



Calgary



# Off-site Levy Review Water Resources – Greenfield

November 4, 2021



# Agenda

1. Questions from the previous session
2. Current vs. proposed capacity methodology and the rationale for change
3. Brief review of current methodology and formula
  - Challenges & Opportunities
4. Introduction to cost of capacity methodology and high-level formula
  - a) Improvements and Tradeoffs
  - b) Variable and Fixed Inputs
5. Transitioning between methodologies
6. Planned next steps



# Questions we want industry feedback on after today's presentation:

- I. Do you understand why we are moving to the cost of capacity methodology?
- II. Do you understand how the methodology works and how the rate would be calculated?



# Comparing current to capacity methodology

Input	Current	Cost of Capacity (future)
Denominator	Growth forecast for anticipated Development Agreements to be signed	Leviable land (Ha) in Approved Growth area (total capacity)
Numerator	Nine-year Principal & Interest based on Capital list (off-site levy eligible projects only)	All Principal & Interest for any project required to enable growth in approved growth areas (includes completed projects with outstanding P&I)
Debt term	25	25
Planning Horizon	Time bound from 2015-2024	Build out of Business Case approved areas



# Current Linear Methodology

2015-2024  
Capital  
Investments  
\$763.4M

14 New  
Community  
Investments  
\$127.4M

Greenfield developable  
hectares (401 ha/year)

=

Principal & Interest  
2016-2024

=

9 years of developable  
land forecast

Levy rate

The levy rate is established based on the assumption that the total revenue collected over the planning horizon (9 years) is sufficient to cover the total Principal and interests for that same period.

# Challenges & Opportunities – Current methodology:

1. Infrastructure amounts in numerator include all Principal & Interest for the 9-year period
2. The calculation relies on growth assumptions for the denominator
  - Very sensitive to slow growth rates
  - Mismatch of timing for funding availability and Principal & Interest payments
3. Shortfalls and Balances need to be manually adjusted in the rate.



# Theoretical example – current methodology

Capital cost

\$100M infrastructure

Principal & Interest cost (mortgage)

\$130M Principal & Interest amortized over 25 years

Projected Ha over 5 years (rate input)

1000Ha

Rate = \$26M/1000ha = \$26,000/ha

## Reality

Principal & Interest payments due over 5 years

\$26M

100ha/yr levy collection

500 Ha

\$13M

Shortfall

\$13M

\$104M

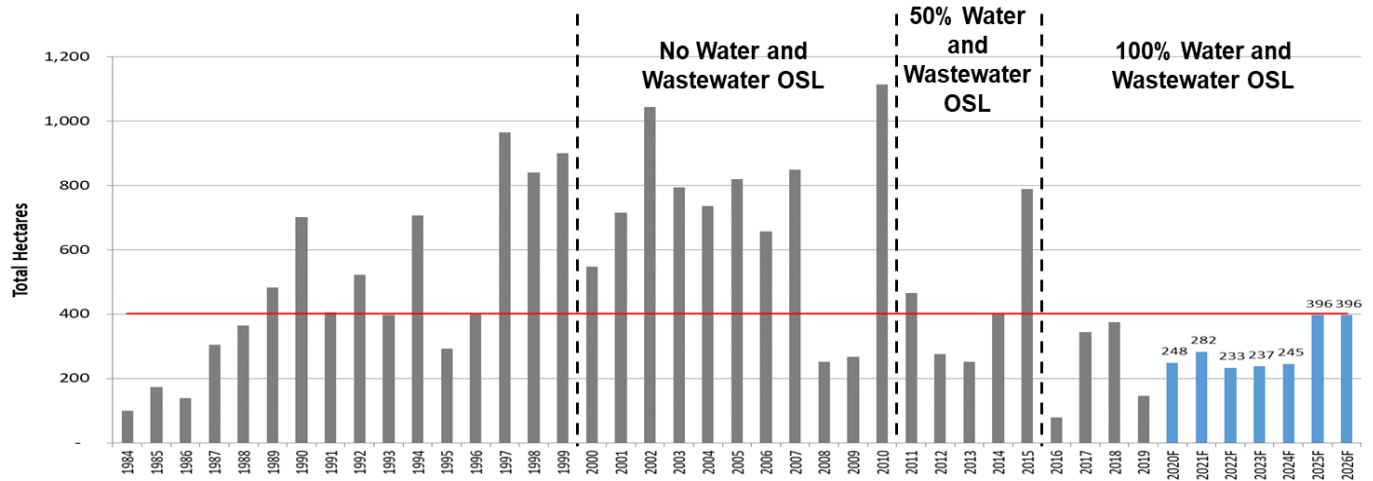


Principal & Interest payments for next 10 years + shortfall used to recalculate rate.

