City of Winnipeg's Combined Sewer Overflow Master Plan

SAC Mtg. #4

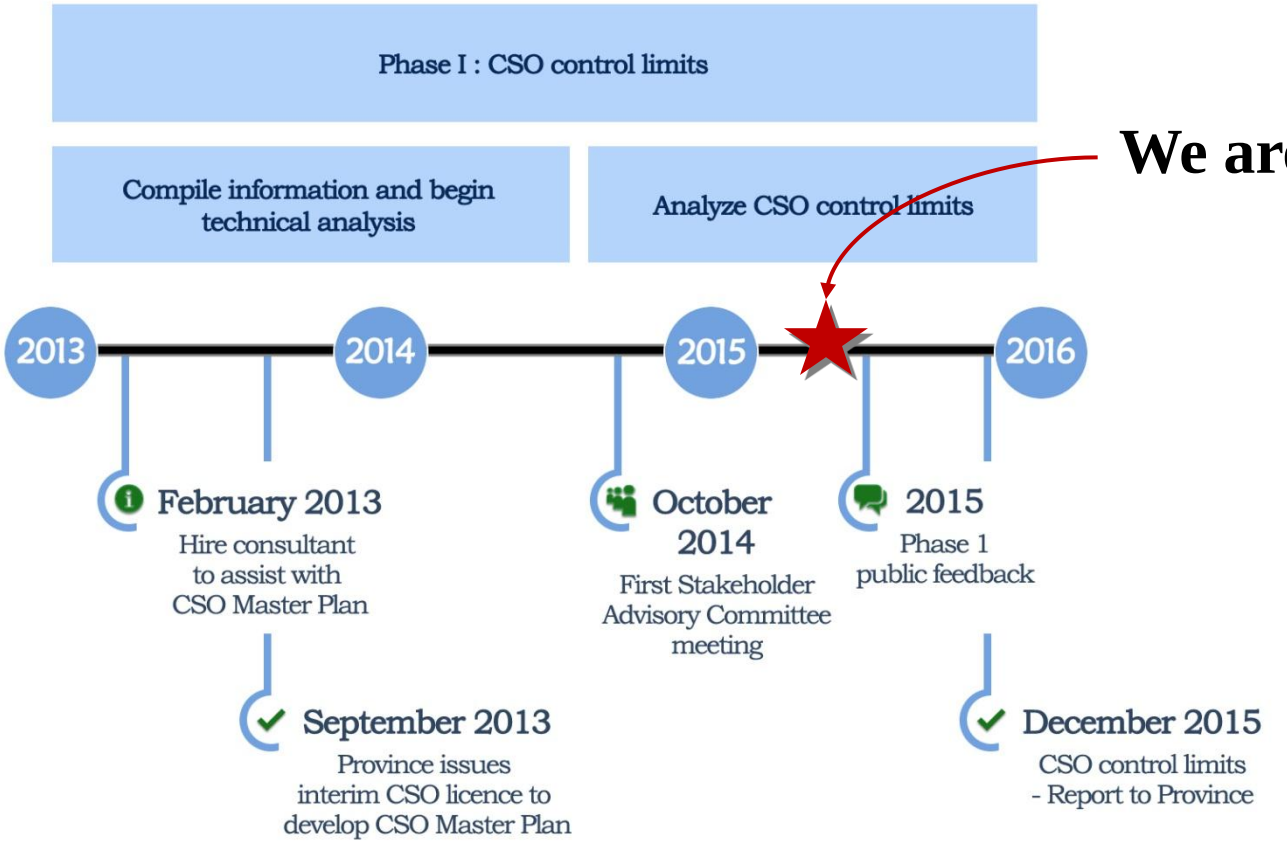
Progress Update


public
events
drainage
factor
cost
province
get
new
testing
consider
cities
reduce
objective
planning
low
impact
solution
green
work
bigger
CSO
spend
plan
river
look
need
nutrient
water
spending
role
city
winnipeg
rec
options
flooding
right
info
reduction
stormwater
impacts
issue
solutions
basement
pipe
better
go
think
change
runoff
money
store
approach
flow
land
phosphorus
development
make
economic
treatment
monitoring
plant
quality
projects
current
beyond
benefit
investment
people
existing
awareness
option
know
needs
educate
infrastructure

