

03/12/12 - 4:30 pm Juneau DW-OPTION-2aREV.dwg

Project for:
THE CHURCH OF JESUS CHRIST OF LATTER-DAY SAINTS

McCOOL CARLSON GREEN
ARCHITECTURE INTERIOR DESIGN SPACE PLANNING
901 PHOTO AVENUE, ANCHORAGE, AK (907) 563-8474

5368 Commercial Boulevard
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Architect / Engineer

JUNEAU STAKE CHAPEL

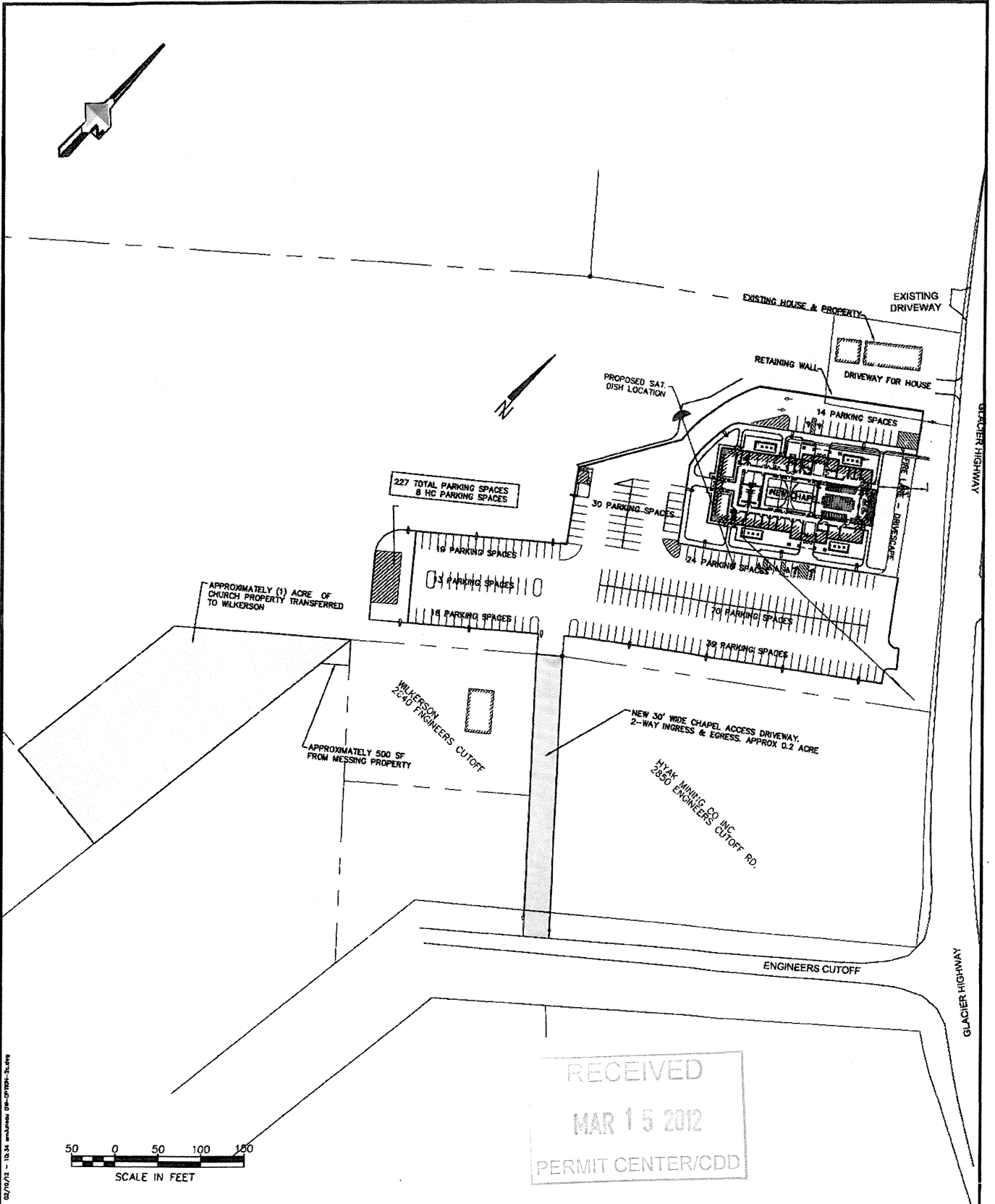
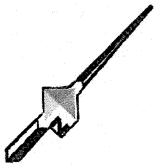
ENGINEERS CUTOFF ACCESS - OPTION E

Juneau, Alaska 99801

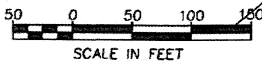
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Date:
AUG 2011

APPENDIX A

3



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JUNEAU STAKE CHAPEL
ENGINEERS CUTOFF ACCESS - OPTION C
Juneau, Alaska 99801

Project Number: DB0748
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ATTACHMENT 4

PROJECT NARRATIVE (Revised 3/7/2012)

*Juneau Stake Center Project
The Church of Jesus Christ of Latter-day Saints*

Location:

The Church of Jesus Christ of Latter-day Saints is planning to build a new Chapel on recently acquired property on Glacier Highway north of Engineer's Cutoff in Juneau, Alaska. The project site is located at 10585 Glacier Highway and will consist of a chapel structure to be located on the eastern portion of the 13.87 acre property, on land that is already cleared and de-cluttered. Legal description for the property: Tract A - H, U.S. SUNeys 2386 & 3817 and A Tract in Lot H, U.S. SUNeys 2386

Building Access and Schedule:

Two options are being presented to attempt to satisfy the Alaska Department of Transportation's request for an alternate route to Glacier Highway. The primary option One is illustrated on Site Plan C2.0 with a single driveway from the Church property onto Glacier Highway set opposite Hamilton Drive. The second option for site access would be from Engineers Cutoff via a new dedicated road, built to CBJ Standards, taken from two neighboring properties. (Appendix 3 – Option 2E).

Because of the complexity of variables and the time it will take to work out the details, it is requested that both of these options be considered for approval, though only one of them will be implemented. Either option will convey vehicles and pedestrians into the new paved parking lot. Also one driveway will be maintained to the existing House north of the Church lot.

A typical schedule of use for a church ward is as follows:

1. Sundays: Services are held in three hour meeting blocks. Initially one congregation (ward) with 100 to 250 members attending, begins at 11 am and runs to 2 pm. Usually there are small groups of 2 to 20 people who will meet before and after the 3 hour block.
2. Weekday Early Mornings: There are classes held at the building between 6 am and 7 am for the high school aged youth when public school is in session.
3. Weekday Evenings: There are no meetings on Monday night. The ward has one night a week that they will use for boy scouts and their youth programs. This typically runs from 7 pm until 9 pm.
4. Week end Evenings: There will also be quarterly activities for the whole ward which are usually held on a Friday or Saturday night. These may be potluck dinners, dances, performances and other cultural activities.

Grading and Surface Drainage:

The current surface drainage on the parcel will be increased due to the installation of the building, sidewalks and paving all of which are impervious to surface water. This increased drainage will be guided into bio-swales and oil/water separators to treat the runoff water prior to leaving the site.

Project Site Work

The new Juneau Stake Center is a 16,300 square foot, wood frame, single story structure on a 13 acre site. To develop the site a small amount of wetlands mitigation work is necessary. There

are creeks that flow through the site and we will construct new subterranean culverts to carry them across the site maintaining their natural course as close as possible. A 224 car paved parking lot with landscaping surrounds the building on three sides. City water, sewer and power are at the site. There will be handicap van access available at the new structure. No loading zone will be provided. Refuse area will be enclosed in a bear resistant structure and located just north west of the building next to a new 168 sf site storage building.

Following discussions with the DOT, the Building has been shifted to the north from the original application, reducing the parking on the north side to one single row with 14 parking spaces. This has allowed the meeting house entry drive (Option 1) to be aligned with Hamilton Street across the highway. This will provide access directly into the parking lot, reduce cross traffic conflicts reduce stacking in the center lane. A turf block type of emergency access drive is included across the frontage to allow emergency vehicles full access around the building.

Option 2, will eliminate direct Highway access and provide a new shared access road to Engineers Cutoff to the south. With this option three properties will combine their driveways into one. No additional highway improvements will be made. A lot line adjustment (land exchange) will be made to supplement one or both properties to maintain the minimum 40,000sf lot area requirement per lot.

Traffic and Circulation

The Traffic Impact Analysis (TIA) estimates the traffic and transportation impacts expected due to the proposed construction of a new church. The proposed church footprint will be approximately 16,300 square feet and includes 224 parking stalls in an area currently zoned 01 (T)D3 and 01 (T)D1 O. The partitioned lot next to the church site under the same ownership currently is occupied by a single family residence and a small detached garage. In consultation with Alaska Department of Transportation and Public Facilities staff, the intersections of Fritz Cove Road/Glacier Highway, Engineer's Cutoff/Glacier Highway, and Riverside Drive/Glacier Highway were analyzed in the PM peak hour and the Sunday peak hour. Since the church facility has a peak trip generation period that is later than the normal PM peak and coincides with a nearby proposed facility, area intersections were also analyzed for the evening peak period traffic.

Based on the results of the analysis conducted in support of this TIA, and if Option One is approved by the DOT, it has been recommended the Church construct a two way center turn lane between Engineer's Cutoff and the north side of the site. Level of service (LOS) values at area intersections are not impacted by the project and delays due to the additional traffic are expected to be minor. However, traffic at site driveways exceeds the thresholds for a main street left turn lane put forth by AASHTO A Policy on the Geometric Design of Highways and Streets 02001. No other offsite mitigation should be required by this project.

