APPENDIX 'F' GEOTECHNICAL REPORT

2015 REGIONAL STREET RENEWAL PROGRAM

WILLSON PLACE BETWEEN WAVERLEY STREET AND FENNELL STREET

GEOTECHNICAL INVESTIGATION



Prepared for: City Of Winnipeg Engineering Division Public Works Department 103 – 1155 Pacific Avenue Winnipeg, Manitoba R3E 3P1

Prepared by: Stantec Consulting Ltd. 199 Henlow Bay Winnipeg, MB R3Y 1G4







Project No. 123311671	Drawn by: SB	Figure: 1
Date: Dec. 22, 2014	Reviewed by: GL	Scale: NTS

Testhole Location Plan 2015 Regional Street Renewal Program Willson Place between Waverley Street and Fennel Street



TABLE 1 2015 REGIONAL STREET RENEWAL PROGRAM WILLSON PLACE BETWEEN WAVERLEY STREET AND FENNEL STREET GEOTECHNICAL INVESTIGATION

Testhole	Testhole Location	Paveme	nt Surface	Pavement Struc	cture Material	Sample	Sample	Moisture	Pa	rticle Siz	ze Analys	sis	Att	terberg Lin	nits
ID		Туре	Thickness (mm)	Туре	Thickness (mm)	Description	Depth (m)	Content (%)	Gravel (%)	Sand (%)	Silt (%)	Clay (%)	Liquid Limit	Plastic Limit	Plasticity Index
TH1	10.0 m East of Northeast corner of Waverley Street and Willson Place, approximately 1.5 m South of North curb	Concrete	185	-	-	-	-	-	-	-	-	-	-	-	-
TH2	68.0 m East of Northeast corner of Waverley Street and Willson Place, approximately 1.5 m North of South curb	Concrete	155	-	-	-	-	-	1	-	-	-	-	-	-
TH3	125.0 m East of Northeast corner of Waverley Street and Willson Place,	Asphalt	15	_	_	Clay Fill	0.9	21	1.2	12.7	33.5	52.6	53	16	37
1110	approximately 1.5 m South of North curb	Concrete	130			Olay I III	0.5	21	1.2	12.7	55.5	32.0	3	10	37
TH4	175.0 m East of Northeast corner of Waverley Street and Willson Place,	Asphalt	80			_	_	_		_		_	_	_	
1114	approximately 1.5 m North of South curb	Concrete	180	-			-	,	•		-	-	,	-	_
TH5	225.0 m East of Northeast corner of Waverley Street and Willson Place,	Asphalt	130	_		_	_						_	_	
1113	approximately 1.5 m South of North curb	Concrete	120]	-	-	-	-	-	-	-	-	-	-	-
	288.0 m East of Northeast corner of Waverley Street and Willson Place, approximately 1.5 m North of South curb	Concrete	160	-	-	-	-	-	-	-	-	-	-	-	-
	323.0 m East of Northeast corner of Waverley Street and Willson Place, approximately 1.5 m South of North curb	Concrete	165	-	-	-	-	-	-	-	-	-	-	-	-
	375.0 m East of Northeast corner of Waverley Street and Willson Place, approximately 1.5 m North of South curb	Concrete	155	-	-	Clay	0.9	31	0.0	1.6	8.6	89.8	81	24	57
	414.0 m East of Northeast corner of Waverley Street and Willson Place, approximately 1.5 m South of North curb	Concrete	170	-	-	-	-	-	-	-	-	-	-		-
TH10	457.0 m East of Northeast corner of Waverley Street and Willson Place, approximately 1.5 m North of South curb	Concrete	155	-	-	-	-	-	-	-	1	-	-	-	-

