CPAA Presentation | April 15, 2015

What does this engineering report mean?

HELP!

Storm Water Report

Geotechnical Report

Biophysical Report

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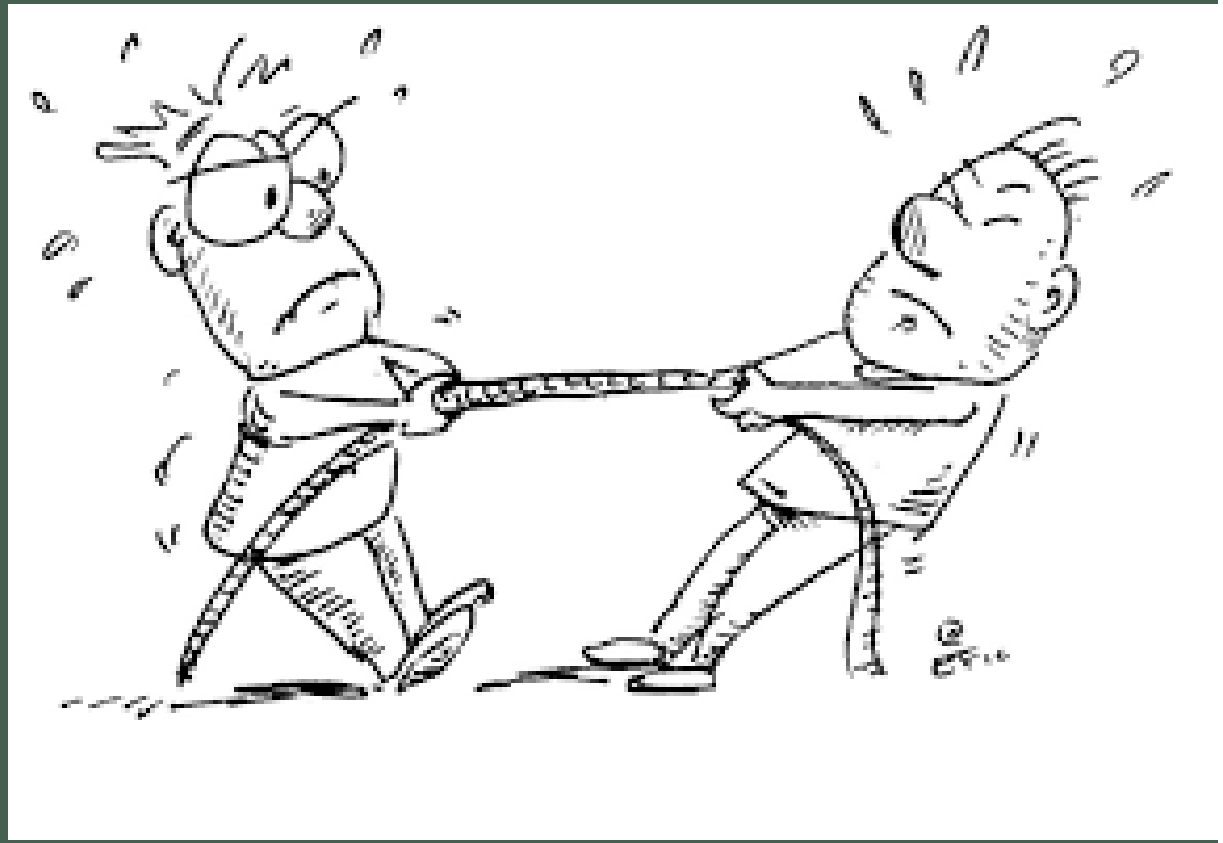
Tug of War Exercise



CPAA Presentation

April 15, 2015

Help! What does this engineering report mean? And when should I ask for it?

Tug of War Exercise

Tug of War Exercise

Presentation Overview

1. *Overview of Technical Reports with Planning Applications*
    a) *Trends in Municipal Risk Management*
    b) *Technical Reports – what are they are?*
    c) *Risk Management*
        i. *Overall municipal perspective*
        ii. *Site specific developments*
2. *Engineering Review*
3. *Things to think about*

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Presentation Goals

1. *Education on the topic of engineering reports.*
2. *Begin a conversation in your municipality.*

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Engineering / Technical Reports with Planning Applications

Planning Application

ASP, Re-designation, Outline Plan, Subdivision, Development Permit

How do we know the site is suitable?