Noise

The only noise producing element at the new church will be the code required fire alarm bell. This will only be activated during an emergency. The building has no chimes (that strike hourly or on occasion), no exterior public address or bell system.

Landscaping:

The maximum number of existing trees on the north west wooded area of the site will be retained. Only the portion of the site currently cleared will be used for the building and parking lot. A lawn with a variety of local shrubs will be installed around the building. The south and north property lines will be fenced. The grounds are maintained by the church or their grounds maintenance personnel. Watering is done on a weekly basis depending on need. No underground irrigation is anticipated. Any plants that die will be replaced by the Contractor for one-year and the Church there after.

Lighting and Signage:

The parking lot will be lit with low cut-off, pole mounted, LED fixtures. They will be short (18 foot high) poles that tips down for easy maintenance. There will also be some building mounted entrance and emergency egress fixtures. These will also be low-cutoff LED fixtures.

With Option One and Two, there will be limited signage on the building, an engraved stone building sign set into the stone veneer siding and a small stone engraved address number. With Option Two, there will also be an approved pad mounted sign located at the intersection of the new access road and Engineers Cutoff.

Public Health and Safety:

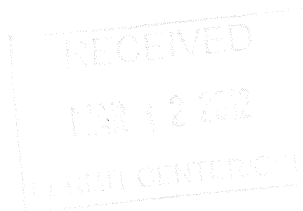
A hazardous materials study has been performed on the site. The hazardous materials have been abated. The site was cleared of old structures and miscellaneous debris.

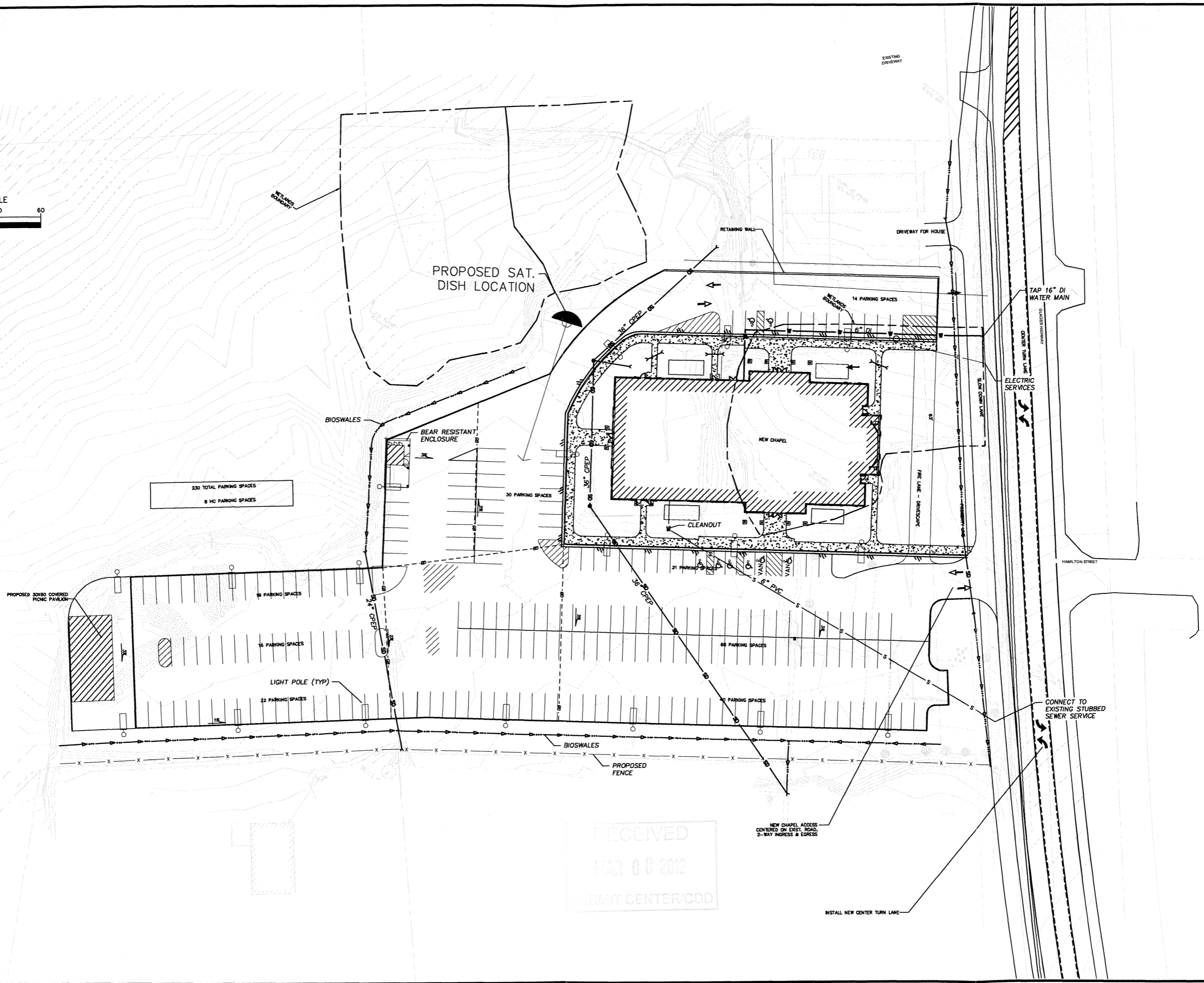
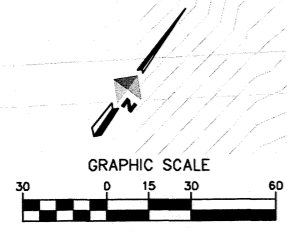
Exterior:

The exterior design of the building is a traditional theme with cultured stone wainscot and cement composition lap siding above, white prefinished metal fascias, columns and barrel vaulted entries. The design is strikingly handsome and scaled to be complementary in residential areas. The building will have a lovely backdrop of the forested mountain behind it. A prominent white steeple will set on the roof at the front end of the building facing Glacier Highway with a lawn spanning from the front of the chapel to the highway. Roofing is asphalt shingles with prefinished metal flashings. The interior heating and cooling systems are electric forced air heating and mechanical cooling. The building is served by 3-phase electrical power.

Interior:

There are classrooms, offices, a cultural center, chapel (with 252 fixed seating capacity) and servery (for heating and serving previously prepared food). There are also toilet and storage rooms. Interior finishes include carpeting and carpet base, sisal wainscot with oak trim. The building and site are ADA accessible. The building is protected with a fully automatic fire sprinkler system and alarm.





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 10585 GLACIER HIGHWAY
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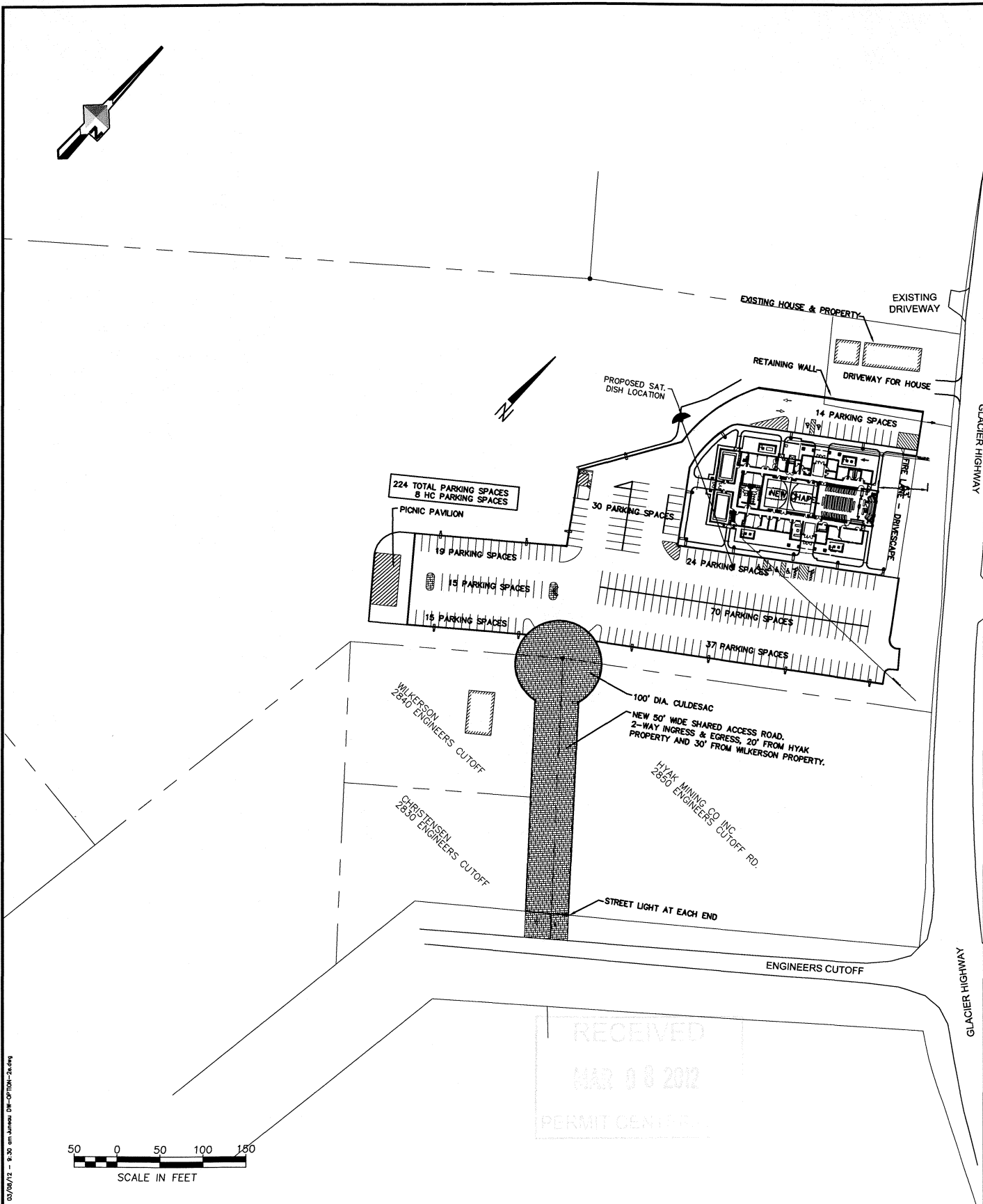
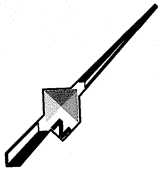
Project for:
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Project Number: #####
 Plan Series: ##### - 19
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Sheet Title:
OVERALL SITE PLAN

