

Agency: Commerce, Community and Economic Development**Grants to Named Recipients (AS 37.05.316)****Grant Recipient: Yukon Koyukuk School District****Federal Tax ID: 92-0058051****Project Title:****Project Type: Maintenance and Repairs**

Yukon Koyukuk School District - Kaltag K-12 School Siding Completion

State Funding Requested: \$250,000**House District: 6 / C**

One-Time Need

Brief Project Description:

Complete the residing of the Kaltag K-12 school.

Funding Plan:

Total Project Cost:	\$250,000
Funding Already Secured:	(\$0)
FY2013 State Funding Request:	<u>(\$250,000)</u>
Project Deficit:	\$0

Funding Details:

The original residing project was funded with a DEED grant GR-06-024 in FY 2006. Due to increase in cost of steel only 3/4 of the building could be resided.

Detailed Project Description and Justification:

This project completes the residing of the Kaltag School. It repairs the remaining 5,000 sq. ft. of the exterior of the building. The condition of the original lap cedar siding is very poor and deterioration worsens each year. Wind driven moisture routinely penetrates warped, or split areas, butt joints, and window penetrations. Attached is a 2008 report from USKH addressing the problem. The remaining cedar siding is long overdue for replacement. This portion of the school is subject to significant heat loss and water damage. The residing must be completed to reduce energy costs and to prevent further water penetration into the exterior wall system of the facility. As part of the residing the following will be accomplished for the remaining 5,000 sq. ft. of building:

- 1) Remove the existing cedar siding and associated trim.
- 2) Repair any existing damage to sub-structure.
- 3) New insulation
- 4) Install an approved wind barrier, properly sealed to windows, doors, vents, etc.
- 5) Install pre-finished, seamless steel siding.
- 6) Replace soffits and flashing

Project Timeline:

The project has been designed and work could be bid summer 2012 and completed by fall 2012.

Entity Responsible for the Ongoing Operation and Maintenance of this Project:

YKSD

Grant Recipient Contact Information:

Name: Kerry Boyd
Title: Superintendent
Address: 4762 Old Airport Way
Fairbanks, Alaska 99709
Phone Number: (907)374-9416
Email: kboyd@yksd.com

Has this project been through a public review process at the local level and is it a community priority? Yes No

For use by Co-chair Staff Only:

Kaltag K-12 School Kaltag, Alaska Yukon Koyukuk School District



Siding Condition Review and Recommendation August 18, 2008

Facilitated and Prepared by:



Architecture, Engineering, Land Surveying, Planning,
Environmental Services



Introduction

USKH Inc. (USKH) has reviewed the condition of the exterior siding and soffits located on the Kaltag School. The south wall (approximately 5,000 square feet) of the building still is sided with the original wood siding which requires painting and repair every five to eight years. The remaining areas of the exterior have been provided with prefinished metal siding, which is maintenance free and expected to perform for the next thirty years (color finish). Refer to photos and shop drawing.



The USKH staff members involved in the initial condition review and Kaltag projects include: Steve Keller, AIA (Project Architect/Manager), Pete Jacobsen, PE (Structural Engineer), Jason Thoma, PE (Mechanical Engineer), and Phil Schaefer, PE (Electrical Engineer).



Overview of the Kaltag Exterior Siding

The building exterior was initially provided with translucent stained wood lap-type siding, which dates from the 1980s. Previous renovations to the building in 2006 included the installation of maintenance-free prefinished metal siding on most of the exterior with the exception of the south and east elevations of the gym; this due to budget constraints caused by drastic unexpected world demand for steel and the associated 30% to 35% increase in price.

The renovated exterior is very efficient and will provide weather proof protection to the wood frame construction of the building without major maintenance for many years. The existing wood siding requires constant vigil to keep protection of the building structure from the harsh wind driven rain and snow. Refer to photos.



General Condition



The condition of the original wood siding is very poor. Edges are warped and siding boards are curled. Repainting or staining is necessary every five years to keep the siding in proper condition. Refer to the photos.

Wood siding in some areas is deteriorated due to the constant saturation by storms and subsequent drying that occurs during each hot summer. This causes the siding to cycle through expansion and contraction due to moisture content variation; leading to loosening of the fasteners and ultimately loosening of the siding from the intended substrates of the wall construction. The siding then curls due to the inherent nature of the fiber grain.