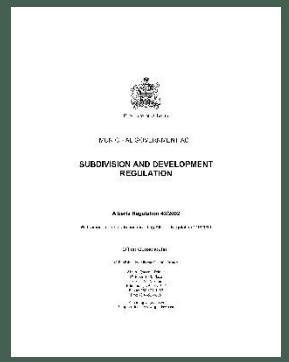
Storm Water Report

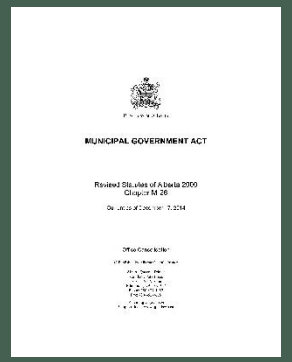
Geotechnical Report

Biophysical Report

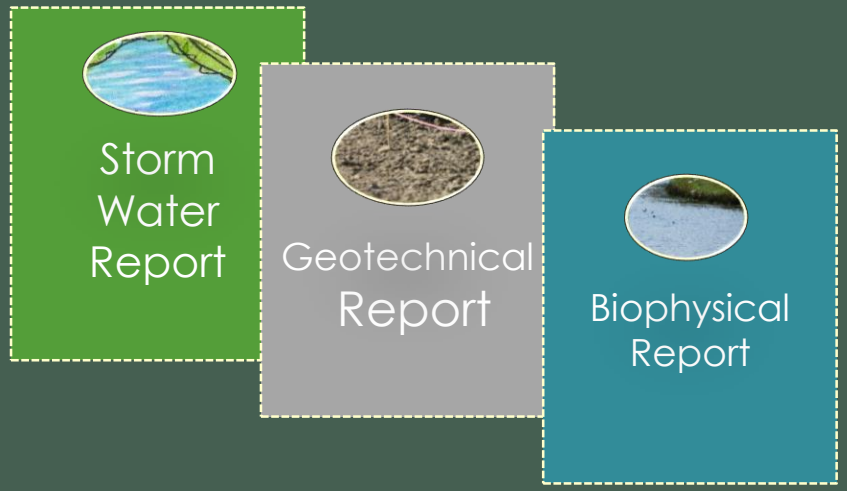
Engineering / technical reports provide information on site suitability

Engineering / Technical Reports with Planning Applications





- Provincial legislation (MGA, Subdivision Regulation, Water Act) specifies that technical reports must support subdivision, development and re-designation applications.
- However no similar requirement for Area Structure Plans



Engineering / Technical Reports with Planning Applications

For example (Subdivision & Development Regulation s.4(4):

(4) The applicant must submit

(a) if a proposed subdivision is not to be served by a water distribution system, a report that meets the requirements of section 23(3)(a) of the Water Act,

(b) an assessment of subsurface characteristics of the land that is to be subdivided including but not limited to susceptibility to slumping or subsidence, depth to water table and suitability for any proposed on site sewage disposal system,

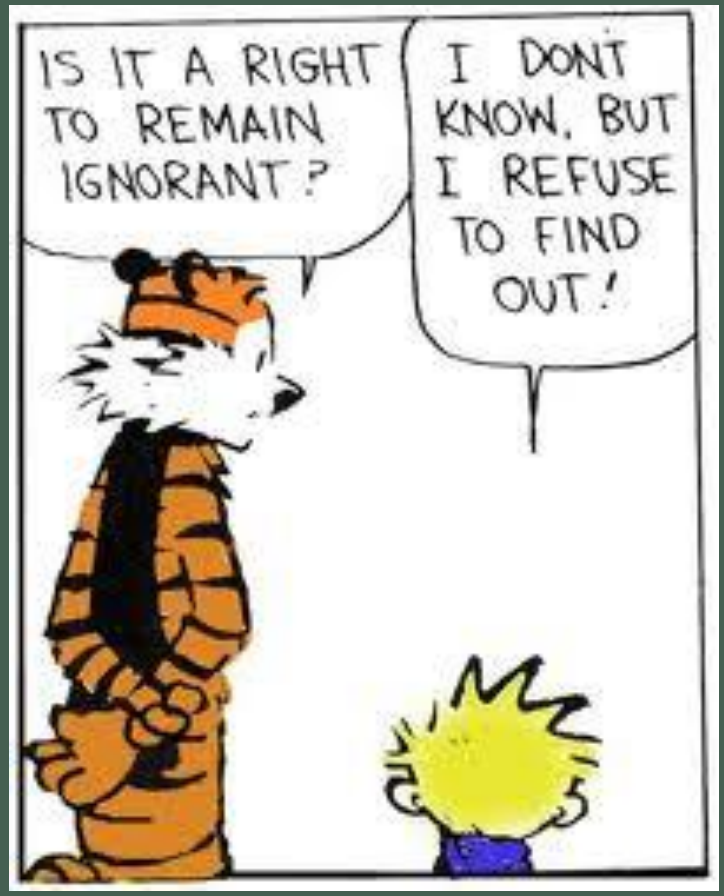
(c) if a proposed subdivision is not to be served by a wastewater collection system, information supported by the report of a person qualified to make it respecting the intended method of providing sewage disposal facilities to each lot in the proposed subdivision, including the suitability and viability of that method,

(d) a description of the use or uses proposed for the land that is the subject of the application,

Engineering / Technical Reports associated with Planning Applications

- Legislation gives general guidance, but does not specify exactly what the studies should contain or whether additional studies may be required.

- **What are some of these typical reports?**
  - Geotechnical investigation
  - Storm water management report
  - Biophysical Inventory
  - Environmental Site Assessment
  - Transportation Impact Assessment
  - Etc.



