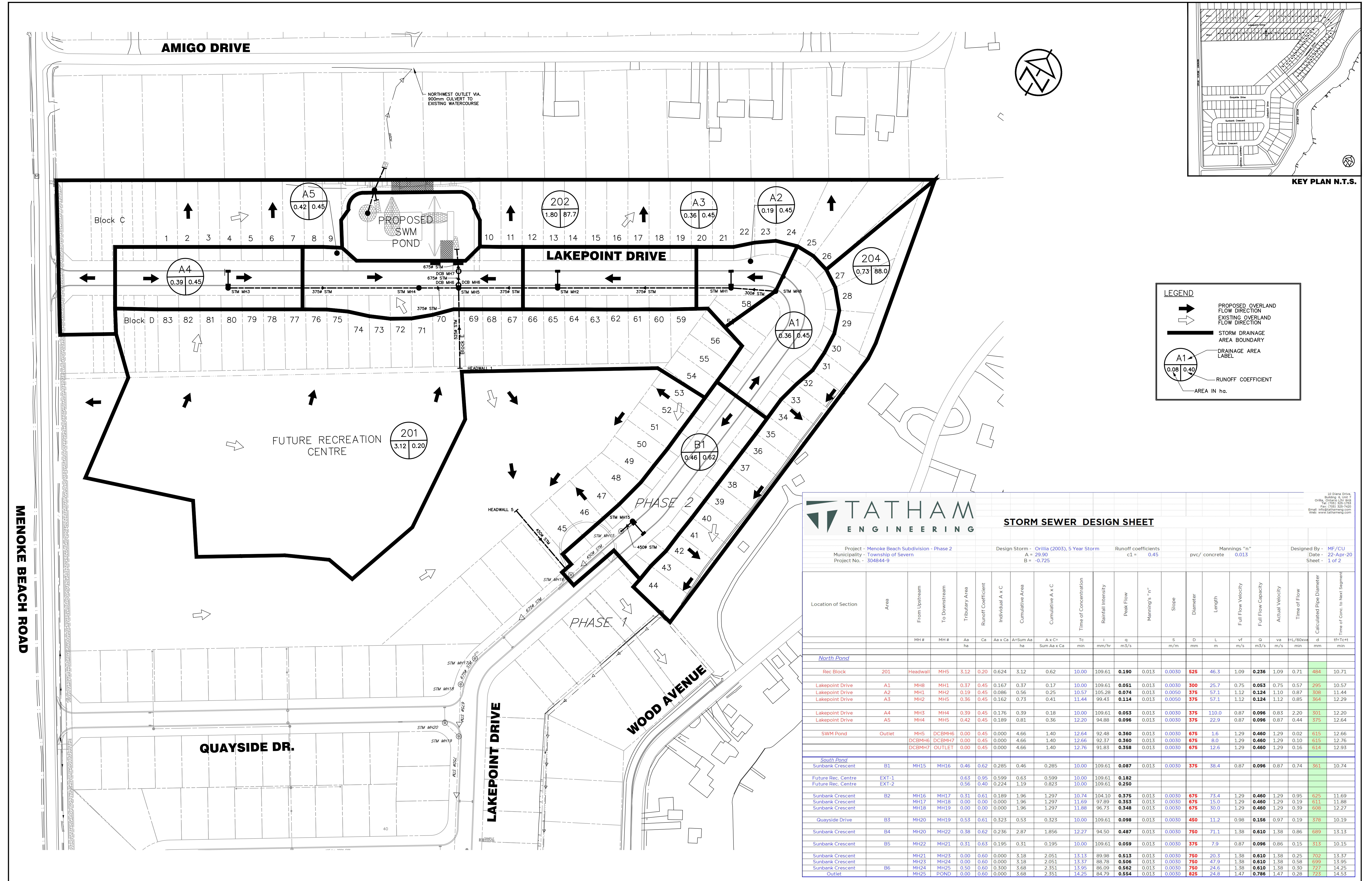
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MENOKE BEACH DEVELOPMENTS INC.
BLOCK 'C' MENOKE BEACH SUBDIVISION
TOWNSHIP OF SEVERN
STORMWATER MANAGEMENT
PLAN & DETAILS

TATHAM ENGINEERING

DESIGN: CU/AO	FILE: 304844-9	DWG:
DRAWN: CU	DATE: APRIL 2020	SWM-1
CHECK: TK	SCALE: AS SHOWN	



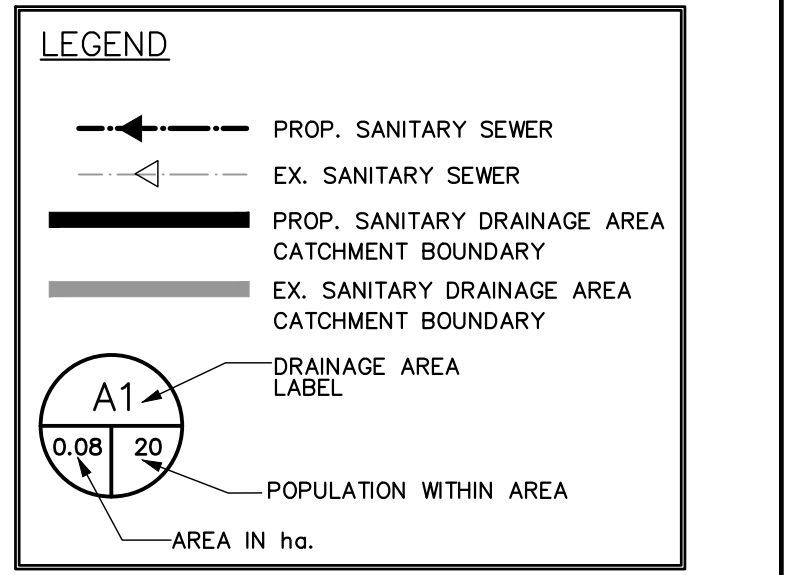
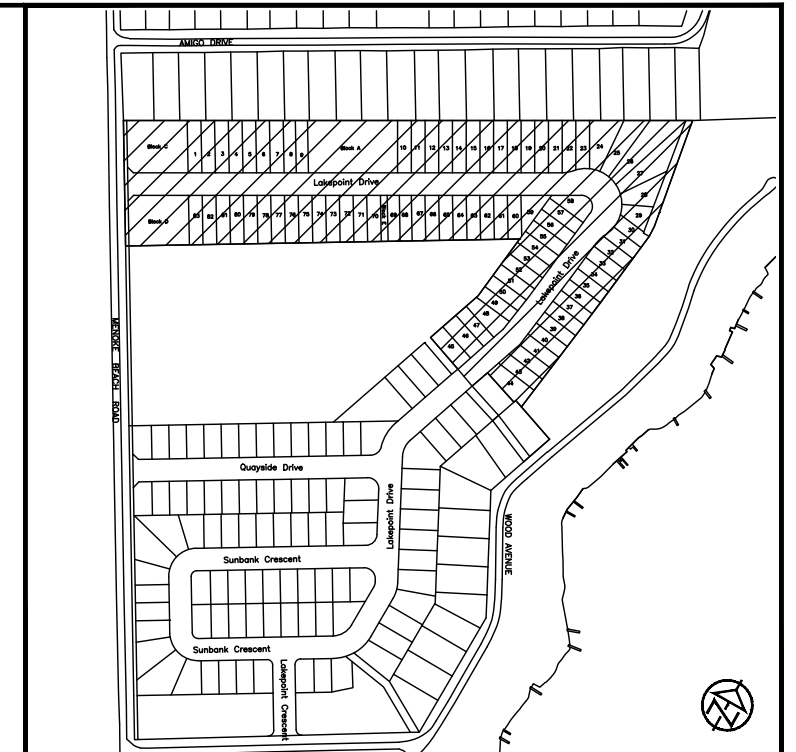
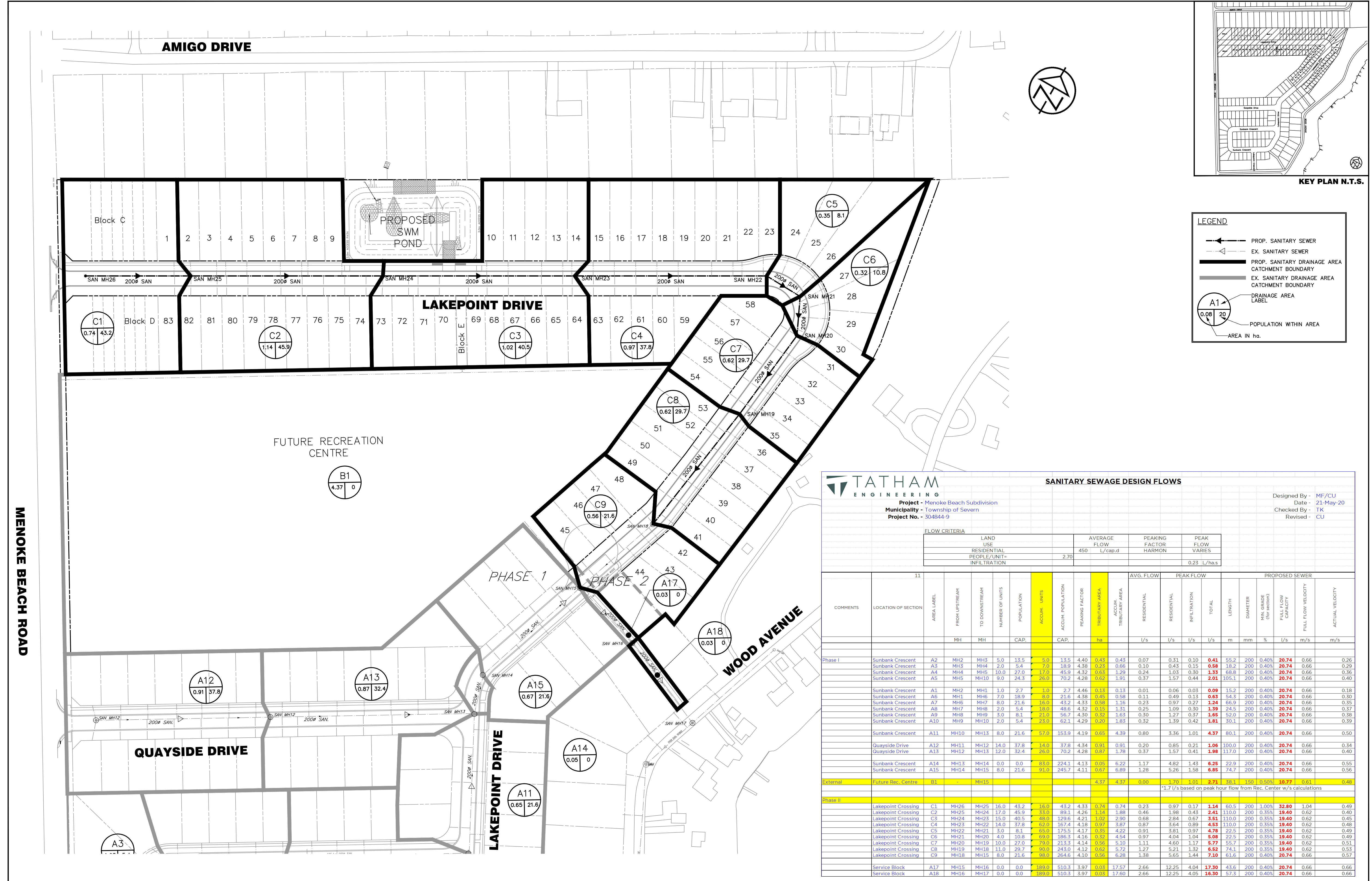
TATHAM ENGINEERING

STORM SEWER DESIGN SHEET

Project - Meneke Beach Subdivision - Phase 2
 Municipality - Township of Severn
 Design Storm - Oritia (2005), 5 Year Storm
 Runoff coefficients c1 = 0.45
 Manning's "n" pvc/ concrete 0.013
 Designed By - MF/CU
 Date - 22-Apr-20
 Sheet - 1 of 2

Location of Section	Area	From Upstream	To Downstream	Tributary Area	Runoff Coefficient	Individual A x C	Cumulative Area	Cumulative A x C	Time of Concentration	Rainfall Intensity	Peak Flow	Manning's "n"	Slope	Diameter	Length	Full Flow Velocity	Full Flow Capacity	Actual Velocity	Time of Flow	Calculated Pipe Diameter	Time of Conc. to Next Segment
		MH#	MH#	ha	Cc	Aa x Ca	A x C ²	Sum Aa x Ca	min	mm/hr	m ³ /s		m/m	mm	m	m/s	m ³ /s	m/s	min	mm	min
North Pond																					
Rec Block	201	Headwall	MH5	3.12	0.20	0.624	3.12	0.62	10.00	109.61	0.190	0.013	0.0030	525	46.3	1.09	0.236	1.09	0.71	484	10.71
Lakepoint Drive	A1	MH8	MH1	0.37	0.45	0.167	0.37	0.17	10.00	109.61	0.051	0.013	0.0030	300	25.7	0.75	0.053	0.75	0.57	295	10.57
Lakepoint Drive	A2	MH1	MH2	0.19	0.45	0.086	0.56	0.25	10.57	105.28	0.074	0.013	0.0050	375	57.1	1.12	0.124	1.10	0.87	308	11.44
Lakepoint Drive	A3	MH2	MH5	0.36	0.45	0.162	0.73	0.41	11.44	99.43	0.114	0.013	0.0050	375	57.1	1.12	0.124	1.12	0.85	364	12.29
Lakepoint Drive	A4	MH3	MH4	0.39	0.45	0.176	0.39	0.18	10.00	109.61	0.053	0.013	0.0030	375	110.0	0.87	0.096	0.83	2.20	301	12.20
Lakepoint Drive	A5	MH4	MH5	0.42	0.45	0.189	0.81	0.36	12.20	94.88	0.096	0.013	0.0030	375	22.9	0.87	0.096	0.87	0.44	375	12.64
SWM Pond	Outlet	MH5	DCBMH6	0.00	0.45	0.000	4.66	1.40	12.64	92.48	0.360	0.013	0.0030	675	1.6	1.29	0.460	1.29	0.02	615	12.66
		DCBMH6	DCBMH7	0.00	0.45	0.000	4.66	1.40	12.66	92.37	0.360	0.013	0.0030	675	8.0	1.29	0.460	1.29	0.10	615	12.76
		DCBMH7	OUTLET	0.00	0.45	0.000	4.66	1.40	12.76	91.83	0.358	0.013	0.0030	675	12.6	1.29	0.460	1.29	0.16	614	12.93
South Pond																					
Sunbank Crescent	B1	MH15	MH16	0.46	0.62	0.285	0.46	0.285	10.00	109.61	0.087	0.013	0.0030	375	38.4	0.87	0.096	0.87	0.74	561	10.74
Future Rec. Centre	EXT-1			0.63	0.95	0.599	0.63	0.599	10.00	109.61	0.182										
Future Rec. Centre	EXT-2			0.56	0.40	0.224	1.19	0.823	10.00	109.61	0.250										
Sunbank Crescent	B2	MH16	MH17	0.31	0.61	0.189	1.96	1.297	10.74	104.10	0.375	0.013	0.0030	675	75.4	1.29	0.460	1.29	0.95	625	11.69
Sunbank Crescent	MH17	MH18		0.00	0.00	0.000	1.96	1.297	11.69	97.89	0.353	0.013	0.0030	675	15.0	1.29	0.460	1.29	0.19	611	11.88
Sunbank Crescent	MH18	MH19		0.00	0.00	0.000	1.96	1.297	11.88	96.73	0.348	0.013	0.0030	675	30.0	1.29	0.460	1.29	0.39	608	12.27
Quayside Drive	B3	MH19	MH20	0.53	0.61	0.323	0.53	0.323	10.00	109.61	0.098	0.013	0.0030	450	11.2	0.99	0.156	0.97	0.19	378	10.19
Sunbank Crescent	B4	MH20	MH22	0.38	0.62	0.236	2.87	1.856	12.27	94.50	0.487	0.013	0.0030	750	71.1	1.38	0.610	1.38	0.86	689	13.13
Sunbank Crescent	B5	MH22	MH21	0.31	0.63	0.195	0.31	0.195	10.00	109.61	0.059	0.013	0.0030	375	7.9	0.87	0.096	0.86	0.15	313	10.15
Sunbank Crescent	MH21	MH23		0.00	0.60	0.000	3.18	2.051	13.13	89.98	0.513	0.013	0.0030	750	20.3	1.38	0.610	1.38	0.25	702	13.37
Sunbank Crescent	MH23	MH24		0.00	0.60	0.000	3.18	2.051	13.17	88.78	0.506	0.013	0.0030	750	47.9	1.38	0.610	1.38	0.38	699	13.95
Sunbank Crescent	B6	MH24	MH25	0.50	0.60	0.300	3.68	2.351	13.95	86.09	0.562	0.013	0.0030	750	24.6	1.38	0.610	1.38	0.50	727	14.25
Outlet	MH25	POND		0.00	0.60	0.000	3.68	2.351	14.25	84.79	0.554	0.013	0.0030	825	24.8	1.47	0.786	1.47	0.28	733	14.53