The photo to the left depicts the facility prior to the installation of new siding on other faces. The photo below was taken August 2008; note additional deterioration/weathering of the old wood siding.



Recommendation Life Cycle Cost Benefit and Estimated Cost

USKH recommends completion of the siding replacement with prefinished metal. Wood siding is problematic in that it requires painting every five to eight years and becomes absorbent of wind driven moisture that is common to this location. Lifetime of wood compared to metal is approximately half with metal siding remaining intact for many years beyond the weathering of the color finish. The metal used to renovate the building will ultimately need to be refinished in thirty years, however the integrity of the weather protection to the structure will extend far beyond the fading or wearing of the color. The color is applied to substrate metal material which is galvanized. Estimated construction costs (2008 \$) for providing metal to the remaining exterior of the Kaltag School is \$127,500; (confirmed by Estimations, Inc. and contractor consultation).



The lower right photo depicts the front of the facility with completed new metal siding; upper center photo depicts the south face of the gym, which is still clad with the old wood siding.

Product Specification and Cut-sheet

SECTION 07412 - METAL WALL PANELS

PART 1 - GENERAL

1.01 SUMMARY

A. This Section includes the following:

1. Factory-formed and field-assembled, exposed-fastener, lap-seam metal wall panels.
2. Factory-formed and field-assembled, concealed-fastener, lap-seam perforated metal soffit panels.
3. Factory-formed and field-assembled, flashing and associated trim.

1.02 SUBMITTALS

A. Product Data: For each type of metal wall panel and accessory indicated.

B. Shop Drawings: Show layouts of metal wall panels, including plans, elevations, sections, details, and attachments to other work.

1. Include details of edge conditions, joints, panel profiles, corners, anchorages, attachment system, trim, flashings, closures, and accessories.

2. Include structural analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

C. Coordination Drawings: Drawn to scale and coordinating metal wall panel installation with penetrations and wall-mounted items.

D. Samples: For each exposed finish.

E. Material certificates.

F. Product test reports.

G. Maintenance data.

1.03 QUALITY ASSURANCE

A. Installer Qualifications: An employer of workers trained and approved by manufacturer.

1. Installer's responsibilities include fabricating and installing metal wall panel.

B. Preinstallation Conference: Conduct conference at Project site.

1.04 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of metal wall panel assemblies that fail in materials

or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

- a. Structural failures, including rupturing, cracking, or puncturing.
- b. Deterioration of metals, metal finishes, and other materials beyond normal weathering.

2. Warranty Period: Two years from date of Substantial Completion.

B. Special Warranty on Panel Finishes: Manufacturer's standard form in which manufacturer agrees to repair finish or replace metal wall panels that show evidence of deterioration of factory-applied finishes within specified warranty period.

1. Fluoropolymer Finish Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by the manufacturers specified.

2.02 PANEL MATERIALS

A. Metallic-Coated Steel Sheet Prepainted with Coil Coating: Steel sheet metallic coated by the hot-dip process and prepainted by the coil-coating process to comply with ASTM A 755/A 755M.

1. Aluminum-Zinc Alloy-Coated Steel Sheet: ASTM A 792/A 792M, Class AZ50 or AZ55 coating designation, Grade 40; structural quality.

2. Surface: Smooth, flat finish.

3. Exposed Finishes:

a. High-Performance Organic Finish: Three-coat, thermocured system with fluoropolymer coats containing not less than 70 percent polyvinylidene fluoride resin by weight; complying with physical properties and coating performance requirements of AAMA 2604 or 2605, except as modified below:

1) Humidity Resistance: 1000 hours.

2) Salt-Spray Resistance: 1000 hours.

4. Concealed Finish: White or light-colored acrylic or polyester backer finish.

Product Specification and Cut-sheet

B. Panel Sealants:

1. Sealant Tape: Pressure-sensitive, gray polyisobutylene compound sealant tape with release-paper backing, 1/2-inch wide and 1/8-inch thick.

2. Joint Sealant: ASTM C 920; as recommended in writing by metal wall panel manufacturer.

3. Butyl-Rubber-Based, Solvent-Release Sealant: ASTM C 1311.

2.03 MISCELLANEOUS MATERIALS

A. Fasteners: Self-tapping screws, bolts, nuts, self-locking rivets and bolts, end-welded studs, and other suitable fasteners designed to withstand design loads. Provide exposed fasteners with heads matching color of metal wall panels by means of plastic caps or factory-applied coating.