Sheet:
C2.0



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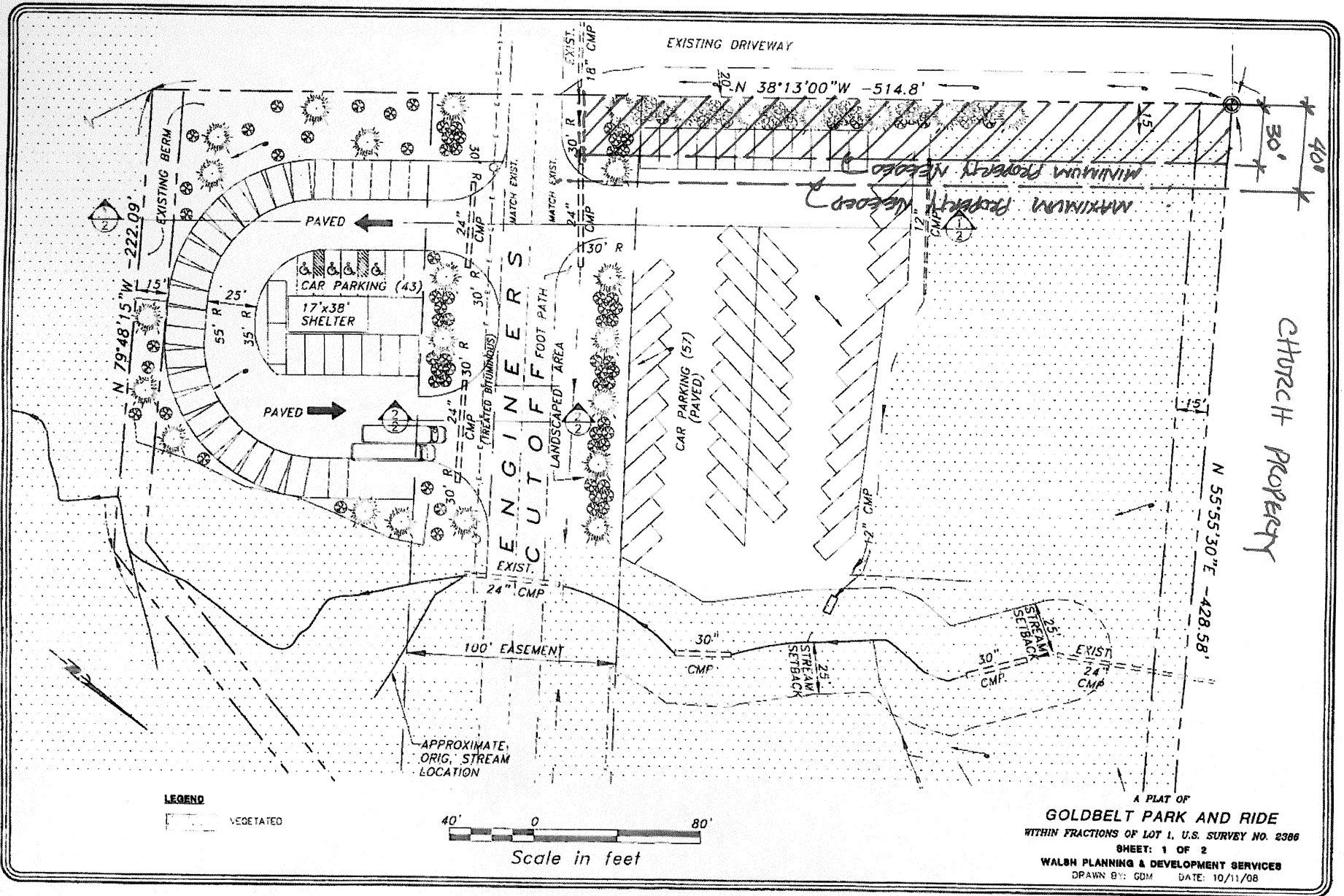
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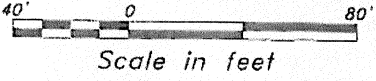
JUNEAU STAKE CHAPEL
**ENGINEERS CUTOFF
 ACCESS - OPTION E**
 Juneau, Alaska 99801

Project Number:
 D60748
 Date:
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 APPENDIX A
3

ATTACHMENT B



LEGEND
 VEGETATED



A PLAT OF
GOLDBELT PARK AND RIDE
 WITHIN FRACTIONS OF LOT 1, U.S. SURVEY NO. 2386
 SHEET: 1 OF 2
 WALSH PLANNING & DEVELOPMENT SERVICES
 DRAWN BY: GDM DATE: 10/11/08

1. This drawing is the property of Walsh Planning & Development Services, Inc. and shall not be used for any other project without the written consent of Walsh Planning & Development Services, Inc. [10/11/08] 108-2728

Nicole Jones

From: Epstein, David B (DOT) [david.epstein@alaska.gov]
Sent: Monday, March 12, 2012 11:34 AM
To: Nicole Jones
Cc: Good, Sheila D (DOT)
Subject: RE: LDS Church-revision. comments requested

DOT&PF supports the second option that provides access via a driveway from Engineers Cutoff Road.

If negotiations to achieve this fail, then we will agree to the direct connection to Glacier Highway augmented with the mitigation of a center left-turn lane and necessary associated actions (e.g., roadway alignment modifications, utility relocation, drainage modifications, etc.).

David B. Epstein, P.E.

Regional Traffic & Safety Engineer
Alaska DOT&PF - Southeast Region
907-465-4483 office/907-209-7995 cell
Email: david.epstein@alaska.gov

From: Nicole Jones [mailto:Nicole_Jones@ci.juneau.ak.us]
Sent: Monday, March 12, 2012 10:18 AM
To: Ed Foster; Ron King; Charlie Ford; Good, Sheila D (DOT); Epstein, David B (DOT); Dave Crabtree; John Sahnou
Cc: Heather Marlow; Brent Fischer
Subject: LDS Church-revision. comments requested

Hello Everyone,

Attached is an alternate plan for access to the LDS church site. Please review the new configuration. If at all possible, the earlier that you can provide comments the better.

Please let me know if you have any questions. This item is planned to be on the 3/27 Planning Commission meeting.

Kind Regards,

Nicole Jones, Planner I, CFM
CBJ Community Development Department
155 S. Seward St.
Juneau, AK 99801
Ph: 907.586.0218
Fax: 907.586.3365

Nicole Jones

From: Daniel Park [DPark@mcalaska.com]
Sent: Thursday, February 02, 2012 4:20 PM
To: Nicole Jones
Subject: RE: Fire Lane

Nicole,

If that is the Fire Marshall's request, which certainly makes sense, that will be the plan. I noticed the turf drive at the Temple in Anchorage was plowed. So it just needs to be part of the maintenance plan and plowing agreement managed by the Facilities Management folks with the Church. We will plan on installing plow markers on both ends of the turf-drive so they will know where to plow.

Dan Park

From: Nicole Jones [mailto:Nicole_Jones@ci.juneau.ak.us]
Sent: Thursday, February 02, 2012 3:49 PM
To: Daniel Park
Cc: Dan Jager
Subject: Fire Lane

Hi Daniel,

Our Fire Marshall reviewed the information that you sent regarding the fire lane and has a remaining question. Could you provide additional information regarding how that space will be maintained in the winter time? Specifically, will it be plowed free of snow?

Thank-you,

Nicole Jones, Planner I, CFM
CBJ Community Development Department
155 S. Seward St.
Juneau, AK 99801
Ph: 907.586.0218
Fax: 907.586.3365



PRESTO GEOSYSTEMS



GEOBLOCK

GEOBLOCK®5150 POROUS PAVEMENT SYSTEM DESIGN & CONSTRUCTION OVERVIEW



PRESTO GEOSYSTEMS
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Ph: 920-738-1707 or 800-548-3424 ■ Fax: 920-738-1222
e-mail: INFO@PRESTOCEO.COM WWW.PRESTOCEO.COM/
GB5150-00 - 1 Nov 2010



PRESTO GEOSYSTEMS

GEOBLOCK®5150

DESIGN & CONSTRUCTION OVERVIEW

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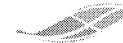
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The Geoblock®5150 Porous Pavement System Components

The Geoblock®5150 Porous Pavement System provides vehicular and pedestrian load support over grass areas while protecting the grass from the harmful effects of the traffic.

The fully developed system has four major components (see Figure 1). The components are

- (1) the Geoblock unit,
- (2) the *engineered base* for support (if required),
- (3) the selected topsoil infill, and
- (4) the selected vegetation.

