

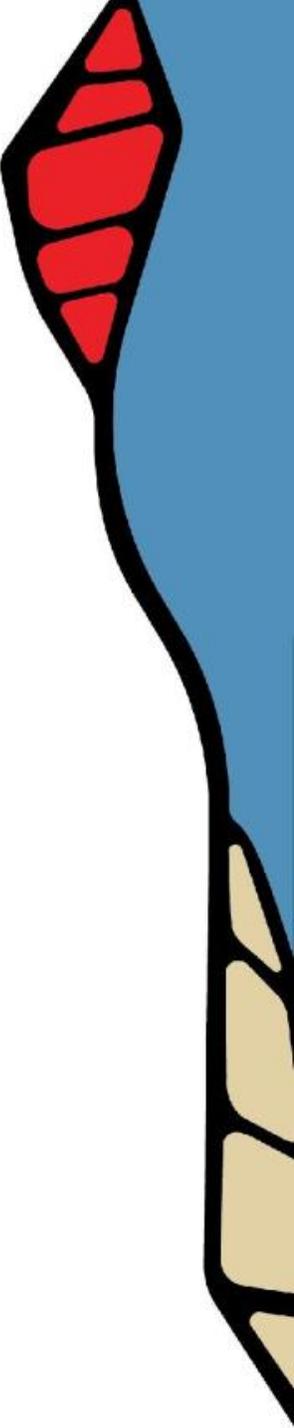
# First Nations Housing Conference 2019

## Housing Project Management

Valhalla Inn & Conference Centre  
Thunder Bay Ontario, Canada  
February 26, 2019



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TECHNICAL SERVICES  
CORPORATION



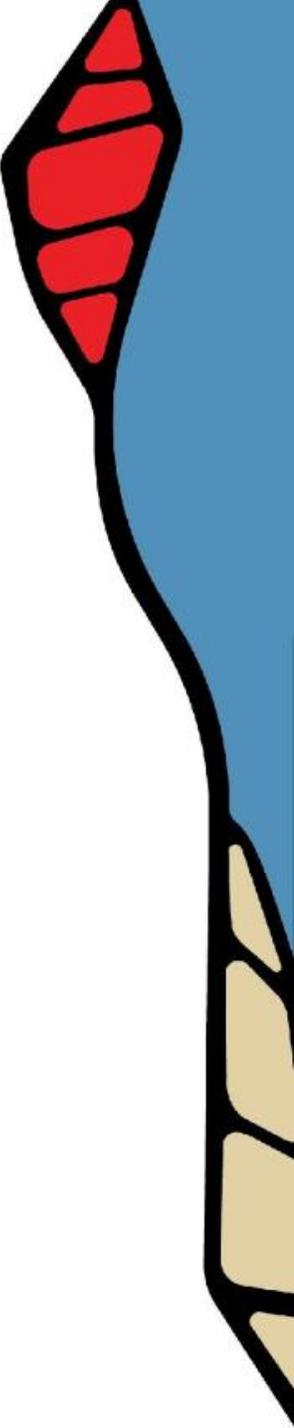
# Topics

## Session I

- Define the Need
- The Plan
- Pre-Construction

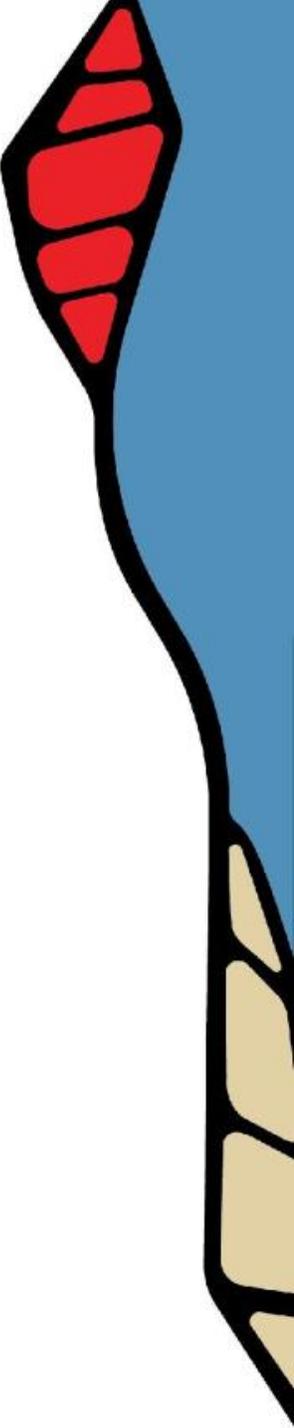
## Session II

- Construction
- Post-Construction



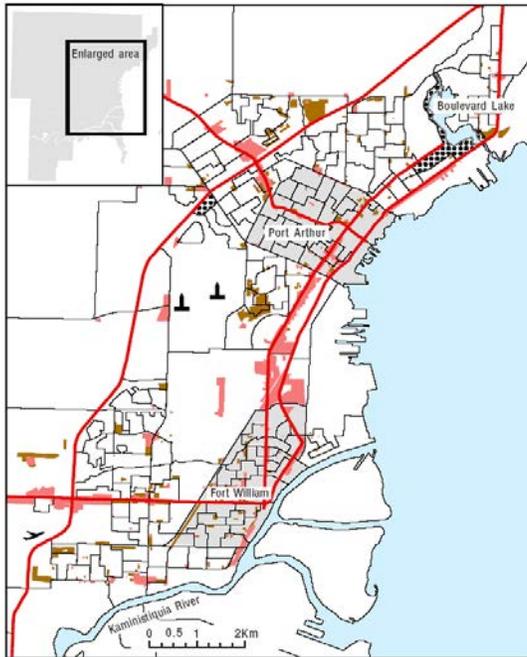
## Define the Need - The “Why”?

- What do we need and why?
- Community planning – Comprehensive Community Plan, Capital Planning Study, general meetings, etc.
- Strategic Planning

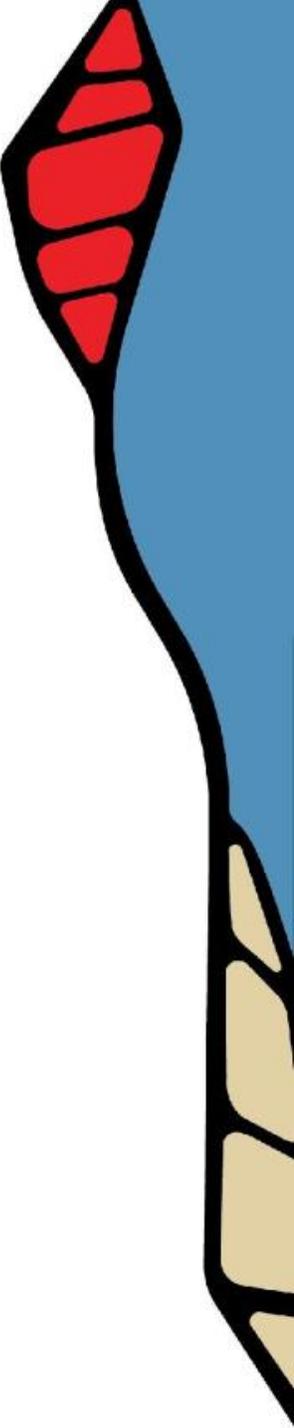


# Planning Considerations

- Comprehensive Community Plan
- Capital Planning Study
- Specific & Detailed Housing Plan



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# Overall Community Level Planning



## Comprehensive Community Plan

- Comprehensive Community Planning is an ongoing process that enables a community to plan its development in a way that meets its needs and aspirations in all aspects of community life. CCP can include, but is not limited to, areas such as:

Governance; Land & Resources; Health; Infrastructure Development; Culture; Social; Education; Economy; and any other community specified topics.



# Overall Community Level Planning

## Capital Planning Study

- intended to serve as a guideline for future planning and development over the next 20 years.

This project and report reviews existing assets, assesses biophysical characteristics, makes population projections, determines housing requirements and develops a land use plan.

Based on these assessments and population projections, the 20 year needs of the community are determined.



# Overall Community Level Planning

## Capital Planning Study continued

- Utilizing a base year, alternatives are generally analyzed and cost estimates prepared for the following:

Water supply, treatment and distribution; Fire protection;

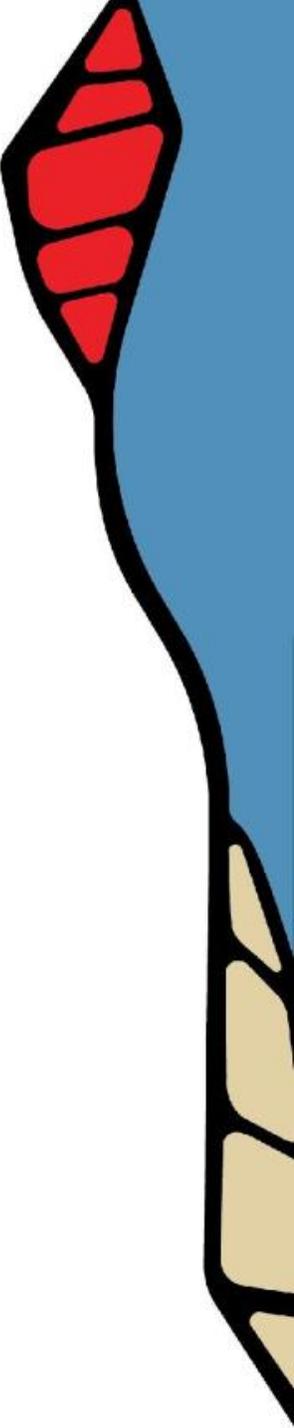
Sewage collection, treatment, and disposal;

Solid waste management; Roads & drainage;

Residential development;

Electrical power requirements;

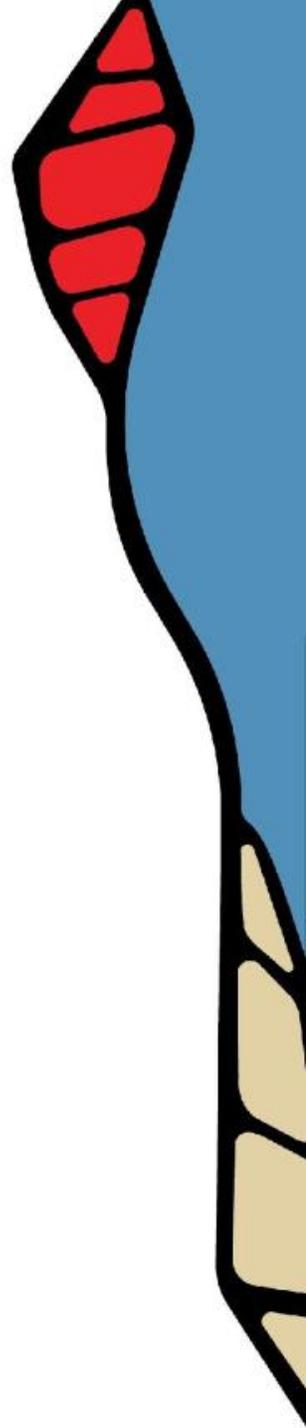
any other areas specified.



# Overall Community Level Planning

## Community Growth considerations

- New Subdivisions needed?
  - Has the community used all existing residential space?
- New Infrastructure Needed?
  - Water, Wastewater, Electricity, Roads, Heating Capacity, etc.



# Overall Community Level Planning

## Community Growth considerations:

- Land Tenure

“...is the legal regime in which land is owned by an individual [or community], who is said to "hold" the land. It determines who can use land, for how long, and under what conditions. Tenure may be based both on official laws and policies, and on informal customs.” ~Wikipedia

- Land Tenure designations can include Certificates of Possession, Certificates of Occupation, First Nation-leased lands, First Nations-owned lands.

*It is always recommended that the Housing Department work with the community Lands Department on land tenure issues.*



# Overall Community Level Planning

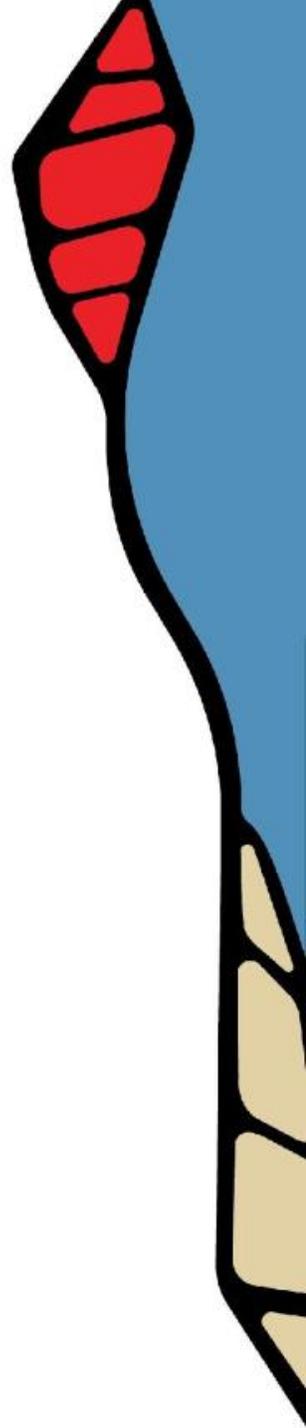
## Financial Viability

- Do we have sufficient financial support to consider our plans?
- Do we need to consider other funding sources?
- Does the community need to consider a Ministerial Loan Guarantee?