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				No.	REVISION DESCRIPTION	DATE	ENGINEER STAMP									
1.	1ST SUBMISSION	FEB. 2021														
<p>DRAWN: CU</p>	<p>DATE: APRIL 2020</p>	<p>STM-1</p>														
<p>STORM DRAINAGE PLAN</p>			<p>CHECK: TK</p>			<p>SCALE: 1:1000</p>										



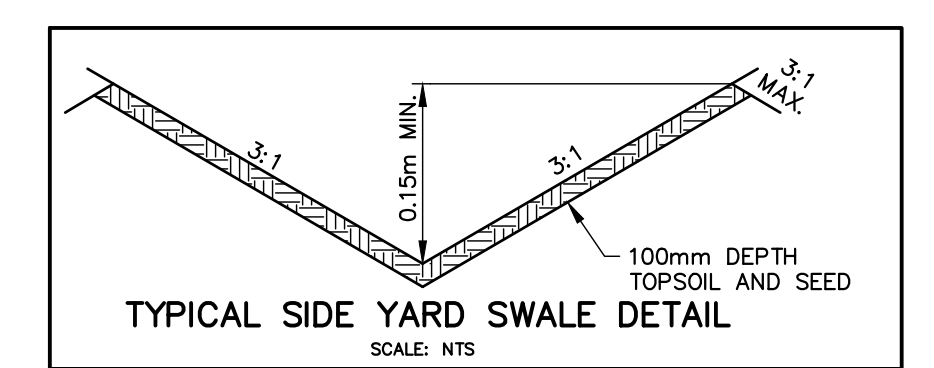
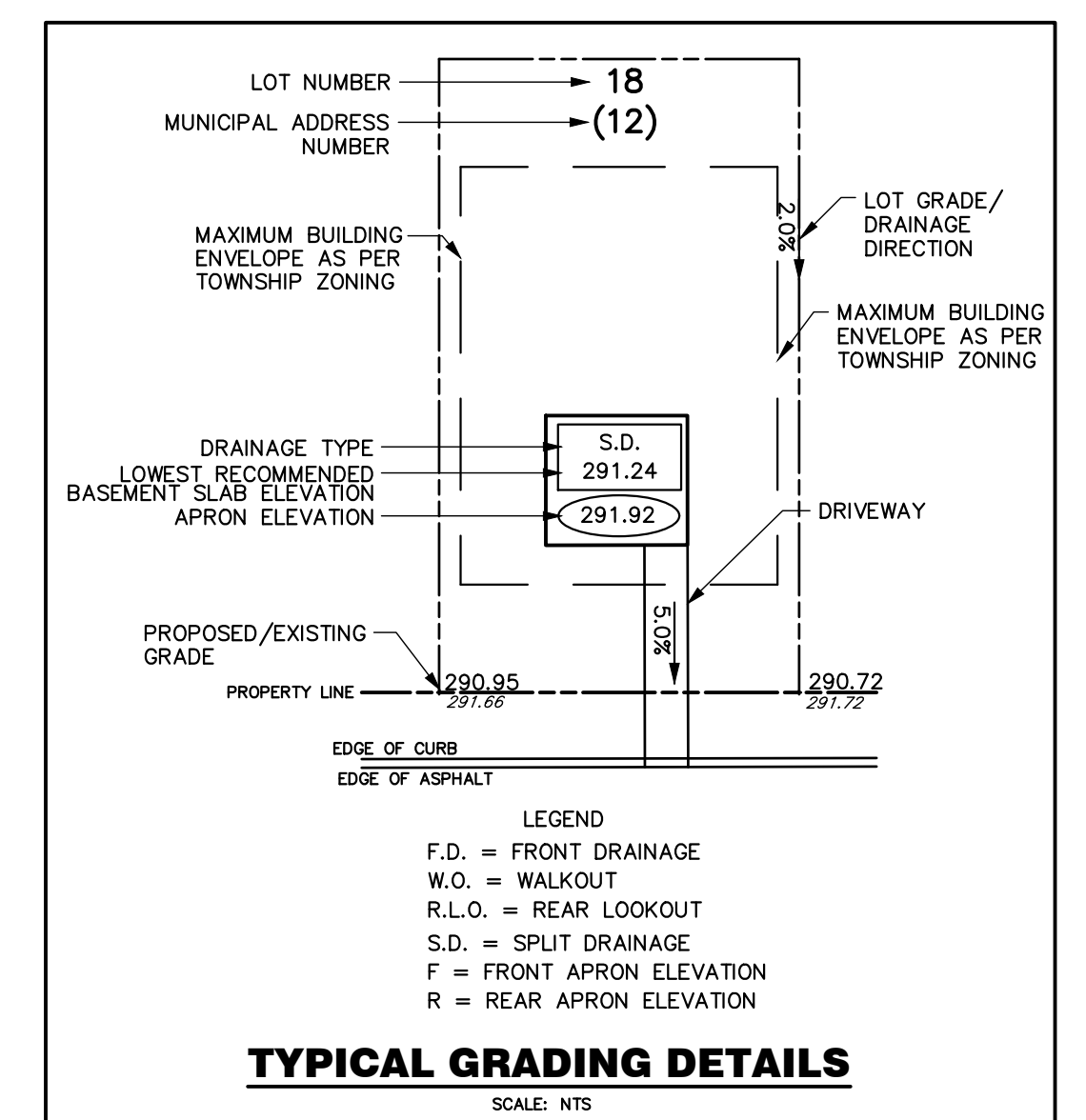
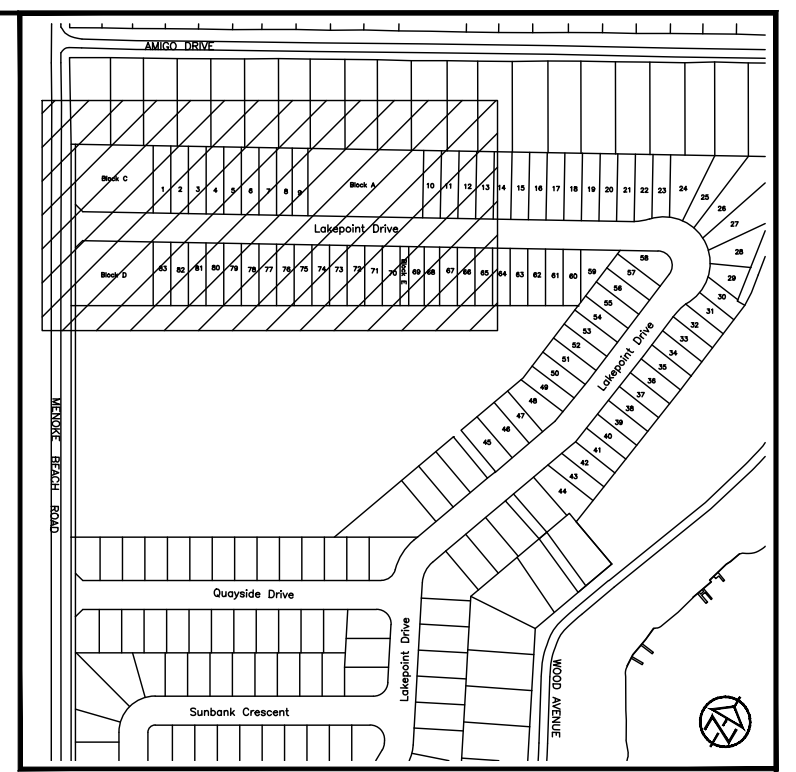
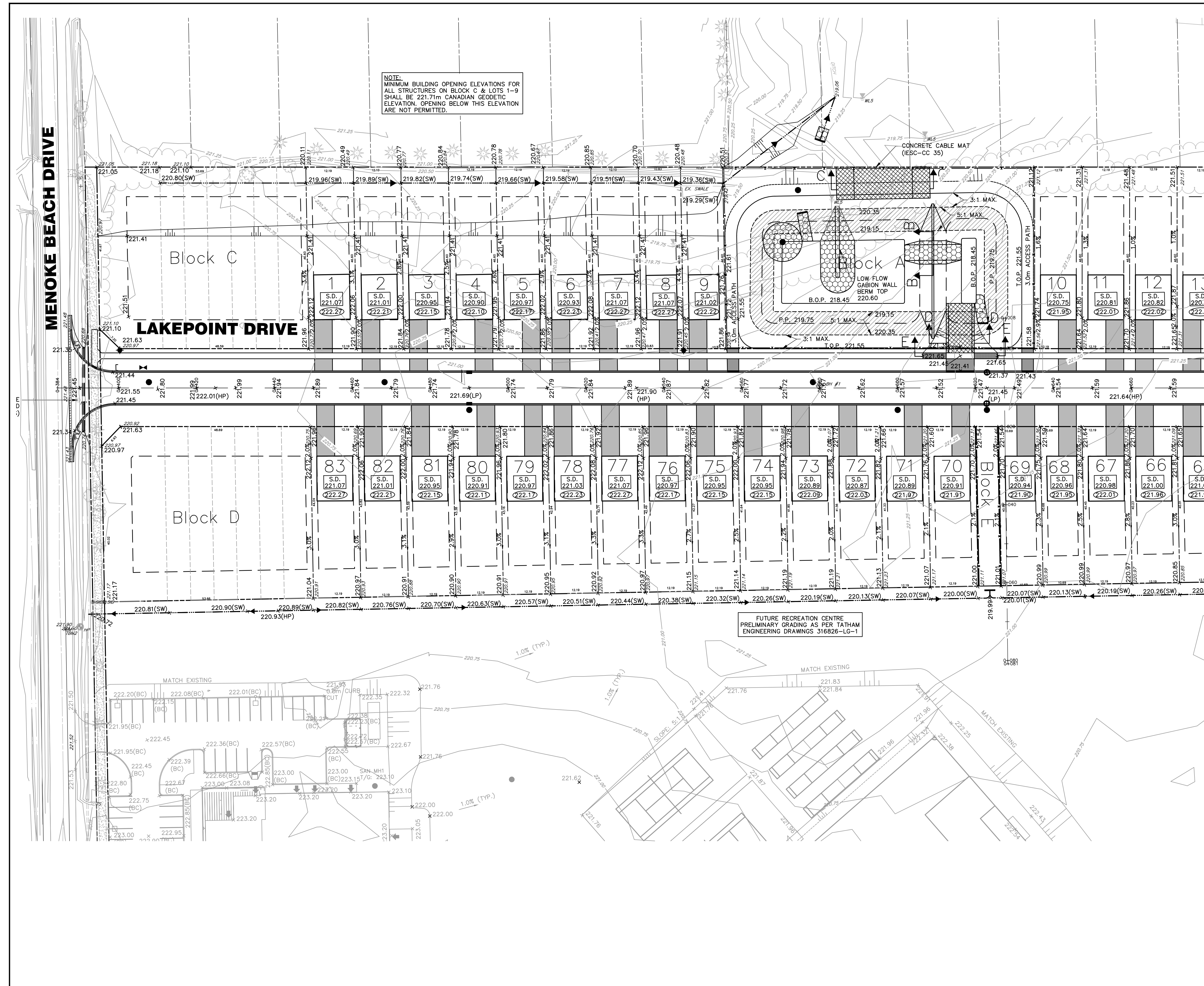
TATHAM ENGINEERING
 Project - Menoke Beach Subdivision
 Municipality - Township of Severn
 Project No. - 304844-9

Designed By - MF/CU
 Date - 21-May-20
 Checked By - TK
 Revised - CU

FLOW CRITERIA		LAND USE		AVERAGE FLOW		PEAKING FACTOR		PEAK FLOW	
		RESIDENTIAL		PEOPLE/UNIT+		HARMON		VARIES	
		2.70		450		0.23		L/ha.s	

COMMENTS	LOCATION OF SECTION	AREA LABEL	FROM UPSTREAM	TO DOWNSTREAM	NUMBER OF UNITS	POPULATION	ACCOM. UNITS	ACCOM. POPULATION	PEAKING FACTOR	TRIBUTARY AREA	ACCOM. TRIBUTARY AREA	AVG. FLOW		PEAK FLOW		PROPOSED SEWER					
												RESIDENTIAL	RESIDENTIAL	RESIDENTIAL	RESIDENTIAL	INFECTION	TOTAL	LENGTH	DIAMETER	MIN. GRADE (SIP METHOD)	FULL FLOW CAPACITY
			MH	MH	CAP.					ha		l/s	l/s	l/s	l/s	m	mm	%	l/s	m/s	m/s
Phase I																					
Sunbank Crescent	A2	MH2	MH3	5.0	13.5	5.0	13.5	4.40	0.43	0.43	0.07	0.31	0.10	0.41	55.2	200	0.40%	20.74	0.66	0.26	
Sunbank Crescent	A3	MH3	MH4	2.0	5.4	7.0	18.9	4.38	0.23	0.66	0.10	0.43	0.15	0.68	18.2	200	0.40%	20.74	0.66	0.29	
Sunbank Crescent	A4	MH4	MH5	10.0	27.0	17.0	45.9	4.32	0.63	1.29	0.24	1.03	0.30	1.33	68.8	200	0.40%	20.74	0.66	0.36	
Sunbank Crescent	A5	MH5	MH10	9.0	24.3	26.0	70.2	4.28	0.62	1.91	0.37	1.57	0.44	2.01	105.1	200	0.40%	20.74	0.66	0.40	
Sunbank Crescent	A1	MH2	MH1	1.0	2.7	1.0	2.7	4.46	0.13	0.13	0.01	0.06	0.03	0.09	15.2	200	0.40%	20.74	0.66	0.18	
Sunbank Crescent	A6	MH1	MH6	7.0	18.9	8.0	21.6	4.38	0.45	0.58	0.11	0.49	0.13	0.63	54.3	200	0.40%	20.74	0.66	0.30	
Sunbank Crescent	A7	MH6	MH7	8.0	21.6	18.0	48.2	4.33	0.58	1.16	0.23	0.97	0.27	1.24	66.9	200	0.40%	20.74	0.66	0.35	
Sunbank Crescent	A8	MH7	MH8	2.0	5.4	18.0	48.6	4.32	0.15	1.31	0.25	1.09	0.30	1.39	24.5	200	0.40%	20.74	0.66	0.37	
Sunbank Crescent	A9	MH8	MH9	3.0	8.1	21.0	56.7	4.30	0.32	1.63	0.30	1.27	0.37	1.65	52.0	200	0.40%	20.74	0.66	0.38	
Sunbank Crescent	A10	MH9	MH10	2.0	5.4	23.0	62.1	4.29	0.20	1.83	0.32	1.39	0.42	1.81	30.1	200	0.40%	20.74	0.66	0.39	
Sunbank Crescent	A11	MH10	MH13	8.0	21.6	57.0	153.9	4.19	0.65	4.39	0.80	3.56	1.01	4.37	80.1	200	0.40%	20.74	0.66	0.50	
Quayside Drive	A12	MH11	MH12	14.0	37.8	14.0	37.8	4.34	0.91	0.91	0.20	0.85	0.21	1.06	100.0	200	0.40%	20.74	0.66	0.34	
Quayside Drive	A13	MH12	MH15	12.0	32.4	26.0	70.2	4.28	0.87	1.78	0.37	1.57	0.41	1.98	117.0	200	0.40%	20.74	0.66	0.40	
Sunbank Crescent	A14	MH13	MH14	0.0	0.0	83.0	224.1	4.13	0.05	6.22	1.17	4.82	1.43	6.25	22.9	200	0.40%	20.74	0.66	0.55	
Sunbank Crescent	A15	MH14	MH15	8.0	21.6	91.0	245.7	4.11	0.67	6.89	1.28	5.26	1.58	6.85	74.7	200	0.40%	20.74	0.66	0.56	
External	Future Rec. Centre	B1	MH15							4.37	4.37	0.00	1.70	1.01	2.71	68.1	150	0.50%	10.77	0.61	0.48
												*1.7 l/s based on peak hour flow from Rec. Center w/s calculations									
Phase II																					
Lakepoint Crossing	C1	MH26	MH25	16.0	43.2	16.0	43.2	4.33	0.74	0.74	0.23	0.97	0.17	1.14	60.5	200	1.00%	32.80	1.04	0.49	
Lakepoint Crossing	C2	MH25	MH24	17.0	45.9	33.0	89.1	4.26	1.14	1.88	0.46	1.98	0.43	2.41	110.0	200	0.35%	19.40	0.62	0.40	
Lakepoint Crossing	C3	MH24	MH23	15.0	40.5	48.0	129.6	4.21	1.52	2.90	0.68	2.84	0.67	3.51	110.0	200	0.35%	19.40	0.62	0.45	
Lakepoint Crossing	C4	MH23	MH22	14.0	37.8	62.0	167.4	4.18	0.97	3.87	0.87	3.64	0.89	4.53	110.0	200	0.35%	19.40	0.62	0.48	
Lakepoint Crossing	C5	MH22	MH21	3.0	8.1	65.0	175.5	4.17	0.35	4.22	0.91	3.81	0.97	4.78	22.5	200	0.35%	19.40	0.62	0.49	
Lakepoint Crossing	C6	MH21	MH20	4.0	10.8	69.0	186.3	4.16	0.32	4.54	0.97	4.04	1.04	5.08	22.5	200	0.35%	19.40	0.62	0.49	
Lakepoint Crossing	C7	MH20	MH19	10.0	27.0	78.0	213.3	4.14	0.36	5.10	1.11	4.60	1.17	6.77	55.7	200	0.35%	19.40	0.62	0.51	
Lakepoint Crossing	C8	MH19	MH18	11.0	29.7	96.0	245.0	4.12	0.62	5.72	1.27	5.21	1.32	6.62	74.1	200	0.35%	19.40	0.62	0.53	
Lakepoint Crossing	C9	MH18	MH15	8.0	21.6	98.0	264.6	4.10	0.56	6.28	1.38	5.65	1.44	7.10	61.6	200	0.40%	20.74	0.66	0.57	
Service Block	A17	MH15	MH16	0.0	0.0	189.0	510.3	3.97	0.03	17.57	2.66	12.25	4.04	17.30	45.6	200	0.40%	20.74	0.66	0.66	
Service Block	A18	MH16	MH17	0.0	0.0	189.0	510.3	3.97	0.03	17.60	2.66	12.25	4.05	16.30	57.3	200	0.40%	20.74	0.66	0.66	