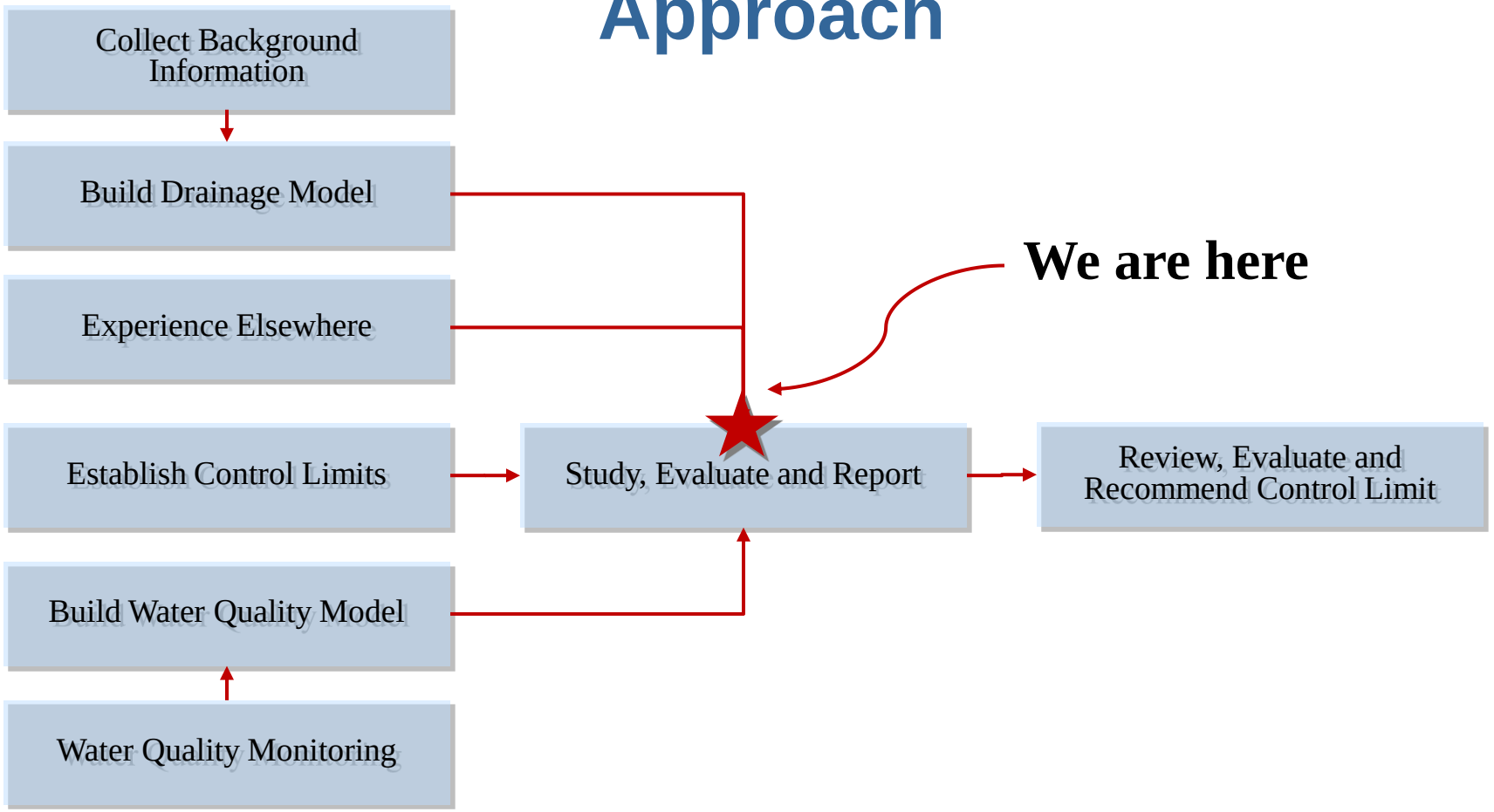
Purpose

- Update on Master Plan progress
- Review the decision making process, values and evaluation criteria

CSO Master Plan Timeline



Approach


Collect Background Information
Build Drainage Model
Experience Elsewhere
Establish Control Limits
Build Water Quality Model
Water Quality Monitoring
Study, Evaluate and Report
Review, Evaluate and Recommend Control Limit
We are here

Background and Modelling Progress

- Build Drainage Model
  - city-wide wastewater model (InfoWorks)
  - used to design and evaluate control options
  - develop potential plans from control options
- Water Quality Model
  - continuing to monitor water quality
  - evaluating river water quality using WASP7
- Control Limits
  - on-going discussions with the province on clarifications

