# CAPITAL PROFILE REPORT



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|---|---|---|---|
| PROFILE NAME: | **EKOTA DRY POND AND MENISA STORM RELIEF (EK1, MN1)** | | **FUNDED** |
| PROFILE | **16-23-9801** | PROFILE STAGE: | **Approved** |
| DEPARTMENT: | **Financial Services & Utilities - Utilities** | PROFILE TYPE: | **Standalone** |
| BRANCH: | **Sanitary Utility** | PROFILE MANAGER: | **Chris Ward** |
| PROGRAM | | LEAD BRANCH MANAGER: | |
| LEAD BRANCH: | | ESTIMATED START: | **May, 2016** |
| BUDGET CYCLE: | **2015-2018** | ESTIMATED COMPLETION: | **December, 2018** |

**Service Category:** **Utilities** **Major Initiative:**

| GROWTH | RENEWAL |
|---|---|
| 50 | 50 |

| | |
|---|---|
| **PREVIOUSLY APPROVED:** | **11,986** |
| **BUDGET REQUEST:** | **-2,000** |
| **TOTAL PROFILE BUDGET:** | **9,986** |

## PROFILE DESCRIPTION

Initiative Description

Following the July 2012 storm events, Administration commissioned three consulting firms to investigate the flood and sewer backup problems in the Mill Woods and southwest Edmonton communities and recommend solutions that will reduce the risk of potential flooding in the future. The recommended solutions consist of the installation of stormwater management facilities, and storm and sanitary sewer upgrades. Ekota Dry Pond and Menisa Storm Relief is identified as a high priority project based on risk level, need and cost-benefit analysis to be implemented.

Scope

The goal of this project is to reduce the flooding risk in Ekota and Menisa neighborhoods by constructing a dry pond in Father Ivor Daniel Park in Ekota, near St. Clement's school, and approximately 800 m of 1050 mm to 1800 mm diameter storm pipes in Menisa. Design started in 2014 and was completed in 2015. Construction is scheduled in 2016 and 2017.

## PROFILE BACKGROUND

Problem/Opportunity

Heavy rains in July 2012 resulted in widespread flooding, particularly in communities in Mill Woods and southwest Edmonton. In the Ekota and Menisa neighbourhoods, there were sewer backups in more than 39 homes. These two neighborhoods also experienced severe flooding in 2004 with 68 homes reporting basement flooding. Drainage Services responded with an action plan, under Flood Mitigation Program, and identified these two neighbourhoods a priority for drainage upgrades.

Current Situation

Ekota and Menisa neighborhoods do not have defined major drainage systems as they were constructed prior to the implementation of the dual storm drainage system requirement for both a major (surface) and a minor (piped) drainage system. As a result, surface runoff often ponds to levels in certain natural low areas which could inundate homes. Stormwater enters the sanitary sewers through low lying manholes which could cause sanitary sewer backup during heavy rains.

## PROFILE JUSTIFICATION

Initiative Justification

Both sanitary and storm systems in Ekota and Menisa neighbourhoods have limited capacities for major rainfall events. These systems were designed to convey runoff from small and frequent rainfall events. The storms that occurred in 2012 were more than 5 times the rainfall intensity that the drainage piping systems were designed to convey. In addition, these neighbourhoods have no outlet for storm surface water to drain away. Surface flooding in these low areas can cause sanitary sewer lines to be filled beyond capacity.

Anticipated Outcomes

The goal of these improvements is to reduce the risk of surface flooding and sanitary backups for up to a 100 year rainfall event. Also benefiting 147 properties from surface flooding and 525 properties from sanitary backup

Urgency of need

Ekota and Menisa experienced moderate to extensive flooding and significant private and public property damage. Also this will satisfy Citizens concerns and frustration.

## STRATEGIC ALIGNMENT

This project aligns with the Expanded Neighborhood Flood Mitigation Program. It is consistent with and complements the City's overall goals for environmental mitigation as articulated in The Way Ahead, and contributes to achieving the City's vision.

**ALTERNATIVES CONSIDERED**

Alternative 1 (Do-nothing) – For this alternative, the neighbourhoods will be at the same risk level of flooding based on the design standards at the time development occurred. Given the frequency and severity of recent major storm events in Edmonton, the risk of flooding will increase.

In addition to Do-nothing, 11 options were evaluated through two formal Value Engineering workshops. Based on the cost and criteria of drainage benefit, schedule, construct-ability, disturbance, stakeholder satisfaction, operability/safety and land acquisition, the current planned option has the highest value.

**COST BENEFITS**

The benefits include:

- reduced risk of flooding in both Ekota and Menisa neighborhoods.
- improved customer service and public satisfaction.

The total estimated project cost is $12 million

**KEY RISKS & MITIGATING STRATEGY**

1. Land Acquisition: if the land cannot be transferred from the Catholic school board to the City, the project has to be cancelled.

Risk was mitigated through the Land Use Agreement.

2. Lack of support or buy-in from residents and community leagues.
Mitigation is to align projects with community needs and implement an effective public engagement plan.

3. Insufficient budget: Est. of $12M is higher than the allocated budget of $7.6M. Administration will seek additional funding

**RESOURCES**

There is a need for external engineering consultants and contractors for the design and construction of the facilities. Utility Operations and Parks are to maintain it after the completion of construction.

