

Koyukuk Community Emergency Shelter

Design Analysis Report



October 2010

Prepared for:
Koyukuk Tribal Council

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Prepared by:
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SUMMARY

The Koyukuk Tribal Council has contracted with USKH Inc. (USKH) to provide planning services for a new Koyukuk Community Emergency Shelter, funded by an Alaska Climate Change Impact Mitigation Program grant from the Alaska Department of Commerce, Community and Economic Development (DCCED), Division of Community and Regional Affairs. The main objectives of the work effort include the following tasks related to the new shelter:

- Identifying the most appropriate site
- Determining the programmatic requirements
- Development of a schematic design
- Estimate of costs for construction
- Estimate of operational costs and income (pro forma)
- Identification of potential funding sources and funding plan
- Design of a foundation for the facility that can be constructed using local resources

On June 15 and July 27, 2010, the consultant team¹ met with the community in the first two of four work sessions and identified six sites for consideration, obtained preliminary programming input for building and site, identified preliminary sustainability goals, and learned of the community's vision for the new shelter. A preferred site was unanimously selected near the airport at the west end of Spruce Street.

This Design Analysis Report includes development of conceptual site and building design, updated operational pro forma and project cost estimates for use during the third work session scheduled for October 13, 2010, and includes:

1. Review of Project Vision and Goals.
2. Site Development.
3. Concept Building Program.
4. Building Concepts.
5. Funding Strategies.
6. Draft Operations Plan.
7. Project Cost Estimates:
 - a. Traditional Low Bid Construction Delivery Method.
 - b. Village Managed and Constructed Delivery Method.
8. Geotechnical Report (bound separately).

¹ Consultant team included:

- Gary Pohl, USKH
- Dwayne Adams, USKH
- Jack Hebert, CCHRC
- Judith Grunau, CCHRC
- Shelly Wade, Agnew::Beck



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- Appendix A - Sign Up Sheet from Work Session Number 2
- Appendix B - Cost Estimate for Traditional Low Bid Contractor Delivery Method
- Appendix C - Cost Estimate for Village Managed and Constructed Delivery Method
- Appendix D - Drawings

1 INTRODUCTION

1.1 Background

The community of Koyukuk is located on the banks of the Yukon River, close to the confluence of the Yukon River and the Koyukuk River. It is located 30 miles west of the City of Galena and 290 air miles west of the City of Fairbanks. The community is potentially threatened by human-caused and natural events including fire hazards, ice dams, and flooding/erosion resulting from ice dams.

According to the Koyukuk Emergency Operations Plan, structure fires and wildland fires are of concern and Koyukuk is listed as a “full protection area”. Sources of fire are both human-caused and lightning strikes which may result in structure and/or wildland involvement.

Seasonal flooding is common within the village and the community has learned to live with the negative impacts of flooding, which include damage or destruction of structures, stored food, vehicles. Flooding also can create mobility problems for elders and the rest of the community. Of the threats posed to the community, floods have historically been the events for which a shelter is most needed.

The Koyukuk Community Emergency Shelter is proposed to provide shelter for the community during these events. It will serve as a command post and a “safe house” that is accessible to the community and facilitates evacuations, provides temporary housing, and enables return of residents to their homes in a safe manner. The community shelter will also provide for other community needs that may be accommodated within the shelter.

1.2 Concept Development

With the selection of the preferred site, development of alternative concepts for site and building development have been prepared that are specific to the given site and the updated building program. Key factors in concept development include:

- As discussed at the July 27, 2010 work session, the concepts will lend themselves to the use of local materials and labor to the extent possible, including the local gravel source at Koyukuk Mountain, and local spruce timber which can be milled with the existing timber mill in Koyukuk.
- While the selected site has an elevation that is relatively high in comparison to other areas in Koyukuk, it will be necessary to construct an elevated gravel pad upon which to construct the shelter, and to serve as a staging area for emergency operations.
- The existing material source at the base of Koyukuk Mountain was developed during the construction of the airport runway, and is located two miles from the Shelter site. The material is principally volcanic rock, reportedly moderately weathered and closely fractured to extremely weathered and clay-like. Construction of the gravel pad will require development of the material source to provide select fill, which at a minimum would entail screening of existing rough stockpiles, but a more likely scenario is that a crusher will be required.
- Flood Plain Elevation: With the Flood Plain info that is available from the 1963 flood, a flood plain elevation of approximately 146.5 feet was determined by looking at the three HWE locations with the latest topography drawings as follows:

- HWE #1 at NE corner of City offices is 8.5 feet above grade.
- HWE #2 at utility pole SE corner of School is 8.6 feet above grade.
- HWE #3 at SW corner of Post Office is 8.3 above grade.
- **Finish Floor Elevation:** Rather than set the finish floor at the flood plain elevation, it has been set above to keep the entire floor structure dry. At this point, 2 feet would be a reasonable assumption for floor structure, but it could be less if spray foam insulation is used instead of batt insulation, and space structural supports for shorter span.
- **Post and Pad Height:** Per Shannon & Wilson, the design should keep the height of the system low, but high enough to get under the building for periodic adjustment, etc., or three feet from bottom of floor structure to top of gravel.
- **Pad Height and Footprint:** Assuming that the flood plain is 146.5, the top of the pad would be 143.5 given a conservative 2 foot floor structure and finish floor of 148.5.
- **Building concepts** envision a structure that can be built in phases as funding and resources become available. The design of the structure would be based on simple, proven construction methods that are constructible, and maintainable, to a large part through the use of local labor forces. This approach allows for the project to move forward either as a grant funded traditionally bid construction project, or as a community based “bootstrap” project.

1.3 Project Development

This report assumes that there are two alternative delivery methods for development of the project:

- A. **Traditional Low Bid Construction:** Under this method, full grant funding would be required, and the project would be designed, advertised and awarded to a construction contractor for construction. The advantage of this approach is that risk is minimized and the construction contractor would be responsible for successful completion of the construction. The principal disadvantage is that funding in the required amount may be difficult to obtain. As indicated in Appendix B, the concept level cost estimate for this delivery method is approximately \$5 million.
- B. **Village Managed and Constructed:** Under this “bootstrap” method, partial grant funding would be required and the project could be phased. The project would be designed, but the Tribal Council would, as an owner/builder, be responsible for construction. The advantages of this approach are that the project could likely get started sooner, construction cost is lower, and a large portion of the monies spent on construction would remain in Koyukuk, with the potential for residents to gain new skills during the construction. However, the risk would be entirely on the Council as they would be responsible for successful completion of the construction. With this in mind, the Council should consider employing suitable personnel to manage the construction. As indicated in Appendix C, the concept level cost estimate for this delivery method is approximately \$3.8 million, over 20 percent lower than a traditional delivery method.

2 SITE DEVELOPMENT

2.1 Foreword

The selection of the West Spruce Street site for the new Koyukuk Community Emergency Shelter was a critical step for meeting the community's needs in times of emergency. The following analysis describes the approach to site development.

2.2 Site Development

The selected site is owned by the City of Koyukuk and is part of ANCSA 14(c) Tract B, Plat No. 98-3, with a 62 foot road and utility easement running along the north side of the property. The designated site for the pad and building construction is located along a heavily wooded "ridge" that slopes gently to lower ground to the north, and drops more steeply to a lower drainage area to the south.

The concept for site development would include the harvesting and milling of select spruce timber within a prescribed clearing limits boundary. These logs would be moved to a safe staging location and allowed to dry while the building pad is being constructed, and would then be milled for use in construction.

Construction of the building pad would begin with removal of surficial organic layer and organic soils at the site, and shaping of subgrade to provide for as uniform a base as possible. Gravel from the Koyukuk Mountain site will be trucked to the site and systematically placed and compacted in 8 inch maximum uniform lifts. The top of the pad would be surfaced with a finer graded aggregate material.

An access drive would connect to the Airport Access Road to the east and extend to the main pad gradually sloping up to the pad elevation.

2.3 Site Design Concept

Two separate building concepts have been developed, and the site design concepts for both building concepts are similar, with the following key features:

- The site orientation is linear along the east to west ridge, with the main access located within the 62 foot road and utility easement to the north.
- The site and building organization together deliberately keep vehicles to the north side for reasons of safety, site organization, and noise control.
- The south side of the building pad is perched above the steeper bank to take advantage of views and solar exposure. A large deck provides a sun trap social area that is screened from the noise and exhaust fumes of vehicles.
- In the event of a major flood event, the large south facing deck could provide mooring for boats.
- An area is designated to the east for a new clinic that would not be part of the Shelter project. It would share water and sewer services with the Shelter.



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3 BUILDING PROGRAM

3.1 Foreword

The Koyukuk Community Emergency Shelter will be a community resource with functions related to both emergency and non-emergency use, with the following goals:

- To provide shelter for the community during emergencies, principally during floods, but also in fire events and extreme weather events
- To provide non-emergency functions as a Tribal and community asset
- To offer capacity to accommodate 65 persons for 10 to 14 days in an emergency situation
- To benefit from the co-location of a proposed new village clinic to be constructed, including shared building pad and utilities
- To generate revenue to offset operation and maintenance costs through transient/visitor lodging/meals, and other opportunities

3.2 General Program Requirements

Based on further input from Work Session Number 2 in Koyukuk, an updated building program has been developed which includes the following spatial groupings:

Tribal Offices: Non-emergency space for the Koyukuk Tribal Council will include offices, work spaces, communications room and storage for records and supplies. During an emergency event, these areas will become the event command center.

Kitchen, Serving, Food Storage: Food storage, preparation and serving functions must at a minimum accommodate the 65-person occupant load for emergency events, and provide similar capacity for large community gatherings in non-emergency situations. Food storage areas will primarily offer dry storage and must be sized to hold sufficient reserves for the 14-day maximum event duration. Cooking facilities should be simple in nature, with easy to use and maintain, high-quality, residential appliances that do not require Type I (grease) commercial hoods with fire suppression, which precludes the use of deep fat fryers and griddles. Cooking facilities should include a three-compartment sink and a separate hand wash sink to provide the flexibility to include food service (i.e. restaurant, café, snack bar). Non-emergency uses will include the Elders Meals Program, potlatches and community events, and potential food service. During an emergency event, the food preparation areas should be designed to accommodate both large group meal and family meal preparation. Provision for community food storage could also be considered.

Assembly Room: Forming the heart of the facility, the assembly room will provide space for dining and community activities during non-emergency use, and will function as gathering, dining and shelter space (sleeping) during emergency events. The assembly room will provide sleeping space for most people taking shelter during an emergency event. Adjunct storage space should be provided to allow for flexibility of use, including storage of tables and chairs.

VPSO: Locating an office for a Village Public Safety Officer (VPSO) within the facility is desirable both in emergency and non-emergency situations. The VPSO will be a resource and a potential revenue source.

Lodging/Sleeping Rooms: Currently, there are no transient quarters available in Koyukuk for visitors, except for the school, which provides mats for sleeping on the floor of the library. Two to four guest rooms will be provided that could be rented out to both short- and long-term visitors. During an emergency event, these rooms will be made available to Elders to provide them a quieter shelter location than the main assembly room.

Restrooms/Showers/Laundry: Restroom facilities will include public restrooms sized to accommodate 60 persons under an emergency event, and to accommodate a similar number during community potlatches and other events. Private restrooms will be desirable to serve the lodging/sleeping rooms. Shower facilities will be required and could be associated with the restrooms, or in separate shower rooms. Minimal laundry facilities should be provided, principally for emergency use, as the washeteria will be assumed to be unusable.

Support Spaces: Utility spaces will be required for mechanical and electrical equipment, water storage and treatment, and sewage treatment. Pending investigation will include the potential for an operational well at the facility, as well as a packaged wastewater treatment units (e.g. Lifewater), which would require minimal heated building area. Other support spaces will include custodial and storage areas. Storage provisions will need to include supplies for 60 persons for 14 days. An emergency generator could be considered, however, given the relative security of the elevated village power plant, it may be possible to reliably intertie to this source of power and maintain its operation during an emergency.

Exterior Spaces: With 65 persons being sheltered, a need for exterior overflow space such as a large deck or patio will be important. Some portion of the exterior space should be covered. In addition, there should be ample parking/storage area for snow machines, ATVs and other items that need to be moved from high water. Currently, such items are moved to the apron at the airfield in flood events.

The following table contains a summary of interior spaces with emergency and non-emergency functions, and preliminary low and high range square foot areas.

Table 1 Building Program

- Goals:**
- Provide shelter for the community during emergencies, principally during floods, but also fire, extreme weather events.
 - Provide non-emergency functions as a Tribal and community asset.
 - Capacity to accommodate 65 persons for 10 to 14 days in an emergency.
 - Potential strong relationship to new clinic to be constructed.
 - Potential revenue generation from transient/visitor lodging and meals.

Interior Space Description	Emergency Use Functions	Non-Emergency Use Functions	Area (SF)		Notes
			Low	High	
Tribal Offices	Command Center	Tribal Offices			
Work Room			200	300	
Office No. 1			120	150	
Office No. 2			80	100	
Office No. 3			80	100	
Open Office Area (4 stations)			240	320	
Comm Room (data/phone)			30	50	



Interior Space Description	Emergency Use Functions	Non-Emergency Use Functions	Area (SF)		Notes
			Low	High	
Records / Storage / Supplies			50	80	
Kitchen, Serving, Food Storage	Group Meal Preparation Family Meal Preparation	Elders Meals Program Potlatch/Special Events Meals Café/Restaurant Community Food Storage	250	350	
Assembly Room	Family Shelter/ Housing Dining	Community Activities Dining	1,500	2,100	Sleeping for 60 @ 25 to 35 SF/person
VPSO Office/Holding Cell			150	200	Optional
Lodging/Sleeping Rooms	Elder Shelter/ Housing	Transient and Visitor Lodging	400	800	2 to 4 units at 200 SF
Public Restrooms/Shower			500	800	For community use
Private Restrooms/Shower			120	240	For lodging rooms
Laundry			100	150	
Support Spaces					
Mechanical Equipment			200	500	
Electrical/Emergency Generator			100	250	
Water Storage/Treatment					Well
Sewage Treatment					Modular unit(s)
Custodial			50	100	
Storage			250	500	
Subtotal			4,420	7,090	
Circulation at 15%			663	1,064	
Total			5,083	8,154	
SF/Person Total (at 65 persons)			78	125	

3.3 Program Considerations

In developing the design of the new facility, the following programmatic considerations will be important:

- Zoning of the facility in terms of public, semi-public and private spaces: The assembly room will be the public center of the facility. Lodging/sleeping rooms should be separated for quiet and privacy; Elders will appreciate a quiet location for their shelter quarters.
- Taking advantage of solar exposure: Natural light, passive solar, and potential photovoltaic power should be considered.
- Relationship to the proposed new clinic: Both facilities must be accessible to and visible from the road system with the potential to share water and sewer utilities.
- The primary purpose of the emergency functions is to shelter people; any provision for dogs and other pets is not a part of the program.

3.4 Preliminary Building Code Analysis

The authority having jurisdiction in Koyukuk is the State of Alaska Department of Public Safety, Division of Fire and Life Safety, i.e. State Fire Marshal. The adopted codes are the International Building Code (IBC) series, with the exceptions of the Uniform Plumbing Code and National Electrical Code. A brief summary of programmatic code considerations is as follows:

1. **Use and Occupancy Classification:** While the program contains mixed uses, the overall classification would be that of A-3, Assembly, under IBC Section 508.3.2 for non-separated occupancies.
2. **Type of Construction:** Type V-B, non-rated, combustible will be assumed, because the structure may be constructed of local materials, and to keep the construction simple and cost effective.
3. **Allowable Height and Building Area:** With an overall A-3 occupancy classification, and Type V-B construction, IBC Table 503 provides a base allowable area of 6,000 square feet and one story. Assuming that a minimum separation of 30 feet can be maintained all around the building, a 75 percent frontage increase is allowed per IBC Section 506.2, allowing a total one story building area of 10,500 square feet. This area easily accommodates the programmed building area. A two-story building is not permitted unless the type of construction is upgraded to Type V-B fire rated construction, or the building is equipped with an automatic sprinkler system per IBC Section 504.2. A mezzanine is allowed under provisions of IBC Section 505, and is limited to one-third of the floor area of the room or space in which they are located. Presumably, this would be the assembly room.
4. **Fire Protection Systems:** For Group A-3 occupancies, IBC Section 903.2.1.3 does not require the building to be protected by an automatic sprinkler system in that 1) it is less than 12,000 square feet, 2) it has less than 300 occupants, and 3) it is not located on a floor other than the level of exit discharge. However, residential sleeping areas comprising R occupancy fire areas, i.e. lodging rooms, may be required to have a sprinkler system per IBC 903.2.7.

4 BUILDING CONCEPTS

4.1 Foreword

The Koyukuk Community Emergency Shelter concept designs are based on the Building Program. Two alternative concepts are presented, although both concepts are organized in highly similar fashions:

- The core of the facility is the main assembly area, which is based on the traditional Koyukon community center octagonal design seen in the communities of Kaltag, Allakaket and Nulato, and at Howard Luke’s camp on the Tanana River. This core would serve as a community meeting space during non-event periods, and as the group shelter during an emergency. As the center of the facility, it would serve as a “hub” around which the other building spaces would be attached. On the south side of the core, a large wrap around deck would provide outdoor overflow space and strong solar orientation.
- The Tribal Council offices and VPSO office would be located in a “pod” to the east of the core, a location from which access to and from the site can be best observed, and which would also be closely related to the proposed separate clinic building.
- Lodging and restroom areas would be located in a “pod” to the west, with the lodging set up to enjoy views of the natural areas to the south and west, and away from the main public areas and vehicles.
- Kitchen and storage areas would be located on the north side of the core assembly areas, providing convenient access for deliveries and staging, and for serving meals.
- The main entry to the facility enters from the northeast. A ramp structure provides both ADA accessibility and a convenient means to bring supplies and materials into the building.

4.2 Building Concepts

Building Concept A employs three octagonal structures for the core and the east and west pods.

Building Concept B varies the design elements by using an octagonal core, and rectangular pods with gable roofs.

Both concepts would employ a traditional Koyukuk vernacular, or style of design, that integrates with the fabric of the community, and which could be constructed similar to other structures in the village. The construction methods and design are to be proven techniques with the addition of new materials to provide durable and affordable building space.

1. Once the pad is in place, construction of the building structures on adjustable post and pad type foundations would occur. Typical pads might consist of preservative treated 3 x 12 timbers; 3 feet long laid three across and three perpendicular across in a double mat. Posts and diagonal bracing would be steel fabrications with provisions for adjustment.
2. Floor Framing would consist of engineered wood products, likely a combination of glue laminated beams and joists, with plywood soffit and subfloor. The floor would be insulated with spray soy based urethane foam to achieve R-40.

3. Exterior walls would be three sided, locally milled logs, furred on the inside, insulated with similar spray foam and plywood finish. Spray foam or sheathing would be painted with an intumescent paint for fire protection.
4. Roof construction at the octagonal core would be glue laminated beams and center compression ring, spray foam insulation to R-60, plywood sheathing and standing seam metal roofing with interior plywood finish. Spray foam or sheathing would be painted with an intumescent paint for fire protection.
5. Interior partitions would be wood framed with plywood finish.
6. Windows would be vinyl or fiberglass with triple pane, low-e, argon filled glazing.
7. Exterior doors would be commercial grade of insulated metal or fiberglass.
8. Interior doors would be wood with wood jambs.
9. Floor finishes would be carpet at offices, sheet vinyl at restrooms and kitchen, and painted plywood at utility areas.
10. Wall finishes will generally be painted plywood, except full height fiberglass reinforced plastic panels or similar at restrooms and kitchen.
11. Ceilings will be painted plywood.
12. Plumbing systems would be plastic pipe. Water supply will be assumed to come from a new well with the top of casing located above the flood plain to permit continuing use during a flood event. Based on well logs from the existing Washeteria building, the depth of the well will be assumed at 200 feet (this is the depth of the existing Washeria well). Waste water will be processed through Lifewater Engineering treatment systems, with potentially up to three units to support each pod and the core, and allow flexibility of use as needed.
13. Heating and ventilation systems will be kept simple, and decentralized. Individual Toyo or Monitor type stoves are seen in each wing, supplemented by wood burning appliances in the octagonal core area. Heat recovery ventilators will be provided at each area, as well as natural ventilation.
14. Electrical service will be provided from the Village power plant, which is elevated above the flood plain and assumed to be operable during a flood event, however, a standby generator may be considered and sized to maintain building heat, minimal lighting, and power for emergency communications systems. Lighting will generally be fluorescent for interior applications, and LED for exterior. In addition, photovoltaic solar panels can be installed on the south facing roofs and connected to a UPS battery storage system and inverter. Preliminary discussions with the Interior Regional Housing Authority indicate that assistance may be available, and that such an array could easily provide power during the most likely months of flooding.
15. The building will be required to be ADA accessible.

