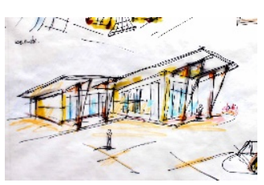
Tsilhqot’in

Emergency Centre Feasibility Study

DRAFT 1.0 | 03.19.20



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1.0 INTRODUCTION

In 2017 over 1.2 million hectares of land was burnt In British Columbia in the worst wildfire season in recent memory. A Provincial State of Emergency was declared that lasted 70 days and resulted in the evacuation of over 65,000 people. Due in part to the remoteness of the Chilcotin region, the Tsilhqot'in communities experienced delayed and unequal wildfire protection. Yet the communities were significantly impacted by two of the largest wildfires: the Hanceville Fire and the Plateau Fire. The experiences of 2017 clearly identified the vulnerability of the communities. The Tsilhqot'in Report – 2017 Wildfires (the Report) very eloquently and in detail, articulated the events of 2017 and identified the continuing challenges facing the communities. The report itemizes 33 Calls to Action of which the first is: "Develop a centralized Indigenous-led Emergency Center in Tsilhqot'in territory with satellite sites to connect isolated or remote communities with advanced safety and emergency equipment".

The Tsilhqot'in Nation has successfully negotiated the first Collaborative Emergency Management agreement of its kind in Canada: a tripartite agreement between the Tsilhqot'in Nation, Canada and the BC Government. The Agreement outlines the commitment "to build on the strengths and expertise of the Tsilhqot'in Nation to improve Emergency Management and support the creation of a new model of excellence in Emergency Management and Wildfire Management that can serve to inform other Indigenous communities, British Columbia and Canada"

In dealing with any threatening emergency, the core responsibility of the authorities is to effectively mitigate the threat to public safety while ensuring the wellbeing of the community members. Responding comprehensively to an emergency requires a clear command structure responsible for the deployment of the required resources. Sufficient equipment and ongoing training are critical. Looking after the community requires providing for the wellbeing of each member either within the community or at a safe evacuation site.

2.0 INFRASTRUCTURE ASSESSMENTS FROM TSILHQOT'IN EXPERIENCE IN 2017

The experiences of 2017 as articulated in the Report, clearly described three major challenges that the Tsilhqot'in communities faced:

1) The local knowledge and expertise of the communities was ignored in addressing the emergency,

2) The communities have extensive knowledge of the land, but lacked sufficient personnel training and equipment to deploy fire suppression at the onset of the fires

3) When the community's members were evacuated, they were dispersed and sent to facilities that were not capable of addressing their needs.

This study looks to address these needs through the development of Indigenous-led Emergency Response Centers, proposing three separate types of facilities that address the shortfall experienced in 2017, the facilities include:

1) Evacuation Centres (EC)

2) a Training Centre (TC) and,

3) an Emergency Operations Centre (EOC)

2.1 EVACUATION CENTRES

The Tsilhqot'in Nation is responsible for their citizens and communities. It is the Nation's duty to protect the Tsilhqot'in citizens, property and territories. An adequately funded emergency management structure will provide community-level planning, coordination and training through a centralized association base upon Tsilhqot'in values and needs.

In 2017 the evacuated Tsilhqot'in citizens were scattered into evacuation centres in different cities. For some, it was the first time they had travelled to larger urban centres. The evacuation triggered memories of forcible removal and residential school traumas. Separation from family and community was extremely stressful without the normal emotional, social and economic support available within the communities. Within the Nation are elders who speak only the Tsilhqot'in language. Access to services at evacuation centres was severely hindered by language barriers and literacy challenges. The events of 2017 also highlighted the vulnerabilities of the community with the lack of commercial grade air filtration systems in community buildings thus endangering personnel to prolonged smoke exposure.

Evacuation Centres would provide culturally appropriate services to citizens. Redundancy and resilience are critical in ensuring the Nation has the ability to care for its citizens irrespective of the nature and severity of the emergency. The provision of several evacuation centres within the diverse territory of the Nation would ensure that needed services would always be available to the Tsilhqot'in and surrounding communities

2.2 TRAINING CENTRE

The Report highlights that the Tsilhqot'in Nation are not sufficiently funded for emergency preparedness and were disadvantaged by the lack of dedicated resources for continual planning, training and testing. The communities were forced to respond to the fires without adequate resources. During 2017, the residents were compelled to fight the fires for many days without external assistance. Crucial decisions about firefighting strategies were made without meaningful consultation with the communities who have the knowledge of the territory and who were most impacted by the consequences.

In 2017 the Government failed to properly integrate Tsilhqot'in knowledge and expertise into emergency preparedness. Participation and input by Nation members was dismissed or ignored. First Nation citizens are an invaluable resource with an abundance of knowledge of the lands that make up their communities. Federal and Provincial roles in emergency management did not adequately support the Tsilhqot'in Nation in playing a leadership role in emergency management within their territory. The government failed to reconcile their methodology with the inherent responsibilities and value system that drive First Nation governance. The Tsilhqot'in are responsible to protect their lands, resources and traditional wellbeing which is exemplified by an intricate value-based decision-making process.

The Training Centre will enhance the on-the-ground emergency response within the Tsilhqot'in territory. Investment in training and employment of First Nation responders and emergency management positions will ensure that local First Nation knowledge is retained and utilized. The TC would enable Tsilhqot'in crew to be level 1 certified and essentials of operating and maintaining emergency equipment would be provided. The training would be multifaceted to include a comprehensive role in emergency response that would enhance public safety for the Tsilhqot'in and surrounding communities. Training would include skills and equipment to deal with a comprehensive set of emergencies such as fire fighting, high level and rapid water rescue and first response capabilities. With the extensive fire damage to the forest, water retention by the land has been significantly diminished thus increasing the likelihood of floods.

2.3 EMERGENCY OPERATIONS CENTRE

The Report clearly articulates how the emergency operations strategies employed by the Tsilhqot'in communities during 2017 were on par or exceeded that provided by the province. Each community had a comprehensive and effective emergency plan that was reflective of their traditional governance structures and based on extensive knowledge of the territory.

In 2017 the lack of recognition of the jurisdictional authority of the Tsilhqot'in, resulted in the communities facing significant hurdles when trying to provide appropriate responses to the ever-changing forest fire conditions. In many cases the lack of clear jurisdictional authority prevented the communities in providing quick responses to forest fires thus significantly exasperating the fires impact. The communities lacked caches of wildfire equipment to efficiently support fire operations. The vulnerability of communication systems severely hampered efforts to provide emergency services to the community members. Emergency

management in Canada is an inter-jurisdictional endeavour. Although primarily a provincial responsibility, emergency management includes the federal and municipal levels. Since First Nation Lands fall within federal jurisdiction, they are not subject to provincial emergency response regimes.

First Nation citizens are an invaluable resource with their abundance of knowledge of the lands. Enhancing the Nation's capacity to respond to emergencies by establishing a dedicated EOC will provide enhanced safety to the Tsilhqot'in and surrounding communities.

3.0 EXISTING EMERGENCY SERVICES IN THE TSILHQOT'IN

At present there are limited resources for immediate response within the Chilcotin land base (of the Cariboo Regional Fire District) to address the forest fire suppression needs that this region is now facing on an annual basis. The Chilcotin, over the past three major forest fire seasons, has experienced an increasingly high volume of forest fire loss and an increasing number of fires of note.

As part of this study, we have reached out to the different departments and organizations that are working in the emergency management sector within the larger region, to make full assessment on the services within the region. This engagement is ongoing and will continue to build our depth of understanding for making our recommendations.

The only existing emergency services anywhere in the Chilcotin area are the BCWS Wildland Firefighting capabilities. At their present capacity, they are strained to provide adequate support. Within the six Tŝilhqot'in communities there are no structural firefighting capabilities, in the form of either equipment or human resources. Each community is therefore functionally 120 years behind similar sized municipalities off-reserve. There are no fire apparatus and no functional fire halls. To fill this gap communities are forced to rely on an ad-hoc fire brigade-style service comprised exclusively of untrained citizens using water systems not designed for fire flow. In many cases these efforts are hampered further with a lack of hoses and/or nozzles. Additionally, there are no rescue services (e.g.: auto extrication) one would expect in any modern community. Unfortunately, these deficiencies extend beyond the community's boundaries and into the Cariboo Regional District areas of the Chilcotin. There are no fee-for-service opportunities as no fire departments have been organized there as well.

These operational shortfalls are addressed within the TNG Emergency Services work plan. Physical infrastructure recommendations are included within the document to fully realize the commitments of the Collaborative Emergency Management Agreement statements to "enhance the role and capacity of Tŝilhqot'in peoples in Emergency Management" and "support the Tŝilhqot'in Nation and Tŝilhqot'in communities as true partners in Emergency Management, including preparedness, response and recovery activities."

The existence of the facilities that are envisioned for Tsilhqot'in Emergency Centre would benefit not only the First Nation communities but also all citizens living in the area.

4.0 PROPOSED FACILITIES OVERVIEW

4.1 CONCEPTUAL DESIGN

Six design charrettes meetings were held with each of the Chiefs and other representatives for each of the communities. During the wide-ranging discussions concept designs were developed in discussion with each of the communities for each of the three building typologies: Emergency Operations Centre, Training Centre and Evacuation Centres.

From the sketches concept plans were drawn. The drawings accurately reflect the ideas developed during the charrettes. Initial assessment was done for building code requirements including building area, number and distance to exits, health requirements, accessibility and sustainability. The sketches and drawings are included in this report.

4.2 BUILDING SERVICES INDEPENDENCE

The failure of the communications infrastructure in 2017 presented major challenges during the fire evacuations and suppression efforts. Redundancy and robustness is critical in the communications systems. Each facility must have dedicated and multiple communication systems that remain operational during the emergency events.

While it is acceptable that the proposed facilities may take advantage of existing infrastructure in each of the communities, each building must be capable of maintaining operations under any circumstances. All services must be either independent or have backup systems that ensure the ongoing operations of the facility should any or all of the existing services fail. From a design point of view, the facility must be capable of operating “off the grid”. Alternative power supplies such as wind and solar are ideal in addition to an emergency generator. Water supply and sewage treatment are critical for maintaining facility operations. Each building should also have air filtration that has the capacity to maintain the habitability of the facility during fire events.

4.3 SITE SELECTION CRITERIA

Evacuation Centres

The EC’s should be located adjacent to existing communities. A large flat site is required to accommodate the ancillary functions such as RV parking, camping, livestock pens and other related cultural activities. Proximity of natural features such as rivers is desired for cultural activities. The site must mitigate risks from forest fires and flooding. In conjunction with the design charrette meetings three possible sites were visited. South of Anaham is a large site situated between Highway 20 and the river. The land consists of several benches stepping down from the highway to the river. The site has sufficient area with beautiful views of the river. Located on the west side of the river and north of the village of ?Esdilagh is a large field that would be suitable as an evacuation centre. The land is flat and of sufficient size. Situated near the site of the old works yard is a large flat site just south and west of the village of Xeni Gwet’in. The site is flat and of sufficient size with spectacular views of the surrounding mountains. Additional site investigations will be done in later stages of the feasibility study.

Training Centre

The TC is a large facility and requires sufficient flat space for vehicular movement and parking. With a large staffing component, the centre needs to be centrally located. Vehicular access that accommodates large service vehicles is critical. Ample parking is required. Proximity to nearby forests would be advantageous for training purposes. The site must mitigate risks from forest fires and flooding. The TC can be situated adjacent to one of the EC's mentioned above. The two most appropriate communities for the TC are Anaham and Toosey. Both are centrally located with good access from Highway 20. Bothe communities have appropriate sites that would be suitable for the facility.

One possible site for the TC is the Riske Creek Forestry Complex. The site is approximately 60 acres in size and has been underused since the loss of a co-located hose facility in 2017. Originally it was a supply depot and housed up to 40-50 forestry firefighters as well as several support staff. It continues to have value to the Ministry in that it is strategically located on the east end of the Chilcotin plateau. There is also value to the Department of National Defence in that there is a gravel air strip which is just south of their Chilcotin Training Area. On the property is an existing two-story office building (approximate 1200 sq. feet on the main floor and 1200 sq. feet on the upper level). The current state of this building is unknown. Two wells provide water and overhead services remain in place. It is not known if the existing sewage treatment system is operable. The suitability of the site is being evaluated in a separate report being prepared jointly by the Collaborative Emergency Management Agreement working group consisting of the Provincial Government, the Tsilhqot'in National Government and the Federal Government of Canada. Cooperation and coordinating between the groups preparing the reports are ongoing.

Emergency Operations Centre

The EOC should be centrally located with easy access to main roads. It can be adjacent to the TC however due to different staffing requirements; it is important that the centre act autonomously from the TC. Ideally the site should be flat with ample space for parking. The EOC becomes operational when needs require. On a daily basis the building would be used for EOC training and other emergency training for incident command. The two most appropriate communities for the EOC are Anaham and Toosey.

In the report mentioned above regarding Riske Creek, the existing facilities at Alexis Creek are also being evaluated. Within the building at Alexis Creek are both the BC Wildfire Service Chilcotin Zone Complex and the Alexis Creek Resource District office. BC Wildfire Service have permanent staff in this building on a year-round basis with additional seasonal staff working in this location from April to October each year. The Resource District have permanent staff working out of the building year-round. The building is approximately 21,500ft2 on two levels
At this time, it is understood that there is an opportunity to share a portion of the upper floor with the TNG to establish an Emergency Operations Centre for the TNG Communities and to provide workspace for the CEMA TNG implementation Team. The evaluation of the suitability of this facility is ongoing. Again, there is cooperation and coordinating between the groups preparing the reports.

4.4 PROJECT PHASING

The need for three different types of Emergency centres has been identified by criteria listed in section 2.0 of this report. These facilities represent a significant investment. As it is unlikely that all the desired facilities can be developed simultaneously, it is proposed that the project proceeds in two phases.

PHASE ONE:

The Emergency Operations Centre EOC is a critical component in ensuring that the communities are adequately prepared to protect and care for their community members during an emergency. In addition, the need for the Training Centre is immediate such that community members are adequately trained to ensure the safety of the individuals and the communities. Redundancy and resilience is required for the evacuation centres. The evacuation Centre must also serve the vast geographic area that makes up the Tsilhqot'in lands. Phase One will include the EOC, Training Centre and three Evacuation Centres. One centre should be located centrally with the other two providing geographic coverage.

- EOC: Recommended location for Emergency Operations Centre in either Anaham or Toosey
- Training Centre: Recommended location for Training Centre in either Anaham or Toosey
- Evacuations Centres in Anaham, ?Esdilagh and Xeni Gwet'in

PHASE TWO:

Phase Two is proposed to include Evacuation Centres for the three remaining communities.

- Evacuations Centres in Yunesit'in, Tsi Deldel and Tl'esqox

5.0 BUILDING PROGRAMS DEVELOPMENT

5.1 EVACUATION CENTRES [**EC**]

The number and location of the evacuation centres require robustness and redundancy in order to make sure that the necessary facilities are available for the Nation's citizens irrespective of the scale, location and nature of the emergency. A minimum of three centres is recommended in the short term. Eventually all six communities should have an evacuation centre. For optimal use and design of the centres, an evacuation centre would be a facility that the community uses on a year-round basis. As and when needed, the role of the centre would adapt and expand to accommodate the evacuees.

Architectural Program

- Culturally inspired spaces – long house, pit house
- Commercial Kitchen & Food Storage
- Toilets/showers
- Large Hall
- Storage
- Equipment storage
- Enhance air filtration systems to ensure interior air quality

Exterior Program

- Campground – wall tents
- RV sites
- Arbour
- Sweat Lodge
- Pens for livestock
- Facilities for pets
- Nature walk/cultural activity programs

5.2 TRAINING CENTRE **[TC]**

A dedicated TC for the Tsilhqot'in would be a year-round facility providing equipment and training on an ongoing basis for approximately 16 to 20 trainees. Level one certification would be provided. Equipment storage and maintenance would also be performed in the facility

Architectural Program

- Trainees of 16 -20
- Staff of 5
- Equipment storage bays – drive through (6) (Brian to provide list)
- Dirty equipment storage (by equipment bays)
- Hose drying tower
- Kitchen & Food Storage
- Sleeping facilities for trainees
- Showers
- Laundry
- Toilets
- Meeting rooms
- Lecture rooms
- Equipment storage

5.3 EMERGENCY OPERATIONS CENTRE [**EOC**]

In 2017 during the crisis a temporary emergency operations centre was established, governed by the Tl'etinqox Emergency Operations Plan (TEOP). People were assigned to four managerial positions within: Operations, Planning, Logistics and Finance. In addition, the Incident Commander and Emergency Operations Centre Director were appointed. From this experience the following assessment has been made for staffing and structure requirements for a permanent facility.

The Tsilhqot'in EOC would operate with between 20 and 30 staff depending on the nature and severity of the emergency. There is the possibility that the Chilcotin Forest District facility at Alexis Creek would be available. The TNG is currently working with the Ministry to assess the suitability of that facility. As part of this study a design for a custom design facility is also presented.

Architectural Program:

- Large Operations - Communication room
  - 30 computer workstations (Operations, Planning, Logistics and Finance
  - 4 private office spaces
  - Mapping walls
  - Overhead projector
  - Map tables and storage
- Kitchen & food storage
- Sleeping facilities for staff (rotational)
- Showers
- Toilets
- Quiet/meeting room(s)

6.0 FACILITIES DESIGN DEVELOPMENT:

Included in this report are the sketches done during the design charrettes. The accompanying drawings are derivative of the sketches. They are intended to be seen as a summary of the discussions held and not as distinct designs. They are a first step in opening the conversation around the development of emergency facilities. The drawings provided reflect the conversation for programming needs that occurred at each specific design charette. The intent is that the resulting designs are a program building exercise for each of the buildings; with the potential for cross pollination of programming and space programming ideas that can be included and adapted into another as desired.

6.1 TL’ETINQOX (ANAHAM) | Training Centre & Evacuation Centre

The design of the Evacuation Centre finds inspiration from the traditional long houses. The building would have an earth floor and the ability to have open fires. Adjacent kitchen and food storage serve the cultural activities. An attached wing of the building contains a large multipurpose room with associated toilets and shower facilities. The Training Centre is of a similar architectural character and contains a gym and drive-through emergency vehicle bays. Accommodations for 20 trainees is provided. The site of the evacuation centre has space for RV parking and wall tents. An arbour is available for cultural activities with trails along the river. The facility would be self sufficient through the use of solar and wind power. Agricultural sprinklers can be used to ensure the surrounding lands are moist and fire resistant.

Refer to drawings:

A101 TL’ETINQOX (ANAHAM) OVERALL SITE PLAN

Drawing A101 is an example site plan which shows a Training Centre, Evacuation Centre and associated functions. The purpose of this drawing is to illustrate a possible site configuration containing all the programming elements that were discussed during the charrettes. Access is provided from the highway located along an existing trail. The Training Centre is located on the upper bench adjacent to the hills to the east. The Evacuation Centre is on the lower bench adjacent to the river. A loop road connects the RV site with the wall tents. A community garden and greenhouse is provided for food security. Vehicle storage and a gas station is provided as well as livestock pens. A trail follows adjacent to the river leading to a Arbour.