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			DESIGNED BY: CU	DATE: APRIL 2020	SCALE: 1:1000	SAN-1					



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NOTES

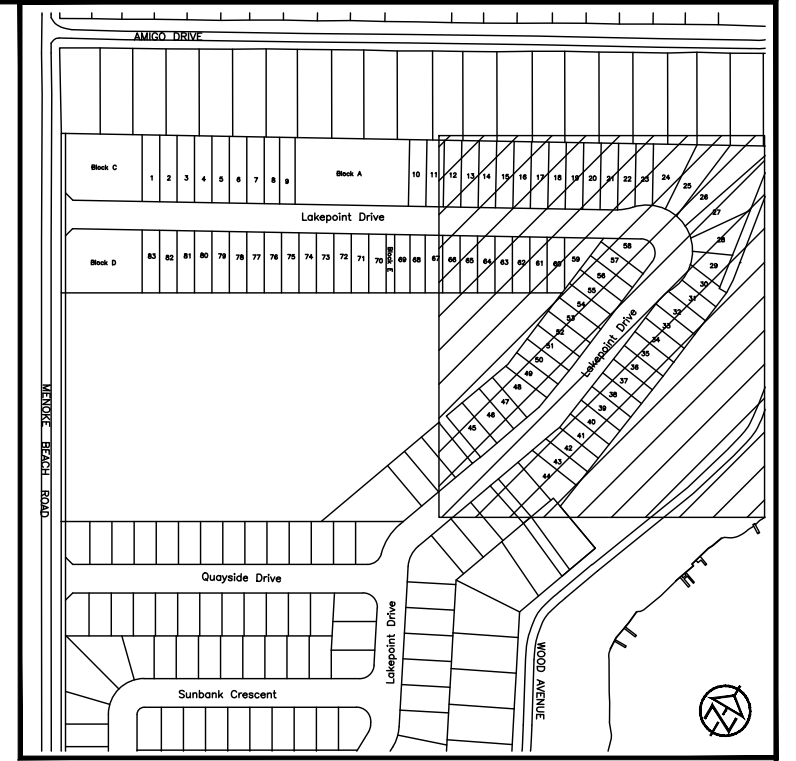
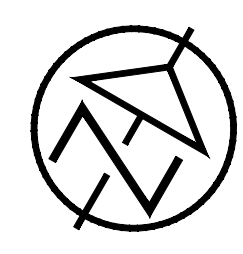
No.	REVISION DESCRIPTION	DATE	ENGINEER STAMP
1.	1ST SUBMISSION	FEB. 2021	

MENOKE BEACH DEVELOPMENTS INC.
BLOCK 'C' MENOKE BEACH SUBDIVISION
TOWNSHIP OF SEVERN

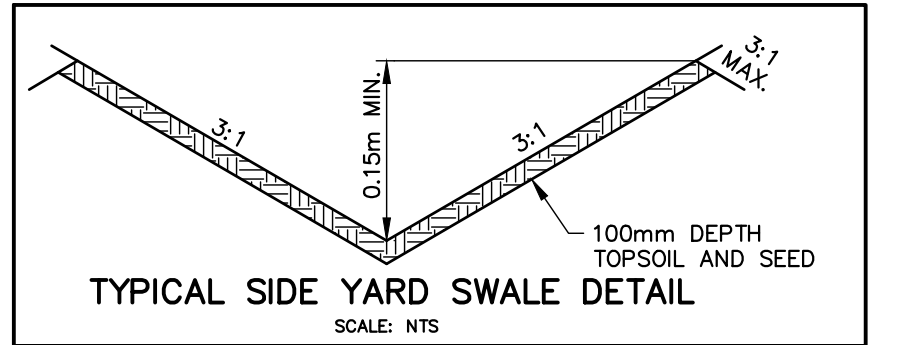
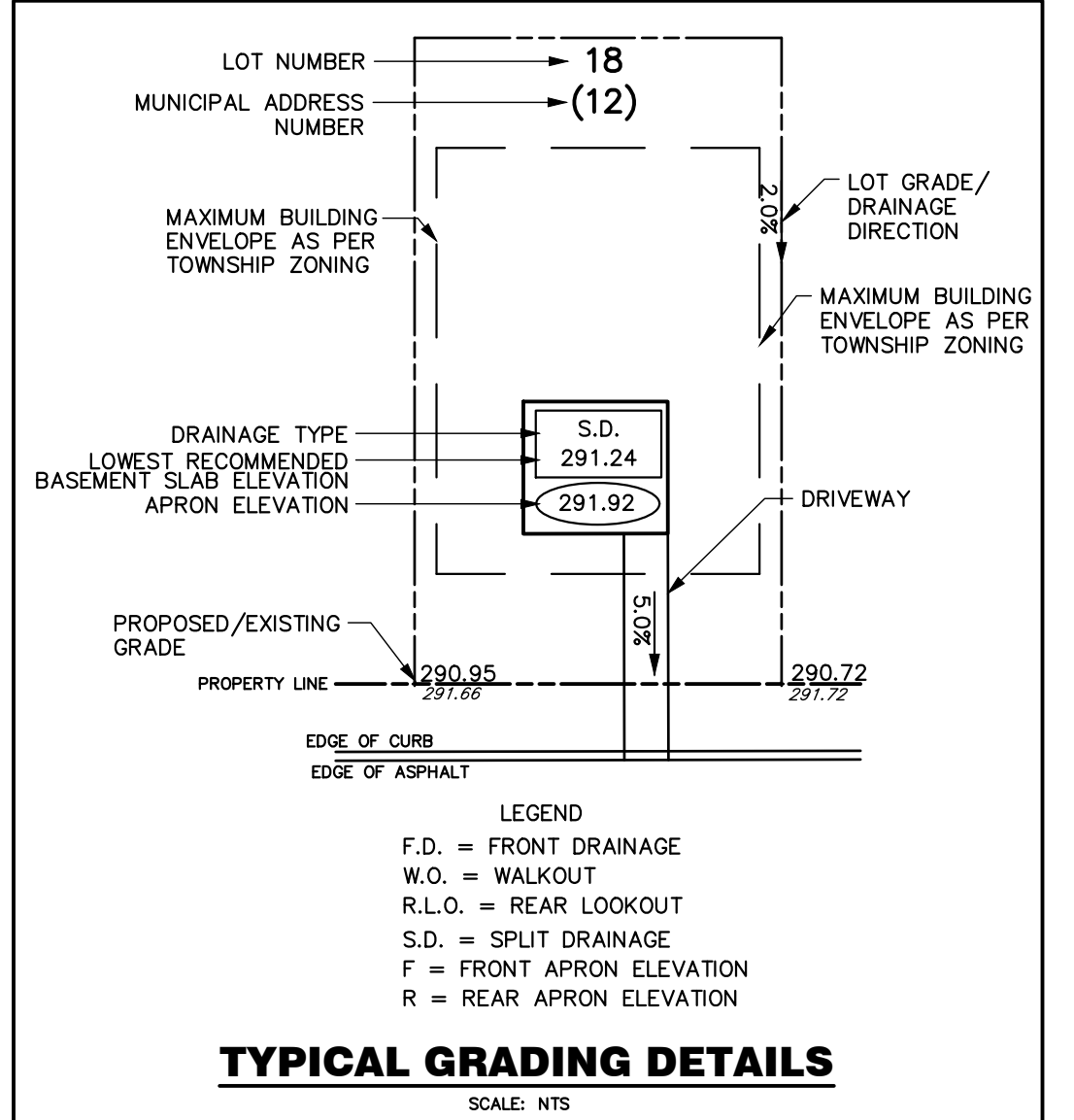
LOT GRADING PLAN

TATHAM ENGINEERING

DESIGN: CU	FILE: 304844-9	DWG: LG-1
DRAWN: CU	DATE: APRIL 2020	
CHECK: TK	SCALE: 1:500	



KEY PLAN N.T.S.



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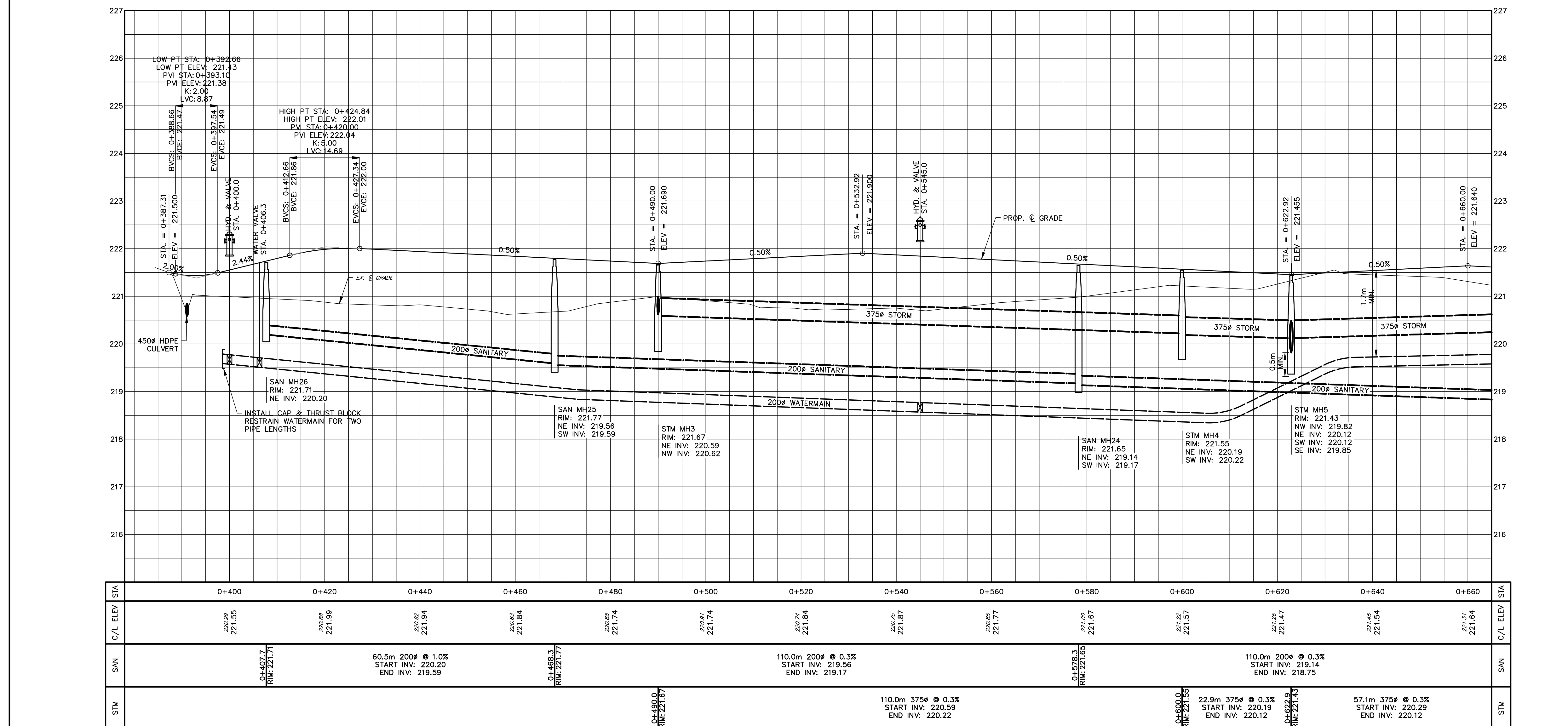
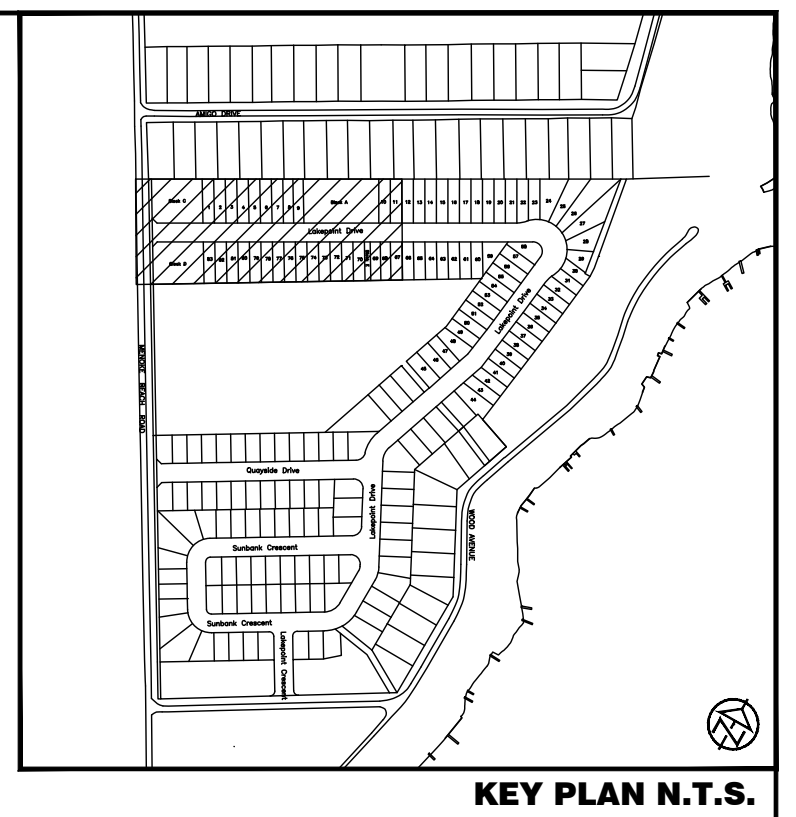
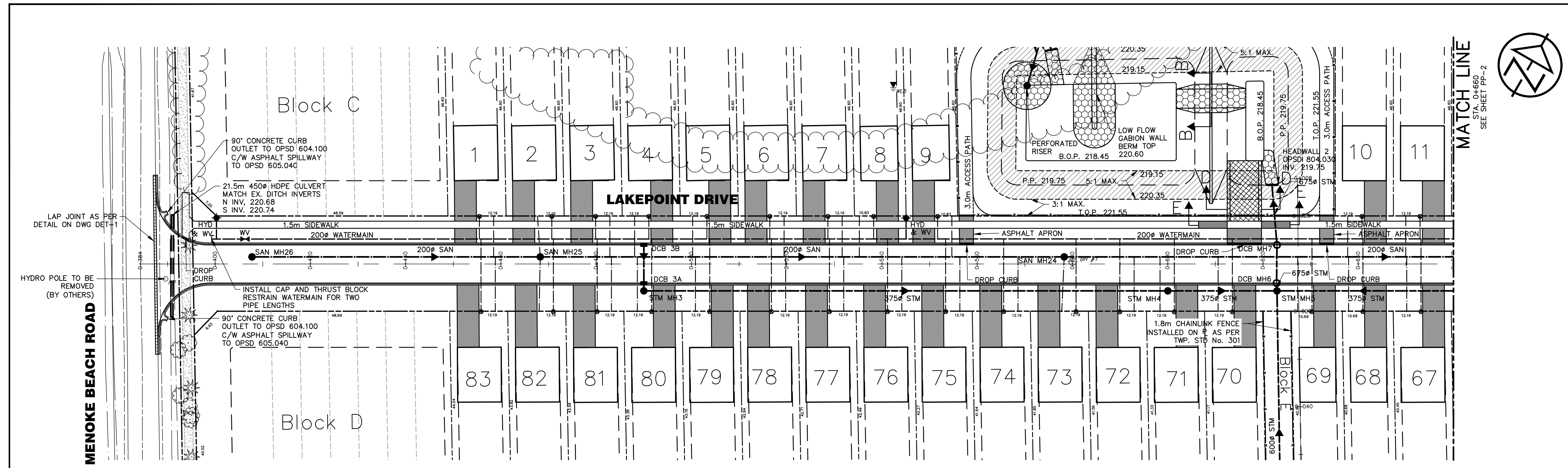
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MENOKE BEACH DEVELOPMENTS INC.
BLOCK 'C' MENOKE BEACH SUBDIVISION
TOWNSHIP OF SEVERN