Trends in Municipal Risk Management

- Municipalities in Alberta faced with significant costs due to unfinished developments.
- Municipalities trying to minimize future risk by requiring a greater level of technical investigation earlier in the approvals process.
- Little consistency across the province as to what level and type of engineering investigation is required at what stage in the approvals process.
- For example, some municipalities will require a full geotechnical investigation at the ASP stage while others will only require a desktop study.
- Need to start a discussion on what is appropriate in your municipality?
- **What should be required? When should it be required in the planning process?**

Typical Technical Reports

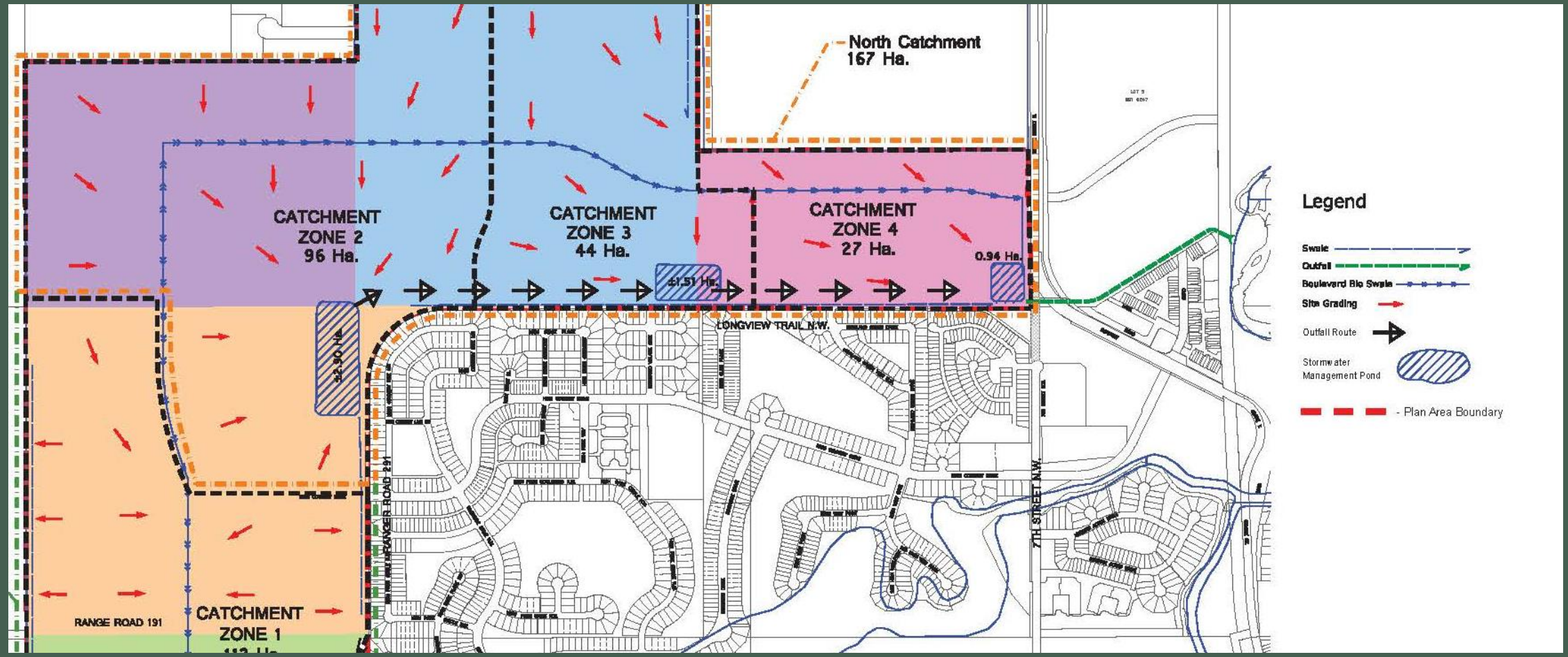
Stormwater Reports

- Watershed Plan
- Master Drainage Plan (MDP)
- Staged Master Drainage Plan (SMDP)
- Subdivision Stormwater Management Report (SSMR)
- Development Site Servicing Plan Stormwater Report/Design(DSSP)