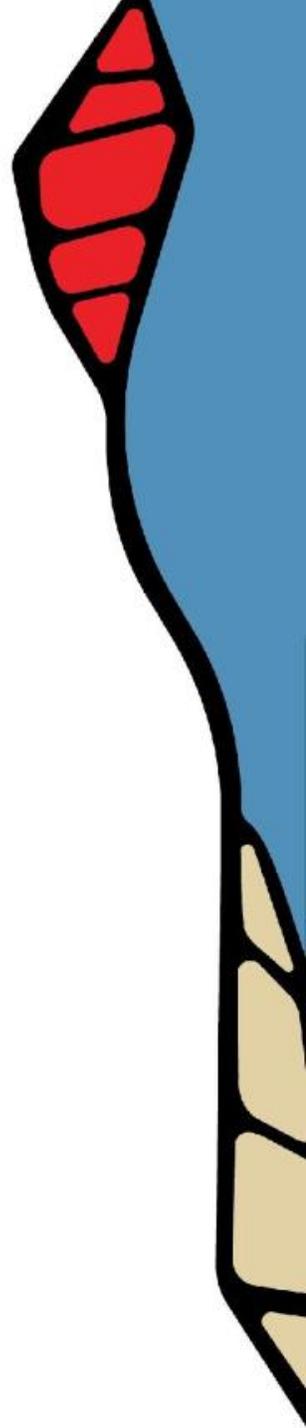
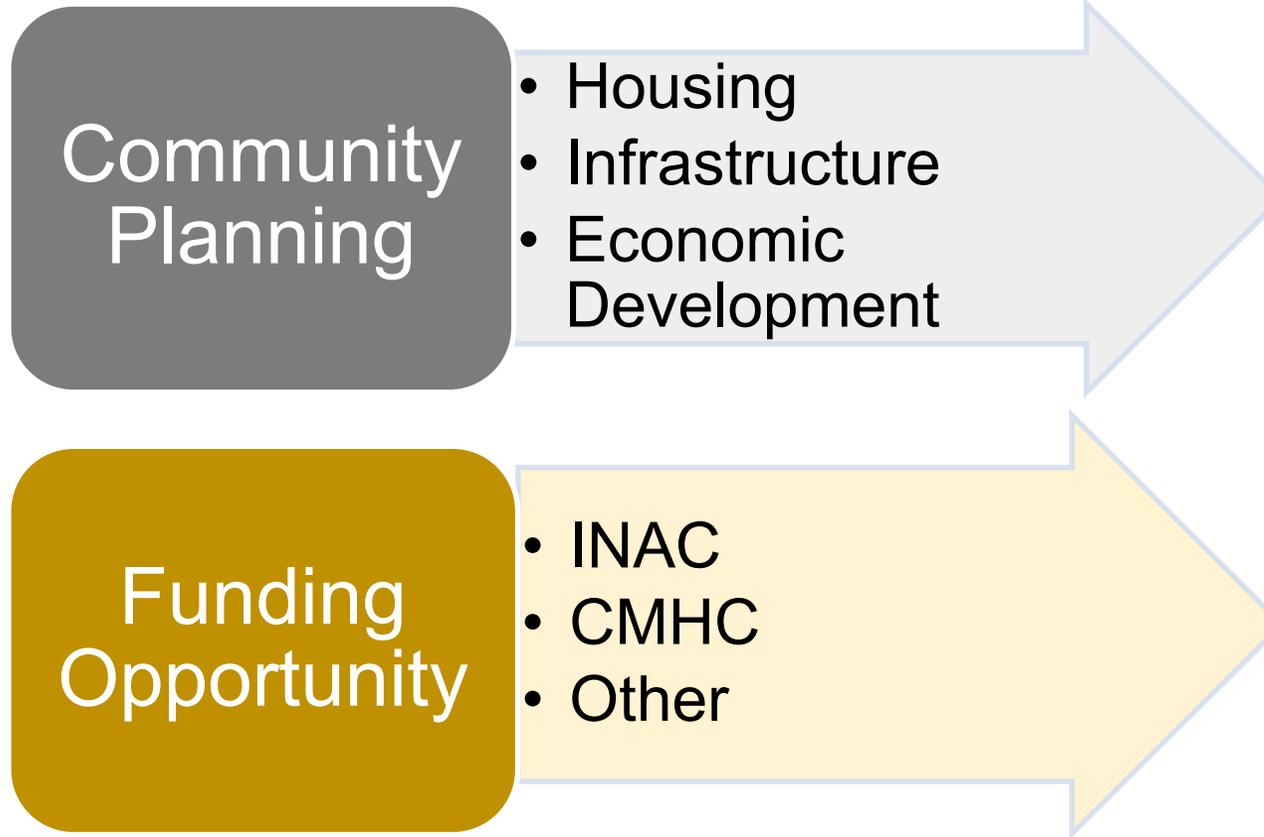


# The Plan

- What?
- When?
- Who?
- Where?

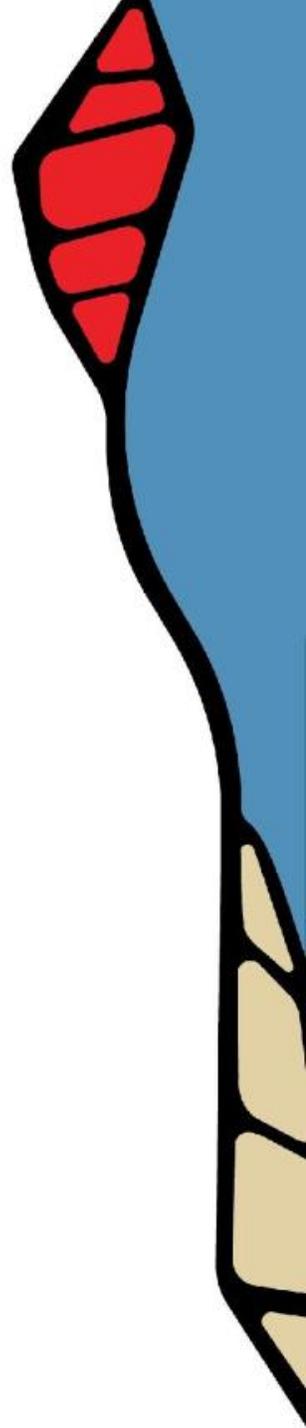


# The Plan



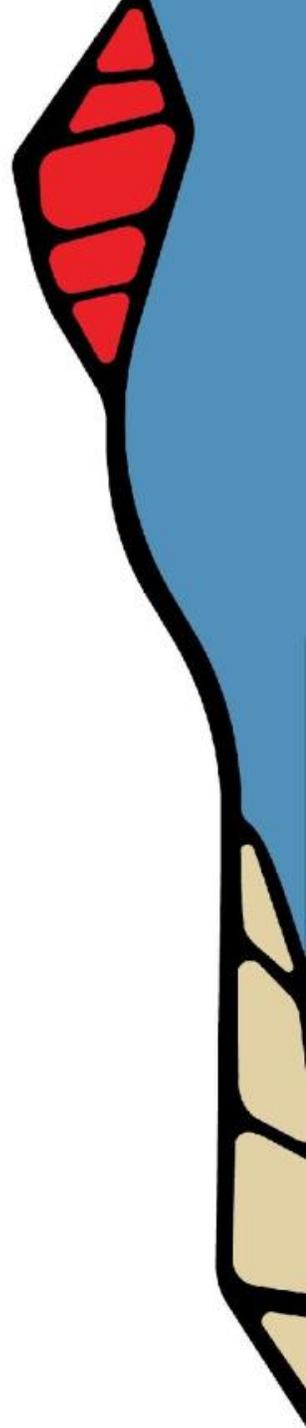
# The Plan

- “If you fail to plan... you plan to \_\_\_\_\_
- **Plan Plan Plan - the 7P’s**
- The plan is to build # homes in # weeks/ months and we have prepared by completing lot servicing, obtaining detailed drawings, employing community members, and purchasing a material package with x supply company.



# The Plan – be SMART

- **S** pecific
- **M** easureable
- **A** ttainable
- **R** elevant
- **T** ime-bound



# The Plan: Have C.L.E.A.R. Goals

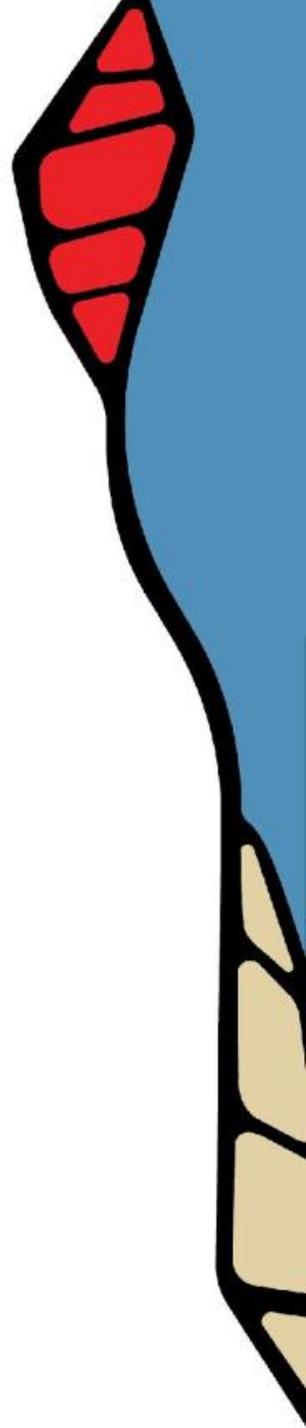
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Limited

Emotional

Appreciable

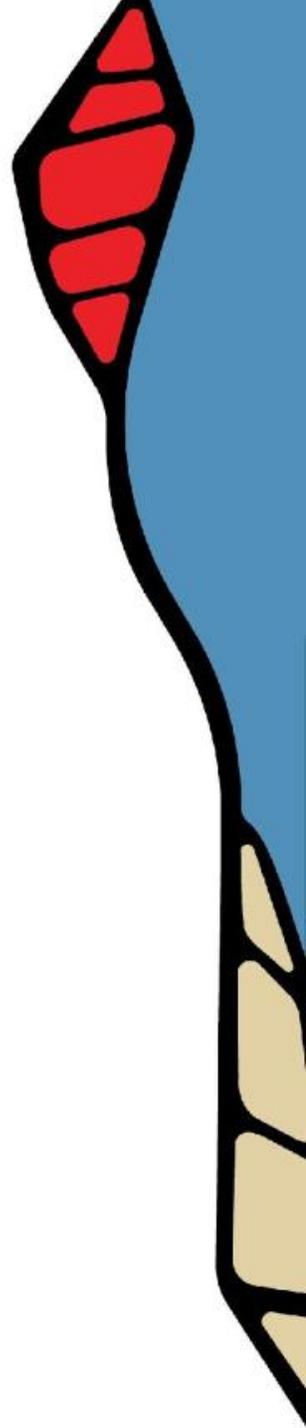
Refinable



# The Plan – the “How”

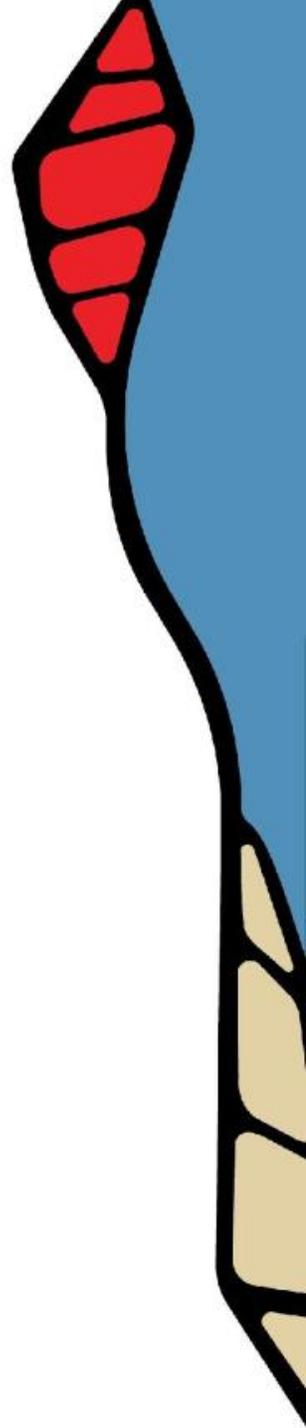
## What project approach fits for us?