1. Fasteners for Wall Panels: Self-drilling or self-tapping, zinc-plated, hex-head carbon-steel screws, with a stainless-steel cap or zinc-aluminum-alloy head and EPDM or neoprene sealing washer.

2. Fasteners for Wall Panels: Self-drilling or self-tapping 410 stainless or zinc-alloy steel hex washer head, with EPDM or PVC washer under heads of fasteners bearing on weather side of metal wall panels.

3. Fasteners for Flashing and Trim: Blind fasteners or self-drilling screws with hex washer head.

4. Blind Fasteners: High-strength aluminum or stainless-steel rivets.

2.04 LAP-SEAM METAL WALL AND SOFFIT PANELS

A. Exposed-Fastener, Lap-Seam Metal Wall Panels: Factory-formed, designed to be field assembled by lapping and interconnecting side edges of adjacent panels and mechanically attaching through panel to supports using exposed fasteners in side laps. Include accessories required for weathertight installation.

B. Concealed-Fastener, Lap-Seam Metal Soffit Panels: Factory-formed, designed to be field assembled by lapping and interconnecting side edges of adjacent

panels and mechanically attaching through panel to supports using concealed fasteners in side laps. Include accessories required for weathertight installation.

1. Manufacturers:

a. **AEP-Span; Siding color: Cool Bright Red; Soffit color: Cool Regal White.**

b. *Pre-approved equal.*

2. Profile: Corrugated as indicated on Drawings.

3. Material: Metallic-coated steel sheet, 24-gage thick.

a. Color: As selected by Owner from manufacturer's full range.

2.05 ACCESSORIES

A. Wall Panel Accessories: Provide components required for a complete metal wall panel assembly including trim, copings, fasciae, mullions, sills, corner units, clips, flashings, sealants, gaskets, fillers, closure strips, and similar items. Match material and finish of metal wall panels, unless otherwise indicated.

B. Flashing and Trim: Formed from 0.0179-inch-thick, metallic-coated steel sheet. Provide flashing and trim as required to seal against weather and to provide finished appearance. Locations include, but are not limited to, bases, drips, sills, jambs, corners, endwalls, framed openings, rakes, fasciae, parapet caps, soffits, reveals, and fillers. Finish flashing and trim with same finish system as adjacent metal wall panels.

2.06 FABRICATION

A. General: Fabricate and finish metal wall panels and accessories at the factory to greatest extent possible, by manufacturer's standard procedures and processes, as necessary to fulfill indicated performance requirements demonstrated by laboratory testing. Comply with indicated profiles and with dimensional and structural requirements.

1. Form panel lines, breaks, and angles to be sharp and true, with surfaces free from warp and buckle.

Product Specification and Cut-sheet

2. Fabricate wall panels with panel stiffeners as required to maintain fabrication tolerances and to withstand design loads.

B. Provide panel profile, including corrugation as shown on the drawings, for full length of panel.

C. Sheet Metal Accessories: Fabricate flashing and trim to comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to the design, dimensions, metal, and other characteristics of item indicated.

PART 3 - EXECUTION

3.01 PREPARATION

A. Miscellaneous Framing: Install subgirts, base angles, sills, furring, and other miscellaneous wall panel support members and anchorage as indicated on the drawings, according to ASTM C 754 and metal wall panel manufacturer's recommendations.

3.02 METAL WALL PANEL INSTALLATION, GENERAL

A. General: Install metal wall panels in orientation, sizes, and locations indicated on Drawings. Install panels perpendicular to furring, girts, and subgirts. Anchor metal wall panels and other components of the Work securely in place, with provisions for thermal and structural movement.

1. Field cutting of metal wall panels by torch is not permitted.

2. Locate panel splices over structural supports. Stagger panel splices and end laps.

3. Provide weatherproof escutcheons for pipe and conduit penetrating exterior walls.

B. Fasteners:

1. Steel Wall Panels: Use galvanized steel fasteners.

C. Metal Protection: Where dissimilar metals will contact each other or corrosive substrates, protect against galvanic action by painting contact surfaces with bituminous coating, by applying rubberized-asphalt underlayment to each contact surface, or by other permanent separation as

recommended by metal wall panel manufacturer.

D. Joint Sealers: Install gaskets, joint fillers, and sealants where indicated and where required for weatherproof performance of metal wall panel assemblies.