Private Sewage Treatment Reports

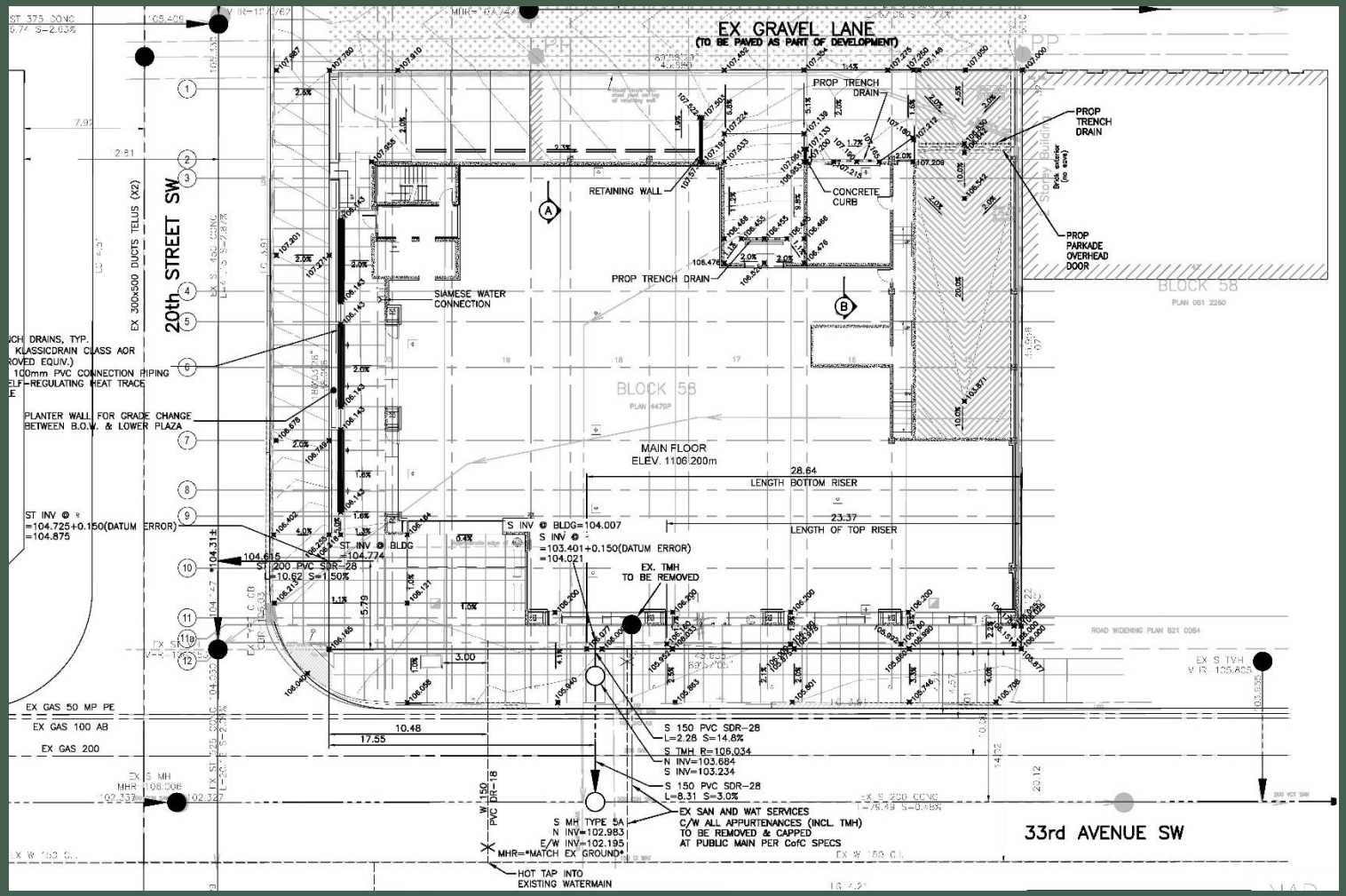
- PSTS / PSDS Report
- Percolation Test
- Model Process Report

Storm Water Plan - Examples



SWM plan at Area Structure Plan stage

Storm Water Plan - Examples



SWM plan at DSSP stage

Typical Technical Reports

Groundwater Reports

- Phase I Groundwater Assessment (desktop)
- Phase II Groundwater Assessment (Drill reports/Geotechnical Information)

Geotechnical

- Geotechnical Report – soil suitability for construction/foundations/buildings
- Geotechnical Report – soil suitability for private septic systems
- Slope Stability Report

Typical Technical Reports

Environmental Site Assessment

- Phase I ESA
- Phase II
- Phase III
- *This is <u>NOT</u> a biophysical or wetlands assessment*

Biophysical Inventory / Assessment

- Wetland Impact Assessment
- Biophysical Impact Assessment
- Biophysical Inventory
- *Sometimes confused with an Environmental Site Assessment (ESA)*

Typical Technical Reports

TIA Report

Transportation Impact Assessment

- Transportation Impact Assessment
- Traffic Safety Assessment
- Technical Traffic Report / Memorandum of Traffic analysis

Questions to ask / things to think about

Questions to ask / things to think about

- Are you asking for the proper report from your developer?
- By asking for a certain technical report, what are you trying to accomplish?
- Are you asking for the proper report at the proper time in the approvals process (with the appropriate level of detail)?
  - E.g. storm water management (can't get a detailed report at the ASP / re-zoning stage)

