# Cinder Pond Marina Office

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# Existing Conditions

**Summary of Soils Report**
**Coleman Engineering**

- Two borings
- Groundwater ~4’
- Bedrock ~20’
- Uncontrolled soils ~16’
  - Silty sand
  - Gravel
  - Black cinders

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# Existing Conditions

## Foundation Design Options

**Coleman Engineering**
**SP Engineering**

### Mat Foundation

Pros

- Least expensive
- Less excavation
- Less impact on existing soils

Cons

- Building “floats” on existing soils
- Susceptible to compaction and sinking

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# Existing Conditions

## Foundation Design Options

**Coleman Engineering**
**SP Engineering**

### Shallow Foundation

Pros

- Remove bad soil ~16’
- Base soil strength controlled
- Firm base for building
- Shorter footings / shallow foundation

Cons

- Costly water control
  - Sheet piles
  - Dewatering
- Remove soils down to ~16’
- Removed soil to a treatment facility
- Soil shifting due to silty sand
- Vibratory compaction destabilize surrounding soils

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# Existing Conditions

## Foundation Design Options

**Coleman Engineering**
**SP Engineering**

### Deep Foundation

Pros

- Remove less soil

Cons

- Same water issues
- Bad soil removal
- Little savings
- Heat building year-round

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# Existing Conditions

## Foundation Design Options

**Coleman Engineering**
**SP Engineering**

### Drilled Pier Foundation

Pros

- Little impact on existing soils
- Piers rest on bedrock
- Stable foundation

Cons

- Cost per caisson

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# Existing Conditions

## Foundation Design Options

**Coleman Engineering**
**SP Engineering**

### Helical Pier

Pros

- Little impact on existing soils
- Piers run to meet structural requirements
- Stable foundation
- Less costly than Drilled Piers

Cons

- More piers required
- Cost per pier

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# Building Design – Floor Plan

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# Building Design – Schematic Option A

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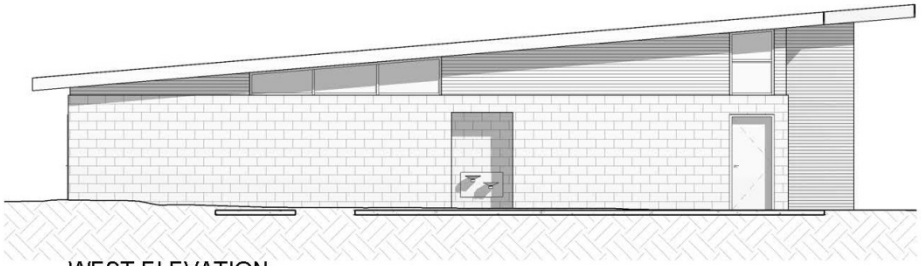
# Building Design – Schematic Option A



WEST ELEVATION

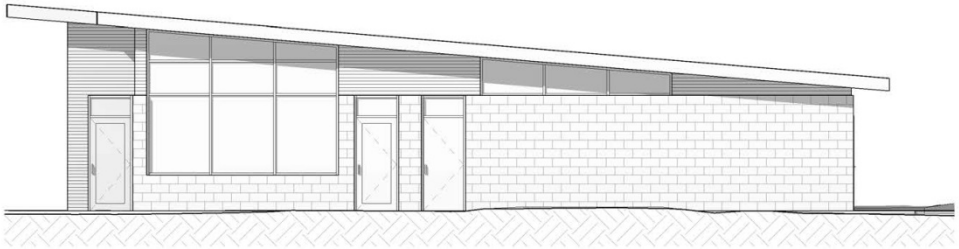
SCALE: 1/8" = 1'-0"

VIEW FROM SOUTHEAST

SCALE:

SOUTH ELEVATION

SCALE: 1/8" = 1'-0"



EAST ELEVATION

SCALE: 1/8" = 1'-0"

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# Building Design – Schematic Option B

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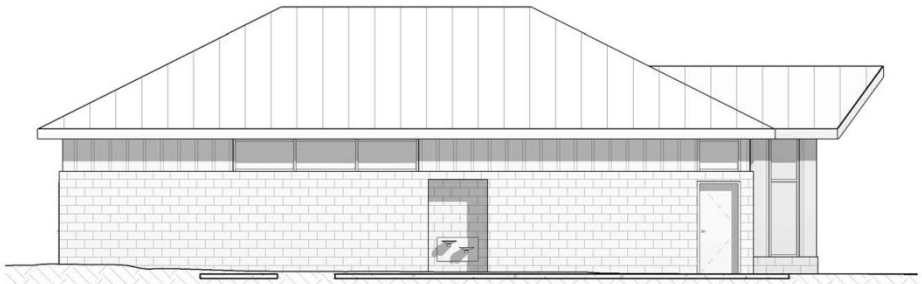
# Building Design – Schematic Option B



WEST ELEVATION

SCALE: 1/8" = 1'-0"

VIEW FROM SOUTHEAST

SCALE:

SOUTH ELEVATION

SCALE: 1/8" = 1'-0"

EAST ELEVATION

SCALE: 1/8" = 1'-0"

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# Building Design – Schematic Option C

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# Building Design – Schematic Option C

WEST ELEVATION

SCALE: 1/8" = 1'-0"

VIEW FROM SOUTHEAST

SCALE:

SOUTH ELEVATION

SCALE: 1/8" = 1'-0"

EAST ELEVATION

SCALE: 1/8" = 1'-0"

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# Conclusions & Next Steps

## Summary

- Considerable study placed on the site requirements
  - Site Conditions
  - Foundation Options
- Floor plan meets the program requirements
- Elevation scheme needs to be selected
- Material color selections will be offered at the next meeting

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