1. Seal metal wall panel end laps with double beads of tape or sealant, full width of panel. Seal side joints where recommended by metal wall panel manufacturer.

2. Prepare joints and apply sealants to comply with requirements in Division 7 Section "Joint Sealants."

3.03 ACCESSORY INSTALLATION

A. General: Install accessories with positive anchorage to building and weathertight mounting and provide for thermal expansion. Coordinate installation with flashings and other components.

1. Install components required for a complete metal wall panel assembly including trim, copings, corners, seam covers, flashings, sealants, gaskets, fillers, closure strips, and similar items.

2. Comply with performance requirements, manufacturer's written installation instructions, and SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners where possible, and set units true to line and level as indicated. Install work with laps, joints, and seams that will be permanently watertight and weather resistant.

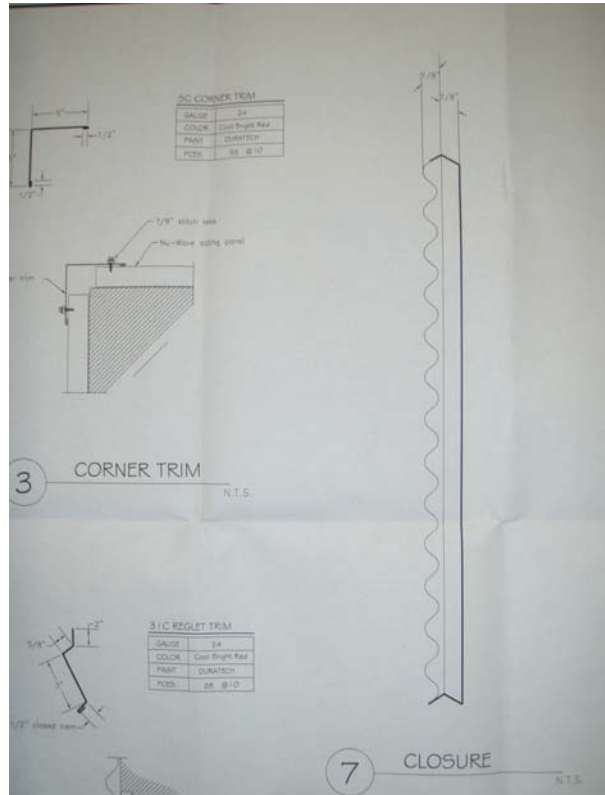
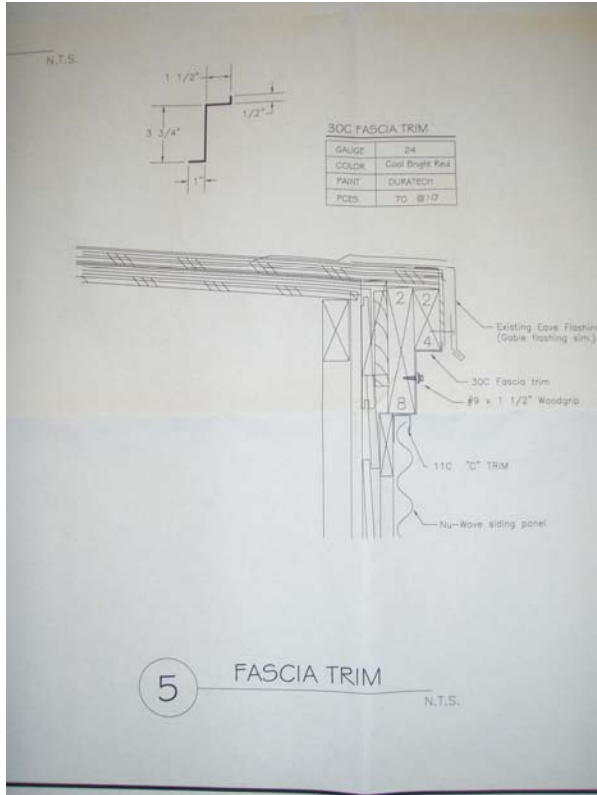
3.04 CLEANING AND PROTECTION

A. On completion of metal wall panel installation, clean finished surfaces as recommended by metal wall panel manufacturer. Maintain in a clean condition during construction.