5 SHELTER FACILITY DESIGN + CONSTRUCTION

Pre-Development Program through Foraker Group

Many Alaska nonprofits undertake capital projects, whether it's purchasing, constructing, or renovating a facility. Effective planning in the first phase will dictate the long-term success of the project. "Pre-development" is the phase of a construction project between the idea that a facility is needed through to the initiation of design. Inadequate planning during this phase can result in projects that are not sustainable in the long term. [The Pre-Development Program](#) assists nonprofit organizations in planning for successful capital projects. It is offered through a partnership with the Rasmuson Foundation, the [Alaska Mental Health Trust Authority](#), the [Denali Commission](#), and [The Foraker Group](#). The Pre-Development Program ensures that selected projects meet a community need; that they are adequately prepared to pursue capital funding; and that operations will be sustainable.

The Program follows five steps: (1) organize the project work plan, (2) determine need for capital project, (3) explore alternatives, (4) define the projects scope/design, and (5) decide whether to proceed. Organizations have access to program specialists, architects, engineers, and other specialists as necessary to successfully complete the pre-development phase of their project.

Who is eligible?

Pre-Development Program services are not available through an open application process. Organizations are invited to participate through a selection process initiated by one of the program funders. Organizations should contact the Alaska Mental Health Trust, the Denali Commission, or the Rasmuson Foundation to request consideration for inclusion in the program. Each funding agency has its own criteria for eligibility, but in general only nonprofit organizations with 501(c)(3) status, municipal, or tribal organizations qualify. For more information on the Pre-Development Program, visit [The Foraker Group](#) website.

U.S. Department of Housing and Urban Development: Community Development Block Grant Program for Indian Tribes and Alaska Native Villages (ICDBG)

Deadline: October 27, 2010

Contact: Alaska Office of Native American Programs (907) 677-9836

Eligibility: Indian tribes or tribal organizations on behalf of Indian tribes

Award Information: 2010 Ceiling was \$600,000

Description: This NOFA announces the availability of funding for approximately \$65 million for HUD's ICDBG Program for FY 2009. The purpose of the ICDBG program is the development of viable Indian and Alaska Native communities, including the creation of decent housing, suitable living environments, and economic opportunities primarily for persons with low- and moderate-incomes. Two types of funding are available:

- 1.) **Single Purpose Grants.** To principally benefit low- and moderate-income persons. Not less than 70 percent of the expenditures of each Single Purpose grant shall be used for:
 - a. Area Benefit Activities
 - b. Limited Clientele Activities
 - c. Housing Activities
 - d. Job Creation or Retention Activities

ICDBG funds may be used to improve housing stock, provide community facilities, improve infrastructure, and expand job opportunities by supporting the economic development of the communities, especially by nonprofit tribal organizations or local development corporations.

- 2.) **Imminent Threat Grants. ICDBG Imminent Threat (IT)** grants are intended to alleviate or remove threats to health or safety that require an immediate solution. The problem to be addressed must be such that an emergency situation exists or would exist if the problem were not addressed.

Web link:

<http://www07.grants.gov/search/search.do;jsessionid=t4dQM8HZD0KNThP6VNZgIhkMv8Yg1KTn4hLJDVGW141z5YdfxVp6!97035526?opId=56858&mode=VIEW>

U.S. Department of Agriculture Community Facilities Program

Deadline: Ongoing.

Contact: USDA Alaska Office at (907) 761-7700

Eligibility: Nonprofit community-based organizations, tribes and tribal organizations, public organizations

Award Information: Not specified. Work with program staff to determine eligible funding

Description: The Rural Development Mission Area agencies (RHS, RUS, and RBS of the United States Department of Agriculture) provide a wide variety of grant, loan, and loan guarantee assistance to rural residents, rural communities, and rural utility systems. The eligibility criteria for each of the programs differ widely. Programs receiving additional funding through the ARRA include:

- **Community Facilities (CF) Programs:** The CF Direct Loan and Grant Programs are designed to finance and facilitate the development of essential community facilities servicing rural areas. These facilities include, but are not limited to, hospitals; medical clinics; elderly care facilities; police stations and vehicles; fire and rescue stations and vehicles; vocational and medical rehabilitation centers; and educational facilities.

Weblink: http://www.rurdev.usda.gov/HCF_CF.html

Denali Commission Funding Opportunities

Deadline: Varied

Contact: (907) 271-1414

Eligibility: Not specified

Description: Determine which may be the best fit for Koyukuk Emergency Shelter. Contact Denali Daniels or Janet Hall. Sally Cox may be a good connection here.

- **Community Planning**
- **Conference Sponsorships**
- **Economic Development**
- **Energy**
- **Government Coordination**
- **Health Facilities**
- **Solid Waste**
- **Teacher Housing**
- **Training**
- **Transportation**

Web link: www.denali.gov



M.J. Murdock Charitable Trust

Deadline: Plan for April, 2011

Contact: (310) 451-1567

Eligibility: Eligible applicants include 501(c)(3) tax exempt organizations. Priority is given to applications for the support of projects within the five states of the Pacific Northwest: Alaska, Idaho, Montana, Oregon, and Washington.

Description: “We emphasize preventive efforts which address physical, spiritual, social, and psychological needs. Programs with a focus on youth are especially valued. About half of the grants awarded are for capital projects, and the other half are for program initiation, expansion, or for increased organizational capacity.” Awards between \$100,000 - \$300,000.

Web link: <http://www.murdock-trust.org/grants/general-grants.php>

Rasmuson Foundation Tier 2 Grants

Deadline: Ongoing. Review process is approximately 8-9 months. In general, the Board of Directors considers large grants (more than \$25,000) twice a year: the first meeting is held in June - July and the second in November - December. It is best to submit a Letter of Inquiry no later than early January for consideration at the summer meeting and no later than early July for the winter meeting.

Contact: (907) 297-2700 or rasmusonfdn@rasmuson.org

Eligibility: Nonprofit organizations, tribes, local governments

Award Information: Tier 2 requests over \$25,000

Description: Rasmuson is mainly interested funding the following activities: Human services, health, education, community development, arts/culture, especially related to capital projects.* Tier 2 applications are for strategic projects and the expansion or start-up of innovative programs by established organizations. Depending upon the request amount (either more or less than \$25,000), a Tier 2 application follows either a one-step process (\$25,000 or less) or a two-step Letter of Inquiry process (greater than \$25,000).

Web link: <http://www.rasmuson.org/index.php?switch=viewpage&pageid=33>

Doyon Foundation or Doyon Limited

Deadline: Not specified.

Contact: (907) 459-2048

Description: Focused primarily on scholarship giving, but there may be funds available for programming within the facility depending on the nature of activities. Contact Doyon Foundation Staff for more information.

Web link: www.doyonfoundation.com

State of Alaska Legislative Appropriation

Deadline: Plan for February, 2011

Contact: Woodie Salmon, House District 6 or Representative_Woodie_Salmon@legis.state.ak.us or (907) 465-4527

Description: Requests for legislative appropriations are due electronically via the CAPSIS information system: <http://www.legfin.state.ak.us/ProjectBackup/enterCapitalProjects.php>. Need to contact Rep. Salmon's office prior to receive login name and password.



Federal Appropriation

Deadline: Plan for February, 2011 deadline for 2012 appropriations

Contact: Leslie Ridle, Deputy Chief of Staff, Senator Begich (202) 224-3004 or Leslie_Ridle@begich.senate.gov

Description: Submit a Fiscal Year 2012 Appropriations Request form available for download here:

Web link: <http://begich.senate.gov/public/index.cfm?p=ProjectRequests>.

EQUIPMENT and BUILDING FURNISHINGS:

Defense Reutilization and Marketing Offices (DRMO)

Deadline: N/A

Contact: Email the Reutilization, Transfer and Donation (R/T/D) program at DRMSRTD@dla.mil

Eligibility: An “Authorized Accountable Supply Officer” or appointee may submit requests

Description: When the Department of Defense declares items such as vehicles, household or office furniture, hardware, etc., as excess to their needs, they’re turned in (physically or electronically) to the Defense Reutilization and Marketing Offices (DRMOs) around the world. **Create a “Want List” for alerts on available equipment (construction or other):**

Milstrip Requisitioning Slide Show

Shows users step by step how to search and requisition property, and also how to create and use want list.

Web link: <https://www.drms.dla.mil/rtd03/faq.shtml>

ACCESS ROAD:

Bureau of Indian Affairs (BIA) may use Indian Reservation Roads (IRR)

Deadline: Submit projects to be included in inventory by November 30th for Level One review.

Contact: Matt Crain, Alaska Regional Transportation Engineer, at (907) 586-7386 or matt.crain@bia.gov

Eligibility: Tribes

Description: Funds for recreation, tourism, and trails programs if the programs are included in the Indian Reservation Roads Transportation Improvement Program (IRRTIP). During the first quarter of the fiscal year, the Tribe will receive a Projected IRR Program Amount letter (see Attachment P1). The IRR Program projected amount is used to assist in developing the TTIP. The IRR Program projected amount is not a guaranteed funding amount, nor is it to be used as leverage for other funding. The amount documented in the letter is for planning purposes only. Each Tribal transportation department will receive an electronic form to develop their TTIP from the FLH IRR staff representative (see Attachment P2 of **Indian Reservation Roads Program Delivery Guide**)

Web links:

http://www.dced.state.ak.us/dca/edrg/EDRG_BrowsePage_Template.cfm?Program_Name=BIA+IRR+Roads+Program

<http://flh.fhwa.dot.gov/programs/irr/documents/irr-program-delivery-guide.pdf>

6 UPDATED DRAFT OPERATIONS PLAN

6.1 Narrative

The following tables are referred to as worksheets. The tables originate from an Excel workbook that includes a series of linked spreadsheets. Communities and prospective facility owners can use this tool to weigh the costs and benefits of design decisions at the early stages of the design process. This tool will help to determine a workable balance between what the community needs and what the facility owner can afford to construct and to operate.

6.1.1 Program + Capital Costs Worksheet

The first sheet provides a summary of the spaces identified in the community workshop, the functions of these spaces, both emergency and non-emergency, and the range of sizes for these spaces in square feet. The set of columns labeled ‘Estimated Operating Costs’ provides a \$ per square foot estimate for the cost to operate each space for one year. A low and a high estimate for operating cost per square foot are based on comparable facilities. See the ‘Comparable O + M’ worksheet for details.

The row titled ‘subtotal areas above’ gives the total net square feet based on the figures in each column. The row beneath calculates the ‘net to gross factor’ which adds a percentage to the total net square feet to account for hallways, walls, and spaces not itemized above. When total net square feet and the net-to-gross factor are combined, it equals the ‘gross estimated square feet’ for the facility.

The final row of this worksheet uses a comparable facility per square foot cost to calculate the estimated project cost for constructing the facility.

6.1.2 Five Year Projection

This worksheet is a summary sheet that is linked to the ‘User Fees’ and the ‘Tenants’ worksheets. It summarizes total revenue and expense over five years and calculates the surplus or deficit.

6.1.3 User Fees

User fees for the Koyukuk Community Shelter are estimated from two sources. ‘Lodging’ is for itinerate workers or tourists who rent a room on a short- or long-term basis. The estimate projects 36 nights per year for year one increasing to 39 visits per year for year five. The nightly rate for lodging is set at \$115 per night for years one through three increasing to \$125 per night in year five.

The Assembly Area + Kitchen may be used for community events, some of which may pay a fee for use. This is very conservatively estimated at six uses per year in years one through five, for a fee of \$75 per event, increasing to \$100 per event in years four and five.

6.1.4 Tenants

Lease paying tenants that include the Koyukuk Traditional Council, the VPSO Office, and a café or restaurant may generate potential revenue. The Koyukuk Traditional Council is estimated to pay \$850 per month in lease; the VPSO Office is estimated to be leased for \$450 per month. These estimates should be further discussed and

validated with the community. In this projection, revenues from a café or restaurant have not been included. All of these lease rates are projected to increase at a rate of 3% per year.

6.1.5 Comparable O + M

This worksheet provides a baseline for facility costs from a similar facility in a rural village, in this case the Ikaiyurvik Family Resource Center in Togiak, Alaska. The facility is 7,600 square feet and the actual facility costs for 2009 are itemized on this sheet. The cost per square foot for these expenses is used as the ‘high cost’ scenario in the ‘Program + Capital Costs’ worksheet.

To provide an estimate for a facility with a very energy efficient design we have included fuel and electricity costs based on projected usage from the energy model of the 35% design of the Mertarvik Evacuation Center, currently being designed by the Cold Climate Housing Research Center with the village of Newtok, Alaska. For the ‘low cost’ scenario in the ‘Program + Capital Costs’ worksheet, the fuel and electricity costs are based on the Mektarvik model and the other facility costs are based on the Ikaiyurvik Family Resource Center in Togiak, Alaska.

6.1.6 Capital Replacement

This worksheet provides an estimate of the annual contribution to a repair and replacement fund that will be required, based on the estimated capital cost of the facility. The facility owner deposits the annual amount each year into a dedicated fund to be used for major repair or for a down payment on financing for an eventual replacement of the facility.

Koyukuk Emergency Shelter Funding Strategy												
Last updated: 10/12/2010												
BIA IRR	USDA Rural Development: Community Facilities Programs	Denali Commission	M.J. Murdock Charitable Trust	Rasmuson Foundation	State Appropriation	Federal Request	ICDBG FY2010	Doyon Ltd or Doyon Foundation	Defense Reutilization and Marketing Offices (DRMO)	TOTAL		
15-Jul	Ongoing		Deadlines for LOI and application ongoing. Trustees meet quarterly	Deadlines for LOI and application ongoing. Trustees meet in June + December.	On or around Feb 12 annually	On or around February 19 annually	27-Oct-10					
Submit TTIP to Federal Lands Highway by Jul 15 for inclusion in IRRTP. Amount depends on allocation to tribe.	Contact Misty Hull at (907) 761-7733 or misty.hull@ak.usda.gov	Contact Denali Daniels or Janet Hall, work with Sally Cox	Submit LOI.	Submit LOI.	Requests for legislative appropriations are due electronically via the CAPSIS information system: http://www.legis.state.ak.us/PrjObjectBackup/enterCapitalProjects.php . Need to contact Rep. Simon's office prior to receive login name and password.	Appropriations Request Form in file. Submit electronically.		Contact Doyon for more information / begin discussion	See instructions in file. Discuss specific equipment needs and determine if this is viable			
Amount	Amount	Amount	Amount	Amount	Amount	Amount	Amount	Amount	Amount	Amount	Amount	
\$	600,000.00	\$	150,000.00	\$	450,000.00	\$	1,000,000.00	\$	500,000.00	\$	20,000.00	
				</								

FACILITY PROGRAM				ESTIMATED SQUARE FEET	ESTIMATED OPERATING COSTS		NOTES
					Low Cost	High Cost	
Interior Space Description	Emergency Use Functions	Non-Emergency Use Functions					See Estimated O + M for details
Offices + Administration					\$5.69	\$6.92	
Workroom	Command Center	Tribal Offices					
Office space (6 offices)							
Communications room (data/phone)							
Storage							
SUBTOTAL				1,615	\$ 9,182	\$ 11,168	
Assembly + Utility Kitchen							
Utility kitchen	Group + Family meal prep / dining	Elder meals program, potlatch + special events, community food storage		567	\$ 3,224	\$ 3,921	Kitchen is residential grade
Assembly room	Family shelter / housing / dining	Community activities, dining		2090	\$ 11,883	\$ 14,453	Sleeping for 60 @ 35 sf / person
SUBTOTAL				2,657	\$ 15,107	\$ 18,374	
Lodging							
Lodging, restrooms, laundry + circulation	Elder Shelter / housing	Transient + Visitor lodging		1825	\$ 10,376	\$ 12,620	
Vestibules				342	\$ 1,945	\$ 2,365	
SUBTOTAL				2,167	\$ 12,321	\$ 14,985	
GROSS EST'D SQUARE FEET				6,439	\$ 36,610	\$ 44,527	
Village-managed Construction Cost Estimate				\$ 3,829,049	\$ 595	\$/sf	
Traditional Low Bid Contractor Delivery Cost Estimate				\$ 4,992,049	\$ 775	\$/sf	

Revenues	Year 1	Year 2	Year 3	Year 4	Year 5
Koyukuk Tribal Council	32,000	33,600	35,280	37,044	38,896
User Fees	4,950	5,099	5,549	5,715	6,202
Total Revenues	36,950	38,699	40,829	42,759	45,098

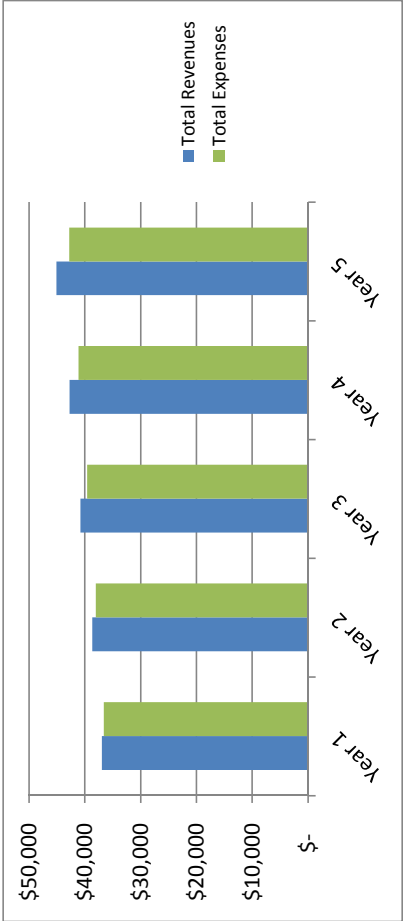
Expenses

Facility Operations & Maintenance \$ 36,610 \$ 38,075 \$ 39,598 \$ 41,182 \$ 42,829 Program + Capital Costs, low cost scenario

Total Expenses 36,610 38,075 39,598 41,182 42,829

Surplus (Deficit) 340 624 1,231 1,577 2,269

	Year 1	Year 2	Year 3	Year 4	Year 5
Total Revenues	\$ 36,950	\$ 38,699	\$ 40,829	\$ 42,759	\$ 45,098
Total Expenses	\$ 36,610	\$ 38,075	\$ 39,598	\$ 41,182	\$ 42,829



User Fees		Year 1			Year 2			Year 3			Year 4			Year 5		
		Estimated Volume	Estimated Fee	Estimated Revenue	Estimated Volume	Estimated Fee	Estimated Revenue	Estimated Volume	Estimated Fee	Estimated Revenue	Estimated Volume	Estimated Fee	Estimated Revenue	Estimated Volume	Estimated Fee	Estimated Revenue
Lodging																
Per night fee			Per Use Fees		Per Use Fees		Per Use Fees		Per Use Fees		Per Use Fees		Per Use Fees		Per Use Fees	
		50	\$90	\$ 4,500	52	\$ 90	\$ 4,635	53	\$ 95	\$ 5,039	55	\$ 95	\$ 5,190	56	\$ 100	\$ 5,628
Assembly Room + Kitchen																
Potlaches, Community Events			Day Use Fees		Per Use Fees		Per Use Fees		Per Use Fees		Per Use Fees		Per Use Fees		Per Use Fees	
		6	\$75	\$ 450	6	\$75	\$ 464	6	\$80	\$ 509	7	\$ 80	\$ 525	7	\$ 85	\$ 574
TOTAL REVENUE				\$ 4,950.00			\$ 5,098.50			\$ 5,548.51			\$ 5,714.96			\$ 6,201.55
Growth Assumptions		Years 1-5														
		1.03														

Estimated O & M Costs			
	Low	High	
Utilities			
Electricity	\$6,500	\$8,500.00	
Fuel Oil	\$ 3,000	\$ 4,500	
Water + Sewer	\$0	\$1,680.00	
Telephone	\$1,200	\$1,200	
Maintenance Personnel	\$7,102	\$7,102	
Maintenance Supplies + Equipment	\$800	\$800	
Custodial Materials	\$1,500	\$1,500	
Building Insurance	\$7,500	\$7,500	
Contribution to Renewal + Replacement Fund	\$9,008	\$11,744.59	
TOTAL	\$36,610	\$44,527	
\$/SF	\$5.69	\$6.92	6439
	\$ / gallon	Low	High
Fuel Consumption (gallons)	\$ 5.50	3000	4500

CAPITAL REPLACEMENT WORKSHEET

CAPITAL REPLACEMENT WORKSHEET

Traditional Bid/Build Construction Option

Capital Replacement Expense	
Facility Cost: \$	4,992,049
Inflation Rate:	1.5%
Expected Life in Years:	30
Future Value of Facility (Cost with inflation):	\$7,802,973
Percent Local Cash Required for Replacement:	10%
10% Capital Replacement Amount:	\$780,297
Expected Interest Rate:	5.0%
Annual Capital Replacement Expense	
\$11,745	
(formula for future value of an asset)	
(future value multiplied by % local cash required)	
(formula for determining annual capital replacement amount)	

Village Constructed Option

Capital Replacement Expense	
Facility Cost: \$	3,829,049
Inflation Rate:	1.5%
Expected Life in Years:	30
Future Value of Facility (Cost with inflation):	\$5,985,111
Percent Local Cash Required for Replacement:	10%
10% Capital Replacement Amount:	\$598,511
Expected Interest Rate:	5.0%
Annual Capital Replacement Expense	
\$9,008	
(formula for future value of an asset)	
(future value multiplied by % local cash required)	
(formula for determining annual capital replacement amount)	



Appendix A
Sign Up Sheet from Work Session Number 2



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KOYUKUK COMMUNITY EMERGENCY SHELTERWORK SESSION NO. 227 JULY 2010NAME

Margie Dayton
Deborah Apatiki
Cindy Pilot
Julia A. Devon
Wadine R. Wolnitz
Marie Dayton
Damien Dayton
David Dayton
Sharon Pilot
Pat Edman
Percy Wolnitz
Dale Kerkko
Leo Wolnitz



Appendix B

Cost Estimate for Traditional Low Bid Contractor Delivery Method



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**Koyukuk Emergency Shelter
Traditional Low Bid Contractor Delivery
Koyukuk, Alaska**

**Construction Cost Estimate
Concept Submittal
October 11, 2010**



1225 E. International Airport Road, Suite 205
Anchorage, Alaska 99518
907.561.0790

**Prepared for:
USKH, Inc.**

544 4th Avenue, Suite 102
Fairbanks, Alaska 99701
907.452.2128

Documents Concept 1G 10/2010	Notes and Assumptions 1 Based on 2011 procurement/2011 construction. 2 Labor rates based on Davis Bacon, 60 hours/week. 3 Weather, logistics and construction time window has been considered, Spring Start. 4 Assumes open competitive bid procurement.