A103 TL’ETINQOX (ANAHAM) TRAINING CENTRE SITE PLAN

A103 shows a loop access road to the Training Centre with the drive-through emergency vehicle bays located at the north end of the building. Parking for 118 vehicles is provided.

A201 TL’ETINQOX (ANAHAM) TRAINING CENTRE GROUND FLOOR PLAN

A201 is the ground floor plan of the Training Centre. A high-school size basketball court gym is located in the middle of the building. Toilets, change rooms, showers and kitchen are on one side of the gym with storage and exercise rooms opposite. Adjacent to the gym is the dining hall, classrooms and common spaces. At the other end of the building are the vehicular bays and maintenance. A central entrance leads directly into the gym.

A202 TL’ETINQOX (ANAHAM) TRAINING CENTRE SECOND FLOOR PLAN

The second floor of the Training Centre contains rooms for the 20 trainees. A central lobby has a viewing platform that overlooks the gym. A lounge opens onto the common room on the ground floor.

Gross Building Area 32,933 ft2

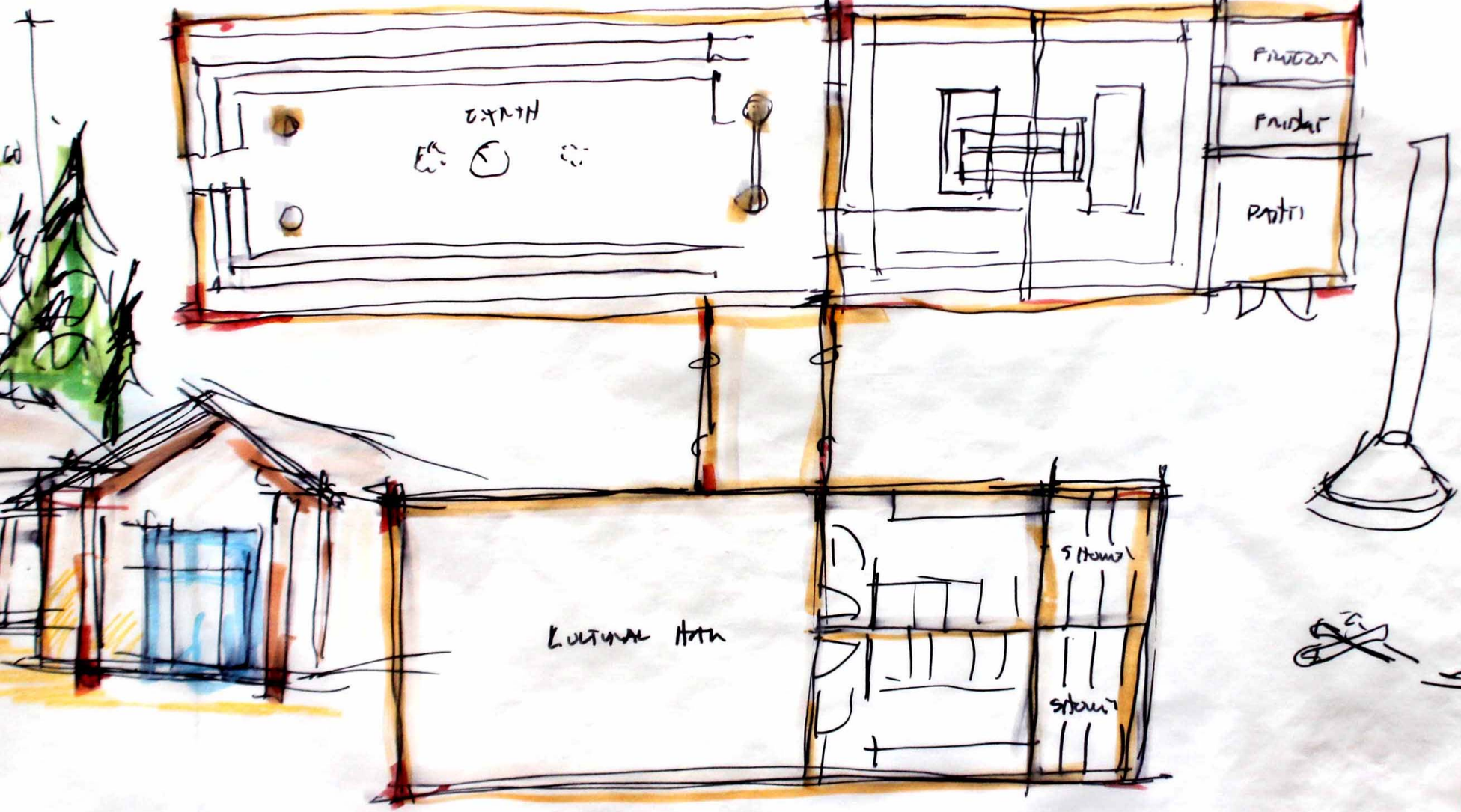
At a rough estimation cost of construction ranging between $400.00/ft2 to $600.00/ft2

Construction Cost range of $13.2 M to $19.7 M.

Project Soft Costs for Design: Architectural and Engineering at 9-11% total of Construction Costs

Construction Documents range $1,188,000.00 – $2,364,000.00

6-8 months of drawings and 18-24 month of construction



EVACUATION CENTER

Tl'etinqox

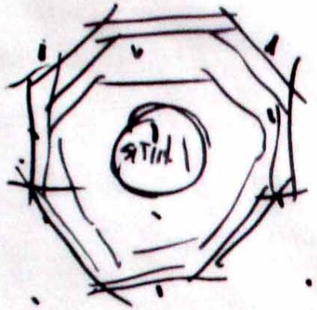
Nits'il?in

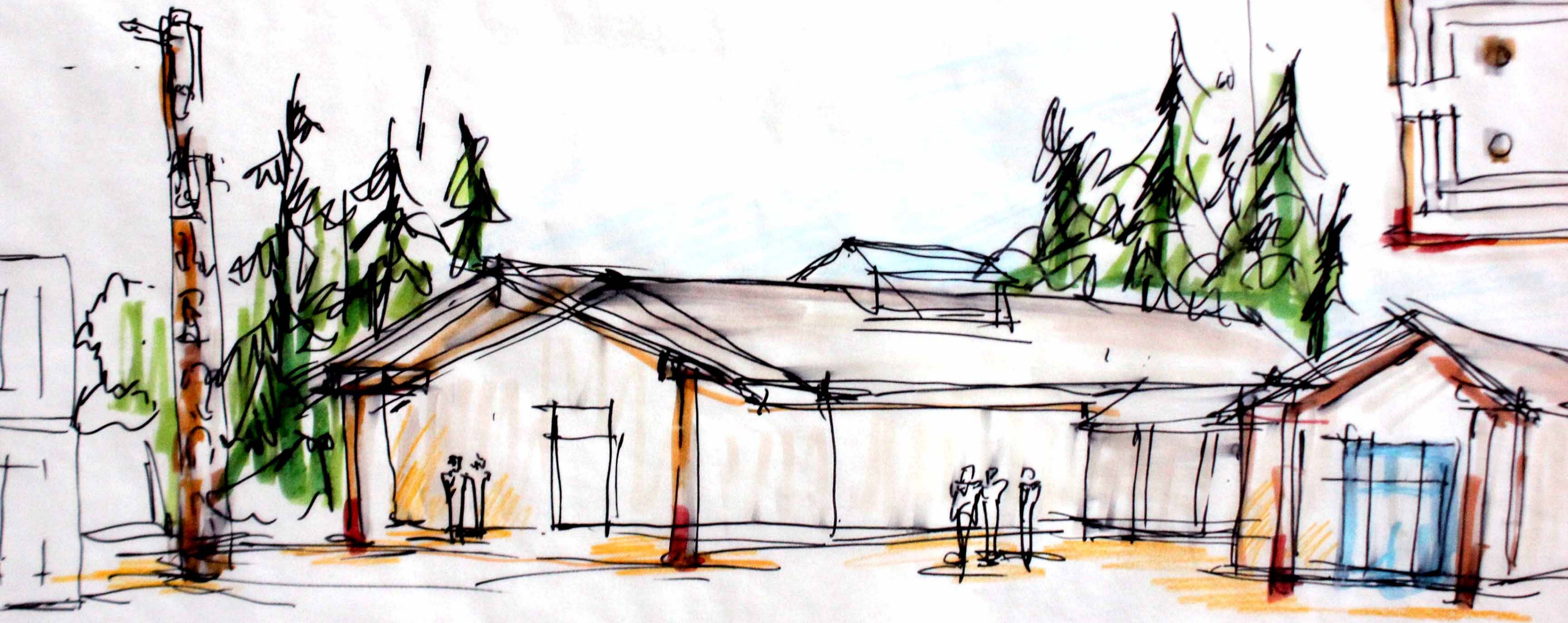
Ts'ilhqot'in

ANAHAM 1/4

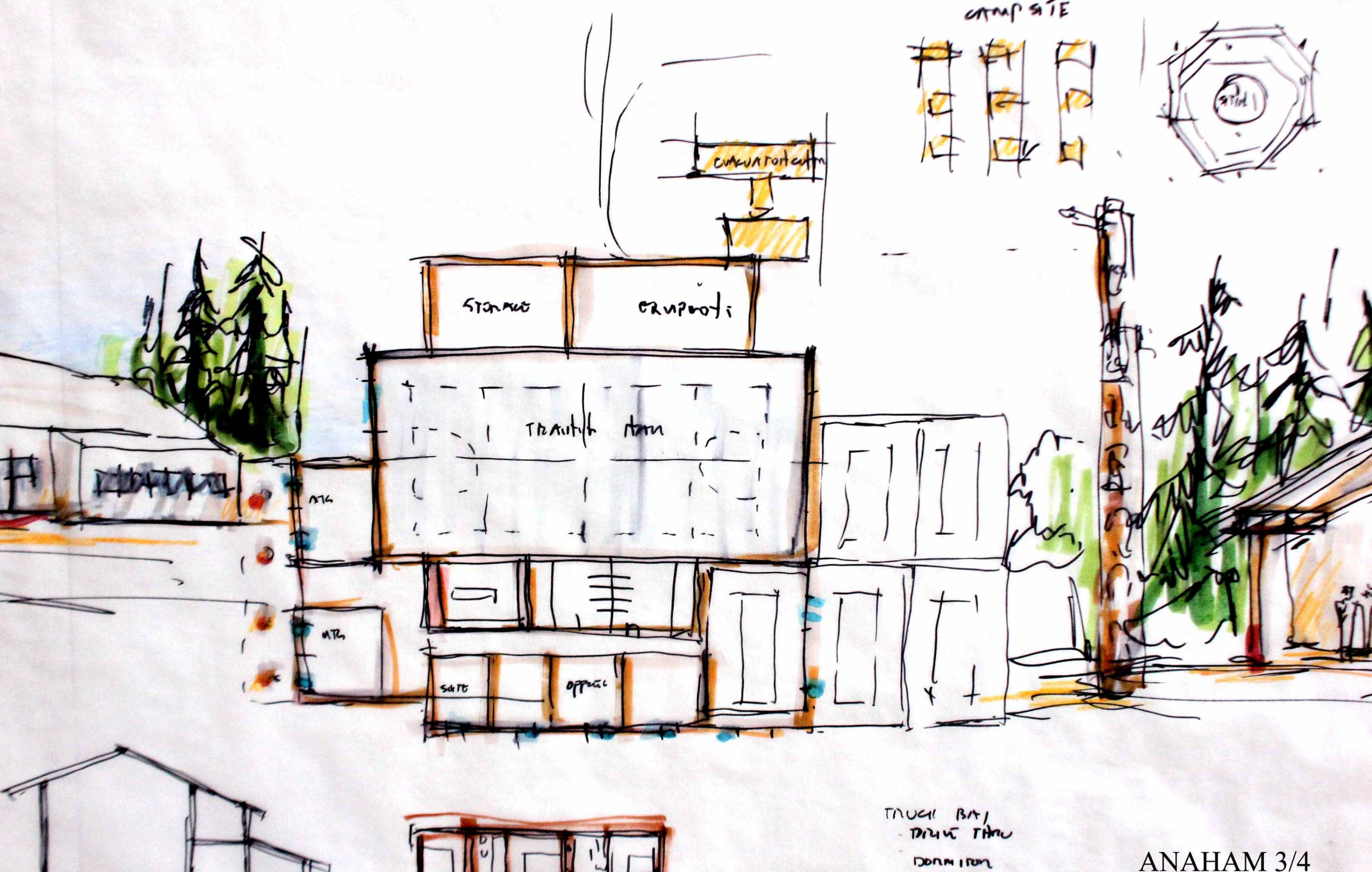
"Chief Chilcotin"

CAMP SITE





ANAHAM 2/4



ANAHAM 3/4

AGRICULTURAL SPRINKLERS

CAMP SITE

PUMP

RIVER

ANAHAM 4/4

DATE	REMARKS	NO.
06/20	ISSUED FOR REVIEW	△

DRAWING REVISIONS / ISSUES

Scott M. Kemp Architect
4427 River Road West, Ladner B.C. V4K 1R9
P: (604) 786-8150 F: (604) 952-6021
scott@smkarchitect.com

CONSULTANT

PROJECT

Tsilhqot'in National Government

Emergency Center Feasibility Study

Chilcotin, BC

DRAWING TITLE

TL'ETINQOX (ANAHAM)
OVERALL SITE PLAN

DRAWN	SMK/ML	DATE	JAN. 06, 2020
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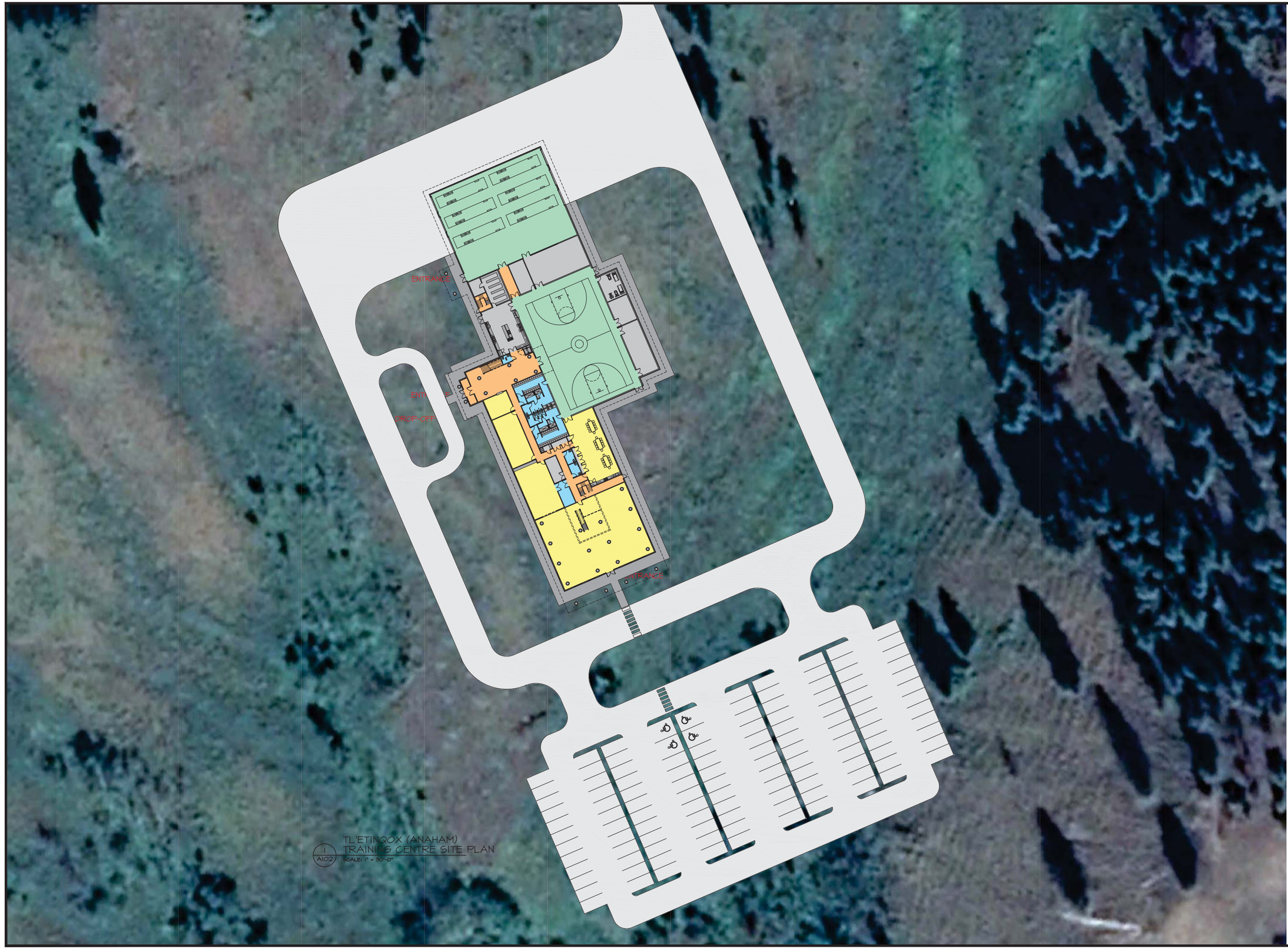
DESIGN		DRAWING No.	A101
CHK'D	-		
SCALE	AS SHOWN		



1 A102 TL'ETINQOX (ANAHAM) TRAINING CENTRE SITE PLAN
SCALE: 1" = 30'-0"

DATE	REMARKS	NO.
JAN. 06/20	ISSUED FOR REVIEW	1

DRAWING REVISIONS / ISSUES

Scott M. Kemp Architect
4427 River Road West, Ladner B.C. V4K 1R9
P: (604) 786-8150 F: (604) 952-6021
scott@smkarchitect.com

CONSULTANT

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Tsilhqot'in National Government

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TL'ETINQOX (ANAHAM) TRAINING CENTRE SITE PLAN

DRAWN	SMK/ML	DATE	JAN. 06, 2020
CHK'D	SMK	JOB No.	-
DESIGN		DRAWING No.	A103
CHK'D	-		
SCALE	AS SHOWN		

1 / A201 TL'ETINQOX (ANAHAM) TRAINING CENTRE GROUND FLOOR PLAN

SCALE: 3/32" = 1'-0"

GROSS FLOOR AREA = 28,419 FT2

DRAWING REVISIONS / ISSUES		
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P: (604) 786-8150 F: (604) 952-6021
scott@smkarchitect.com