L	OCA		Willson Place between Waverley Street and DATE December 10, 2014 DRILLING CO. M	nd	Fenn	el St							_		VA	TIC			ı SS			
<u> </u>)L		_	S	AMP					r Vane etrome				orva	ne c	n Gr	ab S	ample	es (k	Pa)	
DEPTH (m)	nsc	SYMBOL	SOIL DESCRIPTION	WELL DATA	TYPE	NUMBER	STURE ENT (%)	W _P			kPa Wi		100	kPa		150	0kPa	ı		00kF	a	DEPTH (ft)
DE		SOIL		WEL	F) N	MOISTURE CONTENT (%)	Ĺ	— ö − 10	2	H M ● S			ontent Penetra		Tes			0.3m	30	90	
- 0 -	СО	7 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	Concrete		COR	E						1	40		1			70			90	0
-			Clay - black, stiff, moist, high plasticity		AS		36						o									-
			trace organic materialtrace silttrace fine to coarse sand				2.4															
-			- brown below 1.2 m		AS		34					0										- 2
- 1 -					AS		30					0					- 1 - 1					- -
-	СН				AS		39						0									- 4
-																						-
					AS		44							0								-
-					AS		40						0)								6
- 2 -							40															-
-			TESTHOLE LOCATION: 10.0 m East of Northeast corner of Waverley Street and Willson		AS		48							0								-
			Place, approximately 1.5 m South of North curb. • The soil was frozen to a depth of 1.2 m.																			8
-			• No groundwater seepage or soil sloughing was observed during or upon completion of drilling.																			- - -
-			• Testhole terminated at a depth of 2.1 m.																			-
- 3 - -																						- 10
-																						_
																						-
	San	ple T	Type: GS - Grab Sample SPT - Standard Penetration Test ST - Shelby Tube PT - Piston Tube VT - Shear	t		L	ogged by	Nes	tor Al	oarc	a	1					<u> </u>				: C	12

P	ROJI	NT _ ECT	City of Winnipeg 2015 Regional Street Renewal Program Willson Place between Waverley Street as											.]	PRO DAT	UM	1				1671		
			DATE December 10, 2014 DRILLING CO. M																				_
DEPTH (m)	NSC	SOIL SYMBOL	SOIL DESCRIPTION	WELL DATA	TYPE	NUMBER	MOISTURE S CONTENT (%)	□ Ins △ Po W _P	cket	Pen 50	etron kPa W _L ⊢	Mois	1(kPa	a) 2 00kF Con	Ya tent	& At	150	kPa erg Li	mits	200	kPa)		DEPTH (ft)
- 0	СО	A A A	Concrete Clay Fill		COR	E																	0
	-		- black, stiff, moist, high plasticity - trace organic material - silty - trace fine to coarse sand - trace fine gravel - brown below 0.8 m		AS		27					0											2
- 1 -	СН				AS		27		- 2 - 2			0											
			Clay - brown, stiff, moist, high plasticity - trace silt		AS		29 38					0)									4
- 2 -	СН		- trace fine to coarse sand		AS		38						0										6
	-	//	TESTHOLE LOCATION: 68.0 m East of Northeast corner of Waverley Street and Willson Place, approximately 1.5 m North of South curb.		AS		39							3									8
	-		 The soil was frozen to a depth of 1.2 m. No groundwater seepage or soil sloughing was observed during or upon completion of drilling. Testhole terminated at a depth of 2.1 m. 																			-	
- 3 -																							10
	-																						12
	Pie	zomet	Type: GS - Grab Sample ST - Shelby Tube ST - Shelby Tube PT - Piston Tube VT - Shear ter Type: Bentonite Drill Cuttings Sand	t Van	ne Test	. —	ogged by							٤		ते	S	ta	ar	nt	e		14