Description	Estimated Cost Plus Contingency & Escalation	
	Estimated Cost	Contingency & Escalation
Basic Bid		
GENERAL REQUIREMENTS		\$2,011,551
SITEWORK	\$1,766,844	\$441,511
WATER & SEWER SYSTEMS	\$387,801	\$635,637
DECKS & RAMPS	\$558,311	\$79,733
ASSEMBLY	\$70,033	\$328,857
OFFICE	\$288,851	\$362,122
LODGING	\$318,069	\$378,752
UTILITY/KITCHEN	\$332,676	\$144,222
MECHANICAL	\$126,677	\$302,379
ELECTRICAL	\$265,594	\$307,286
	\$269,904	
Total Estimated Cost - Basic Bid:	\$4,384,760	\$4,992,049 <<<<

Koyukuk Emergency Shelter
Traditional Low Bid Contractor Delivery
Prepared for USKH, Inc. by Estimations

Construction Cost Estimate
Concept Submittal
October 11, 2010

Line No.	Description	Qty	UNITS	Material Costs Unit	Total	Labor Units	Labor Hours Totals	Labor Cost	Equip Cost	Total Cost	Total Cost w/ OH & P
1	GENERAL REQUIREMENTS										
2											
3	Project Management										
4	Project Manager, 16 Hour/Week	37	WEEKS			16.000	592.0	\$48,070		\$48,070	\$48,070
5	Supervisor, 60 Hour/Week	35	WEEKS			60.000	2,100.0	\$170,520		\$170,520	\$170,520
6											
7	Subsistence										
8	Room & Board (Subcontractors)	1,392	MANDAY	\$125.00	\$173,950					\$173,950	\$173,950
9											
10	Travel										
11	Air Fare - Anchorage - Site	31	EA	\$650.00	\$20,150					\$20,150	\$20,150
12											
13	Small Tools & Consumables										
14	Consumables	1	LS	\$1,700.00	\$1,700					\$1,700	\$1,700
15	Small Tools	1	LS	\$8,770.00	\$8,770					\$8,770	\$8,770
16											
17	Mobilization										
18	Equipment Mob/Demob	179	TONS	\$1,925.00	\$343,709	2.286	408.2	\$31,725		\$375,434	\$375,434
19	End Dumps (3)										
20	Front-end Loader										
21	Dozer D6										
22	Water Wagon & Pump										
23	Compactor										
24	Fuel Truck										
25	Service Truck										
26	Four Wheelers (3)										
27	Forklift (1)										
28	Camp Facilities										
29	Generator										
30	Connex, Small Tools										
31											
32	Equipment										
33	Four Wheelers (3)	3	EA						\$22,500	\$22,500	\$22,500
34	Forklift (1 Ea)	35	WEEKS						\$23,333	\$23,333	\$23,333
35											
36	Surface Freight										
37	Seattle - Job Site	125	TONS	\$1,100.00	\$137,902	2.857	358.2	\$27,839		\$165,741	\$165,741

Koyukuk Emergency Shelter
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October 11, 2010

Line No.	Description	Qty	UNITS	Material Costs Unit	Total	Labor Hours Units	Totals	Labor Cost	Equip Cost	Total Cost	Total Cost w/ OH & P
38	Air Freight										
39	Fairbanks - Jobsite	13,200	LBS	\$1.20	\$15,840	0.003	39.6	\$3,078		\$18,918	\$18,918
40											
41											
42	Other Requirements										
43	Project Meetings	32	EA			4.000	128.0	\$10,001		\$10,001	\$12,501
44	Project Layout	1	LS	\$325.00	\$325	46.429	46.4	\$3,606		\$3,931	\$3,931
45	Test Lab Services	20	EA	\$500.00	\$10,000					\$10,000	\$12,500
46	Temporary Facilities	8	MTHS								
47	Project Office	8	MTHS						\$9,600	\$9,600	\$9,600
48	Office Equipment/Supplies	8	MTHS	\$1,000.00	\$8,000					\$8,000	\$8,000
49	Project Tool Sheds	8	MTHS						\$1,600	\$1,600	\$1,600
50	Project Safety Equipment	1	LS	\$4,380.00	\$4,380					\$4,380	\$4,380
51											
52	Temporary Services										
53	Chemical Toilets	8	MTHS	\$600.00	\$4,800					\$4,800	\$4,800
54	Power	8	MTHS	\$390.00	\$3,120					\$3,120	\$3,120
55	Lighting	6,500	SF	\$0.02	\$130	0.002	13.0	\$1,010		\$1,140	\$1,140
56											
57	Cleaning										
58	Progressive	7	MSF	\$2.00	\$13	1.143	7.4	\$575	\$13	\$601	\$601
59	Final	7	MSF	\$2.00	\$13	2.229	14.5	\$1,127	\$20	\$1,160	\$1,160
60	Waste Handling (Construction Debris)	8	MTHS	\$800.00	\$6,400					\$6,400	\$6,400
61	Survey	1	LS	\$10,000.00	\$10,000					\$10,000	\$10,000
62	Record Documents	20	SHT	\$100.00	\$2,000					\$2,000	\$2,500
63	Contract Closeout and Training	1	LS	\$2,500.00	\$2,500					\$2,500	\$2,500
64	Certified Payroll Fee	1	LS	\$5,000.00	\$5,000					\$5,000	\$5,000
65											
66											
67											
68	General Contractor Overhead	6%									\$224,204
69	General Contractor Profit (Fee)	8%									\$316,875
70	General Contractor Bond & Insurance	2.5%									\$106,945
71											
72	Subtotal: GENERAL REQUIREMENTS				\$758,702		3,707.3	\$297,551	\$57,066	\$1,113,319	\$1,766,844
73											
74											

Koyukuk Emergency Shelter
Traditional Low Bid Contractor Delivery
Prepared for USKH, Inc. by Estimations

Construction Cost Estimate
Concept Submittal
October 11, 2010

Line No.	Description	Qty	UNITS	Material Costs Unit	Total	Units	Labor Hours Totals	Labor Cost	Equip Cost	Total Cost	Total Cost w/ OH & P
75											
76	SITEWORK										
77											
78	Site Clearing										
79	Clear & Grub	1.7	ACRE			20.000	34.7	\$2,524	\$7,583	\$10,107	\$11,118
80	Haul To Waste	1,444	CY			0.063	91.0	\$6,620	\$3,158	\$9,778	\$10,756
81	Erosion Control Fence	1,700	LF	\$2.00	\$3,400	0.057	96.9	\$7,049		\$10,449	\$11,494
82											
83	Earthwork										
84	Rough Grading	35,000	SF			0.004	140.0	\$10,184	\$5,250	\$15,434	\$16,977
85	Excavation Of Overburden, 1 Ft	2,796	CY			0.014	39.1	\$2,844	\$4,794	\$7,638	\$8,401
86	Haul Exc To Waste	2,796	CY	\$5.00	\$13,981	0.029	81.1	\$5,900	\$8,389	\$28,270	\$31,097
87	Pad Construction	19,200	CY	\$1.50	\$28,800	0.100	1,920.0	\$139,671	\$102,400	\$270,871	\$297,958
88											
89											
90											
91											
92	Subtotal: SITEWORK				\$46,181		2,402.8	\$174,792	\$131,574	\$352,547	\$387,801
93											
94											
95											
96	WATER & SEWER SYSTEMS										
97											
98	Water Main	200	LF								
99	6" Arctic Pipe W/ 2" Supply	200	LF	\$26.00	\$5,200	0.400	80.0	\$6,033	\$573	\$11,806	\$14,758
100	Timber Sleepers & Pipe Supports	25	EA	\$75.00	\$1,875	2.000	50.0	\$3,770	\$72	\$5,717	\$7,146
101	Arctic Pipe Termination At Building	1	EA	\$500.00	\$500	16.000	16.0	\$1,207	\$3	\$1,710	\$2,138
102	2" Gate Valve W/ Valve Box	1	EA	\$400.00	\$400	4.000	4.0	\$302		\$702	\$878
103	Hydrostatic Testing	200	LF			0.030	6.0	\$452		\$452	\$565
104	Sanitize the Line	1	LS	\$50.00	\$50	4.000	4.0	\$302		\$352	\$440
105	Heat Trace	200	LF	\$14.00	\$2,800	0.057	11.4	\$860		\$3,660	\$4,575
106											
107	Water Well										
108	Mob/Demob	40,000	LBS	\$1.00	\$40,000	0.002	80.0	\$6,033		\$46,033	\$57,541
109	Drilling, Developing, Etc	200	LF	\$142.00	\$28,400					\$28,400	\$35,500
110	Electrical To Well	100	LF	\$2.00	\$200	0.100	10.0	\$754	\$350	\$1,304	\$1,630
111											

Koyukuk Emergency Shelter
Traditional Low Bid Contractor Delivery
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Construction Cost Estimate
Concept Submittal
October 11, 2010

Line No.	Description	Qty	UNITS	Material Costs		Labor Hours		Labor Cost	Equip Cost	Total Cost	Total Cost w/ OH & P
				Unit	Total	Units	Totals	Cost	Cost		
112											
113	Sanitary Sewerage										
114	Sewer Treatment Plant, Lifewater System	1	EA	\$300,000.00	\$300,000	200.000	200.0	\$15,082	\$7,500	\$322,582	\$403,228
115											
116	Sewer Piping, Arctic Pipe	120	LF								
117	Micropile Supports	13	EA	\$750.00	\$9,750				\$9,750	\$12,188	
118	Pile Cap and Pipe Support	13	EA	\$150.00	\$1,950	2.000	26.0	\$1,961	\$3,911	\$4,889	
119	4" Arctic Pipe	120	LF	\$45.00	\$5,400	0.400	48.0	\$3,620	\$9,020	\$11,275	
120	Arctic Pipe Cleanout	1	EA	\$600.00	\$600	5.000	5.0	\$377	\$977	\$1,221	
121	Pressure Testing	120	LF			0.030	3.6	\$271	\$271	\$339	
122											
123											
124											
125											
126	Subtotal: WATER & SEWER SYSTEMS				\$397,125		544.0	\$41,024	\$8,498	\$446,647	\$558,311
127											
128											
129											
130	DECKS & RAMPS										
131											
132	Post & Pad Foundations	20	EA								
133	3x12 3' Long	420	BF	\$1.20	\$504	0.030	12.6	\$979	\$1,483	\$1,483	
134	Steel Column	20	EA	\$54.00	\$1,080	2.000	40.0	\$3,109	\$4,189	\$4,189	
135	Hardware	20	SETS	\$50.00	\$1,000	2.000	40.0	\$3,109	\$4,109	\$4,109	
136	Fencing At Perimeter	322	SF	\$15.00	\$4,830	0.343	110.4	\$8,580	\$13,410	\$13,410	
137											
138	Decks & Ramps	2,755	SF								
139	Subframing	2,656	BF	\$1.05	\$2,789	0.024	63.7	\$4,951	\$7,740	\$7,740	
140	Decking	5,510	BF	\$1.05	\$5,786	0.016	88.2	\$6,855	\$12,641	\$12,641	
141	Railings	322	LF	\$20.00	\$6,440	0.800	257.6	\$20,021	\$26,461	\$26,461	
142											
143											
144											
145											
146	Subtotal: DECKS & RAMPS				\$22,429		612.5	\$47,604	\$70,033	\$70,033	
147											
148											

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Line No.	Description	Qty	UNITS	Material Costs		Labor Hours		Labor Cost	Equip Cost	Total Cost	Total Cost w/ OH & P
				Unit	Total	Units	Totals	Cost	Cost	Cost	
149											
150	ASSEMBLY										
151											
152	Post & Pad Foundations	16	EA								
153	3x12 3' Long	336	BF	\$1.20	\$403	0.030	10.1	\$785		\$1,188	\$1,188
154	Steel Column	16	EA	\$54.00	\$864	2.000	32.0	\$2,487		\$3,351	\$3,351
155	Hardware	16	SETS	\$50.00	\$800	2.000	32.0	\$2,487		\$3,287	\$3,287
156											
157	Floor Framing	2,100	SF								
158	GLB	1,600	BF	\$2.25	\$3,600	0.021	33.6	\$2,611		\$6,211	\$6,211
159	TJI Joists	1,579	LF	\$2.50	\$3,947	0.036	56.8	\$4,414		\$8,361	\$8,361
160	Subflooring 3/4" T&G	2,100	SF	\$1.60	\$3,360	0.019	39.9	\$3,101		\$6,461	\$6,461
161	Underlayment	2,100	SF	\$0.75	\$1,575	0.016	33.6	\$2,611		\$4,186	\$4,186
162	Soy Foam R40	2,100	SF	\$2.00	\$4,200	0.100	210.0	\$16,321	\$2,100	\$22,621	\$22,621
163	Floor Soffit Sheathing	2,100	SF	\$0.45	\$945	0.013	27.3	\$2,122		\$3,067	\$3,067
164	Carpet	2,100	SF	\$3.89	\$8,169	0.021	44.1	\$3,427		\$11,596	\$11,596
165											
166	Roof Framing	2,100	SF								
167	Roof Sheathing 5/8"	2,100	SF	\$0.75	\$1,575	0.016	33.6	\$2,611		\$4,186	\$4,186
168	Roof Joists	2,100	SF	\$1.75	\$3,675	0.036	75.6	\$5,876		\$9,551	\$9,551
169	GLB	1,170	BF	\$2.25	\$2,633	0.030	35.1	\$2,728		\$5,361	\$5,361
170	Ceiling Finish, Plywood	600	SF	\$1.50	\$900	0.021	12.6	\$979		\$1,879	\$1,879
171	Soy Foam R60	2,100	SF	\$2.60	\$5,460	0.130	273.0	\$21,218	\$2,730	\$29,408	\$29,408
172	Intumescent Paint	2,100	SF	\$1.00	\$2,100	0.019	39.9	\$3,101		\$5,201	\$5,201
173	Facia Framing	221	LF	\$4.50	\$994	0.086	19.0	\$1,477		\$2,471	\$2,471
174	Roofing	2,100	SF	\$6.00	\$12,600	0.057	119.7	\$8,575		\$21,175	\$23,293
175											
176	Clerestory Walls	198	SF								
177	2x6 Framing	198	BF	\$0.60	\$119	0.021	4.2	\$326		\$445	\$445
178	Plywood Sheathing 5/8"	198	SF	\$0.70	\$139	0.017	3.4	\$264		\$403	\$403
179	Soy Foam R30	198	SF	\$1.60	\$317	0.080	15.8	\$1,228	\$158	\$1,703	\$1,703
180	1/2" Plywood A-C	198	SF	\$1.20	\$238	0.016	3.2	\$249		\$487	\$487
181	Cedar Siding	198	SF	\$3.25	\$644	0.024	4.8	\$373		\$1,017	\$1,017
182	Vinyl Windows, 4'6"x2'6" Operable	8	EA	\$450.00	\$3,600	4.000	32.0	\$2,487		\$6,087	\$6,087
183											
184											
185											

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Line No.	Description	Qty	UNITS	Material Costs Unit	Total	Labor Hours Units	Labor Cost	Equip Cost	Total Cost	Total Cost w/ OH & P
186	Log Construction	1,634	SF							
187	2x12 Sill	344	BF	\$1.20	\$413	0.016	\$427	\$840	\$840	\$840
188	Logs 12"	2,561	LF			0.200	\$39,800	\$15,364	\$55,164	\$55,164
189	Erection	200	HRS	\$3.00	\$600	1.000	\$15,544	\$7,000	\$23,144	\$23,144
190	Sealants (Chinking)	2,561	LF	\$1.00	\$2,561	0.014	\$2,790		\$5,351	\$5,351
191	Log Sealant	1,634	SF	\$0.40	\$654	0.013	\$1,648		\$2,302	\$2,302
192	Furring	1,634	SF	\$0.60	\$980	0.021	\$2,666		\$3,646	\$3,646
193	Siding At Top Of Logs	387	SF	\$3.25	\$1,258	0.024	\$723		\$1,981	\$1,981
194	1/2" Plywood A-C	2,021	SF	\$1.20	\$2,425	0.016	\$2,510		\$4,935	\$4,935
195										
196										
197	Interior Work	2,100	SF							
198	Misc Trim	568	LF	\$3.00	\$1,704	0.040	\$1,764		\$3,468	\$3,468
199	Vinyl Flooring	2,100	SF	\$5.00	\$10,500	0.029	\$4,733		\$15,233	\$15,233
200	Toyo Stoves	2	EA	\$1,350.00	\$2,700	8.000	\$1,244		\$3,944	\$3,944
201	Painting	4,121	SF	\$0.15	\$618	0.020	\$6,404		\$7,022	\$7,022
202										
203	Subtotal: ASSEMBLY				\$87,270	2,223.9	\$172,111	\$27,353	\$286,734	\$288,851
204										
205										
206										
207	OFFICE									
208										
209	Post & Pad Foundations	20	EA							
210	3x12 3' Long	336	BF	\$1.20	\$403	0.030	\$785		\$1,188	\$1,188
211	Steel Column	16	EA	\$54.00	\$864	2.000	\$2,487		\$3,351	\$3,351
212	Hardware	16	SETS	\$50.00	\$800	2.000	\$2,487		\$3,287	\$3,287
213	Fencing At Perimeter	190	LF	\$15.00	\$2,850	0.343	\$5,067		\$7,917	\$7,917
214										
215	Floor Framing	1,855	SF							
216	GLB	1,440	BF	\$2.25	\$3,240	0.021	\$2,347		\$5,587	\$5,587
217	TJI Joists	1,395	LF	\$2.50	\$3,487	0.036	\$3,902		\$7,389	\$7,389
218	Subflooring 3/4" T&G	1,855	SF	\$1.60	\$2,968	0.019	\$2,736		\$5,704	\$5,704
219	Underlayment	1,855	SF	\$0.75	\$1,391	0.016	\$2,308		\$3,699	\$3,699
220	Soy Foam R40	1,855	SF	\$2.00	\$3,710	0.100	\$14,417	\$1,855	\$19,982	\$19,982
221	Floor Soffit Sheathing	1,855	SF	\$0.45	\$835	0.013	\$1,873		\$2,708	\$2,708
222	Carpet	1,855	SF	\$3.89	\$7,216	0.021	\$3,031		\$10,247	\$10,247