CONSULTANT

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TL'ETINQOX (ANAHAM) TRAINING CENTRE GROUND FLOOR PLAN

DRAWN	SMK/ML	DATE	JAN. 06, 2020
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DESIGN		DRAWING No.	A201
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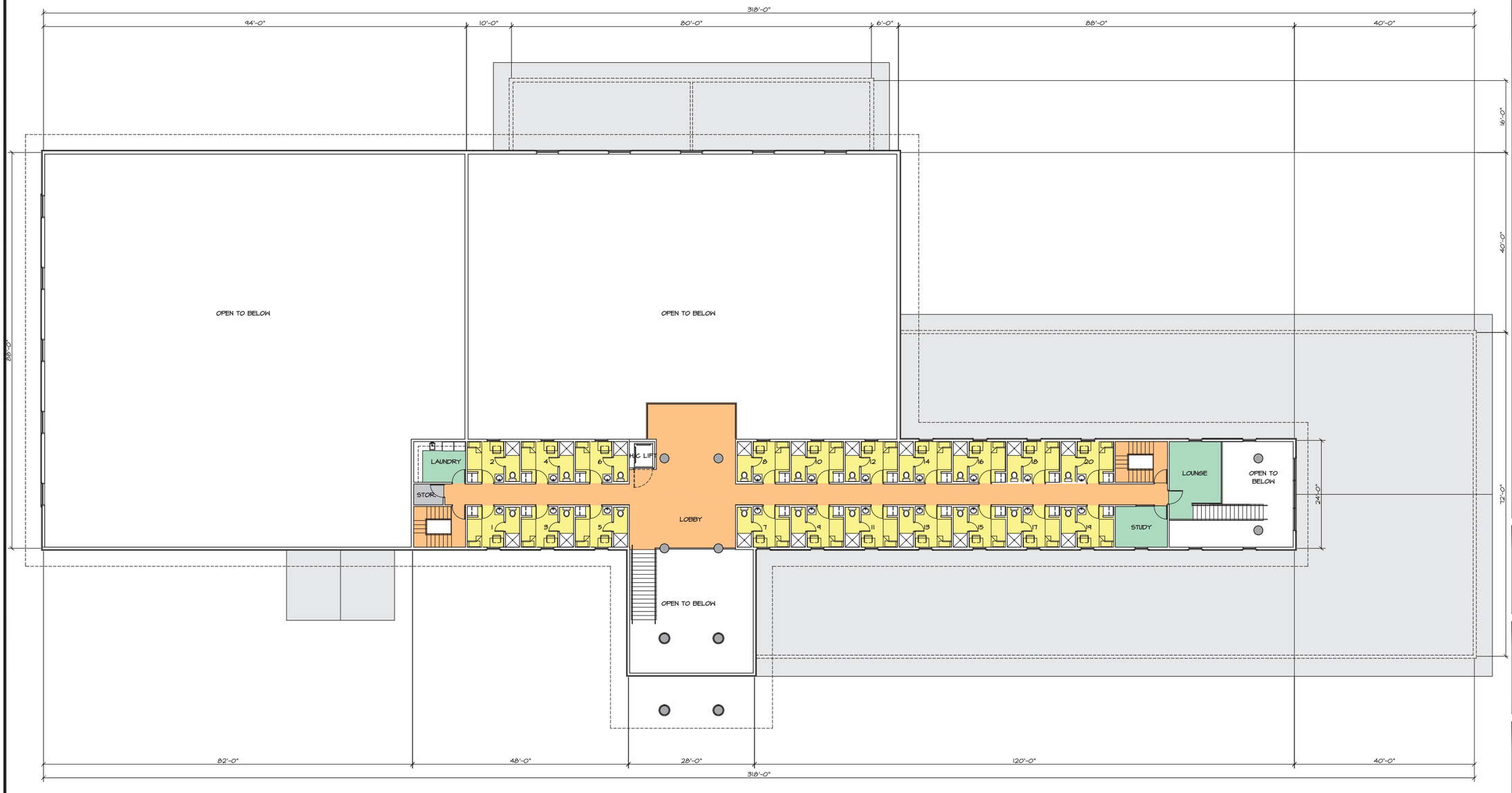

1 / A202 TL'ETINQOX (ANAHAM) TRAINING CENTRE SECOND FLOOR PLAN

SCALE: 3/32" = 1'-0"

GROSS FLOOR AREA = 4,514 FT2

DATE	REMARKS	NO.
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4427 River Road West, Ladner B.C. V4K 1R9
P: (604) 786-8150 F: (604) 952-6021
scott@smkarchitect.com

CONSULTANT

PROJECT

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DRAWING TITLE

TL'ETINQOX (ANAHAM)
TRAINING CENTRE
SECOND FLOOR PLAN

DRAWN SMK/ML	DATE JAN. 06, 2020
CHK'D SMK	JOB No. -
DESIGN	DRAWING No.
CHK'D -	A202
SCALE AS SHOWN	

6.1.B TL’ETINQOX (ANAHAM) | Evacuation Centre

A102 TL’ETINQOX (ANAHAM) EVACUATION CENTRE SITE PLAN

The site plan for the Evacuation Centre places the facility centrally on the site, and situates the central access to the Long House facing the river. The main entrance is serviced via a vehicular drop-off, with adjacent parking for 47 vehicles.

A203 TL’ETINQOX (ANAHAM) EVACUATION CENTRE GROUND FLOOR PLAN

A203 is the ground floor plan of the Evacuation Centre. The Long House contains an earthen floor with the central fire pit. A hallway and servery connect the kitchen facilities to the Long House. In the adjacent wing is a large cultural hall with toilet and shower facilities.

Gross Building Area is 16,723 ft2

At a rough estimation cost of construction ranging between $400.00/ft2 to $600.00/ft2

Construction Cost Range of $6.7 M to $10.0 M.

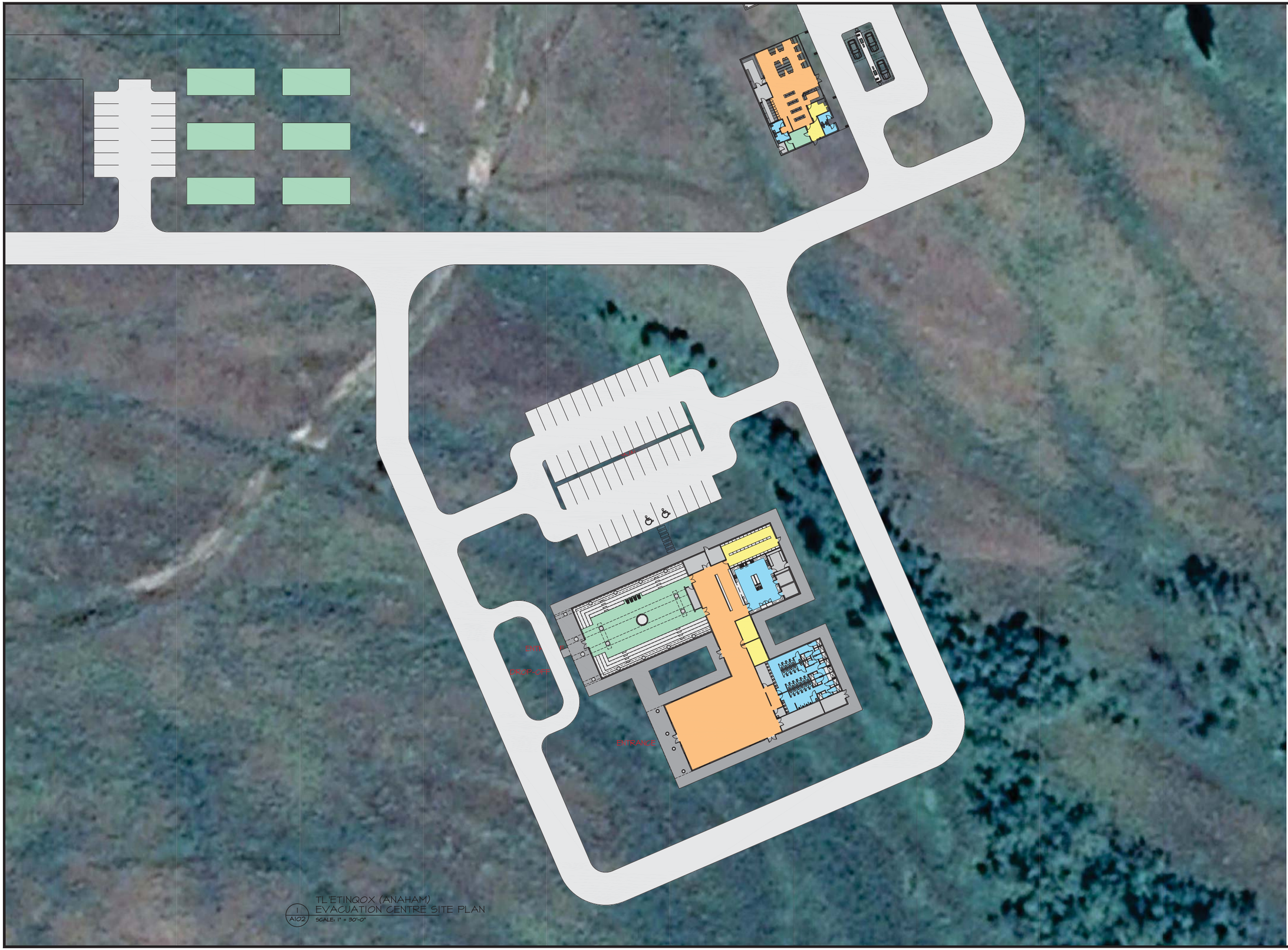
Project Soft Costs for Design: Architectural and Engineering at 9-11% total of Construction Costs

Construction Documents range $603,000.00 – $1,100,000.00

Anticipated schedule would be

4-6 months of drawings

14-18 month of construction



TL'ETINQOX (ANAHAM)
EVACUATION CENTRE SITE PLAN
1 / A102
SCALE: 1" = 30'-0"

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Emergency Center Feasibility Study

Chilcotin, BC

DRAWING TITLE

TL'ETINQOX (ANAHAM)
EVACUATION CENTRE
SITE PLAN

DRAWN	SMK/ML	DATE	JAN. 06, 2020
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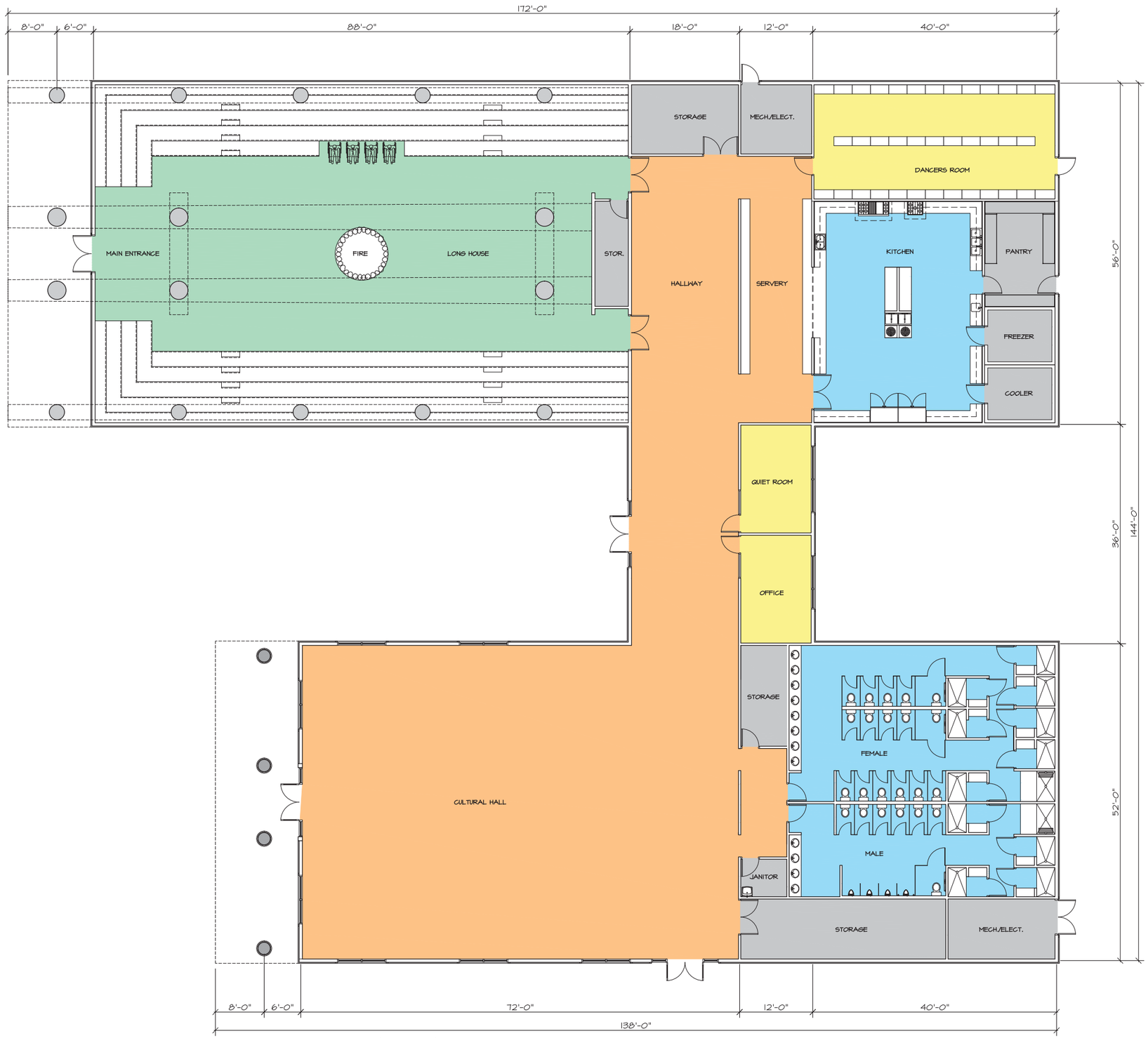
DESIGN		DRAWING No.	A102
CHK'D	-		
SCALE	AS SHOWN		



1 A203 TL'ETINQOX (ANAHAM) EVACUATION CENTRE GROUND FLOOR PLAN

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

GROSS FLOOR AREA = 16,723 FT2

DATE	REMARKS	NO.
JAN. 06/20	ISSUED FOR REVIEW	1

DRAWING REVISIONS / ISSUES

Scott M. Kemp Architect
4427 River Road West, Ladner B.C. V4K 1R9
P: (604) 786-8150 F: (604) 952-6021
scott@smkarchitect.com

CONSULTANT

PROJECT

Tsilhqot'in National Government

Emergency Center Feasibility Study

Chilcotin, BC

DRAWING TITLE

TL'ETINQOX (ANAHAM) EVACUATION CENTRE GROUND FLOOR PLAN

DRAWN	SMK/ML	DATE	JAN. 06, 2020
CHK'D	SMK	JOB No.	-
DESIGN		DRAWING No.	A203
CHK'D	-		
SCALE	AS SHOWN		

6.2 ?ESDILAGH (ALEXANDRIA) | Evacuation Centre

The Evacuation Centre would need a helipad, gas station and vehicle storage with associated equipment storage. Facilities for the care of livestock and pets are essential. Food security is necessary with large coolers and freezers required as part of the kitchen. A daycare would be ideal in addition to health and first aid facilities. A clean air room would provide a healthy environment for community members. Because of the remoteness of the community, accommodation for staff is necessary. Towards the end of the charrette the suggestion was made to shape the building based on the logo - an eagle picking up a salmon. A circular healing room is culturally appropriate.

Refer to drawings:

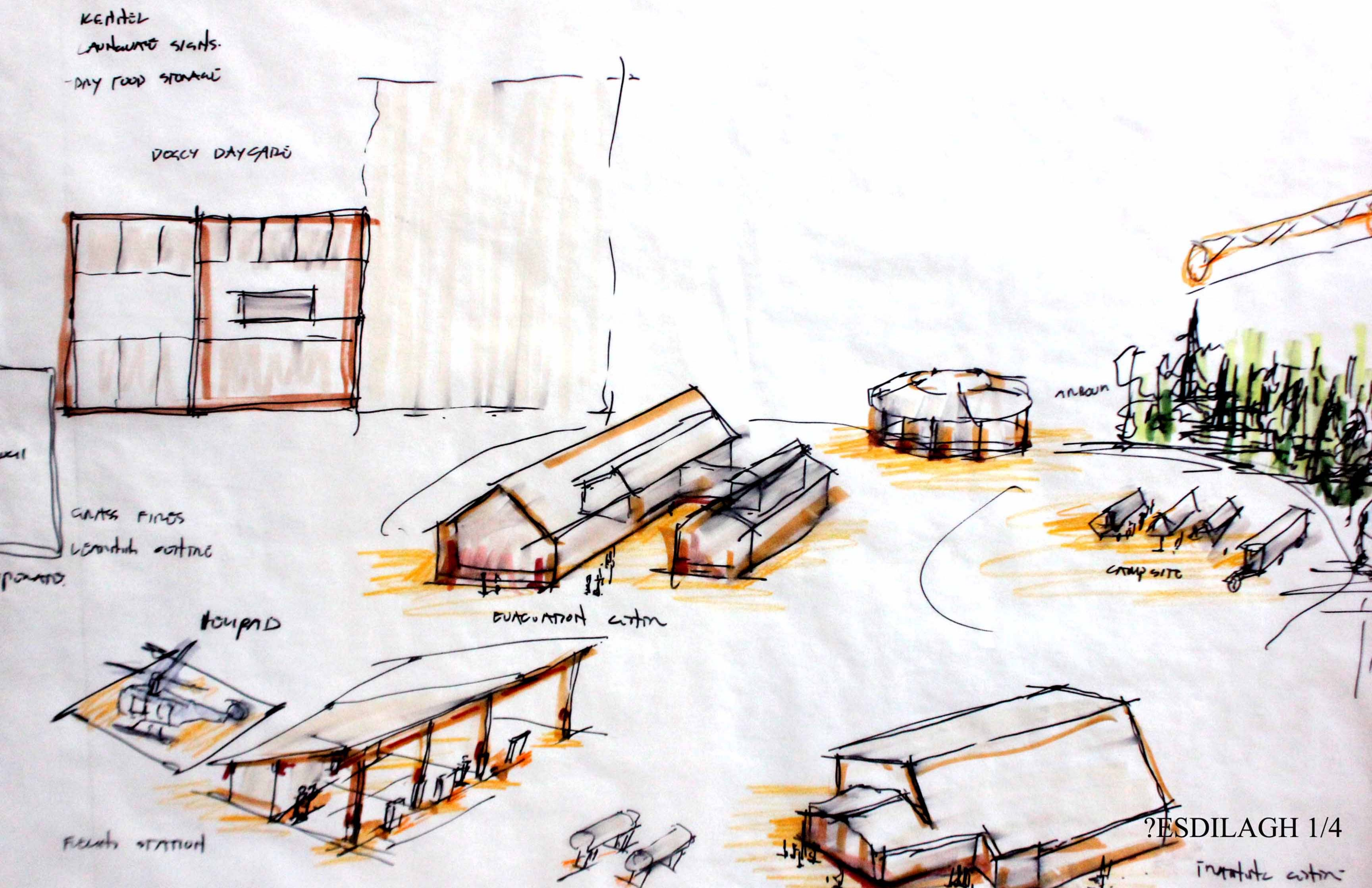
A204 ?ESDILAGH (ALEXANDRIA) EVACUATION CENTRE GROUND FLOOR PLAN

The ground floor plan of the Evacuation Centre is inspired by the community logo. The circular healing room is located opposite the main Cultural hall. The hall is sized to accommodate a half size court. At one end of the main hall are the toilets and shower facilities with the kitchen on the opposite end. A daycare and Health Center are also provided. At the end of the two wings private residences provided four one-bedroom suites.