P		ECT												Ι	DAT	JEC UM VAT	[.				1671	
			DATE December 10, 2014 DRILLING CO. A																			
DEPTH (m)	USC	SOIL SYMBOL	SOIL DESCRIPTION	WELL DATA	TYPE	NUMBER	MOISTURE SCONTENT (%)	□ Ins △ Poo	cket I	Pen 50l	etrom (Pa W _L H	Mois	(kPa	a) > 00kP	a ent a	& Att	150	kPa erg Lir , blow	nits	200		DEPTH (ft)
- 0	AS CO	A 7 4 A	\Asphalt \Concrete Clay Fill - black, stiff, moist, high plasticity		COR		28					0										0
	- -		 trace organic material silty trace fine to coarse sand trace fine gravel 		AS		28					0										- - - 2
- 1 -	1 CH		Particle Size Analysis at 0.9 m: 1.2% Gravel, 12.7% Sand, 33.5% Silt, 52.6% Clay		AS		21		- 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2	1	9											
	- - -		Clay - brown, stiff, moist, high plasticity	_	AS		27					D										- 4 - 4
	СН		- trace silt - trace fine to coarse sand		AS		32)									
- 2 -	- - -				AS		33						3									- 6 - -
	-		TESTHOLE LOCATION: 125.0 m East of Northeast corner of Waverley Street and Willson Place, approximately 1.5 m South of North curb.		AS		21															- - - 8
	- - -		 The soil was frozen to a depth of 1.2 m. No groundwater seepage or soil sloughing was observed during or upon completion of drilling. Testhole terminated at a depth of 2.1 m. 																			
- 3 -	- - -																					- - - 10
	Pie	zomet	Type: GS - Grab Sample SPT - Standard Penetration Te ST - Shelby Tube PT - Piston Tube VT - Sheater Type: Bentonite Drill Cuttings Sand	est r Van	ne Tes		ogged by eviewed				a	: 1 :		٤			S	ta		t	ec	12

P		ECT	City of Winnipeg 2015 Regional Street Renewal Program Willson Place between Waverley Street a										_	DA	TUI	CT : M		123		1671	
			DATE December 10, 2014 DRILLING CO. N																		<u> </u>
DEPTH (m)	nsc	SOIL SYMBOL	SOIL DESCRIPTION	WELL DATA	TYPE	NUMBER	MOISTURE S CONTENT (%)	□ Ins △ Poo	cket F	Pene 50k	Etrom EPa W _L H N	eter	(kPa 100 ture 0		t & A	150 Atterb	OkPa erg Li	mits	2001	. ,	DEPTH (ft)
- 0	AS	D. D.	Asphalt Concrete Clay Fill - black, stiff, moist, high plasticity		COR		35						0								0
	CH		- silty - trace fine to coarse sand - trace fine gravel		AS		40							•							2
- 1 -	- - - - - -		Clay - brown, stiff, moist, high plasticity - trace silt - trace fine to coarse sand		AS		34						Ο								- - - - 4
	- - - -		Silt - tan, soft, moist, low plasticity		AS		23				Ο										-
- 2 -	- ML				AS		23				О										6
] - - -		TESTHOLE LOCATION: 175.0 m East of Northeast corner of Waverley Street and Willson Place, approximately 1.5 m North of South curb.		AS		25				0										- 8
	- - - -		 The soil was frozen to a depth of 1.2 m. No groundwater seepage or soil sloughing was observed during or upon completion of drilling. Testhole terminated at a depth of 2.1 m. 																		-
- 3 -	- - - -																				- 10
	- - - -																				-
	Pie	zomet	Type: GS - Grab Sample SPT - Standard Penetration Tes ST - Shelby Tube PT - Piston Tube VT - Shear ter Type: Bentonite Drill Cuttings Sand	st Van	ne Tes		ogged by eviewed				a			و	B	S	ita	ar	ıtı	ec	12

P		ECT	City of Winnipeg 2015 Regional Street Renewal Program Willson Place between Waverley Street a										D	ATU	ECT JM ATIO	_		1233			
			DATE December 10, 2014 DRILLING CO. M														mr	n SS	A		
DEPTH (m)	USC	SOIL SYMBOL	SOIL DESCRIPTION	WELL DATA	TYPE	NUMBER	MOISTURE S CONTENT (%)	Ė	Per 50	kPa W _L	Mois	10	a) X 0kPa Conte	ent &	15 Atter	50kP berg	a Limi	ts /0.3m	es (kF 00kP:		DEPTH (ft)
- 0	AS CO	- N. S	Asphalt Concrete Clay Fill - black, stiff, moist, high plasticity - silty		COR	E	34					0									-
- 1 -	СН		- trace fine to coarse sand - trace fine gravel		AS		35 36					0									_ 2
	-		Clay - brown, stiff, moist, high plasticity		AS		37 40					O	0								- 4 - 4 -
- 2 -	СН		- trace silt - trace fine to coarse sand		AS		44						0								- - - 6 -
	-		TESTHOLE LOCATION: 225.0 m East of Northeast corner of Waverley Street and Willson Place, approximately 1.5 m South of North curb. • The soil was frozen to a depth of 1.2 m.		AS		41						0								- - - - 8
	- - -		No groundwater seepage or soil sloughing was observed during or upon completion of drilling. Testhole terminated at a depth of 2.1 m.																		- - -
- 3 -	-																				- 10 - - - - -
	Pie	zomet	Type: GS - Grab Sample SPT - Standard Penetration Tes ST - Shelby Tube PT - Piston Tube VT - Shear ter Type: Bentonite Drill Cuttings Sand	st Var	ne Test	. —	ogged by eviewed				: []		وي	B		St	a	n	te	:C	12