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Line No.	Description	Qty	UNITS	Material Costs		Labor Hours		Labor		Equip		Total Cost	
				Unit	Total	Units	Totals	Cost		Cost		Cost	w/ OH & P
223	Roof Framing	1,915	SF										
224	Roof Sheathing 5/8"	1,915	SF	\$0.75	\$1,436	0.016	30.6	\$2,378				\$3,814	\$3,814
225	Roof Trusses	1,915	SF	\$2.00	\$3,830	0.036	68.9	\$5,355				\$9,185	\$9,185
226	Ceiling Finish, Plywood	1,915	SF	\$1.50	\$2,873	0.021	40.2	\$3,124				\$5,997	\$5,997
227	Soy Foam R60	1,915	SF	\$2.60	\$4,979	0.130	249.0	\$19,352		\$2,490		\$26,821	\$26,821
228	Intumescent Paint	1,915	SF	\$1.00	\$1,915	0.019	36.4	\$2,829				\$4,744	\$4,744
229	Facia Framing	135	LF	\$4.50	\$608	0.086	11.6	\$902				\$1,510	\$1,510
230	Roofing	1,915	SF	\$6.00	\$11,490	0.057	109.2	\$7,823				\$19,313	\$21,244
231													
232	Log Construction	1,672	SF										
233	2x12 Sill	418	BF	\$1.20	\$502	0.016	6.7	\$521				\$1,023	\$1,023
234	Logs 12"	2,620	LF			0.200	524.1	\$40,733		\$15,722		\$56,455	\$56,455
235	Erection	210	HRS	\$3.00	\$630	1.000	210.0	\$16,321		\$7,350		\$24,301	\$24,301
236	Sealants (Chinking)	2,620	LF	\$1.00	\$2,620	0.014	36.7	\$2,852				\$5,472	\$5,472
237	Log Sealant	1,672	SF	\$0.40	\$669	0.013	21.7	\$1,687				\$2,356	\$2,356
238	Furring	2,032	SF	\$0.60	\$1,219	0.021	42.7	\$3,319				\$4,538	\$4,538
239	Siding At Top Of Logs, Gables	360	SF	\$3.25	\$1,170	0.024	8.6	\$668				\$1,838	\$1,838
240	Soy Foam R30	2,032	SF	\$1.60	\$3,251	0.080	162.6	\$12,637		\$1,626		\$17,514	\$17,514
241	1/2" Plywood A-C	2,032	SF	\$1.20	\$2,438	0.016	32.5	\$2,526				\$4,964	\$4,964
242													
243	Partitions	1,312	SF										
244	2x4 Framing	1,172	BF	\$0.60	\$703	0.019	22.3	\$1,733				\$2,436	\$2,436
245	1/2" Plywood	2,624	SF	\$1.20	\$3,149	0.016	42.0	\$3,264				\$6,413	\$6,413
246													
247	Interior Work	1,855	SF										
248	Misc Trim	418	LF	\$3.00	\$1,254	0.040	16.7	\$1,298				\$2,552	\$2,552
249	Carpet	1,855	SF	\$3.89	\$7,216	0.024	44.5	\$3,459				\$10,675	\$10,675
250	Exterior Doors, Double	2	SET	\$3,300.00	\$6,600	12.000	24.0	\$1,865				\$8,465	\$8,465
251	Interior Doors, Single	9	EA	\$700.00	\$6,300	4.000	36.0	\$2,798				\$9,098	\$9,098
252	Interior Doors, Double	1	PR	\$1,400.00	\$1,400	8.000	8.0	\$622				\$2,022	\$2,022
253	Bifold Closet Door	1	EA	\$350.00	\$350	2.000	2.0	\$155				\$505	\$505
254	Toyo Stoves	1	EA	\$1,350.00	\$1,350	8.000	8.0	\$622				\$1,972	\$1,972
255	Painting	6,511	SF	\$0.15	\$977	0.020	130.2	\$10,119				\$11,096	\$11,096
256													
257	Subtotal: OFFICE				\$96,693		2,458.4	\$190,402		\$29,042		\$316,137	\$318,069
258													
259													

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Line No.	Description	Qty	UNITS	Material Costs Unit	Total	Labor Hours Units	Totals	Labor Cost	Equip Cost	Total Cost	Total Cost w/ OH & P
260											
261	LODGING										
262											
263	Post & Pad Foundations	20	EA								
264	3x12 3' Long	420	BF	\$1.20	\$504	0.030	12.6	\$979		\$1,483	\$1,483
265	Steel Column	20	EA	\$54.00	\$1,080	2.000	40.0	\$3,109		\$4,189	\$4,189
266	Hardware	20	SETS	\$50.00	\$1,000	2.000	40.0	\$3,109		\$4,109	\$4,109
267	Fencing At Perimeter	190	LF	\$15.00	\$2,850	0.343	65.2	\$5,067		\$7,917	\$7,917
268											
269	Floor Framing	1,945	SF								
270	GLB	1,440	BF	\$2.25	\$3,240	0.021	30.2	\$2,347		\$5,587	\$5,587
271	TJI Joists	1,462	LF	\$2.50	\$3,656	0.036	52.6	\$4,088		\$7,744	\$7,744
272	Subflooring 3/4" T&G	1,945	SF	\$1.60	\$3,112	0.019	37.0	\$2,876		\$5,988	\$5,988
273	Underlayment	1,945	SF	\$0.75	\$1,459	0.016	31.1	\$2,417		\$3,876	\$3,876
274	Soy Foam R40	1,945	SF	\$2.00	\$3,890	0.100	194.5	\$15,117	\$1,945	\$20,952	\$20,952
275	Floor Soffit Sheathing	1,945	SF	\$0.45	\$875	0.013	25.3	\$1,966		\$2,841	\$2,841
276	Flooring Vinyl	985	SF	\$5.00	\$4,925	0.029	28.6	\$2,223		\$7,148	\$7,148
277	Carpet	960	SF	\$3.89	\$3,734	0.021	20.2	\$1,570		\$5,304	\$5,304
278											
279	Roof Framing	1,995	SF								
280	Roof Sheathing 5/8"	1,995	SF	\$0.75	\$1,496	0.016	31.9	\$2,479		\$3,975	\$3,975
281	Roof Trusses	1,995	SF	\$2.00	\$3,990	0.036	71.8	\$5,580		\$9,570	\$9,570
282	Ceiling Finish, Plywood	1,995	SF	\$1.50	\$2,993	0.021	41.9	\$3,256		\$6,249	\$6,249
283	Soy Foam R60	1,995	SF	\$2.60	\$5,187	0.130	259.4	\$20,161	\$2,594	\$27,942	\$27,942
284	Intumescent Paint	1,995	SF	\$1.00	\$1,995	0.019	37.9	\$2,946		\$4,941	\$4,941
285	Facia Framing	135	LF	\$4.50	\$608	0.086	11.6	\$902		\$1,510	\$1,510
286	Roofing	1,995	SF	\$6.00	\$11,970	0.057	113.7	\$8,145		\$20,115	\$22,127
287											
288											
289											
290											
291											
292											
293											
294											
295											
296											

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Line No.	Description	Qty	UNITS	Material Costs Unit	Total	Labor Hours Units	Totals	Labor Cost	Equip Cost	Total Cost	Total Cost w/ OH & P
297	Log Construction	1,672	SF								
298	2x12 Sill	418	BF	\$1.20	\$502	0.016	6.7	\$521		\$1,023	\$1,023
299	Logs 12"	2,620	LF			0.200	524.1	\$40,733	\$15,722	\$56,455	\$56,455
300	Erection	210	HRS	\$3.00	\$630	1.000	210.0	\$16,321	\$7,350	\$24,301	\$24,301
301	Sealants (Chinking)	2,620	LF	\$1.00	\$2,620	0.014	36.7	\$2,852		\$5,472	\$5,472
302	Log Sealant	1,672	SF	\$0.40	\$669	0.013	21.7	\$1,687		\$2,356	\$2,356
303	Furring	2,032	SF	\$0.60	\$1,219	0.021	42.7	\$3,319		\$4,538	\$4,538
304	Siding At Top Of Logs, Gables	360	SF	\$3.25	\$1,170	0.024	8.6	\$668		\$1,838	\$1,838
305	Soy Foam R30	2,032	SF	\$1.60	\$3,251	0.080	162.6	\$12,637	\$1,626	\$17,514	\$17,514
306	1/2" Plywood A-C	2,032	SF	\$1.20	\$2,438	0.016	32.5	\$2,526		\$4,964	\$4,964
307											
308											
309	Partitions	1,776	SF								
310	2x4 Framing	1,587	BF	\$0.60	\$952	0.019	30.1	\$2,339		\$3,291	\$3,291
311	1/2" Plywood A-C	3,552	SF	\$1.20	\$4,262	0.016	56.8	\$4,414		\$8,676	\$8,676
312											
313	Interior Work	1,945	SF								
314	Misc Trim	418	LF	\$3.00	\$1,254	0.040	16.7	\$1,298		\$2,552	\$2,552
315	Vinyl Flooring	973	SF	\$5.00	\$4,863	0.029	28.2	\$2,192		\$7,055	\$7,055
316	Carpet	973	SF	\$3.89	\$3,783	0.024	23.3	\$1,811		\$5,594	\$5,594
317	Exterior Doors, Single	1	EA	\$1,800.00	\$1,800	6.000	6.0	\$466		\$2,266	\$2,266
318	Interior Door's, Single	13	EA	\$700.00	\$9,100	4.000	52.0	\$4,041		\$13,141	\$13,141
319	Toyo Stoves	1	EA	\$1,350.00	\$1,350	8.000	8.0	\$622		\$1,972	\$1,972
320	Painting	3,977	SF	\$0.15	\$597	0.020	79.5	\$6,179		\$6,776	\$6,776
321	FRP	1,760	SF	\$3.50	\$6,160	0.024	42.2	\$3,280		\$9,440	\$9,440
322											
323											
324											
325											
326											
327											
328											
329											
330											
331	Subtotal: LODGING				\$105,184		2,533.9	\$196,243	\$29,236	\$330,663	\$332,676
332											
333											

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334	UTILITY/KITCHEN										
335											
336											
337	Post & Pad Foundations	9	EA								
338	3x12 3' Long	189	BF	\$1.20	\$227	0.030	5.7	\$443		\$670	\$670
339	Steel Column	9	EA	\$54.00	\$486	2.000	18.0	\$1,399		\$1,885	\$1,885
340	Hardware	9	SETS	\$50.00	\$450	2.000	18.0	\$1,399		\$1,849	\$1,849
341	Fencing At Perimeter	65	LF	\$15.00	\$975	0.343	22.3	\$1,733		\$2,708	\$2,708
342						1.000					
343	Floor Framing	567	SF								
344	GLB	680	BF	\$2.25	\$1,530	0.021	14.3	\$1,111		\$2,641	\$2,641
345	TJI Joists	426	LF	\$2.50	\$1,066	0.036	15.3	\$1,189		\$2,255	\$2,255
346	Subflooring 3/4" T&G	567	SF	\$1.60	\$907	0.019	10.8	\$839		\$1,746	\$1,746
347	Underlayment	567	SF	\$0.75	\$425	0.016	9.1	\$707		\$1,132	\$1,132
348	Soy Foam R40	567	SF	\$2.00	\$1,134	0.100	56.7	\$4,407	\$567	\$6,108	\$6,108
349	Floor Soffit Sheathing	567	SF	\$0.45	\$255	0.013	7.4	\$575		\$830	\$830
350	Flooring Vinyl	286	SF	\$5.00	\$1,430	0.029	8.3	\$645		\$2,075	\$2,075
351	Paint Floor	281	SF	\$0.20	\$56	0.020	5.6	\$435		\$491	\$491
352											
353	Roof Framing	667	SF								
354	Roof Sheathing 5/8"	667	SF	\$0.75	\$500	0.016	10.7	\$832		\$1,332	\$1,332
355	Roof Trusses	667	SF	\$2.00	\$1,334	0.036	24.0	\$1,865		\$3,199	\$3,199
356	Ceiling Finish, Plywood	667	SF	\$1.50	\$1,001	0.021	14.0	\$1,088		\$2,089	\$2,089
357	Soy Foam R60	667	SF	\$2.60	\$1,734	0.130	86.7	\$6,738	\$867	\$9,339	\$9,339
358	Intumescent Paint	667	SF	\$1.00	\$667	0.019	12.7	\$987		\$1,654	\$1,654
359	Facia Framing	80	LF	\$4.50	\$360	0.086	6.9	\$536		\$896	\$896
360	Roofing	667	SF	\$6.00	\$4,002	0.057	38.0	\$2,722		\$6,724	\$7,396
361											
362											
363											
364											
365											
366											
367											
368											
369											
370											

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Line No.	Description	Qty	UNITS	Material Costs		Labor Hours		Labor		Equip		Total Cost	
				Unit	Total	Units	Totals	Cost		Cost		Cost	w/ OH & P
371	Log Construction	656	SF										
372	2x12 Sill	164	BF	\$1.20	\$197	0.016	2.6	\$202		\$399		\$399	
373	Logs 12"	1,028	LF			0.200	205.6	\$15,979	\$6,168	\$22,147		\$22,147	\$399
374	Erection	80	HRS	\$3.00	\$240	1.000	80.0	\$6,218	\$2,800	\$9,258		\$9,258	\$2,147
375	Sealants (Chinking)	1,028	LF	\$1.00	\$1,028	0.014	14.4	\$1,119		\$2,147		\$2,147	
376	Log Sealant	656	SF	\$0.40	\$262	0.013	8.5	\$661		\$923		\$923	
377	Furring At Top Of Logs, Gables	67	SF	\$0.60	\$40	0.021	1.4	\$109		\$149		\$149	
378	Siding At Top Of Logs, Gables	67	SF	\$3.25	\$217	0.024	1.6	\$124		\$341		\$341	
379	Soy Foam R30	67	SF	\$1.60	\$107	0.080	5.3	\$412	\$53	\$572		\$572	
380	1/2" Plywood A-C	67	SF	\$1.20	\$80	0.016	1.1	\$85		\$165		\$165	
381													
382													
383	Partitions	1,776	SF										
384	2x4 Framing	1,587	BF	\$0.60	\$952	0.019	30.1	\$2,339		\$3,291		\$3,291	
385	1/2" Plywood A-C	3,552	SF	\$1.20	\$4,262	0.016	56.8	\$4,414		\$8,676		\$8,676	
386													
387	Interior Work	567	SF										
388	Misc Trim	160	LF	\$3.00	\$480	0.040	6.4	\$497		\$977		\$977	
389	Vinyl Flooring	260	SF	\$5.00	\$1,300	0.029	7.5	\$583		\$1,883		\$1,883	
390	Painted Floor	307	SF	\$0.25	\$77	0.019	5.8	\$451		\$528		\$528	
391	Interior Doors, Single	4	EA	\$700.00	\$2,800	4.000	16.0	\$1,244		\$4,044		\$4,044	
392	Toyo Stoves	1	EA	\$1,350.00	\$1,350	8.000	8.0	\$622		\$1,972		\$1,972	
393	Painting	1,111	SF	\$0.15	\$167	0.020	22.2	\$1,725		\$1,892		\$1,892	
394	FRP	528	SF	\$3.50	\$1,848	0.024	12.7	\$987		\$2,835		\$2,835	
395													
396	Kitchen												
397	Refrigerators/Freezers	2	EA	\$1,600.00	\$3,200	4.000	8.0	\$622		\$3,822		\$3,822	
398	Pantry Shelving	16	LF	\$35.00	\$560	0.500	8.0	\$622		\$1,182		\$1,182	
399	Base Cabinets	16	LF	\$190.00	\$3,040	0.343	5.5	\$427		\$3,467		\$3,467	
400	Wall Cabinets	18	LF	\$120.00	\$2,160	0.343	6.2	\$482		\$2,642		\$2,642	
401	Countertops, Plastic Laminate	16	LF	\$30.00	\$480	0.100	1.6	\$124		\$604		\$604	
402	Ranges, Electric	2	EA	\$1,000.00	\$2,000	3.000	6.0	\$466		\$2,466		\$2,466	
403													
404													
405	Subtotal: UTILITY/KITCHEN				\$45,386		905.8	\$70,164	\$10,456	\$126,006		\$126,677	
406													
407													

Koyukuk Emergency Shelter
Traditional Low Bid Contractor Delivery
Prepared for USKH, Inc. by Estimations

Construction Cost Estimate
Concept Submittal
October 11, 2010

Line No.	Description	Qty	UNITS	Material Costs		Labor Hours		Labor Cost	Equip Cost	Total Cost	Total Cost w/ OH & P
				Unit	Total	Units	Totals	Cost	Cost	Cost	
408											
409	MECHANICAL										
410											
411	General Conditions										
412	Field Engineering: Submittals, Shop & Record Dwg's, Operating Instructions, O&M Manuals	40	HRS	\$5.00	\$200	1.000	40.0	\$3,016		\$3,216	\$4,020
413	Mob & Demob	1	LS	\$5,000.00	\$5,000	80.000	80.0	\$6,033		\$11,033	\$13,791
414	Supervision (Working Foreman)	9	WEEKS			20.000	180.0	\$13,574	\$563	\$14,137	\$17,671
415	Bond and Insurance (1%)	1	LS	\$2,700.00	\$2,700					\$2,700	\$3,375
416	Tools and Equipment (1% of Labor)	1	LS						\$1,100	\$1,100	\$1,375
417											
418	Piping Insulation										
419	Fiberglass Pipe Insulation, 1" Thick W/ ASJ										
420	Domestic Hot/Cold Water										
421	1" Pipe, Fittings	20	LF	\$2.16	\$43	0.073	1.5	\$113		\$156	\$195
422	1- 1/2" Pipe, Fittings	20	LF	\$2.23	\$45	0.076	1.5	\$113		\$158	\$198
423	2" Pipe, Fittings	20	LF	\$2.44	\$49	0.080	1.6	\$121		\$170	\$213
424											
425	Domestic Water Piping										
426	PEX Piping	2,880	LF	\$0.60	\$1,728	0.040	115.2	\$8,687		\$10,415	\$13,019
427	Plumbing Manifold	2	EA	\$250.00	\$500	2.000	4.0	\$302		\$802	\$1,003
428	HW/CW Supply, Type L Copper										
429	1" Pipe	20	LF	\$8.14	\$163	0.136	2.7	\$204		\$367	\$459
430	1-1/2" Pipe	20	LF	\$11.18	\$224	0.177	3.5	\$264		\$488	\$610
431	2" Pipe	20	LF	\$17.51	\$350	0.219	4.4	\$332		\$682	\$853
432	Fittings	1	LS	\$67.50	\$68	1.995	2.0	\$151		\$219	\$274
433	Sterilization	1	LS	\$25.00	\$25	1.220	1.2	\$90		\$115	\$144
434											
435	Sanitary Waste and Vent Piping										
436	Above Grade DWV										
437	2" Pipe	750	LF	\$9.00	\$6,750	0.229	171.8	\$12,955		\$19,705	\$24,631
438	3" Pipe	325	LF	\$13.08	\$4,251	0.331	107.6	\$8,114		\$12,365	\$15,456
439	4" Pipe	50	LF	\$22.98	\$1,149	0.480	24.0	\$1,810		\$2,959	\$3,699
440	Fittings	1	LS	\$3,964.14	\$3,964	148.593	148.6	\$11,206		\$15,170	\$18,963
441											
442											

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Line No.	Description	Qty	UNITS	Material Costs		Labor Hours		Labor Cost	Equip Cost	Total Cost	Total Cost w/ OH & P
				Unit	Total	Units	Totals	Cost	Cost	Cost	
443											
444	Drainage Piping Specialties										
445	Floor Drains	4	EA	\$257.00	\$1,028	2.000	8.0	\$603		\$1,631	\$2,039
446	2", Cast Iron Body, Ni-Bronze Grate	8	EA	\$116.00	\$928	1.000	8.0	\$603		\$1,531	\$1,914
447	Floor Cleanouts	4	EA	\$65.00	\$260	1.000	4.0	\$302		\$562	\$703
448	Vent Thru Roof, 4"	4	EA	\$60.00	\$240	1.500	6.0	\$452		\$692	\$865
449	Trap Primer										
450											
451	Fuel Oil Piping										
452	Fuel Tank, 2,500 Gal/AST	1	EA	\$22,500.00	\$22,500	40.000	40.0	\$3,016		\$25,516	\$31,895
453	FOS, FOR Piping, 1/2" - 3/4" Type K	100	LF	\$2.08	\$208	0.049	4.9	\$370		\$578	\$723
454	Fuel Filter	1	EA	\$22.00	\$22	0.500	0.5	\$38		\$60	\$75
455	Fuel Filter/Water Separator	1	EA	\$50.00	\$50	0.500	0.5	\$38		\$88	\$110
456	Oil Safety Valve, 1/2"	5	EA	\$26.00	\$130	0.500	2.5	\$189		\$319	\$399
457	Fusible Gate Valve, 1/2"	5	EA	\$22.90	\$115	0.500	2.5	\$189		\$304	\$380
458	6" Drip Pan Under Burner	5	EA	\$27.95	\$140	0.750	3.8	\$287		\$427	\$534
459											
460	Plumbing Fixtures										
461	Water Closet, Flush Valve	8	EA	\$613.00	\$4,904	8.000	64.0	\$4,826		\$9,730	\$12,163
462	Wall Hung Lavatory, ADA	5	EA	\$474.00	\$2,370	8.000	40.0	\$3,016		\$5,386	\$6,733
463	Countertop Lavatory, ADA	6	EA	\$454.00	\$2,724	5.000	30.0	\$2,262		\$4,986	\$6,233
464	Wall Hung Urinal	3	EA	\$355.00	\$1,065	6.000	18.0	\$1,357		\$2,422	\$3,028
465	Standard Showers	4	EA	\$1,200.00	\$4,800	8.000	32.0	\$2,413		\$7,213	\$9,016
466	ADA Shower	2	EA	\$2,500.00	\$5,000	12.000	24.0	\$1,810		\$6,810	\$8,513
467	Bath Tubs	4	EA	\$700.00	\$2,800	8.000	32.0	\$2,413		\$5,213	\$6,516
468	Floor/Wall Utility Sinks	2	EA	\$809.00	\$1,618	8.000	16.0	\$1,207		\$2,825	\$3,531
469	St. Stl. Sink, Double Bowl	2	EA	\$650.00	\$1,300	8.000	16.0	\$1,207		\$2,507	\$3,134
470											
471											
472											
473											
474											
475											
476											
477											
478											
479											