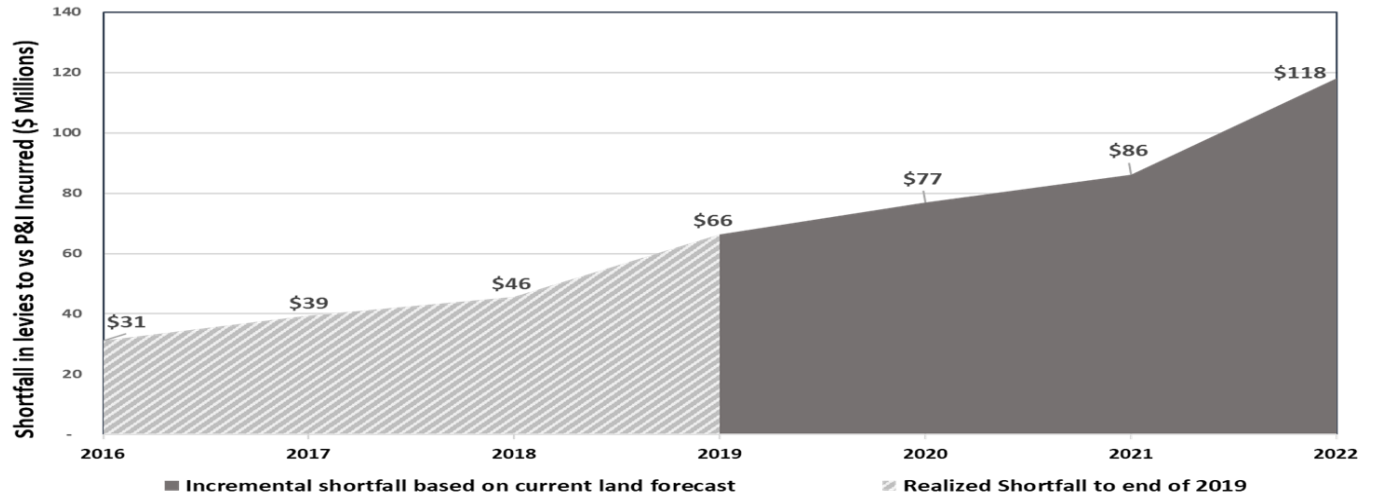


# Off-site Levy Shortfall

**Total Hectares in New Urban Development Agreements**



**Projected Off-site Levy Shortfall (Cumulative for 2016-2022)**







# Theoretical Linear Capacity Methodology (cost of capacity)

Capital investments required  
for approved growth areas



Principal & Interest for all projects  
supporting approved growth



Levy rate

Approved growth capacity (Ha)

Greenfield leviable hectares  
(approved growth)



# New Cost of Capacity Numerator

Includes the proportional share of projects required to support approved growth in the 14 New Communities (14NC) and/or the 27 Actively Developing Communities (27ADC).

## 3 components to the numerator:

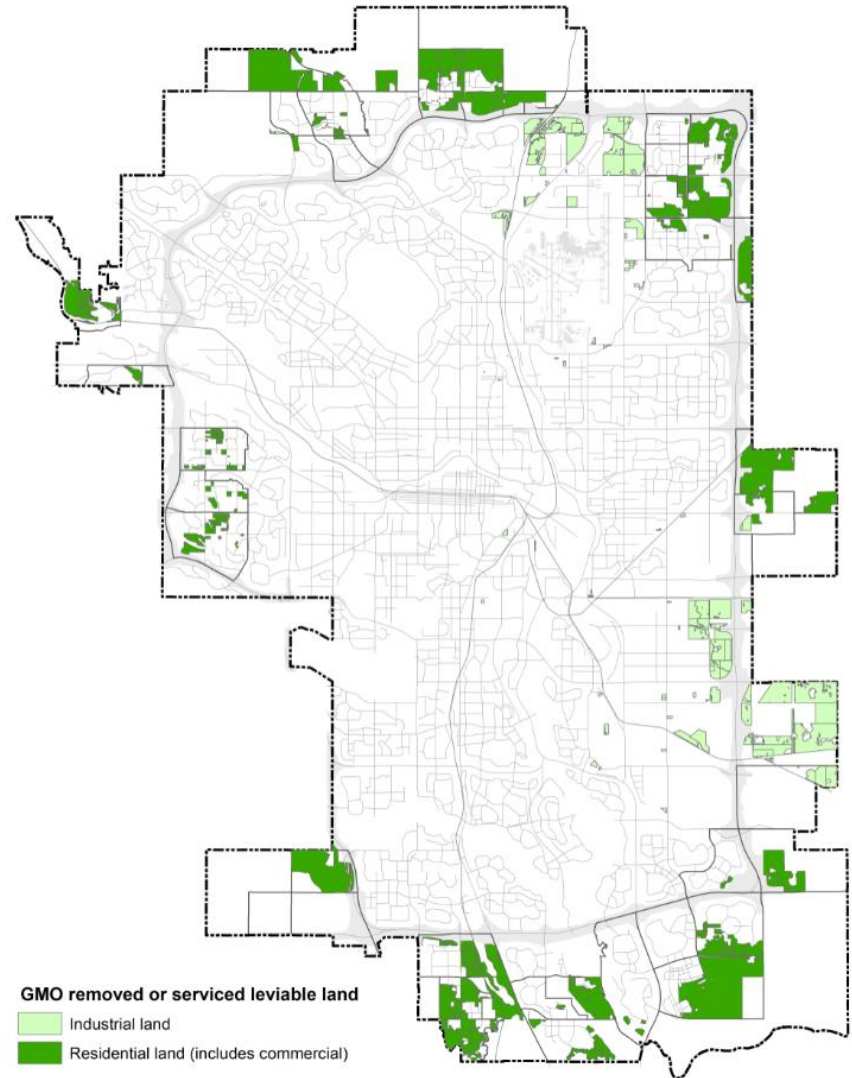
- 1) Principal & Interest of completed projects with remaining capacity (Ha)
- 2) Principal & Interest of new projects for growth areas that add capacity (Ha)
- 3) Balance or Shortfall (infrastructure type dependent) – 1 time only