Gross Building Area is 22,424 ft2
At a rough estimation cost of construction ranging between $400.00/ft2 to $600.00/ft2

Construction Cost range of $8.9 M to $13.5 M
Project Soft Costs for Design: Architectural and Engineering at 9-12% total
Would range between $800,000.00 – $1,620,000.00

Anticipated schedule would be:
4-6 months in Design Drawings
14-18 months in Construction


KENNEL
DOGGY DAYCARE
GRASS FIRES
HELIPAD
EVACUATION CENTRE
ARBOUR
CAMPSITE

?ESDILAGH 1/4

-ITITIM ATTACH TRUCK.

STORAGE

KITCHEN

LAUNDRY

OFFICE

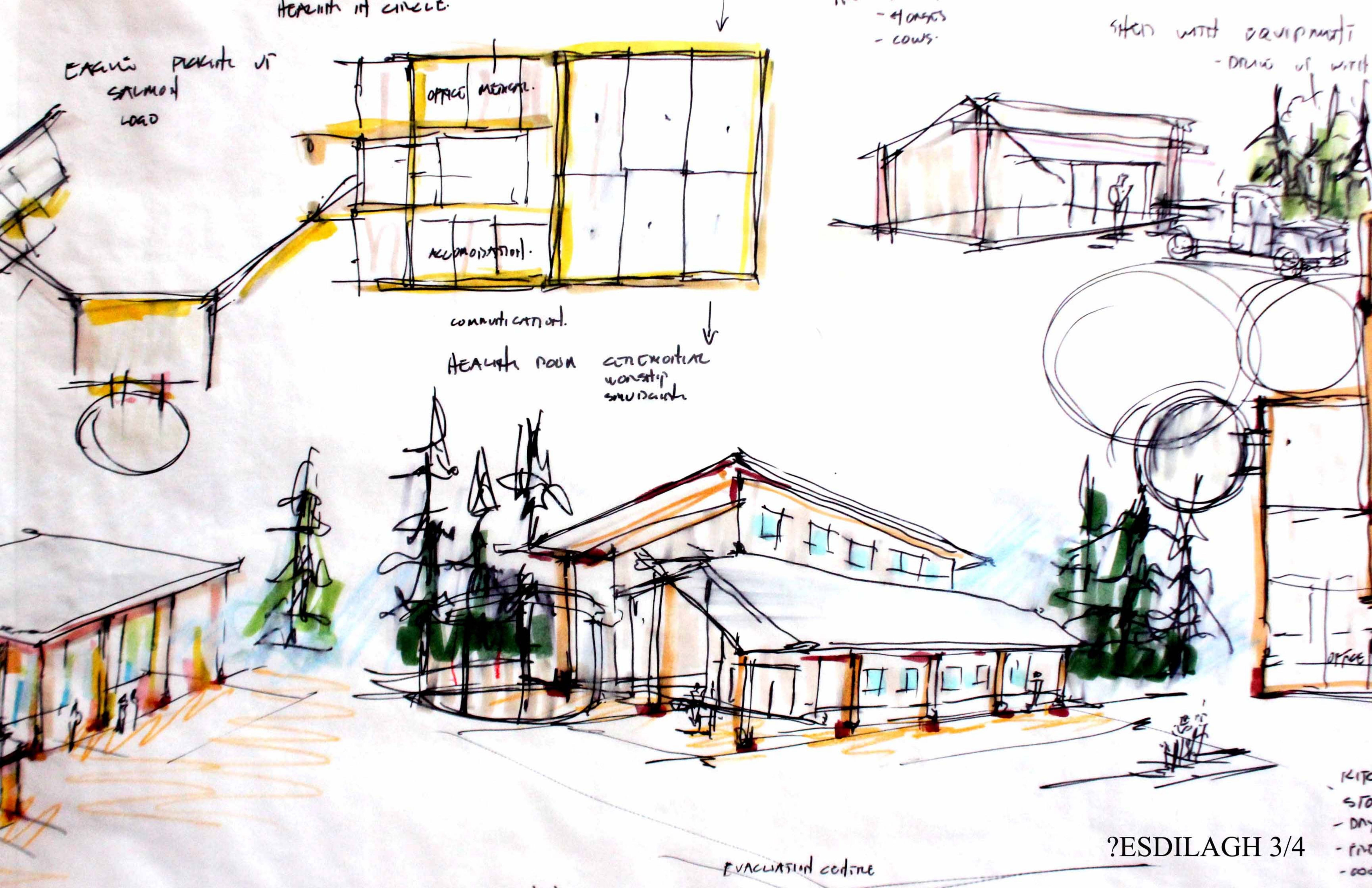
TRUCK

GLASS FIBRE
LAMINATE OUTSIDE

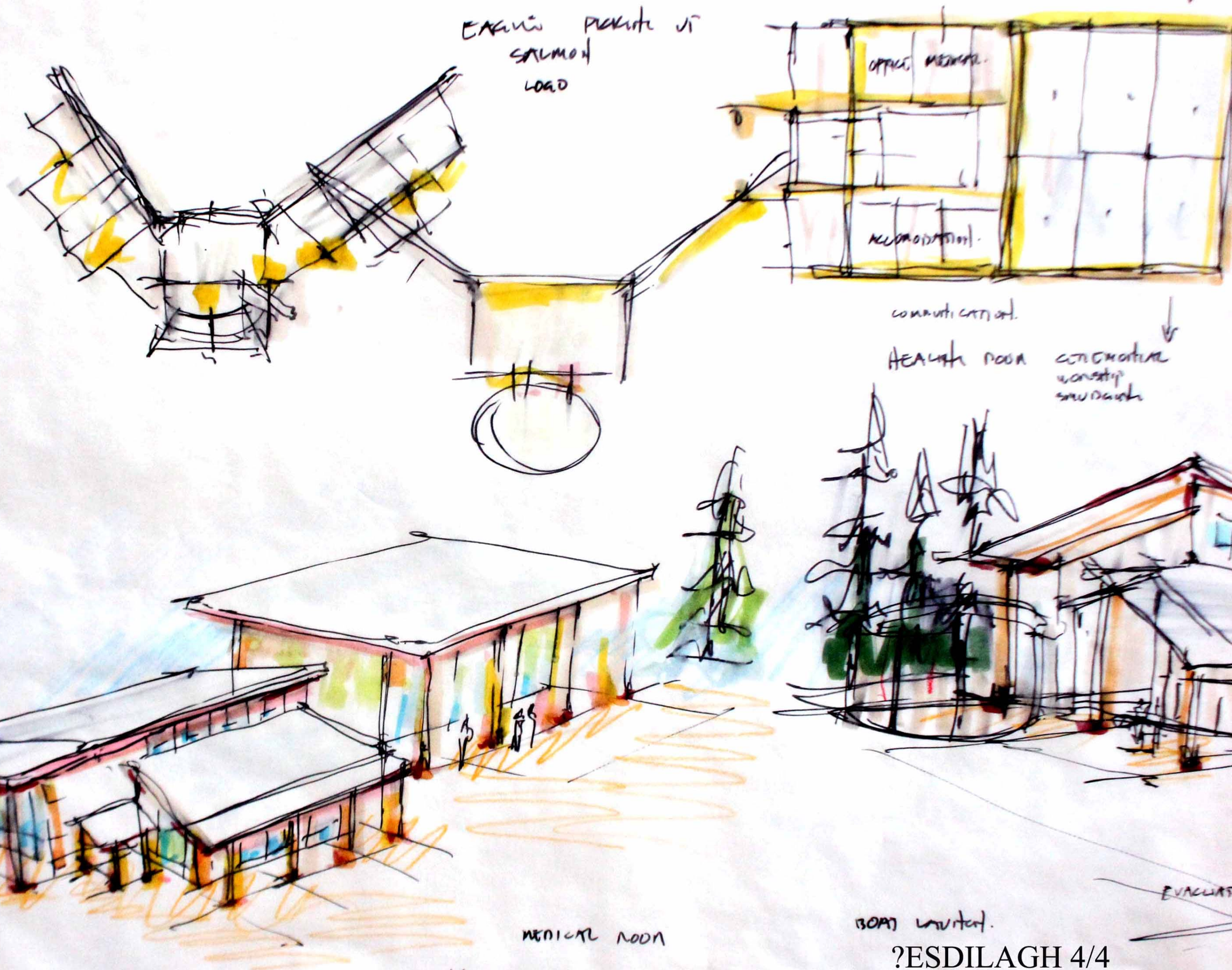
SEPARATE.

KITCHEN
STORAGE
- DRY FOOD
- FREEZER
- COOLER.

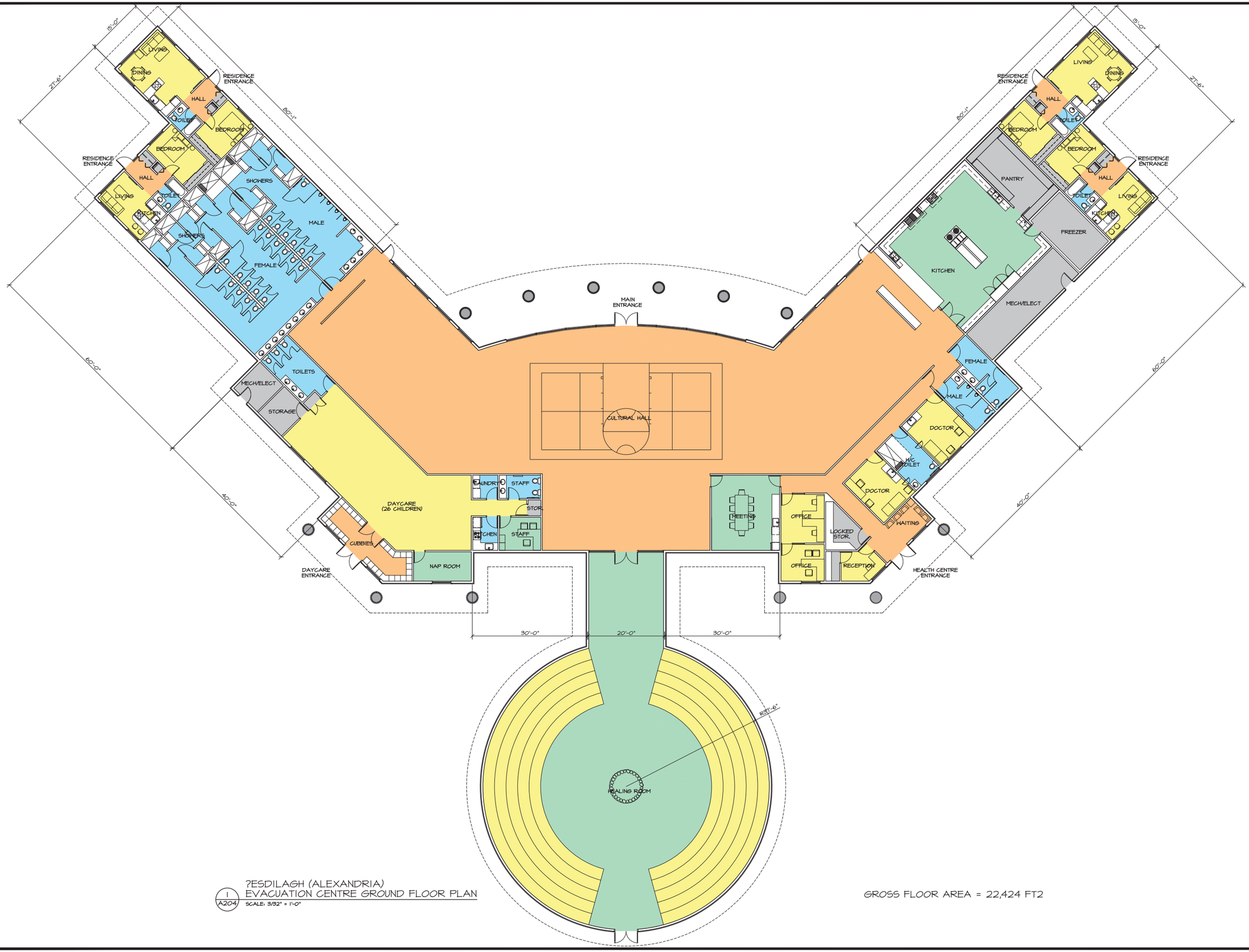
?ESDILAGH 2/4


HEALTH IN CIRCLE.
SALMON
LOGO
OFFICE MEDICAL.
ACCOMODATION.
COMMUNICATION.
HEALTH ROOM
CEREMONIAL
WORSHIP
SMUDGING
- HORSES
- COWS.
SHED WITH EQUIPMENT
OFFICE
EVACUATION CENTRE

?ESDILAGH 3/4


OFFICE MEDICAL
ACCOMODATION
COMMUNICATION
HEALTH ROOM
MEDICAL ROOM
BOAT LAUNCH

?ESDILAGH 4/4



1 A204 ?ESDILAGH (ALEXANDRIA) EVACUATION CENTRE GROUND FLOOR PLAN

SCALE: 3/32" = 1'-0"

GROSS FLOOR AREA = 22,424 FT2

DATE	REMARKS	NO.
JAN. 06/20	ISSUED FOR REVIEW	△

DRAWING REVISIONS / ISSUES

Scott M. Kemp Architect
4427 River Road West, Ladner B.C. V4K 1R9
P: (604) 786-8150 F: (604) 952-6021
scott@smkarchitect.com

CONSULTANT

PROJECT

Tsilhqot'in National Government

Emergency Center Feasibility Study

Chilcotin, BC

DRAWING TITLE

?ESDILAGH (ALEXANDRIA) EVACUATION CENTRE GROUND FLOOR PLAN

DRAWN	SMK/ML	DATE	JAN. 06, 2020
CHK'D	SMK	JOB No.	_
DESIGN		DRAWING No.	A204
CHK'D	_		
SCALE	AS SHOWN		

6.3 YUNESIT'IN (STONE) | Evacuation Centre

The discussion involved a curvilinear building based on the traditional pit house. The centre should be located by the river with the main entrance situated in the downriver direction. The building should be tranquil and could also function as an interpretive and healing centre. A gym is required, and air quality is crucial. The site needs to contain a sweat lodge and arbour in addition to facilities for livestock and pets. Fruit trees and berries would help ensure culturally appropriate food security.

Refer to drawings:

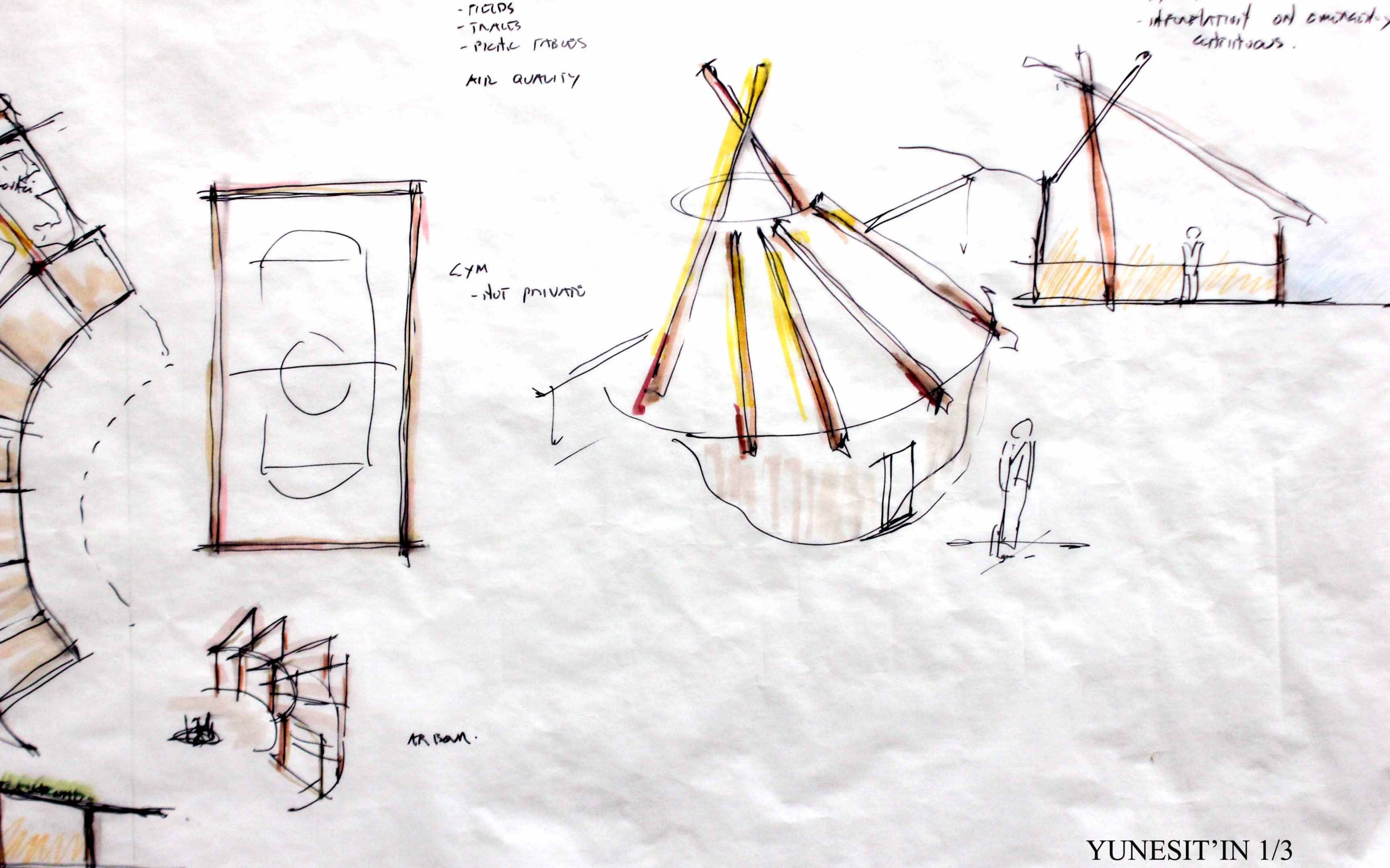
A205 YUNESIT'IN (STONE) EVACUATION CENTRE GROUND FLOOR PLAN

The building is a curvilinear arch partly buried into the land. The central Cultural hall can accommodate a full basketball court with adjacent kitchen and toilet facilities. Additional facilities for Youth and Elders and Head Start (or other similar programmes) can also be accommodated in the building. A learning centre and offices are situated adjacent to the Youth/Elders room.