Koyukuk Emergency Shelter
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Line No.	Description	Qty	UNITS	Material Costs		Labor Hours		Labor Cost	Equip Cost	Total Cost	Total Cost w/ OH & P
				Unit	Total	Units	Totals	Cost	Cost	Cost	
480	Plumbing Equipment										
481	Water Softeners	1	LS	\$2,500.00	\$2,500	6.000	6.0	\$452		\$2,952	\$3,690
482	Electric Water Heaters	1	EA	\$2,500.00	\$2,500	4.000	4.0	\$302		\$2,802	\$3,503
483	Well-Trol Expansion Tank	1	EA	\$2,500.00	\$2,500	4.000	4.0	\$302		\$2,802	\$3,503
484											
485	Ventilation										
486	HRV	4	EA	\$1,400.00	\$5,600	8.000	32.0	\$2,413		\$8,013	\$10,016
487	Ductwork	1,710	LBS	\$2.20	\$3,762	0.094	160.7	\$12,118		\$15,880	\$19,850
488	S/A Diffusers	15	EA	\$75.00	\$1,125	1.000	15.0	\$1,131		\$2,256	\$2,820
489	Hoods	4	EA	\$450.00	\$1,800	4.000	16.0	\$1,207		\$3,007	\$3,759
490											
491											
492											
493											
494	Subtotal: MECHANICAL				\$99,198		1,480.0	\$111,608	\$1,663	\$212,469	\$265,594
495											
496											
497											
498	ELECTRICAL										
499											
500	General Conditions										
501	Field Engineering: Submittals, Shop & Record										
502	Dwgs, Operating Instructions, O&M Manuals	40	HRS	\$5.00	\$200	1.000	40.0	\$3,125		\$3,325	\$4,156
503	Permits, Tests, Inspections	1	LS	\$100.00	\$100	40.000	40.0	\$3,125		\$3,225	\$4,031
504	Supervision	5	WEEKS			20.000	100.0	\$7,813	\$313	\$8,126	\$10,157
505	Bond and Insurance	1	LS	\$2,700.00	\$2,700					\$2,700	\$3,375
506	Small Tools	1	LS						\$5,400	\$5,400	\$6,750
507	Equipment	1	LS						\$8,100	\$8,100	\$10,125
508											
509	Grounding and Bonding										
510	Ground Bus 12x2x1/4	1	EA	\$35.00	\$35	0.250	0.3	\$23		\$58	\$73
511	1" PVC 1#2 Ground	30	LF	\$1.57	\$47	0.082	2.5	\$195		\$242	\$303
512	1" PVC 1#1/0 Ground	30	LF	\$1.97	\$59	0.088	2.6	\$203		\$262	\$328
513	Ground Rod 3/4" x 10'	1	EA	\$65.00	\$65	1.000	1.0	\$78		\$143	\$179
514	Exothermic Connection	4	EA	\$8.00	\$32	0.250	1.0	\$78		\$110	\$138
515											
516											

Koyukuk Emergency Shelter
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Line No.	Description	Qty	UNITS	Material Costs		Labor Hours		Labor Cost	Equip Cost	Total Cost
				Unit	Total	Units	Totals			
517										
518	Wiring Devices									
519	Receptacles: Complete Assemblies	83	EA							
520	Duplex 20A 125V	64	EA	\$5.38	\$344	0.200	12.8	\$1,000		\$1,344
521	GFCI Receptacles	12	EA	\$19.56	\$235	0.250	3.0	\$234		\$469
522	WP GFCI Receptacles	3	EA	\$27.01	\$81	0.300	0.9	\$70		\$151
523	Special Purpose Receptacles	4	EA	\$59.50	\$238	0.500	2.0	\$156		\$394
524	Add For:									
525	3/4in. EMT	2,490	LF	\$0.55	\$1,370	0.035	87.2	\$6,813		\$8,183
526	3/4in. EMT CONN	166	EA	\$1.84	\$305	0.030	5.0	\$391		\$696
527	3/4in. EMT CPLG	166	EA	\$1.81	\$300					\$300
528	3/4in. EMT STRAP 1-H	249	EA	\$0.16	\$40	0.025	6.2	\$484		\$524
529	#10 THHN	3,984	LF	\$0.46	\$1,833	0.006	23.9	\$1,867		\$3,700
530	#12 THHN	3,984	LF	\$0.30	\$1,195	0.005	19.9	\$1,555		\$2,750
531	UTILITY BOX 2-1/2 D 1/2 KO	83	EA	\$2.90	\$241	0.200	16.6	\$1,297		\$1,538
532	1G SS RECEPTACLE PLATE	83	EA	\$3.45	\$286	0.025	2.1	\$164		\$450
533	1in. x10 S-TAP SCREW	415	EA	\$0.03	\$12	0.020	8.3	\$648		\$660
534										
535	Service									
536	MV Service To Village Generator	500	LF	\$60.00	\$30,000					\$30,000
537	Service Transformer 150 KVA	1	EA	\$27,000.00	\$27,000	32.000	32.0	\$2,500		\$29,500
538	Main Disconnect 200A	1	EA	\$1,600.00	\$1,600	6.000	6.0	\$469		\$2,069
539										
540	Packaged Engine Generators									
541	None Included In The Estimate									
542										
543	Panelboards									
544	Panelboards, 120/208V, 3 Phase, 4 Wire, 225A, MLO, 42 Circuit, W/ Breakers	1	EA	\$1,650.00	\$1,650	10.000	10.0	\$781		\$2,431
545										
546	Feeders & Subfeeds									
547	225 Amp: 2" RGS, 4#4/0, 1#4	80	LF	\$35.45	\$2,836	0.339	27.1	\$2,117		\$4,953
548										
549										
550										
551										

Koyukuk Emergency Shelter
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Line No.	Description	Qty	UNITS	Material Costs		Labor Hours		Labor		Equip		Total Cost	
				Unit	Total	Units	Totals	Cost		Cost		Cost	w/ OH & P
552	Interior Lighting												
553	Fluorescent Lighting	93	EA	\$200.00	\$18,571	1.250	116.1	\$9,071				\$27,642	\$34,553
554	Shower Lights	4	EA	\$120.00	\$480	1.000	4.0	\$313				\$793	\$991
555	Vanity Lights	12	EA	\$150.00	\$1,800	1.000	12.0	\$938				\$2,738	\$3,423
556	Occupancy Sensors	8	EA	\$1,248	\$9,936	1.250	10.0	\$781				\$2,029	\$2,536
557	Exit Sign, LED	6	EA	\$156.00	\$936	1.000	6.0	\$469				\$1,405	\$1,756
558	Emerg. Batt Wall Pack	6	EA	\$100.00	\$600	1.000	6.0	\$469				\$1,069	\$1,336
560	Switches	20	EA	\$17.81	\$356	0.529	10.6	\$828				\$1,184	\$1,480
561	Wiring: MC Cable	1,900	LF	\$1.60	\$3,040	0.035	66.5	\$5,168				\$8,208	\$8,208
562	Wiring: 3/4" Cond, 3-#12, Gnd	1,000	LF	\$1.52	\$2,888	0.091	172.9	\$13,509				\$16,397	\$20,496
563													
564	Exterior Lighting												
565	Wall Mtd LED Lights	6	EA	\$500.00	\$3,000	2.000	12.0	\$938				\$3,938	\$4,923
566	Wiring: 3/4" Cond, 3-#12, Gnd	210	LF	\$1.52	\$319	0.091	19.1	\$1,492				\$1,811	\$2,264
567	Photocell	1	EA	\$70.00	\$70	1.000	1.0	\$78				\$148	\$185
568													
569	Voice and Data Communication Cabling												
570	Telecom Racks	1	EA	\$2,500.00	\$2,500	8.000	8.0	\$625				\$3,125	\$3,906
571	Telecomm Outlets	12	EA										
572	Box, Cover Plate, Fittings	12	EA	\$16.00	\$192	1.000	12.0	\$938				\$1,130	\$1,413
573	Quad Outlet, 2 Data, 2 Telephone	12	EA	\$32.00	\$384	2.000	24.0	\$1,875				\$2,259	\$2,824
574	Conduit, Fittings 1"	1,680	LF	\$1.20	\$2,016	0.086	144.5	\$11,290				\$13,306	\$16,633
575	Cat 5e Cable	4	MLF	\$150.00	\$576	10.000	38.4	\$3,000				\$3,576	\$4,470
576	Service To Building	1	LS	\$5,000.00	\$5,000							\$5,000	\$6,250
577													
578													
579													
580													
581													
582													
583													
584													
585													
586	Subtotal: ELECTRICAL				\$116,780		1,113.5	\$86,968		\$13,813		\$217,561	\$269,904
587													
588													



Appendix C

Cost Estimate for Village Managed and Constructed Delivery Method



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**Koyukuk Emergency Shelter
Village Managed and Constructed
Koyukuk, Alaska**

**Construction Cost Estimate
Concept Submittal
October 11, 2010**



1225 E. International Airport Road, Suite 205
Anchorage, Alaska 99518
907.561.0790

**Prepared for:
USKH, Inc.**

544 4th Avenue, Suite 102
Fairbanks, Alaska 99701
907.452.2128

Documents Concept 1G 10/2010	Notes and Assumptions 1 Based on 2011 procurement/2011 construction. 2 Labor rates based Village Provided Rates, 60 hours/week. 3 Weather, logistics and construction time window has been considered, Spring Start. 4 Assume Village Managed and Constructed with Contractors Utilized for special items (Site, Sewer Treatment, Well, Plumbing, Mechanical, and Electrical).
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Description	Estimated Cost Plus	
	Estimated Cost	Contingency & Escalation
Basic Bid		
GENERAL REQUIREMENTS		\$1,140,722
SITEWORK	\$1,001,952	\$441,511
WATER & SEWER SYSTEMS	\$387,801	\$635,637
DECKS & RAMPS	\$558,311	\$58,503
ASSEMBLY	\$51,386	\$255,868
OFFICE	\$224,741	\$280,744
LODGING	\$246,591	\$294,804
UTILITY/KITCHEN	\$258,941	\$114,038
MECHANICAL	\$100,165	\$302,379
ELECTRICAL	\$265,594	\$304,842
	\$267,758	
Total Estimated Cost - Basic Bid:	\$3,363,240	\$3,829,049 <<<<

Estimating Contingency:
Escalation For Inflation:

12 Mths @ 3.5% 10.0% 3.5%

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Village Managed and Constructed
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				Unit	Total	Units	Totals	Cost	Cost	Cost	w/ OH & P
1	GENERAL REQUIREMENTS										
2											
3	Project Management										
4	Project Manager, 16 Hour/Week	71	WEEKS			16.000	1,136.0	\$54,028		\$54,028	\$54,028
5	Supervisor, 60 Hour/Week	69	WEEKS			60.000	4,140.0	\$196,898		\$196,898	\$196,898
6											
7	Subsistence										
8	Room & Board (Subcontractors)	683	MANDAY		\$125.00			\$85,377		\$85,377	\$85,377
9											
10	Travel										
11	Air Fare - Anchorage - Site	15	EA		\$650.00			\$9,750		\$9,750	\$9,750
12											
13	Small Tools & Consumables										
14	Consumables	1	LS		\$3,500.00			\$3,500		\$3,500	\$3,500
15	Small Tools	1	LS		\$6,730.00			\$6,730		\$6,730	\$6,730
16											
17	Mobilization										
18	Equipment Mob/Demob	146	TONS		\$1,925.00	2.743	400.6	\$15,800		\$296,946	\$296,946
19	End Dumps (3)										
20	Front-end Loader										
21	Dozer D6										
22	Water Wagon & Pump										
23	Compactor										
24	Fuel Truck										
25	Service Truck										
26	Four Wheelers (3)										
27	Forklift (1)										
28	Connex, Small Tools										
29											
30	Equipment										
31	Four Wheelers (3)	3	EA						\$22,500	\$22,500	\$22,500
32	Forklift (1 Ea)	69	WEEKS						\$46,000	\$46,000	\$46,000
33											
34	Surface Freight										
35	Seattle - Job Site	125	TONS		\$1,100.00	3.429	429.9	\$16,955		\$154,857	\$154,857
36											
37											

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Line No.	Description	Qty	UNITS	Material Costs Unit	Total	Labor Hours Units	Totals	Labor Cost	Equip Cost	Total Cost	Total Cost w/ OH & P
38	Air Freight										
39	Fairbanks - Jobsite	13,200	LBS	\$1.20	\$15,840	0.003	39.6	\$1,562		\$17,402	\$17,402
40											
41											
42	Other Requirements										
43	Project Meetings	64	EA			4.000	256.0	\$20,002		\$20,002	\$25,003
44	Project Layout	1	LS	\$325.00	\$325	55.714	55.7	\$2,197		\$2,522	\$2,522
45	Test Lab Services	20	EA	\$500.00	\$10,000					\$10,000	\$12,500
46	Temporary Facilities	16	MTHS								
47	Project Office - Assume Provided By Village										
48	Office Equipment/Supplies	16	MTHS	\$1,000.00	\$16,000				\$3,200	\$16,000	\$16,000
49	Project Tool Sheds	16	MTHS							\$3,200	\$3,200
50	Project Safety Equipment	1	LS	\$3,360.00	\$3,360					\$3,360	\$3,360
51											
52	Temporary Services										
53	Chemical Toilets	16	MTHS	\$600.00	\$9,600					\$9,600	\$9,600
54	Power	16	MTHS	\$390.00	\$6,240					\$6,240	\$6,240
55	Lighting	6,500	SF	\$0.02	\$130	0.002	13.0	\$513		\$643	\$643
56											
57	Cleaning										
58	Progressive	7	MSF	\$2.00	\$13	1.371	8.9	\$351	\$13	\$377	\$377
59	Final	7	MSF	\$2.00	\$13	2.674	17.4	\$686	\$20	\$719	\$719
60	Waste Handling (Construction Debris)	16	MTHS	\$800.00	\$12,800					\$12,800	\$12,800
61	Survey	1	LS	\$10,000.00	\$10,000					\$10,000	\$10,000
62	Record Documents	20	SHT	\$100.00	\$2,000					\$2,000	\$2,500
63	Contract Closeout and Training	1	LS	\$2,500.00	\$2,500					\$2,500	\$2,500
64											
65											
66											
67											
68	General Contractor Overhead - NONE										
69	General Contractor Profit (Fee) - NONE										
70	General Contractor Bond & Insurance - NONE										
71											
72	Subtotal: GENERAL REQUIREMENTS				\$613,226		6,497.1	\$308,992	\$71,733	\$993,951	\$1,001,952
73											
74											

Koyukuk Emergency Shelter
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Line No.	Description	Qty	UNITS	Material Costs Unit	Total	Units	Labor Hours Totals	Labor Cost	Equip Cost	Total Cost	Total Cost w/ OH & P
75											
76	SITEWORK										
77											
78	Site Clearing										
79	Clear & Grub	1.7	ACRE			20.000	34.7	\$2,524	\$7,583	\$10,107	\$11,118
80	Haul To Waste	1,444	CY			0.063	91.0	\$6,620	\$3,158	\$9,778	\$10,756
81	Erosion Control Fence	1,700	LF	\$2.00	\$3,400	0.057	96.9	\$7,049		\$10,449	\$11,494
82											
83	Earthwork										
84	Rough Grading	35,000	SF			0.004	140.0	\$10,184	\$5,250	\$15,434	\$16,977
85	Excavation Of Overburden, 1 Ft	2,796	CY			0.014	39.1	\$2,844	\$4,794	\$7,638	\$8,401
86	Haul Exc To Waste	2,796	CY	\$5.00	\$13,981	0.029	81.1	\$5,900	\$8,389	\$28,270	\$31,097
87	Pad Construction	19,200	CY	\$1.50	\$28,800	0.100	1,920.0	\$139,671	\$102,400	\$270,871	\$297,958
88											
89											
90											
91											
92	Subtotal: SITEWORK				\$46,181		2,402.8	\$174,792	\$131,574	\$352,547	\$387,801
93											
94											
95											
96	WATER & SEWER SYSTEMS										
97											
98	Water Main	200	LF								
99	6" Arctic Pipe W/ 2" Supply	200	LF	\$26.00	\$5,200	0.400	80.0	\$6,033	\$573	\$11,806	\$14,758
100	Timber Sleepers & Pipe Supports	25	EA	\$75.00	\$1,875	2.000	50.0	\$3,770	\$72	\$5,717	\$7,146
101	Arctic Pipe Termination At Building	1	EA	\$500.00	\$500	16.000	16.0	\$1,207	\$3	\$1,710	\$2,138
102	2" Gate Valve W/ Valve Box	1	EA	\$400.00	\$400	4.000	4.0	\$302		\$702	\$878
103	Hydrostatic Testing	200	LF			0.030	6.0	\$452		\$452	\$565
104	Sanitize The Line	1	LS	\$50.00	\$50	4.000	4.0	\$302		\$352	\$440
105	Heat Trace	200	LF	\$14.00	\$2,800	0.057	11.4	\$860		\$3,660	\$4,575
106											
107	Water Well										
108	Mob/Demob	40,000	LBS	\$1.00	\$40,000	0.002	80.0	\$6,033		\$46,033	\$57,541
109	Drilling, Developing, Etc	200	LF	\$142.00	\$28,400					\$28,400	\$35,500
110	Electrical To Well	100	LF	\$2.00	\$200	0.100	10.0	\$754	\$350	\$1,304	\$1,630
111											

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				Unit	Total	Units	Totals	Cost	Cost	Cost	
112											
113	Sanitary Sewerage										
114	Sewer Treatment Plant, Lifewater System	1	EA	\$300,000.00	\$300,000	200.000	200.0	\$15,082	\$7,500	\$322,582	\$403,228
115											
116	Sewer Piping, Arctic Pipe	120	LF								
117	Micropile Supports	13	EA	\$750.00	\$9,750					\$9,750	\$12,188
118	Pile Cap and Pipe Support	13	EA	\$150.00	\$1,950	2.000	26.0	\$1,961		\$3,911	\$4,889
119	4" Arctic Pipe	120	LF	\$45.00	\$5,400	0.400	48.0	\$3,620		\$9,020	\$11,275
120	Arctic Pipe Cleanout	1	EA	\$600.00	\$600	5.000	5.0	\$377		\$977	\$1,221
121	Pressure Testing	120	LF			0.030	3.6	\$271		\$271	\$339
122											
123											
124											
125											
126	Subtotal: WATER & SEWER SYSTEMS				\$397,125		544.0	\$41,024	\$8,498	\$446,647	\$558,311
127											
128											
129											
130	DECKS & RAMPS										
131											
132	Post & Pad Foundations	20	EA								
133	3x12 3' Long	420	BF	\$1.20	\$504	0.036	15.1	\$596		\$1,100	\$1,100
134	Steel Column	20	EA	\$54.00	\$1,080	2.400	48.0	\$1,893		\$2,973	\$2,973
135	Hardware	20	SETS	\$50.00	\$1,000	2.400	48.0	\$1,893		\$2,893	\$2,893
136	Fencing At Perimeter	322	SF	\$15.00	\$4,830	0.411	132.3	\$5,218		\$10,048	\$10,048
137											
138	Decks & Ramps	2,755	SF								
139	Subframing	2,656	BF	\$1.05	\$2,789	0.029	77.0	\$3,037		\$5,826	\$5,826
140	Decking	5,510	BF	\$1.05	\$5,786	0.019	104.7	\$4,129		\$9,915	\$9,915
141	Railings	322	LF	\$20.00	\$6,440	0.960	309.1	\$12,191		\$18,631	\$18,631
142											
143											
144											
145											
146	Subtotal: DECKS & RAMPS				\$22,429		734.2	\$28,957		\$51,386	\$51,386
147											
148											

