

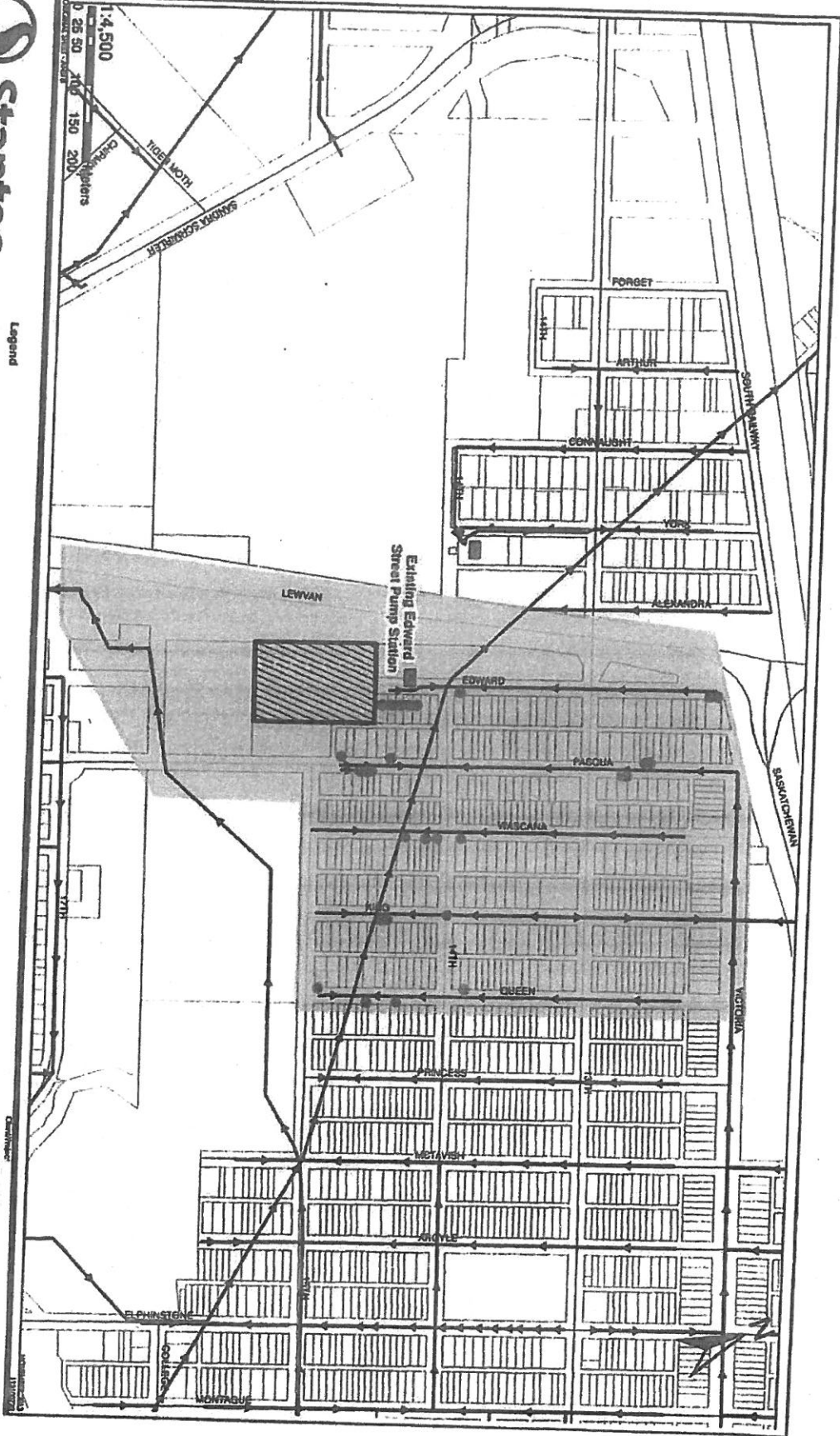
Appendix C
Edward Street Sanitary System Drainage
Improvements Report