P	ROJ	NT _ ECT	City of Winnipeg 2015 Regional Street Renewal Program Willson Place between Waverley Street ar											-	PRC DAT	ΓUM	1		12	331	167	1	-
			DATE December 10, 2014 DRILLING CO. M																ım S	SSA			-
DEPTH (m)	nsc	SOIL SYMBOL	SOIL DESCRIPTION	WELL DATA	TYPE	NUMBER	MOISTURE STOOM (%)	Ė		Per 50	kPa WL	Moi	er (kF 1 sture	(a) (00 kl	Y Pa ntent	& At	150	kPa erg Li	mits	200	s (kPa))kPa		DEPTH (ft)
- 0	СО	A 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	Concrete		COR	E			10			30		40				,	70	00	,	T -	0
			- black, stiff, moist, high plasticity - trace organic material - trace silt		AS		39							0									
			- trace fine to coarse sand - brown below 1.2 m		AS		40							0									2
- 1 -	-				AS		42	-0.00						0									
	СН				AS		34						0										4
	-				AS		37						C)								-	
- 2 -	-				AS		39							0									6
	-		TESTHOLE LOCATION: 288.0 m East of Northeast corner of Waverley Street and Willson Place, approximately 1.5 m North of South curb.		AS		40							0									8
	-		 The soil was frozen to a depth of 1.2 m. No groundwater seepage or soil sloughing was observed during or upon completion of drilling. Testhole terminated at a depth of 2.1 m. 																				
- 3 -	-																						10
	Pie	zomet	Type: GS - Grab Sample SPT - Standard Penetration Test ST - Shelby Tube PT - Piston Tube VT - Shear Trype: Drill Cuttings Sand	: Van	e Tes		ogged by							_ (Ŋ	र्ते	S	ta	ar	ıt	e		12

P		ECT	City of Winnipeg 2015 Regional Street Renewal Program Willson Place between Waverley Street an										.]	PRO DAT	ΓUM	1				1671	
			DATE December 10, 2014 DRILLING CO. M															ım S	SA		_
DEPTH (m)	nsc	SOIL SYMBOL	SOIL DESCRIPTION	WELL DATA	TYPE	NUMBER	MOISTURE ST CONTENT (%)	Ė	Per 50	kPa WL	Moi	r (kP	a) 00kF Con	Ya Pa tent netra	& At	150	kPa erg Lii , blow		2001		DEPTH (ft)
- 0	СО		Clay Fill - black, stiff, moist, high plasticity	1	COR	E	37					0									0
	CH		- silty - trace fine to coarse sand - trace fine gravel		AS		40						0								- - - 2
- 1 -			Clay		AS		38				- :		>							- 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2	- - - -
			- brown, firm, moist, high plasticity - trace silt - trace fine to coarse sand - stiff below 1.8 m		AS		36					0									- 4
	СН				AS		32 37					0									- 6
- 2 -					AS		40						0								-
			TESTHOLE LOCATION: 323.0 m East of Northeast corner of Waverley Street and Willson Place, approximately 1.5 m South of North curb.																		8
	- - -		 The soil was frozen to a depth of 1.2 m. No groundwater seepage or soil sloughing was observed during or upon completion of drilling. Testhole terminated at a depth of 2.1 m. 																		- - -
- 3 -	-																				- 10
	- - - -																				- - - -
	Pie	zomet	Type: GS - Grab Sample SPT - Standard Penetration Test PT - Piston Tube VT - Shear Bentonite Drill Cuttings Sand	t Van	e Test	. —	ogged by						٤		र्ते	S	ta	311	t	ec	12