- First Nation management
- General Contractor
- Design Build



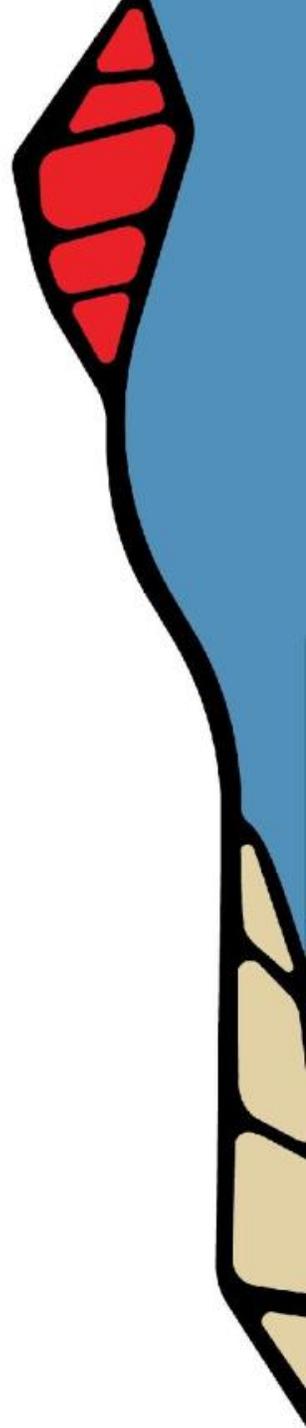
# The Plan

- Scope
- Time / Schedule
- Cost
- Risk Management
- Human Resources
- Quality
- Policy
- Communication



# Scope

- What are we doing and not doing?
- How are we going to deliver the project?
- What are the major steps involved?
- How will we monitor progress?
- How will we work with changes along the way?

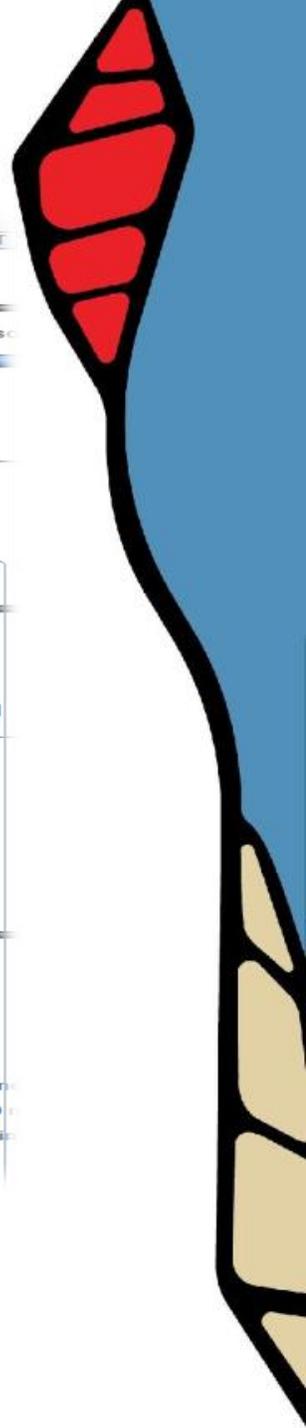
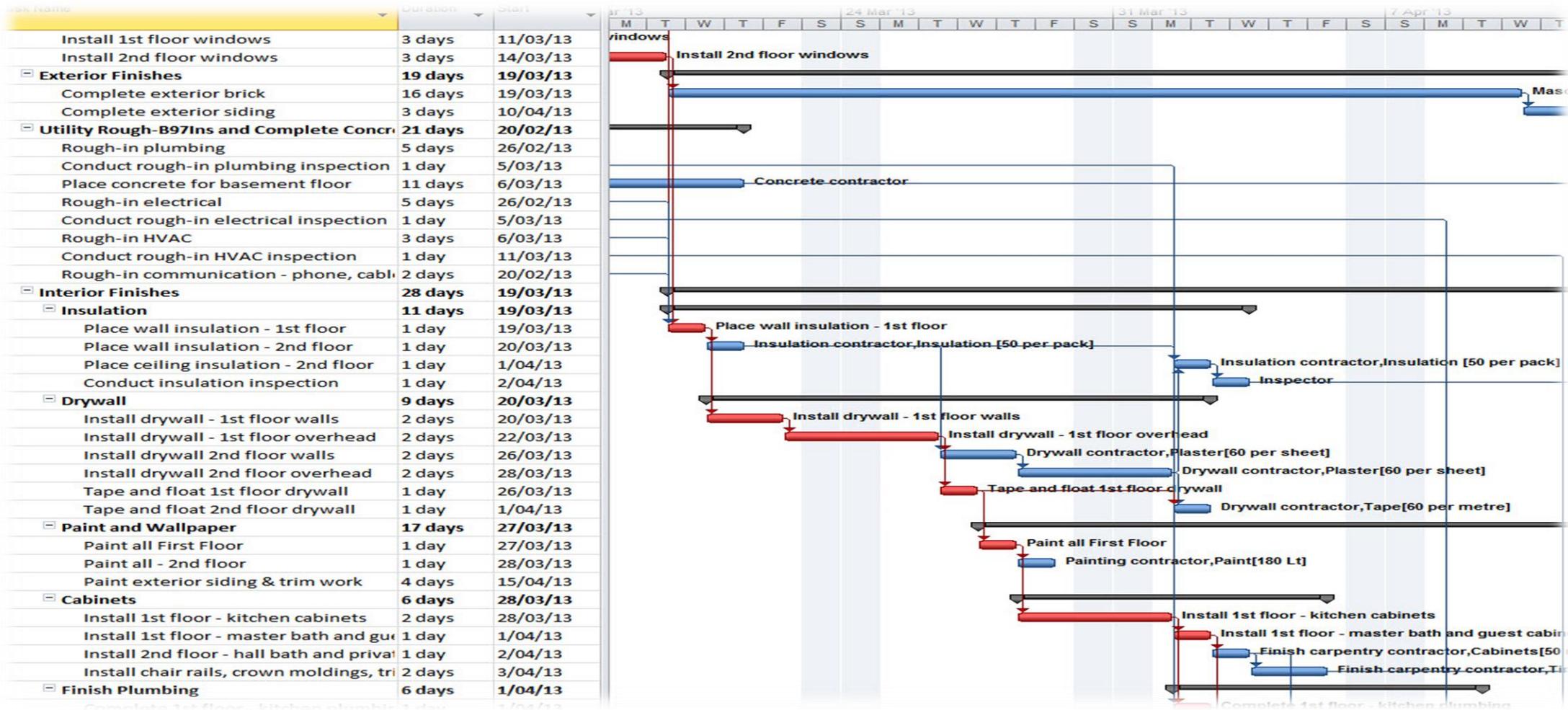


# Time / Schedule

- How will we manage time frames?
- Master schedule
- Who updates the schedule and when?
- Understand your Critical path vs non-critical
- Get schedules from all team members/ contractors.
- Approve changes to the schedule with respect to why the change is needed.

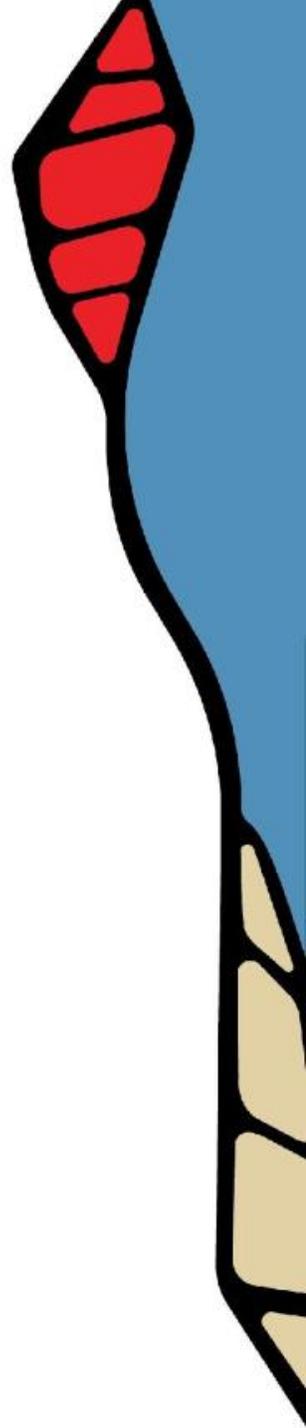


# Master/ Construction Schedule



# Cost

- Are we following a budget?
- What are my processes?
- How do we update or incorporate changes and adjustments?
- Approve changes to the budget with respect to why the change is needed.



# Risk Management

“Chance favours the prepared”

- Labour Force - availability
- Suppliers
- Community issues – election, disasters, interruptions, etc.



# Health and Safety

Who is responsible? First Nation, labour force, contractors, subs, etc

What about risk?

Supervisors – expectations; site meetings, health and safety reviews

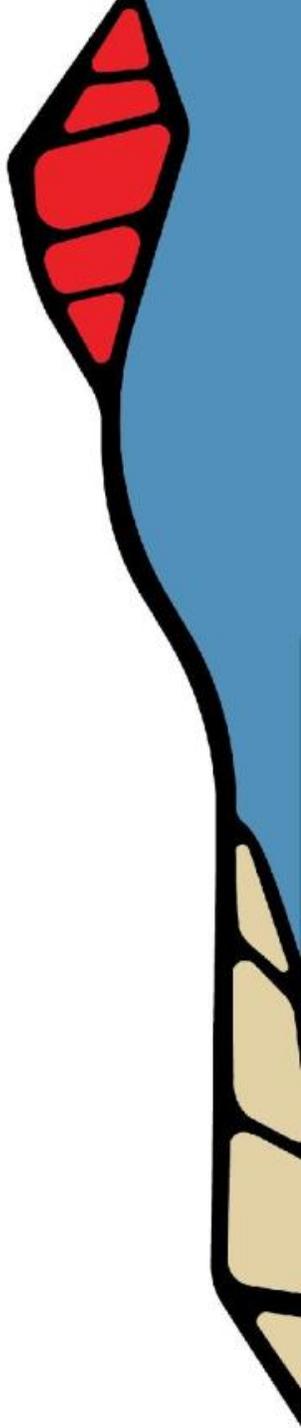
Contractor – expectations; safety meetings, training records,



# Human Resources

## - Roles and Responsibilities

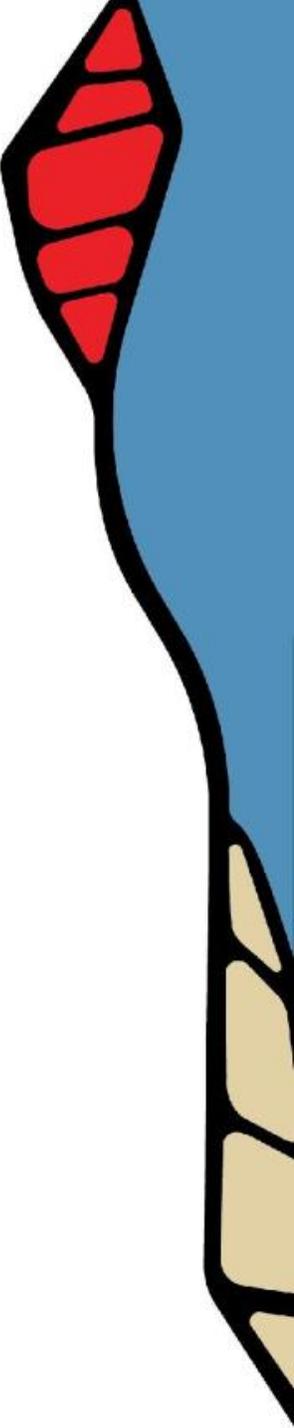
- Chief and Council
- Housing Authority / Committee
- Community Members
- Contractors / Subcontractors
- Housing Manager / Project Manager
- Carpenters & Labourers
- Suppliers



# Quality

*“It’s better to do the right thing with intention than to do the wrong thing quickly”*

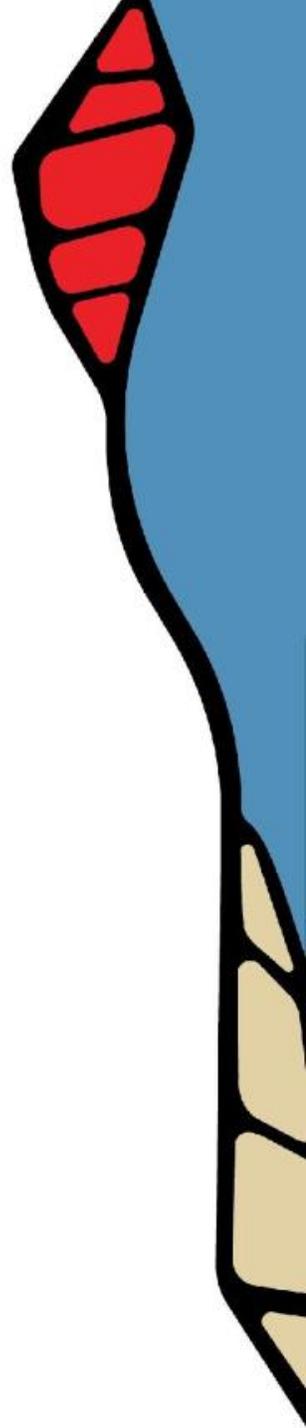
- Record Keeping
- Materials
- Workmanship (How well is it installed?)
- Best Practice
- Manufacturer Specifications



# Policy

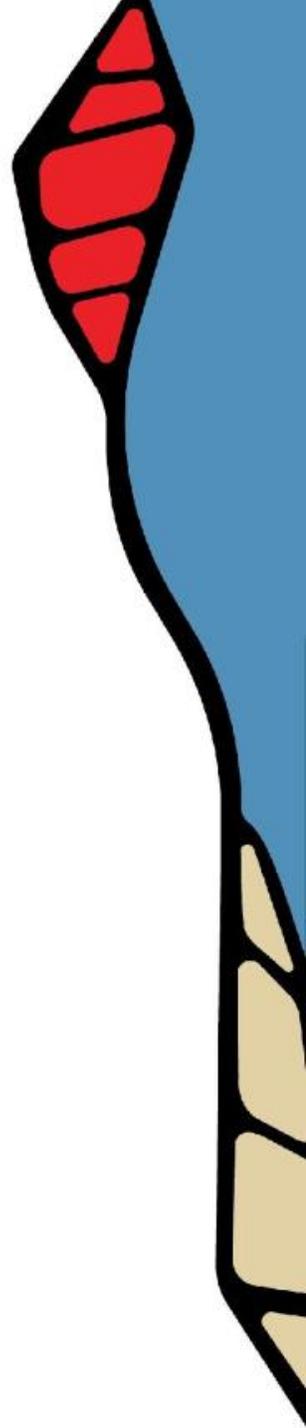
What policies do I have? What do I need?  
Whose policies? First Nation's or other?