Both the Geoblock unit and the base support soil work together to support the imposed loading. Both the Geoblock unit and the topsoil contribute to the vegetation support. A review of the four major components follows.

Other components may include a geosynthetic separation / reinforcement layer, sub-drain components, and topsoil additives, which enhance vegetative growth.

Aggregate-filled systems should utilize the Presto GeoPave™ porous pavement system.

Function of the Geoblock Unit

The Geoblock unit has two basic purposes:

- 1. to adequately support and dissipate the design loads over a worst-case soil scenario and
- 2. to provide a healthy environment for the vegetative cover.

An example of a worst-case scenario might be a large fire truck, responding to an alarm, and passing over a rain-soaked porous pavement system to reach an area of a building containing people.

Function of the Engineered Base

For a given applied load over an existing subbase soil, both the *engineered base* and the Geoblock unit provide support. The depth of the *engineered base* should be determined using both loading and subbase strength.

The *engineered base* is comprised of an open-graded aggregate and topsoil. The aggregate portion, once compacted, provides support for the load and the topsoil portion provides support for the vegetation. With a proper mixture, over compaction of the aggregate portion should not cause over compaction of the topsoil portion. The uncompacted topsoil component allows for sufficient air voids, water percolation and root penetration. However, excessive topsoil will compact and not allow for healthy vegetation. See **Engineered Base Preparation** under **Installing the Geoblock System** for additional details.

Function of the Topsoil Infill

The topsoil infill placed within the cells of the Geoblock unit must provide a nourishing medium for development of a healthy root system for the vegetative cover. The topsoil should be a good quality, drainable soil and not be compacted within the Geoblock unit. When used as a porous pavement system, the infill determines the permeability and controls the rate of water infiltration within the Geoblock layer. If climatic conditions are such where prolonged periods of dryness exist, moisture retention additives within the topsoil may be appropriate. Final topsoil placement should be at or slightly below the level of the Geoblock cell wall. See **Infilling the Geoblock Unit** under **Installing the Geoblock System** for additional details.

Function of the Vegetation

The completed system should provide a healthy and aesthetically pleasing vegetative cover. Vegetation type should be selected by a qualified agronomist and be resilient enough to withstand anticipated load frequencies. Heat and automotive fluids from excessive traffic can over-stress any vegetative cover resulting in periodic maintenance. In all cases, proper fertilizing, watering, thatch removal, and aeration is a must for healthy vegetation. See **Finishing Procedures** under **Installing the Geoblock System** for additional details.

Function of the Geosynthetic Layer

Under some conditions, a geosynthetic layer may be a required component between the in-situ soil and the required *engineered base* in the porous pavement system. Generally, the geosynthetic component will serve one or more of the following functions and be one or more of the following materials:

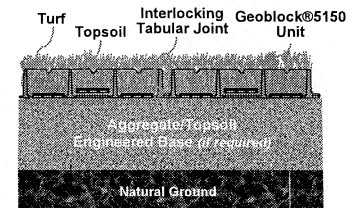


Figure 1 The Geoblock®5150 Porous Pavement System Components



- Tensile Reinforcement Geosynthetics: Woven geotextiles, Geogrids
- Separation Geosynthetics: Non-woven geotextiles, Woven geotextiles,
- Drainage / Separation Geosynthetics: Non-woven geotextiles, Geonet / geotextile separation / drainage materials

See **Geosynthetic Separation Layer** under **Installing the Geoblock System** for additional details.

Function of the Sub-drain Component

If the porous pavement system is built over non-porous soils and an excavation is required such that water could be trapped, sub drainage becomes a required component of the system. Sub-drainage will remove harmful water accumulation that will cause degradation of the in-situ soils resulting in loss of support capacity. See **Sub-Drainage Component** under **Installing the Geoblock System** for additional details.

Material Properties & Unit Dimensions

Geoblock units shall be made from materials with physical and chemical characteristics described in Table 1. The manufactured Geoblock unit shall have a minimum deflection without breakage of 25 mm (1.0 in) when units are supported at 0.50 m (1.64 ft) centers at 21°C (70°F). The color shall be uniform throughout all units in any given pallet.

Geoblock units shall have physical dimensions as specified in Table 1 and shown in Figure 2. Geoblock units shall have an interlocking offset tab system on all edges as detailed in both Figure 2 and Figure 3. End-to-end or side-to-side warpage of the Geoblock unit shall not be greater than 6 mm (0.25 in).

Table 1 Geoblock®5150 Porous Pavement Unit

Item	Specifications & Details
Material	Up to 97% Recycled Polyethylene*
Color	Ranges from dark shades of gray to black
Chemical Resistance	Superior
Carbon Black for Ultraviolet Light Stabilization	1.5% - 2.0%
Unit Minimum Crush Strength @ 21°C (70°F)	2,900 kPa (420 psi)
Material Flexural Modulus at 23°C (73°F)	240,000 kPa (35,000 psi)
Nominal Dimensions (width x length)	0.50 m x 1.00 m (20 in x 40 in)
Nominal Unit Depth	50 mm (2 in)
Nominal Coverage Area	0.50 m ² (5.38 ft ²)
Cells per Unit	72
Cell Size	79 mm x 81 mm (3.1 in x 3.2 in)
Top Open Area per unit	87%
Bottom Open Area per unit	41%
Interlocking offset tabs	12 tabs per meter (40 in)
Nominal Weight per Unit	4.0 kg (9.0 lb)
Runoff Coefficient @ 63.5 mm/hr (2.5 in) Rainfall	(.15)
Units per Pallet	50

* The percentage of recycled content may vary depending on availability of recycled materials.

NOTE: Dimensions and weight are subject to manufacturing tolerances and are influenced by recycled component characteristics.

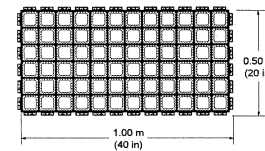


Figure 2 The Geoblock5150 Unit

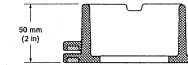


Figure 3 The Geoblock Cell and Interlocking Offset Tab

Table 2 Design Guideline: Base Recommendations

Load Description ¹	Depth of Engineered Base	
	CBR ² 2 – 4 ³	CBR ² > 4 ³
Heavy Fire Truck Access & H-20 loading. Typical 758 kPa (110 psi) maximum tire pressure. Single axle loadings of 145 kN (32 kip), tandem axle loadings of 220 kN (48 kip). Gross vehicle loads of 36.3 tonne (80,000 lb). Infrequent passes ⁴ .	150 mm (6 in)	100 mm (4 in)
Light Fire Truck Access & H-15 loading. Typical 586 kPa (85 psi) maximum tire pressure. Single axle loadings of 110 kN (24 kip). Gross vehicle loads of 27.2 tonne (60,000 lb). Infrequent passes ⁴ .	100 mm (4 in)	50 mm (2 in)
Utility & Delivery Truck Access & H-10 loading. Typical 414 kPa (60 psi) maximum tire pressure. Single axle loadings of 75 kN (16 kip). Gross vehicle loads of 18.1 tonne (40,000 lb). Infrequent passes ⁴ .	50 mm (2 in)	50 mm (2 in)
Cars & Pick-up Truck Access. Typical 310 kPa (45 psi) maximum tire pressure. Single axle loadings of 18 kN (4 kip). Gross vehicle loads of 3.6 tonne (8,000 lb). Infrequent passes ⁴ .	None	None
Trail Use. Loading for pedestrian, wheelchair, equestrian, bicycle, motorcycle and ATV traffic.	None	None

¹ The Geoblock system can be applied in areas where loading is greater than those listed above. In these situations, call Presto Geosystems or an authorized Presto Geosystems' representative for specific recommendations.

² CBR is the abbreviation for California Bearing Ratio. Methods for determining CBR vary from more sophisticated laboratory methods to simple field identification methods that use hand manipulation of the soil. Presto does not recommend one method over the other, however, the user must have a high degree of confidence in the results produced by the chosen method.

³ If other-than-CBR soil strength values exist, use available correlation charts to relate the value to CBR.

⁴ Infrequent passes is defined as the number of passes over any period of time that causes no lasting damage to the vegetation. This number will be a function of vegetation type and age, climatic conditions, and maintenance practices. This number is not a function of the Geoblock material.

The Engineered Base (if required)

A recommended 'engineered base' is a homogenous mixture consisting of 1) a clear-stone / crushed rock having an AASHTO # 5 or similar designation blended with 2) pulverized topsoil and 3) a void component generally containing air and/or water. This homogenous mixture will promote vegetative growth and provide required structural support. See **Function of the Engineered Base** for details.

The aggregate portion shall have a particle range from 9.5 mm to 25 mm (0.375 to 1.0 in) with a D₅₀ of 13 mm (0.5 in). The percentage void-space of the aggregate portion when compacted shall be at least 30%. The pulverized topsoil portion shall equal 25% +/- of the total volume and be added and blended to produce a homogenous mixture prior to placement or washed into the in-place compacted aggregate. Once placed, the mixture shall be compacted to 95% Standard Proctor Density.

Under some conditions, a geotextile separation layer may be required between the natural ground and the engineered base. See **Geosynthetic Separation Layer, Sub-Drainage Component, and Engineered Base Preparation** for information relative to installation.



Characteristics of a Good Porous Pavement System

Elements Important to Structural Integrity

The Geoblock unit (or any other similar material) must have five primary characteristics to adequately support load. Those characteristics are (1) suitable wall strength, (2) sufficient unit stiffness, (3) significant joint strength, (4) a supporting base and (5) a large overall area.