TATHAM ENGINEERING

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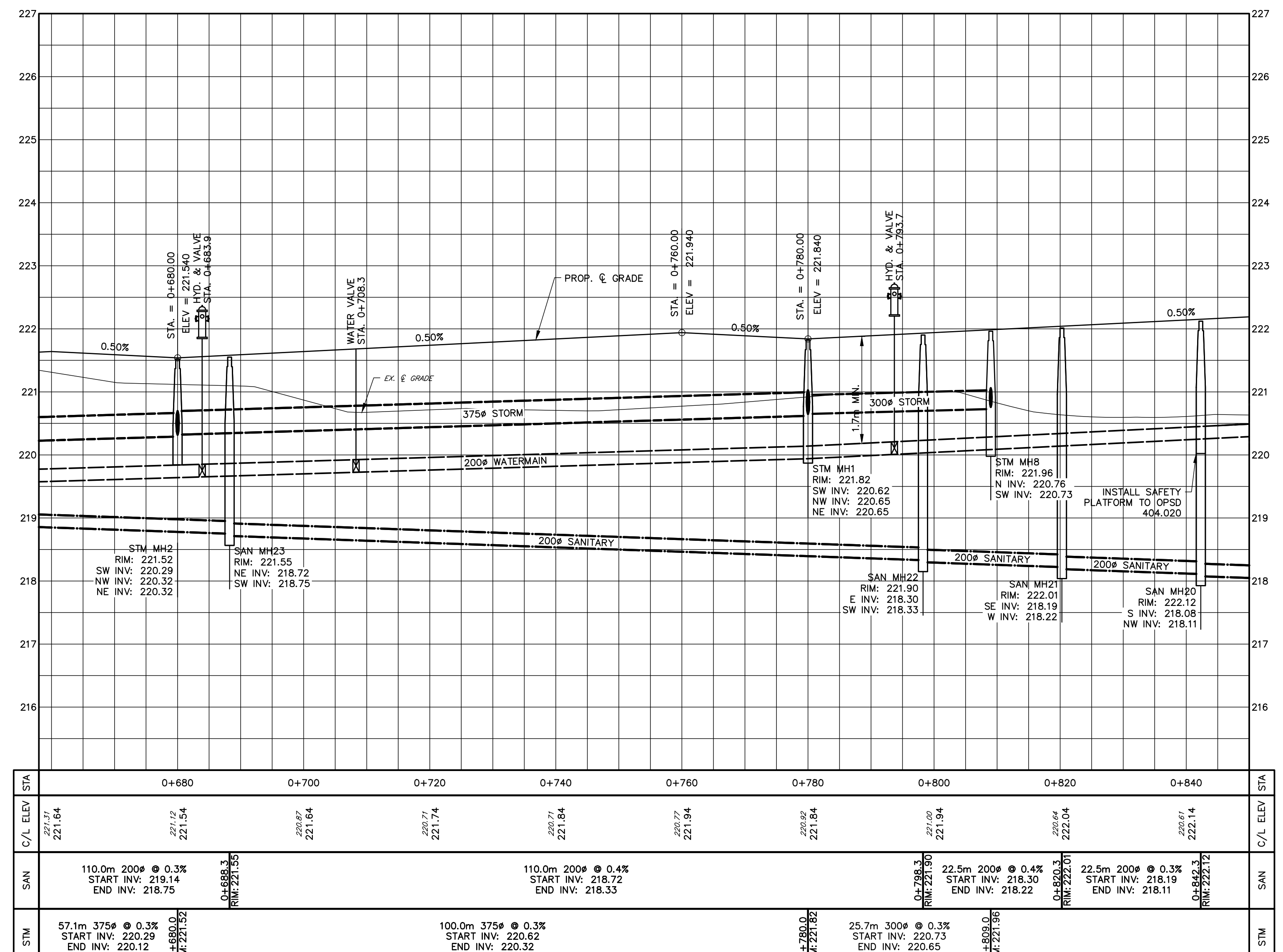
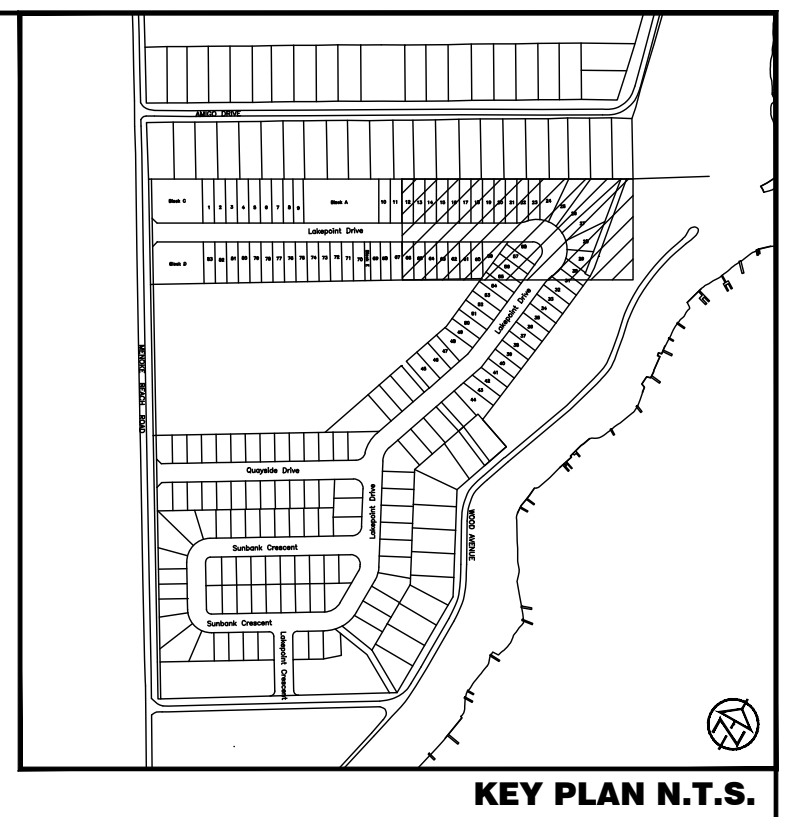
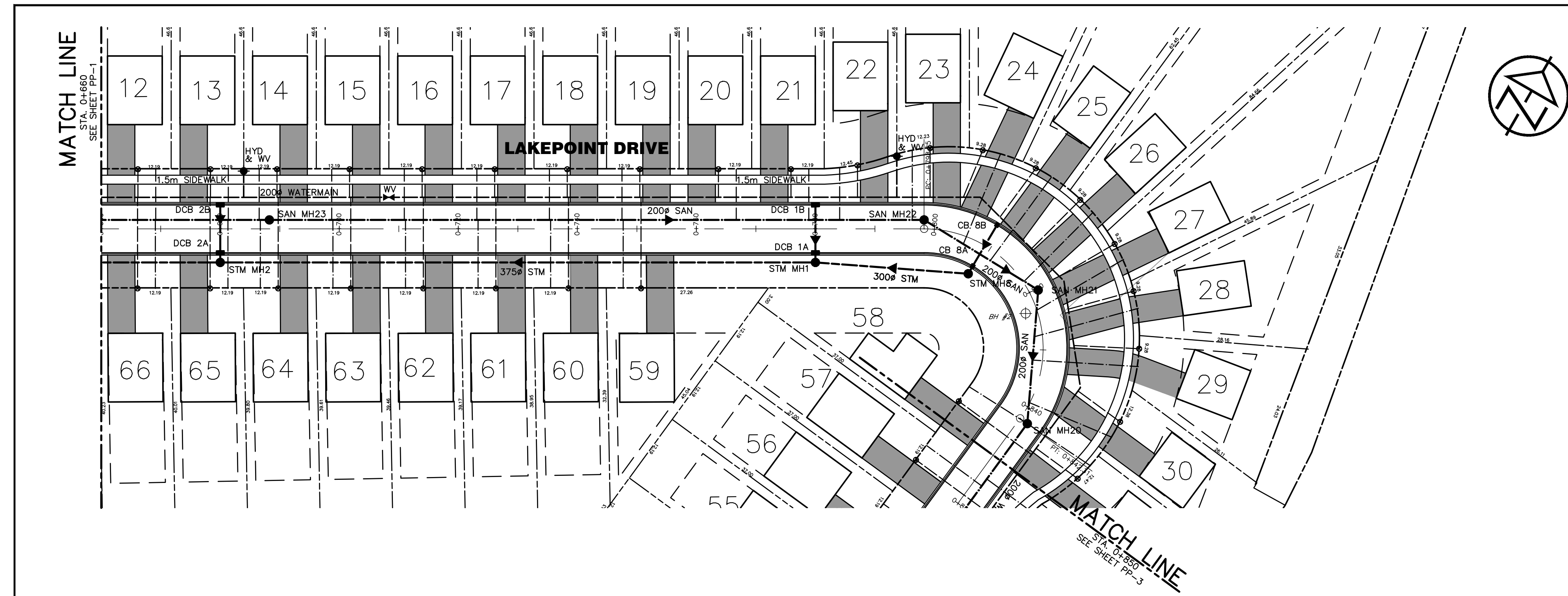
No.	REVISION DESCRIPTION	DATE	ENGINEER STAMP
1.	1ST SUBMISSION	FEB. 2021	

MENOKE BEACH DEVELOPMENTS INC.
BLOCK 'C' MENOKE BEACH SUBDIVISION
TOWNSHIP OF SEVERN

PLAN & PROFILE
LAKEPOINT DRIVE
STA. 0+384 TO 0+660

TATHAM ENGINEERING

DESIGN: CU	FILE: 304844-9	DWG:
DRAWN: CU	DATE: APRIL 2020	PP-1
CHECK: TK	SCALE: 1:500 HOR. 1:50 VERT.	



STRUCTURES		
STRUCTURE	RIM	PIPES
SAN MH20	222.12	S INV: 218.08 200# NW INV: 218.11 200#
SAN MH21	222.01	SE INV: 218.19 200# W INV: 218.22 200#
SAN MH22	221.90	E INV: 218.30 200# SW INV: 218.33 200#
SAN MH23	221.55	NE INV: 218.72 200# SW INV: 218.75 200#

STRUCTURES		
STRUCTURE	RIM	PIPES
CB 8A	221.90	N INV: 220.79 300# S INV: 220.77 300#
CB 8B	221.90	S INV: 220.81 300#
DCB 1A	221.76	SE INV: 220.66 375# NW INV: 220.69 375#
DCB 1B	221.76	SE INV: 220.71 375#
DCB 2A	221.46	SE INV: 220.33 375# NW INV: 220.36 375#
DCB 2B	221.46	SE INV: 220.38 375#
STM MH1	221.82	SW INV: 220.62 375# NW INV: 220.65 375# NE INV: 220.65 300#
STM MH2	221.52	SW INV: 220.29 375# NW INV: 220.32 375# NE INV: 220.32 375#
STM MH8	221.96	N INV: 220.76 300# SW INV: 220.73 300#

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NOTES

No.	REVISION DESCRIPTION	DATE	ENGINEER STAMP
1.	1ST SUBMISSION	FEB. 2021	

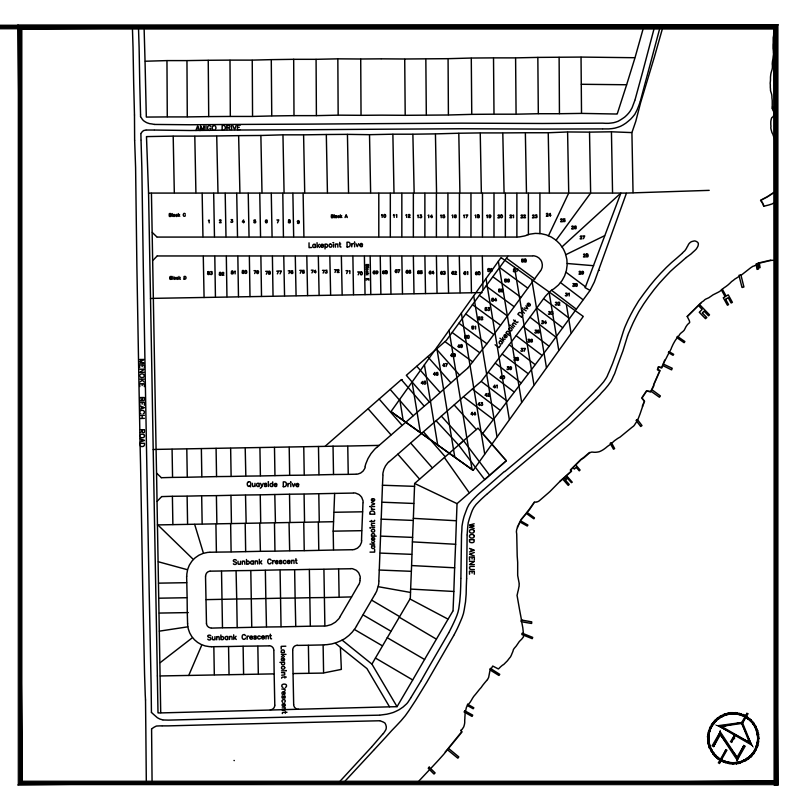
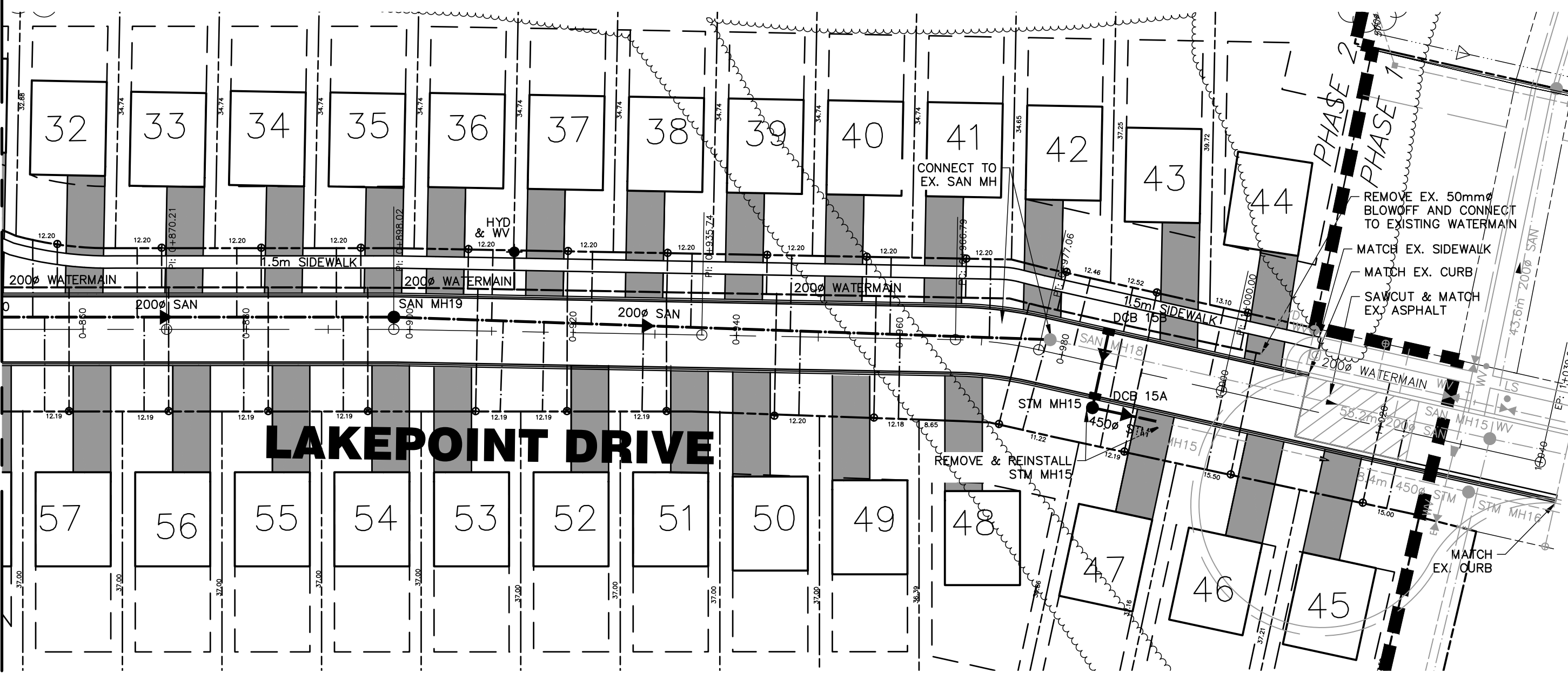
MENOKE BEACH DEVELOPMENTS INC.
BLOCK 'C' MENOKE BEACH SUBDIVISION
TOWNSHIP OF SEVERN