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Line No.	Description	Qty	UNITS	Material Costs		Labor Hours		Labor Cost	Equip Cost	Total Cost	Total Cost w/ OH & P
				Unit	Total	Units	Totals	Cost	Cost	Cost	
149											
150	ASSEMBLY										
151											
152	Post & Pad Foundations	16	EA								
153	3x12 3' Long	336	BF	\$1.20	\$403	0.036	12.1	\$477		\$880	\$880
154	Steel Column	16	EA	\$54.00	\$864	2.400	38.4	\$1,514		\$2,378	\$2,378
155	Hardware	16	SETS	\$50.00	\$800	2.400	38.4	\$1,514		\$2,314	\$2,314
156											
157	Floor Framing	2,100	SF								
158	GLB	1,600	BF	\$2.25	\$3,600	0.026	41.6	\$1,641		\$5,241	\$5,241
159	TJI Joists	1,579	LF	\$2.50	\$3,947	0.043	67.9	\$2,678		\$6,625	\$6,625
160	Subflooring 3/4" T&G	2,100	SF	\$1.60	\$3,360	0.022	46.2	\$1,822		\$5,182	\$5,182
161	Underlayment	2,100	SF	\$0.75	\$1,575	0.019	39.9	\$1,574		\$3,149	\$3,149
162	Soy Foam R40	2,100	SF	\$2.00	\$4,200	0.120	252.0	\$9,939	\$2,100	\$16,239	\$16,239
163	Floor Soffit Sheathing	2,100	SF	\$0.45	\$945	0.015	31.5	\$1,242		\$2,187	\$2,187
164	Carpet	2,100	SF	\$3.89	\$8,169	0.026	54.6	\$2,153		\$10,322	\$10,322
165											
166	Roof Framing	2,100	SF								
167	Roof Sheathing 5/8"	2,100	SF	\$0.75	\$1,575	0.019	39.9	\$1,574		\$3,149	\$3,149
168	Roof Joists	2,100	SF	\$1.75	\$3,675	0.043	90.3	\$3,561		\$7,236	\$7,236
169	GLB	1,170	BF	\$2.25	\$2,633	0.036	42.1	\$1,660		\$4,293	\$4,293
170	Ceiling Finish, Plywood	600	SF	\$1.50	\$900	0.026	15.6	\$615		\$1,515	\$1,515
171	Soy Foam R60	2,100	SF	\$2.60	\$5,460	0.156	327.6	\$12,921	\$2,730	\$21,111	\$21,111
172	Intumescent Paint	2,100	SF	\$1.00	\$2,100	0.022	46.2	\$1,822		\$3,922	\$3,922
173	Facia Framing	221	LF	\$4.50	\$994	0.103	22.7	\$895		\$1,889	\$1,889
174	Roofing	2,100	SF	\$6.00	\$12,600	0.057	119.7	\$8,575		\$21,175	\$23,293
175											
176	Clerestory Walls	198	SF								
177	2x6 Framing	198	BF	\$0.60	\$119	0.026	5.1	\$201		\$320	\$320
178	Plywood Sheathing 5/8"	198	SF	\$0.70	\$139	0.020	4.0	\$158		\$297	\$297
179	Soy Foam R30	198	SF	\$1.60	\$317	0.096	19.0	\$749	\$158	\$1,224	\$1,224
180	1/2" Plywood A-C	198	SF	\$1.20	\$238	0.019	3.8	\$150		\$388	\$388
181	Cedar Siding	198	SF	\$3.25	\$644	0.029	5.7	\$225		\$869	\$869
182	Vinyl Windows, 4'6"x2'6" Operable	8	EA	\$450.00	\$3,600	4.800	38.4	\$1,514		\$5,114	\$5,114
183											
184											
185											

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Line No.	Description	Qty	UNITS	Material Costs		Labor Hours		Labor		Equip		Total Cost	
				Unit	Total	Units	Totals	Cost		Cost		Cost	w/ OH & P
186													
187	Log Construction	1,634	SF										
188	2x12 Sill	344	BF	\$1.20	\$413	0.019	6.5	\$256		\$669		\$669	
189	Logs 12"	2,561	LF			0.240	614.6	\$24,240		\$39,604	\$15,364	\$39,604	\$39,604
190	Erection	200	HRS	\$3.00	\$600	1.200	240.0	\$9,466		\$17,066	\$7,000	\$17,066	\$17,066
191	Sealants (Chinking)	2,561	LF	\$1.00	\$2,561	0.017	43.5	\$1,716		\$4,277		\$4,277	\$4,277
192	Log Sealant	1,634	SF	\$0.40	\$654	0.015	24.5	\$966		\$1,620		\$1,620	\$1,620
193	Furring	1,634	SF	\$0.60	\$980	0.026	42.5	\$1,676		\$2,656		\$2,656	\$2,656
194	Siding At Top Of Logs	387	SF	\$3.25	\$1,258	0.029	11.2	\$442		\$1,700		\$1,700	\$1,700
195	1/2" Plywood A-C	2,021	SF	\$1.20	\$2,425	0.019	38.4	\$1,514		\$3,939		\$3,939	\$3,939
196													
197	Interior Work	2,100	SF										
198	Misc Trim	568	LF	\$3.00	\$1,704	0.048	27.3	\$1,077		\$2,781		\$2,781	\$2,781
199	Vinyl Flooring	2,100	SF	\$5.00	\$10,500	0.034	71.4	\$2,816		\$13,316		\$13,316	\$13,316
200	Toyo Stoves	2	EA	\$1,350.00	\$2,700	9.600	19.2	\$757		\$3,457		\$3,457	\$3,457
201	Painting	4,121	SF	\$0.15	\$618	0.024	98.9	\$3,901		\$4,519		\$4,519	\$4,519
202													
203	Subtotal: ASSEMBLY				\$87,270		2,640.7	\$108,001		\$27,353		\$222,624	\$224,741
204													
205													
206													
207	OFFICE												
208													
209	Post & Pad Foundations	20	EA										
210	3x12 3' Long	336	BF	\$1.20	\$403	0.036	12.1	\$477		\$880		\$880	\$880
211	Steel Column	16	EA	\$54.00	\$864	2.400	38.4	\$1,514		\$2,378		\$2,378	\$2,378
212	Hardware	16	SETS	\$50.00	\$800	2.400	38.4	\$1,514		\$2,314		\$2,314	\$2,314
213	Fencing At Perimeter	190	LF	\$15.00	\$2,850	0.411	78.1	\$3,080		\$5,930		\$5,930	\$5,930
214													
215	Floor Framing	1,855	SF										
216	GLB	1,440	BF	\$2.25	\$3,240	0.026	37.4	\$1,475		\$4,715		\$4,715	\$4,715
217	TJI Joists	1,395	LF	\$2.50	\$3,487	0.043	60.0	\$2,366		\$5,853		\$5,853	\$5,853
218	Subflooring 3/4" T&G	1,855	SF	\$1.60	\$2,968	0.022	40.8	\$1,609		\$4,577		\$4,577	\$4,577
219	Underlayment	1,855	SF	\$0.75	\$1,391	0.019	35.2	\$1,388		\$2,779		\$2,779	\$2,779
220	Soy Foam R40	1,855	SF	\$2.00	\$3,710	0.120	222.6	\$8,779		\$14,344	\$1,855	\$14,344	\$14,344
221	Floor Soffit Sheathing	1,855	SF	\$0.45	\$835	0.015	27.8	\$1,096		\$1,931		\$1,931	\$1,931
222	Carpet	1,855	SF	\$3.89	\$7,216	0.026	48.2	\$1,901		\$9,117		\$9,117	\$9,117

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Line No.	Description	Qty	UNITS	Material Costs		Labor Hours		Labor Cost	Equip Cost	Total Cost	Total Cost w/ OH & P
				Unit	Total	Units	Totals	Cost	Cost	Cost	
223	Roof Framing	1,915	SF								
224	Roof Sheathing 5/8"	1,915	SF	\$0.75	\$1,436	0.019	36.4	\$1,436		\$2,872	\$2,872
225	Roof Trusses	1,915	SF	\$2.00	\$3,830	0.043	82.3	\$3,246		\$7,076	\$7,076
226	Ceiling Finish, Plywood	1,915	SF	\$1.50	\$2,873	0.026	49.8	\$1,964		\$4,837	\$4,837
227	Soy Foam R60	1,915	SF	\$2.60	\$4,979	0.156	298.7	\$11,781	\$2,490	\$19,250	\$19,250
228	Intumescent Paint	1,915	SF	\$1.00	\$1,915	0.022	42.1	\$1,660		\$3,575	\$3,575
229	Facia Framing	135	LF	\$4.50	\$608	0.103	13.9	\$548		\$1,156	\$1,156
230	Roofing	1,915	SF	\$6.00	\$11,490	0.057	109.2	\$7,823		\$19,313	\$21,244
231											
232	Log Construction	1,672	SF								
233	2x12 Sill	418	BF	\$1.20	\$502	0.019	7.9	\$312		\$814	\$814
234	Logs 12"	2,620	LF			0.240	628.9	\$24,804	\$15,722	\$40,526	\$40,526
235	Erection	210	HRS	\$3.00	\$630	1.200	252.0	\$9,939	\$7,350	\$17,919	\$17,919
236	Sealants (Chinking)	2,620	LF	\$1.00	\$2,620	0.017	44.5	\$1,755		\$4,375	\$4,375
237	Log Sealant	1,672	SF	\$0.40	\$669	0.015	25.1	\$990		\$1,659	\$1,659
238	Furring	2,032	SF	\$0.60	\$1,219	0.026	52.8	\$2,082		\$3,301	\$3,301
239	Siding At Top Of Logs, Gables	360	SF	\$3.25	\$1,170	0.029	10.4	\$410		\$1,580	\$1,580
240	Soy Foam R30	2,032	SF	\$1.60	\$3,251	0.096	195.1	\$7,695	\$1,626	\$12,572	\$12,572
241	1/2" Plywood A-C	2,032	SF	\$1.20	\$2,438	0.019	38.6	\$1,522		\$3,960	\$3,960
242											
243	Partitions	1,312	SF								
244	2x4 Framing	1,172	BF	\$0.60	\$703	0.022	25.8	\$1,018		\$1,721	\$1,721
245	1/2" Plywood	2,624	SF	\$1.20	\$3,149	0.019	49.9	\$1,968		\$5,117	\$5,117
246											
247	Interior Work	1,855	SF								
248	Misc Trim	418	LF	\$3.00	\$1,254	0.048	20.1	\$793		\$2,047	\$2,047
249	Carpet	1,855	SF	\$3.89	\$7,216	0.029	53.8	\$2,122		\$9,338	\$9,338
250	Exterior Doors, Double	2	SET	\$3,300.00	\$6,600	14.400	28.8	\$1,136		\$7,736	\$7,736
251	Interior Doors, Single	9	EA	\$700.00	\$6,300	4.800	43.2	\$1,704		\$8,004	\$8,004
252	Interior Doors, Double	1	PR	\$1,400.00	\$1,400	9.600	9.6	\$379		\$1,779	\$1,779
253	Bifold Closet Door	1	EA	\$350.00	\$350	2.400	2.4	\$95		\$445	\$445
254	Toyo Stoves	1	EA	\$1,350.00	\$1,350	9.600	9.6	\$379		\$1,729	\$1,729
255	Painting	6,511	SF	\$0.15	\$977	0.024	156.3	\$6,164		\$7,141	\$7,141
256											
257	Subtotal: OFFICE				\$96,693		2,926.2	\$118,924	\$29,042	\$244,659	\$246,591
258											
259											

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				Unit	Total	Units	Totals	Cost	Cost	Cost	
260											
261	LODGING										
262											
263	Post & Pad Foundations	20	EA								
264	3x12 3' Long	420	BF	\$1.20	\$504	0.036	15.1	\$596		\$1,100	\$1,100
265	Steel Column	20	EA	\$54.00	\$1,080	2.400	48.0	\$1,893		\$2,973	\$2,973
266	Hardware	20	SETS	\$50.00	\$1,000	2.400	48.0	\$1,893		\$2,893	\$2,893
267	Fencing At Perimeter	190	LF	\$15.00	\$2,850	0.411	78.1	\$3,080		\$5,930	\$5,930
268											
269	Floor Framing	1,945	SF								
270	GLB	1,440	BF	\$2.25	\$3,240	0.026	37.4	\$1,475		\$4,715	\$4,715
271	TJI Joists	1,462	LF	\$2.50	\$3,656	0.043	62.9	\$2,481		\$6,137	\$6,137
272	Subflooring 3/4" T&G	1,945	SF	\$1.60	\$3,112	0.022	42.8	\$1,688		\$4,800	\$4,800
273	Underlayment	1,945	SF	\$0.75	\$1,459	0.019	37.0	\$1,459		\$2,918	\$2,918
274	Soy Foam R40	1,945	SF	\$2.00	\$3,890	0.120	233.4	\$9,205	\$1,945	\$15,040	\$15,040
275	Floor Soffit Sheathing	1,945	SF	\$0.45	\$875	0.015	29.2	\$1,152		\$2,027	\$2,027
276	Flooring Vinyl	985	SF	\$5.00	\$4,925	0.034	33.5	\$1,321		\$6,246	\$6,246
277	Carpet	960	SF	\$3.89	\$3,734	0.026	25.0	\$986		\$4,720	\$4,720
278											
279	Roof Framing	1,995	SF								
280	Roof Sheathing 5/8"	1,995	SF	\$0.75	\$1,496	0.019	37.9	\$1,495		\$2,991	\$2,991
281	Roof Trusses	1,995	SF	\$2.00	\$3,990	0.043	85.8	\$3,384		\$7,374	\$7,374
282	Ceiling Finish, Plywood	1,995	SF	\$1.50	\$2,993	0.026	51.9	\$2,047		\$5,040	\$5,040
283	Soy Foam R60	1,995	SF	\$2.60	\$5,187	0.156	311.2	\$12,274	\$2,594	\$20,055	\$20,055
284	Intumescent Paint	1,995	SF	\$1.00	\$1,995	0.022	43.9	\$1,731		\$3,726	\$3,726
285	Facia Framing	135	LF	\$4.50	\$608	0.103	13.9	\$548		\$1,156	\$1,156
286	Roofing	1,995	SF	\$6.00	\$11,970	0.057	113.7	\$8,145		\$20,115	\$22,127
287											
288											
289											
290											
291											
292											
293											
294											
295											
296											

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Line No.	Description	Qty	UNITS	Material Costs		Labor Hours		Labor		Equip		Total		Total Cost w/ OH & P
				Unit	Total	Units	Totals	Cost		Cost		Cost		
297	Log Construction	1,672	SF											
298	2x12 Sill	418	BF	\$1.20	\$502	0.019	7.9	\$312				\$814		\$814
299	Logs 12"	2,620	LF			0.240	628.9	\$24,804		\$15,722		\$40,526		\$40,526
300	Erection	210	HRS	\$3.00	\$630	1.200	252.0	\$9,939		\$7,350		\$17,919		\$17,919
301	Sealants (Chinking)	2,620	LF	\$1.00	\$2,620	0.017	44.5	\$1,755				\$4,375		\$4,375
302	Log Sealant	1,672	SF	\$0.40	\$669	0.015	25.1	\$990				\$1,659		\$1,659
303	Furring	2,032	SF	\$0.60	\$1,219	0.026	52.8	\$2,082				\$3,301		\$3,301
304	Siding At Top Of Logs, Gables	360	SF	\$3.25	\$1,170	0.029	10.4	\$410				\$1,580		\$1,580
305	Soy Foam R30	2,032	SF	\$1.60	\$3,251	0.096	195.1	\$7,695		\$1,626		\$12,572		\$12,572
306	1/2" Plywood A-C	2,032	SF	\$1.20	\$2,438	0.019	38.6	\$1,522				\$3,960		\$3,960
307														
308														
309	Partitions	1,776	SF											
310	2x4 Framing	1,587	BF	\$0.60	\$952	0.022	34.9	\$1,376				\$2,328		\$2,328
311	1/2" Plywood A-C	3,552	SF	\$1.20	\$4,262	0.019	67.5	\$2,662				\$6,924		\$6,924
312														
313	Interior Work	1,945	SF											
314	Misc Trim	418	LF	\$3.00	\$1,254	0.048	20.1	\$793				\$2,047		\$2,047
315	Vinyl Flooring	973	SF	\$5.00	\$4,863	0.034	33.1	\$1,305				\$6,168		\$6,168
316	Carpet	973	SF	\$3.89	\$3,783	0.029	28.2	\$1,112				\$4,895		\$4,895
317	Exterior Doors, Single	1	EA	\$1,800.00	\$1,800	7.200	7.2	\$284				\$2,084		\$2,084
318	Interior Door's, Single	13	EA	\$700.00	\$9,100	4.800	62.4	\$2,461				\$11,561		\$11,561
319	Toyo Stoves	1	EA	\$1,350.00	\$1,350	9.600	9.6	\$379				\$1,729		\$1,729
320	Painting	3,977	SF	\$0.15	\$597	0.024	95.4	\$3,763				\$4,360		\$4,360
321	FRP	1,760	SF	\$3.50	\$6,160	0.029	51.0	\$2,011				\$8,171		\$8,171
322														
323														
324														
325														
326														
327														
328														
329														
330														
331	Subtotal: LODGING				\$105,184		3,013.4	\$122,508		\$29,236		\$256,928		\$258,941
332														
333														

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334	UTILITY/KITCHEN									
335										
336										
337	Post & Pad Foundations	9	EA							
338	3x12 3' Long	189	BF	\$1.20	\$227	0.036	\$268		\$495	\$495
339	Steel Column	9	EA	\$54.00	\$486	2.400	\$852		\$1,338	\$1,338
340	Hardware	9	SETS	\$50.00	\$450	2.400	\$852		\$1,302	\$1,302
341	Fencing At Perimeter	65	LF	\$15.00	\$975	0.411	\$1,053		\$2,028	\$2,028
342						1.200				
343	Floor Framing	567	SF							
344	GLB	680	BF	\$2.25	\$1,530	0.026	\$698		\$2,228	\$2,228
345	TJI Joists	426	LF	\$2.50	\$1,066	0.043	\$722		\$1,788	\$1,788
346	Subflooring 3/4" T&G	567	SF	\$1.60	\$907	0.022	\$493		\$1,400	\$1,400
347	Underlayment	567	SF	\$0.75	\$425	0.019	\$426		\$851	\$851
348	Soy Foam R40	567	SF	\$2.00	\$1,134	0.120	\$2,682	\$567	\$4,383	\$4,383
349	Floor Soffit Sheathing	567	SF	\$0.45	\$255	0.015	\$335		\$590	\$590
350	Flooring Vinyl	286	SF	\$5.00	\$1,430	0.034	\$383		\$1,813	\$1,813
351	Paint Floor	281	SF	\$0.20	\$56	0.024	\$264		\$320	\$320
352										
353	Roof Framing	667	SF							
354	Roof Sheathing 5/8"	667	SF	\$0.75	\$500	0.019	\$501		\$1,001	\$1,001
355	Roof Trusses	667	SF	\$2.00	\$1,334	0.043	\$1,132		\$2,466	\$2,466
356	Ceiling Finish, Plywood	667	SF	\$1.50	\$1,001	0.026	\$682		\$1,683	\$1,683
357	Soy Foam R60	667	SF	\$2.60	\$1,734	0.156	\$4,106	\$867	\$6,707	\$6,707
358	Intumescent Paint	667	SF	\$1.00	\$667	0.022	\$580		\$1,247	\$1,247
359	Facia Framing	80	LF	\$4.50	\$360	0.103	\$323		\$683	\$683
360	Roofing	667	SF	\$6.00	\$4,002	0.057	\$2,722		\$6,724	\$7,396
361										
362										
363										
364										
365										
366										
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368										
369										
370										

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				Unit	Total	Units	Totals	Cost	Cost	Cost	
371	Log Construction	656	SF								
372	2x12 Sill	164	BF	\$1.20	\$197	0.019	3.1	\$122		\$319	\$319
373	Logs 12"	1,028	LF			0.240	246.7	\$9,730	\$6,168	\$15,898	\$15,898
374	Erection	80	HRS	\$3.00	\$240	1.200	96.0	\$3,786	\$2,800	\$6,826	\$6,826
375	Sealants (Chinking)	1,028	LF	\$1.00	\$1,028	0.017	17.5	\$690		\$1,718	\$1,718
376	Log Sealant	656	SF	\$0.40	\$262	0.015	9.8	\$387		\$649	\$649
377	Furring At Top Of Logs, Gables	67	SF	\$0.60	\$40	0.026	1.7	\$67		\$107	\$107
378	Siding At Top Of Logs, Gables	67	SF	\$3.25	\$217	0.029	1.9	\$75		\$292	\$292
379	Soy Foam R30	67	SF	\$1.60	\$107	0.096	6.4	\$252	\$53	\$412	\$412
380	1/2" Plywood A-C	67	SF	\$1.20	\$80	0.019	1.3	\$51		\$131	\$131
381											
382											
383	Partitions	1,776	SF								
384	2x4 Framing	1,587	BF	\$0.60	\$952	0.022	34.9	\$1,376		\$2,328	\$2,328
385	1/2" Plywood A-C	3,552	SF	\$1.20	\$4,262	0.019	67.5	\$2,662		\$6,924	\$6,924
386											
387	Interior Work	567	SF								
388	Misc Trim	160	LF	\$3.00	\$480	0.048	7.7	\$304		\$784	\$784
389	Vinyl Flooring	260	SF	\$5.00	\$1,300	0.034	8.8	\$347		\$1,647	\$1,647
390	Painted Floor	307	SF	\$0.25	\$77	0.022	6.8	\$268		\$345	\$345
391	Interior Doors, Single	4	EA	\$700.00	\$2,800	4.800	19.2	\$757		\$3,557	\$3,557
392	Toyo Stoves	1	EA	\$1,350.00	\$1,350	9.600	9.6	\$379		\$1,729	\$1,729
393	Painting	1,111	SF	\$0.15	\$167	0.024	26.7	\$1,053		\$1,220	\$1,220
394	FRP	528	SF	\$3.50	\$1,848	0.029	15.3	\$603		\$2,451	\$2,451
395											
396	Kitchen										
397	Refrigerators/Freezers	2	EA	\$1,600.00	\$3,200	4.800	9.6	\$379		\$3,579	\$3,579
398	Pantry Shelving	16	LF	\$35.00	\$560	0.600	9.6	\$379		\$939	\$939
399	Base Cabinets	16	LF	\$190.00	\$3,040	0.411	6.6	\$260		\$3,300	\$3,300
400	Wall Cabinets	18	LF	\$120.00	\$2,160	0.411	7.4	\$292		\$2,452	\$2,452
401	Countertops, Plastic Laminate	16	LF	\$30.00	\$480	0.120	1.9	\$75		\$555	\$555
402	Ranges, Electric	2	EA	\$1,000.00	\$2,000	3.600	7.2	\$284		\$2,284	\$2,284
403											
404											
405	Subtotal: UTILITY/KITCHEN				\$45,386		1,075.8	\$43,652	\$10,456	\$99,494	\$100,165
406											
407											