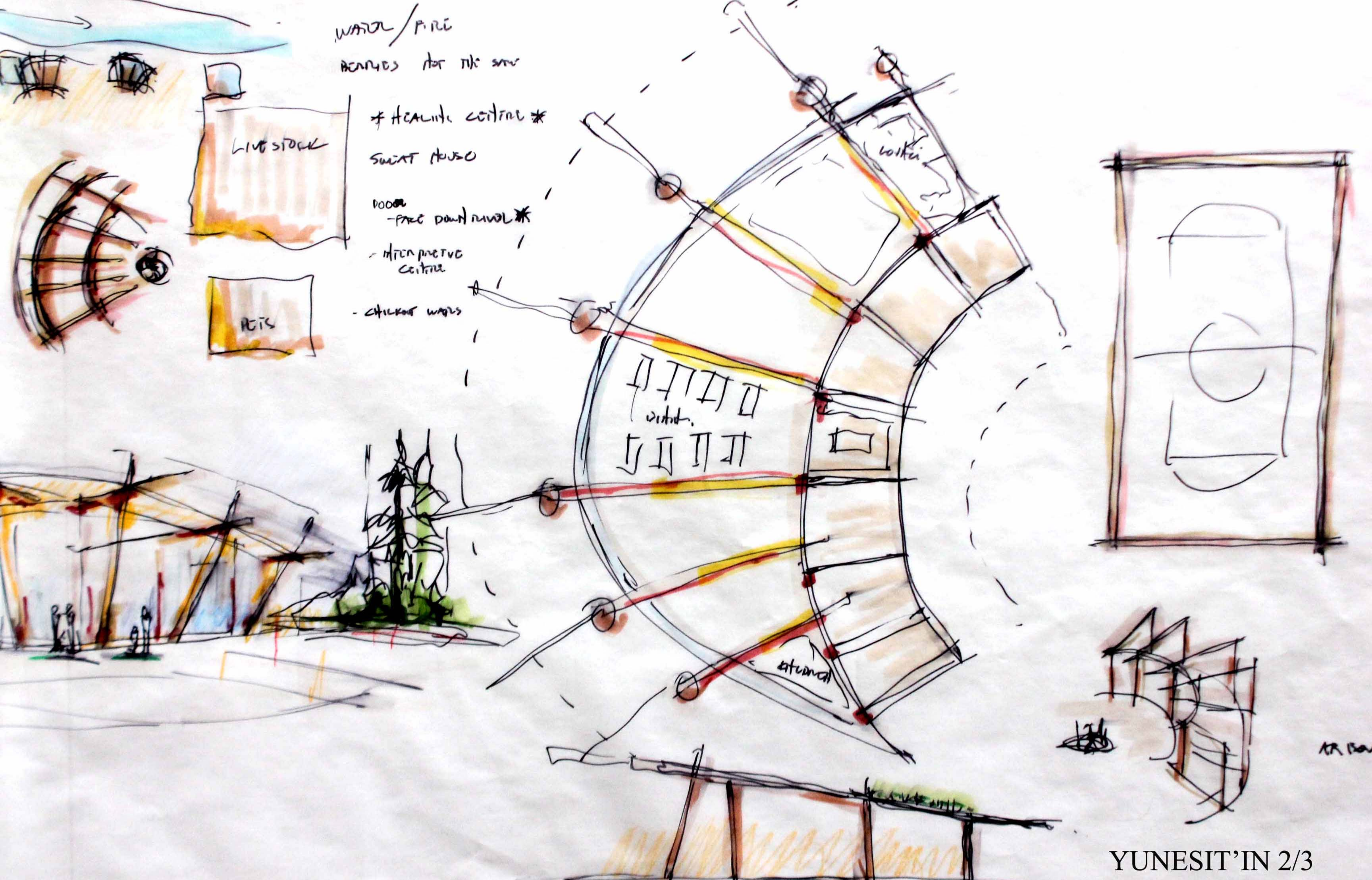
Gross Building Area is 20,222 ft2.
At a rough estimation cost of construction ranging between $400.00/ft2 to $600.00/ft2

Construction Cost range of $8.1 M to $12.1 M.
Project Soft Costs for Design: Architectural and Engineering at 9-12% total of Construction Costs
Construction Documents range $729,000.00 – $1,452,000.00

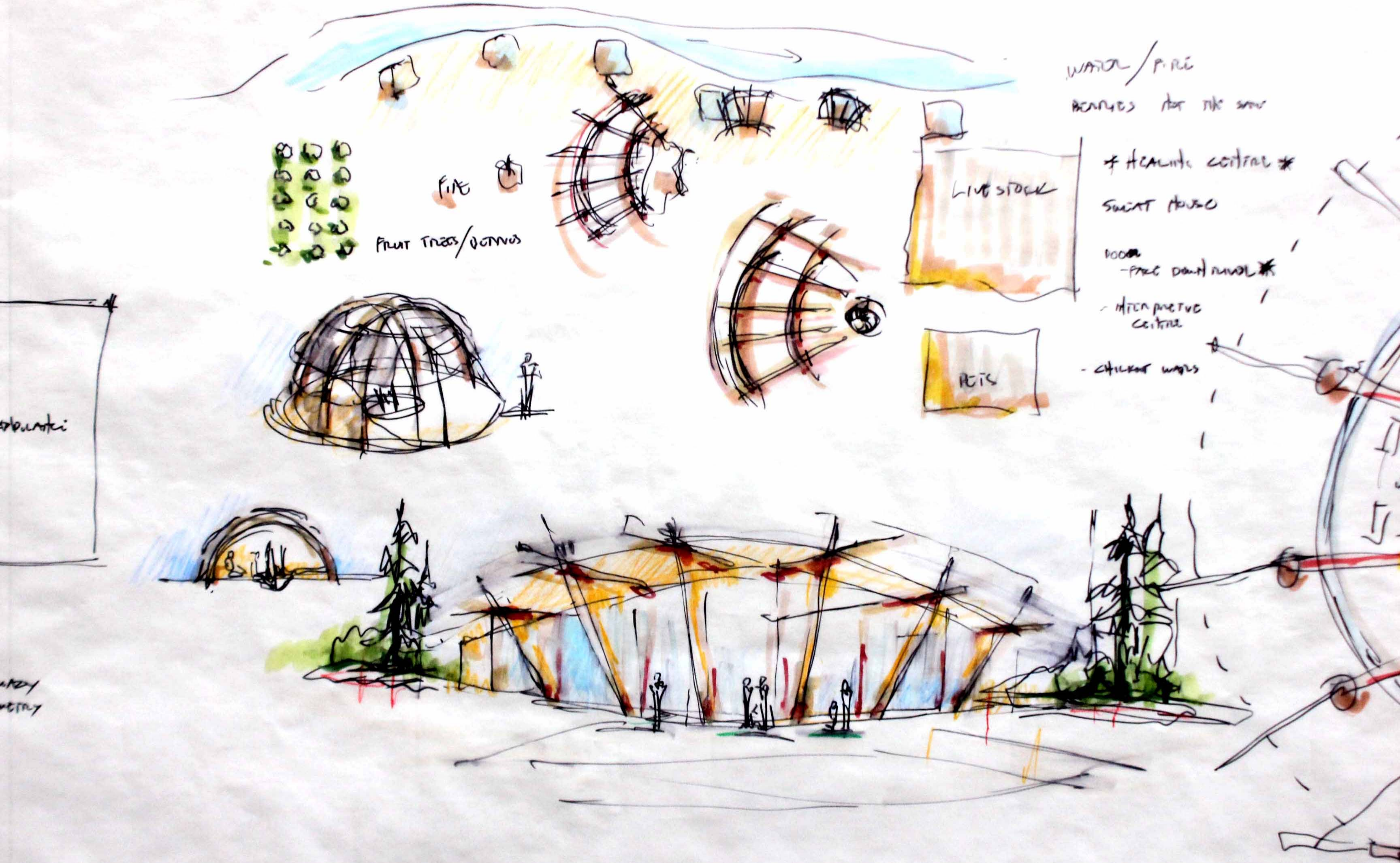
Anticipated schedule would be:
4-6 months in Design Drawings
14-18 months in Construction



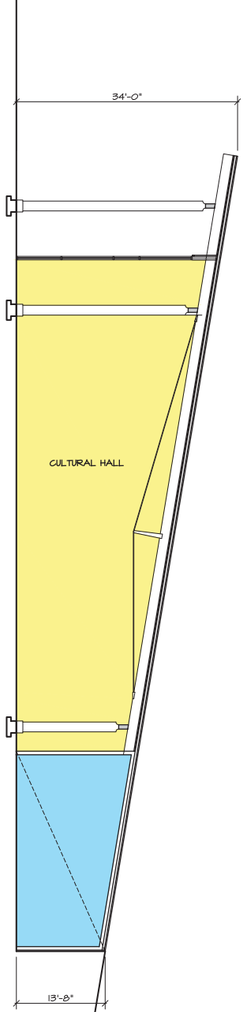
YUNESIT'IN 1/3

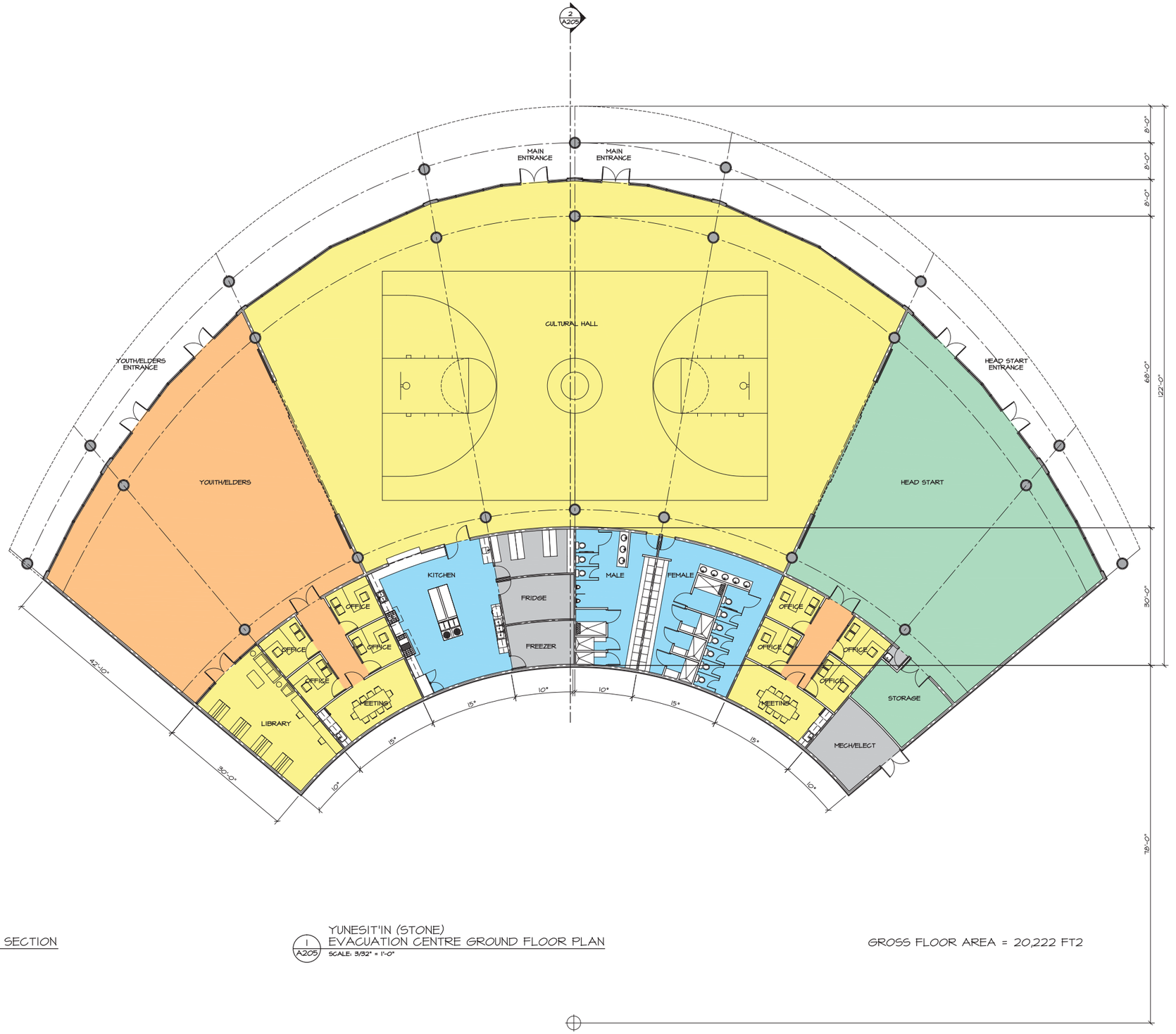


YUNESIT'IN 2/3



YUNESIT'IN 3/3





2 A205 YUNESIT'IN (STONE)
EVACUATION CENTRE SECTION
SCALE: 3/32" = 1'-0"

1 A205 YUNESIT'IN (STONE)
EVACUATION CENTRE GROUND FLOOR PLAN
SCALE: 3/32" = 1'-0"

GROSS FLOOR AREA = 20,222 FT2

DATE	REMARKS	NO.
JAN. 06/20	ISSUED FOR REVIEW	1

DRAWING REVISIONS / ISSUES

Scott M. Kemp Architect
4427 River Road West, Ladner B.C. V4K 1R9
P: (604) 786-8150 F: (604) 952-6021
scott@smkarchitect.com

CONSULTANT

PROJECT
Tsilhqot'in National Government

Emergency Center Feasibility Study

Chilcotin, BC

DRAWING TITLE
YUNESIT'IN (STONE)
EVACUATION CENTRE
GROUND FLOOR PLAN, SECTION

DRAWN	SMK/ML	DATE	JAN. 06, 2020
CHK'D	SMK	JOB No.	-
DESIGN		DRAWING No.	A205
CHK'D	-		
SCALE	AS SHOWN		

6.4 TL’ESQOX (TOOSEY) | Evacuation Centre

The Evacuation Centre needs to include ambulances and other emergency vehicles. Doctors offices, optometry and a pharmacy are also required. The site should be adjacent to water and include RV sites and wall tents. An arbour for Pow wows and a flower garden support cultural activity. Facilities for pets and livestock are required and the complex should be as sustainable as possible to include renewable energy sources such as wind. A hose drying tower is needed to replace the one that was lost during the 2017 fires.

Refer to drawings:

A206 TL’ESQOX (TOOSEY) EVACUATION CENTRE GROUND FLOOR PLAN

The central cultural hall contains a half size court with adjacent storage. Located at the apex of the building is the hose drying tower. To the left is the emergency vehicle centre with associated maintenance, storage, office and lunchroom. On the right are the toilets, showers and kitchen. At the end of the building is the health centre with two doctor’s office, an optometrist office and a pharmacy.

Gross Building Area is 10,748 ft2.
At a rough estimation cost of construction ranging between $400.00/ft2 to $600.00/ft2

Construction Cost range of $4.3 M to $6.4 M.
Project Soft Costs for Design: Architectural and Engineering at 9-12% total of Construction Costs
Construction Documents range $387,000.00 – $768,000.00

Anticipated schedule would be:
3-4 months of drawings
12-14 month of construction