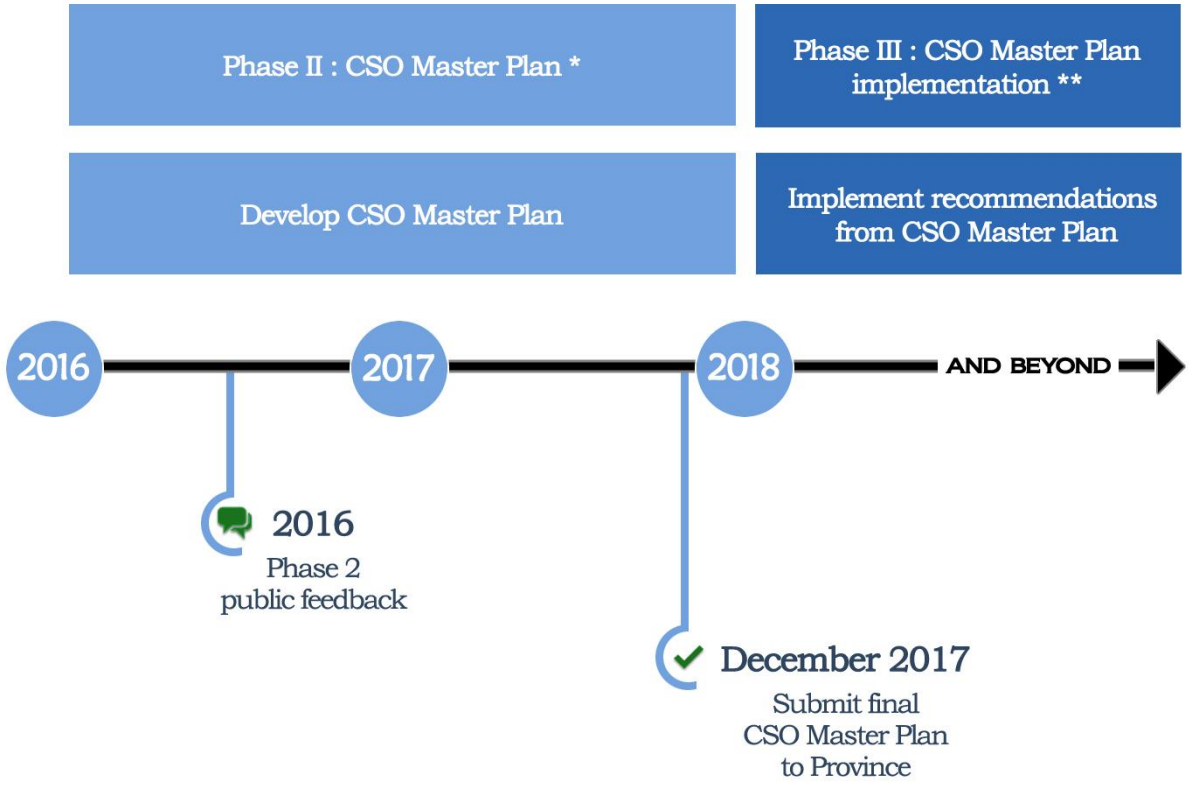
Evaluating and Reporting Progress

- Preliminary Proposal Report – In progress
  - technical document including background, potential plan development, cost estimates, performance evaluations
- Preliminary Proposal Decision Report – Pending
  - reader-friendly – potential plans, benefits and costs
  - to include public input – *"what is important"*
  - provide the basis for comparing, evaluating and recommending potential plans (one for each control limit)

Evaluating and Reporting Progress (cont'd)

- Preliminary Proposal Submission
  - report with analysis and recommendation
  - required under CSO Licence 3042, clause 11 – by end of Dec. 2015