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				Unit	Total	Units	Totals	Cost	Cost	Cost	
408											
409	MECHANICAL										
410											
411	General Conditions										
412	Field Engineering: Submittals, Shop & Record Dwg's, Operating Instructions, O&M Manuals	40	HRS	\$5.00	\$200	1.000	40.0	\$3,016		\$3,216	\$4,020
413	Mob & Demob	1	LS	\$5,000.00	\$5,000	80.000	80.0	\$6,033		\$11,033	\$13,791
414	Supervision (Working Foreman)	9	WEEKS			20.000	180.0	\$13,574	\$563	\$14,137	\$17,671
415	Bond and Insurance (1%)	1	LS	\$2,700.00	\$2,700					\$2,700	\$3,375
416	Tools and Equipment (1% of Labor)	1	LS						\$1,100	\$1,100	\$1,375
417											
418	Piping Insulation										
419	Fiberglass Pipe Insulation, 1" Thick W/ ASJ										
420	Domestic Hot/Cold Water										
421	1" Pipe, Fittings	20	LF	\$2.16	\$43	0.073	1.5	\$113		\$156	\$195
422	1- 1/2" Pipe, Fittings	20	LF	\$2.23	\$45	0.076	1.5	\$113		\$158	\$198
423	2" Pipe, Fittings	20	LF	\$2.44	\$49	0.080	1.6	\$121		\$170	\$213
424											
425	Domestic Water Piping										
426	PEX Piping	2,880	LF	\$0.60	\$1,728	0.040	115.2	\$8,687		\$10,415	\$13,019
427	Plumbing Manifold	2	EA	\$250.00	\$500	2.000	4.0	\$302		\$802	\$1,003
428	HW/CW Supply, Type L Copper										
429	1" Pipe	20	LF	\$8.14	\$163	0.136	2.7	\$204		\$367	\$459
430	1-1/2" Pipe	20	LF	\$11.18	\$224	0.177	3.5	\$264		\$488	\$610
431	2" Pipe	20	LF	\$17.51	\$350	0.219	4.4	\$332		\$682	\$853
432	Fittings	1	LS	\$67.50	\$68	1.995	2.0	\$151		\$219	\$274
433	Sterilization	1	LS	\$25.00	\$25	1.220	1.2	\$90		\$115	\$144
434											
435	Sanitary Waste and Vent Piping										
436	Above Grade DWV										
437	2" Pipe	750	LF	\$9.00	\$6,750	0.229	171.8	\$12,955		\$19,705	\$24,631
438	3" Pipe	325	LF	\$13.08	\$4,251	0.331	107.6	\$8,114		\$12,365	\$15,456
439	4" Pipe	50	LF	\$22.98	\$1,149	0.480	24.0	\$1,810		\$2,959	\$3,699
440	Fittings	1	LS	\$3,964.14	\$3,964	148.593	148.6	\$11,206		\$15,170	\$18,963
441											
442											

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				Unit	Total	Units	Totals	Cost	Cost	Cost	
443											
444	Drainage Piping Specialties										
445	Floor Drains	4	EA	\$257.00	\$1,028	2.000	8.0	\$603		\$1,631	\$2,039
446	2", Cast Iron Body, Ni-Bronze Grate	8	EA	\$116.00	\$928	1.000	8.0	\$603		\$1,531	\$1,914
447	Floor Cleanouts	4	EA	\$65.00	\$260	1.000	4.0	\$302		\$562	\$703
448	Vent Thru Roof, 4"	4	EA	\$60.00	\$240	1.500	6.0	\$452		\$692	\$865
449	Trap Primer										
450											
451	Fuel Oil Piping										
452	Fuel Tank, 2,500 Gal/AST	1	EA	\$22,500.00	\$22,500	40.000	40.0	\$3,016		\$25,516	\$31,895
453	FOS, FOR Piping, 1/2" - 3/4" Type K	100	LF	\$2.08	\$208	0.049	4.9	\$370		\$578	\$723
454	Fuel Filter	1	EA	\$22.00	\$22	0.500	0.5	\$38		\$60	\$75
455	Fuel Filter/Water Separator	1	EA	\$50.00	\$50	0.500	0.5	\$38		\$88	\$110
456	Oil Safety Valve, 1/2"	5	EA	\$26.00	\$130	0.500	2.5	\$189		\$319	\$399
457	Fusible Gate Valve, 1/2"	5	EA	\$22.90	\$115	0.500	2.5	\$189		\$304	\$380
458	6" Drip Pan Under Burner	5	EA	\$27.95	\$140	0.750	3.8	\$287		\$427	\$534
459											
460	Plumbing Fixtures										
461	Water Closet, Flush Valve	8	EA	\$613.00	\$4,904	8.000	64.0	\$4,826		\$9,730	\$12,163
462	Wall Hung Lavatory, ADA	5	EA	\$474.00	\$2,370	8.000	40.0	\$3,016		\$5,386	\$6,733
463	Countertop Lavatory, ADA	6	EA	\$454.00	\$2,724	5.000	30.0	\$2,262		\$4,986	\$6,233
464	Wall Hung Urinal	3	EA	\$355.00	\$1,065	6.000	18.0	\$1,357		\$2,422	\$3,028
465	Standard Showers	4	EA	\$1,200.00	\$4,800	8.000	32.0	\$2,413		\$7,213	\$9,016
466	ADA Shower	2	EA	\$2,500.00	\$5,000	12.000	24.0	\$1,810		\$6,810	\$8,513
467	Bath Tubs	4	EA	\$700.00	\$2,800	8.000	32.0	\$2,413		\$5,213	\$6,516
468	Floor/Wall Utility Sinks	2	EA	\$809.00	\$1,618	8.000	16.0	\$1,207		\$2,825	\$3,531
469	St. Stl. Sink, Double Bowl	2	EA	\$650.00	\$1,300	8.000	16.0	\$1,207		\$2,507	\$3,134
470											
471											
472											
473											
474											
475											
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480	Plumbing Equipment									
481	Water Softeners	1	LS	\$2,500.00	\$2,500	6.00	\$452		\$2,952	\$3,690
482	Electric Water Heaters	1	EA	\$2,500.00	\$2,500	4.0	\$302		\$2,802	\$3,503
483	Well-Trol Expansion Tank	1	EA	\$2,500.00	\$2,500	4.0	\$302		\$2,802	\$3,503
484										
485	Ventilation									
486	HRV	4	EA	\$1,400.00	\$5,600	8.000	\$2,413		\$8,013	\$10,016
487	Ductwork	1,710	LBS	\$2.20	\$3,762	0.094	\$12,118		\$15,880	\$19,850
488	S/A Diffusers	15	EA	\$75.00	\$1,125	1.000	\$1,131		\$2,256	\$2,820
489	Hoods	4	EA	\$450.00	\$1,800	4.000	\$1,207		\$3,007	\$3,759
490										
491										
492										
493										
494	Subtotal: MECHANICAL				\$99,198	1,480.0	\$111,608	\$1,663	\$212,469	\$265,594
495										
496										
497										
498	ELECTRICAL									
499										
500	General Conditions									
501	Field Engineering: Submittals, Shop & Record									
502	Dwgs, Operating Instructions, O&M Manuals	40	HRS	\$5.00	\$200	1.000	\$3,125		\$3,325	\$4,156
503	Permits, Tests, Inspections	1	LS	\$100.00	\$100	40.000	\$3,125		\$3,225	\$4,031
504	Supervision	5	WEEKS			20.000	\$7,813	\$313	\$8,126	\$10,157
505	Bond and Insurance	1	LS	\$2,700.00	\$2,700				\$2,700	\$3,375
506	Small Tools	1	LS					\$5,400	\$5,400	\$6,750
507	Equipment	1	LS					\$8,000	\$8,000	\$10,000
508										
509	Grounding and Bonding									
510	Ground Bus 12x2x1/4	1	EA	\$35.00	\$35	0.250	\$23		\$58	\$73
511	1" PVC 1#2 Ground	30	LF	\$1.57	\$47	0.082	\$195		\$242	\$303
512	1" PVC 1#1/0 Ground	30	LF	\$1.97	\$59	0.088	\$203		\$262	\$328
513	Ground Rod 3/4" x 10'	1	EA	\$65.00	\$65	1.000	\$78		\$143	\$179
514	Exothermic Connection	4	EA	\$8.00	\$32	0.250	\$78		\$110	\$138
515										
516										

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				Unit	Total	Units	Totals	Cost	Cost	Cost	
517	Wiring Devices										
518	Receptacles: Complete Assemblies	83	EA								
519	Duplex 20A 125V	64	EA	\$5.38	\$344	0.200	12.8	\$1,000		\$1,344	\$1,680
520	GFCI Receptacles	12	EA	\$19.56	\$235	0.250	3.0	\$234		\$469	\$586
521	WP GFCI Receptacles	3	EA	\$27.01	\$81	0.300	0.9	\$70		\$151	\$189
522	Special Purpose Receptacles	4	EA	\$59.50	\$238	0.500	2.0	\$156		\$394	\$493
523	Add For:										
524	3/4in. EMT	2,490	LF	\$0.55	\$1,370	0.035	87.2	\$6,813		\$8,183	\$10,229
525	3/4in. EMT CONN	166	EA	\$1.84	\$305	0.030	5.0	\$391		\$696	\$870
526	3/4in. EMT CPLG	166	EA	\$1.81	\$300					\$300	\$375
527	3/4in. EMT STRAP 1-H	249	EA	\$0.16	\$40	0.025	6.2	\$484		\$524	\$655
528	#10 THHN	3,984	LF	\$0.46	\$1,833	0.006	23.9	\$1,867		\$3,700	\$4,625
529	#12 THHN	3,984	LF	\$0.30	\$1,195	0.005	19.9	\$1,555		\$2,750	\$3,438
530	UTILITY BOX 2-1/2 D 1/2 KO	83	EA	\$2.90	\$241	0.200	16.6	\$1,297		\$1,538	\$1,923
531	1G SS RECEPTACLE PLATE	83	EA	\$3.45	\$286	0.025	2.1	\$164		\$450	\$563
532	1in. x10 S-TAP SCREW	415	EA	\$0.03	\$12	0.020	8.3	\$648		\$660	\$825
533											
534	Service										
535	MV Service To Village Generator	500	LF	\$60.00	\$30,000					\$30,000	\$37,500
536	Service Transformer 150 KVA	1	EA	\$27,000.00	\$27,000	32.000	32.0	\$2,500		\$29,500	\$36,875
537	Main Disconnect 200A	1	EA	\$1,600.00	\$1,600	6.000	6.0	\$469		\$2,069	\$2,586
538											
539	Packaged Engine Generators										
540	None Included In The Estimate										
541											
542	Panelboards										
543	Panelboards, 120/208V, 3 Phase, 4 Wire,	1	EA	\$1,650.00	\$1,650	10.000	10.0	\$781		\$2,431	\$3,039
544	225A, MLO, 42 Circuit, W/ Breakers										
545	Feeders & Subfeeds										
546	225 Amp: 2" RGS, 4#4/0, 1#4	80	LF	\$35.45	\$2,836	0.339	27.1	\$2,117		\$4,953	\$6,191
547											
548											
549											
550											
551											

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552	Interior Lighting										
553	Fluorescent Lighting	93	EA	\$200.00	\$18,571	1.250	116.1	\$9,071		\$27,642	\$34,553
554	Shower Lights	4	EA	\$120.00	\$480	1.000	4.0	\$313		\$793	\$991
555	Vanity Lights	12	EA	\$150.00	\$1,800	1.000	12.0	\$938		\$2,738	\$3,423
556	Occupancy Sensors	8	EA	\$1,248	\$9,936	1.250	10.0	\$781		\$2,029	\$2,536
557	Exit Sign, LED	6	EA	\$156.00	\$936	1.000	6.0	\$469		\$1,405	\$1,756
558	Emerg. Batt Wall Pack	6	EA	\$100.00	\$600	1.000	6.0	\$469		\$1,069	\$1,336
559	Switches	20	EA	\$17.81	\$356	0.529	10.6	\$828		\$1,184	\$1,480
560	Wiring: MC Cable	1,900	LF	\$1.60	\$3,040	0.042	79.8	\$3,147		\$6,187	\$6,187
561	Wiring: 3/4" Cond, 3-#12, Gnd	1,000	LF	\$1.52	\$2,888	0.091	172.9	\$13,509		\$16,397	\$20,496
562											
563											
564	Exterior Lighting										
565	Wall Mtd LED Lights	6	EA	\$500.00	\$3,000	2.000	12.0	\$938		\$3,938	\$4,923
566	Wiring: 3/4" Cond, 3-#12, Gnd	210	LF	\$1.52	\$319	0.091	19.1	\$1,492		\$1,811	\$2,264
567	Photocell	1	EA	\$70.00	\$70	1.000	1.0	\$78		\$148	\$185
568											
569	Voice and Data Communication Cabling										
570	Telecom Racks	1	EA	\$2,500.00	\$2,500	8.000	8.0	\$625		\$3,125	\$3,906
571	Telecomm Outlets	12	EA								
572	Box, Cover Plate, Fittings	12	EA	\$16.00	\$192	1.000	12.0	\$938		\$1,130	\$1,413
573	Quad Outlet, 2 Data, 2 Telephone	12	EA	\$32.00	\$384	2.000	24.0	\$1,875		\$2,259	\$2,824
574	Conduit, Fittings 1"	1,680	LF	\$1.20	\$2,016	0.086	144.5	\$11,290		\$13,306	\$16,633
575	Cat 5e Cable	4	MLF	\$150.00	\$576	10.000	38.4	\$3,000		\$3,576	\$4,470
576	Service To Building	1	LS	\$5,000.00	\$5,000					\$5,000	\$6,250
577											
578											
579											
580											
581											
582											
583											
584											
585											
586	Subtotal: ELECTRICAL				\$116,780		1,126.8	\$84,947	\$13,713	\$215,440	\$267,758
587											
588											

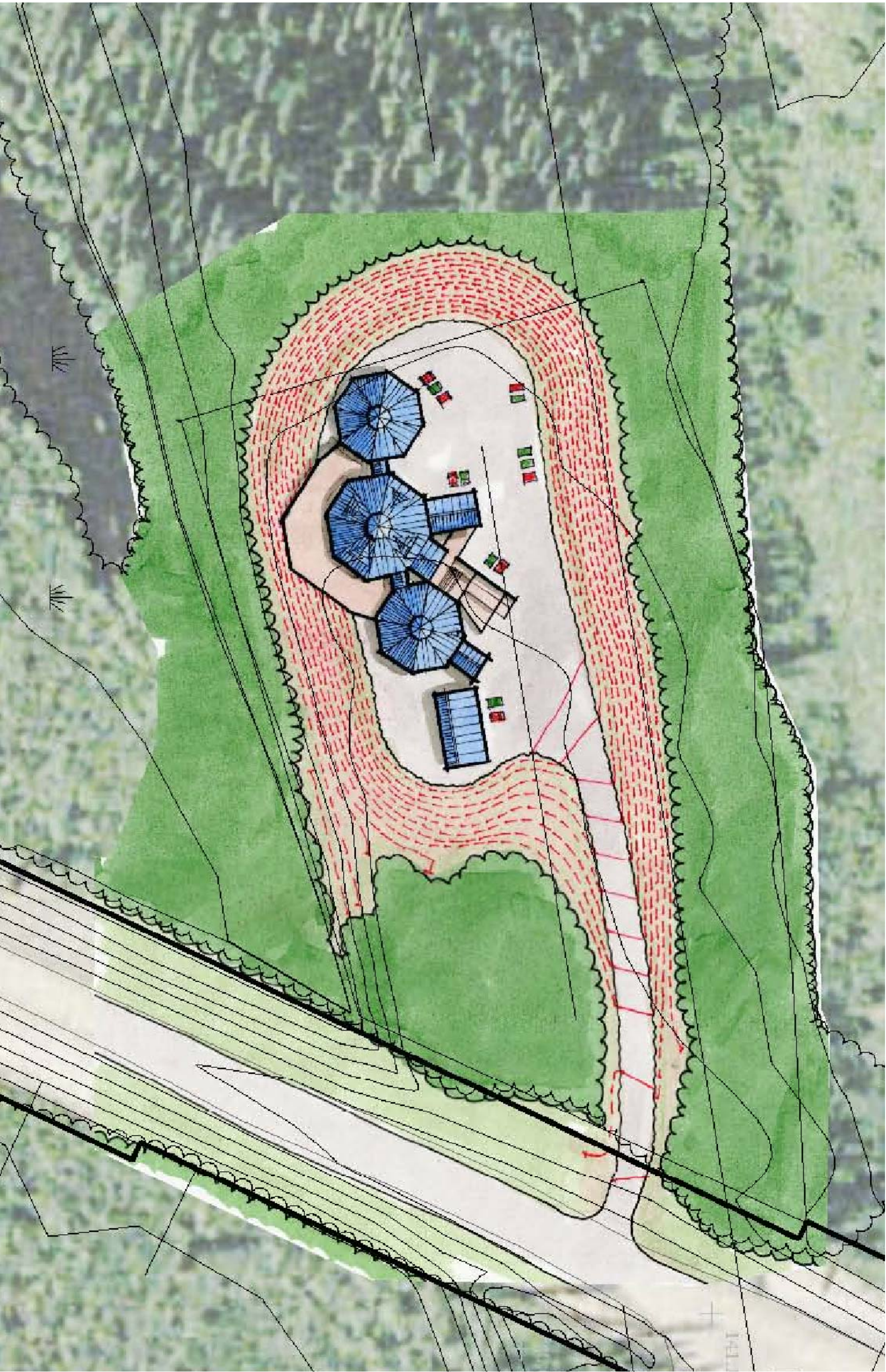


Appendix D

Drawings



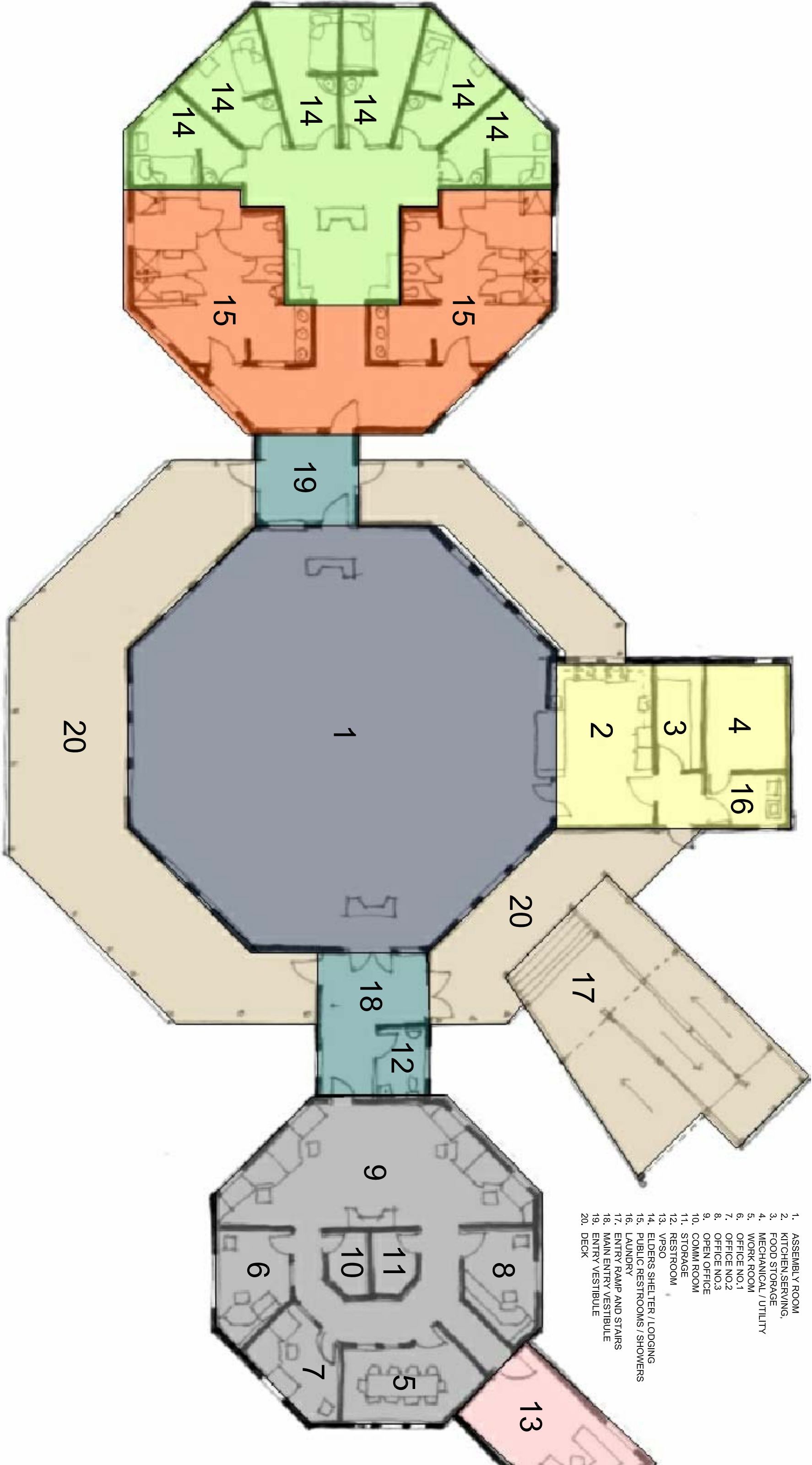
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KOYUKUK COMMUNITY EMERGENCY SHELTER
Koyukuk, Alaska