RV SITE

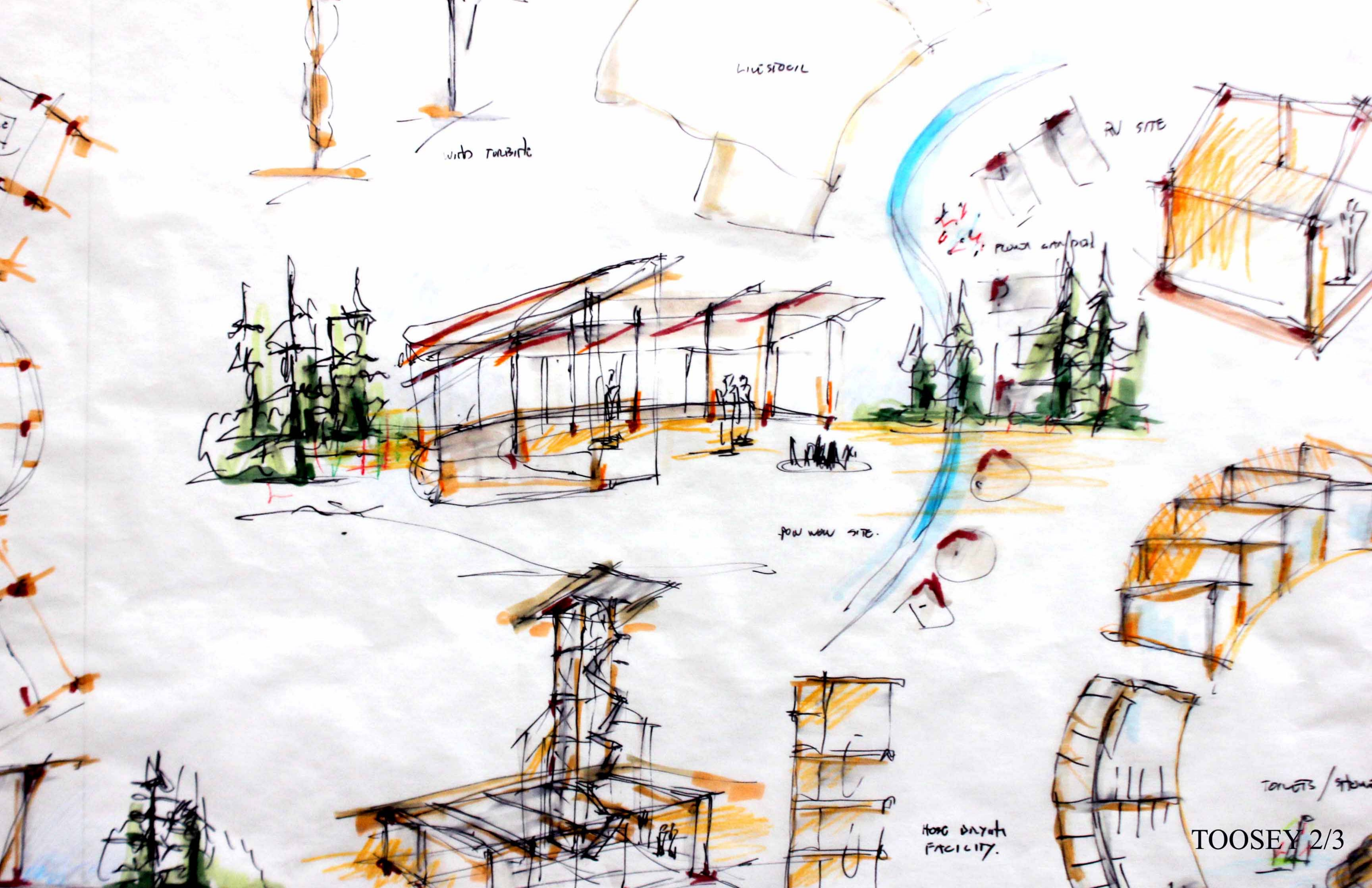
WALL TENT
8'x10'
WOODEN PADS

ADMINISTRATION

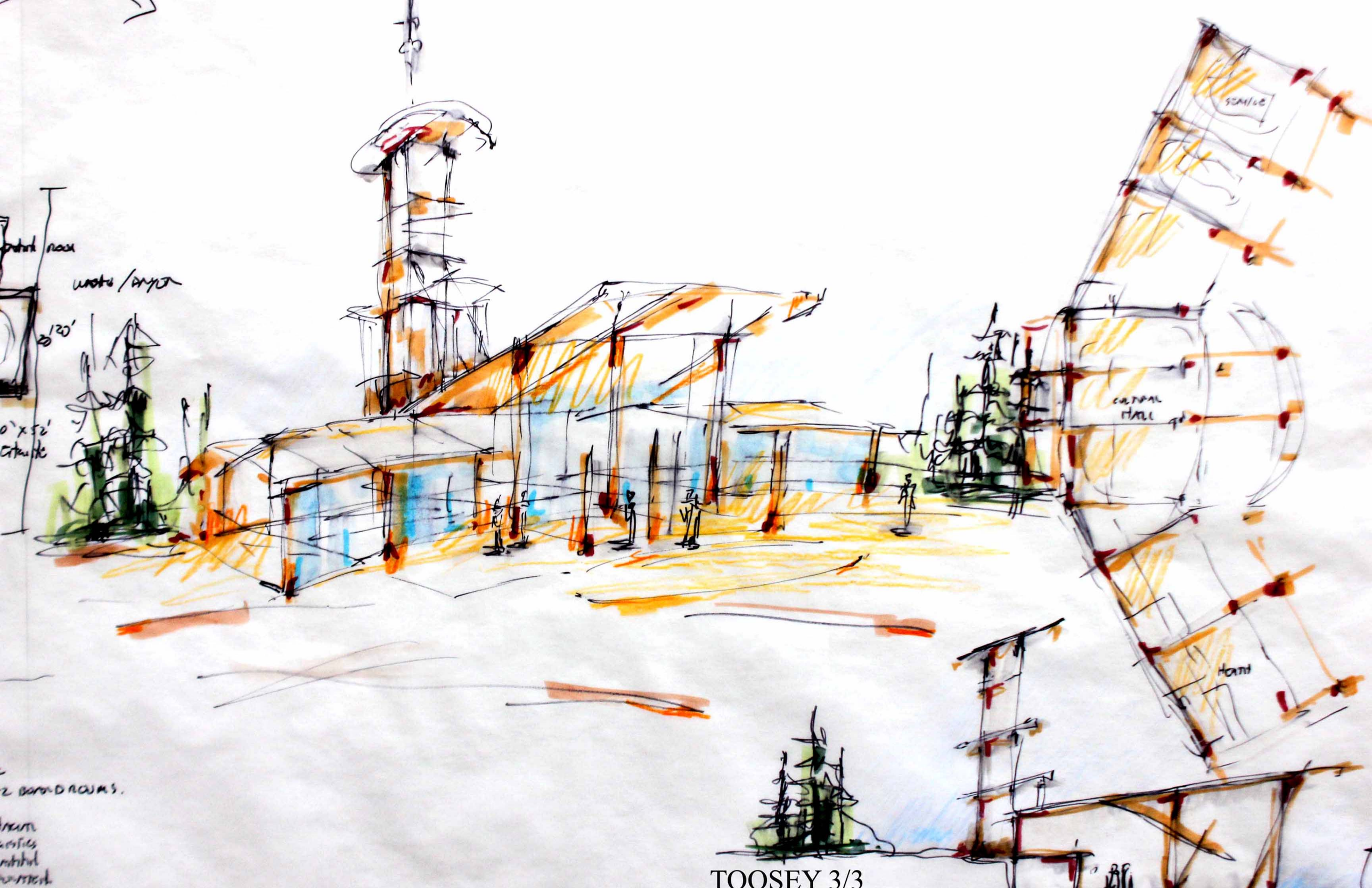
- PHARMACY
- OPTOMETRY

TOILETS / SHOWERS

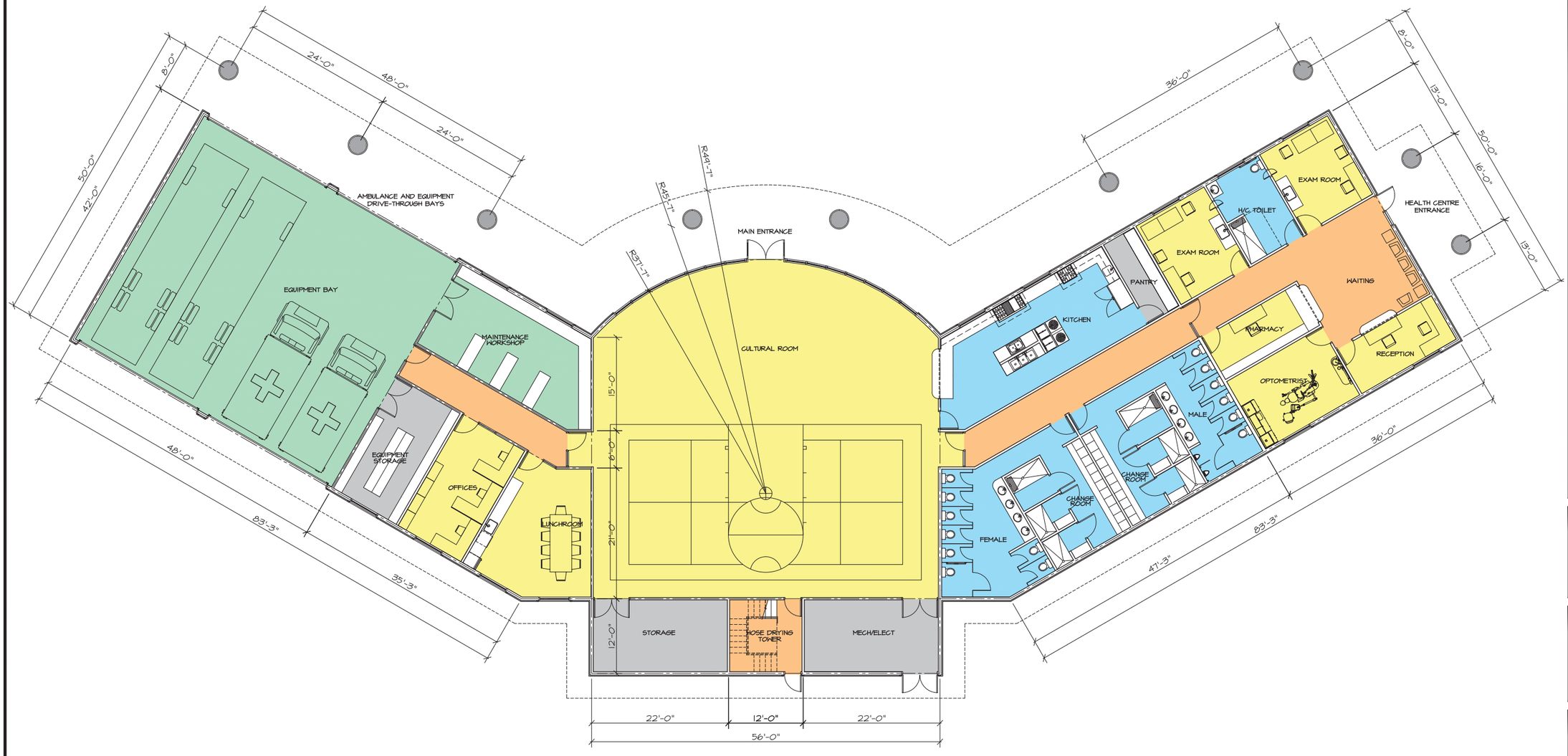
TOOSEY 1/3


wind turbine
LIVESTOCK
RV SITE
pow wow site.
HOSE DRYING FACILITY.

TOOSEY 2/3



TOOSEY 3/3



1 / A206 TL'ESQOX (TOOSEY) EVACUATION CENTRE GROUND FLOOR PLAN

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

GROSS FLOOR AREA = 10,748 FT2

DATE	REMARKS	NO.
JAN. 25/20	ISSUED FOR REVIEW	△

DRAWING REVISIONS / ISSUES

Scott M. Kemp Architect
4427 River Road West, Ladner B.C. V4K 1R9
P: (604) 786-8150 F: (604) 952-6021
scott@smkarchitect.com

CONSULTANT

PROJECT

Tsilhqot'in National Government

Emergency Center Feasibility Study

Chilcotin, BC

DRAWING TITLE

TL'ESQOX (TOOSEY) EVACUATION CENTRE GROUND FLOOR PLAN

DRAWN	SMK/ML	DATE	JAN. 25, 2020
CHK'D	SMK	JOB No.	-
DESIGN		DRAWING No.	A206
CHK'D	-		
SCALE	AS SHOWN		

6.5 TSI DELDEL (REDSTONE) | Evacuation Centre

The Evacuation Centre requires a large gathering hall with associated kitchen and toilet facilities. Redundancy of services is critical. During the 2017 fires, power was lost and communication severed. A helipad and rescue boat is required in addition to evacuation vehicles such as buses. Cultural facilities such as an arbour and hide tanning should be provided. Outdoor BBQ and playground facilities are also desired. The centre should provide storage for equipment for Search and Rescue including rapid water and high-level rescue. As with other Evacuation Centres, the site must accommodate RV parking and tenting. The community also has a desire for an ice rink.

Refer to drawings:

A207 TSI DELDEL EVACUATION CENTRE GROUND FLOOR PLAN

The building is L shaped with a large Cultural Room at the entrance. A hallway separates the kitchen facilities from the toilets and showers. The toilets and shower are sized to accommodate all evacuees including those in RV's and tents. A large storage room is provided for search and rescue equipment. With this design, a separate building would be provided for vehicle storage.

Gross Building Area is 6,158 ft2.
At a rough estimation cost of construction ranging between $400.00/ft2 to $600.00/ft2

Construction Cost range of $2.4 M to $3.7 M.
Project Soft Costs for Design: Architectural and Engineering at 9-12% total of Construction Costs
Construction Documents range $216,000.00 – $444,000.00

Anticipated schedule would be:
3-4 months of drawings
10-12 month of construction

PLAY GROUND FOR KIDS

PUBLIC AREA
-TEMPORARY

ALEXI CREDIL

HOUSING

-SHOPS.

HORIZONTAL BAR.

PANTRY

KITCHEN

FIREPLACE

BASKET BALL

BBQ

HEALTH CENTRE
- DOSMALL
- SPACE TIME.

TRADITIONAL HOUSE

PIT

FOR TRADITION.

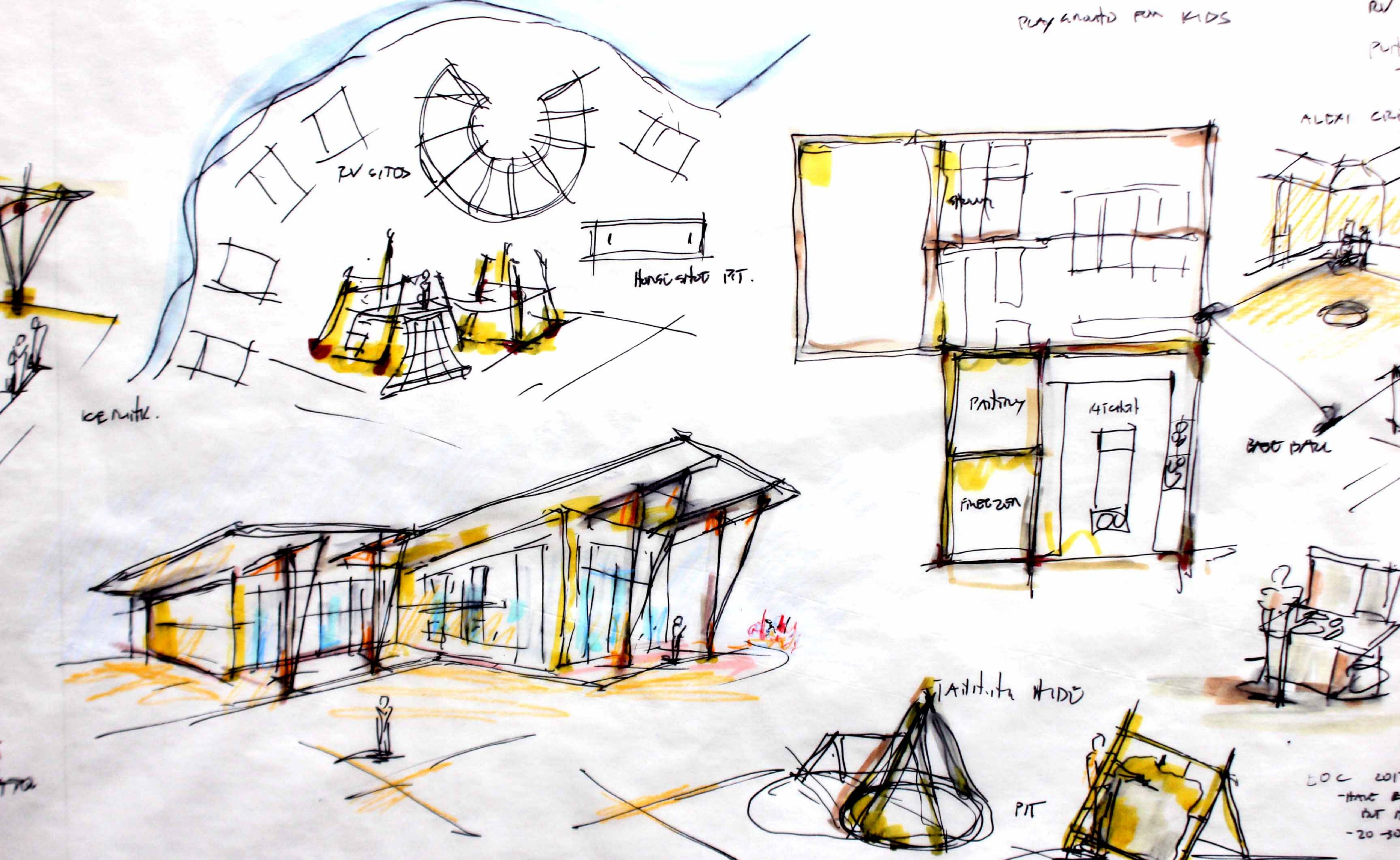
LOC 2017
-HAVE EQUIPMENT
BUT NO POWER
-20-30

- SCHOOL
-CULTURAL CENTRE
- BEING DOUBLED NOW (+ ACCOMODATION)
-BANKS OFFICE.