PLAN & PROFILE
LAKEPOINT DRIVE
STA. 0+660 TO 0+850

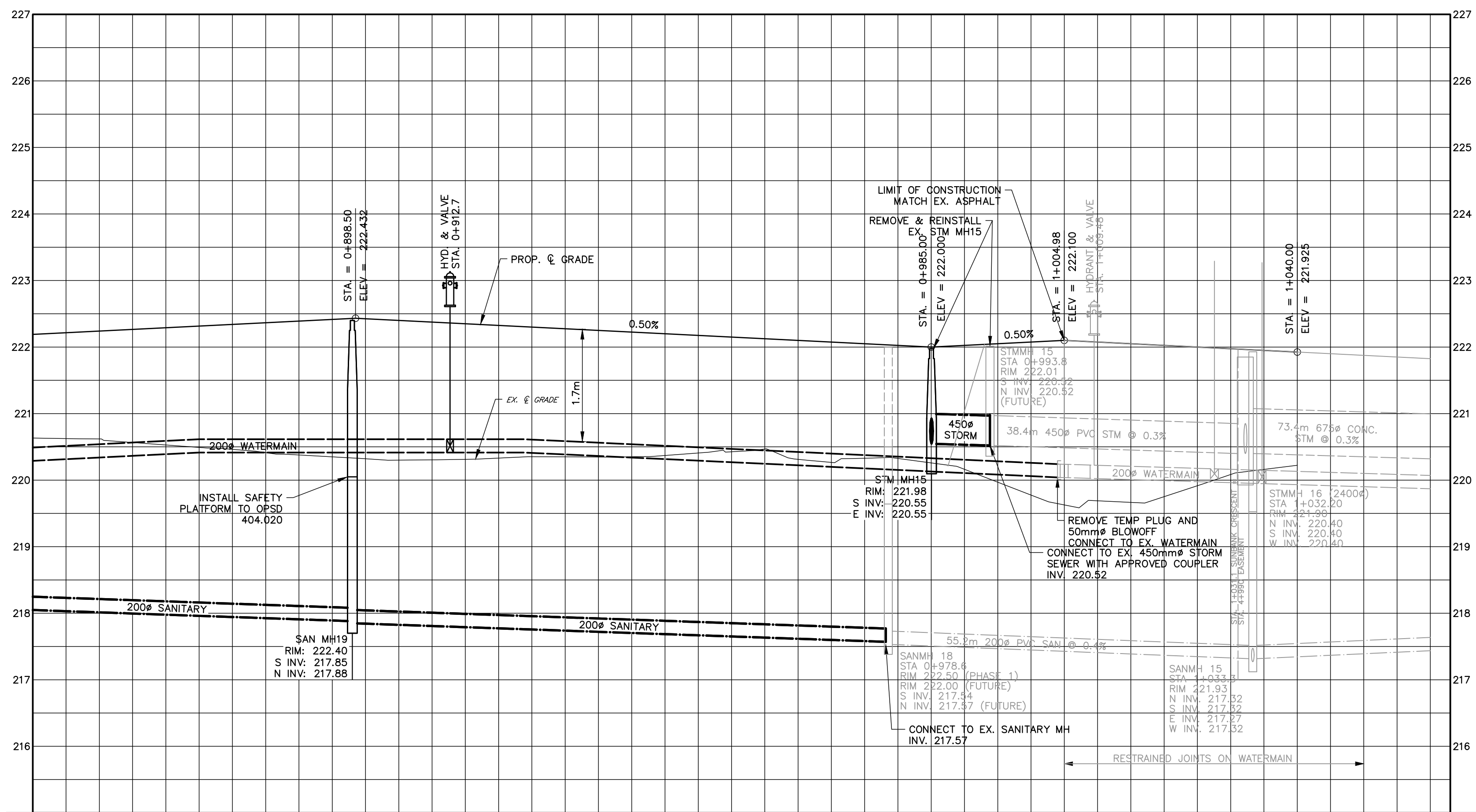
TATHAM ENGINEERING

DESIGN: CU FILE: 304844-9 DWG:
DRAWN: CU DATE: APRIL 2020 **PP-2**
CHECK: TK SCALE: 1:500 HOR.
1:50 VERT.

MATCH LINE
STA. 0+850
SEE SHEET PP-2



KEY PLAN N.T.S.



STRUCTURES		
STRUCTURE	RIM	PIPES
SAN MH19	222.40	S INV: 217.85 200# N INV: 217.88 200#

STRUCTURES		
STRUCTURE	RIM	PIPES
DCB 15A	221.92	W INV: 220.56 375# E INV: 220.56 375#
DCB 15B	221.92	W INV: 220.64 375#
STM MH15	221.98	S INV: 220.55 450# E INV: 220.55 375#

STA	C/YL ELEV	SAN	STM
0+860	220.67 222.24		
0+880	220.46 222.34	55.7m 200# @ 0.4% START INV: 218.08 END INV: 217.88	
0+900	220.15 222.42	0+895.0 RIM: 222.40	
0+920	220.32 222.32		
0+940	220.35 222.22	80.4m 200# @ 0.3% START INV: 217.85 END INV: 217.57	
0+960	220.47 222.12		
0+980	220.57 222.02		
1+000	219.79 222.08		8.8m 450# @ 0.3% START INV: 220.55 END INV: 220.52
1+020	219.35 222.02		
1+040	221.92		
1+060			

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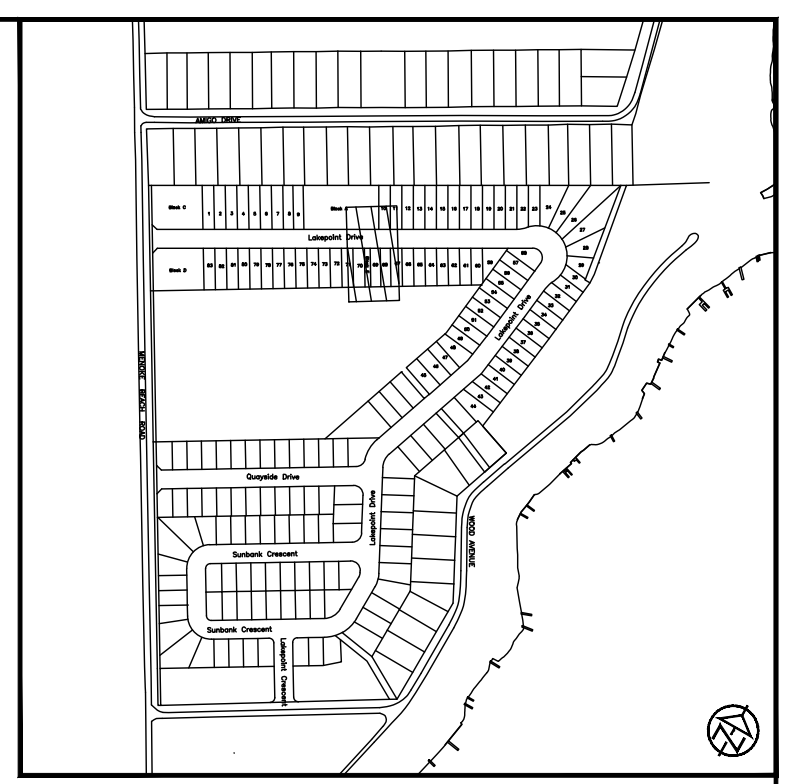
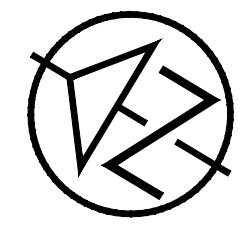
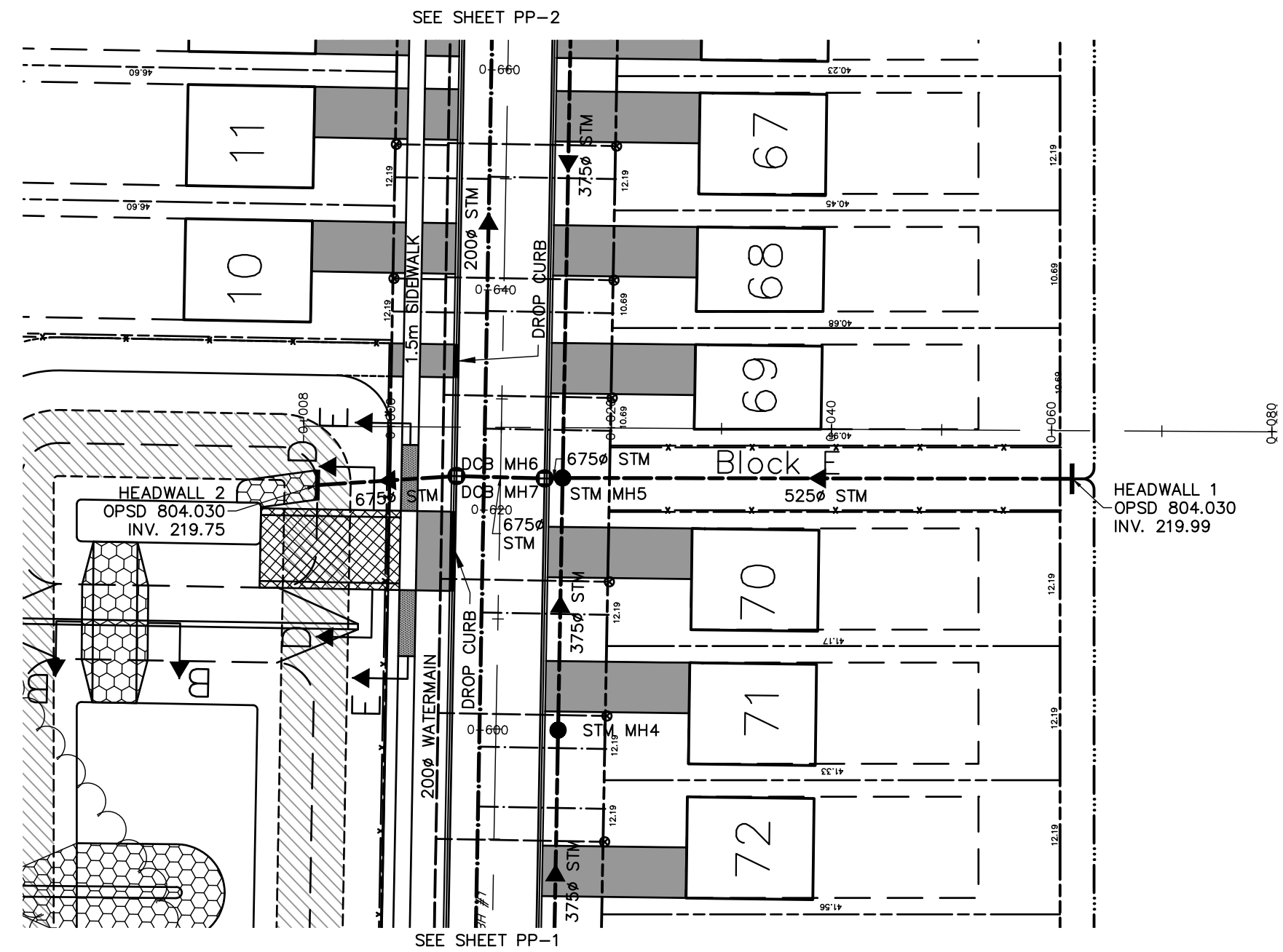
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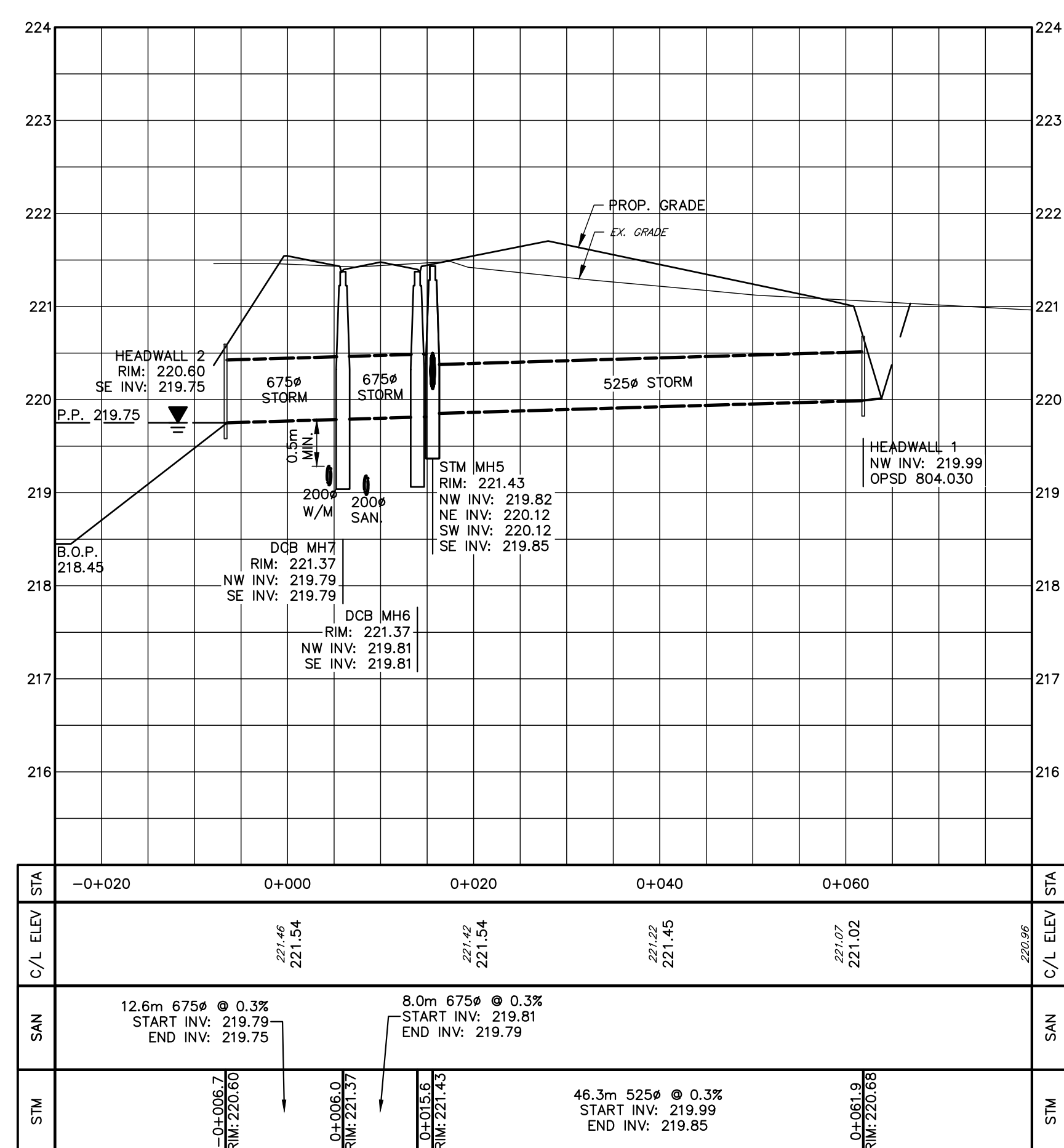
MENOKE BEACH DEVELOPMENTS INC.
BLOCK 'C' MENOKE BEACH SUBDIVISION
TOWNSHIP OF SEVERN
PLAN & PROFILE
LAKEPOINT DRIVE
STA. 0+850 TO 1+040

TATHAM ENGINEERING

DESIGN: CU	FILE: 304844-9	DWG:
DRAWN: CU	DATE: APRIL 2020	PP-3
CHECK: TK	SCALE: 1:500 HOR. 1:50 VERT.	



KEY PLAN N.T.S.



STRUCTURES		
STRUCTURE	RIM	PIPES
DCB MH6	221.37	NW INV: 219.81 675# SE INV: 219.81 675#
DCB MH7	221.37	NW INV: 219.79 675# SE INV: 219.79 675#
STM MH5	221.43	NW INV: 219.82 675# NE INV: 220.12 375# SW INV: 220.12 375# SE INV: 219.85 525#