P		ECT	City of Winnipeg 2015 Regional Street Renewal Program Willson Place between Waverley Street and										_	DA	TUN	CT 1 M		123	311	671	
			DATE December 10, 2014 DRILLING CO. Ma															ım S	SA		
DEPTH (m)	nsc	SOIL SYMBOL	SOIL DESCRIPTION	WELL DATA	TYPE	NUMBER	MOISTURE ST CONTENT (%)	□ Inss △ Po	cket	50)	etrom kPa W _L	eter Moist	(kPa)) X OkPa Conter	ıt & A	150	kPa erg Li t, blov		200k	,	DEPTH (ft)
- 0	CO	4 7 4 4	Concrete Clay - brown, stiff, moist, high plasticity - trace silt - trace fine to coarse sand	1	COR	E	32					0									0
			Particle Size Analysis at 0.9 m: 0.0% Gravel, 1.6% Sand, 8.6% Silt, 89.8% Clay		AS		32					0					- 1				- 2
- 1 -					AS		31					0									- - - -
	СН				AS		35						0								- 4
					AS		41							0							-
- 2 -					AS		41							0							- 6
	-		TESTHOLE LOCATION: 375.0 m East of Northeast corner of Waverley Street and Willson Place, approximately 1.5 m North of South curb.		AS		45							0							- 8
			 The soil was frozen to a depth of 1.2 m. No groundwater seepage or soil sloughing was observed during or upon completion of drilling. Testhole terminated at a depth of 2.1 m. 																		- - - -
- 3 -																					- - 10
																					 - - -
	Pie	zomet	Type: GS - Grab Sample SPT - Standard Penetration Test ST - Shelby Tube PT - Piston Tube VT - Shear Variety Bentonite Drill Cuttings Sand	Van	e Tes	. —	ogged by					<u> </u>		9		S	ita	311	te	ec	12

P		ECT	City of Winnipeg 2015 Regional Street Renewal Program Willson Place between Waverley Street as											-	PRO DAT	ΓUM	1		123		671	
			DATE December 10, 2014 DRILLING CO. M																			_
DEPTH (m)	nsc	SOIL SYMBOL	SOIL DESCRIPTION	WELL DATA	TYPE	NUMBER W	MOISTURE CONTENT (%)	□ Ins	cket	Pen 50	kPa WL	Moi	er (kF	(a) 00k	¥ Pa ntent	& At	150	kPa erg Lir		200k		DEPTH (ft)
- 0	- CO	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	Concrete Clay Fill - black, stiff, moist, high plasticity - trace organic material		COR	E	37		10	2	20	30) C	40	4	50	60)	70	80	90	0
	- - -		- silty - trace fine to coarse sand - trace fine gravel		AS		38							3								- - 2
- 1 -	- CH				AS		36						0		- 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0							- - -
	-		Clay		AS		38							3								- 4
	- - - CH		brown, stiff, moist, high plasticity trace silt trace fine to coarse sand		AS		35 38						0	D								- - - 6
- 2 -	- - - -		TESTHOLE LOCATION: 414.0 m East of		AS		32						0									- - -
	- - -		Northeast corner of Waverley Street and Willson Place, approximately 1.5 m South of North curb. • The soil was frozen to a depth of 1.2 m.																			8
	- - -		 No groundwater seepage or soil sloughing was observed during or upon completion of drilling. Testhole terminated at a depth of 2.1 m. 																			- - -
- 3 -	_ - - -																					- 10
	- - - -																					12
	Pie	zomet	Type: GS - Grab Sample ST - Standard Penetration Test ST - Shelby Tube PT - Piston Tube VT - Shear ter Type: Bentonite Drill Cuttings Sand	t Van	ne Test	. —	ogged by								Z	र्ते	S	ta	n	t	ec	