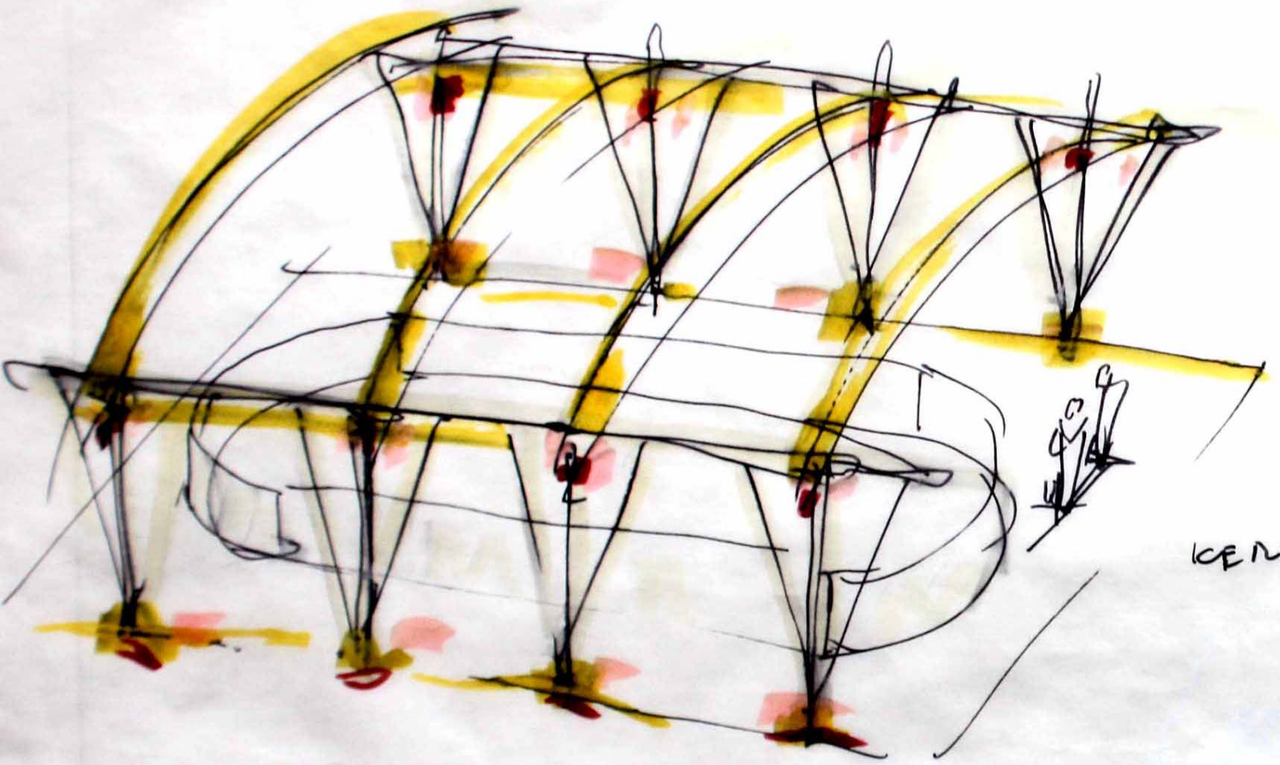
2017 -STUDIES DOWN
- NO POWER

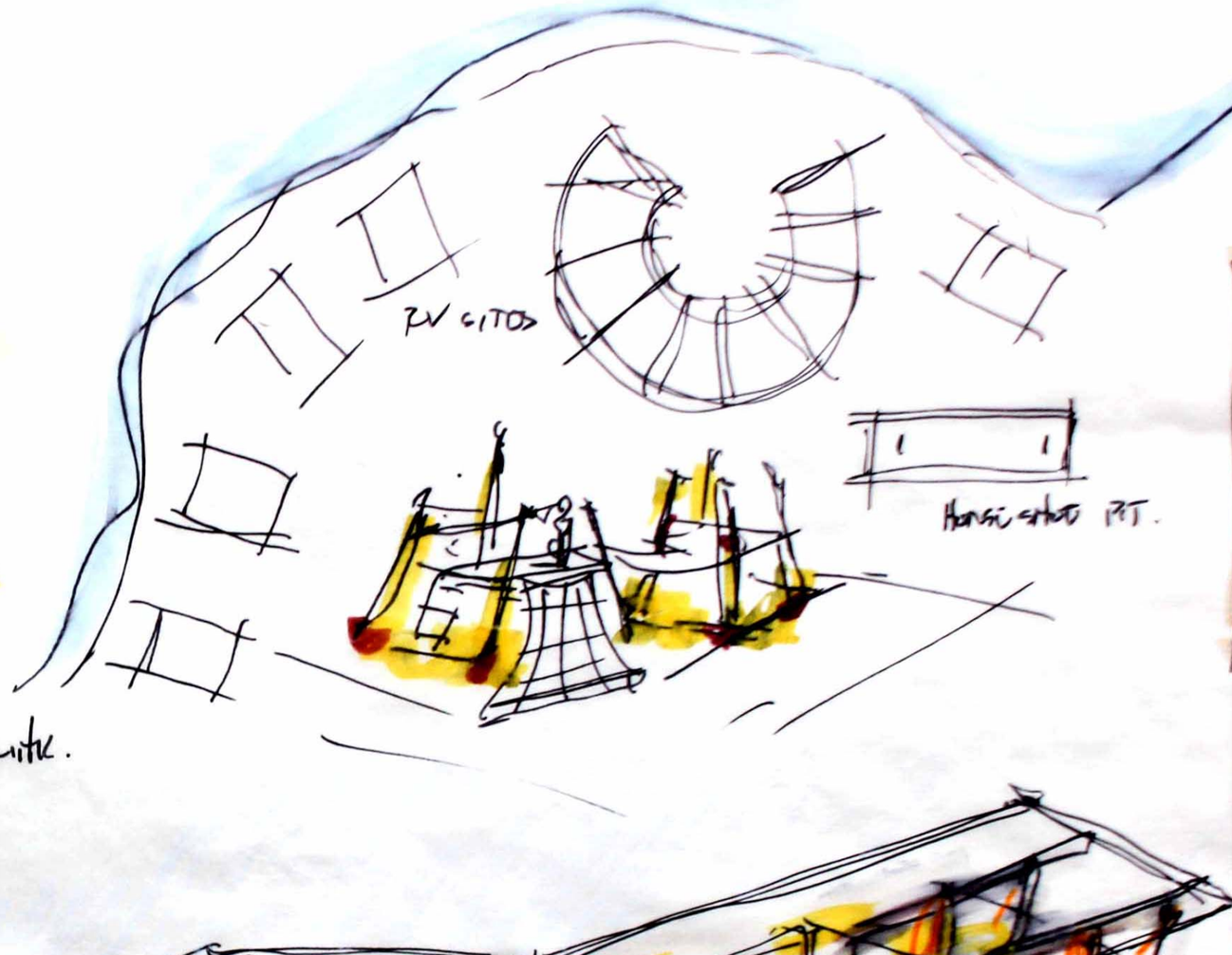
: EVACUATION : BUSES / VAN

TSI DELDEL 1/3

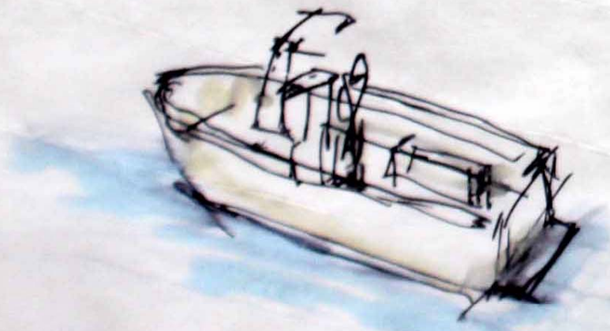


TSI DELDEL 2/3





ICE MILK.



TSI DELDEL 3/3

1 A207 TSI DELDEL (REDSTONE)
EVACUATION CENTRE GROUND FLOOR PLAN
SCALE: 1/8" = 1'-0"

GROSS FLOOR AREA = 6,158 FT2

DATE	REMARKS	NO.
JAN. 25/20	ISSUED FOR REVIEW	-

DRAWING REVISIONS / ISSUES

Scott M. Kemp Architect
4427 River Road West, Ladner B.C. V4K 1R9
P: (604) 786-8150 F: (604) 952-6021
scott@smkarchitect.com

CONSULTANT

PROJECT
Tsilhqot'in National Government

Emergency Center Feasibility Study

Chilcotin, BC

DRAWING TITLE
TSI DELDEL (REDSTONE)
EVACUATION CENTRE
GROUND FLOOR PLAN

DRAWN	SMK/ML	DATE	JAN. 25, 2020
CHK'D	SMK	JOB No.	-
DESIGN		DRAWING No.	A207
CHK'D	-		
SCALE	AS SHOWN		

6.6 XENI GWET'IN (NEMIAH) | Evacuation Centre

The Evacuation Centre would function as a community centre that would benefit and bring together the broader community. The valley is incredibly beautiful with abundant natural resources including land, water and animals. The community services are independent of BC Hydro. Prevailing winds provide exceptional air quality. The concept for the building comes from a mixing of the traditional Long House with the pit house. The long-curved building is partially buried in the land. Site facilities include sweat lodges, pit house and picnic shelters. Greenhouses provide essential food security. Shop facilities hide tanning and nature trails would also be provided.

Refer to drawings:

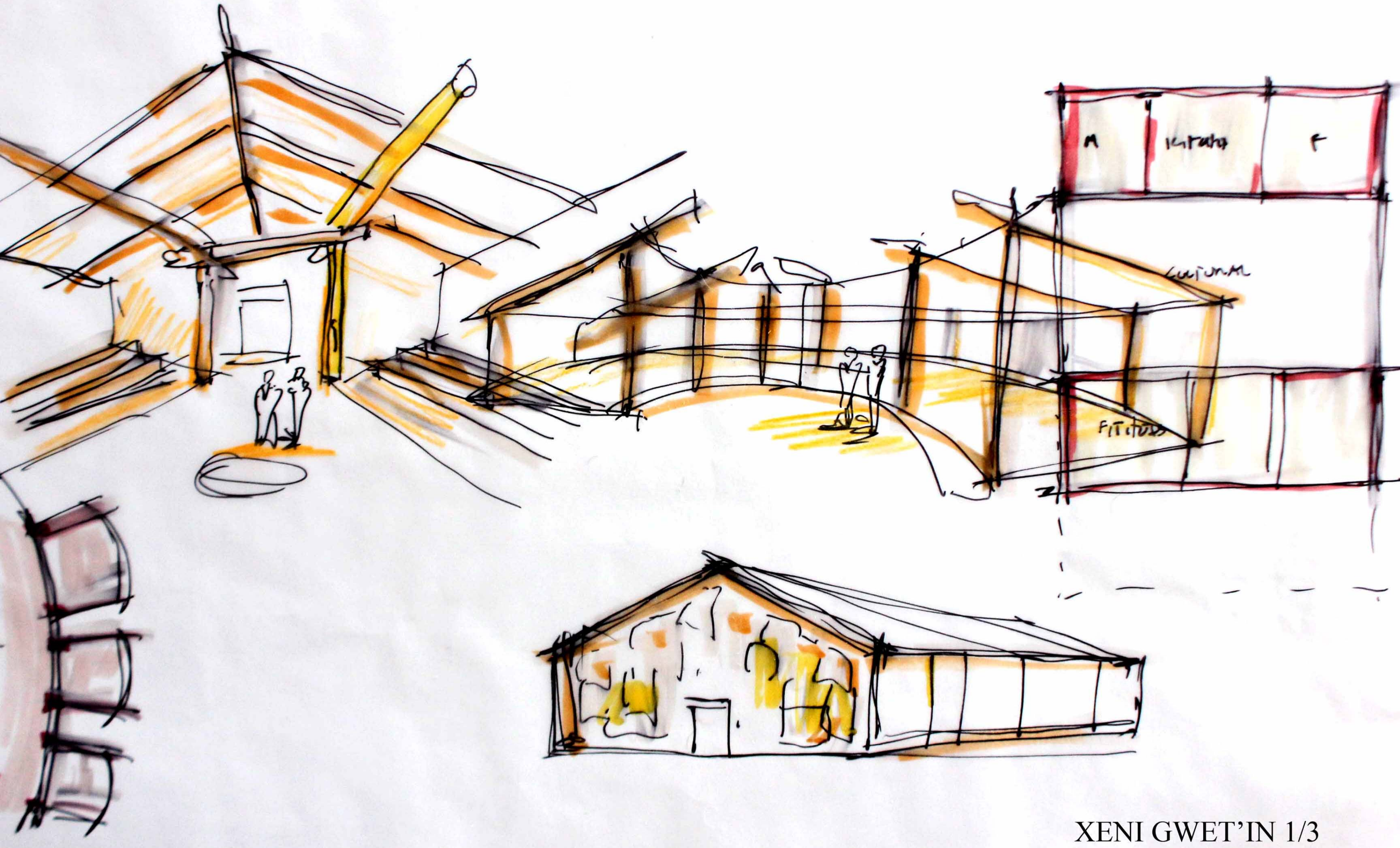
A208 XENI GWET'IN (NEMIAH) EVACUATION CENTRE GROUND FLOOR PLAN

The long-curved building has a central gym sized to accommodate a full size basketball court. The Cultural Room at the one end of the building is the main entrance with the emergency vehicle storage at the opposite end. Adjacent to the service bays is a shop and storage room. One side of the gym is the toilets, changing rooms and showers. Adjacent to the entrance is a learning centre and office on one side with a multipurpose quiet room on the other. Down the long corridors are breakout lounges for small community interactions

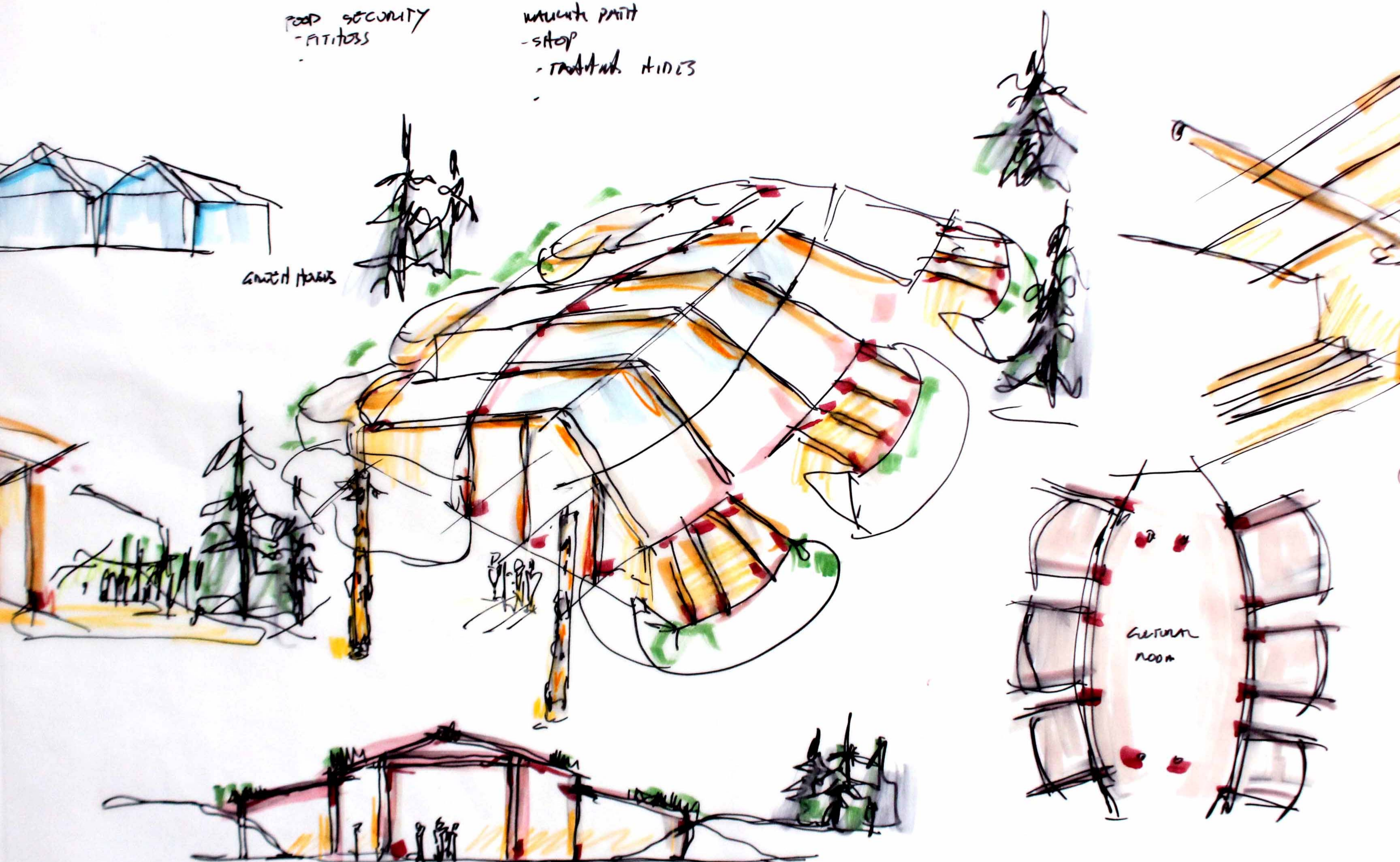
Gross Building Area is 22,008 ft2.
At a rough estimation cost of construction ranging between $400.00/ft2 to $600.00/ft2

Construction Cost range of $8.8 M to $13.2 M.
Project Soft Costs for Design: Architectural and Engineering at 9-12% total of Construction Costs
Construction Documents range $792,000.00 – $1,584,000.00

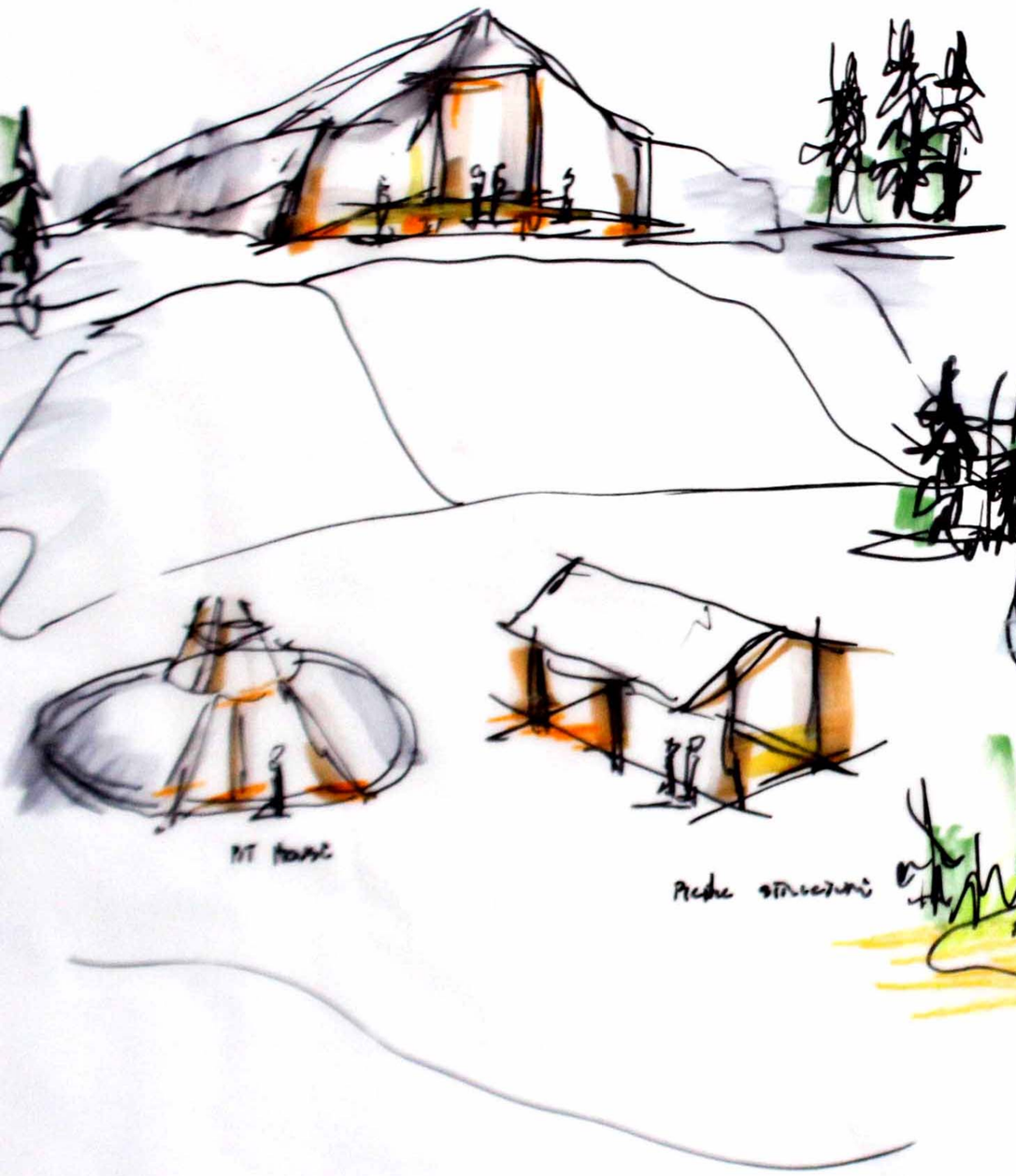
Anticipated schedule would be:
4-6 months of drawings
14-18 month of construction