- 1) The **wall strength** must support wheel loading from the heaviest anticipated vehicles that will travel over the porous pavement system. Vehicular loading will create direct wall compression from tires and equipment outriggers as well as lateral forces from vehicle braking and acceleration. The wall should resist vertical and lateral deformations when loaded. **Caution** should be exercised when using systems with thin walls.
- 2) The **unit stiffness** must allow deflections without unit breakage or separation when subbase soils yield under loading. When the unit is too flexible, the base soils support the complete load. When the unit is too rigid, it could break under normal loading in low temperature conditions. **Caution** should be exercised when using systems that are either too flexible or too rigid.
- 3) The **strength of the joint** must transfer load from unit to unit while staying engaged under normal deflections. Some deflection should be expected due to the physical characteristics of plastics and soils. High joint shear-strength causes greater load dissipation resulting in lower pressure on the base and subbase soils. If the joint has inadequate shear-strength, load support will occur through each unit causing the unit to act independently. **Caution** should be exercised when using systems that have little or no physical material in the joint.
- 4) The **unit support base** must have a large enough area-of-contact with the base soil so high wheel loads at the top of the unit are reduced sufficiently when transferred to the base soil. This will provide a system with a greater range of stability. **Caution** should be exercised when using systems that have little contact area between the porous pavement unit and the base soil.
- 5) A **large overall area**, in conjunction with the other characteristics, ensures maximum load dissipation. If unit separation should occur and any given unit functions independently, larger unit areas will lower the pressure on base and subgrade soils. **Caution** should be exercised when using systems that have smaller contact areas.

Elements Not Important to Structural Integrity

Avoid specifications that state material compressive strength only. Material compressive strength, with applied factors-of-safety, must be sufficient to resist compressive and lateral load application. Beyond that, ultra-high material compressive strengths add little to the porous pavement system. Table 3 provides a listing of strength characteristics of the Geoblock porous pavement system. These values provide a balanced system meeting all criteria important to the integrity and performance of a porous pavement system.

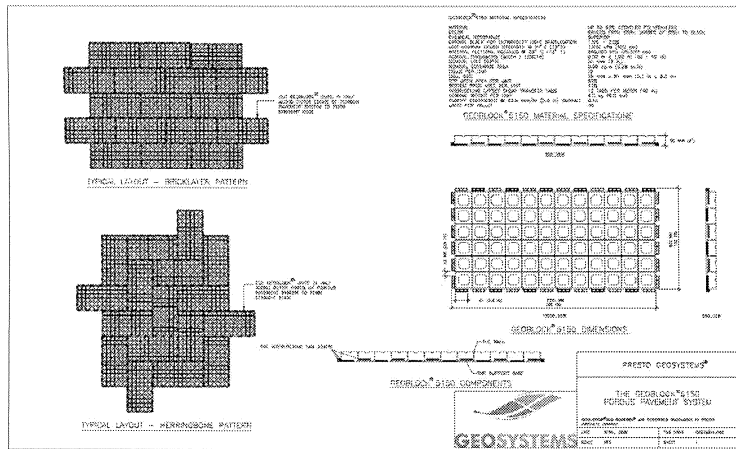


Table 3 Strength Characteristics of the Geoblock5150 Unit

Test	Value
Wall Compressive Strength (simulated tire area loaded) Test Procedure - Circular plate, 165 mm (6.5 in) diameter, loaded to failure	2,900 kPa (420 psi)
Wall Compressive Strength (full Geoblock unit loaded) Test Procedure - Full single unit loaded to failure via flat plate	615 kN (138,240 lbf)
Equivalent Elastic Stiffness Test Procedure - Simply supported Geoblock unit loaded to 25 mm (1 in) deflection	140 N-m ² (48,000 lb-in ²)
Joint Shear Strength Test Procedure - Direct shear of tongue-and-groove using special apparatus (See NOTE)	89.0 kN (20,000 lbf)
NOTE: All tests were conducted by Bathurst, Jarrett and Associates Inc. at the Royal Military College in Kingston, Ontario, Canada on the wall of a different Geoblock unit with an equivalent wall.	

Elements Important to the Vegetation

The Geoblock unit provides an environment for maintaining healthy vegetative cover by preventing loads from excessively damaging the vegetative cover through compaction of the topsoil layer. The wall system has the strength and spacing needed to support any tire loading from influencing the topsoil layer. The open area in the bottom of the Geoblock unit allows water and nutrients to pass through the soil layers. The Geoblock unit alone will not ensure healthy vegetation. Vegetation must grow in uncompacted soil and receive adequate water and nutrients to remain healthy.





Installing the Geoblock System

Subgrade Preparation

Excavate the area, allowing for the Geoblock unit thickness and the engineered base depth (where the engineered base is required). When working with in-situ soils that have poor permeability, provide adequate drainage from the excavated area if the area has the potential to collect water. The in-situ soil should be relatively dry and free from any standing water. Finish-grade the surface of the in-situ soil specifically when the Geoblock unit is to be installed without an engineered base. Level and clear the area of large objects such as rocks, pieces of wood, etc. to enable the Geoblock units to interlock properly and remain stationary after installation.

Geosynthetic Separation Layer

If required and/or specified by the project engineer, the geosynthetic layer shall be rolled out over the prepared subgrade along the alignment of the reinforced surface. The geosynthetic shall be pulled taut to ensure that there are no folds. Geosynthetic layer overlaps, if required, shall be according to plans.

Sub-Drainage Component

If required and/or specified by the project engineer, install the specified sub-drain and outlet according to construction drawings. Ensure that a proper slope is maintained throughout the drainage system and that the outlet is free from any obstructions preventing free drainage.

Engineered Base Preparation

The strength of the Porous Pavement System is determined, in part, by the support required by a stable engineered base. The health of the vegetation, however, requires that the engineered base be loose to facilitate root penetration. These two requirements seem to be in direct conflict – but they are not. Using an engineered base recommended in The Engineered Base, one can construct a base meeting both requirements.

Start with an aggregate relatively free from fines and with a void space of 30% or greater. A convenient field method to determine the void space and volume of topsoil to be blended with the aggregate is:

- 1. Overfill a 5-gallon plastic bucket (or other calibrated container) with the selected aggregate. The exact capacity of the container must be known to obtain correct results.
2. Completely compact the aggregate in the bucket and level so the surface of the aggregate is at the top of the bucket.
3. Fill the bucket with water and let stand for several minutes, then add additional water so the water is at the same level as the top of the bucket.
4. Drain the water off into another container making sure that all the water is captured.
5. Measure the volume of the captured water and compare it to the volume of the bucket to determine the percentage of voids in the aggregate. This is the amount of loose topsoil that is to be blended with the aggregate. Caution – do not exceed this amount of topsoil.

The engineered base material is spread over the prepared base and compacted to 95% Standard Proctor Density. Refer to Table 2 Design Guideline: Base Recommendations for engineered base depth recommendations.

NOTE: Typical compaction densities and testing do not apply to the engineered base since only the aggregate portion of the engineered base is compacted. The topsoil portion will remain relatively uncompacted when the mixture is correct. Therefore, conventional compaction testing and resulting densities will produce values that are not meaningful.



Geoblock Unit Installation

Orientation & Laying Pattern of Units

Place the Geoblock units with the square hole to the ground.

When the application is an access lane, stagger the units to produce the bricklayer pattern. The pattern is positioned such that the long direction of the unit is perpendicular to the primary direction of traffic. See Figure 4.

When the application is a large area with random traffic flow, stagger the units to produce the herringbone pattern. This pattern reduces straight seams to one and a half block lengths. See Figure 4.

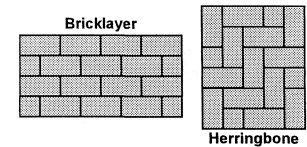


Figure 4 Laying Patterns

The staggered pattern is developed by using half Geoblock units made by field cutting a full unit and placing the units as illustrated. Cut the units with a hand or power saw to custom fit both contours and/or around obstructions. These final seam patterns assure maximum load transfer and support.

Other laying patterns are generally not recommended.

Positioning of Units

Place the first row of Geoblock units against a stationary edge when available. If the units are placed between two perpendicular or near-perpendicular stationary edges (i.e. two parallel concrete curbs) allow for potential thermal expansion of the Geoblock units by keeping the units away from the stationary edge. The separation distance can be calculated using the reference value given in the section titled Thermal Expansion.

Slide the units together so that the interlocking tab joint is fully engaged as illustrated in Figure 5. Units should be placed such that corners and seams do not protrude above the desired surface elevation.



Figure 5 The Interlocking Tab Joint

Anchoring Units

The Geoblock units can be fixed in-place to prevent the units from shifting during installation with optional wood or metal stakes through the perimeter units, and/or, by placing thread-forming tapping screws (i.e. 1-1.5 in deck screws) through the perimeter interlocking tabs. This may be needed if 1) trafficking / turning of heavier construction vehicles cause movement of the units during the installation process or 2) large temperature changes occur during the installation process. Figure 6 illustrates some of the anchoring possibilities. In both cases, fixing the units in-place should occur after installation of all the units within the defined area.

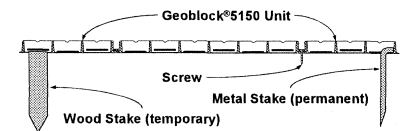


Figure 6 Anchoring Possibilities

Thermal Expansion

The Geoblock polyethylene stabilized with carbon black has a relatively high rate of thermal conductivity and thermal expansion. The rate of thermal expansion is approximately 1.7% per 100 °F (55 °C). Based on the temperature of the Geoblock unit exposed to full sunlight for several hours, a temperature gain of 60-70 °F (33-38 °C) is typical. As a result, a compensation of 1.375 in (34 mm) could be applied for each 10 ft (3 m) increment of length. When the installation day(s) is optional, install the Geoblock units on cooler cloudy days as opposed to hot sunny days.