- Housing Policy
- Procurement – FN / Funding agency
- Tendering
- Contractor / Vendor
- Seasonal Work/ Worker
- First Nation Employee policy



# Communication

- Chief and Council
- Community Members, Workers
- Project Team – Project Manager, Housing Department, General Contractor/ Builder
- Contractors and Subcontractors
- Suppliers, Government, Funding Agency (ISC, CMHC, Banks)

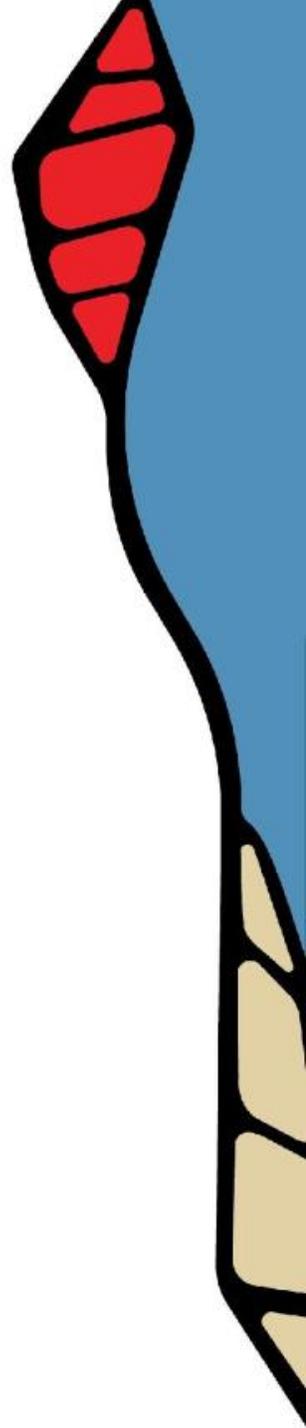


# Pre-Construction

Type of Construction;  
conventional wood frame;  
manufactured homes;

innovative construction types

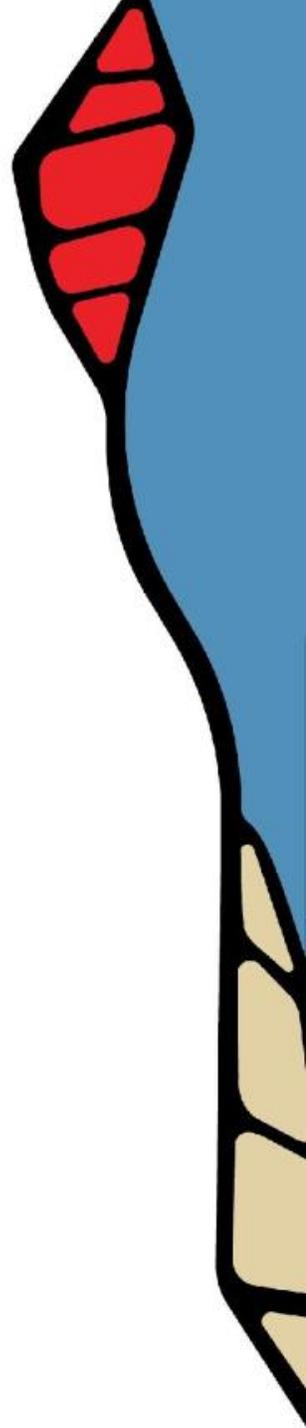
- SIP; Structural Insulated Panels,
- ICF; Insulated Concrete Forms
- Log built; manufactured or conventional



# Pre-Construction

## Plans / Drawings – complete set

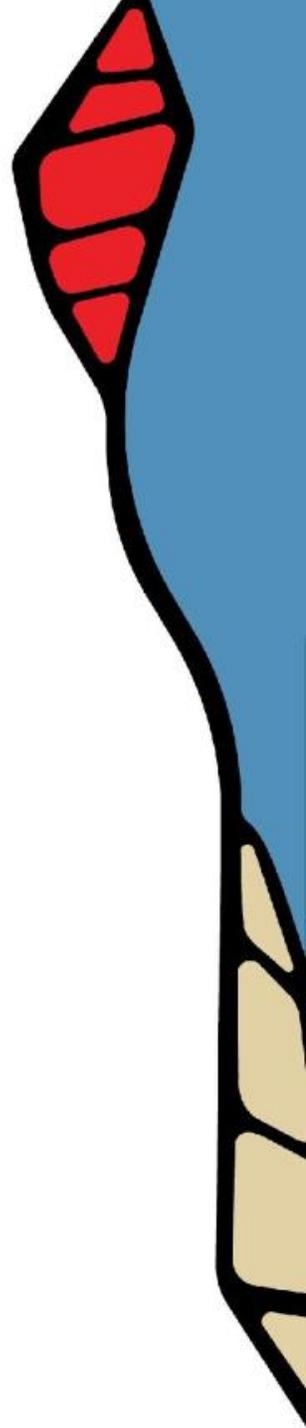
- Architect
- other approved/ certified designer
- Lumberyard/ Supplier
- Engineered components
- special situations; *lot geography/ physical characteristics*



# Pre-Construction

**Building Codes & Standards;** Ontario Building Code/  
National Building Code, or other provincial building  
code; CSA - Canadian Standards Association, Electrical  
Safety Authority/ other provincial electrical authority,  
WETT for wood heating installations, HRAI for air  
handling systems, HVI for ventilation equipment

**Materials – Specifications** (acceptable for use in  
Ontario/ Canada)



# Pre-Construction

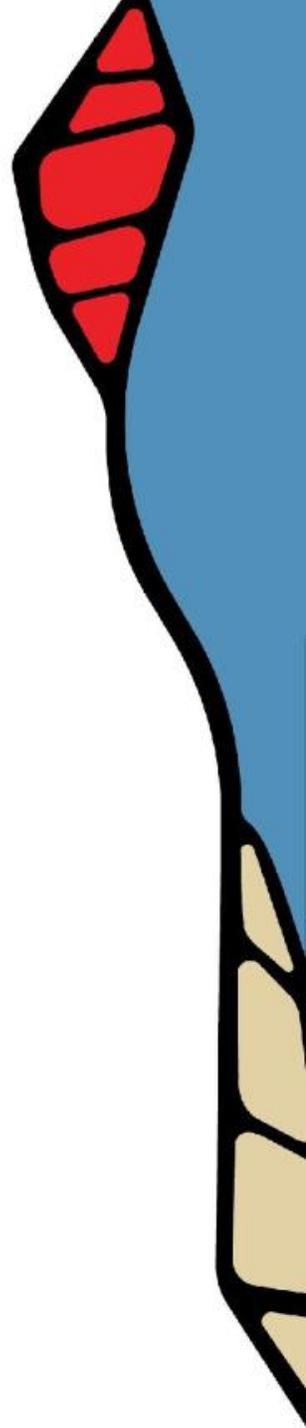
Agreements

Contracts – RFP (Request for Proposals)/ Tender; Lump Sum; Cost Plus, PM, Supervisor, etc.

Legal reviews – agreements & policies

Insurance – for contractors, for First Nation

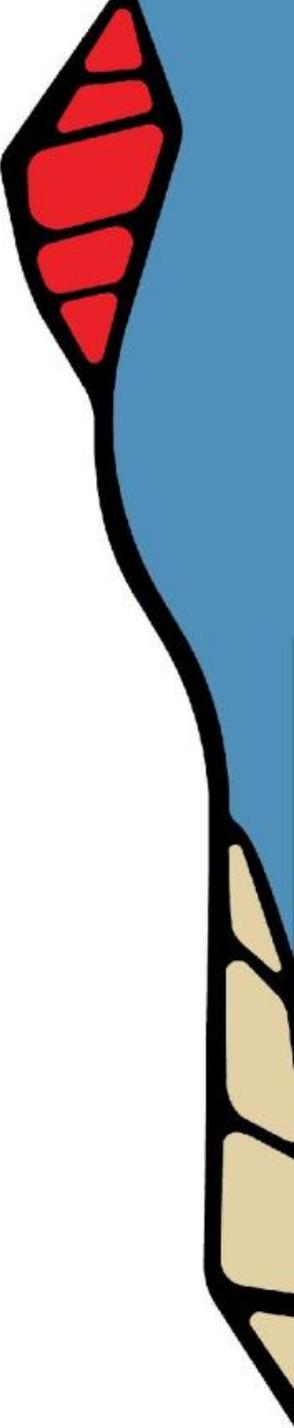
Security – general contractors, subs, site security



# Reference Documents

## CCMC

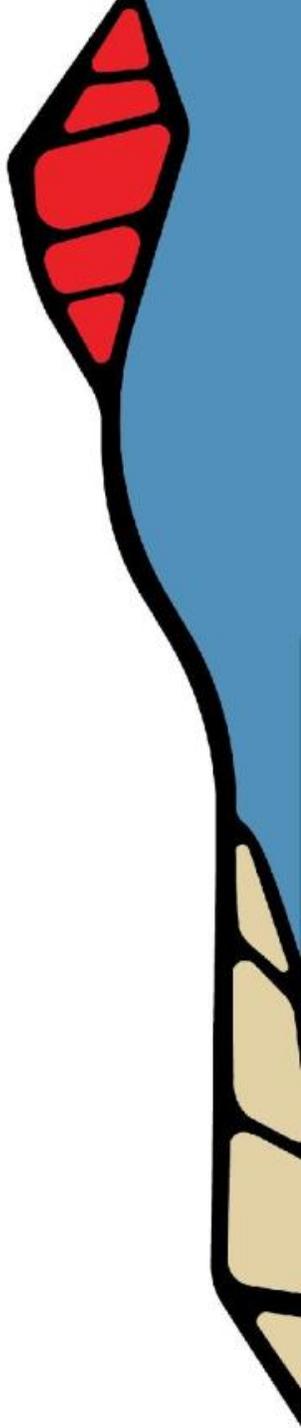
- The Canadian Construction Materials Centre (CCMC) is a part of the National Research Council of Canada. It offers the construction industry a national evaluation service for innovative non-standardized materials, products, systems and services in all types of construction. CCMC will also evaluate products that are covered under the scope of recognized standards.



# Reference Documents

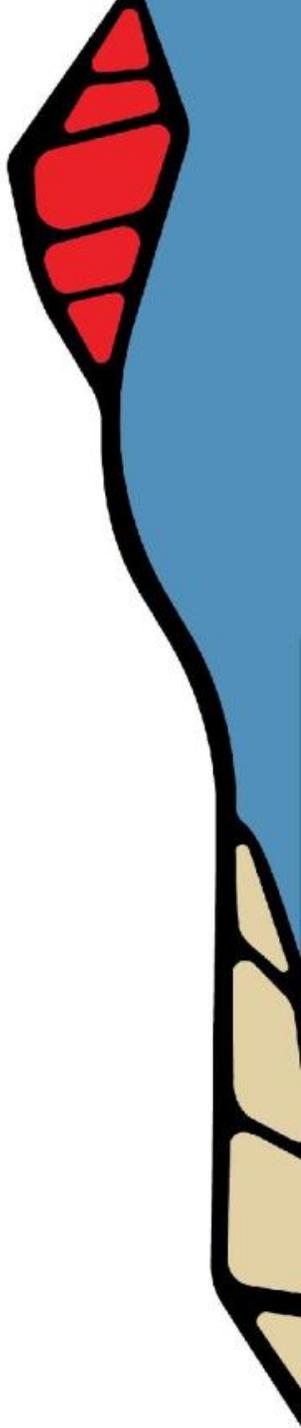
## BMEC

- The Building Materials Evaluation Commission (BMEC) is a regulatory agency authorized under the *Building Code Act, 1992* (BCA). It has a mandate to conduct or authorize the examination of materials, systems and building designs for construction. When approving a material, system or building design, the BMEC may attach certain conditions for its use. The BMEC may also make recommendations to the Minister regarding changes to the BCA or Building Code.