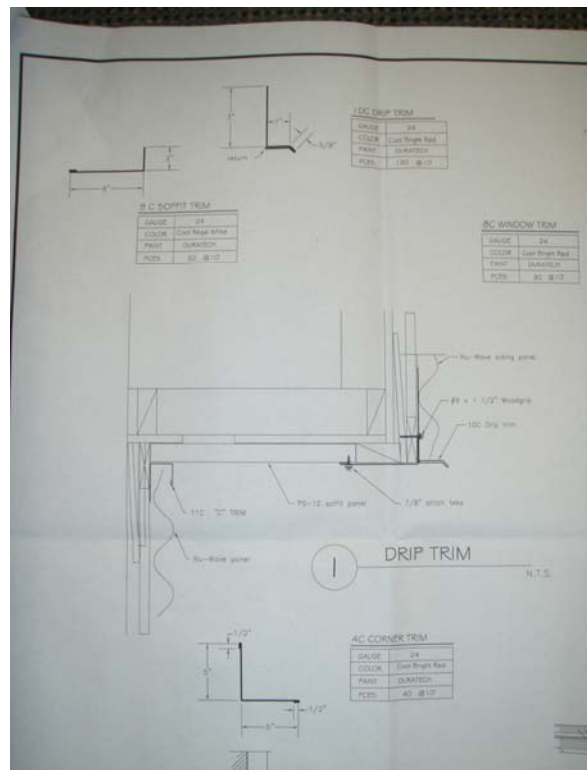
B. After metal wall panel installation, clear weep holes and drainage channels of obstructions, dirt, and sealant.

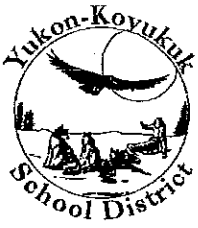
END OF SECTION 07412

Product Specification and Cut-sheet



Excerpts from shop drawing/cuts for 2006 siding project depicted in these photos.





Yukon Koyukuk School District
Administrative & Support Offices
4762 Old Airport Way
Fairbanks, Alaska 99709

Kerry Boyd
Superintendent

Telephone: (907) 374-9400
Fax: (907) 374-9440

Yukon-Koyukuk School District
Resolution 12-05

WHEREAS, the Alaska State Legislature annually considers worthy projects for inclusion in the capital budget; and

WHEREAS, the Yukon Koyukuk school buildings average more than 30 years of age and basic building systems have reached the age that renewal and replacement is required to provide adequate safe, functional and comfortable learning environments; and

WHEREAS, the Yukon Koyukuk School District, has an on-going Six Year Capital Improvement Program which identifies major renewal and renovation of the Schools in the District on a prioritized basis; and

WHEREAS, the Yukon Koyukuk School District, has a state approved preventive maintenance program; and

WHEREAS, the identified needs exceed the amount of funding that can be expected through the Department of Education major maintenance grant program on an annual basis; and

WHEREAS, the Kaltag K-12 School residing project remains incomplete, exposing the building to water damage and heat loss; and

WHEREAS, smart boards are a technology proven to support and enhance student learning; and

WHEREAS, the District has an on-going program to recarpet and repaint school facilities with an annual requirement that exceeds the amount of funding available from the District maintenance budget; and

WHEREAS, the pipeline from the fuel tank farm to the Kaltag school is unprotected it is subject ATV and snow machine damage resulting in fuel leaks and protective fencing is required to provide for public safety and reduce environmental damage; and

WHEREAS, the District has an on-going program to repair the school generators which are critical to the continued operation of schools in an area that is subject to frequent power outages,

WHEREAS, the Minto School lacks a safe playgrounds for students; and

The mission of the Yukon-Koyukuk School District, in active partnership with its families and communities, is to provide our students with the skills and knowledge necessary to become contributing members of their families, communities and society.

NOW, THEREFORE BE IT RESOLVED: that the Yukon Koyukuk School District endorses the Administration in the submission of the following Legislative Requests:

Kaltag K-12 School Siding Completion \$250,000
Classroom Smart Boards \$65,000
Districtwide Carpet and Paint \$130,000
Kaltag Fuel Line Fencing \$150,000
Districtwide Generator Maintenance Survey and Repair \$70,000
Minto School Playground \$50,000

PASSED, APPROVED AND ADOPTED BY THE SCHOOL BOARD OF THE YUKON-KOYUKUK SCHOOL DISTRICT THIS 13th DAY OF January, 2012

YUKON-KOYUKUK SCHOOL DISTRICT
BOARD OF EDUCATION

By Marianne McHenry

By Jerry H. Chel