Note that joint separation occurring from large temperature fluctuations is normal. Rejoining of the Geoblock units should be considered normal construction practice. Once infilled, thermal expansion is minimized. Once the root system is fully developed, the vegetation provides all necessary anchoring of the system.



Infilling the Geoblock Unit

Infill the Geoblock units with a suitable topsoil. Use spreading methods that will leave the cell infill uncompacted. Overfilling the cells is not recommended since vehicular loading will cause undesirable compaction of the topsoil.

Infilling should take place immediately after the units are installed to minimize the potential of joint separation caused by thermal expansion/contraction. Upward buckling of the Geoblock area is generally not an issue if the units have been installed using the recommended laying patterns and infilled.

If the Geoblock units are to remain unfilled, the inclusion of expansion joints may be recommended for the application.

For application of the vegetation, see **Seeding and Sod Application** in the **Finishing Procedures** section.

Finishing Procedures

Seeding

Follow seeding, fertilizing, and watering procedures for turf establishment based on regional practices. An increase in watering frequency may be necessary when free-draining base materials are used. Use of a free draining base is generally not recommended.

Sod Application

Sod can be used for areas where immediate use is desired. Young sod that is free from netting materials is recommended. Mature sod with a more developed root system and sod with netting may be difficult to press/cut into the Geoblock cells.

When sod is used:

- Sweep out the topsoil from the Geoblock unit to allow room to seat the sod. Enough topsoil must be removed so that the crown of the sod is recessed slightly below the top of the cell after pressing the sod in place. If too much topsoil is removed, the bottom of the sod will not make contact with the topsoil after it is pressed into the cell. Avoid removing too much topsoil.
- Place the sod per normal practices.
- Press the sod into the partially emptied cells using a roller or other suitable equipment.
- Use recommended watering procedures to ensure healthy sod growth.

Delineation

Once healthy turf has been established, the Geoblock cell wall structure will have minimal visibility when good turf-maintenance practices are followed.

If used for an emergency access lane, delineation may be desirable to create greater visibility. Delineation methods can include the following: in-ground or above-ground curbing, shrubbery or vegetation, perimeter lighting or delineation markers, or other suitable systems.

Maintenance

Lawn Care

Normal turf care procedures should be followed, including de-thatching and aerating. Some equipment may slightly scar or cut the Geoblock wall structure during some operations, but will not effect overall structural integrity of the system.

Snow Removal

If required, snow removal should be done using one of the following basic procedures:

- Keep a metal edged plow blade a minimum of 25 mm (1.0 in) above the surface during plowing operations, or
- Use a plow blade with a flexible rubber edge, or
- Use a plow blade with skids on the lower outside corners so that the plow blade does not come in direct contact with the porous pavement system.

When deeper ground freeze occurs, the system functions as a typical hard pavement surface. If a sharp metal plow-blade comes in direct contact with the surface during plowing, any portion of the Geoblock system that protrudes above the normal surface level could be removed by the blade. NOTE: Damage can occur to the grass and topsoil if plowing abuse is prevalent.



Estimating Time and Cost of Installation

Typical Crew Size and Responsibilities

- | | | |
|---|--|--|
| 2 | People to set the Geoblock units in place. | NOTE: Adding or subtracting one or two people to the crew may result in a cost-effective productivity increase depending on local work habits. |
| 2 | People to spread and level the topsoil infill. | |
| 1 | Equipment operator for the front-end loader. | |

Equipment Needed and Purpose

- Saws, screw drivers, hammers, stakes, screws – all of some of these for cutting and securing the Geoblock units as required per the plans or as needed during construction.
- A small front-end loader for infilling of the Geoblock units.
- Rakes and shovels for final leveling of the infill material.

Typical Construction Sequences and Times

Productivity is a variable and the ranges below are typical. Select an installation rate through personal experience or after discussion of project details with Presto or one of its qualified distributors.

- | | | |
|----|--|------------------------|
| 1. | Place the Geoblock units on the prepared base. | 75 - 100 units/man-hr |
| 2. | Fill the in-place Geoblock units using the small loader to evenly distribute the topsoil infill. | 100 - 120 units/man-hr |
| 3. | Level the infill using rakes and shovels so that the topsoil is flush with the top of the cell wall. | 75 - 100 units/man-hr |
| 4. | Spread selected grass seed and water. | 150 - 180 units/man-hr |

NOTE: The above four sequences can be in progress at the same time if workspace is adequate.

Table 4 Approximate Quantities of Infill Material Required for Geoblock Unit

Depth of unit	Volume of Topsoil Required per unit	Volume of Topsoil Required per 100 m ² (1000 ft ²)
50 mm (2 in)	0.025 m ³ (0.0327 yd ³)	5.00 m ³ (6.08 yd ³)

NOTE: The above quantities are based only on the 50 mm (2 in) cell depth Geoblock unit.

General Notes

1. The front-end loader must be sized so it can distribute the fill material per time/productivity requirements.
2. Experience shows that the above installation rates would be considered **typical rates of installation**.
3. As is with all construction operations, placement of material stockpiles, crew productivity, jobsite conditions, special installation requirements such as cutting and custom fitting of the Geoblock units, etc. significantly affect overall productivity, therefore actual results may be different than the estimates above.

Total Time and Materials Required

Area of Installation = length x width of site
 () m (ft) long x () m (ft) wide = () m² (ft²) Area

Geoblock Units Required = m² (ft²) Area ÷ 0.50 m² (5.38 ft²)/unit
 [the Geoblock unit is 0.50 m x 1.00 m (20 in x 40 in) nominal]
 () m² (ft²) Area ÷ 0.50 m² (5.38 ft²)/unit = () units

Man-Hr Required for Installation of Geoblock Units = Geoblock units ÷ 100 units/man-hr
 () units ÷ 100 units/man-hr = () man-hr

Infill Material Quantities = Geoblock units x m³ (yd³)/unit (see Table 4)
 () units x () m³ (yd³)/unit = () m³ (yd³)



Man-Hr Required for Placing Infill = Geoblock units ÷ 120 units/man-hr

() units ÷ 120 units/man-hr = () man-hr

Man-Hr Required for Leveling of Infill = Geoblock units ÷ 100 units/man-hr

() units ÷ 100 units/man-hr = () man-hr

Man-Hr Required for Seeding = Geoblock units ÷ 180 units/man-hr

() units ÷ 180 units/man-hr = () man-hr

Total Cost of Time and Materials

Geoblock unit cost	\$ _____/unit	x _____ units	= \$ _____
Cost of Infill	\$ _____/m³ (yd³)	x _____ m³ (yd³)	= \$ _____
Cost of Labor	\$ _____/man-hr	x _____ man-hr	= \$ _____
Cost of Equip. Operator	\$ _____/man-hr	x _____ man-hr	= \$ _____
Cost of Front-end Loader	\$ _____/hr	x _____ hr	= \$ _____
APPROXIMATE TOTAL COST			\$ _____

NOTE: The above estimate does not include time and materials associated with initial base preparation. The cost of this item would be similar to other pavement systems regardless of type.

Limited Warranty

Presto Geosystems warrants each Geoblock®5150 unit which it ships to be free from defects in materials and workmanship at the time of manufacture. Presto's exclusive liability under this warranty or otherwise will be to furnish without charge to Presto's customer at the original f.o.b. point a replacement for any unit which proves to be defective under normal use and service during the 2-year period which begins on the date of shipment by Presto. Presto reserves the right to inspect any allegedly defective unit in order to verify the defect and ascertain its cause.

This warranty does not cover defects attributable to causes or occurrences beyond Presto's control and unrelated to the manufacturing process, including, but not limited to, abuse, misuse, mishandling, neglect, improper storage, improper installation or improper application. Presto makes no other warranties, express or implied, written or oral, including, but not limited to, any warranties or merchantability or fitness for any particular purpose, in connection with the Geoblock®5150 system. In no event shall Presto be liable for any special, indirect, incidental or consequential damages for the breach of any express or implied warranty or for any other reason, including negligence, in connection with the Geoblock®5150 system. Contact Presto Products Company, Ph: 800-548-3424; 920-738-1707 or Email: info@prestogeo.com.

Disclaimer

This document has been prepared for the benefit of customers interested in the Geoblock Porous Pavement System. It was reviewed carefully prior to publication. Presto assumes no liability and makes no guarantee or warranty as to its accuracy or completeness. Final determination of the suitability of any information or material for the use contemplated, or for its manner of use, is the sole responsibility of the user.

Project specifications take precedence over all manufacturers' recommendations.

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Nicole Jones

From: Daniel Park [DPark@mcgalaska.com]
Sent: Wednesday, January 25, 2012 7:03 PM
To: Nicole Jones
Cc: Hobbs, Naomi
Subject: Juneau LDS Stake Center - Response to Comments received thus far
Follow Up Flag: Follow up
Flag Status: Red
Attachments: geoblock5150_Design_and_Construction_Overview[1].pdf; cp fire lane 061307.JPG

Nicole,

The Attached information is an example of what we are proposing for the drive surface to go across the front of the lawn. We have used it on two other projects fairly recently. The literature and photo illustrate a similar application. Please add this information to our application presentation and feel free to past this e-mail on to those who expressed concern in their comments. Also, run-off calculations will be part of our permit set, but we would prefer to prepare them based on the final approved site plan which we are hoping is before you now. See comments from our Civil Engineer below.

Thank you for keeping us updated on progress.