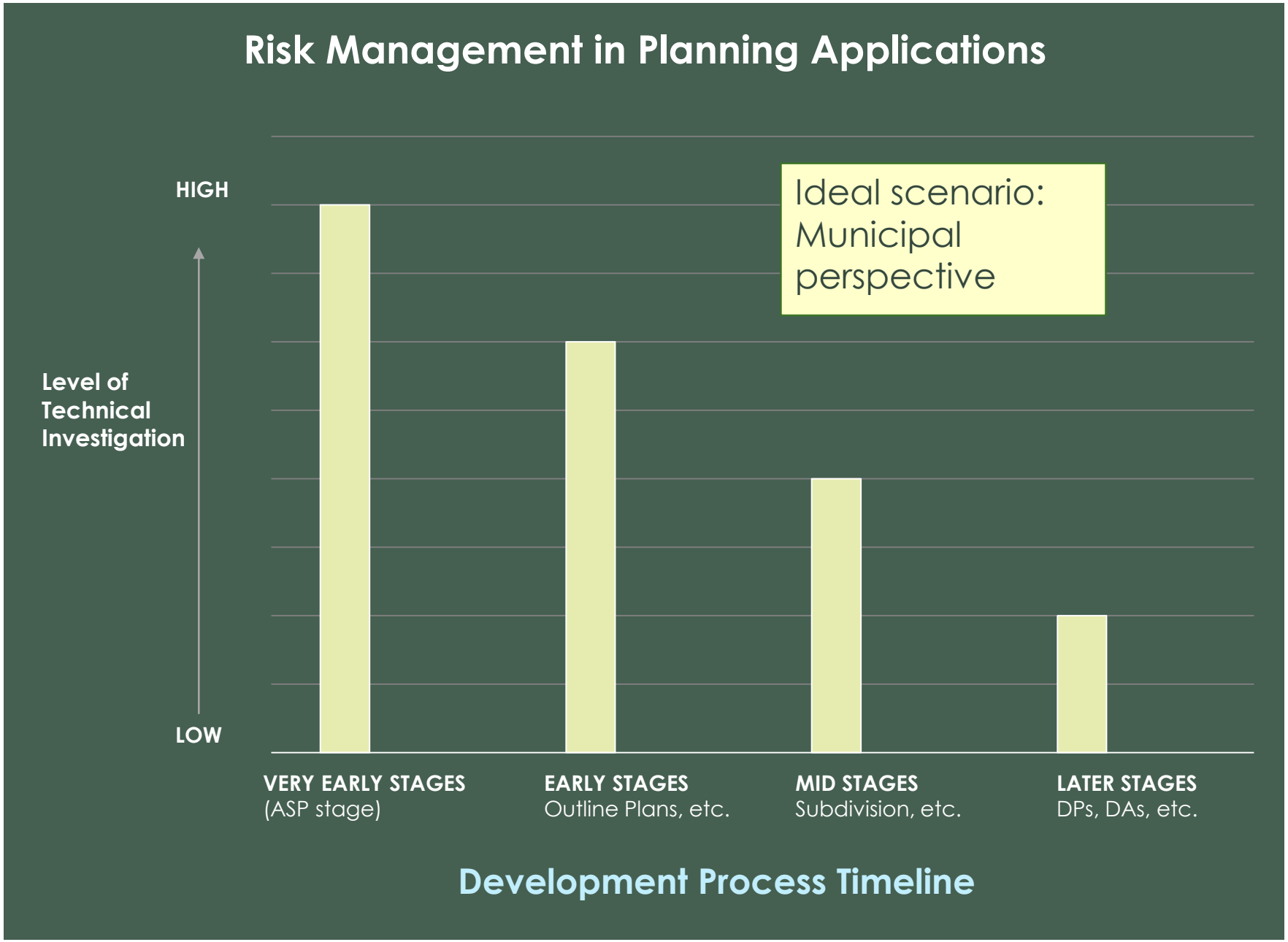
Questions to ask / things to think about

- *Don't ask for it just because you can*. Determine how this new information will impact your decision on the application.
- *Consider the time and effort expended to complete (and review) the report. Could be months.*
- Acknowledge that there will be some unknowns/uncertainty (e.g. geotech borehole grid).

There will always be a level of uncertainty

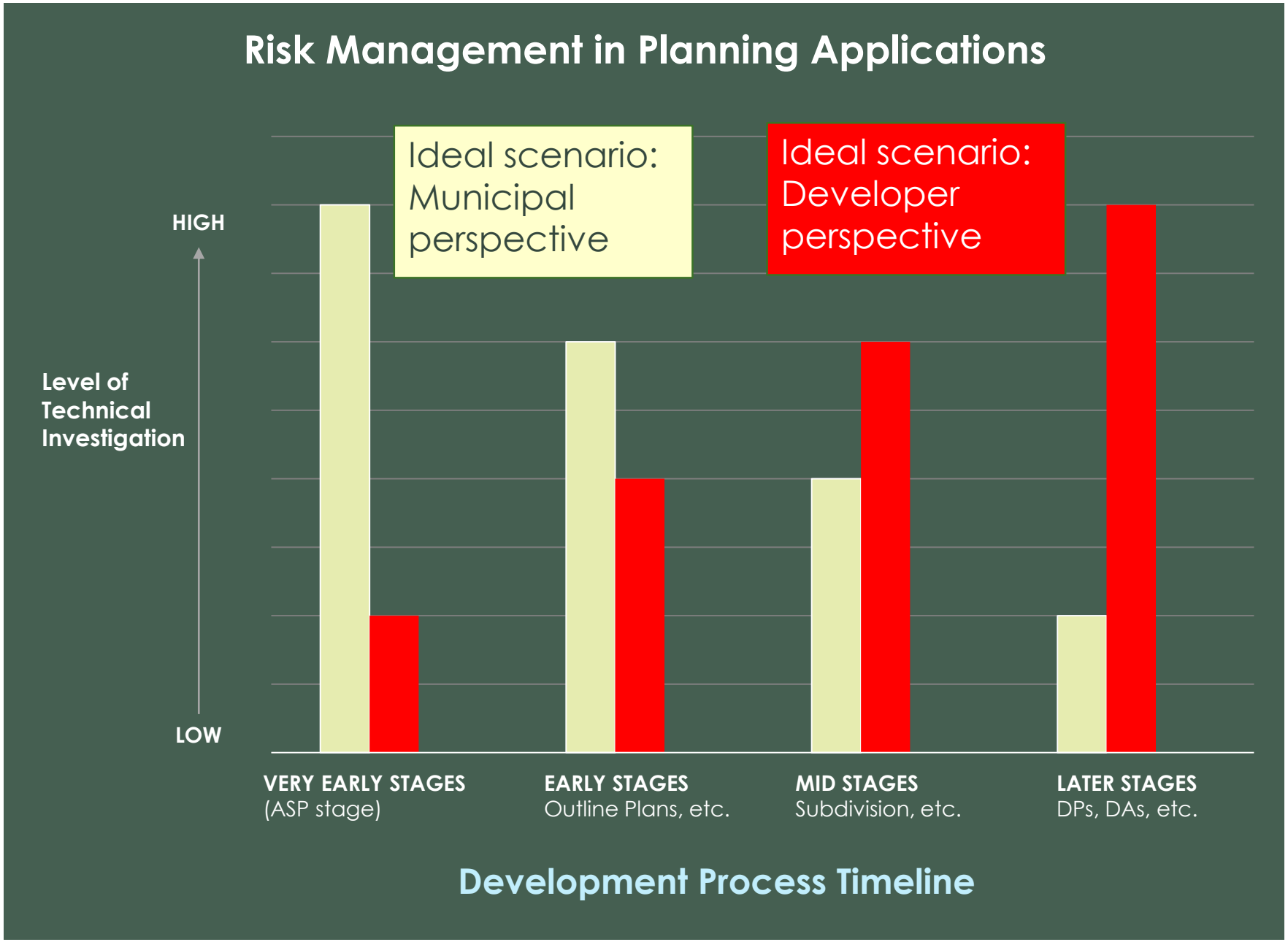
- Is the level of uncertainty acceptable for the appropriate stage of development approval? ASP vs. subdivision.