P	ROJI	NT _ ECT	City of Winnipeg 2015 Regional Street Renewal Program Willson Place between Waverley Street as									-	PRO DAT	ΓUM	1				1671	
			DATE December 10, 2014 DRILLING CO. M																	_
DEPTH (m)	nsc	SOIL SYMBOL	SOIL DESCRIPTION	WELL DATA	TYPE	NUMBER	MOISTURE ST CONTENT (%)	□ In: △ Po	50	mete	er (kF 1 sture	Pa) 00k	Pa ntent	& At	150	kPa erg Lii , blow		200		DEPTH (ft)
- 0	СО	D E S	Concrete		COR	E														0
	-		Clay Fill - black, stiff, moist, high plasticity - trace organic material - silty		AS		39					0								 - - -
	СН		- trace fine to coarse sand - trace fine gravel		AS		35				0									2
- 1 -	- - -				AS		32				0									 - - -
	-		Clay - brown, stiff, moist, high plasticity - trace silt - trace fine to coarse sand		AS		38					0								4
	СН		and the course sund		AS		39					0								- - -
– 2 -	- -				AS		41					o								- 6 - -
] - -		TESTHOLE LOCATION: 457.0 m East of Northeast corner of Waverley Street and Willson Place, approximately 1.5 m North of South curb.		AS		41					O								- - - 8
	- - -		 The soil was frozen to a depth of 1.2 m. No groundwater seepage or soil sloughing was observed during or upon completion of drilling. Testhole terminated at a depth of 2.1 m. 																	- - - -
- 3 -	_ _ _																			- - - 10
	 - - 																			- - -
	Pie	zomet	Type: GS - Grab Sample SPT - Standard Penetration Test ST - Shelby Tube PT - Piston Tube VT - Shear ter Type: Drill Cuttings Sand	t Var	ne Tes		ogged by						9	ि	S	ta	an	t	ec	12



Core sample from Testhole TH1



Core sample from Testhole TH2





Core sample from Testhole TH3



Core sample from Testhole TH4





Core sample from Testhole TH5



Core sample from Testhole TH6





Core sample from Testhole TH7



Core sample from Testhole TH8





Core sample from Testhole TH9



Core sample from Testhole TH10





LABORATORY

199 Henlow Bay Winnipeg MB R3Y 1G4 Tel: (204) 488-6999

PARTICLE SIZE ANALYSIS ASTM D422

City of Winnipeg Engineering Division, Public Works Department 106-1155 Pacific Avenue

Winnipeg, Manitoba R3E 3P1

Attention: Derek Teperto

PROJECT: 2015 Regional Street

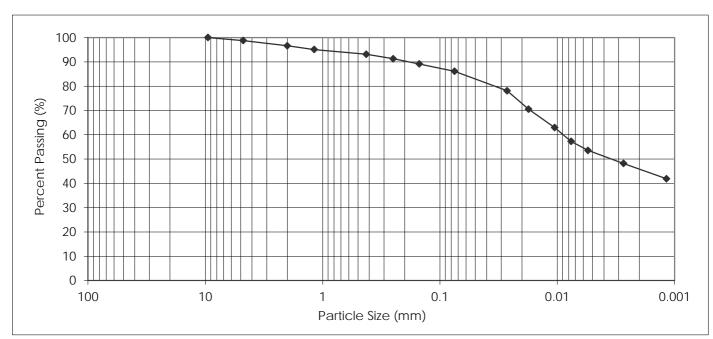
Renewal Program

Willson Place between

Waverley Street and Fennel Street

PROJECT NO.: 123311671

SAMPLED BY: Nestor Abarca DATE RECEIVED: January 2, 2015
SAMPLE ID: TH03 @ 0.91 m TESTED BY: Sothea Bun, C.E.T.