Daniel Park
Senior Architect

McCool Carlson Green, Inc. | Historic Anchorage Train Depot | 421 W 1st Ave, Suite 300 |
Anchorage, AK 99501 | Tel: 907.563.8474 ext. 225 | www.mcgalsaska.com

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From: McGill, Adam [mailto:amcgill@dowlhkm.com]
Sent: Wednesday, January 25, 2012 8:43 AM
To: Daniel Park
Cc: Hobbs, Naomi
Subject: FW: Juneau Stk Ctr - Comments received thus far

Hello Daniel,

Attached is a product my landscape architect used on an anchorage project. This product allows the turf to completely grow through it so that it isn't visible anymore but it is still strong enough for a fire truck. Another option would be a more visible concrete block, there is a link in the email below to a concrete version of a turf block. Do you know if the owner would have a preference?

Thank you,

Adam J. McGill, P.E., LEED® AP
Civil Engineer
CELL: (907) 301-9527

3/20/2012

ATTACHMENT 8



(907) 562-2000 | Fax (907) 563-3953 | 4041 B Street | Anchorage, Alaska 99503 | www.dowlhkm.com

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Please consider the environment before printing.

From: Doniere, Kevin
Sent: Wednesday, January 25, 2012 7:59 AM
To: McGill, Adam
Subject: RE: Juneau Stk Ctr - Comments received thus far

Hey Adam,

The product is called Geoblock. I've attached the cut sheet and a photo of the Centerpoint Building's fire lane... we used the geoblock product on there and it's signed as a fire lane.

Kevin

From: McGill, Adam
Sent: Wednesday, January 25, 2012 7:16 AM
To: Doniere, Kevin
Cc: Hobbs, Naomi
Subject: FW: Juneau Stk Ctr - Comments received thus far

Hello Kevin,

You've been quiet regarding this project. Do you have suggestions for the fire lane?

I was thinking something like the turf block on the following link would work well.

http://rcpblock.com/products_pavers_turfblock.html

Thank you,

Adam J. McGill, P.E., LEED® AP
 Civil Engineer
 CELL: (907) 301-9527



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From: Daniel Park [<mailto:DPark@mcgalaska.com>]
Sent: Tuesday, January 24, 2012 6:52 PM
To: McGill, Adam

3/20/2012

Subject: RE: Juneau Stk Ctr - Comments received thus far

Doug Green,

In our office said they used a road base system, with the plastic tube/grid system on top to support the vegetation growth. We want to pick a system that will perform well in SE Alaska and not deteriorate with freeze/thaw action. I will be seeking some options to consider as well.

Dan

From: McGill, Adam [<mailto:amcgill@dowlhkm.com>]
Sent: Tuesday, January 24, 2012 1:14 PM
To: Daniel Park
Cc: Hobbs, Naomi; Doniere, Kevin
Subject: RE: Juneau Stk Ctr - Comments received thus far

Hello Daniel,

Runoff calcs shouldn't be a problem. I believe our hydrologist has already looked at the site so it will probably be fairly simple to pull those calcs together. We've used turf blocks in the past and there are several options we can use. As far as holding up 75,000 lbs, if the subsurface of these blocks gets the same treatment as the parking lot there shouldn't be any problems.

With these comments should I assume that the site plan is approved and I can move forward with the design plans?

Thank you,

Adam J. McGill, P.E., LEED® AP
 Civil Engineer
 CELL: (907) 301-9527



(907) 562-2000 | Fax (907) 563-3953 | 4041 B Street | Anchorage, Alaska 99503 | www.dowlhkm.com

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Please consider the environment before printing.

From: Daniel Park [<mailto:DPark@mccgalaska.com>]
Sent: Monday, January 23, 2012 6:39 PM
To: McGill, Adam
Subject: Juneau Stk Ctr - Comments received thus far

Adam,

Both comments below, apply the civil design. Sounds like we will need to demonstrate our run off. We will also need a turf block system to spec to carry the load of the fire equipment – any suggestions?

Dan

3/20/2012

From: Nicole Jones [mailto:Nicole_Jones@ci.juneau.ak.us]

Sent: Friday, January 20, 2012 2:49 PM

To: Daniel Park

Subject: Comments received thus far

Hi Dan,

I have requested comments from many internal and external agencies. Below are the comments that I have received. Some of the comments you do not need to respond to; however, some of them you should add some clarification.

Ron King, Chief Regulatory Surveyor

Final design may require stormwater runoff calculations and tweaking of the site plan. In addition, they will need to specify maintenance w/schedule of the BMPs. This will be clarified during building permit review but we should give a heads-up to the designer.

Charlie Ford, Building Codes Official

The Building Department has no issues with the modifications.

Dan Jager, Fire Marshall

The only concern on fire code and requirements is the driving surface or "drivescape" being able to withstand the weight of at least a 75,000 pound fire truck. If that can be guaranteed and that the surface will hold a rig that size without it sinking into the ground, then this is ok as far as fire review goes.

Brent Fischer, Park and Recreation Director

Parks and Recreation has no concerns with this project.

I am waiting for additional comments. As I receive them I will forward them to you.

Have a great weekend!

Nicole Jones, Planner I, CFM

CBJ Community Development Department

155 S. Seward St.

Juneau, AK 99801

Ph: 907.586.0218

Fax: 907.586.3365

STATE OF ALASKA

DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

SOUTHEAST REGION DESIGN & ENGINEERING SERVICES
PRECONSTRUCTION - PRELIMINARY DESIGN & ENVIRONMENTAL

SEAN PARNELL, GOVERNOR

6860 GLACIER HIGHWAY
PO Box 112506
JUNEAU, AK 99811-2506

PHONE: (907) 465-4234
FAX: (907) 465-3506

Robert A. Beadles
Area Project Manager
The Church of Jesus Christ of Latter-Day Saints
PO Box 105
Graham, WA 98338-0105

February 3, 2012

Dear Mr. Beadles:

Thank you for your letter of January 25, 2012, regarding the proposed Juneau LDS Chapel.

In previous discussions with the consultant that prepared the traffic impact analysis, I expressed my concern regarding driveway access to serve the Chapel directly from Glacier Highway. My concern is founded in Section 1190.3 of the Alaska Preconstruction Manual: "Driveways will not be allowed on other arterials (i.e., Glacier Highway) if other access is available. The Department's primary concern is the safe, efficient movement of through traffic. If driveways directly accessing the arterial are necessary, then their number, location, and design will be controlled to minimize the effect on through traffic."

The Department has an obligation to satisfy itself that alternative forms of access are not available before issuing a permit allowing a driveway to be connected to an arterial roadway. Accordingly, in previous discussions, I was clear that I wanted the proponent/consultant to explore the availability of access off Engineer's Cutoff Road. If that led to a "dead end", i.e., it was prohibitively expensive and/or negotiations were clearly unproductive, then I would be satisfied that our requirement to achieve alternate access had been met. We are not yet at that point.

While your letter indicates that you have taken this requirement under consideration, I am not left with a sense that it has been pursued to finality. This is evidenced by statements such as, "There is no guarantee the acquisition will even be approved" and "The Church would likely be obligated to incur the cost of all improvements and long term maintenance of the access road, unless it was dedicated back to the City/Borough." The resulting speculation could be resolved if, for example, you had provided the results of preliminary negotiations with adjacent property owners in which they clearly declined to work with you, or meetings with City and Borough of Juneau officials that resulted in significant requirements or restrictions for you to overcome. The only thing I can be reasonably certain of is that you have considered

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Page 2

the alternative access requirement internally. Many problems to be overcome have been identified, but solutions or workarounds have seemingly not been attempted. At this point, I cannot conclude that other access is not available. If you can substantiate that such discussions and/or negotiations have taken place, I would be happy to receive the information.

All that having been said, I appreciate the fact that the Glacier Highway direct access concept has been modified to a single driveway in line with Hamilton Street. I concur with the traffic impact analysis as it relates to mitigating direct access, and further appreciate your willingness to construct the center left-turn lane. However, I am concerned that the estimated cost of \$272,500 may be insufficient. There will be expenses other than actual roadway construction and utility relocation. The Church will also be responsible for costs associated with engineering design of the new roadway section and the Department's costs to administer a construction permit, perform all necessary office reviews, oversee environmental compliance (since we own the right-of-way), perform construction inspection and oversight, etc.

If direct access becomes the approved option, we will need to enter into a Memorandum of Agreement with you that establishes an official project setting forth our respective obligations, timeframes, and all the associated costs (such as those specified in the previous paragraph).

There is an upcoming trail project along Glacier Highway (State Project No. 69500, Glacier Highway Multi-Use Separated Path to University of Alaska-Southeast) that your project may affect. Coordination between the two projects may result in additional right-of-way needs.

In the meantime, a more comprehensive cost estimate for direct access needs to be prepared, along with a cost estimate for Engineer's Cutoff access (unless it has been conclusively dismissed). This must be done to finalize the determination regarding the availability of alternate access.

Please note that we will not be able to issue a driveway permit until the traffic mitigation project, in whatever form it may take, is complete.

Please contact me if you have further questions or concerns, (907) 465-4483.

Sincerely,



David B. Epstein, P.E.
Regional Traffic and Safety Engineer

"Get Alaska Moving through service and infrastructure"

THE CHURCH OF
JESUS CHRIST
OF LATTER-DAY SAINTS

WASHINGTON SEATTLE
PROJECT MANAGEMENT OFFICE
P.O. Box 105
Graham, Washington 98338-0105
Phone: 1-253-875-5032
Facsimile: 1-253-875-7913

David B. Epstein, P.E.
Regional Traffic & Safety Engineer
Alaska DOT&PF – Southeast Region
Email: david.epstein@alaska.gov

Subject: Juneau LDS Chapel – Highway Access Permit Application

25 Jan 2012

Dear Mr. Epstein:

Thank you for your continued consideration to help this project move along. We apologize that the following comments did not make their way into the revised application submittal. We have had extensive discussions and have looked at the viability of utilizing only the Engineer's Cut-off Road for property access. Although that option may offer some safety considerations by reducing the three current driveway accesses from the two Church owned lots to one driveway (to the existing residence – which must be maintained), we have determined that the Engineer's Cut-off option will not be economically feasible, practical or reduce the number of cars entering the highway for the following reasons:

1. The driveway off of Engineer's Access Road does not belong to the Church.
2. There is no guarantee the acquisition will even be approved by the adjacent property owners, nor acceptable to the Church.
3. The driveway belonging to one adjacent property owner is not of sufficient width to accommodate an improved street to serve the adjacent properties, which would likely require the Church to purchase property from two adjacent property owners.
4. The time and cost required to make the property purchase, design and get approval for the access road would delay the project yet another year or more.
5. The Church would likely be obligated to incur the cost of all improvements and long term maintenance of the access road, unless it was dedicated back to the City/Borough. For it to be a dedicated road, the Borough would likely require a 50' to 60' right of way and for it to be built to Borough Standards. (See attached)
6. If the road was not dedicated as a public street, the Church would be required to provide perpetual easement to the adjacent land-locked property owner. This owner is engaged in a gravel yard enterprise and would be operating heavy equipment on the road as his main access to his yard. The high cost of maintenance would be an excessive long term cost.
7. If the adjacent property ownership was transferred to some other non-complimentary use or business, the Church would be obliged to maintain perpetual access to a business or operation that might be in conflict with the Church.
8. The Church currently has a 'grand-fathered' right to highway access, the loss of this right would be considered a 'public taking' and would land-lock the parcels substantially reducing their value.

For these reasons and other potential undisclosed issues, we are offering the following concessions and modifications to our initial application.

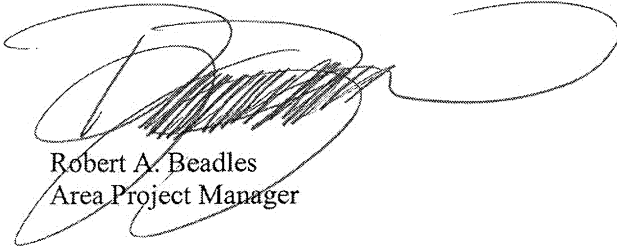
1. We have diminished from three drive ways to two drive ways – one for each parcel.
2. We have re-aligned the higher traffic ingress/egress driveway directly across from Hamilton Drive as requested by AK DOT.
3. We have included the Highway center turn-lane at an off-site cost estimated at \$272,500 (including utility relocation).
4. We have investigated the option of an alternate site access drive via Engineers Cut-off Road and due to the economic considerations involved with purchasing/exchanging the property, the associated time delays and the long term maintenance issues related to a driveway shared with a heavy equipment operating neighbor, it has been decided not to pursue that option.

We want to proceed as soon as possible with the DOT revised driveway permit submission currently before you. Do you need anything further from us for that? How long will it take to receive approval from DOT?

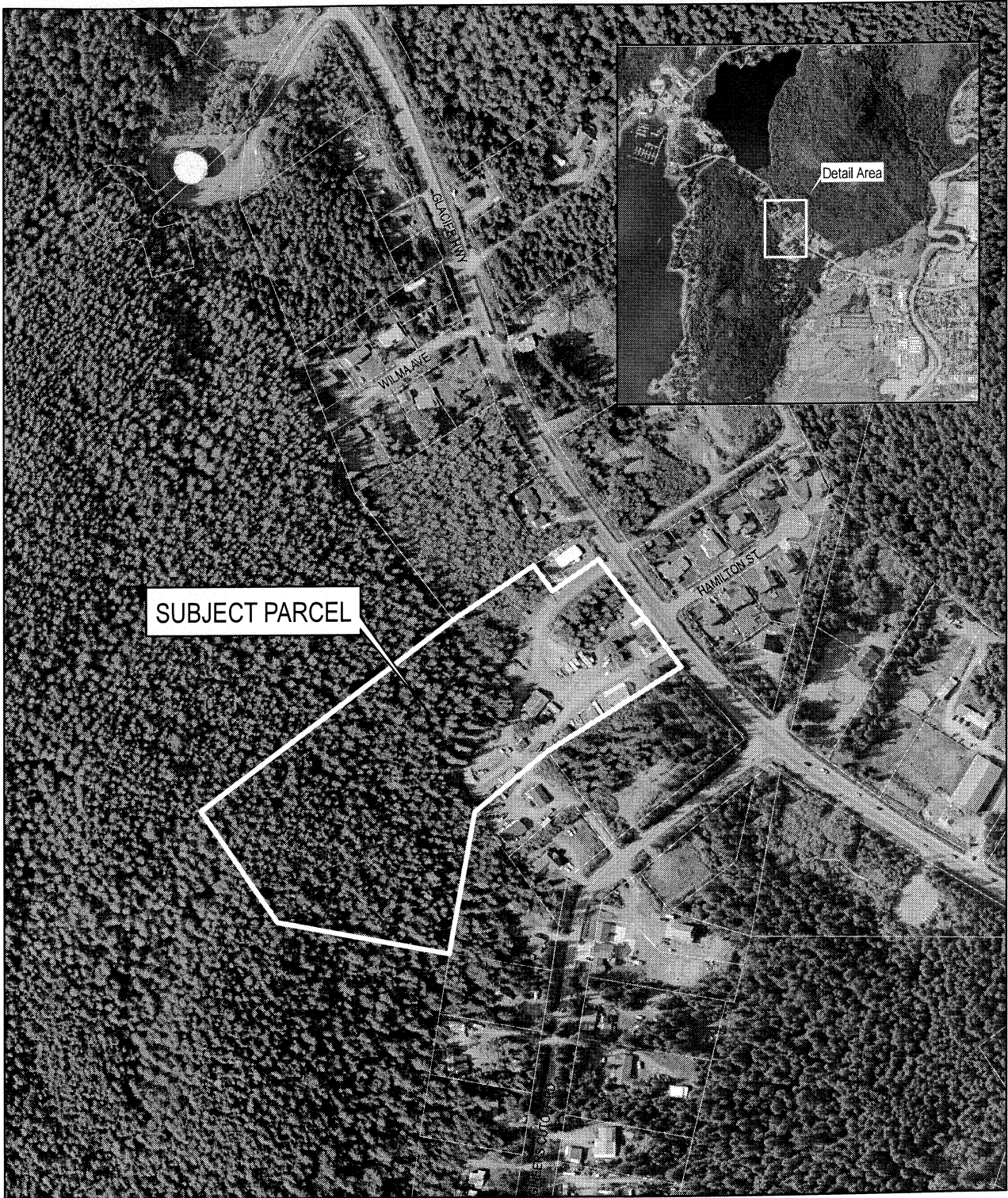
We must put the project out to bid in February if the project is to stay on course for 2012 construction.

We await your final determination and favorable approval.

Respectfully,

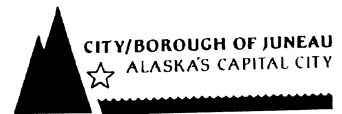
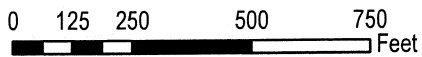


Robert A. Beadles
Area Project Manager



10585 GLACIER HWY
VICINITY

-NOT A SURVEY-
Property lines are approximate



Map created: 1/31/ 2012

ATTACHMENT 11

Nicole Jones

From: gwilkerson@gci.net
Sent: Tuesday, March 20, 2012 1:23 PM
To: Nicole Jones
Subject: LDS permitting

March 19, 2012

I am responding to your request to Eric Wilkerson regarding the LDS Church permitting process. Be advised that I am fully aware of what is happening. Also Eric has been responding for me. If you need additional information please contact me.

Sincerely,
Alix Wilkerson
2840 Engineers Cutoff
789-1518

ATTACHMENT 12

Nicole Jones

From: bige [ewtrucking@myway.com]
Sent: Friday, March 16, 2012 4:18 PM
To: Nicole Jones
Subject: LDS church Permits

Follow Up Flag: Follow up
Flag Status: Red

Hello Nicole

I am well aware of the LDS Church's Plans and perimt applications.

I am involved with the LDS Church and Neil MaKinnon in coming up with a driveway plan that will work for all involved.

Thank-you

Eric Wilkerson

2840 Engineers Cut-off Rd.

hyak
mining
co. 1114 GLACIER AVENUE
JUNEAU, ALASKA 99801

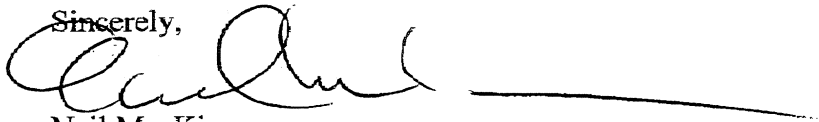
Nicole Jones, Planner
CBJ Community Development Department
155 S. Seward St.
Juneau, AK 99801
Fax 586-3365

March 16, 2012

Dear Ms Jones

This letter is to confirm that Hyak Mining Company is aware of the application by the LDS Church that uses our property for access to their development. We grant permission for officials and employees of the City and Borough of Juneau to inspect my property as needed for purposes of this application.

Sincerely,



Neil MacKinnon
President

RECEIVED
MAR 16 2012
PERMIT CENTER/ODD