**CONCLUSIONS AND RECOMMENDATIONS**

Conclusion

This project entails the design and construction of a dry pond in Father Ivor Daniel Park in Ekota, near St. Clement's school, and approximately 800 m of 1050 mm to 1800 mm diameter storm pipes in Menisa with a total estimated cost of $12 million. The design was started in 2014 and was completed in 2015. Construction is proposed to start in April 2016 and complete in the fall of 2017. This project is designed to provide up to 1 in 100 year level of flood mitigation for Ekota and Menisa and reduce the risk of flooding on the street and sanitary sewer backups into basements.

Recommendations

It is recommended that this project be funded as it will provide flood mitigation against future intensive rain events.

**CHANGES TO APPROVED PROFILE**

2016 Spring SCBA (CA#20):

(2.1.13) Transfer in budget from Composite profiles CM-23/31-9611 - Expanded Neighborhood Flood Mitigation to remove and split out into new single profiles 16-23/31-9801 - Ekota Dry Pond and Menisa Storm Relief (EK1, MN1).

(2.1.14) This new profile is to construct flood mitigation upgrades in the Ekota and Menisa neighborhoods in the Mill Woods area. The project would provide the communities with a 1:100 year level of flood protection and would increase conveyance capacity of sewer pipes, provide an overland drainage route for surface storm water flows in low areas, and increase storage capacity in the storm and sanitary systems.

2016 Fall SCBA (CA#40): (2.6) Transfer From 16-31-9801 Ekota Dry Pond and Menisa Storm Relief (EK1, MN1) - STORM to 16-23-9801 Ekota Dry Pond and Menisa Storm Relief (EK1, MN1) - SAN; in order to combine Storm to Sanitary to become one Business Area.

# CAPITAL PROFILE REPORT

PROFILE NAME: **Ekota Dry Pond and Menisa Storm Relief (EK1, MN1)** **FUNDED**

PROFILE NUMBER: **16-23-9801** PROFILE TYPE: **Standalone**

BRANCH: **Sanitary Utility**

## CAPITAL BUDGET AND FUNDING SOURCES (000's)

| | | Prior Years | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | Beyond 2025 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| APPROVED BUDGET | Approved Budget | | | | | | | | | | | | |
| | Original Budget Approved | - | - | - | - | - | - | - | - | - | - | - | - |
| | 2016 Cap Council | 8,343 | 2,244 | 1,399 | - | - | - | - | - | - | - | - | 11,986 |
| | 2016 Cap Carry Forward | 310 | -310 | - | - | - | - | - | - | - | - | - | - |
| | Current Approved Budget | 8,654 | 1,934 | 1,399 | - | - | - | - | - | - | - | - | 11,986 |
| | Approved Funding Sources | | | | | | | | | | | | |
| | Drainage Retained Earnings | 1,739 | 688 | 560 | - | - | - | - | - | - | - | - | 2,987 |
| | Other Grants - Provincial | 2,856 | 1,664 | - | - | - | - | - | - | - | - | - | 4,520 |
| | Self-Liquid. Debent.-Sanitary | 4,059 | -418 | 839 | - | - | - | - | - | - | - | - | 4,480 |
| | Current Approved Funding Sources | 8,654 | 1,934 | 1,399 | - | - | - | - | - | - | - | - | 11,986 |
| BUDGET REQUEST | Budget Request | - | -601 | -1,399 | - | - | - | - | - | - | - | - | -2,000 |
| | Revised Funding Sources (if approved) | | | | | | | | | | | | |
| | Drainage Retained Earnings | - | -1,440 | -560 | - | - | - | - | - | - | - | - | -2,000 |
| | Self-Liquid. Debent.-Sanitary | - | 839 | -839 | - | - | - | - | - | - | - | - | - |
| | Requested Funding Source | - | -601 | -1,399 | - | - | - | - | - | - | - | - | -2,000 |
| REVISED BUDGET (IF APPROVED) | Revised Budget (if Approved) | 8,654 | 1,333 | - | - | - | - | - | - | - | - | - | 9,986 |
| | Requested Funding Source | | | | | | | | | | | | |
| | Drainage Retained Earnings | 1,739 | -753 | - | - | - | - | - | - | - | - | - | 987 |
| | Other Grants - Provincial | 2,856 | 1,664 | - | - | - | - | - | - | - | - | - | 4,520 |
| | Self-Liquid. Debent.-Sanitary | 4,059 | 421 | - | - | - | - | - | - | - | - | - | 4,480 |
| | Requested Funding Source | 8,654 | 1,333 | - | - | - | - | - | - | - | - | - | 9,986 |

## CAPITAL BUDGET BY ACTIVITY TYPE (000's)

| REVISED BUDGET (IF APPROVED) | Activity Type | Prior Years | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | Beyond 2025 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Construction | 310 | -911 | -1,399 | - | - | - | - | - | - | - | - | -2,000 |
| | Design | 8,343 | 2,244 | 1,399 | - | - | - | - | - | - | - | - | 11,986 |
| | Total | 8,654 | 1,333 | - | - | - | - | - | - | - | - | - | 9,986 |

## OPERATING IMPACT OF CAPITAL

Type of Impact:

| Branch: | Rev | Exp | Net | FTE | Rev | Exp | Net | FTE | Rev | Exp | Net | FTE | Rev | Exp | Net | FTE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Total Operating Impact** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |