



## ADDENDUM TO THE CONTRACT

for the

### Auke Bay Elementary School Renovation

Contract No. E12-042

**ADDENDUM NO.:** THREE

**CURRENT DEADLINE FOR BIDS:**  
February 7, 2012

**PREVIOUS ADDENDA:** TWO

**ISSUED BY:** City and Borough of Juneau  
ENGINEERING DEPARTMENT  
155 South Seward Street  
Juneau, Alaska 99801

**DATE ADDENDUM ISSUED:** February 1, 2012

The following items of the contract are modified as herein indicated. All other items remain the same. This addendum has been issued and is posted online. Please refer to the CBJ Engineering Contracts Division webpage at: <http://www.juneau.org/engineering ftp/contracts/Contracts.php>

#### **PROJECT MANUAL – Volume III:**

1. Section 075419 POLY-VINYL CHLORIDE (PVC) ROOFING: **Replace** in its entirety with attached section 075419 Poly-vinyl Chloride (PVC) Roofing labeled Addendum No. 3.
2. Section 085413 FIBERGLASS WINDOWS, Part 2.4: **Add** the following subsection:
  - C. Casement – 3510 Series, 1-3/4 inch nail fin setback:
    1. Frame: Minimum 3-1/4 inch deep, multi-chambered fiberglass pultrusion.
    2. Sash: Minimum 2-3/8 inch deep, multi-chambered fiberglass pultrusion.
    3. Structural Class: C-C45.
    4. Hardware:
      - a. Dual steel arm rotary operator with fold-down handle.
      - b. Single lever, multi-point locking mechanism.
      - c. Four bar stainless steel hinge.
      - d. Provide limit to degree of opening, to be determined by Architect.
    5. Weatherstripping: Vinyl compression bulb seal.

## **PROJECT MANUAL – Volume IV:**

3. Section 221005 PLUMBING PIPING, Part 2.8, **Add** the following paragraph:
  - D. Combination Spring and Neoprene Isolators: 1-inch static deflection combination spring and neoprene isolators. Similar to Mason Type 30. Use seismically restrained type where hanger is longer than 12-inches and pipe size is 2-inches or over.
4. Section 221005 PLUMBING PIPING, Part 3.3, Paragraph AB. **Add** the following sub paragraphs:
  14. Seal opening around hanger rods and supports penetrating resilient ceiling in 1<sup>st</sup> floor ceiling space.
  15. Hangers for piping supported from structure in rooms and spaces located below mechanical fan rooms or attached to structure supporting mechanical fan room shall be isolated with combination spring and neoprene isolators with a 1” static deflection similar to Mason Type 30.
5. Section 232113 HYDRONIC PIPING, Part 2.4, **Add** the following paragraph:
  - N. Combination Spring and Neoprene Isolators: 1-inch static deflection combination spring and neoprene isolators. Similar to Mason Type 30. Use seismically restrained type where hanger is longer than 12-inches and pipe size is 2-inches or over.
6. Section 232113 HYDRONIC PIPING, Part 3.2, Paragraph I. **Add** the following sub paragraphs:
  11. Seal around hanger rods and supports penetrating resilient ceiling in 1<sup>st</sup> floor ceiling space.
  12. Hangers for piping supported from structure in spaces located below mechanical fan rooms or attached to structure supporting mechanical fan room shall be isolated with combination spring and neoprene isolators with a 1” static deflection similar to Mason Type 30.
  13. Piping connected to pumps or GSHP in Mechanical 122 shall be isolated with combination spring and neoprene isolators with a 1” static deflection similar to Mason Type 30.
7. Section 233100 HVAC DUCTS AND CASINGS. Part 2 – Products. **Add** the following paragraphs:
  - 2.8. COMBINATION SPRING AND NEOPRENE ISOLATORS
    - A. 1-inch static deflection combination spring and neoprene isolators. Similar to Mason Type 30.
  - 2.9. DOUBLE WALL INSULATED ROUND DUCTS
    - A. Manufacturers:
      1. Semco
      2. United McGill Acousti-K27
    - B. Round or oval spiral lock-seam duct and fittings with galvanized steel outer wall, 1-inch thick fiberglass insulation, perforated galvanized steel inner wall; All fittings with solid inner wall. Fittings 2 gages heavier than SMACNA. Utilize manufactured duct fittings for all branch take-offs unless indicated otherwise.
    - C. All joints to be slip-joint type.
8. Section 233100 HVAC DUCTS AND CASINGS, Part 3.2. **Add** the following paragraphs:
  - T. Seal opening around hanger rods and duct supports penetrating resilient ceiling in 1<sup>st</sup> floor ceiling space.
  - U. Hangers for ductwork supported from structure in rooms and spaces located below mechanical fan rooms or attached to structure supporting mechanical fan room shall be isolated with combination spring and neoprene isolators with a 1” static deflection similar to Mason Type 30.
  - V. Install double wall round duct with perforated inner liner on 10-inch diameter and 14-inch

diameter return air ducts serving Music 205 and Resource 204.

- W. Install double wall round duct with perforated inner liner for all round ducts between fan unit and sound trap as follows. Install sound attenuated duct (1-inch) for all rectangular ducts located between fan unit and sound trap as follows:
  - 1. ST-1 (AHU-1 SA): 32-inch diameter duct and 28x18 duct to chase in Office 259.
  - 2. ST-2 (AHU-1 RA): 28x26 duct and 28x16 duct to Mechanical 122.
  - 3. ST-3 (AHU-1 SA): 32-inch diameter duct and 36x24 duct to ST-3.
  - 4. ST-4 (AHU-1 RA): 28x26 duct and 28x16 duct to ST-4.
  - 5. ST-5 (AHU-2 SA): AHU-2 outlet duct and 36x24 duct to ST-5.
  - 6. ST-6 (AHU-2 RA): AHU-2 RA inlet duct and 36x18 duct to ST-6.
  - 7. ST-7 (AHU-1 SA): None, except 32-inch diameter duct listed for ST-1.
  - 8. ST-8 (AHU-1 SA): None, except 32-inch diameter duct listed for ST-1.
  - 9. ST-9 (AHU-1 RA): 28x26 duct to ST-9.
- X. Install sound attenuated duct (1-inch) for 24x16 duct serving EF-1 fan system to transition located above Corridor 253.
- Y. Install ½-inch sound attenuation lining in supply air plenums located behind SG-1 displacement air diffusers.

9. Section 233300 AIR DUCT ACCESSORIES, Part 2.8 A.1. **Replace** "LFL" with "MS"

10. Section 233300 AIR DUCT ACCESSORIES, Part 2.8 E. **Modify** insertion loss for sound traps as follows:

ST-3	4	9	17	34	42	32	21	12
ST-4	5	10	18	35	43	31	19	10
ST-5	4	9	17	34	42	32	21	12
ST-6	5	10	18	35	43	31	19	10
ST-7	4	9	17	34	42	32	21	12
ST-8	4	9	17	34	42	32	21	12
ST-9	5	10	18	35	43	31	19	10

11. Section 233300 AIR DUCT ACCESSORIES, Part 3.2, **Add** the following paragraph:

N. Wherever possible, utilize 6'-0" of horizontal flexible duct prior to connection to diffuser.

12. Section 233423 HVAC POWER VENTILATORS, Part 2.3, Paragraph E. **Add** the following to the end of the paragraph, "Restrained spring isolators shall have 1" static deflection and shall be similar to Mason SSLFH."

13. Section 233423 HVAC POWER VENTILATORS, Part 2.4, Paragraph F. **Add** the following to the end of the paragraph, "Restrained spring isolators shall have 1" static deflection and shall be similar to Mason Type 30."

14. Section 238100 WATER TO WATER HEAT PUMPS, Part 3.3, **Add** the following paragraphs:

I. HP units shall be hung from structure with 1-inch static restrained type vibration isolators similar to Mason Type 30.

J. Install flexible connections on duct connections to heat pumps.

**DRAWINGS- Volume I:**

- 15. Sheet A005: **Replace** sheet with attached sheet A005 - Addendum 3.
- 16. Sheet A006: **Replace** sheet with attached sheet A006 – Addendum 3.
- 17. Sheet A007: **Replace** sheet with attached sheet A007 – Addendum 3.
- 18. Sheet A008: **Change** the following window types: A, B, D & AP from “AWNING” to “CASEMENT.” **Change** the following window types: E, AB, AH & AR from “AWNING” to “FIXED.”
- 19. Sheet A009: **Delete** window type BG, not used. **Change** the following window type: BP from “AWNING” to “CASEMENT.” **Change** the following window type: CC from “AWNING” to “FIXED.” **Change** the following window type: BJ from “FIXED” to “AWNING.” **Add** the following window types: CJ as same dimensions as window N, but “AWNING” in lieu of “FIXED”; and CK as same dimensions as window G, but “AWNING” in lieu of “FIXED.”
- 20. Sheet A810: **Replace** sheet with attached sheet A810 – Addendum 3.
- 21. Sheet C100: **Replace** sheet with attached sheet C100-Addendum 3.
- 22. Sheet C101: **Replace** sheet with attached sheet C101-Addendum 3.

**DRAWINGS- Volume II:**


- 23. Sheet M002: **Modify** the Sound Trap Schedule pressure drop and model number as follows:

ST-3	0.24”w.g.	IAC MS
ST-4	0.15”w.g.	IAC MS
ST-5	0.17”w.g.	IAC MS
ST-6	0.15”w.g.	IAC MS
ST-7	0.17”w.g.	IAC MS
ST-8	0.12”w.g.	IAC MS
ST-9	0.17”w.g.	IAC MS

- 24. Sheet M405: **Replace** entire M405 Drawing with attached M405, labeled Addendum 3.
- 25. Sheet E001 Legend: **Change** Magnetic Door Detector symbol from a ‘D’ within a diamond to a ‘D’ within a square.

Attachments:

- 1. Section 075419 - Poly-vinyl Chloride (PVC) Roofing
- 2. Sheet A005
- 3. Sheet A006
- 4. Sheet A007
- 5. Sheet A810
- 6. Sheet C-100
- 7. Sheet C101
- 8. Sheet M405

By:   
 \_\_\_\_\_  
 Jennifer Mannix,  
 Contract Administrator

Date: February 1, 2012

Total number of pages contained within this Addendum: 23

## SECTION 075419 – POLY-VINYL CHLORIDE (PVC) ROOFING

Note: *Italic* text indicates revisions from previous Addenda, ***Bold Italic*** text or ~~strikethrough~~ indicates revisions in this Addendum

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. Section Includes:

1. Adhered PVC membrane roofing system.
2. Vapor retarder.
3. Roof insulation.
4. ***Allowable Substitution: Non-penetration PVC membrane installation system***

- B. Related Sections:

1. Section 061000 "Rough Carpentry"
2. Section 061600 "Sheathing" for wood-based, structural-use roof deck panels.
3. Section 072100 "Thermal Insulation" for insulation beneath the roof deck.
4. Section 076200 "Sheet Metal Flashing and Trim" for metal roof penetration flashings, flashings, counter-flashings, coping and roof edge flashing.
5. Section 079200 "Joint Sealants" for joint sealants, joint fillers, and joint preparation.

#### 1.3 DEFINITIONS

- A. Roofing Terminology: See ASTM D 1079 and glossary in NRCA's "The NRCA Roofing and Waterproofing Manual" for definition of terms related to roofing work in this Section.

#### 1.4 PERFORMANCE REQUIREMENTS

- A. General Performance: Installed membrane roofing and base flashings shall withstand specified uplift pressures, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Membrane roofing and base flashings shall remain watertight.
- B. Material Compatibility: Provide roofing materials that are compatible with one another under conditions of service and application required, as demonstrated by membrane roofing manufacturer based on testing and field experience.

## SECTION 075419 – POLY-VINYL CHLORIDE (PVC) ROOFING

- C. Roofing System Design: Provide membrane roofing system that is identical to systems that have been successfully tested by a qualified testing and inspecting agency to resist uplift pressure calculated according to ASCE/SEI 7. *Corner, perimeter and field of roof uplift pressures shall be calculated based on pressures derived from 130 mph, three second gust, exposure C wind loading as described by 2009 International Building Code.*

- ~~1. Corner Uplift Pressure: 105 lbf/sq. ft.~~
- ~~2. Perimeter Uplift Pressure: 70 lbf/sq. ft. for a 12' width at perimeter.~~
- ~~3. Field of Roof Uplift Pressure: 40 lbf/sq. ft.~~

- D. FM Approvals Listing: Provide membrane roofing, base flashings, and component materials that comply with requirements in FM Approvals 4450 and FM Approvals 4470 as part of a membrane roofing system, and that are listed in FM Approvals' "RoofNav" for Class 1 or noncombustible construction, as applicable. Identify materials with FM Approvals markings.

1. Fire/Windstorm Classification: Class 1A-105.

- E. *Solar Reflectance Index: Not less than 78 when calculated according to ASTM E 1980, based on testing identical products by a qualified testing agency.*

### 1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: For roofing system. Include plans, elevations, sections, details, and attachments to other work.
1. Base flashings and membrane terminations.
  2. Tapered insulation, including slopes.
  3. Roof plan showing orientation of steel roof deck and orientation of membrane roofing and insulation fastening patterns for corner, perimeter, and field-of-roof locations.
  4. *Batten configuration and PVC sheet configuration for allowable substitution configuration.*
- C. Samples for Verification: For the following products:
1. Sheet roofing, of color specified, including T-shaped side and end lap seam.
  2. Roof insulation.
  3. Walkway pads or rolls.
  4. Metal termination bars.
  5. *Battens, including pvc clad battens, for allowable substitution configuration.*
- D. *LEED Submittals:*
1. *Product Data for Credit SS 7.2: For roof materials, indicating that roof materials comply with Solar Reflectance Index requirement.*
  2. *Laboratory Test Reports for Credit IEQ 4: For adhesives and sealants used inside the weatherproofing system, documentation indicating that they comply with the testing and product requirements of the California Department of Health Services' "Standard*

## SECTION 075419 – POLY-VINYL CHLORIDE (PVC) ROOFING

*Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers.”*

### 1.6 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For qualified Installer and manufacturer.
- B. Manufacturer Certificates: Signed by roofing manufacturer certifying that roofing system complies with requirements specified in "Performance Requirements" Article.
- C. Research/Evaluation Reports: For components of membrane roofing system, from the ICC-ES.
- D. Warranties: Sample of special warranties.

### 1.7 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For roofing system to include in maintenance manuals.

### 1.8 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A qualified manufacturer that is FM Approvals approved for membrane roofing system identical to that used for this Project.
- B. Installer Qualifications: A qualified firm that is approved, authorized, or licensed by membrane roofing system manufacturer to install manufacturer's product and that is eligible to receive manufacturer's special warranty.
- C. Source Limitations: Obtain components including roof insulation and fasteners for roofing system from same manufacturer as membrane roofing or approved by membrane roofing manufacturer.
- D. Exterior Fire-Test Exposure: ASTM E 108, Class A; for application and roof slopes indicated, as determined by testing identical membrane roofing materials by a qualified testing agency. Materials shall be identified with appropriate markings of applicable testing agency.
- E. Pre-installation Roofing Conference: Conduct conference at Project site for each phase of construction.
  - 1. Meet with Owner, Architect, roofing Installer, roofing system manufacturer's representative, deck installer, and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.
  - 2. Review methods and procedures related to roofing installation, including manufacturer's written instructions.
  - 3. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
  - 4. Examine deck substrate conditions and finishes for compliance with requirements, including flatness and fastening.
  - 5. Review structural loading limitations of roof deck during and after roofing.

## SECTION 075419 – POLY-VINYL CHLORIDE (PVC) ROOFING

6. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that will affect roofing system.
7. Review governing regulations and requirements for insurance and certificates if applicable.
8. Review temporary protection requirements for roofing system during and after installation.
9. Review phasing and temporary construction requirements for completion of each phase.
10. Review roof observation and repair procedures after roofing installation.

### 1.9 DELIVERY, STORAGE, AND HANDLING

- A. Deliver roofing materials to Project site in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, approval or listing agency markings, and directions for storing and mixing with other components.
- B. Store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by roofing system manufacturer. Protect stored liquid material from direct sunlight.
  1. Discard and legally dispose of liquid material that cannot be applied within its stated shelf life.
- C. Protect roof insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Store in a dry location. Comply with insulation manufacturer's written instructions for handling, storing, and protecting during installation.
- D. Handle and store roofing materials and place equipment in a manner to avoid permanent deflection of deck.

### 1.10 PROJECT CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit roofing system to be installed according to manufacturer's written instructions and warranty requirements.

### 1.11 WARRANTY

- A. Special Warranty: Manufacturer's standard or customized form, without monetary limitation, in which manufacturer agrees to repair or replace components of membrane roofing system that fail in materials or workmanship within specified warranty period.
  1. Special warranty includes membrane roofing, base flashings, roof insulation, fasteners, cover boards, roofing accessories, and other components of membrane roofing system.
  2. Warranty Period: 20 years from date of Substantial Completion of phase three roofing.
  3. ***Wind Warranty: Warranty to cover wind speeds up to 90 mph.***
- B. Special Project Warranty: Submit roofing Installer's warranty, on warranty form at end of this Section, signed by Installer, covering the Work of this Section, including all components of

## SECTION 075419 – POLY-VINYL CHLORIDE (PVC) ROOFING

membrane roofing system such as membrane roofing, base flashing, roof insulation, fasteners, cover boards, substrate boards, vapor retarders, and walkway products, for the following warranty period:

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

### PART 2 - PRODUCTS

#### 2.1 PVC MEMBRANE ROOFING

- A. PVC Sheet: ASTM D 4434, Type II, Grade I, glass fiber reinforced, ~~felt backed~~.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
  - a. Carlisle SynTec, Incorporated.
  - b. GAF Materials Corporation.
  - c. GenFlex Roofing Systems.
  - d. Sarnafil Inc.
  - e. *Johns Manvill*
2. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
  - a. Carlisle SynTec, Incorporated Sure Flex Reinforced FRS PVC Membrane or approved equal.
3. Thickness: 80 mils nominal.
4. Exposed Face Color: *White*.

#### 2.2 AUXILIARY MEMBRANE ROOFING MATERIALS

- A. General: Auxiliary membrane roofing materials recommended by roofing system manufacturer for intended use, and compatible with membrane roofing.
1. Liquid-type auxiliary materials shall comply with VOC limits of authorities having jurisdiction.
  2. Adhesives and sealants that are not on the exterior side of weather barrier shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."
- B. Sheet Flashing: Manufacturer's standard sheet flashing of same material, type, reinforcement, thickness, and color as PVC sheet membrane.
- C. Bonding Adhesive: Manufacturer's standard.

## SECTION 075419 – POLY-VINYL CHLORIDE (PVC) ROOFING

- D. Metal Termination Bars: Manufacturer's standard, predrilled stainless-steel or aluminum bars, approximately 1 by 1/8 inch thick; with anchors.
- E. Miscellaneous Accessories: Provide pourable sealers, preformed cone and vent sheet flashings, preformed inside and outside corner sheet flashings, T-joint covers, lap sealants, termination reglets, and other accessories.
- F. *Allowable Substitution Non-Penetration Mechanically Fastened Roofing System: Provide proprietary clad metal plate/fastener system for use with electromagnetic induction welding technology.*

### 2.3 SUBSTRATE BOARDS

- A. Substrate Board: ASTM C 1177/C 1177M, glass-mat, water-resistant gypsum substrate, 1/2 inch thick.
  - 1. Products: Subject to compliance with requirements, provide the following or an approved equal:
    - a. Georgia-Pacific Corporation; Dens Deck Prime.
- B. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Approvals 4470, designed for fastening substrate board to roof deck.

### 2.4 VAPOR RETARDER

- A. Polyethylene Film: ASTM D 4397, 10 milsthick, minimum, with maximum permeance rating of 0.13 perm.
  - 1. Tape: Pressure-sensitive tape of type recommended by vapor-retarder manufacturer for sealing joints and penetrations in vapor retarder.
  - 2. Adhesive: Manufacturer's standard lap adhesive, FM Approvals approved for vapor-retarder application.

### 2.5 ROOF INSULATION

- A. General: Preformed roof insulation boards manufactured or approved by PVC membrane roofing manufacturer, selected from manufacturer's standard sizes suitable for application, of thicknesses indicated and that produce FM Approvals-approved roof insulation.
- B. Extruded-Polystyrene Board Insulation: ASTM C 578, Type IV, 1.6-lb/cu. ft. minimum density, square edged.
- C. Polyisocyanurate Board Insulation: ASTM C 1289, Type II, Class 1, Grade 2, felt or glass-fiber mat facer on both major surfaces.

## SECTION 075419 – POLY-VINYL CHLORIDE (PVC) ROOFING

- D. Tapered Insulation: Provide factory-tapered insulation boards fabricated to slope of 1/4 inch per 12 inches unless otherwise indicated.
- E. Provide preformed saddles, crickets, tapered edge strips, and other insulation shapes where indicated for sloping to drain. Fabricate to slopes indicated.

### 2.6 INSULATION ACCESSORIES

- A. General: Furnish roof insulation accessories recommended by insulation manufacturer for intended use and compatibility with membrane roofing.
- B. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Approvals 4470, designed for fastening roof insulation and cover boards to substrate, and acceptable to roofing system manufacturer.
- C. Cover Board: ASTM C 1177/C 1177M, glass-mat, water-resistant gypsum substrate, 1/2 inch thick. Cover board is required if EPS insulation is used.
  - 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
    - a. Georgia-Pacific Corporation; Dens Deck Prime.
    - b. Or approved equal.

### 2.7 WALKWAYS

- A. Flexible Walkways: Factory-formed, nonporous, heavy-duty, slip-resisting, surface-textured walkway pads or rolls, approximately 3/16 inch thick, and acceptable to membrane roofing system manufacturer.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with the following requirements and other conditions affecting performance of roofing system:
  - 1. Verify that roof openings and penetrations are in place and curbs are set and braced and that roof drain bodies are securely clamped in place.
  - 2. Verify that wood blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations and that nailers match thicknesses of insulation.
  - 3. Verify that surface plane flatness and fastening of steel roof deck complies with requirements in Section 053100 "Steel Decking."
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

## SECTION 075419 – POLY-VINYL CHLORIDE (PVC) ROOFING

### 3.2 PREPARATION

- A. Clean substrate of dust, debris, moisture, and other substances detrimental to roofing installation according to roofing system manufacturer's written instructions. Remove sharp projections.
- B. Prevent materials from entering and clogging roof drains and conductors and from spilling or migrating onto surfaces of other construction. Remove roof-drain plugs when no work is taking place or when rain is forecast.
- C. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system at the end of the workday or when rain is forecast. Remove and discard temporary seals before beginning work on adjoining roofing.

### 3.3 SUBSTRATE BOARD

- A. Install substrate board with long joints in continuous straight lines, perpendicular to roof slopes with end joints staggered between rows. Tightly butt substrate boards together.
  - 1. Fasten substrate board to top flanges of steel deck according to recommendations in FM Approvals' "RoofNav" and FM Global Loss Prevention Data Sheet 1-29 for specified Windstorm Resistance Classification.

### 3.4 VAPOR-RETARDER INSTALLATION

- A. Polyethylene Film: Loosely lay polyethylene-film vapor retarder in a single layer over area to receive vapor retarder, side and end lapping each sheet a minimum of 2 inches and 6 inches, respectively.
  - 1. Continuously seal side and end laps with tape.
- B. Completely seal vapor retarder at terminations, obstructions, and penetrations to prevent air movement into membrane roofing system.

### 3.5 INSULATION INSTALLATION

- A. Coordinate installing membrane roofing system components so insulation is not exposed to precipitation or left exposed at the end of the workday.
- B. Comply with membrane roofing system and insulation manufacturer's written instructions for installing roof insulation.
- C. Install tapered insulation under area of roofing to conform to slopes indicated.
- D. Install insulation under area of roofing to achieve required thickness. Where overall insulation thickness is 2.7 inches or greater, install two or more layers with joints of each succeeding layer staggered from joints of previous layer a minimum of 6 inches in each direction.
- E. Trim surface of insulation where necessary at roof drains so completed surface is flush and does not restrict flow of water.

## SECTION 075419 – POLY-VINYL CHLORIDE (PVC) ROOFING

- F. Install insulation with long joints of insulation in a continuous straight line with end joints staggered between rows, abutting edges and ends between boards. Fill gaps exceeding 1/4 inch with insulation.
  - 1. Cut and fit insulation within 1/4 inch of nailers, projections, and penetrations.
- G. Mechanically Fastened and Adhered Insulation: Install each layer of insulation and secure first layer of insulation to deck using mechanical fasteners specifically designed and sized for fastening specified board-type roof insulation to deck type.
  - 1. Fasten first layer of insulation according to requirements in FM Approvals' "RoofNav" for specified Windstorm Resistance Classification.
  - 2. Fasten first layer of insulation to resist uplift pressure at corners, perimeter, and field of roof.
  - 3. Set each subsequent layer of insulation in a uniform coverage of full-spread insulation adhesive, firmly pressing and maintaining insulation in place.
- H. Install cover boards over insulation with long joints in continuous straight lines with end joints staggered between rows. Offset joints of insulation below a minimum of 6 inches in each direction. Loosely butt cover boards together.
  - 1. Fasten cover boards according to requirements in FM Approvals' "RoofNav" for specified Windstorm Resistance Classification.

### 3.6 ADHERED MEMBRANE ROOFING INSTALLATION

- A. Adhere membrane roofing over area to receive roofing and install according to membrane roofing system manufacturer's written instructions.
  - 1. Install sheet according to ASTM D 5036.
- B. Start installation of membrane roofing in presence of membrane roofing system manufacturer's technical personnel.
- C. Accurately align membrane roofing and maintain uniform side and end laps of minimum dimensions required by manufacturer. Stagger end laps.
- D. Bonding Adhesive: Apply to substrate and underside of membrane roofing at rate required by manufacturer and allow to partially dry before installing membrane roofing. Do not apply to splice area of membrane roofing.
- E. In addition to adhering, mechanically fasten membrane roofing securely at terminations, penetrations, and perimeter of roofing.
- F. Apply membrane roofing with side laps shingled with slope of roof deck where possible.
- G. Seams: Clean seam areas, overlap membrane roofing, and hot-air weld side and end laps of membrane roofing and sheet flashings according to manufacturer's written instructions to ensure a watertight seam installation.

## SECTION 075419 – POLY-VINYL CHLORIDE (PVC) ROOFING

1. Test lap edges with probe to verify seam weld continuity. Apply lap sealant to seal cut edges of sheet membrane.
  2. Verify field strength of seams a minimum of twice daily and repair seam sample areas.
  3. Repair tears, voids, and lapped seams in roofing that does not comply with requirements.
- H. Spread sealant bed over deck drain flange at roof drains and securely seal membrane roofing in place with clamping ring.
- I. Install membrane roofing and auxiliary materials to tie in to existing roofing to maintain weather-tightness of transition and to not void warranty for existing membrane roofing system.
- J. *For Allowable Substitution Non-Penetration Mechanically Fastened Roof Assembly: Install proprietary fasteners and weld plates through insulation and separation board as required by manufacturer to achieve the design wind uplift resistance. Install membrane over the separation board, including seam welding if allowed by membrane manufacturer. Weld membrane to weld plates using proprietary, non-penetration electromagnetic induction tool welding technique.***

### 3.7 BASE FLASHING INSTALLATION

- A. Install sheet flashings and preformed flashing accessories and adhere to substrates according to membrane roofing system manufacturer's written instructions.
- B. Apply bonding adhesive to substrate and underside of sheet flashing at required rate and allow to partially dry. Do not apply to seam area of flashing.
- C. Flash penetrations and field-formed inside and outside corners with cured or uncured sheet flashing.
- D. Clean seam areas, overlap, and firmly roll sheet flashings into the adhesive. Hot-air weld side and end laps to ensure a watertight seam installation.
- E. Terminate and seal top of sheet flashings and mechanically anchor to substrate through termination bars.

### 3.8 WALKWAY INSTALLATION

- A. Flexible Walkways: Install walkway products in locations indicated. Heat weld to substrate or adhere walkway products to substrate with compatible adhesive according to roofing system manufacturer's written instructions.

### 3.9 FIELD QUALITY CONTROL

- A. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.
- B. Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation on completion.

## SECTION 075419 – POLY-VINYL CHLORIDE (PVC) ROOFING

- C. Repair or remove and replace components of membrane roofing system where inspections indicate that they do not comply with specified requirements.
- D. Additional inspections, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

### 3.10 PROTECTING AND CLEANING

- A. Protect membrane roofing system from damage and wear during remainder of construction period. When remaining construction will not affect or endanger roofing, inspect roofing for deterioration and damage, describing its nature and extent in a written report, with copies to Architect and Owner.
- B. Correct deficiencies in or remove membrane roofing system that does not comply with requirements; repair substrates; and repair or reinstall membrane roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.

### 3.11 ROOFING INSTALLER'S WARRANTY

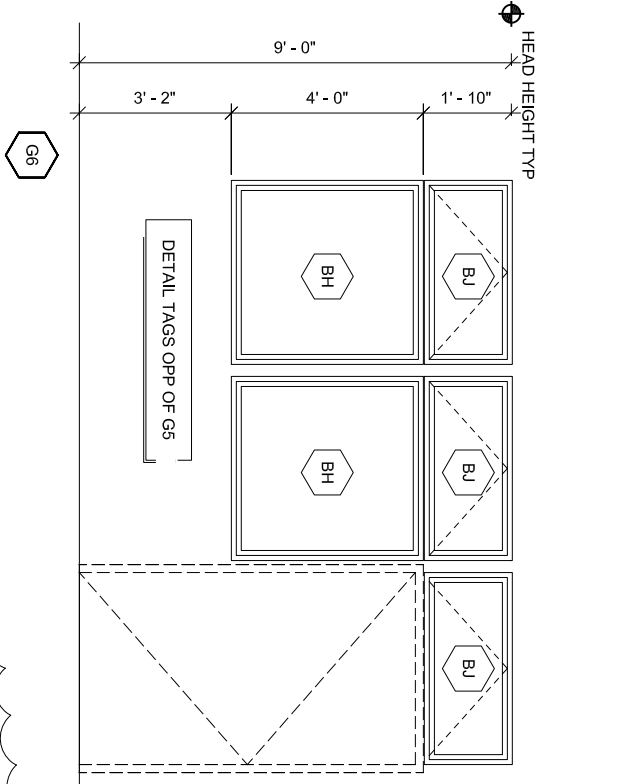
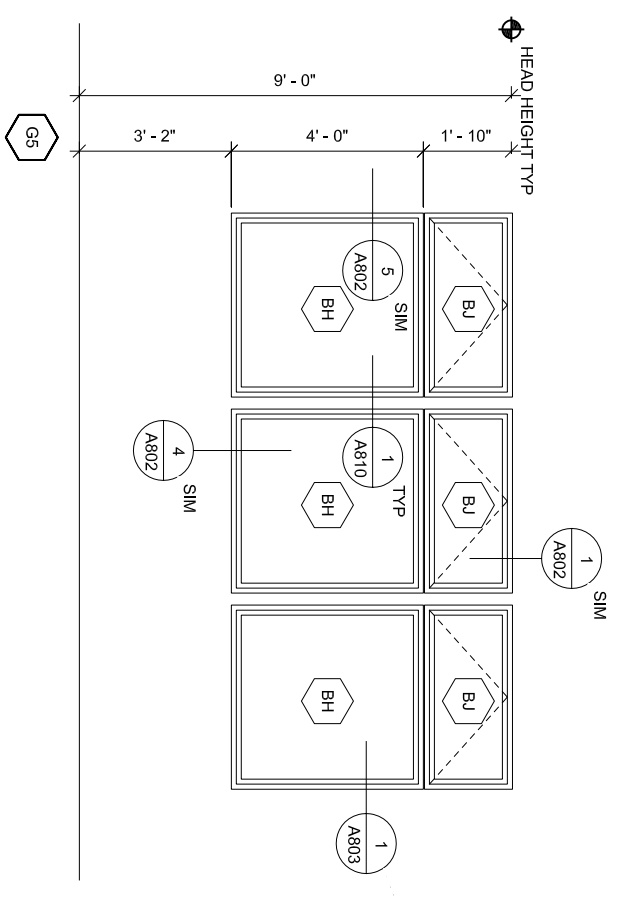
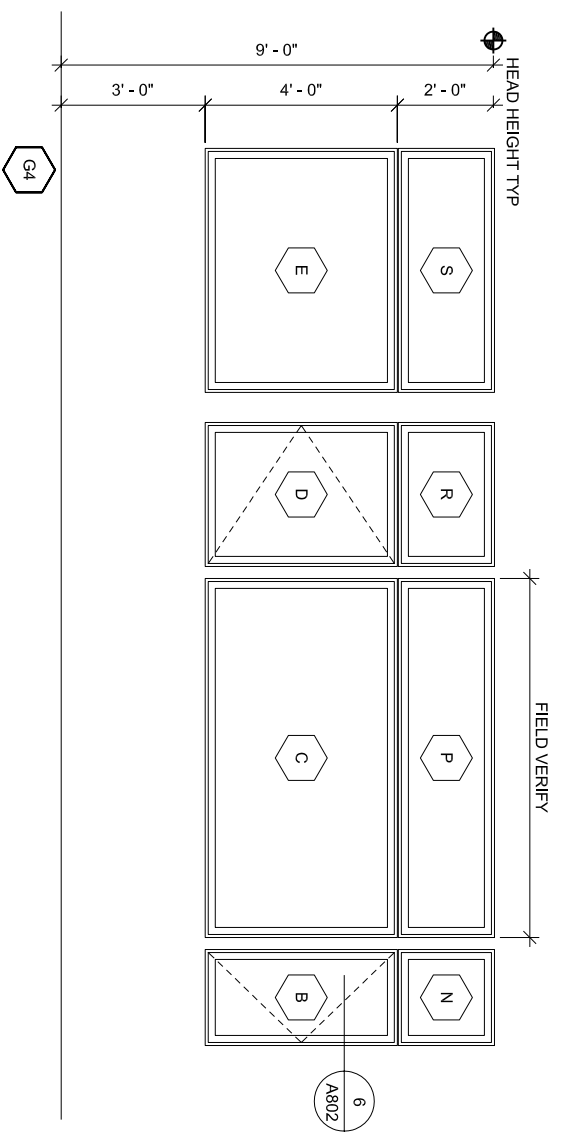
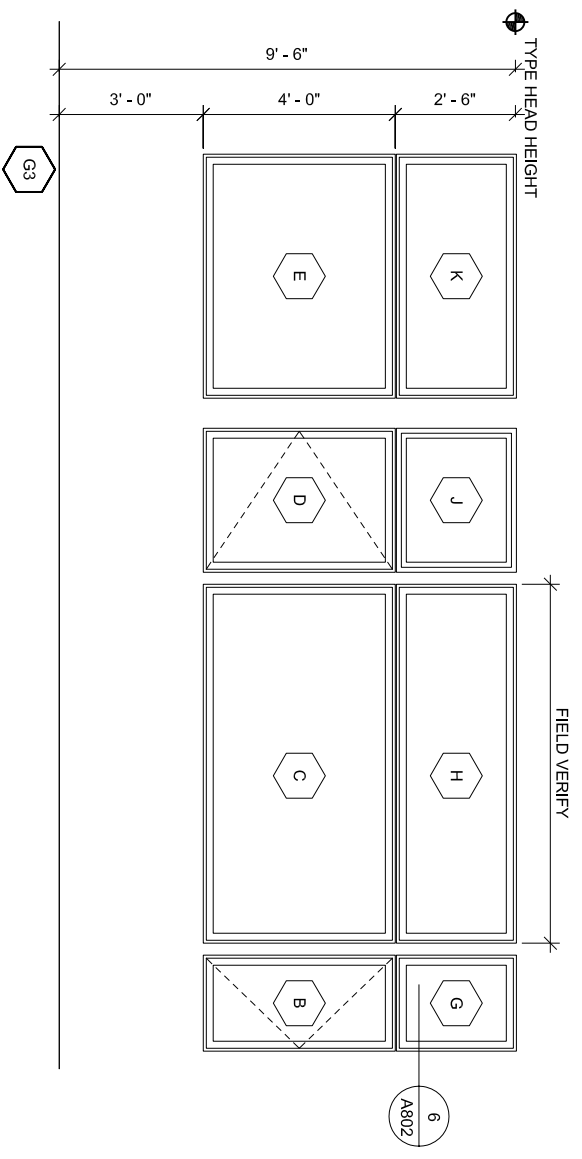
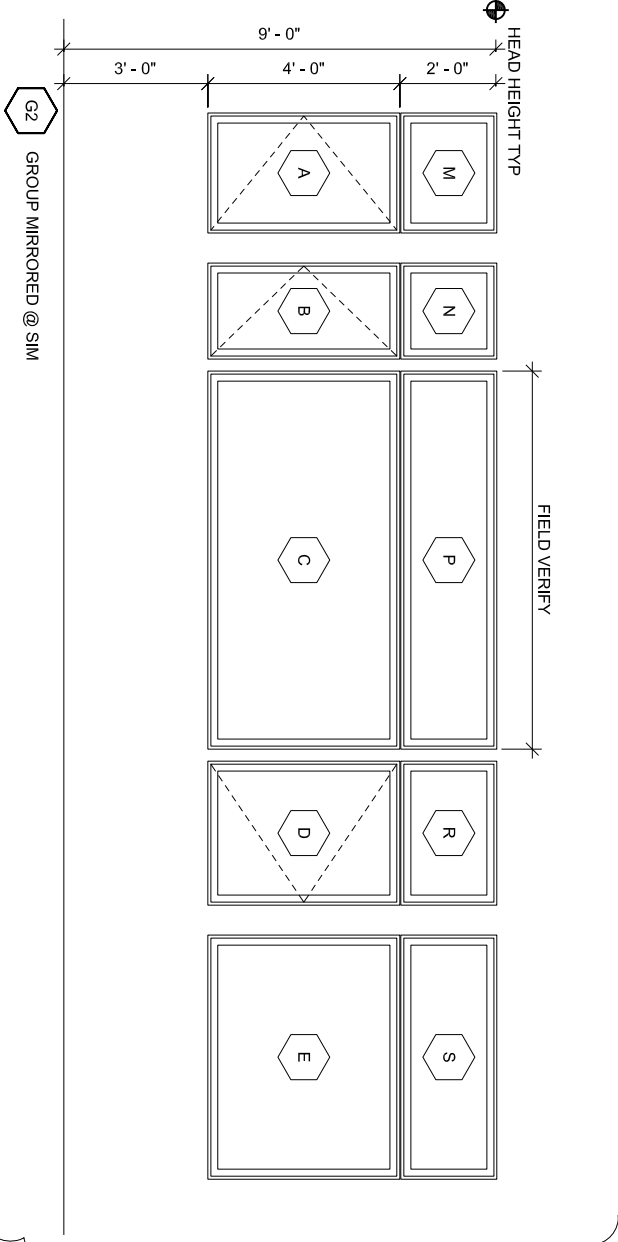
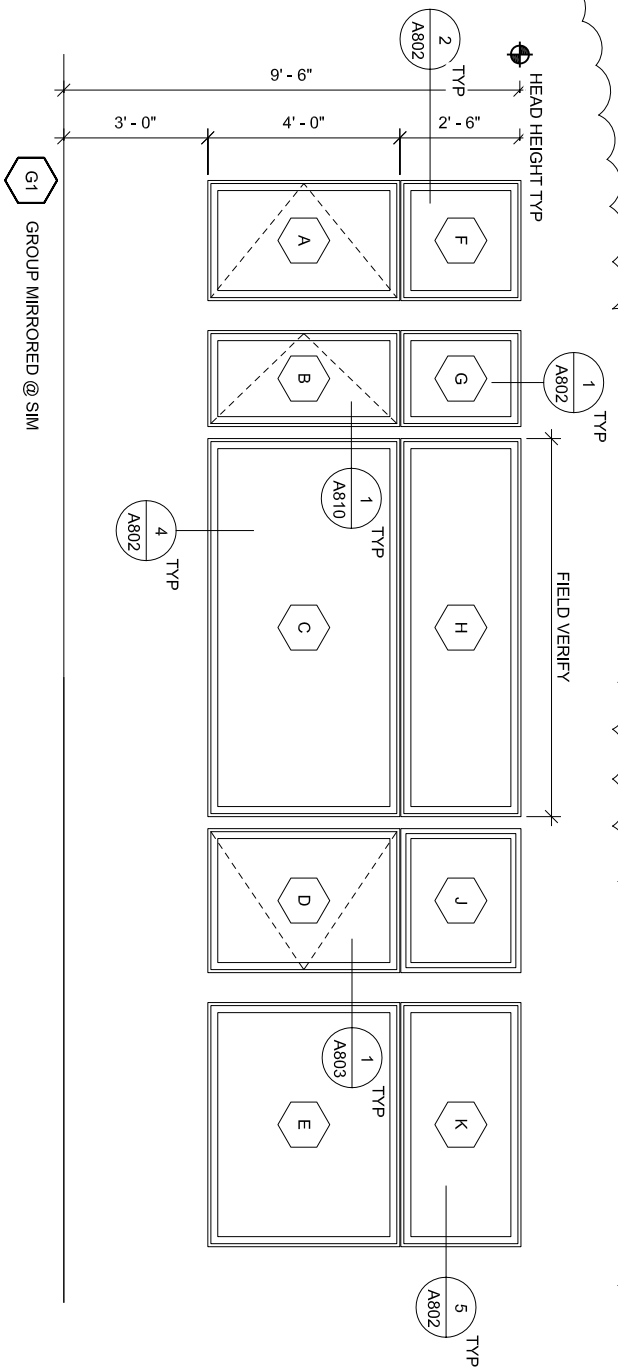
- A. WHEREAS **<Insert name>** of **<Insert address>**, herein called the "Roofing Installer," has performed roofing and associated work ("work") on the following project:
  - 1. Owner: **<Insert name of Owner>**.
  - 2. Address: **<Insert address>**.
  - 3. Building Name/Type: **<Insert information>**.
  - 4. Address: **<Insert address>**.
  - 5. Area of Work: **<Insert information>**.
  - 6. Acceptance Date: **<Insert date>**.
  - 7. Warranty Period: **<Insert time>**.
  - 8. Expiration Date: **<Insert date>**.
- B. AND WHEREAS Roofing Installer has contracted (either directly with Owner or indirectly as a subcontractor) to warrant said work against leaks and faulty or defective materials and workmanship for designated Warranty Period,
- C. NOW THEREFORE Roofing Installer hereby warrants, subject to terms and conditions herein set forth, that during Warranty Period he will, at his own cost and expense, make or cause to be made such repairs to or replacements of said work as are necessary to correct faulty and defective work and as are necessary to maintain said work in a watertight condition.
- D. This Warranty is made subject to the following terms and conditions:
  - 1. Specifically excluded from this Warranty are damages to work and other parts of the building, and to building contents, caused by:
    - a. Lightning;
    - b. Peak gust wind speed exceeding **<Insert wind speed>** mph;
    - c. Fire;

**SECTION 075419 – POLY-VINYL CHLORIDE (PVC) ROOFING**

- d. Failure of roofing system substrate, including cracking, settlement, excessive deflection, deterioration, and decomposition;
  - e. Faulty construction of parapet walls, copings, chimneys, skylights, vents, equipment supports, and other edge conditions and penetrations of the work;
  - f. Vapor condensation on bottom of roofing; and
  - g. Activity on roofing by others, including construction contractors, maintenance personnel, other persons, and animals, whether authorized or unauthorized by Owner.
- 2. When work has been damaged by any of foregoing causes, Warranty shall be null and void until such damage has been repaired by Roofing Installer and until cost and expense thereof have been paid by Owner or by another responsible party so designated.
  - 3. Roofing Installer is responsible for damage to work covered by this Warranty but is not liable for consequential damages to building or building contents resulting from leaks or faults or defects of work.
  - 4. During Warranty Period, if Owner allows alteration of work by anyone other than Roofing Installer, including cutting, patching, and maintenance in connection with penetrations, attachment of other work, and positioning of anything on roof, this Warranty shall become null and void on date of said alterations, but only to the extent said alterations affect work covered by this Warranty. If Owner engages Roofing Installer to perform said alterations, Warranty shall not become null and void unless Roofing Installer, before starting said work, shall have notified Owner in writing, showing reasonable cause for claim, that said alterations would likely damage or deteriorate work, thereby reasonably justifying a limitation or termination of this Warranty.
  - 5. During Warranty Period, if original use of roof is changed and it becomes used for, but was not originally specified for, a promenade, work deck, spray-cooled surface, flooded basin, or other use or service more severe than originally specified, this Warranty shall become null and void on date of said change, but only to the extent said change affects work covered by this Warranty.
  - 6. Owner shall promptly notify Roofing Installer of observed, known, or suspected leaks, defects, or deterioration and shall afford reasonable opportunity for Roofing Installer to inspect work and to examine evidence of such leaks, defects, or deterioration.
  - 7. This Warranty is recognized to be the only warranty of Roofing Installer on said work and shall not operate to restrict or cut off Owner from other remedies and resources lawfully available to Owner in cases of roofing failure. Specifically, this Warranty shall not operate to relieve Roofing Installer of responsibility for performance of original work according to requirements of the Contract Documents, regardless of whether Contract was a contract directly with Owner or a subcontract with Owner's General Contractor.
- E. IN WITNESS THEREOF, this instrument has been duly executed this **<Insert day>** day of **<Insert month>**, **<Insert year>**.
- 1. Authorized Signature: **<Insert signature>**.
  - 2. Name: **<Insert name>**.
  - 3. Title: **<Insert title>**.

**END OF SECTION**

WINDOW GROUPS



**Jensen Yorba Loft Inc.**  
 522 West 10th Street  
 Juneau, Alaska 99801  
 phone 907-586-1070  
 fax 907-586-3959  
 jensenyorbaloft.com



City and Borough of Juneau - Juneau School District  
**Auke Bay Elementary School Renovation**  
 CBJ Project No. E12-042  
 Juneau, Alaska

ADDENDUM NO. 3

REVISIONS

1	February 1, 2012
---	------------------

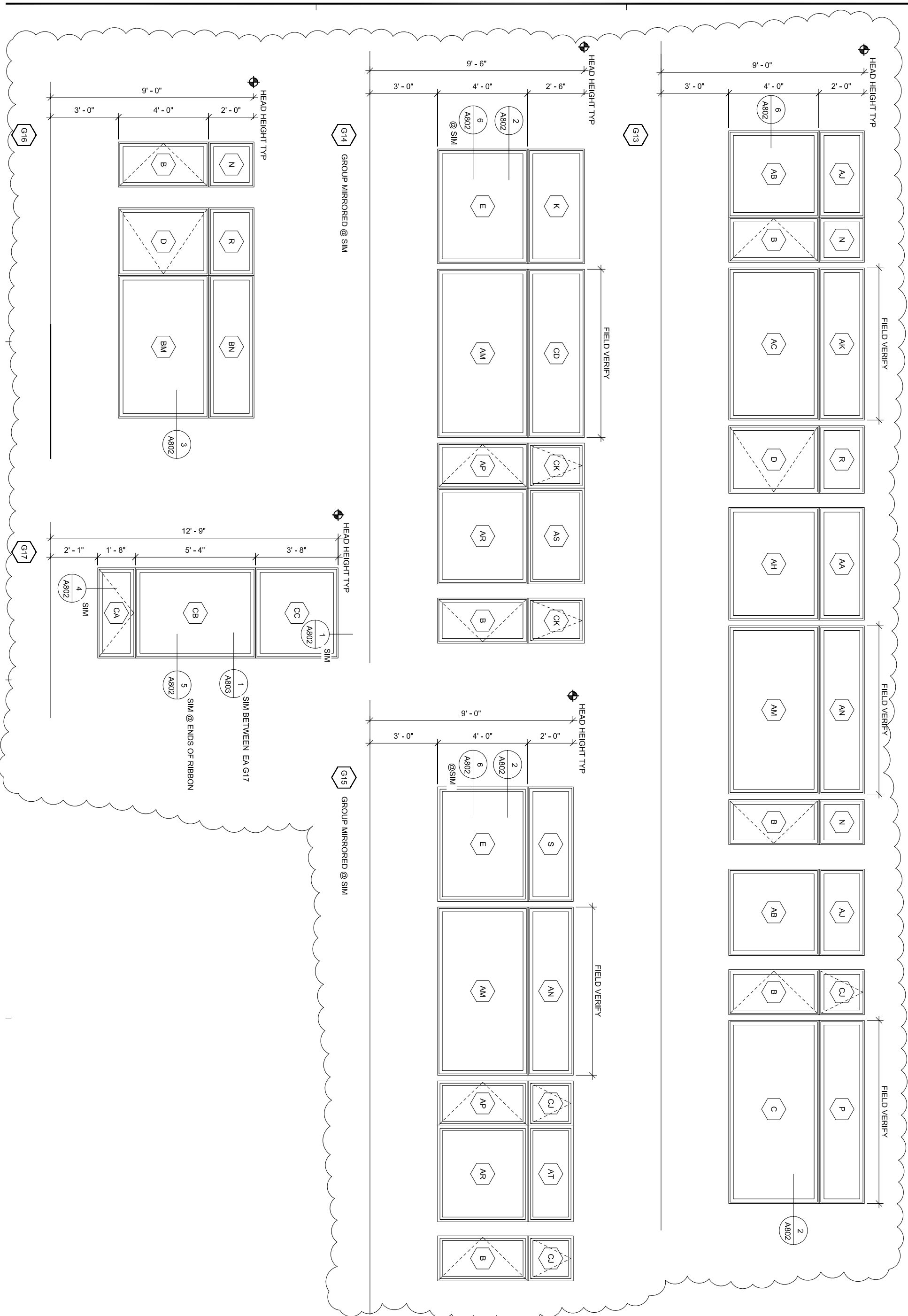
SHEET TITLE  
 WINDOW GROUP

DATE: December 21, 2011  
 FILE: 10036

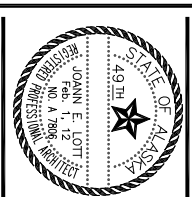
**A005**



WINDOW GROUPS



**Jensen Yorba Loft Inc.**  
 522 West 10th Street  
 Juneau, Alaska 99801  
 phone 907-586-1070  
 fax 907-586-3959  
 jensenyorbaloft.com