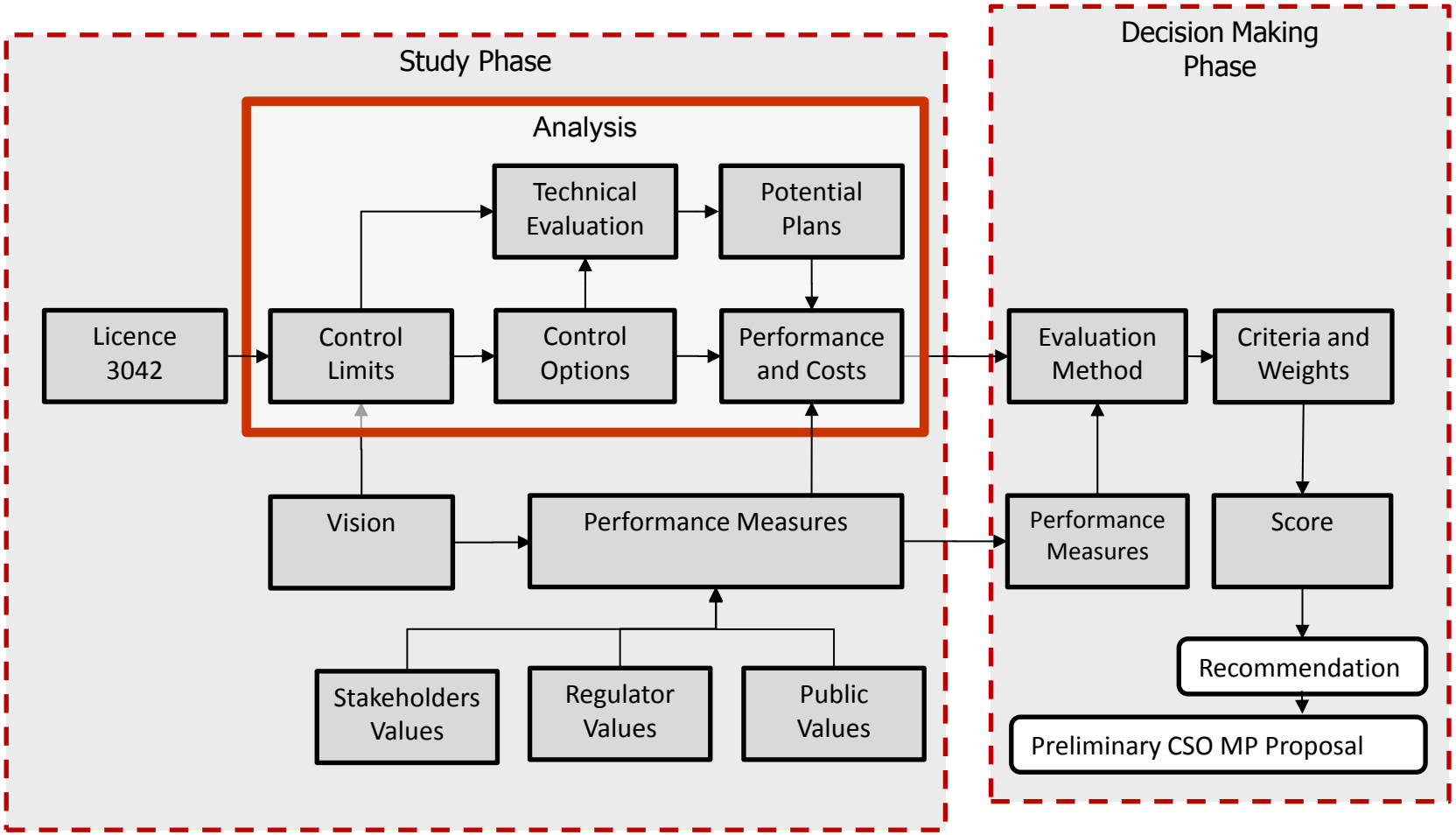
CSO Master Plan Timeline



* Timeline is dependent upon provincial response to the CSO control limits report

** Subject to provincial approval of the Master Plan

Decision Making Roadmap



Decision Making Process

- Analysis of control options
- Experience elsewhere – lessons learned
- Establish performance measures
- Input from regulator, stakeholders and public
- Scoring exercise based on weighted criteria
- Recommendation submitted to Province by Dec. 2015

Control Limits

- Part of the CSO licence
- Evaluate modifications to combined sewer system to reduce CSOs to:
  - zero overflows per year
  - four overflows per year
  - a minimum of 85% volume capture of wet weather flow with a maximum of four overflows