PARTICLE	PERCENT	PARTICLE		PERCENT
SIZE	PASSING	SIZE		PASSING
37.50 mm	100.0		1.18 mm	
25.00 mm	100.0		0.425 mm	
19.00 mm	100.0		0.250 mm	91.3
16.00 mm	100.0		0.150 mm	89.1
12.50 mm	100.0		0.075 mm	86.1
9.50 mm	100.0		0.005 mm	52.6
4.75 mm	98.8	0.002 mm		45.2
2.00 mm	96.6		0.001 mm	NT*

		Sand, %					
Gravel, % 75 to 4.75 mm	Coarse <4.75 to 2.0 mm	Medium <2.0 to 0.425 mm	Fine <0.425 to 0.075 mm	Silt, % <0.075 to 0.005 mm	Clay, % <0.005 mm	Colloids, % < 0.001 mm	
	1.2	2.2	3.5	7.0	33.5	52.6	NT*

NT* Sample not tested for colloids

January 7, 2015

CERTIFICATION

Canadian Council of Independent Laboratories

For appoint tests as listed on serve col. con

REVIEWED BY: German E. Leal, B.Sc., P. Eng.



LABORATORY

199 Henlow Bay Winnipeg MB R3Y 1G4 Tel: (204) 488-6999

PARTICLE SIZE ANALYSIS ASTM D422

City of Winnipeg Engineering Division, Public Works Department 106-1155 Pacific Avenue

Winnipeg, Manitoba

R3E 3P1

Attention: Derek Teperto

PROJECT: 2015 Regional Street

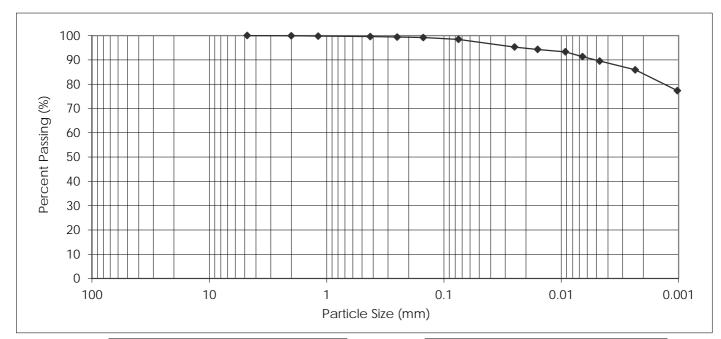
Renewal Program

Willson Place between

Waverley Street and Fennel Street

PROJECT NO.: 123311671

SAMPLED BY: Nestor Abarca DATE RECEIVED: January 2, 2015
SAMPLE ID: TH08 @ 0.91 m TESTED BY: Sothea Bun, C.E.T.



PARTICLE	PERCENT		PARTICLE		PERCENT
SIZE	PASSING		SIZE		PASSING
37.50 mm	100.0	1	1.18 mm		99.8
25.00 mm	100.0		0.425 mm		99.6
19.00 mm	100.0		0.250 mm		99.4
16.00 mm	100.0		0.150 mm		99.2
12.50 mm	100.0		0.075 mm		98.4
9.50 mm	100.0		0.005	mm	89.8
4.75 mm	100.0		0.002 mm		83.7
2.00 mm	99.9		0.001 mm		NT*
	Sand W				

		Sand, %					
Gravel, % 75 to 4.75 mm	Coarse <4.75 to 2.0 mm	Medium <2.0 to 0.425 mm	Fine <0.425 to 0.075 mm	Silt, % <0.075 to 0.005 mm	Clay, % <0.005 mm	Colloids, % < 0.001 mm	
	0.0	0.1	0.3	1.2	8.6	89.8	NT*

NT* Sample not tested for colloids

January 7, 2015

Canadian Council of Independent Laboratories

For appoints testin as Stated on www.col.com

REVIEWED BY: German E. Leal, B.Sc., P. Eng.

Template Version: C420150116 - RW

GEOTECHNICAL REPORT FOR:

I. Willson Place from Waverley Street to Fennell Street.

The geotechnical report is provided to aid in the Contractor's evaluation of the existing pavement structure and/or soil conditions. The information presented is considered accurate at the locations shown on the Drawings and at the time of drilling. However, variations in pavement structure and/or soil conditions may exist between test holes and fluctuations in groundwater levels can be expected seasonally and may occur as a result of construction activities. The nature and extent of variations may not become evident until construction commences.