There will always be some uncertainty on those things we can't see or study.



Ideal Scenario: Municipality

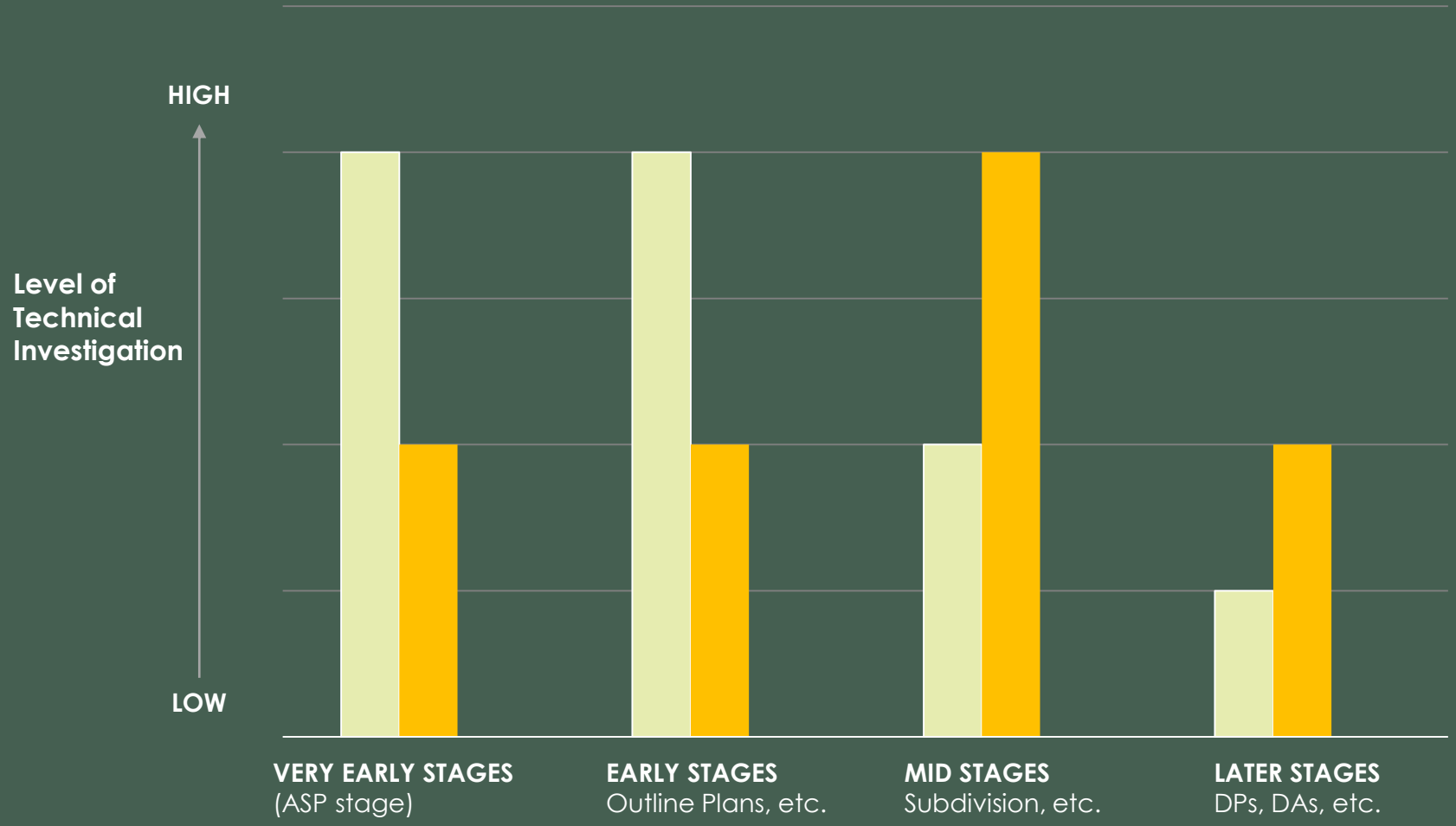
- Majority of studies / investigations done early in the approvals process
- Minimal risk to the municipality
- Risk of having to duplicate some studies if design changes later in process
- High upfront cost for the developer (prior to financing often)
- May discourage some developers
- May result in push-back from development industry



Ideal scenario: developer

- Higher risk to municipality
- Developer ability to get funding high
- Potential for finger-pointing if later studies make development less feasible than earlier thought
- Attractive for economic development
- Can be stressful on staff

What is the right situation for your Municipality?