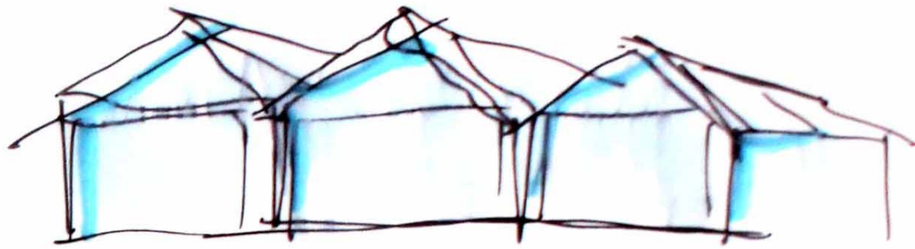


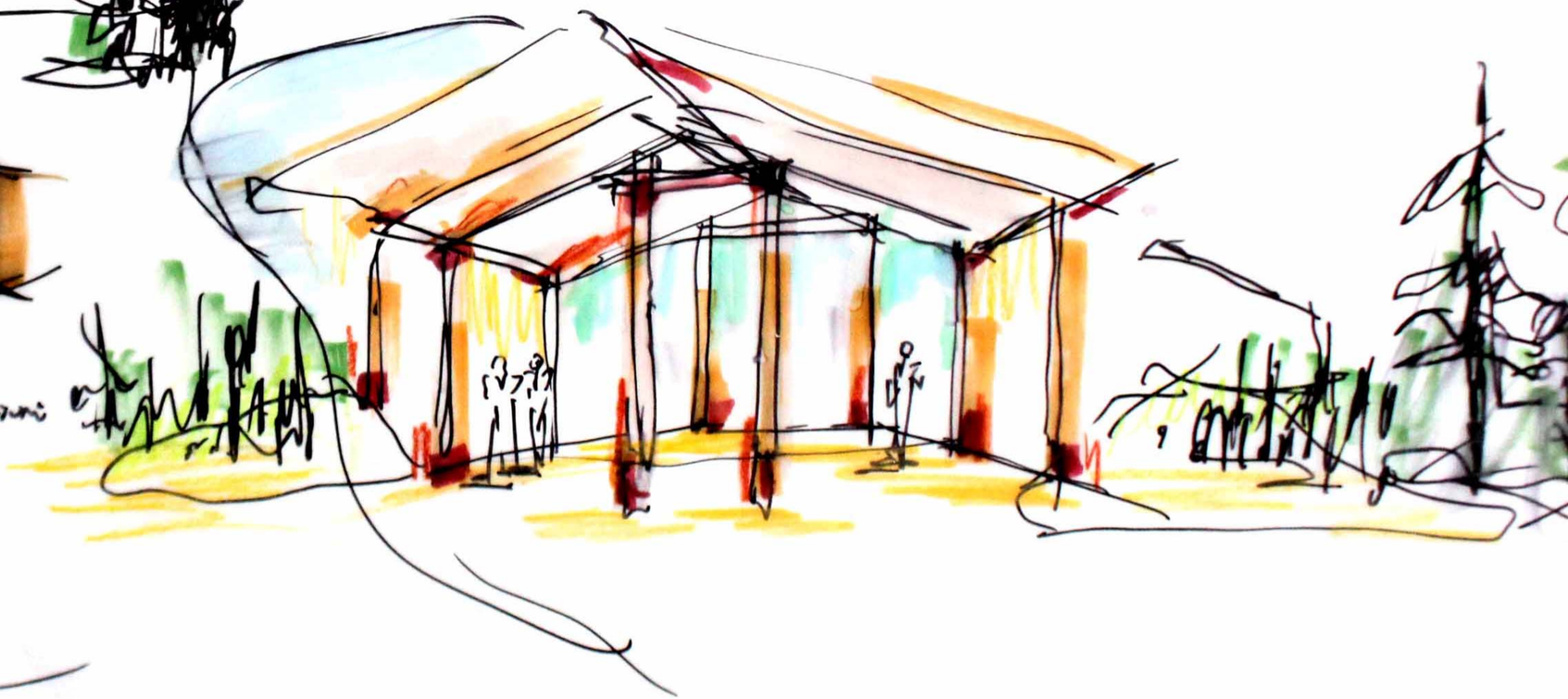
XENI GWET'IN 1/3

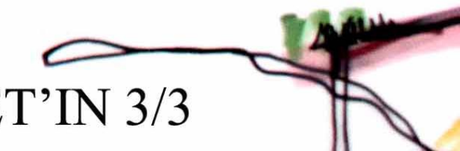


XENI GWET'IN 2/3

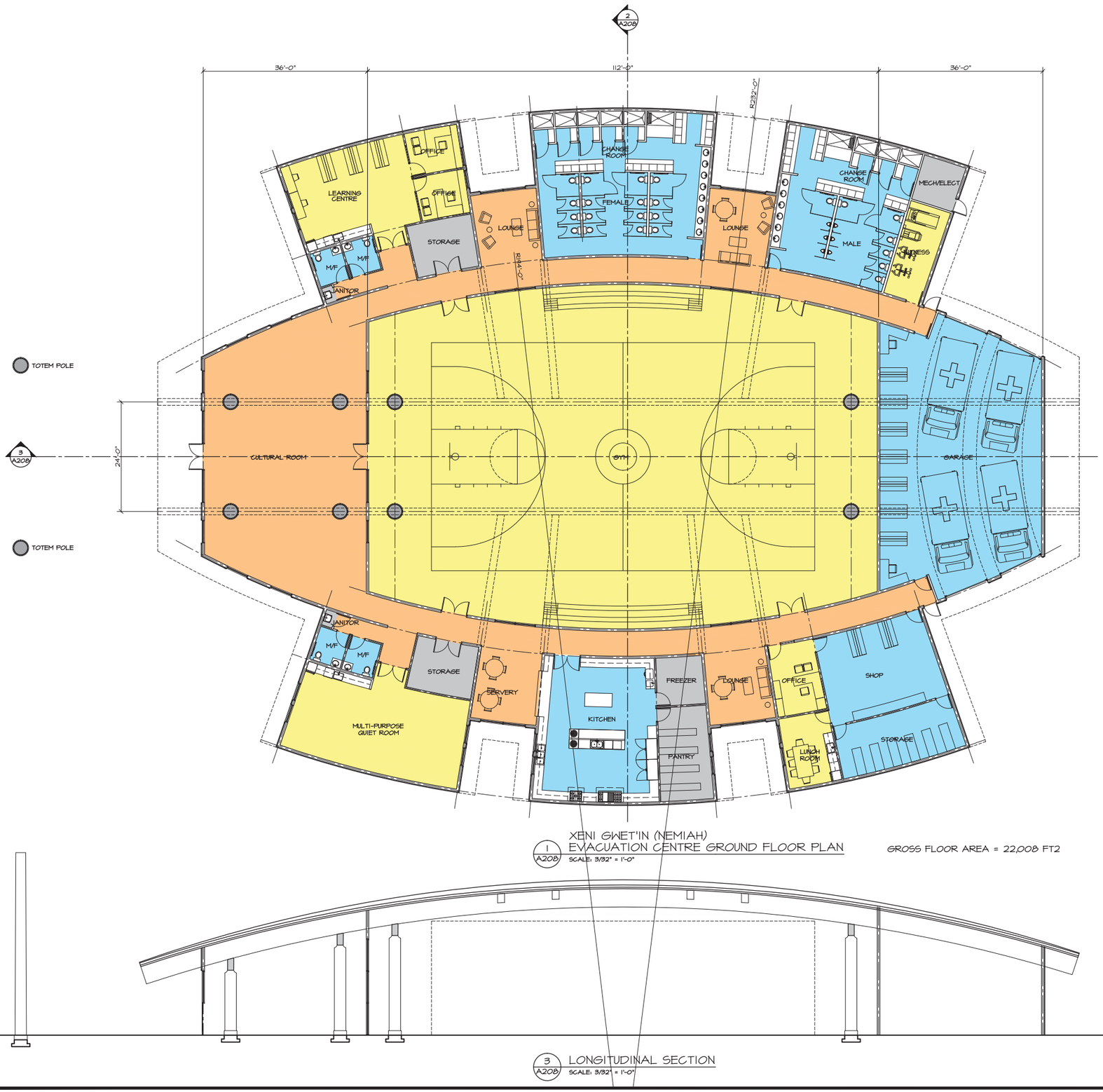








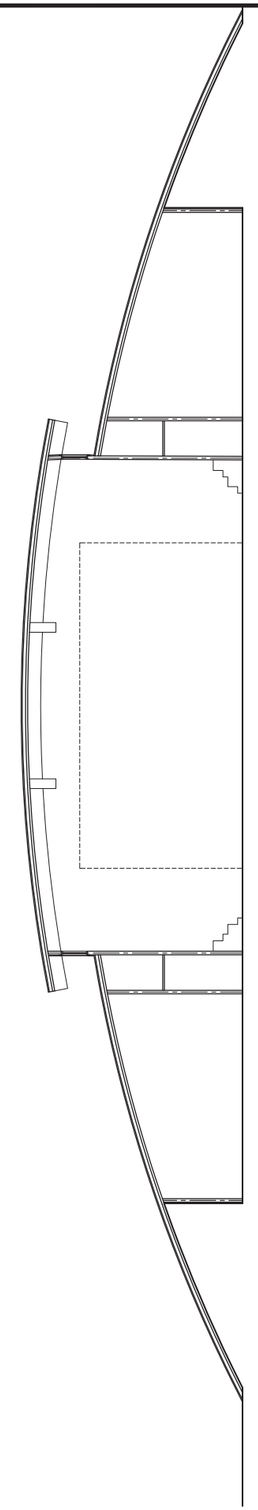
XENI GWET'IN 3/3



1 A208 XENI GWET'IN (NEMIAH) EVACUATION CENTRE GROUND FLOOR PLAN
SCALE: 3/32" = 1'-0"

GROSS FLOOR AREA = 22,008 FT2

3 A208 LONGITUDINAL SECTION
SCALE: 3/32" = 1'-0"



2 A208 CROSS SECTION
SCALE: 3/32" = 1'-0"

DATE	REMARKS	NO.
JAN. 25/20	ISSUED FOR REVIEW	1

DRAWING REVISIONS / ISSUES

Scott M. Kemp Architect
4427 River Road West, Ladner B.C. V4K 1R9
P: (604) 786-8150 F: (604) 952-6021
scott@smkarchitect.com

CONSULTANT

PROJECT
Tsilhqot'in National Government

Emergency Center Feasibility Study

Chilcotin, BC

DRAWING TITLE
XENI GWET'IN (NEMIAH)
EVACUATION CENTRE
GROUND FLOOR PLAN AND SECTIONS

DRAWN	SMK/ML	DATE	JAN. 25, 2020
CHK'D	SMK	JOB No.	-
DESIGN		DRAWING No.	A208
CHK'D	-		
SCALE	AS SHOWN		

6.7 EMERGENCY OPERATIONS CENTRE

There are several sites that have good potential for the EOC. Considered sites to date are Anaheim and Toosey, because they are centrally located, near the highway, sparsely treed, and both sites are geotechnically stable soil.

Refer to drawings:

A209 EMERGENCY OPERATIONS CENTRE GROUND FLOOR PLAN

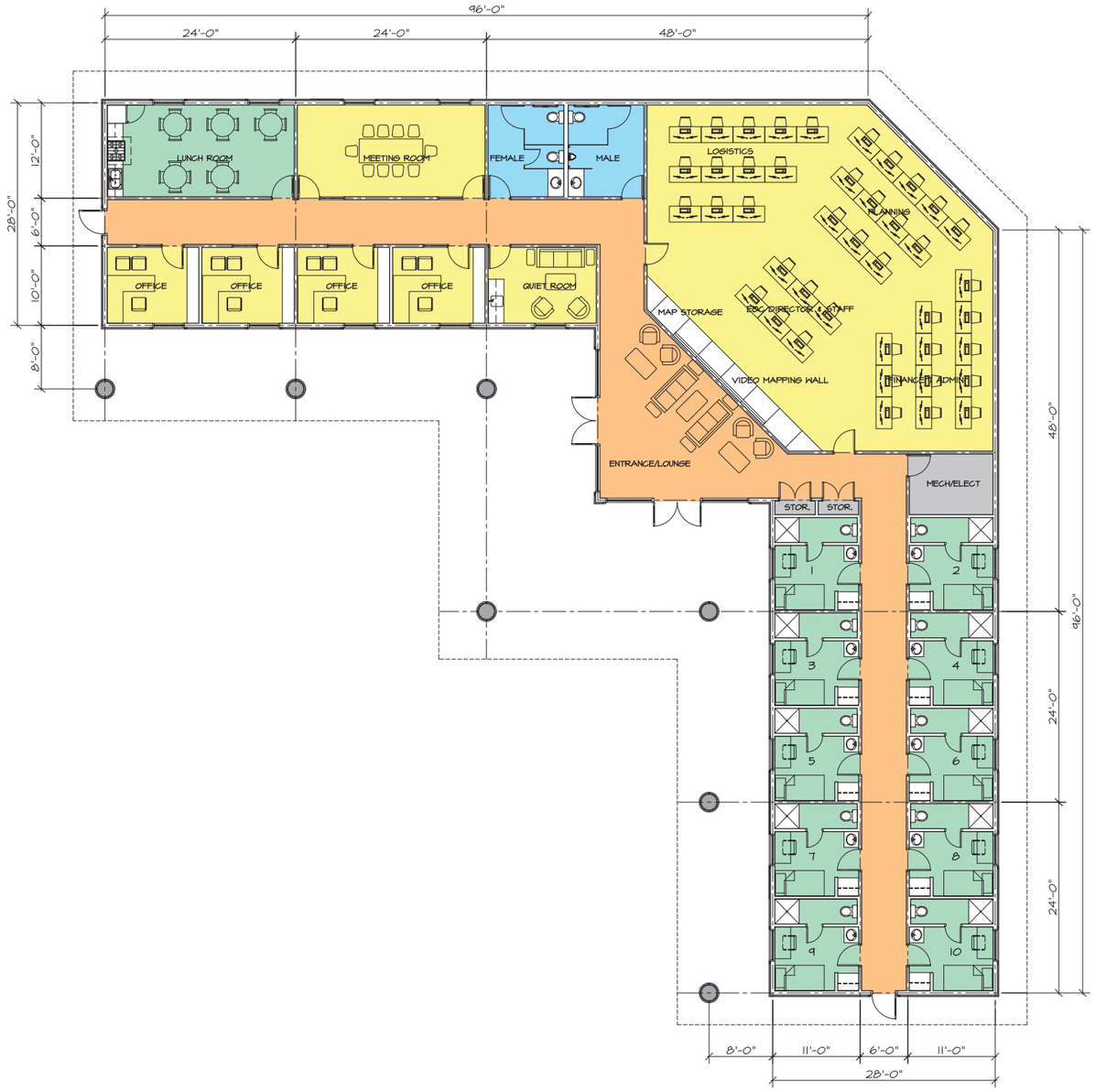
During the design charrettes with the six communities, the discussions did not focus on the specific functions and needs of the Emergency Operations Centre (EOC) thus no sketches were done for this facility. It was mentioned that it would be advantageous for the EOC to be in a separate facility that would allow staff to function independently without interruption from other activities that would be occurring during an emergency event. Repurposing the Forestry facilities at Alexis Creek was mentioned and It is understood that discussions of the viability of this option are ongoing. Further studies of the existing facility is possible as part of this study if so directed. For discussions, a concept design of a separate building is presented as part of this study.

The building is L shaped with the main operations room at the apex. Desks with computer monitors are situated facing an electronic wall monitor with map storage underneath. Four sections are identified for EOC Director & Admin, Logistics, Planning and Finance & Admin. It is assumed that natural lighting in the operations room is to be controlled. A large entrance lounge allows staff to take breaks in natural daylight. In one wing of the building are located toilets, a meeting room, lunchroom, four offices and a quiet room. The second wing contains 10 single occupancy rooms for sleeping for the staff.

Gross Building Area is 6,037 ft2.
At a rough estimation cost of construction ranging between $400.00/ft2 to $600.00/ft2

Construction Cost range of $2.4 M to $3.6 M
Project Soft Costs for Design: Architectural and Engineering at 9-12% total of Construction Costs
Construction Documents range $216,000.00 – $432,000.00

Anticipated schedule would be:
3-4 months of drawings
10-12 month of construction



1 / A207 EMERGENCY OPERATIONS CENTRE GROUND FLOOR PLAN

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

GROSS FLOOR AREA = 6,037 FT2

DATE	REMARKS	NO.
FEB. 08/20	ISSUED FOR REVIEW	1

DRAWING REVISIONS / ISSUES

Scott M. Kemp Architect
4427 River Road West, Ladner B.C. V4K 1R9
P: (604) 786-8150 F: (604) 952-6021
scott@smkarchitect.com

CONSULTANT

PROJECT

Tsilhqot'in National Government

Emergency Center Feasibility Study

Chilcotin, BC

DRAWING TITLE

EMERGENCY OPERATIONS CENTRE GROUND FLOOR PLAN

DRAWN	SMK/ML	DATE	FEB. 08, 2020
CHK'D	SMK	JOB No.	-
DESIGN		DRAWING No.	A209
CHK'D	-		
SCALE	AS SHOWN		

7.0 PROJECT BUDGET PROJECTIONS

NOTES:

- A rough estimation of construction hard costs would be between $400.00/ft2 and $600.00/ft2, not inclusive of Furniture Fixtures and Equipment (FF&E)
- Project Soft Costs are estimated to be at a range of 9-12% of Construction Costs for Full-Service Fees for both Architectural and Engineering
- Furniture, Fixtures and Equipment (FF&E) are calculated within the range of 1-2%

PHASE ONE: EOC, Training Centre and three Evacuation Centres.

Training Centre In either Anaham or Toosey
Construction Cost range of $13.2 M to $19.7 M.
Construction Documents range $1,188,000.00 – $2,364,000.00

Evacuation Centre In either Anaham or Toosey
Construction Cost Range of $6.7 M to $10.0 M.
Construction Documents range $603,000.00 – $1,100,000.00

?ESDILAGH (ALEXANDRIA) | Evacuation Centre
Construction Cost range of $8.9 M to $13.5 M
Would range between $800,000.00 – $1,620,000.00

XENI GWET'IN (NEMIAH) | Evacuation Centre
Construction Cost range of $8.8 M to $13.2 M.
Construction Documents range $792,000.00 – $1,584,000.00

INITIAL PROJECTED CAPITAL PROJECT COST RANGE: $ 40.1 M - $63 M

PHASE TWO: Includes the remaining three Evacuations Centres

YUNESIT'IN (STONE) | Evacuation Centre
Construction Cost range of $8.1 M to $12.1 M.
Construction Documents range $729,000.00 – $1,452,000.00

TL'ESQOX (TOOSEY) | Evacuation Centre
Construction Cost range of $4.3 M to $6.4 M.
Construction Documents range $387,000.00 – $768,000.00

TSI DELDEL (RESTONE) | Evacuation Centre
Construction Cost range of $2.4 M to $3.7 M.
Construction Documents range $216,000.00 – $444,000.00

INITIAL PROJECTED CAPITAL PROJECT COST RANGE: $ 16.1 M - $24.9 M

8.0 PROJECT SCHEDULE

- First Review of Draft Feasibility Study _____ 02.20.20
- Review of Feasibility study with Full Council _____ TBS
- Second Round of Design Workshops with Each Community__TBS
- Second Review of Draft Feasibility Study_____ TBS
- Feasibility Study Completion_____ TBS
- Internal Review and External Circulation_____ Summer 2020

- Phase 1 Project Initiation _____ TBD
- Phase 2 Project Initiation _____ TBD

9.0 FINDINGS AND RECOMMENDATIONS

To date we are providing our designs and siting recommendations on the initial information that we have been provided, and from our initial interaction with leadership and on ground personnel. To continue to build out this report in a holistic and fulsome process, we require more input and time from leadership and emergency operations staff, after they have reviewed this initial draft report.

Further Findings and Recommendations to be provided after client review

10.0 CONCLUSIONS

To provide in final report