# Denominator – Leviable land (approved growth areas)

Includes Council approved growth areas

- Land is leviable now (does not assume all future growth is guaranteed)
- City-wide total
- No forecast is used to predict number of hectares (not sensitive to pace/speed of growth)





# Considerations for Cost of Capacity model

## Improvements:

- Creates a more direct relationship between infrastructure and serviced land
- The methodology is not bound to time
- Model is self-correcting to the pace of growth

## Tradeoffs:

- Fluctuation in rate may occur (both up and down) depending on ratio of infrastructure to land in each newly approved Business Case
- Does not eliminate shortfalls entirely (balances and shortfalls will both occur)



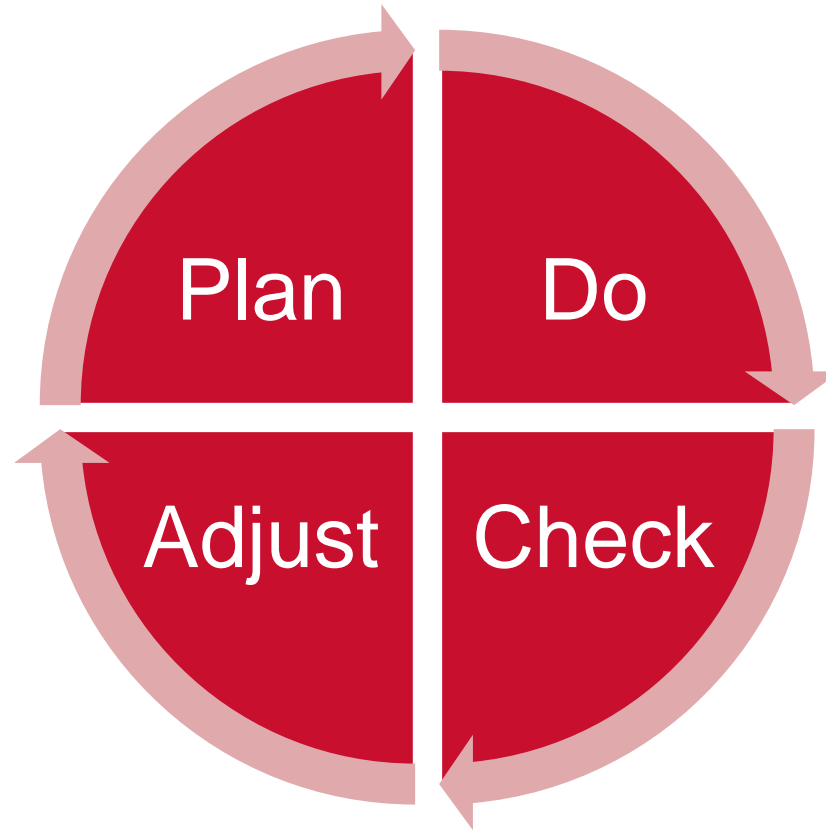
# Variable and fixed inputs

Variable input	Rationale or definition
Project inventory list	Projected costs for each project broken down by year
Interest rate	Used to determine anticipated Principal & Interest payments
Discount rate	Used to determine Net Present Value (NPV)
Escalation rate	Representative of inflationary pressures which drive costs of projects up
Debt Term	How long debt is amortized for

Fixed input	
Constructed inventory project list with outstanding Principal & Interest	Principal & Interest from completed projects supporting approved growth