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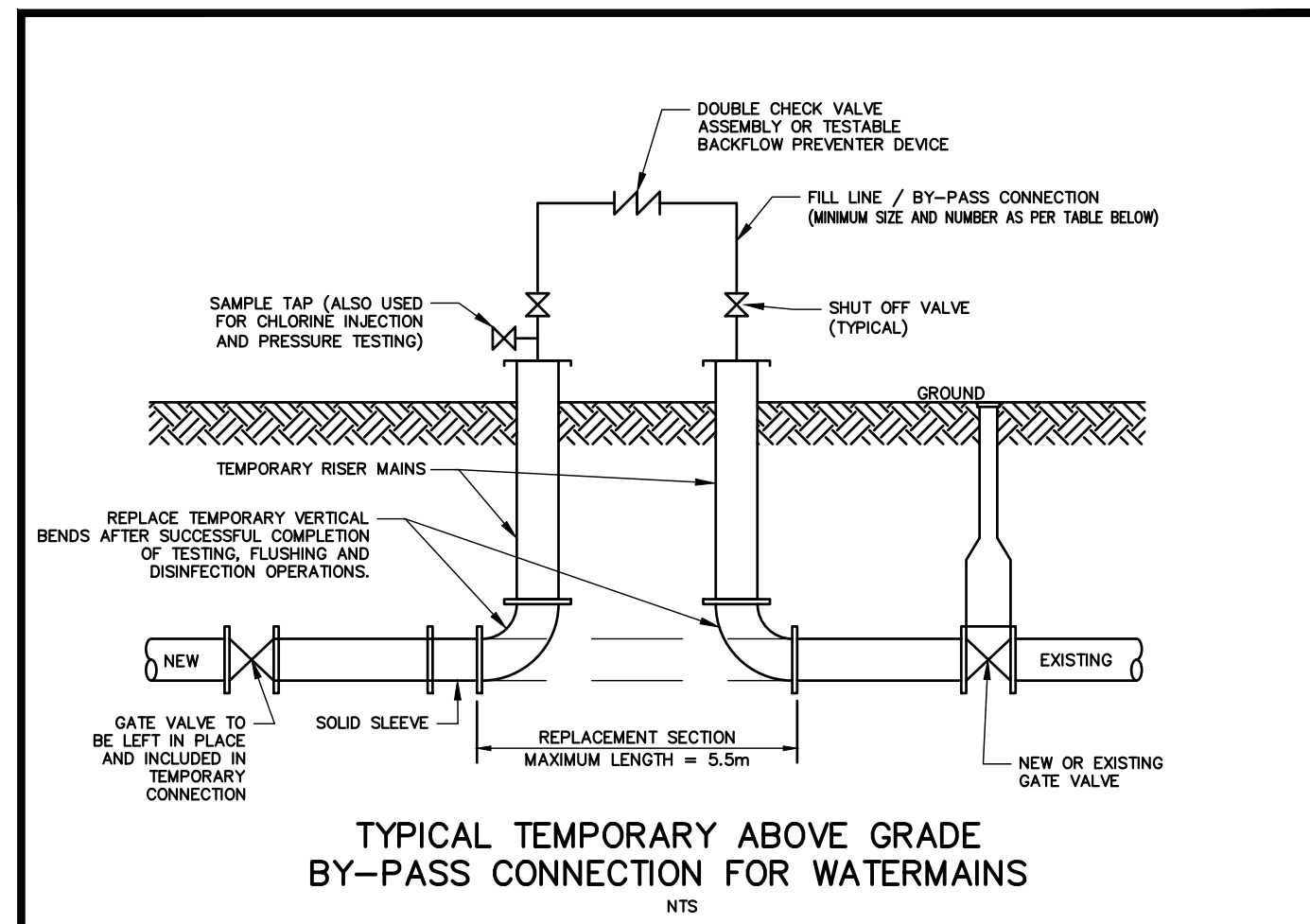
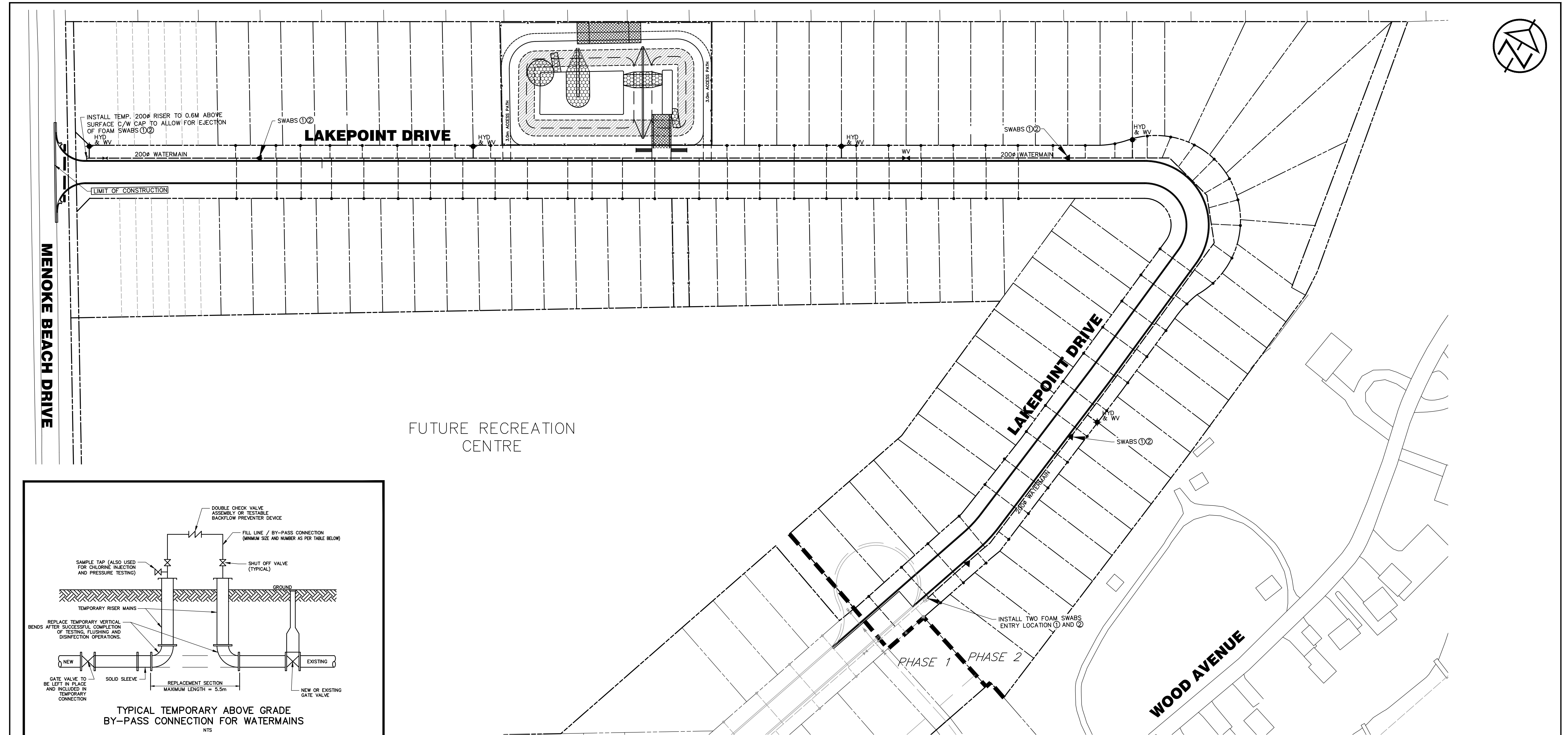
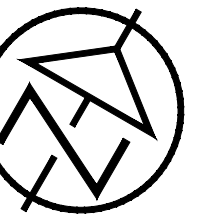
NOTES

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1.	1ST SUBMISSION	FEB. 2021	

MENOKE BEACH DEVELOPMENTS INC.
BLOCK 'C' MENOKE BEACH SUBDIVISION
TOWNSHIP OF SEVERN
 PLAN & PROFILE
 STORM SEWER EASEMENT
 STA. 0+000 TO 0+060

TATHAM ENGINEERING

DESIGN: CU	FILE: 304844-9	DWG:
DRAWN: CU	DATE: APRIL 2020	PP-4
CHECK: TK	SCALE: 1:500 HOR. 1:50 VERT.	



TYPICAL TEMPORARY ABOVE GRADE BY-PASS CONNECTION FOR WATERMAINS
NTS

PIPE DIAMETER	FLOW REQUIRED TO PRODUCE 0.75m/s (APPROX.) VELOCITY IN MAIN	SIZE OF TAP (mm)			NUMBER OF OPEN 64mm HYDRANT OUTLETS
		25	38	51	
mm	l/s	NUMBER OF TAPS ON PIPE			
100	6.3	1	—	—	1
150	12.6	—	1	—	1
200	25.2	—	2	1	1
250	37.9	—	2	2	1
300	56.8	—	—	3	2
400	109.9	—	—	4	2

REQUIRED FLOW AND OPENINGS TO FLUSH PIPELINES (276kPa/40 PSI RESIDUAL PRESSURE IN WATERMAIN)

NO.	REVISION	APR'D	DATE

TOWNSHIP OF SEVERN
TEMPORARY ABOVE GRADE BY-PASS CONNECTION FOR WATERMAINS
APR'D: DATE: 2012
DRAWN: SCALE: NTS
STD. No. 805

FUTURE RECREATION CENTRE

NOTES

- ONLY TOWNSHIP STAFF TO OPERATE VALVES AND HYDRANTS.
- METHOD OF CONNECTING TO EXISTING WATER MAINS AS PER DETAIL ON THIS PAGE "TYPICAL TEMPORARY CONNECTION FOR WATER MAINS".
- METHOD FOR TESTING (SWABBING, PRESSURE, DISINFECTION, FLUSHING AND BACTERIOLOGICAL) SHALL BE COMPLETED TO THE SATISFACTION OF THE TOWNSHIP BEFORE FINAL CONNECTION MADE TO EXISTING WATER MAIN. PROVIDE 48 HOUR NOTICE TO ENGINEER AND TOWNSHIP BEFORE EACH TEST.
- SEE NOTES FOR SWABBING PROCEDURE.
- PRESSURE TESTING TO BE IN ACCORDANCE WITH OPSS.MUNI 441 AND TOWNSHIP ENGINEERING STANDARDS.
- DISINFECTION, FLUSHING AND BACTERIOLOGICAL TESTING TO BE COMPLETED BY THE TOWNSHIP OR BY A QUALIFIED CONTRACTOR APPROVED BY THE TOWNSHIP.
- RISER PIPE NOT TO BE REMOVED UNTIL AFTER COMPLETION OF TESTING AND THE WRITTEN APPROVAL FROM THE TOWNSHIP. ONCE WRITTEN APPROVAL IS OBTAINED THE WATERMAIN IS TO BE PLUGGED AND RESTRAINED C/W 50mm DIA. BLOW-OFF.
- CALCULATION OF REQUIRED CHLORINE BASED ON TOTAL VOLUME OF NEW WATERMAIN.
- ALL CURB STOPS, VALVES, HYDRANTS, AND BLOW OFFS MUST BE OPERATIONAL AND ACCESSIBLE PRIOR TO CHLORINATION. ALL WILL BE OPERATED DURING THE CHLORINATION PROCESS.

SWABBING PROCEDURE

- INSTALL FOAM SWABS DURING INSTALLATION OF WATERMAIN. WHEN WATERMAIN HAS BEEN COMPLETED WITH TEMPORARY CONNECTIONS THE END OF LAKEPOINT DRIVE AND TEMPORARY RISER PIPES, EJECT SWABS (WITNESSED BY TOWNSHIP AND ENGINEER) AT DESIGNATED LOCATIONS.
- CONTRACTOR TO PROVIDE PROPOSED SWABBING PROCEDURE TO TOWNSHIP ENGINEER FOR APPROVAL PRIOR TO COMMENCEMENT OF WATERMAIN INSTALLATION.

WATER MAIN CHLORINATION TABLE			
SIZE (mm)	LENGTH (m)	VOLUME (L)	
200Ø	619	19,447	WATER MAIN
150Ø	25	442	HYDRANT LEADS
25Ø	1088	534	SERVICES
20,423			
AMOUNT OF 12% CHLORINE REQUIRED TO PRODUCE A RESIDUAL OF 50 mg/L			
50mg/L X 20,423 L = 8.5 L			
1,000,000 X 12% = 8.5 L			

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BENCHMARKS
TBM1 - ELEVATION 221.68
NAIL IN HP LOCATED AT SOUTHEAST CORNER OF INTERSECTION OF MENOKE BEACH DRIVE & AMICO DRIVE.
TBM2 - ELEVATION 221.90
NAIL IN HP ON EAST SIDE OF MENOKE BEACH DRIVE AT NORTH OF ENTRANCE TO 3795 MENOKE BEACH DRIVE.

NOTES

No.	REVISION DESCRIPTION	DATE	ENGINEER STAMP
1.	1ST SUBMISSION	FEB. 2021	

MENOKE BEACH DEVELOPMENTS INC.
BLOCK 'C' MENOKE BEACH SUBDIVISION
TOWNSHIP OF SEVERN

WATER DISTRIBUTION AND SWABBING PLAN

TATHAM ENGINEERING

DESIGN: CU	FILE: 304844-9	DWG: WAT-1
DRAWN: CU	DATE: APRIL 2020	
CHECK: TK	SCALE: 1:750	

1. MEASUREMENTS

- a. ALL DIMENSIONS SHALL BE CHECKED AND VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO ANY CONSTRUCTION. ANY DISCREPANCIES SHALL BE REPORTED IMMEDIATELY TO THE ENGINEER.
- b. ALL DIMENSIONS ARE IN METRES, EXCEPT PIPE DIAMETERS, WHICH ARE IN MILLIMETRES, UNLESS OTHERWISE SPECIFIED.

2. GENERAL REQUIREMENTS

- a. ALL WORK TO BE DONE TO TOWNSHIP OF SEVERN STANDARDS AND OPSS. WHERE A CONFLICT OCCURS TOWNSHIP OF SEVERN STANDARDS GOVERN.
- b. THE CONTRACTOR IS RESPONSIBLE FOR LAYOUT. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF, AND FOR THE COST OF REPLACING, LAYOUT STAKES, BENCHMARKS AND SURVEY BARS.
- c. THE CONTRACTOR IS REQUIRED TO CONFIRM EXISTING GRADES AND REPORT ANY DISCREPANCIES TO THE ENGINEER BEFORE COMMENCING WORK.
- d. SANITARY, WATERMAIN AND UTILITY LOCATIONS ARE NOT GUARANTEED. SUITABLE REPAIR MATERIALS SHALL BE KEPT ON-SITE TO ENSURE SERVICES/WATERMAIN CAN BE RESTORED IF DAMAGED. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING INFORMATION IN REGARD TO EXACT LOCATION OF BURIED UTILITIES. THIS SHALL INCLUDE EXCAVATION OF INSPECTION HOLES IF NECESSARY. THE CONTRACTOR MUST EXERCISE NECESSARY CARE IN CONSTRUCTION OPERATIONS INCLUDING IF NECESSARY HAND DIGGING TO SAFEGUARD UTILITIES FROM DAMAGE. THE CONTRACTOR SHALL ARRANGE FOR TEMPORARY SUPPORT OF UTILITY POLES AS MAY BE REQUIRED TO COMPLETE THE WORK. THE CONTRACTOR IS LIABLE FOR ALL DAMAGE TO UTILITIES OCCURRING WITHIN OR OUTSIDE THE CONTRACT LIMITS CAUSED BY HIS OPERATIONS. THE CONTRACTOR IS REQUIRED TO NOTIFY THE VARIOUS UTILITY COMPANIES 48 HOURS PRIOR TO THE COMMENCEMENT OF ANY WORK.
- e. THE CONTRACTOR IS TO SUBMIT SAMPLES AND A GRADATION ANALYSIS OF THE PROPOSED GRANULAR MATERIALS FOR APPROVAL BY THE ENGINEER PRIOR TO PLACING.
- f. TRAFFIC CONTROL AND SIGNAGE DURING CONSTRUCTION SHALL CONFORM TO MUNICIPAL REQUIREMENTS AND THE MOST CURRENT ONTARIO CONSTRUCTION REGULATIONS INCLUDING REGULATION No. 213 UNDER OHS AND REFERENCE TO MTO TEMPORARY CONDITIONS MANUAL BOOK No. 7.
- g. THE CONTRACTOR SHALL SUPPLY ALL NECESSARY WATER AND/OR CALCIUM CHLORIDE AS REQUIRED FOR COMPACTION AND/OR DUST CONTROL.
- h. GRADING TO OPSS.MUNI 206. CLEAR AND GRUB ALL SCRUB, BUSHES, AND TREES AS REQUIRED TO INSTALL WORKS AS PER OPSS.MUNI 201.
- i. TOPSOIL TO BE STRIPPED AND TEMPORARILY STOCKPILED UNTIL REAPPLIED FOR RESTORATION WORK.
- j. EXCESS OR UNSUITABLE MATERIALS TO BE DISPOSED OF BY THE CONTRACTOR AT AN APPROVED LOCATION AS PART OF THE WORK.
- k. FOR THE DURATION OF THE CONTRACT, MATERIAL THAT BECOMES CONTAMINATED DUE TO CONTRACTOR'S ACTIVITY SHALL BE REMOVED AND REPLACED AT NO EXTRA COST TO THE CONTRACT.
- l. DEWATERING TO BE CARRIED OUT IN ACCORDANCE WITH OPSS.MUNI 517 AND 518 TO MAINTAIN ALL TRENCHES IN A DRY CONDITION.
- m. ALL ENGINE DRIVEN PUMPS TO BE ADEQUATELY SILENCED, SUITABLE FOR OPERATION IN A RESIDENTIAL OR INDUSTRIAL AREA.
- n. ALL PIPE HANDLING INSTALLATIONS MUST BE IN STRICT COMPLIANCE WITH MANUFACTURERS' INSTALLATION GUIDES AND THE O.C.P.A OR UNIBELL GUIDELINES.
- o. GENERAL INSTALLATION AND TESTING OF SEWERS AND APPURTENANCES TO BE IN ACCORDANCE WITH OPSS.
- p. PIPE DEFLECTIONS SHALL NOT EXCEED CSA, OPS OR MANUFACTURER'S SPECIFICATIONS.
- q. MINIMUM SEPARATION OF 0.5m VERTICAL OR 2.5m HORIZONTAL SHALL BE MAINTAINED BETWEEN SANITARY SEWER AND WATERMAIN AT ALL LOCATIONS.
- r. FLEXIBLE PIPE EMBEDMENT AND BACKFILL TO OPSS 802.010 AND/OR 802.020 WITH GRANULAR 'A' FOR EMBEDMENT MATERIAL. PIPE EMBEDMENT BACKFILL MATERIAL TO BE COMPACTED TO A DRY DENSITY OF AT LEAST 95% OF THE MATERIAL'S STANDARD PROCTOR MAXIMUM DRY DENSITY (SPMDD).
- s. MODIFIED PIPE BEDDING UNDER WET TRENCH CONDITIONS: FLEXIBLE PIPE BEDDING TO BE 10cm CLEAR STONE. ALL STONE BEDDING WRAPPED IN GEOTEXTILE FABRIC (TERRIFAX 270R OR APPROVED EQUAL).
- t. PRECAST MAINTENANCE HOLES SHALL BE 1200mm DIAMETER UNLESS OTHERWISE SPECIFIED, AND SHALL BE IN ACCORDANCE WITH OPSS 701.010, 701.011, 701.012 AND 701.013. ADJUSTABLE MAINTENANCE HOLE FRAMES AS PER THE ADJUSTABLE BY MUELLER CANADA OR APPROVED EQUAL ARE REQUIRED. COVER SHALL BE IN ACCORDANCE WITH OPSS 401.010. TYPE A COVER SHALL HAVE THE WORD "STORM" OR "SANITARY" AS APPLICABLE.
- u. GRADE AND CROSSFALL ADJUSTMENT OF MAINTENANCE HOLE AND CATCHBASIN FRAMES TO BE MADE USING PRODUCTS SPECIFICALLY MANUFACTURED FOR THAT PURPOSE AND CERTIFIED IN ACCORDANCE WITH APPLICABLE OPS, CSA, ASTM AND MTO-DSM SPECIFICATIONS AND INDUSTRY GUIDELINES.
- v. ADJUSTMENT UNITS AND JOINTS SHALL BE SEALED IN COMPLIANCE WITH MANUFACTURERS SPECIFICATIONS AND GUIDELINES. PARGING IS NOT PERMITTED ON THE INSIDE OF ANY ADJUSTMENT UNITS. MORTAR IS TO BE USED FOR LEVELING OF PRECAST UNITS ONLY. THE MAXIMUM THICKNESS OF MORTAR SHALL BE 10mm TO FILL ALL VOIDS CREATED BY IRREGULARITIES IN THE PRECAST UNITS TO ENSURE AN EVEN SURFACE ONLY.
- w. COMPACTING TO OPSS.MUNI 501.
- x. GENERAL AGGREGATES TO OPSS.MUNI 1001.
- y. TRENCH BACKFILL TO BE SELECT NATIVE MATERIAL.
- z. ALL CONSTRUCTION AND RESTORATION TO BE COMPLETED TO THE SATISFACTION OF THE ENGINEER AND IN ACCORDANCE WITH OPSS.MUNI 492. ADVISE ENGINEER OF ANY CONFLICTS.
- aa. YARD AND BOULEVARD AREAS TO BE COMPACTED TO 95% SPMDD AND REINSTATED WITH A MINIMUM 100mm TOPSOIL AND SOD TO OPSS.MUNI 804. THE CONTRACTOR SHALL WATER THE SOD UNTIL GOOD GROWTH IS ESTABLISHED.
- ab. EXACT LOCATIONS OF PROPOSED WATERMAIN AND SEWER TO BE VERIFIED IN THE FIELD AND RECORDED.
- ac. THE CONTRACTOR SHALL MAKE HIS OWN ARRANGEMENTS FOR THE SUPPLY OF TEMPORARY WATER AND POWER.