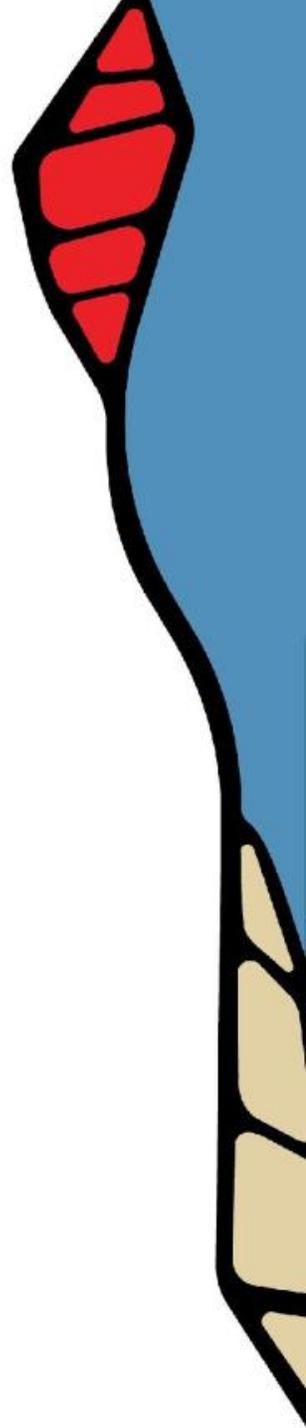
# Plans / Drawings

- Site Plan
- Floor Plans / Layouts
- Sections / Details – walls, floors, roof
- Window & Door schedule
- Structural Details & Notes
  - Preferred Built-Up Beam construction layout
- Specifications, general & specific



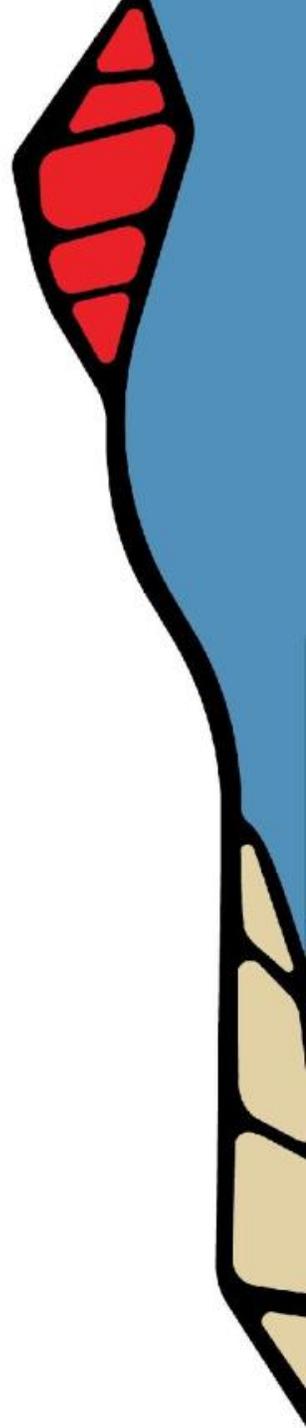
# Plans / Drawings cont'd

- Electrical layouts
- Plumbing sketch/ layout
- HVAC layout – heating, HRV
- Other Manufacturer details – trusses, floor joists, Attic Ventilation
- Innovative Construction specifications – SIPs, ICF,



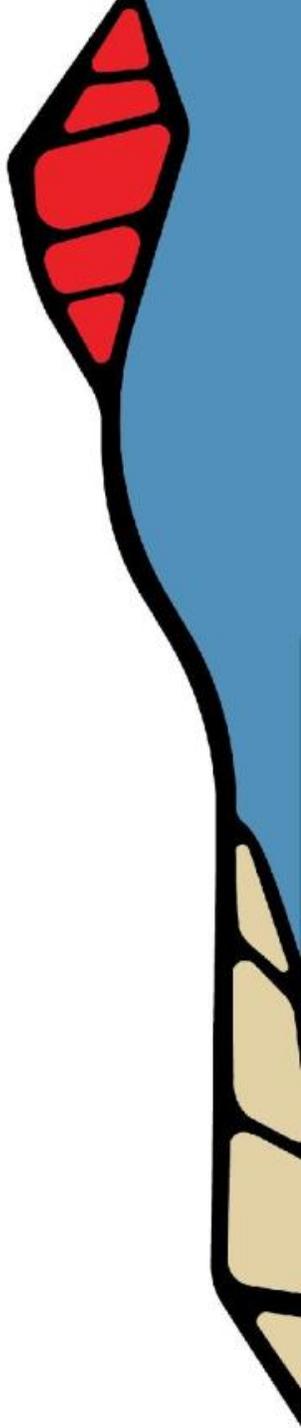
# Types of projects and agreements

- Tender / Request for Proposals – Public or Invited
- Sole Source
- Cost Plus
- Design Build
- Standing Offer



# What is a contract?

- A written agreement:
- An agreement (mutual understanding) between two or more parties
  - Voluntary
  - Deliberate
  - Competent
- Legal obligation
- Enforceable in court



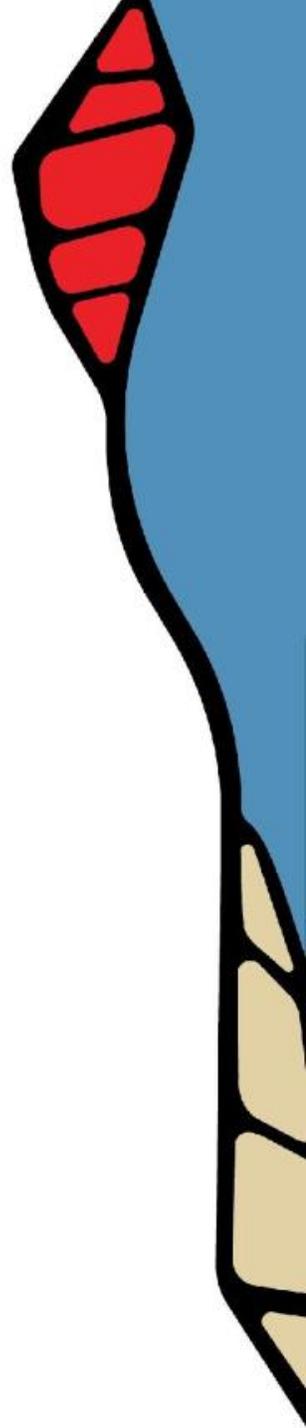
# Thank you

Ontario First Nation Technical  
Services Corporation

Website: [www.ofntsc.org](http://www.ofntsc.org)



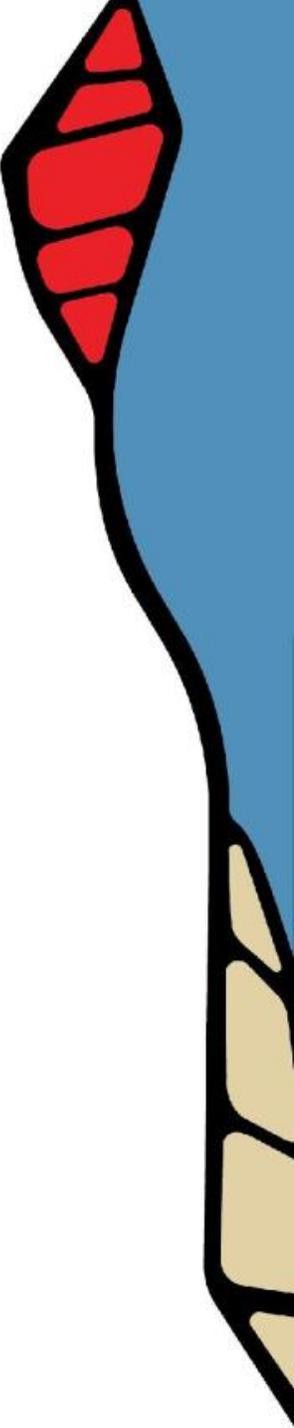
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# Questions?



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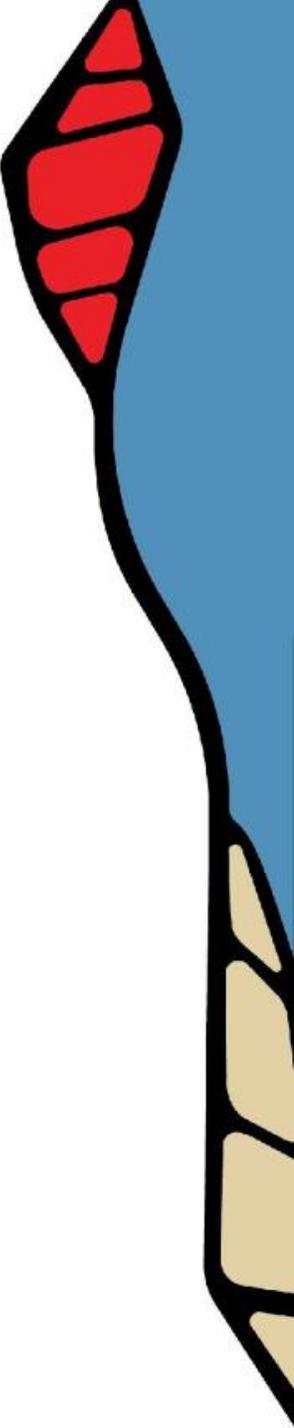
# Topics

## Session I

- Define the Need
- The Plan
- Pre-Construction

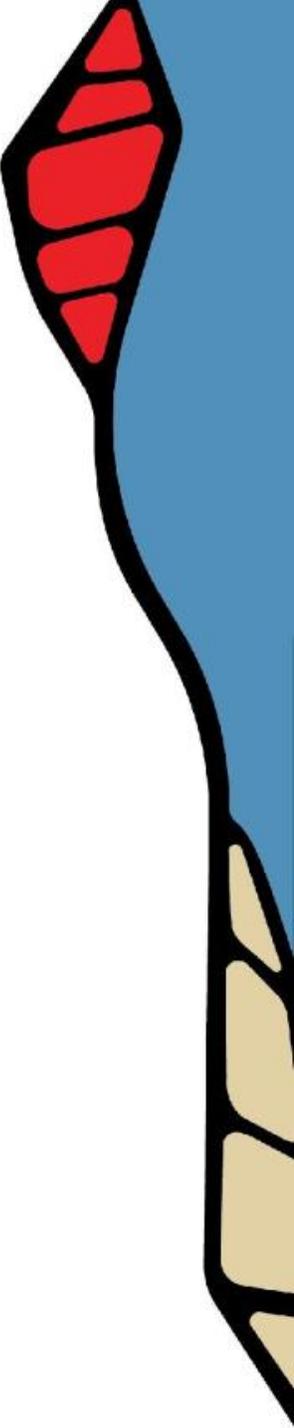
## Session II

- Construction
- Post-Construction



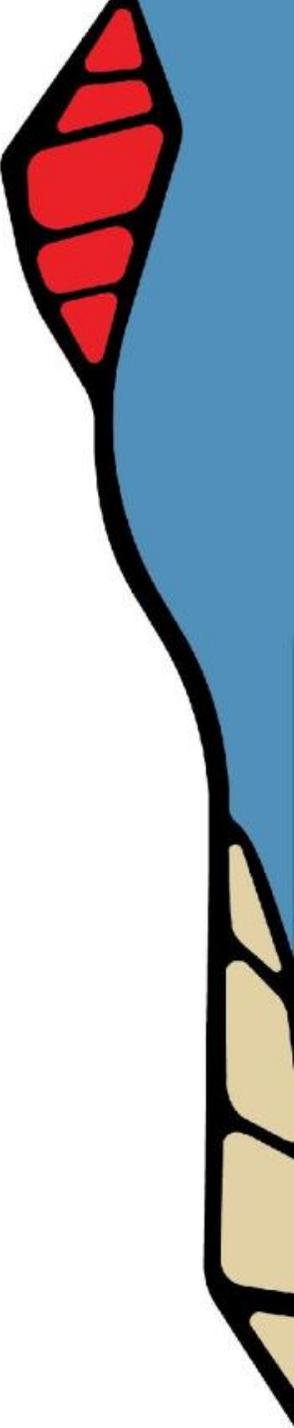
## Define the Need - The “Why”?