1919 Rice Street
Regina SK
www.stantec.com

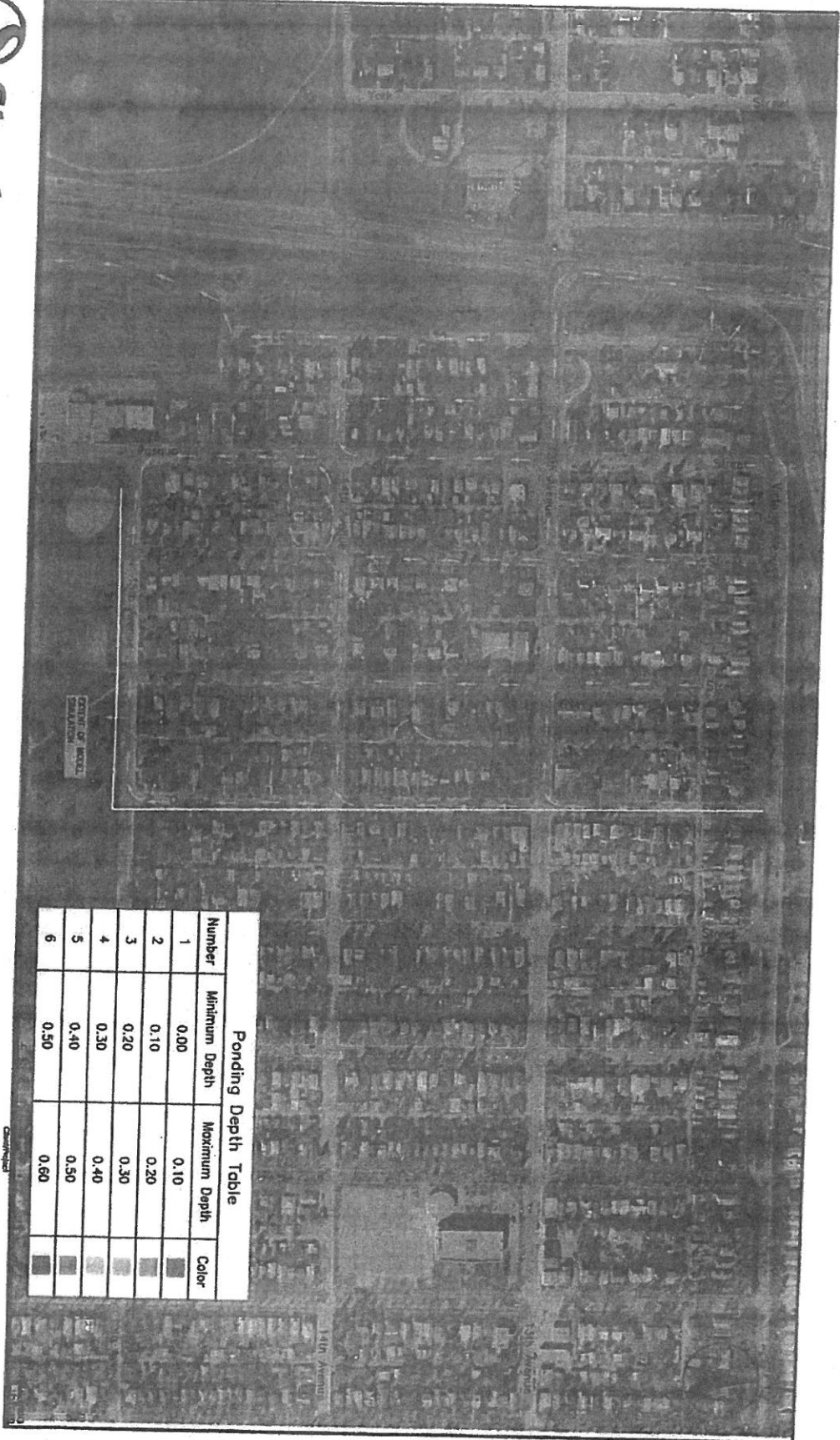


- Legend**
- Basement Flooding
 - Surface Flooding
 - Contain
 - Pump Station
 - ▨ 220 Edward Street
 - ▨ Parcel/Neighbourhood
 - ▨ Edward St Area