CONCEPT A SITE PLAN

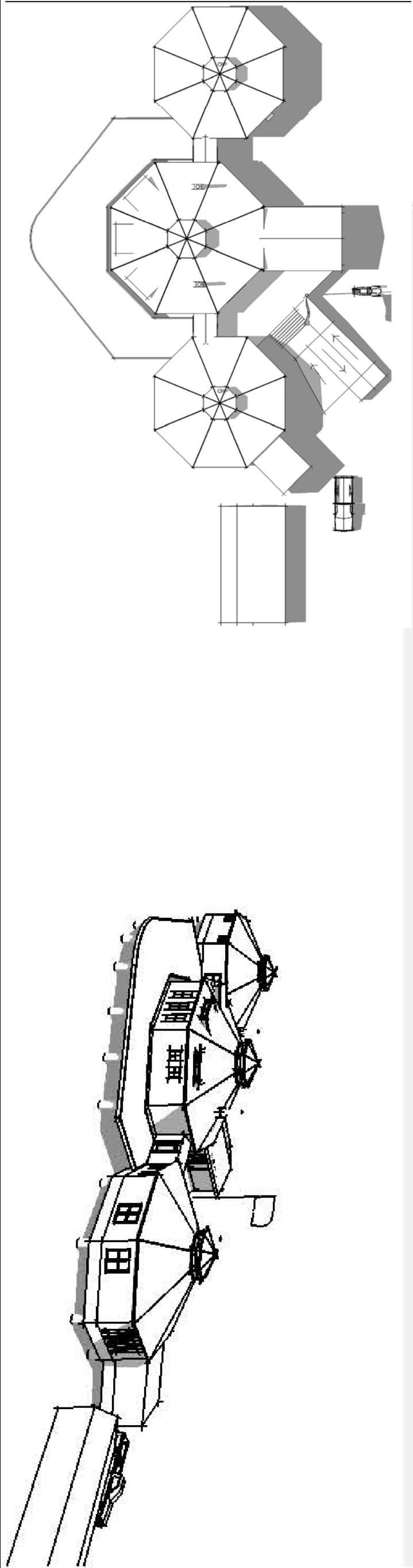
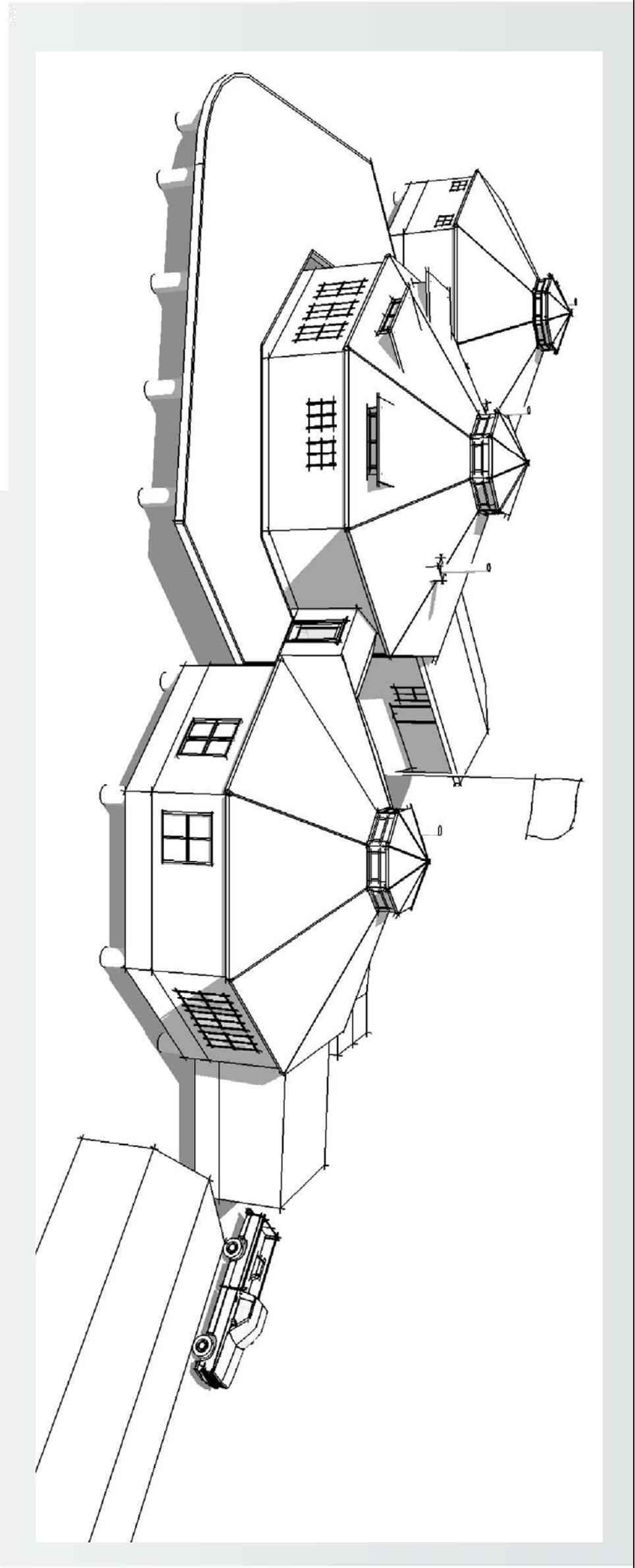
- 1. ASSEMBLY ROOM
- 2. KITCHEN, SERVING,
- 3. FOOD STORAGE
- 4. MECHANICAL / UTILITY
- 5. WORK ROOM
- 6. OFFICE NO.1
- 7. OFFICE NO.2
- 8. OFFICE NO.3
- 9. OPEN OFFICE
- 10. COMM ROOM
- 11. STORAGE
- 12. RESTROOM
- 13. VPSO
- 14. ELDERS SHELTER / LODGING
- 15. PUBLIC RESTROOMS / SHOWERS
- 16. LAUNDRY
- 17. ENTRY RAMP AND STAIRS
- 18. MAIN ENTRY VESTIBULE
- 19. ENTRY VESTIBULE
- 20. DECK



KOYUKUK COMMUNITY EMERGENCY SHELTER
Koyukuk, Alaska

CONCEPT A





KOYUKUK COMMUNITY EMERGENCY SHELTER
Koyukuk, Alaska

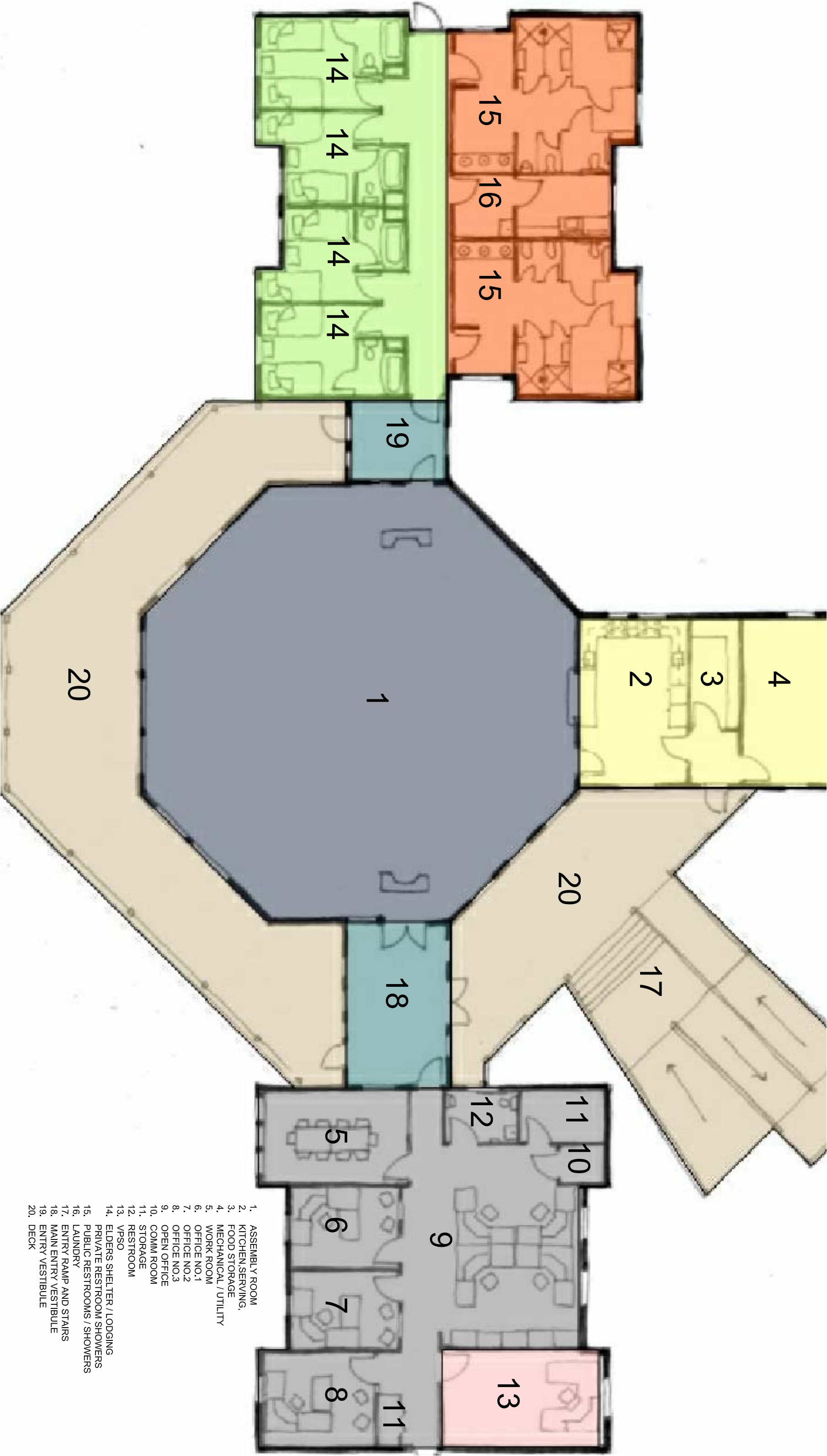
CONCEPT A

USKH



KOYUKUK COMMUNITY EMERGENCY SHELTER
Koyukuk, Alaska

CONCEPT B SITE PLAN

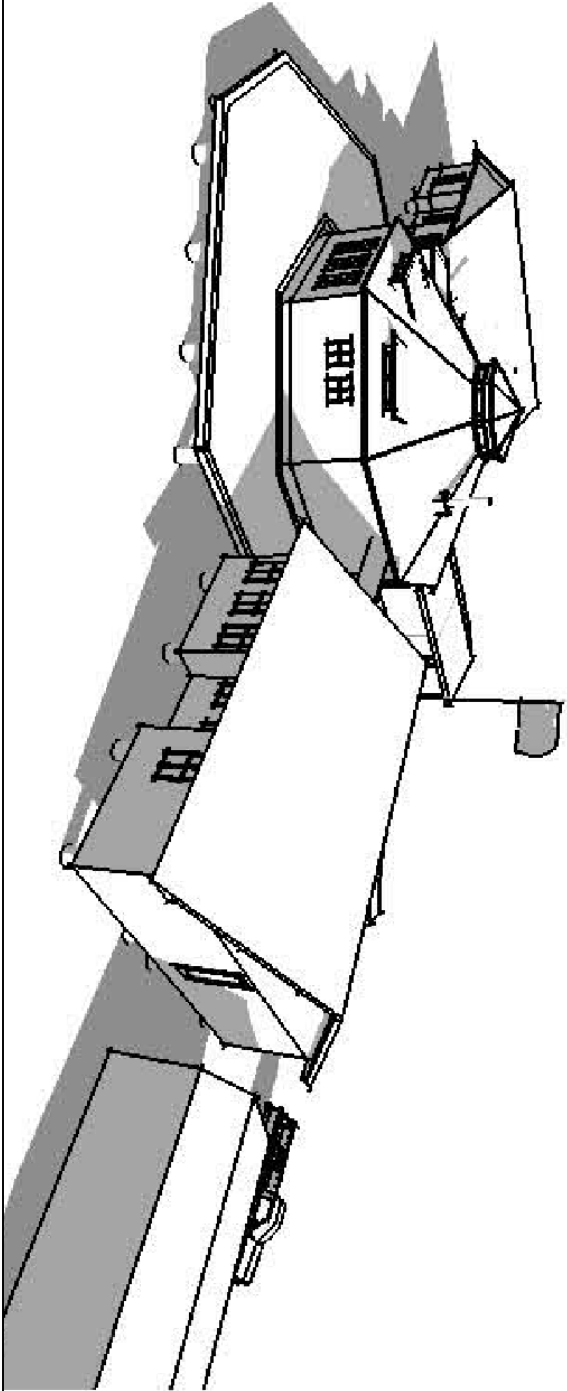
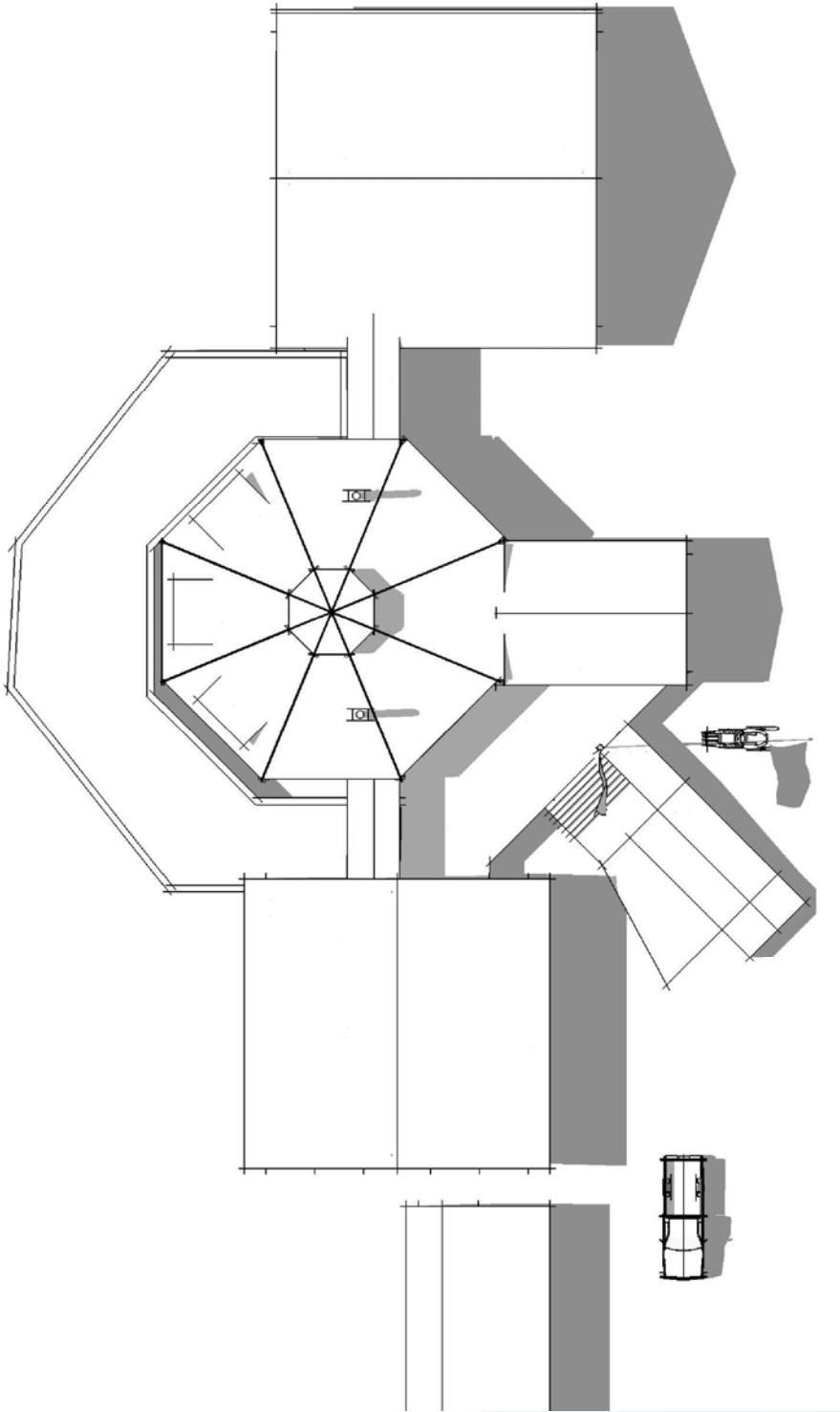
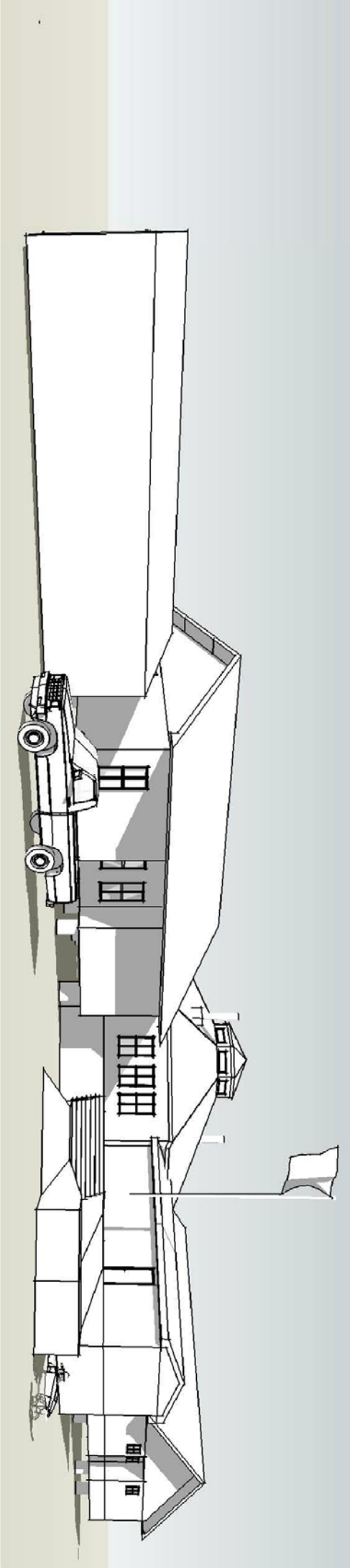


- 1. ASSEMBLY ROOM
- 2. KITCHEN, SERVING,
- 3. FOOD STORAGE
- 4. MECHANICAL / UTILITY
- 5. WORK ROOM
- 6. OFFICE NO. 1
- 7. OFFICE NO. 2
- 8. OFFICE NO. 3
- 9. OPEN OFFICE
- 10. COMM ROOM
- 11. STORAGE
- 12. RESTROOM
- 13. VPSO
- 14. ELDERS SHELTER / LODGING
- 15. PRIVATE RESTROOM SHOWERS
- 16. PUBLIC RESTROOMS / SHOWERS
- 17. LAUNDRY
- 18. ENTRY RAMP AND STAIRS
- 19. MAIN ENTRY VESTIBULE
- 20. DECK

KOYUKUK COMMUNITY EMERGENCY SHELTER
Koyukuk, Alaska

CONCEPT B





KOYUKUK COMMUNITY EMERGENCY SHELTER
Koyukuk, Alaska

CONCEPT B

USK4