Development Process Timeline

Questions to ask:

- Do you have a large number of unknown developers or a few trusted ones?
- Are you trying to encourage new development in your community?
- Do you have a strong existing process?
- What are your past experiences?
- Do you have significant environmental features or engineering challenges?
- No perfect solution! Always a work-in-progress.

Site Specific Developments: What's the right scenario?

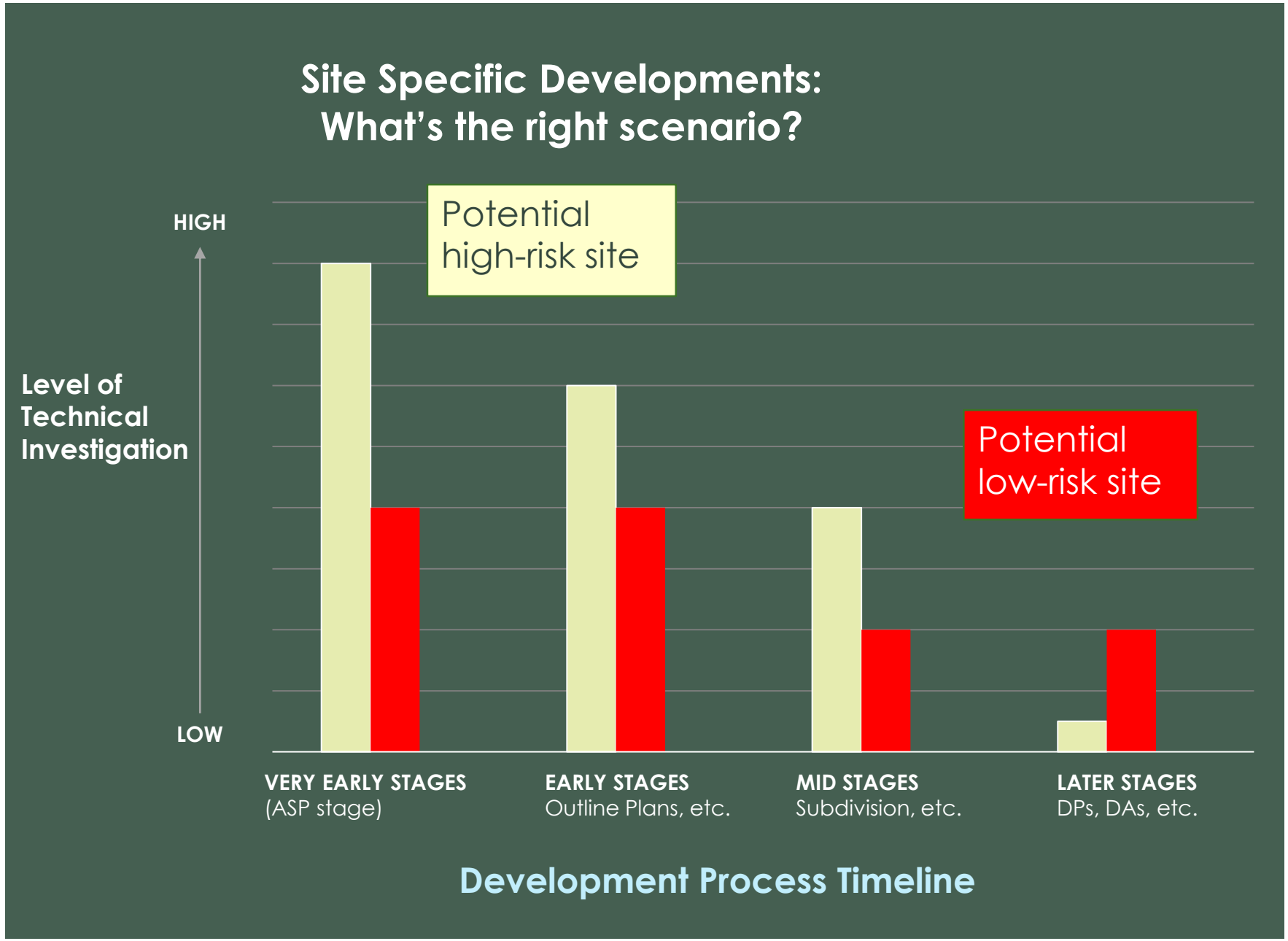
Site-specific scenarios:

Are there complex biophysical conditions? steep slopes? transportation issues?

Other concerns or issues related to engineering or environmental concerns?

High risk scenarios:

- Could be site prone to flooding, steep slopes, adjacent to heavy industrial area
- May contain significant biophysical features, such as wetlands



Site-specific scenarios:

- Low-risk scenario may be on a site with:
- flat terrain, low potential for storm water concerns, small development footprint, existing studies completed on adjacent lands or other factors that minimize risk.