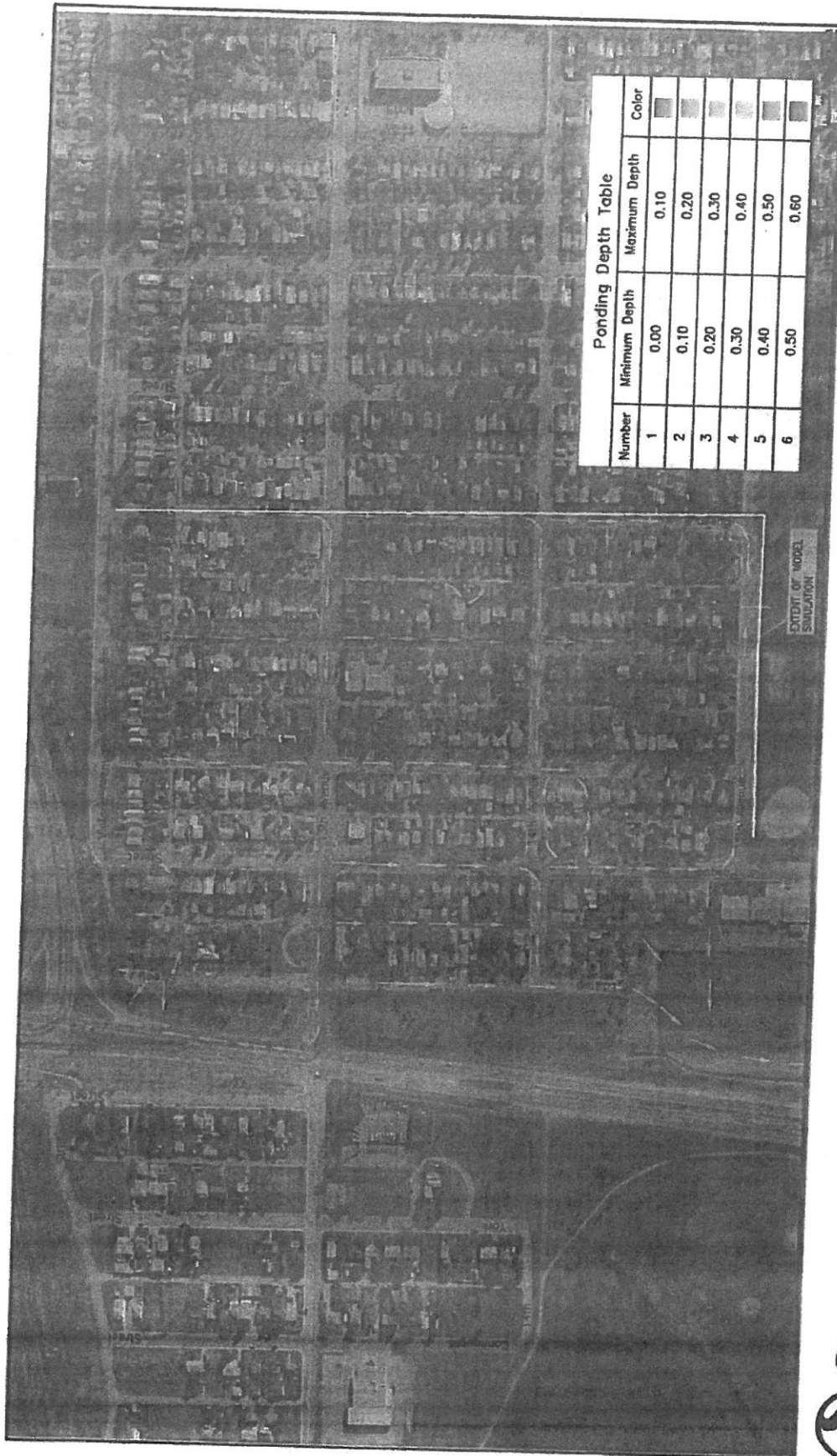
CITY OF REGINA
PRE-DRAINAGE OF EDWARD STREET
AREA DRAINAGE
FLOODING REPORTS
Scale: 1" = 20'



1919 Ross Street
Regina SK
www.stantec.com



CITY OF REGINA
PRE-DESIGN OF EDWARD STREET
AREA DRAINAGE
1:2500
11.0
EXISTING PONDING AREA
1:2500 24 HR



Ponding Depth Table			
Number	Minimum Depth	Maximum Depth	Color
1	0.00	0.10	
2	0.10	0.20	
3	0.20	0.30	
4	0.30	0.40	
5	0.40	0.50	
6	0.50	0.60	

EXTENT OF MODEL
SIMULATION

CITY OF REGINA
DESIGN OF EDWARD STREET
AREA DRAINAGE

Scale: 1:12.0

EXISTING PONDING AREA
1:100YR 24 HR



1919 Rosa Street
Regina SK
www.stantec.com

V:\1131\active\113100720\mthony\dwg\100720-cox-100yr-aug.dwg
2012/12/12 4:24 PM By: Stephen\jcm

**CITY OF REGINA
2220 EDWARD STREET**

December 12, 2013

3.6 COST ESTIMATES

The cost estimate and life cycle cost for Option are provided in Tables 5 and 6. Based on the elevation of existing sanitary sewers and the topography, Options 2 and 3 are not feasible and therefore not included in the cost estimates. A cost estimate has also not been provided for Option 4 as further detailed information regarding anticipated inflows are required.

Table 5. Capital Cost Estimate for Option 1.

Description	Total Price
Mobilization / Demobilization	\$ 87,000.00
Underground Utilities	\$ 587,000.00
Traffic Accommodation	\$ 37,000.00
Earth Excavation/Grading + Removals (~15,000 m³)	\$ 525,000.00
Street Repair	\$ 93,000.00
Pump Station (31 L/s)	\$ 400,000.00
Storage (1000 m³)	\$ 1,500,000.00
Sub-total	\$ 3,229,000.00
Contingency Allowance (20%)	\$ 646,000.00
Engineering (15%)	\$ 484,000.00
Total	\$ 4,359,000.00

Table 6. Capital and Life Cycle Cost for Option 1.