3. WATERMAIN

- a. MINIMUM COVER OVER WATERMAIN TO BE 1.7M UNLESS OTHERWISE NOTED. WHERE ADEQUATE COVER CAN NOT BE PROVIDED, PROPER INSULATION IS REQUIRED.

- b. RESTRAINER CLAMPS (ROMAC GRIP RING OR APPROVED EQUAL) TO BE INSTALLED AT ALL TEES, HORIZONTAL BENDS, HYDRANTS, AND PLUGS.
- c. PIPE TO PIPE RESTRAINERS ARE REQUIRED FOR TWO FULL PIPE LENGTHS BEYOND ALL TEES (EXCEPT HYDRANT TEES) AND VALVES.
- d. CONTRACTOR RESPONSIBLE FOR SUPPLY AND INSTALLATION OF HYDRANT ASSEMBLY, VALVE, THRUST BLOCKS AND APPURTENANCES. ALL IN ACCORDANCE WITH OPSS 1105.010 AND MATERIAL SPECIFICATIONS.
- e. CONTRACTOR RESPONSIBLE FOR SUPPLY AND INSTALLATION OF BLOWOFFS ALL IN ACCORDANCE WITH OPSS 1104.030.
- f. CONTRACTOR RESPONSIBLE FOR SUPPLY AND INSTALLATION OF SAMPLING STATION, MAIN STOP, SADDLE AND CURB STOP ALL IN CONFORMANCE WITH MATERIAL SPECIFICATIONS.
- g. PROTECT-O-CAPS (175 GRAMS MIN) OR APPROVED EQUIVALENT, ARE REQUIRED FOR CORROSION PROTECTION ON THREADED BOLTS AT EACH MECHANICAL JOINT. ALL NUTS AND BOLTS TO BE STANDARD GRADE STEEL.
- h. ALL PVC WATERMAIN TO HAVE 12 GAUGE TWU TRACER WIRE INSTALLED PARALLEL TO PIPE. WIRE TO BE BROUGHT TO THE SURFACE AT EACH VALVE BOX AND HYDRANT. TAPE IS TO BE USED TO AFFIX THE WIRE TO THE PIPE. CONTINUITY OF THE TRACER WIRE TO BE VERIFIED DURING TESTING.
- i. WATER SERVICE CONNECTIONS TO BE INSTALLED AT MINIMUM DEPTH OF 1.7m AND INSTALLED TO PROPERTY LINE AS PER OPSS 1104.010. MARK SERVICE AT PROPERTY LINE WITH 2.0m – 2x4 STAKE PAINTED BLUE 0.6m MIN ABOVE GRADE.
- j. TEST, FLUSH, SWAB AND DISINFECT PIPING IN ACCORDANCE WITH MOE REGULATIONS AND OPSS.MUNI 441 AND TO THE SATISFACTION OF THE MUNICIPAL OPERATING AUTHORITY. CONTRACTOR TO PROVIDE FOR REVIEW THE PLAN FOR TESTING, FLUSHING, SWABBING AND DISINFECTION PRIOR TO PROCEEDING WITH WORK.
- k. THE TOWNSHIP IS TO SUPPLY AND INSTALL THE FINAL CONNECTION BACKFLOW PREVENTER FOR CHARGING OF THE WATERMAIN AND SUBSEQUENT TESTING.

4. SANITARY SEWER

- a. MINIMUM COVER OVER SANITARY SEWER TO BE 1.70m, UNLESS OTHERWISE SPECIFIED. WHERE ADEQUATE COVER CAN NOT BE PROVIDED, PROPER INSULATION IS REQUIRED.
- b. MANHOLE BENCHING SHALL CONFORM TO OPSS 701.021.
- c. ALL SANITARY MAINTENANCE HOLES COVERS SHALL BE LABELED "SANITARY"
- d. DROP STRUCTURES AS PER OPSS 1003.010.
- e. SANITARY SERVICES SHALL BE INSTALLED AT A MINIMUM 2.0% GRADE, MAXIMUM 8.0% GRADE AND CONSTRUCTED AS PER OPSS 1006.010. MARK SERVICE AT PROPERTY LINE WITH 2.0m – 2x4 STAKE PAINTED GREEN 0.6m MIN ABOVE GRADE. SANITARY SERVICE CLEANOUTS TO BE INSTALLED AS PER TOWNSHIP OF SEVERN STANDARD DRAWING 107. WHERE SANITARY SERVICE CLEANOUTS ARE INSTALLED IN DRIVEWAY SIGMA CAST IRON CLEANOUT MODEL SMC4 COVER SHALL BE INSTALLED.
- f. ALL NEW CONSTRUCTION CONNECTION TO BE PLUGGED UNTIL SUCCESSFUL COMPLETION OF ALL TESTING, TOWNSHIP INSPECTION AND WRITTEN APPROVAL.

5. STORM SEWER

- a. MINIMUM COVER OVER STORM SEWER IS TO BE 0.6m TO TOP OF PIPE. ALL STORM SEWER UNDER ASPHALT TO BE INSULATED PER OPSS 1109.030.
- b. ALL STORM MAINTENANCE HOLE COVERS SHALL BE LABELED "STORM"
- c. SINGLE CATCHBASINS TO BE 600mm SQUARE PRECAST TO OPSS 705.010. FRAME AND GRATE TO OPSS 400.100.
- d. REAR YARD CATCHBASINS TO BE 600mm SQUARE PRECAST TO OPSS 705.010. FRAME AND GRATE TO OPSS 400.120.
- e. DOUBLE CATCHBASINS TO BE PRECAST CONCRETE TO OPSS 705.020. FRAME AND GRATE TO OPSS 400.100.
- f. DITCH INLET CATCH BASINS TO BE PRECAST CONCRETE TO OPSS 705.030. FRAME AND GRATE TO OPSS 403.010.
- g. ALL CATCHBASIN LATERALS TO BE PVC SDR35 PIPE AND LAID TO ACHIEVE APPROPRIATE FALL AND SEPARATION TO SEWERS AND WATERMAIN. PIPE SIZE SHALL BE 300mm DIAMETER FOR SINGLE CATCHBASINS AND 375mm DIAMETER FOR DOUBLE CATCHBASINS.
- h. ALL STORM SEWERS AT ROAD CROSSINGS TO BE CONSTRUCTED WITH FROST TAPER AS PER OPSS 803.030 AND 803.031. INCLUDING INSULATION AS PER DETAIL ON THIS DRAWING.
- i. GRATES FOR RISER PIPES SECTIONS ALONG EASEMENT TO BE MECHANICALLY FASTENED TO RISER PIPE WITH STAINLESS STEEL BOLTS. GRATES TO BE CAST IRON C-80 OPEN COVER MANUFACTURED BY BIBBY-STE-CROIX OR APPROVED EQUAL. CONTRACTOR TO PROVIDE SHOP DRAWING OF PIPE MANUFACTURED MAIN LINE TEE, RISER PIPE AND GRATE TO ENGINEER FOR APPROVAL PRIOR TO INSTALLATION.
- j. SUBDRAIN TO BE INSTALLED PARALLEL TO ALL STORM SEWERS AS PER STANDARD 8.0m URBAN ROAD CROSS SECTION. SUBDRAIN TO BE 150mm PERFORATED SUBDRAIN C/W FILTER SOCK.

6. ROADS

- a. SIDEWALKS TO BE 1.5m WIDE, CONSTRUCTED IN ACCORDANCE WITH OPSS 310.010. ALL SIDEWALKS TO BE WHEELCHAIR ACCESSIBLE WITH TACTILE WALKING SURFACE INDICATORS AT INTERSECTIONS AS PER OPSS 310.033.
- b. NATIVE SUBGRADE SHALL HAVE A CROSSFALL OF 3.0%, COMPACTED TO 95% SPMDD AND SHALL BE PROOF ROLLED IN THE PRESENCE OF THE SOILS CONSULTANT. THE MATERIAL SHALL BE APPROVED BY THE SOILS CONSULTANT AND IS SUBJECT TO APPROVAL BY THE TOWNSHIP OF SEVERN.
- c. THE ROAD PAVEMENT STRUCTURE SHALL CONSIST OF THE FOLLOWING:
 - 40mm HL3 SURFACE COURSE ASPHALT
 - 50mm HL4 BASE COURSE ASPHALT
 - 150mm GRANULAR 'A'
 - 650mm GRANULAR 'B'
- d. THE ROAD PAVEMENT STRUCTURE SHALL AS PER Peto MacCALLUM GEOTECHNICAL INVESTIGATION REPORT DATED APRIL 2011. 650mm GRANULAR 'B' BASE SHALL BE PROVIDED AS SUBGRADE SOILS ARE HIGHLY FROST SUSCEPTIBLE AND HIGH GROUNDWATER LEVELS.
- e. GRANULARS SHALL HAVE A CROSSFALL OF 2.0%, COMPACTED TO 100% SPMDD. THE MATERIALS SHALL BE APPROVED BY THE SOILS CONSULTANT.
- f. ASPHALT SHALL HAVE A CROSSFALL OF 2.0%, COMPACTED TO A MINIMUM 97% MAXIMUM BULK DENSITY. MIX DESIGN AND MATERIAL SHALL BE APPROVED BY THE SOILS CONSULTANT. ALL ASPHALT MATERIAL AND PLACEMENT TO BE IN ACCORDANCE WITH OPSS.MUNI 310.
- g. THE ROAD BASE SHALL INCORPORATE 100mm DIAMETER SUBDRAIN WITH FACTORY INSTALLED FILTER FABRIC FULL LENGTH UNDER CURB, IN ACCORDANCE WITH DETAIL THIS DRAWING. SUBDRAINS TO BE CONNECTED TO EACH CATCHBASIN WITH A 3.0m LENGTH OF NON-PERFORATED PIPE.
- h. ALL CONCRETE CURB AND GUTTER SHALL BE AS PER OPSS 600.100. CONCRETE STRENGTH FOR CURB AND GUTTER TO BE 30MPa @ 28 DAYS. END TREATMENT AND DRIVEWAY CURB AT SIDEWALK AS PER OPSS 351.010.