Site Specific Discussion

- Benefits/trade-offs of front-ending:
  - Provides early certainty of whether land is suitable (which may save money in the long run as ‘go-no-go’ can be determined early)
  - Potential for developer costs prior to funding (may stop the development due to lack of funding)
  - Limits risk for the municipality / somewhat for the developer
  - Greater clarity for Council from approvals perspective
  - May limit flexibility for developer

Site Specific Discussion

Benefits / trade-offs of ‘back-ending’

- Easier for developers to get funding
- Might have lots of partially completed developments / developments part way through the approvals process (and then get hung up due to engineering issues)
- Puts more pressure on development officers, if increased requirements at that stage or subdivision approvals staff

Engineering Review of Technical Reports

Engineering Review

Background:

- Municipal planners receive these documents; do not have the expertise to review them from an engineering perspective.
- If there are no other municipal engineering staff able to review the document then 3rd party review may be considered.
- Need to ensure reports submitted adhere to the municipality's standards / requirements.

Engineering Review

Why is review of technical reports important?

- Quality assurance check
- Bringing all the conclusions of all the reports together (often all reports done by different consultants)
- Brings in local knowledge of the area (outside consultants often complete these studies)
- Ensuring report adheres to accepted standards (e.g. 24hr water well pump test vs. 12hr) – varying acceptable standards
- Reduces liability on the municipality / proved you've done your due diligence as a municipality

Is there a need for 3rd party review?

Questions to ask yourself:

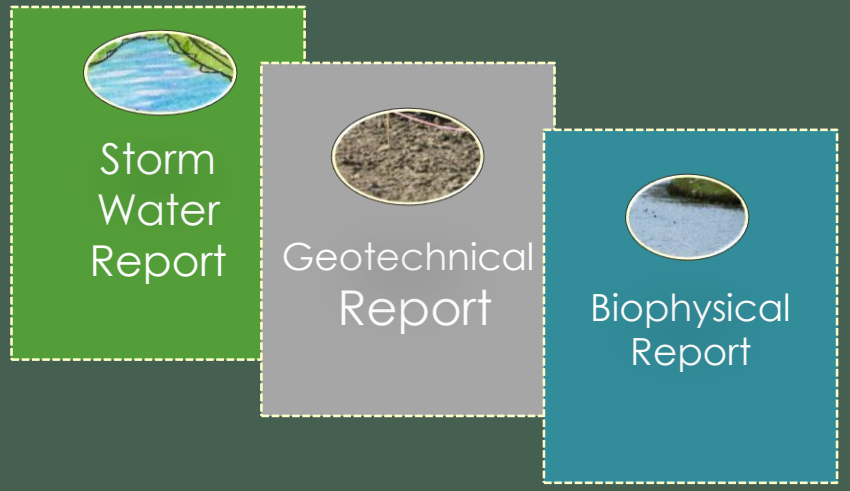
- Does your engineering staff have the capacity / availability to review?
- Are there specialized reports submitted that municipal staff does not have the expertise to review?

- If 3rd party review is required, who is paying for it? Municipality / developer?
  - Options –
    - flat fee for engineering reviews,
    - time and material costs for review,
    - no charge for review (funded under application fees

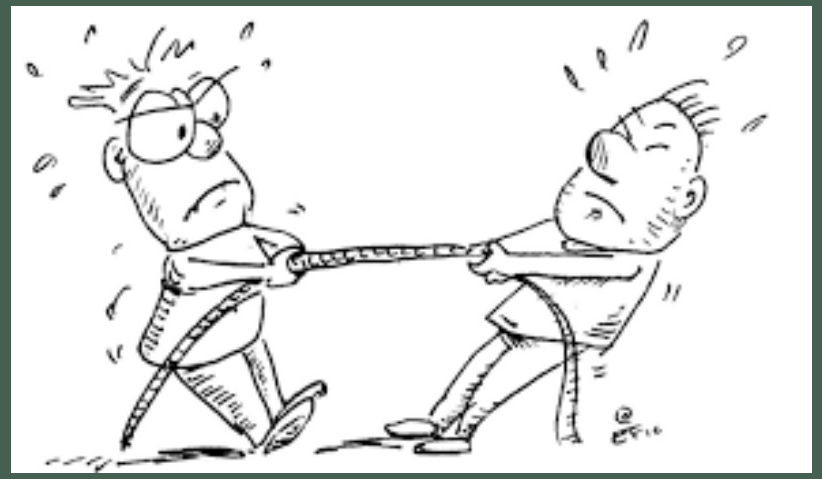
Things to think about

- Tug of war game / negotiation
- Municipal staff need / require a trusted relationship with the 3rd party engineers reviewing it, to ensure comments provided reflect municipal perspective / standards. Very important!
- From municipal perspective want to ensure everything goes through staff.
- Some comments are critical / some can be less critical (must-be / would-be-nice).
- Part of the municipality's relationship with the local development industry.
- Municipality MUST be consistent with what is critical / desirable.
- Although each development is unique the industry is looking for a consistent and fair approach by the municipality.

Concluding Thoughts



Concluding Thoughts



- Your community is unique! Have a conversation (with your staff / developers, community).
- Balance between economic development and municipal risk (tug of war) (conference theme)

Questions / Final Thoughts

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