# Updating the rate in the future:



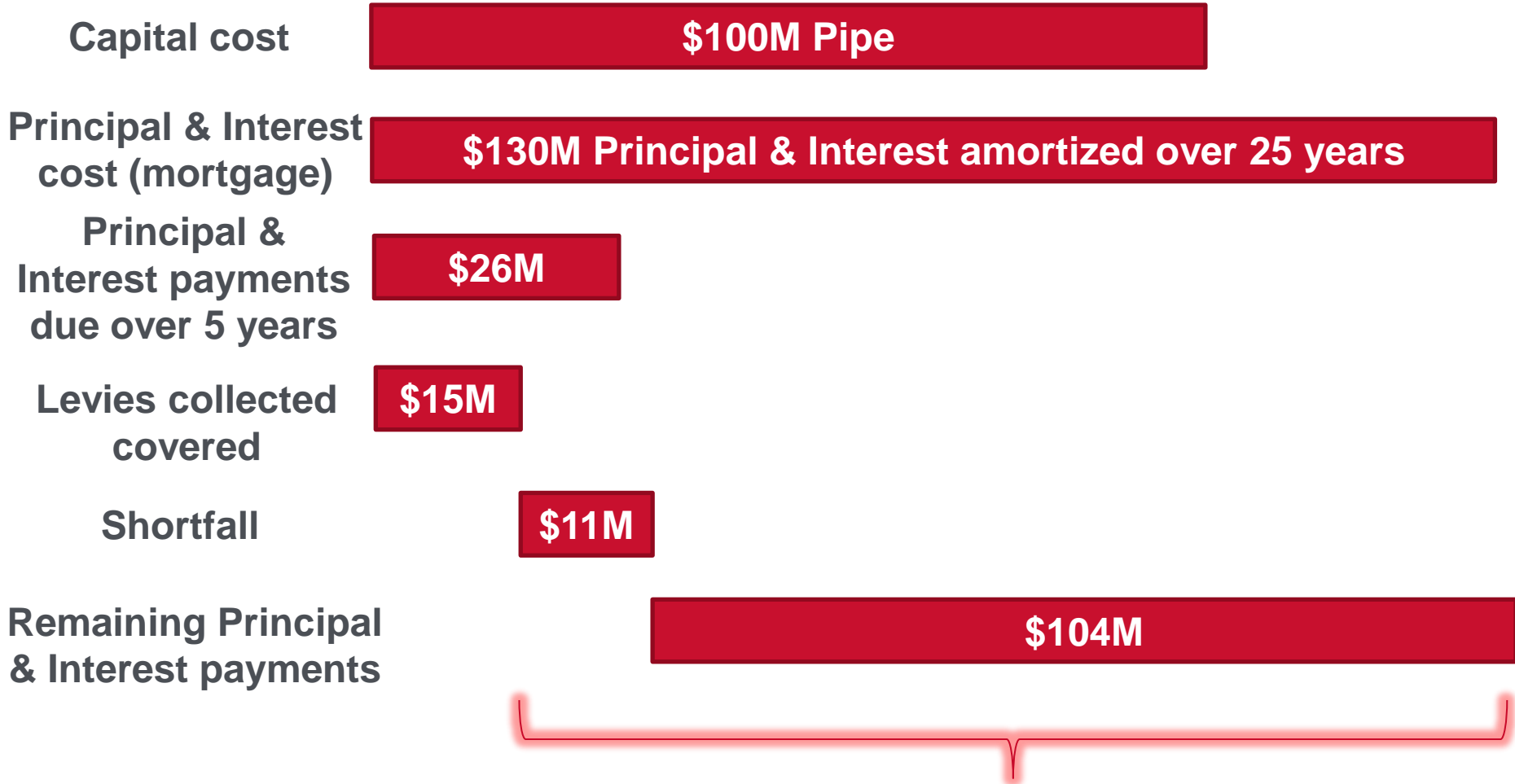


## Transitioning between the models

- Shortfall will be transitioned (1 time only)
- Model is self-correcting
- Need to ensure all projects and costs supporting approved growth (14NC, 27 ADC) are included
- New methodology does not collect for infrastructure costs that have already been recovered.



# Theoretical example - Transition



Used to calculate NPV in Cost of Capacity methodology (capacity was not used and therefore must still be paid for)





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- II. Do you understand how the methodology works and how the rate would be calculated?



# Engagement Approach

- Industry working groups:
  - Water – work is underway
  - Established Area Local-sized Levy - work is underway
  - Community Services – tentative start in late 2021
  - Transportation – tentative start in early 2022
- Online surveys to gather broad industry feedback aligned with the topics discussed at working group sessions
- Online public consultation
- Session feedback – please send feedback by November 11
- Items for follow up

## Next steps – Linear Water and Wastewater:

- Update current OSL project list – Actuals, updated projections (need to include entire cost of P&I)
- Add new OSL projects required to service approved growth (previously only included projects triggered up to 2024)
- Introduction to rate calculation model (based on this methodology)

Thank you!