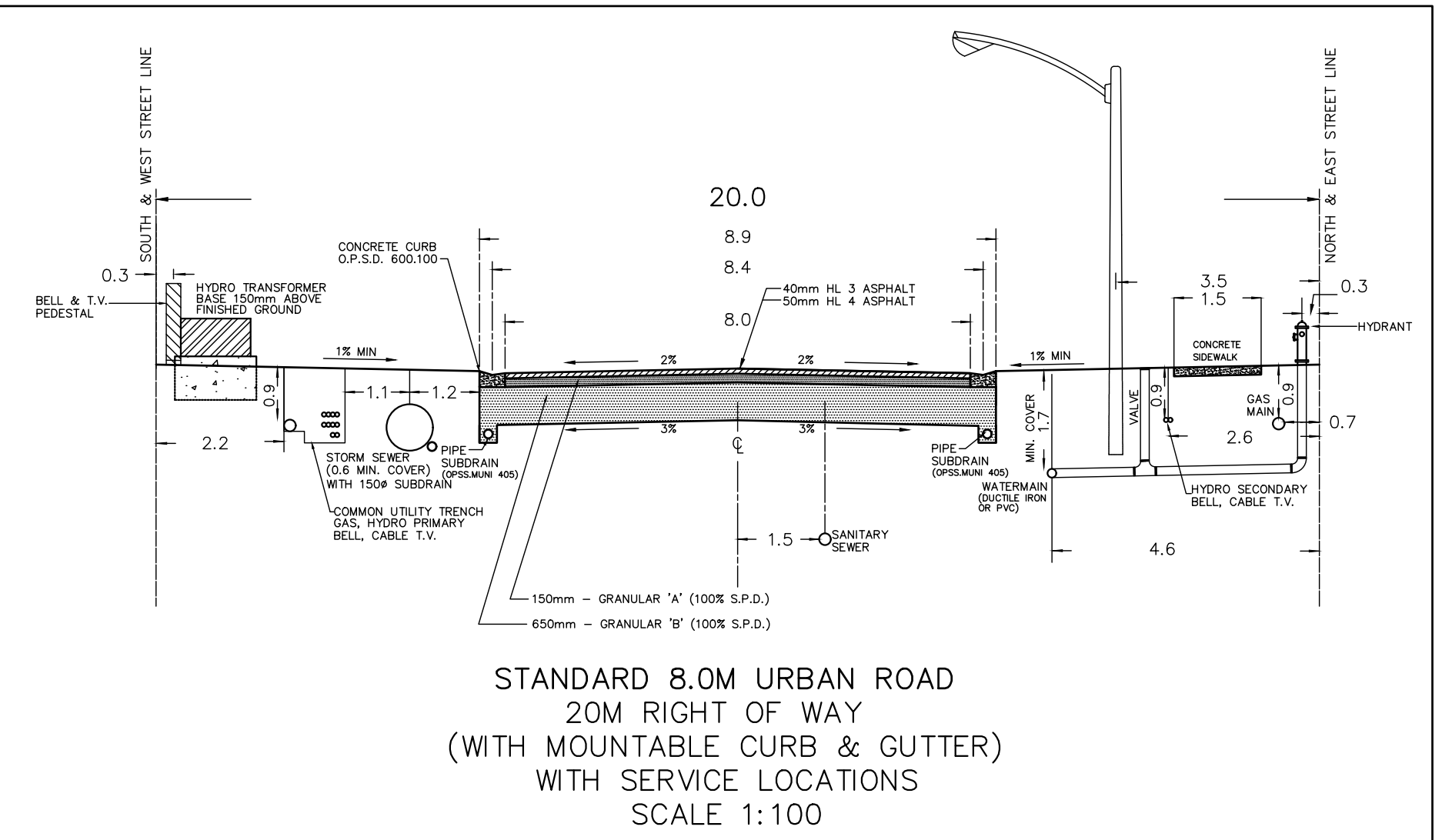
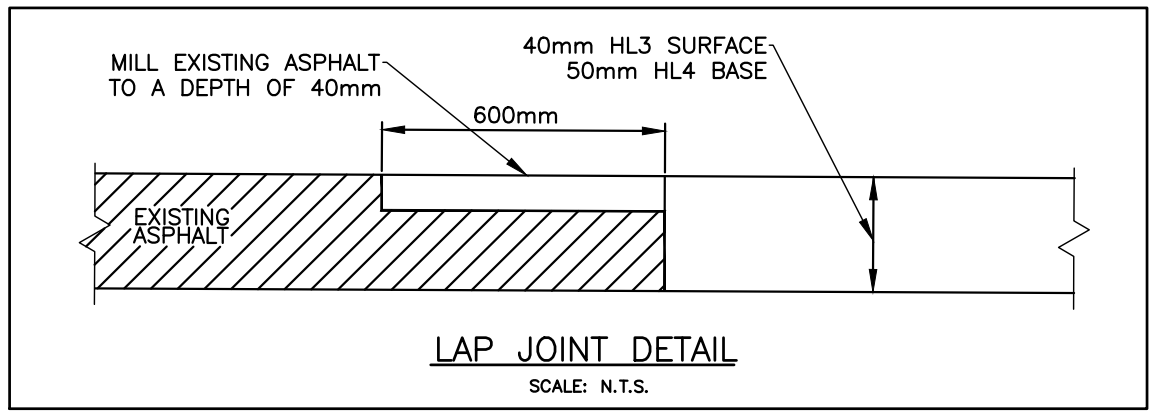
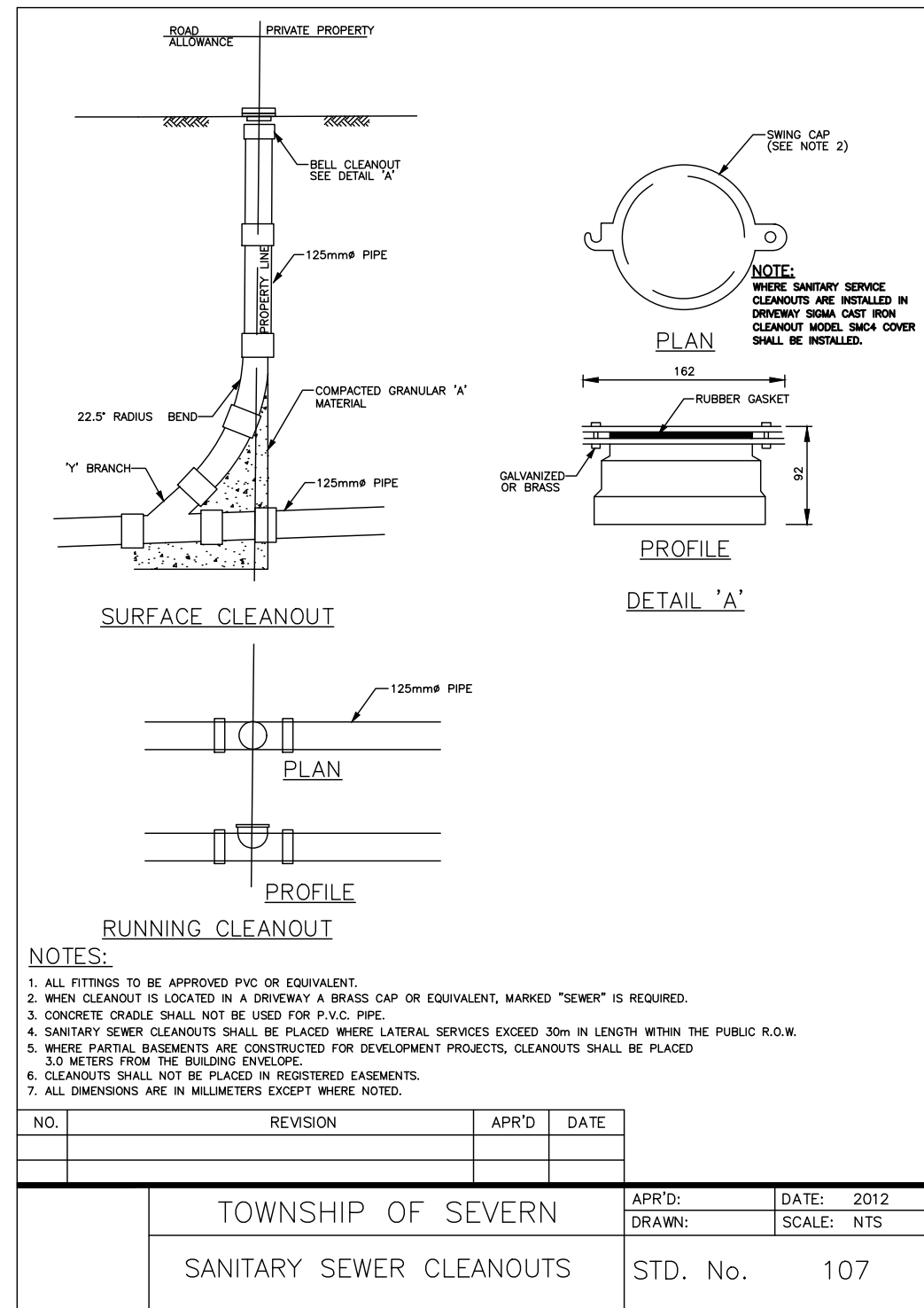
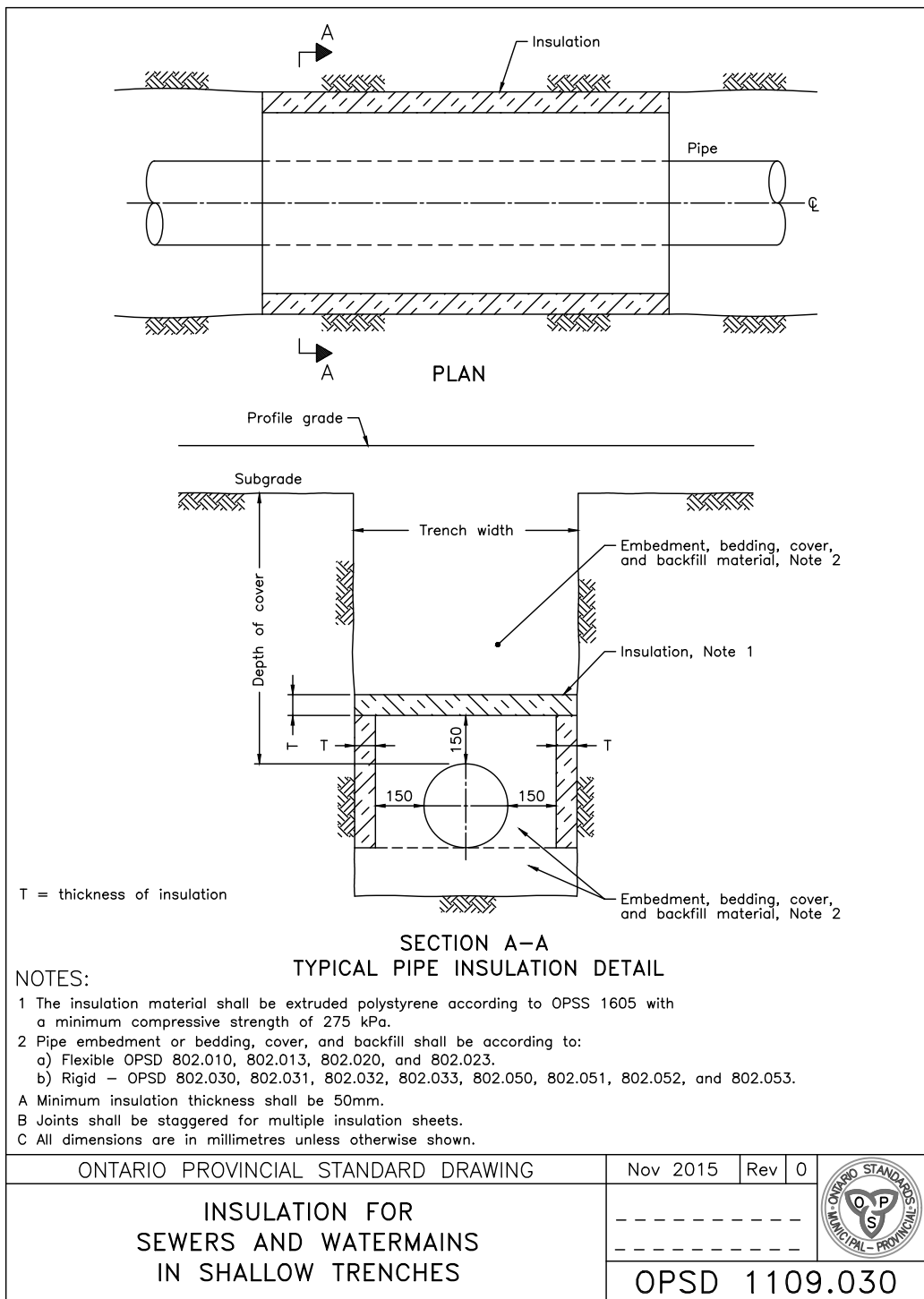
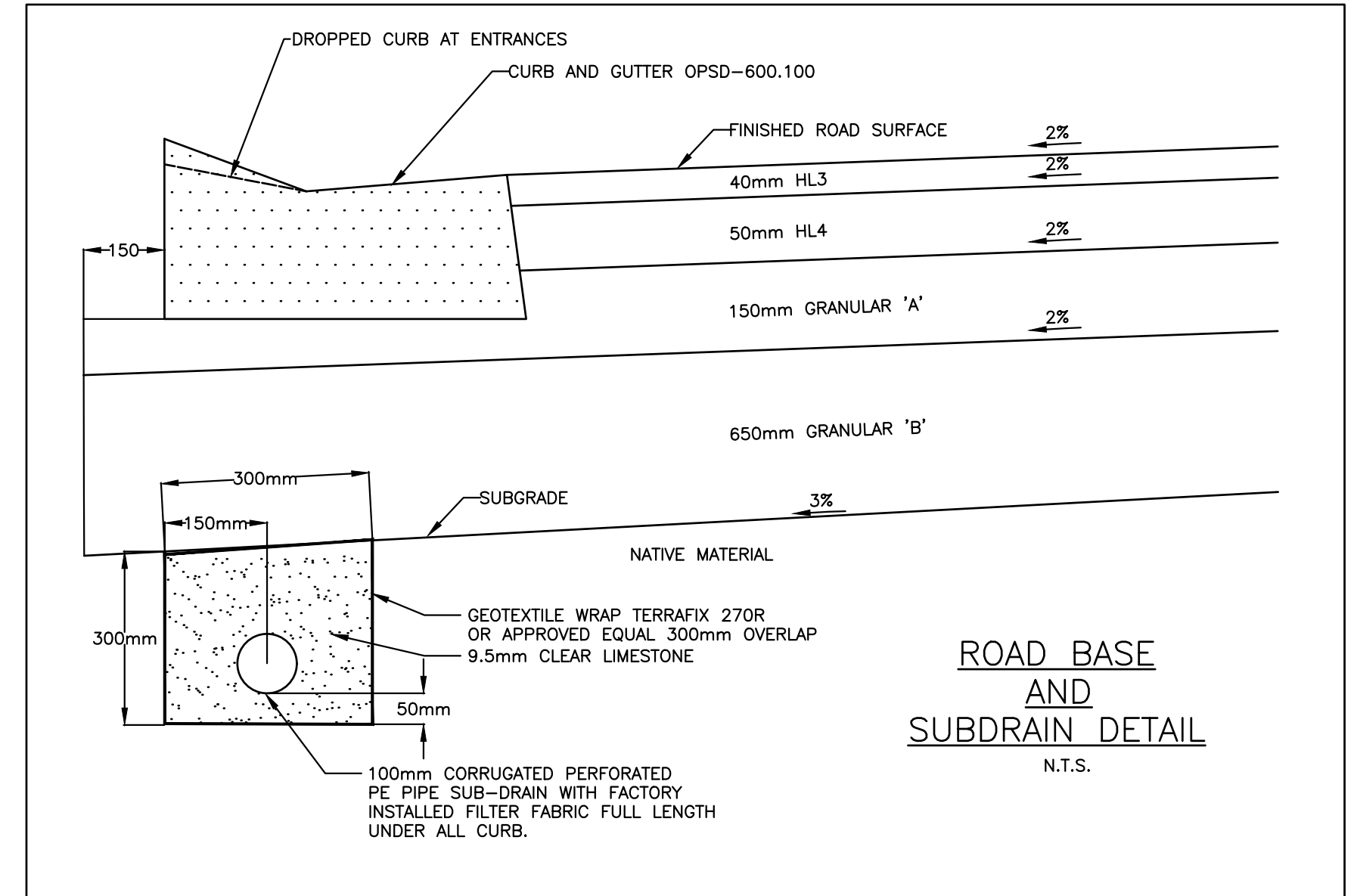
- i. JOINTS WITH EXISTING ASPHALT TO BE SAW CUT STRAIGHT AS DIRECTED BY ENGINEER PRIOR TO PLACING NEW ASPHALT.
- j. LAP JOINTS TO BE USED FOR ALL CONNECTIONS TO EXISTING ASPHALT AS PER DETAIL THIS DRAWING. APPLY TACK COAT TO ALL EXISTING SURFACES.
- k. IF ASPHALT SURFACES SETTLE IN EXCESS OF 15mm OR DIFFERENTIALLY DURING THE MAINTENANCE PERIOD, THE ENGINEER SHALL ORDER THE AREA CUT OUT AND REPLACED AT NO EXTRA COST TO THE CONTRACT.

7. SILTATION CONTROL

- a. SILTATION AND EROSION CONTROL WORKS TO BE INSTALLED PRIOR TO COMMENCING WORK AND MAINTAINED DURING CONSTRUCTION TO ENSURE NO MIGRATION OF SEDIMENT OFF SITE.
- b. DEWATERING EQUIPMENT SHALL BE DISCHARGED TO GRASSED AREAS, INFILTRATION PITS OR FILTRATION BAGS AS DIRECTED BY THE ENGINEER.
- c. ALL DISTURBED AREAS WITHIN 6.0 METRES OF CROSS CULVERTS OR DITCH OUTLETS SHALL BE REINSTATED WITH TOPSOIL AND SOD OR HIGH VELOCITY CURLEX BLANKET WITHIN 24 HOURS OF COMPLETING INITIAL BACKFILLING OPERATION.
- d. FOR AREAS WHERE REINSTATEMENT WITH TOPSOIL AND SEED IS ACCEPTABLE AND CONSTRUCTION HAS EXTENDED INTO THE FALL SEASON AND SEED HAS NOT BEEN APPLIED BEFORE OCTOBER 1, THE AREA SHALL BE REINSTATED WITH TOPSOIL AND SOD OR HIGH VELOCITY CURLEX BLANKET.
- e. IN LOCATIONS WHERE A FLOWING WATERCOURSE CROSSES A SANITARY FORCEMAIN SERVICE OR WATER SERVICE TRENCH, THE FLOW SHALL BE DIRECTED THROUGH A TEMPORARY PIPE ACROSS THE DISTURBED AREA. THE PIPE SHALL BE INSTALLED INSIDE/OVER THE EXISTING CULVERT AND EXTENDED UPSTREAM/DOWNSTREAM OF THE AREA OF EXCAVATION AND BE SANDBAGED TO DIRECT WATER FLOW THROUGH THE CULVERT ONLY.
- f. ROCK CHECK DAMS IN ACCORDANCE WITH OPSS 219.210 AND OPSS 219.211 SHALL BE CONSTRUCTED IN ALL DISTURBED DITCHES AT A SPACING OF 100 METRES MAXIMUM AND AT ALL ROAD CROSS CULVERTS AND DITCH OUTLETS AS DIRECTED BY ENGINEER.

8. MATERIALS

- a. WATERMAIN – PVC DR18
– RESIDENTIAL SERVICE CONNECTIONS – 25mm Ø PE c/w MAIN STOP, CURB STOP AND SERVICE BY MUELLER CONFORMING TO OPSS.MUNI 441
- b. HYDRANTS – CANADA VALVE CENTURY HYDRANT WITH PUMPER NOZZLE, PAINTED YELLOW, DRAIN HOLES TO BE PLUGGED
- c. VALVES – CANADA VALVE DARLING 55 2000 – M, AWWA C509-80.
- d. SADDLES – MUELLER H13481, H13483.
- e. MAIN STOP – MUELLER H15028 COUPLING.
- f. CURB STOP – MUELLER 504281 LINER
– MUELLER 110 COMPRESSION CONNECTION H15428.
- g. SERVICE BOX – MUELLER A726.
- h. SAMPLING STATION – BY TEST TAP c/w MAIN STOP (STAINLESS STEEL BODY), 25mm P.E. SERVICE AND CURB STOP
- i. VALVE BOX – CANADA VALVE DARLING 1322
– MUELLER STAINLESS STEEL LINER 504281
– MUELLER CURB STOP H10283
– MUELLER INSTA-TITE CONNECTION H15426
- j. FILTER FABRIC – TERRIFAX 270R OR APPROVED EQUAL.
- k. CAMBRIDGE BRASS FITTINGS ARE AN ACCEPTABLE ALTERNATIVE TO MUELLER FITTINGS
- l. SANITARY SEWER – PVC SDR35 (COLOURED GREEN)
– RESIDENTIAL SERVICE CONNECTIONS – 125mm Ø PVC SDR 35
- m. STORM SEWER – PVC SDR35
- n. TRACER WIRE – 12 GAUGE T.W.U STANDARD COPPER, LIGHT COLOURED, PLASTIC COATED.
- o. INSULATION – H160 STYROFOAM BY DOW OR APPROVED EQUAL.
- p. STREET AND TRAFFIC SIGNS – TOWNSHIP STANDARDS



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BENCHMARKS

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1.	1ST SUBMISSION	FEB. 2021	

MENOKE BEACH DEVELOPMENTS INC.
BLOCK 'C' MENOKE BEACH SUBDIVISION
TOWNSHIP OF SEVERN

TATHAM ENGINEERING

DESIGN: CU	FILE: 304844-9	DWG:
DRAWN: CU	DATE: APRIL 2020	DET-1
CHECK: TK	SCALE: AS NOTED	

NOTES AND DETAILS

Drawing Name: 304844-9-DET-1.dwg, Plotted: Feb 13, 2021