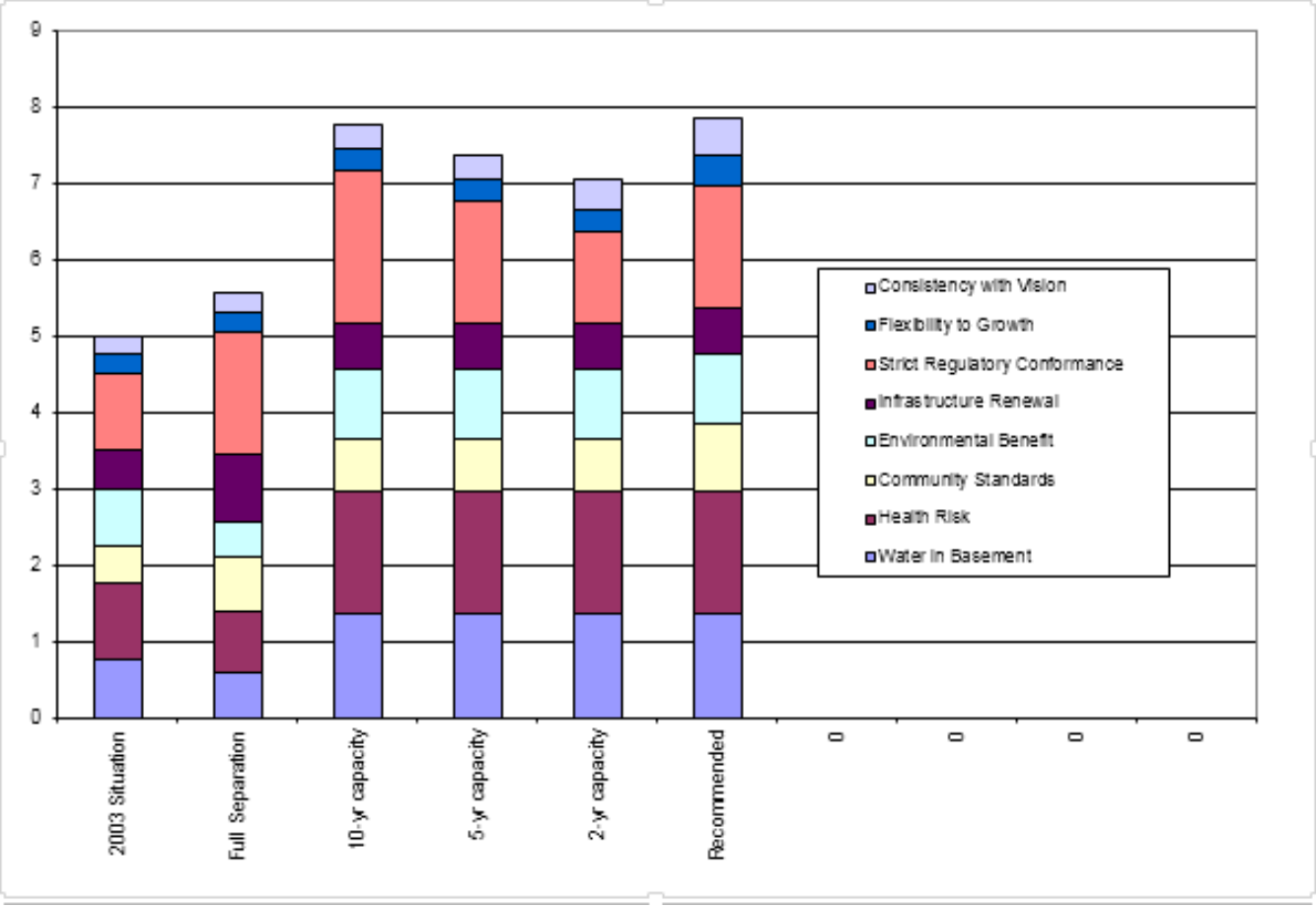
Control Limits Cont'd

- Assessing other approaches:
  - watershed approach
  - environmental equivalent of separation
  - water quality performance
  - maximum use of existing infrastructure
  - ‘‘Knee-of-the-Curve’’ or best use of resources

Develop a Common Vision for the CSO Master Plan

- Environmentally responsible
- Affordable
- Sustainable
- Regulatory compliant
- Politically acceptable
- Preventing basement flooding
- Community values

Scoring Matrix – Example



Developing Performance Measures for Winnipeg CSO Control

- System performance measures:
  - number of overflow events
  - volume of overflows
- Environmental performance measures:
  - public health (Pathogens)
  - nutrients
  - aesthetics (floatables)

Developing Performance Measures for Winnipeg CSO Control Cont'd

- Affordability
  - water and sewer utility rates
  - whole life cost
- Regulatory compliance
- Community values
  - construction industry
  - traffic disruption
  - sustainability
  - competing priorities for funding in Winnipeg
  - river use

Questions?