- What do we need and why?
- Community planning – Comprehensive Community Plan, Capital Planning Study, general meetings, etc.
- Strategic Planning

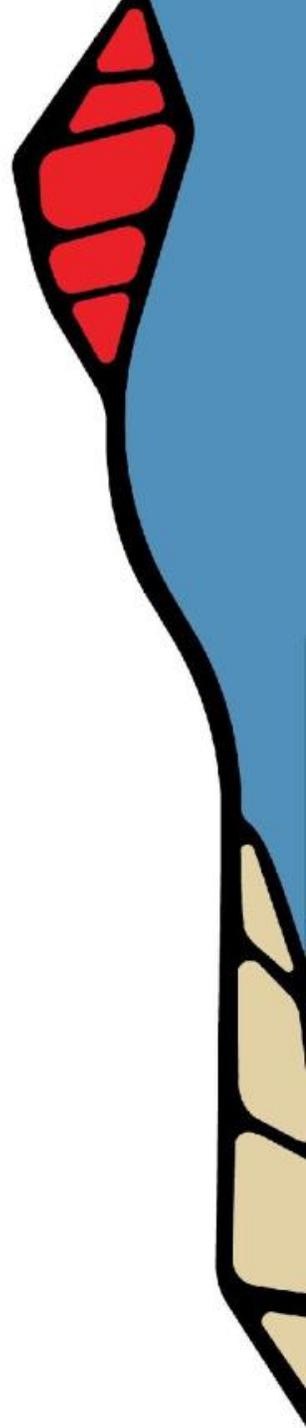
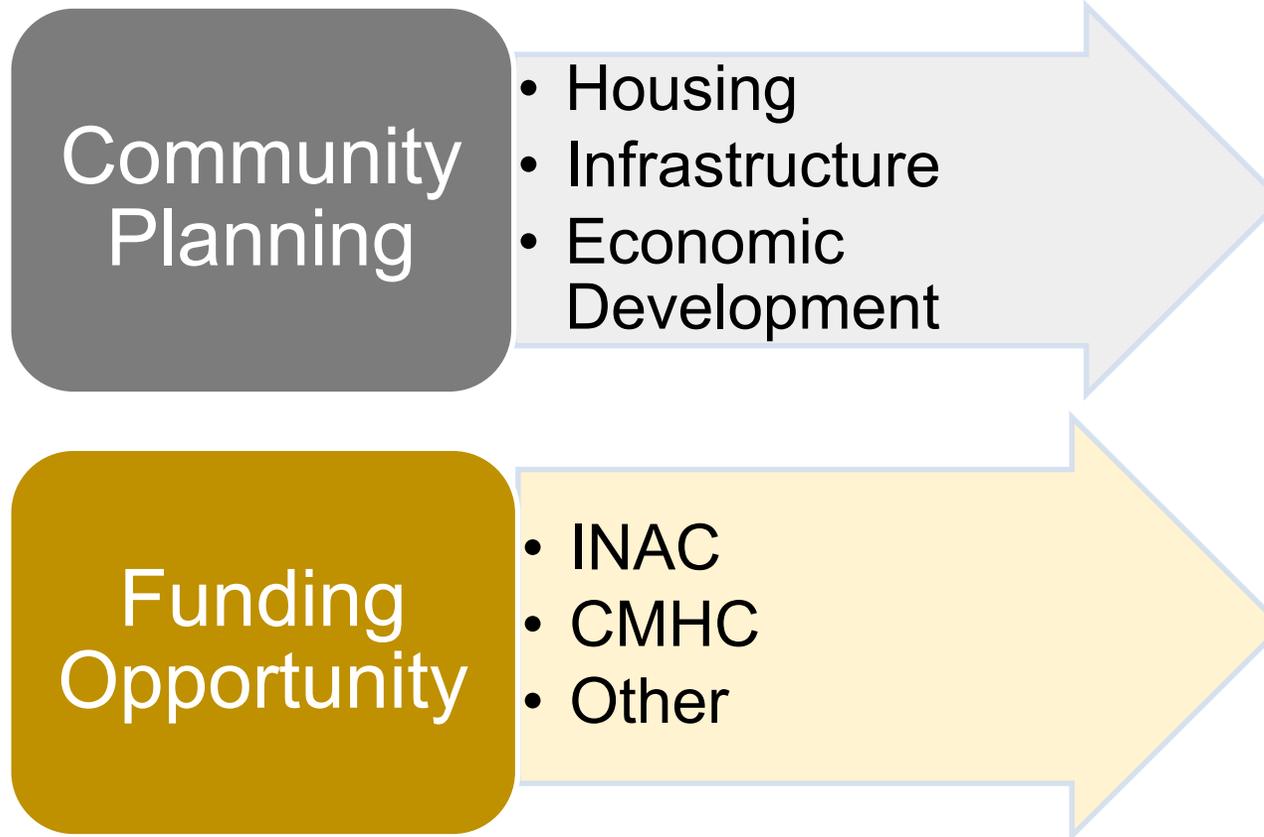


# The Plan

- What?
- When?
- Who?
- Where?

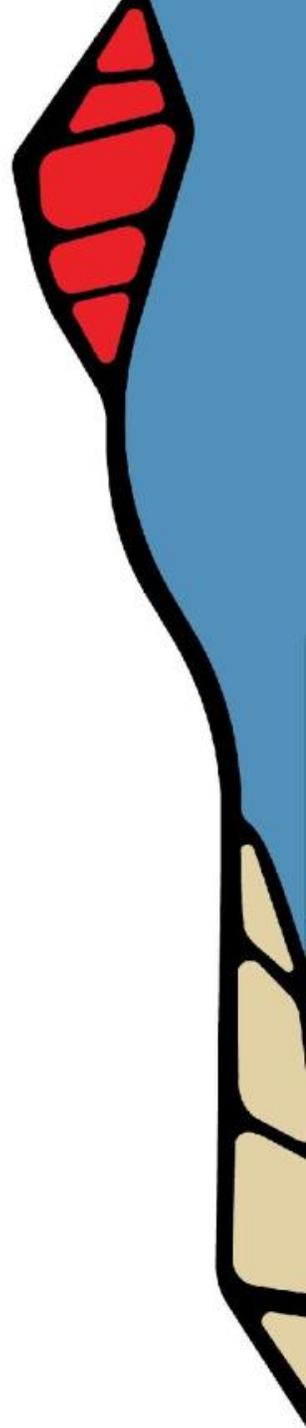


# The Plan



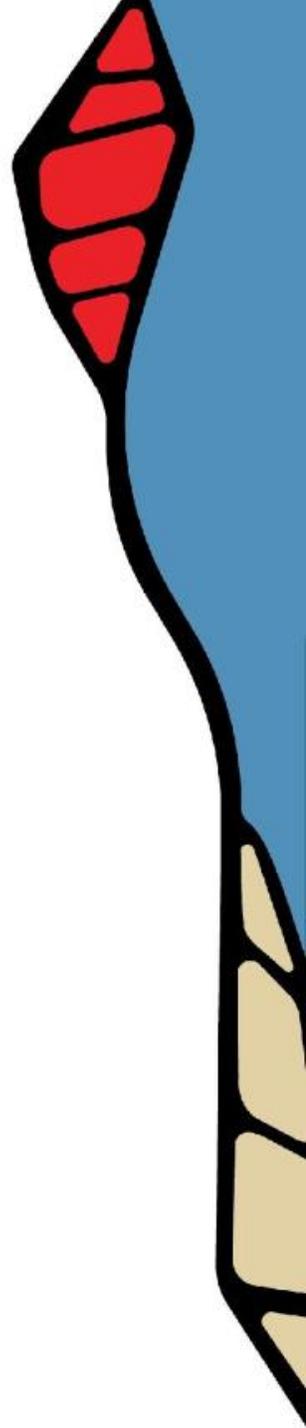
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- “If you fail to plan... you plan to \_\_\_\_\_
- The plan is to build # style of homes in # weeks/ months and we have prepared for the project by completing lot servicing, obtaining detailed drawings, employing community members, and purchasing a material package with X supply company.



# The Plan – be SMART

- **S** pecific
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# The Plan: Have C.L.E.A.R. Goals

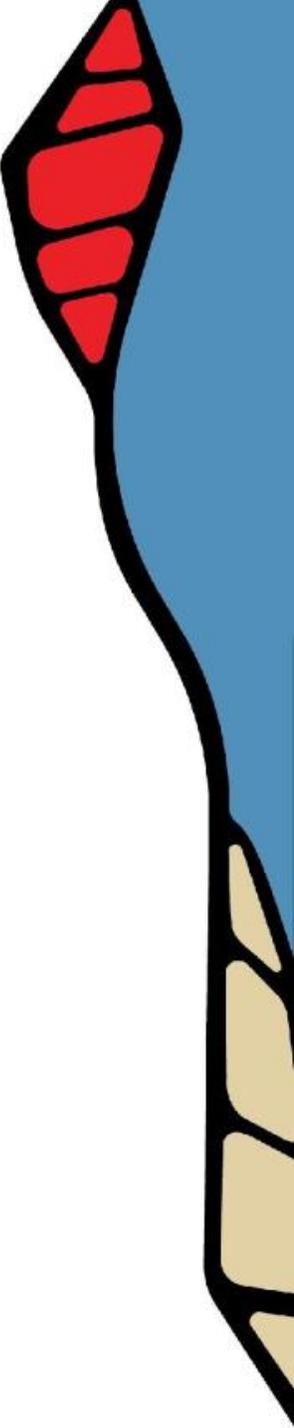
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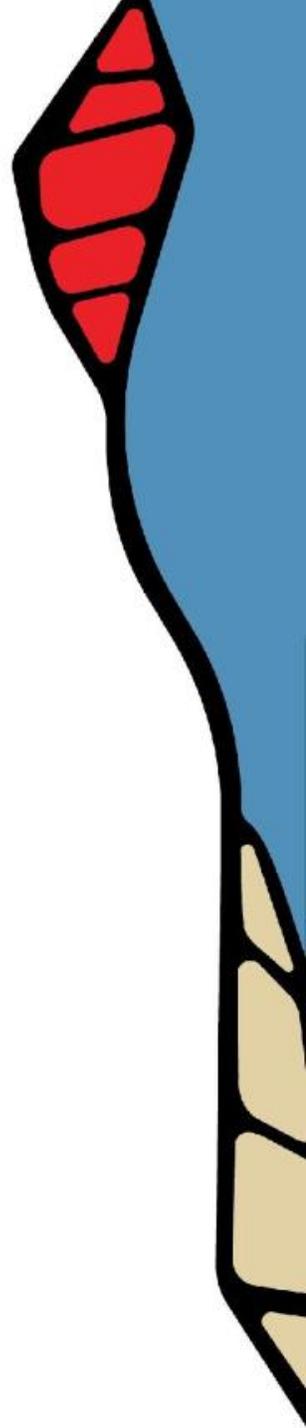
Appreciable

Refinable



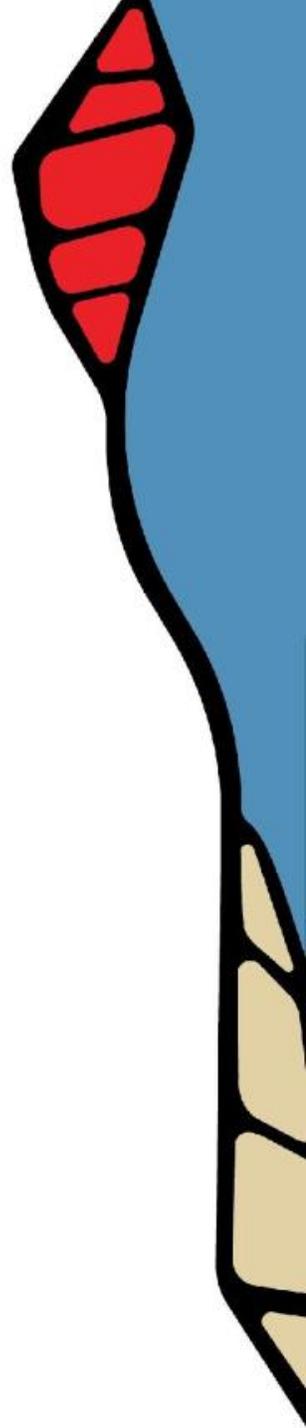
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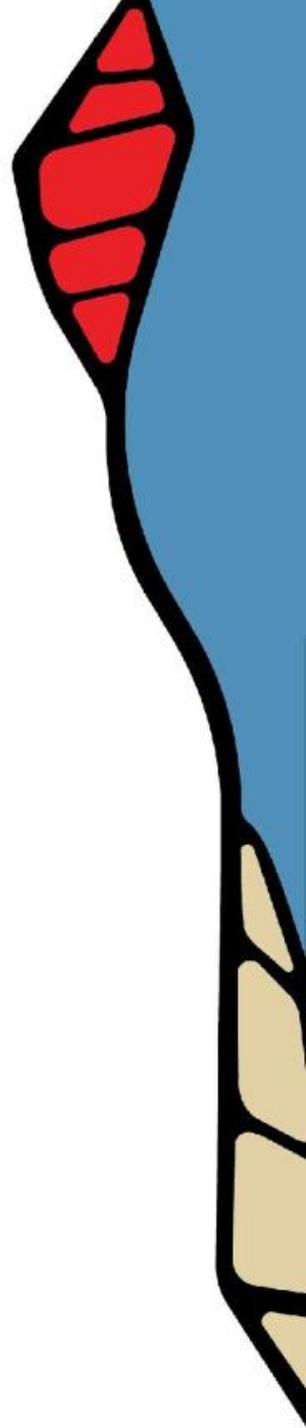
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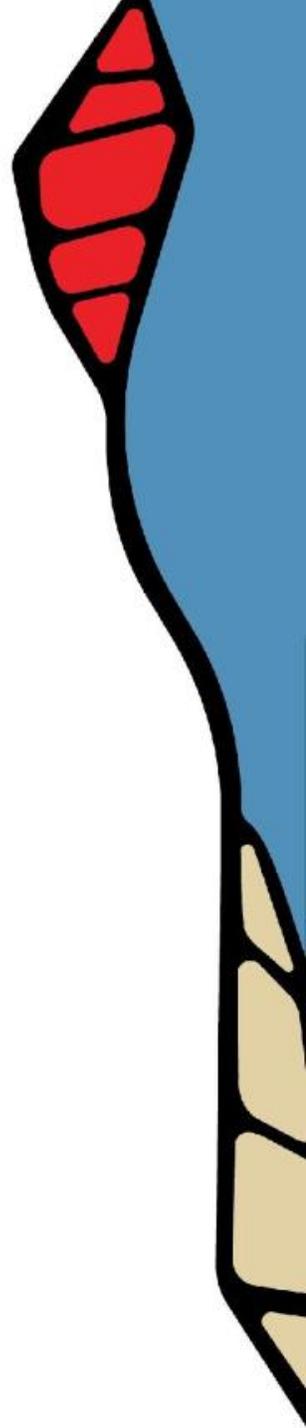
# Legal Review

- Highly recommend a legal review of contract documents to be used prior to signing.