Description	Capital Cost	LCC + Cap. 25 Years
Mobilization / Demobilization	\$ 87,000.00	\$ 87,000.00
Underground Utilities	\$ 587,000.00	\$ 753,000.00
Traffic Accommodation	\$ 37,000.00	\$ 37,000.00
Earth Excavation/Grading + Removals (~15,000 m³)	\$ 525,000.00	\$ 525,000.00
Street Repair	\$ 93,000.00	\$ 93,000.00
Pump Station (31 L/s)	\$ 400,000.00	\$ 513,000.00
Storage (1000 m³)	\$ 1,500,000.00	\$ 1,924,000.00
Sub-total	\$ 3,229,000.00	\$ 3,932,000.00
Contingency Allowance (20%)	\$ 646,000.00	\$ 786,000.00
Engineering (15%)	\$ 484,000.00	\$ 590,000.00
Total	\$ 4,359,000.00	\$ 5,308,000.00

Note: Annual rate of maintenance cost was assumed 1%/year.

The cost estimates for the upgrades recommended for the Edward Street Lift Station are presented in Table 7.

Table 7. Edward Street Lift Station Upgrade Cost Estimate.

Description	Capital Cost
Pump upgrade	\$2,000.00
Check valve replacement	\$1,000.00

**CITY OF REGINA
2220 EDWARD STREET**

December 12, 2013

4.4 COST ESTIMATES

These cost estimates are based on 2013 estimates for current projects and have been rounded to the nearest thousand.

A summary of the cost estimates and life cycle costs (LCC) for the proposed 25 year and 100 year level of service (LOS) upgrades are shown in Tables 13 and 14. A more detailed cost estimate break-down is presented in Appendix C.

Table 13. Cost Estimate Summary of Proposed Storm Sewer Trunk Option.

Description	25 Year LOS	25 Year LCC	100 Year LOS	100 Year LCC
Mobilization and Demobilization	\$ 155,000.00	\$ 155,000.00	\$ 170,000.00	\$ 170,000.00
Traffic Accommodation	\$ 75,000.00	\$ 75,000.00	\$ 75,000.00	\$ 75,000.00
Underground Utilities	\$ 1,386,000.00	\$ 1,770,000.00	\$ 1,597,000.00	\$ 2,048,000.00
Street Repair	\$ 279,000.00	\$ 279,000.00	\$ 279,000.00	\$ 279,000.00
Structures	\$ 100,000.00	\$ 128,000.00	\$ 100,000.00	\$ 128,000.00
Landscaping	\$ 160,000.00	\$ 160,000.00	\$ 160,000.00	\$ 160,000.00
Sub-total	\$ 2,155,000.00	\$ 2,492,000.00	\$ 2,381,000.00	\$ 2,860,000.00
Contingency Allowance (20%)	\$ 431,000.00	\$ 498,000.00	\$ 476,000.00	\$ 572,000.00
Engineering (15%)	\$ 324,000.00	\$ 374,000.00	\$ 357,000.00	\$ 429,000.00
Total	\$ 2,910,000.00	\$ 3,364,000.00	\$ 3,214,000.00	\$ 3,861,000.00

While there is an existing outlet to Wascana Creek adjacent to Pasqua Street, a new outlet into Wascana Creek will likely be required due to the higher anticipated flows.

**CITY OF REGINA
2220 EDWARD STREET**

December 12, 2013

Table 14. Cost Estimate Summary of Proposed Storm Sewer Trunk and Swale Option.

Description	25 Year LOS	25 Year LCC	100 Year LOS	100 Year LCC
Mobilization and Demobilization	\$ 120,000.00	\$ 120,000.00	\$ 122,000.00	\$ 122,000.00
Traffic Accommodation	\$ 75,000.00	\$ 75,000.00	\$ 75,000.00	\$ 75,000.00
Underground Utilities	\$ 977,000.00	\$ 1,253,000.00	\$ 1,002,000.00	\$ 1,285,000.00
Street Repair	\$ 227,000.00	\$ 227,000.00	\$ 227,000.00	\$ 227,000.00
Structures	\$ 150,000.00	\$ 192,000.00	\$ 150,000.00	\$ 192,000.00
Landscaping	\$ 160,000.00	\$ 160,000.00	\$ 160,000.00	\$ 160,000.00
Earth Excavation & Grading	\$ 67,000.00	\$ 86,000.00	\$ 74,000	\$ 95,000
Sub-total	\$ 1,770,000.00	\$ 2,113,000.00	\$ 1,810,000.00	\$ 2,156,000.00
Contingency Allowance (20%)	\$ 350,000.00	\$ 423,000.00	\$ 360,000.00	\$ 431,000.00
Engineering (15%)	\$ 270,000.00	\$ 317,000.00	\$ 270,000.00	\$ 323,000.00
Total	\$ 2,390,000.00	\$ 2,853,000.00	\$ 2,440,000.00	\$ 2,910,000.00