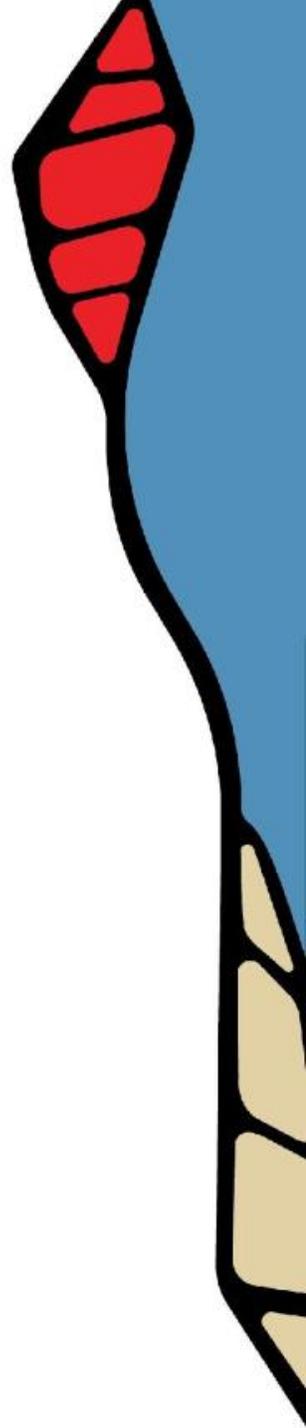
# Construction - Hiring

- Whose process?
- Documented
- Contractors/ Subs, Trades, etc



# Construction - Carrying out the project

- Project meetings
- Subcontractors
- Schedule – critical path, delays,
- Materials – items with lead time (windows, doors, trusses, engineered structure, etc
- Plans / drawings – changes / updates
- Inspections – requesting, scheduling

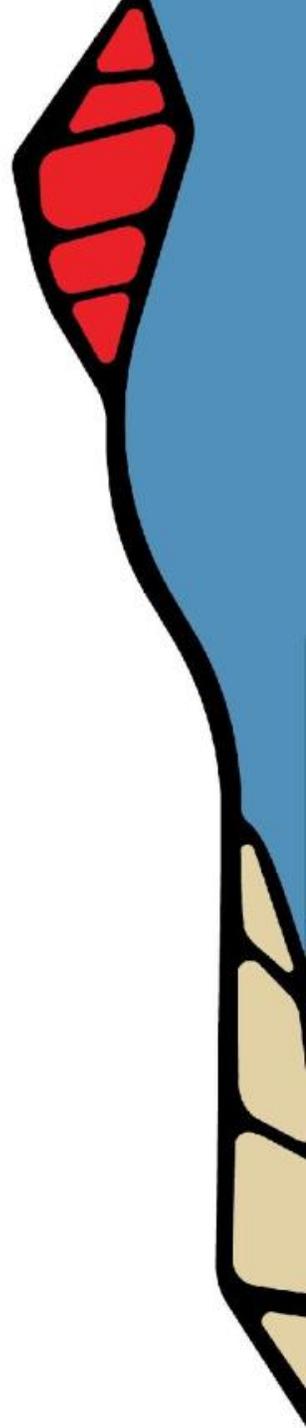


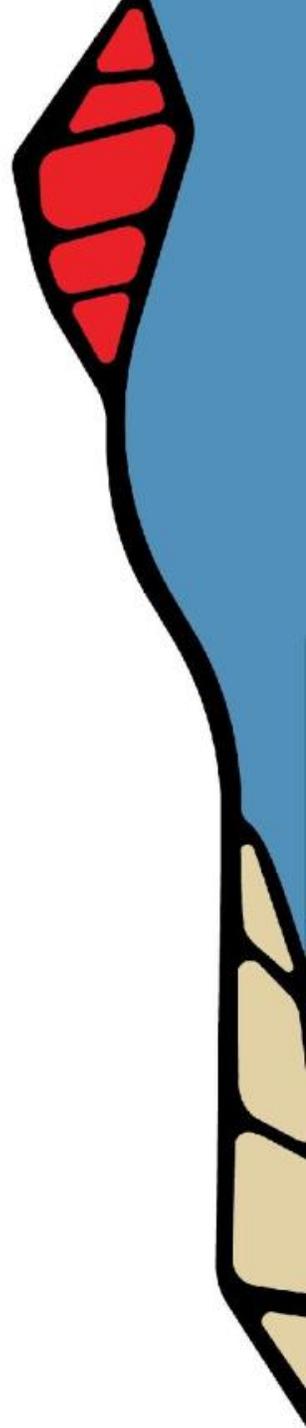
# Construction – Project Meetings

Daily – carpenters, labourers, lead carpenters – safety & planning

Weekly – carpenters, contractors, PM / Housing Manager - planning

Monthly – PM, Chief and Council, Housing Committee members, General Contractor





# On the Job: Health and Safety

Who is responsible?

What about risk?

Supervisors – site meetings, health and safety reviews

Contractor – safety meetings, training records,



# Risk Management

“Chance favours the prepared”

- Labour Force - availability
- Suppliers
- Community issues – election, disasters, interruptions, etc.



# Risk Management



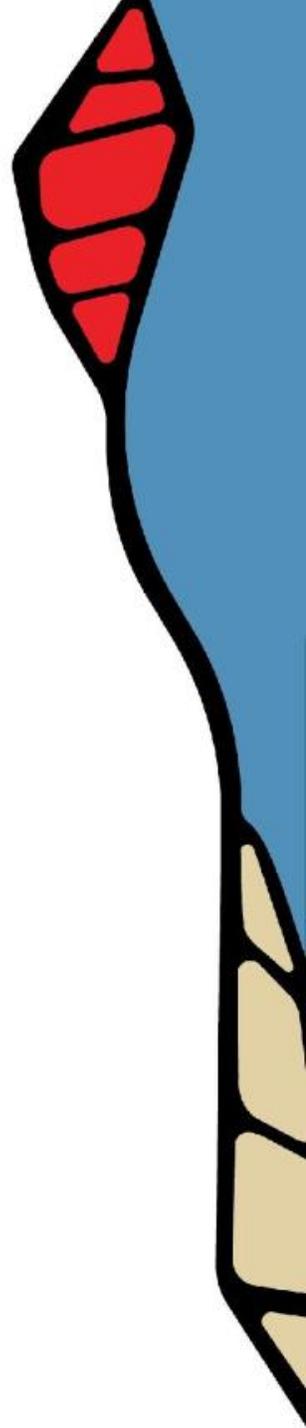
## Insurance

- Labour Force – training, expectations
- First Nation – Builders Risk, WSIB,
- Suppliers – do they offer insurance on their material packages?
- General Contractor/ Subs – Builders Risk Insurance, WSIB Clearance Certificates



# Quality - Record Keeping

- Plans
- Materials Delivery/ Acceptance
- Financial – budgets vs. spending
- Hours of Work
- Conditions of Work – incidents, health & safety items



# Payment

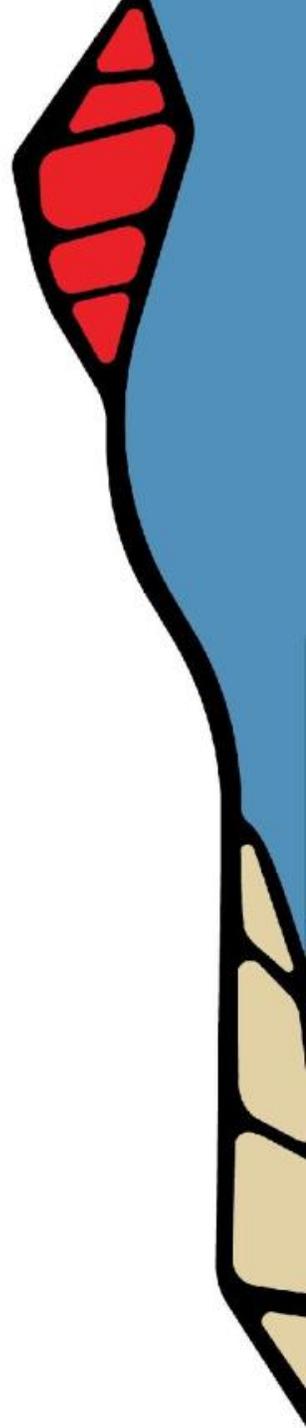
**When?** Bi-weekly/ monthly/ on progress

**How Much?** Fixed amounts / on progress

**Security** – bid bonds, contract security

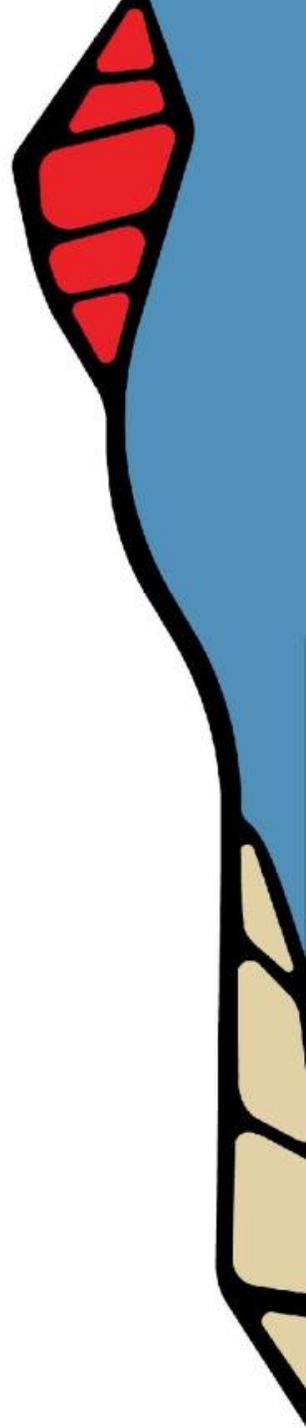
**Holdbacks**

**Budgeting** – Who is responsible? Update the budget, inform leadership



# Contractors / Subtrades

- Plumbing, Electrical, Heating/Ventilation
- Who is responsible?  
FN or GC
- Expectations: certified, apprenticeship opportunities, materials, quality of work, scheduling



# Construction - Inspections

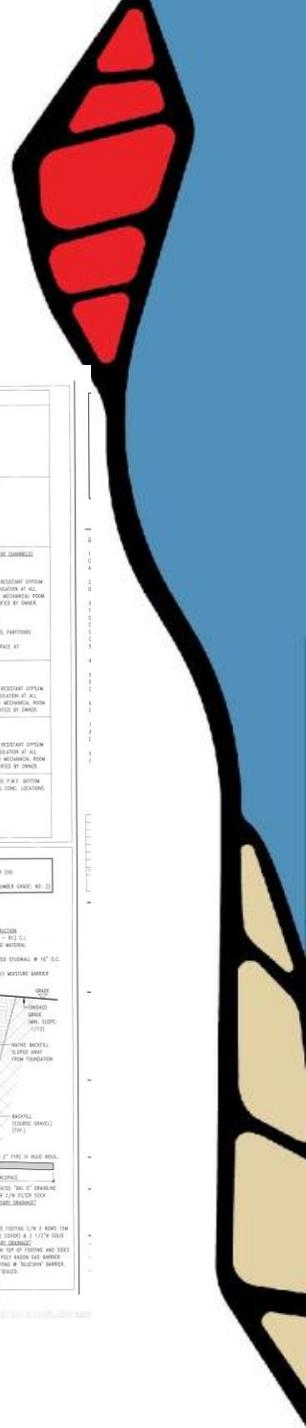
- Scheduling
- Call backs
- Expectations



# Construction - Inspections

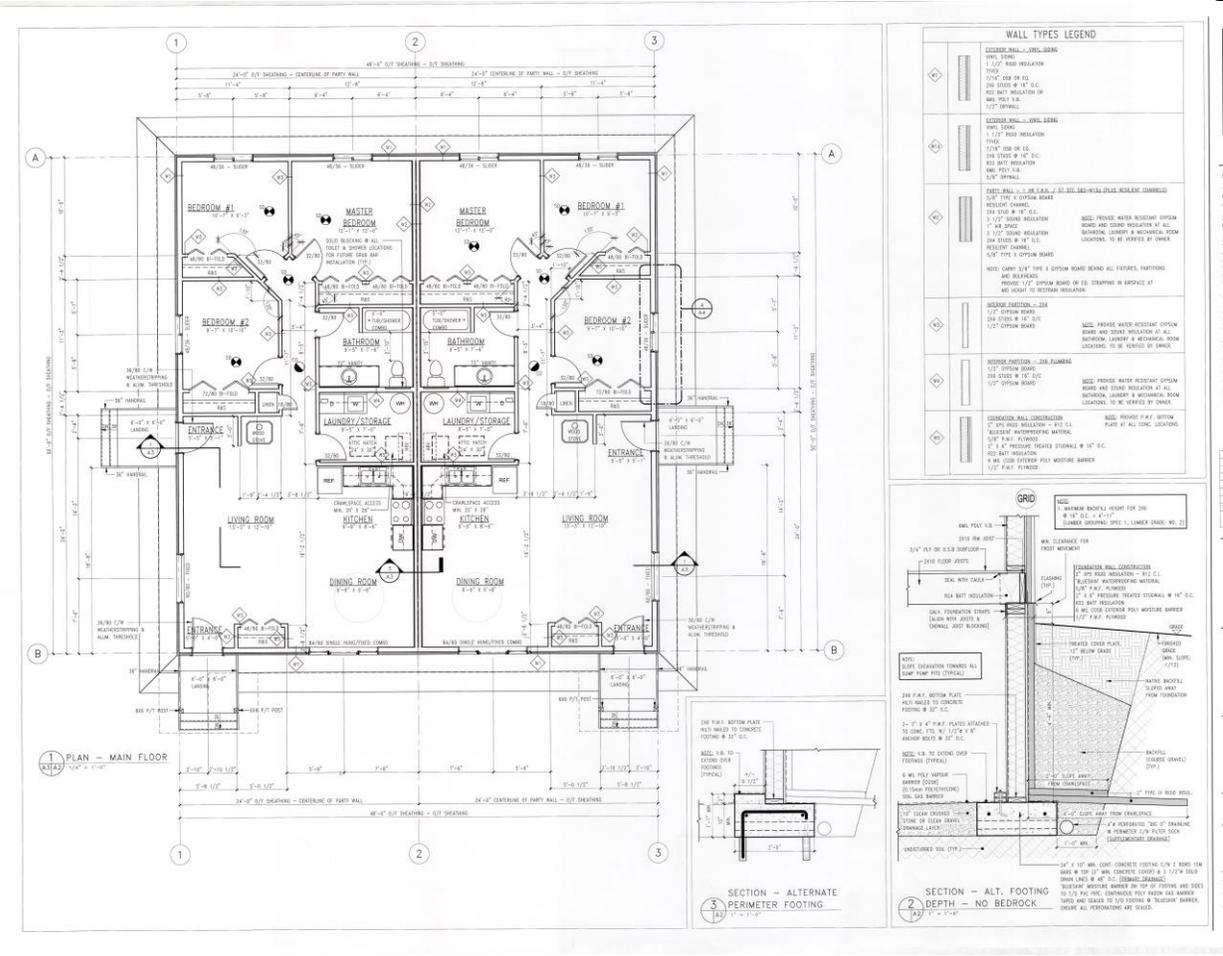
- Plans evaluation
- Lot / site
- Foundation
- Framing
- Vapour Barrier / Insulation
- Final





# Construction - Inspections

- Plans evaluation
  - Which Building Code used?
  - Do we need to update?
  - Are all components here?
  - Modifications?



# Construction - Inspections

- Foundation
  - Before concrete pour with formwork/ rebar/ reinforcement in place.



# Construction - Inspections

- Framing
  - Mostly closed in
  - Trusses installed
  - Headers/ lintels in



# Construction - Inspections

- Vapour Barrier/ Insulation
  - Electrical rough-in
  - Plumbing rough-in
  - Heating rough-in



# Construction - Inspections

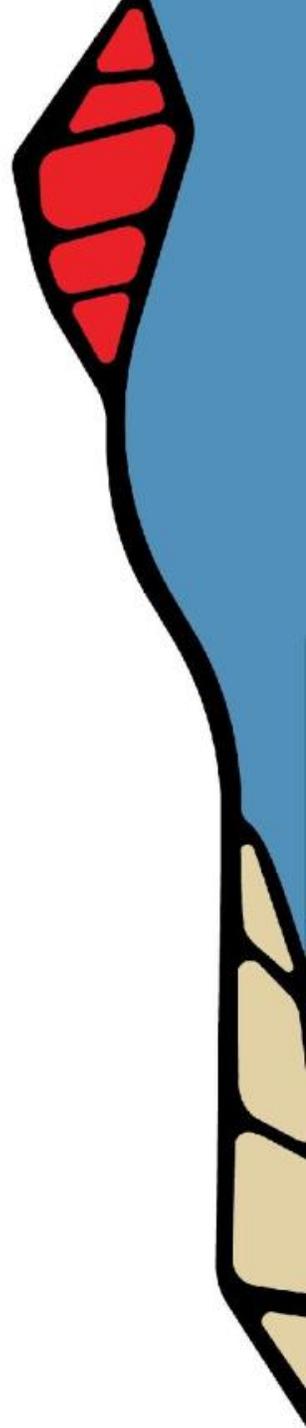
- Final / Completion/ Occupancy
  - Finish Carpentry done
  - Systems commissioned: water, sewer, heating, etc.
  - Move-in ready



# Quality



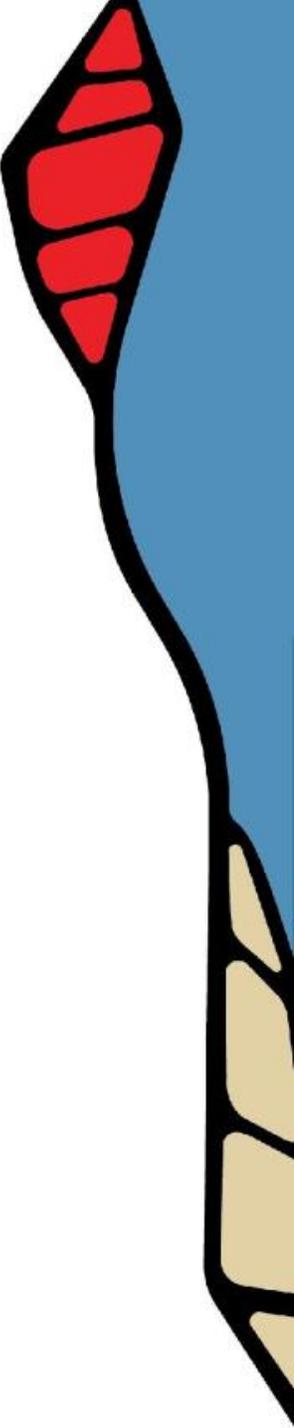
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CORPORATION



# Quality



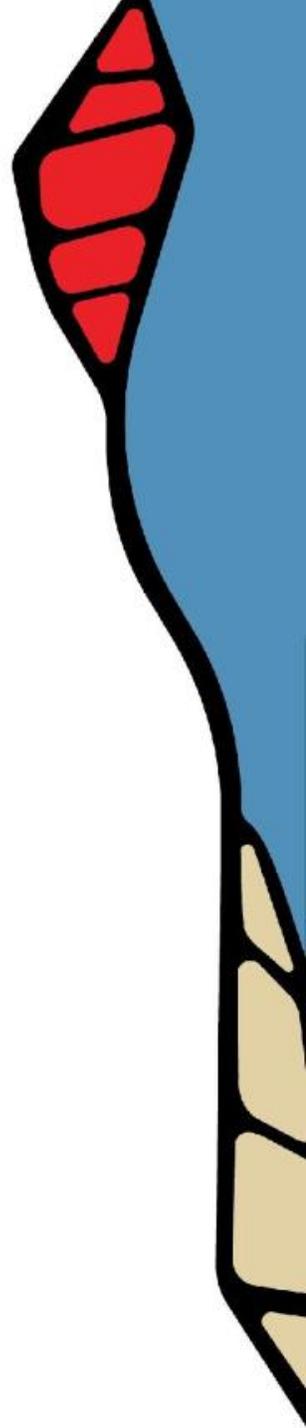
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# Quality



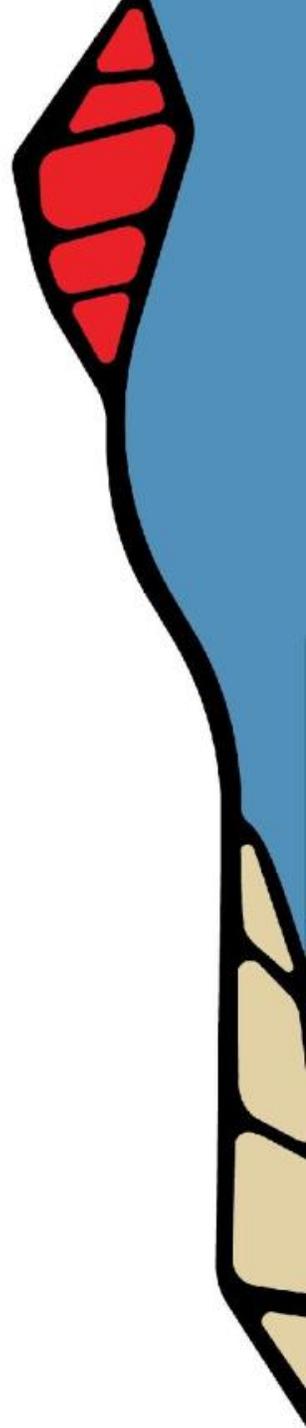
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# Quality

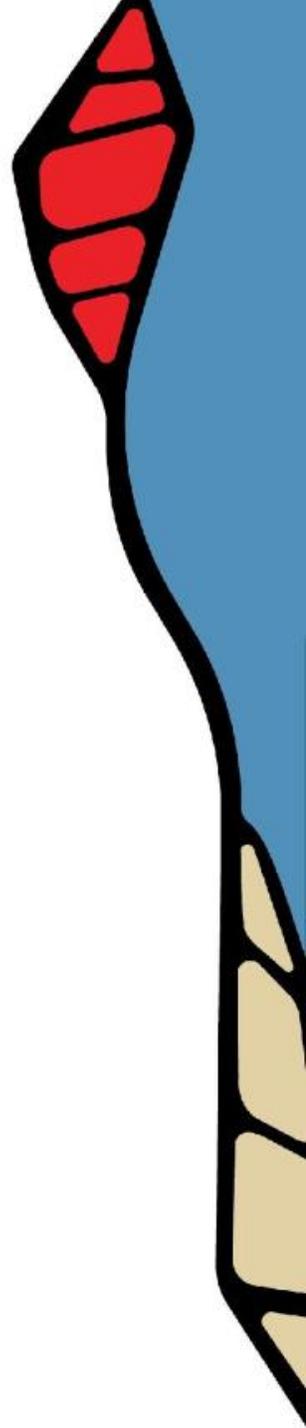


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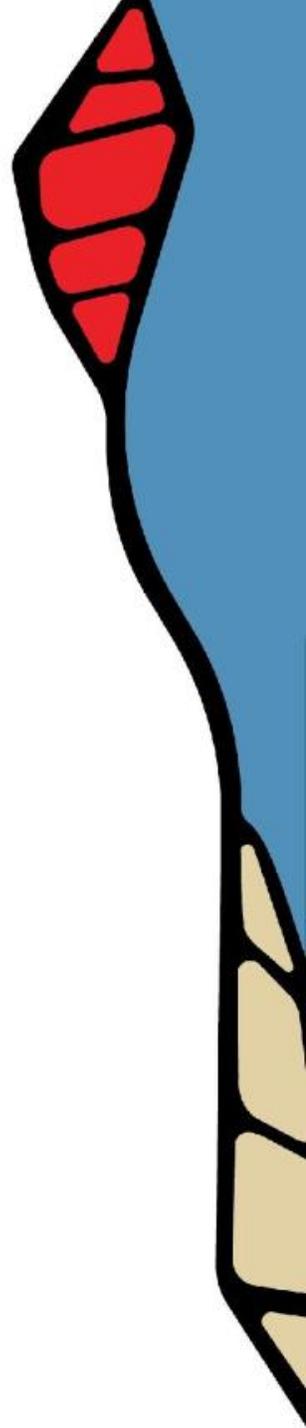
# Post - Construction

- Completion
- Final Payments (release holdback, etc.)
- Warranties & Details (who and time period)
- Equipment Manuals
- Tenant Selection
- Tenant Training
- Who is responsible for what?



# Project Completed

- Debrief / Review
- How did we do?
- What can we do better or differently next time?
- Record Keeping



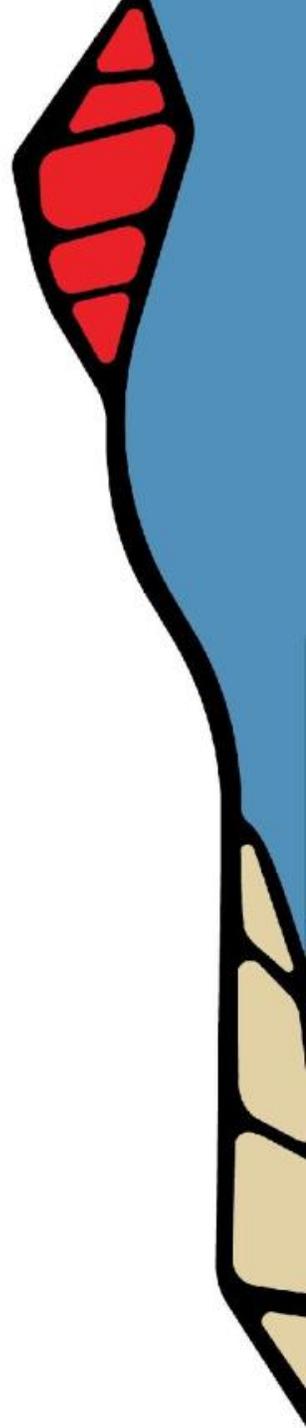
# Thank you

Ontario First Nation Technical  
Services Corporation

Website: [www.ofntsc.org](http://www.ofntsc.org)



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# Questions?



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