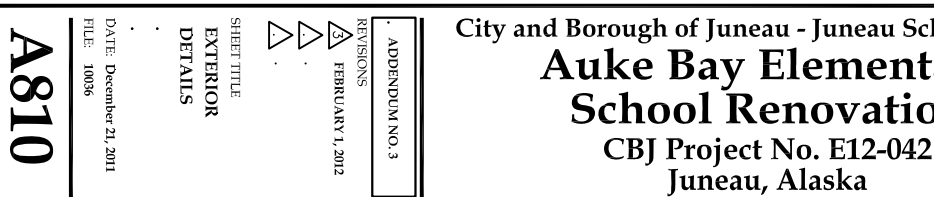
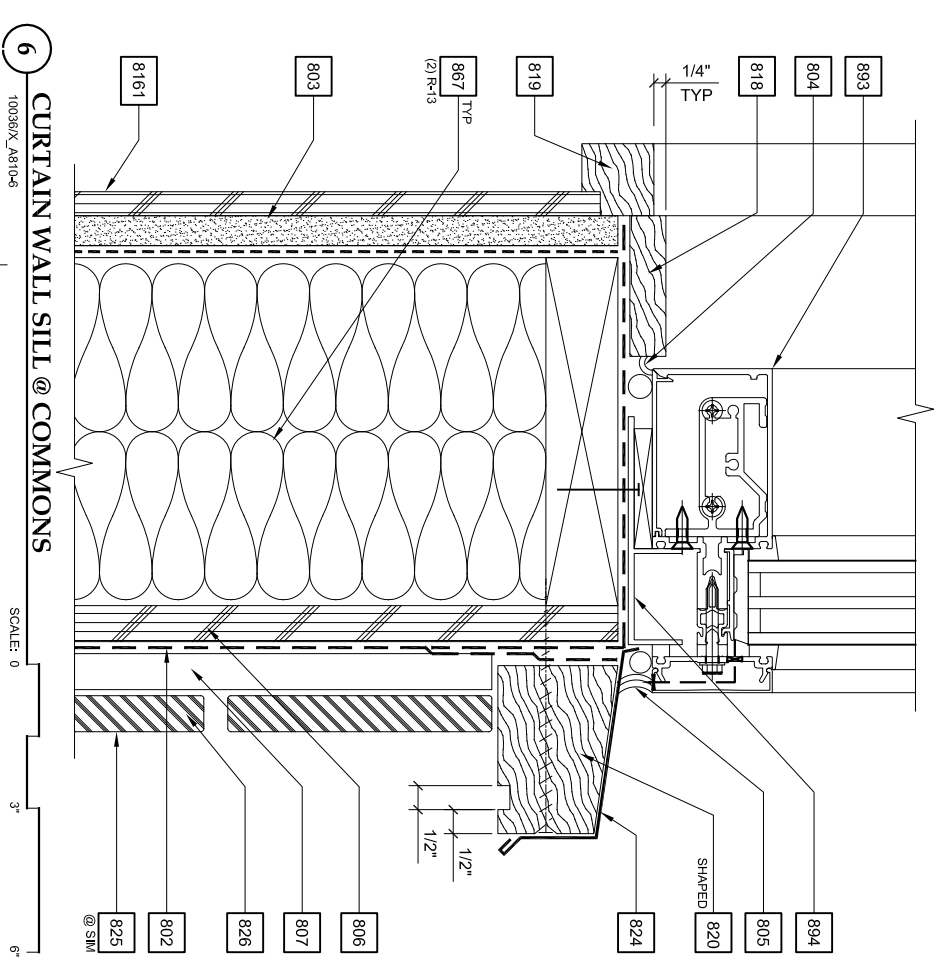
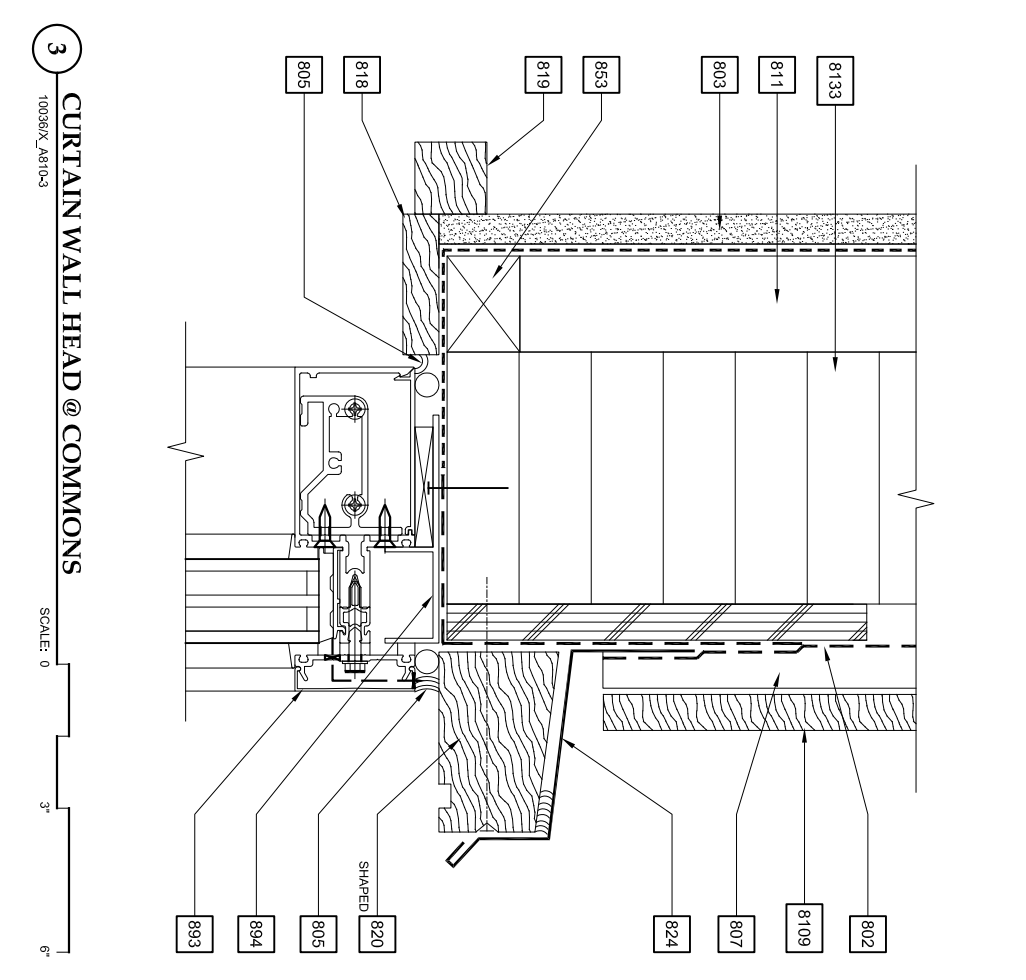
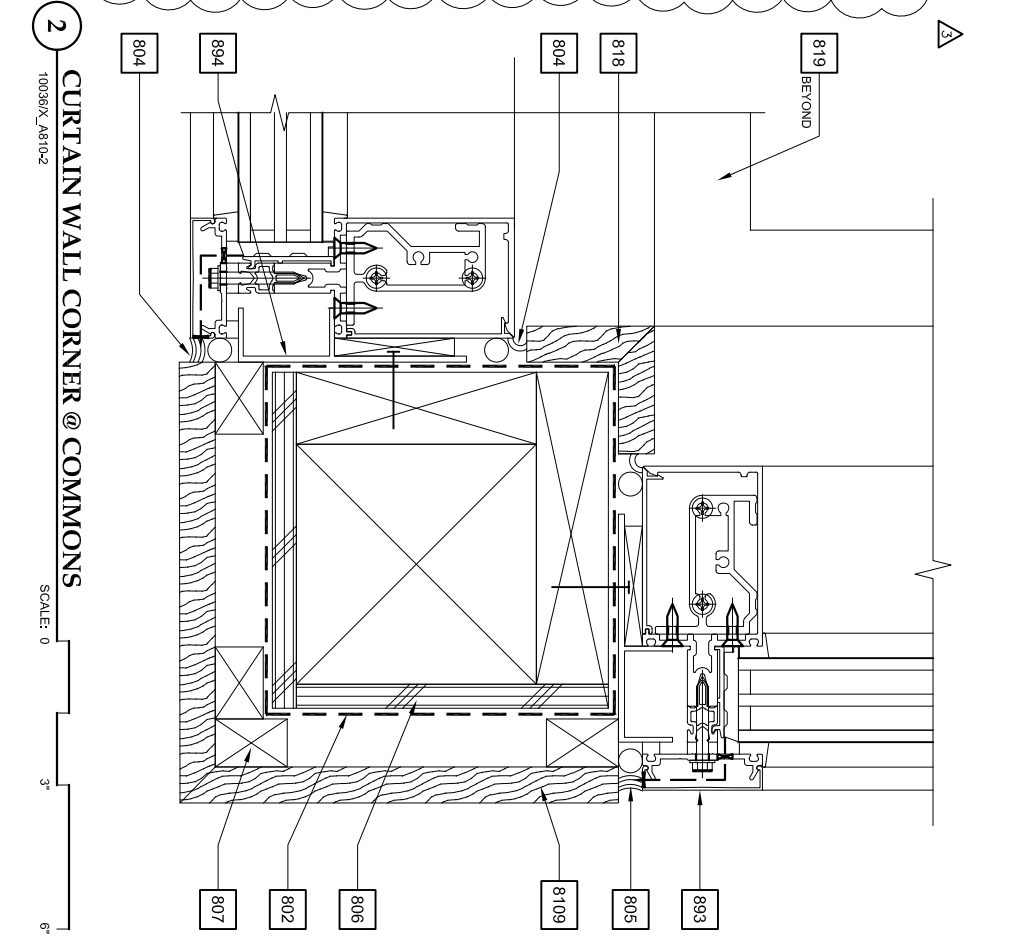
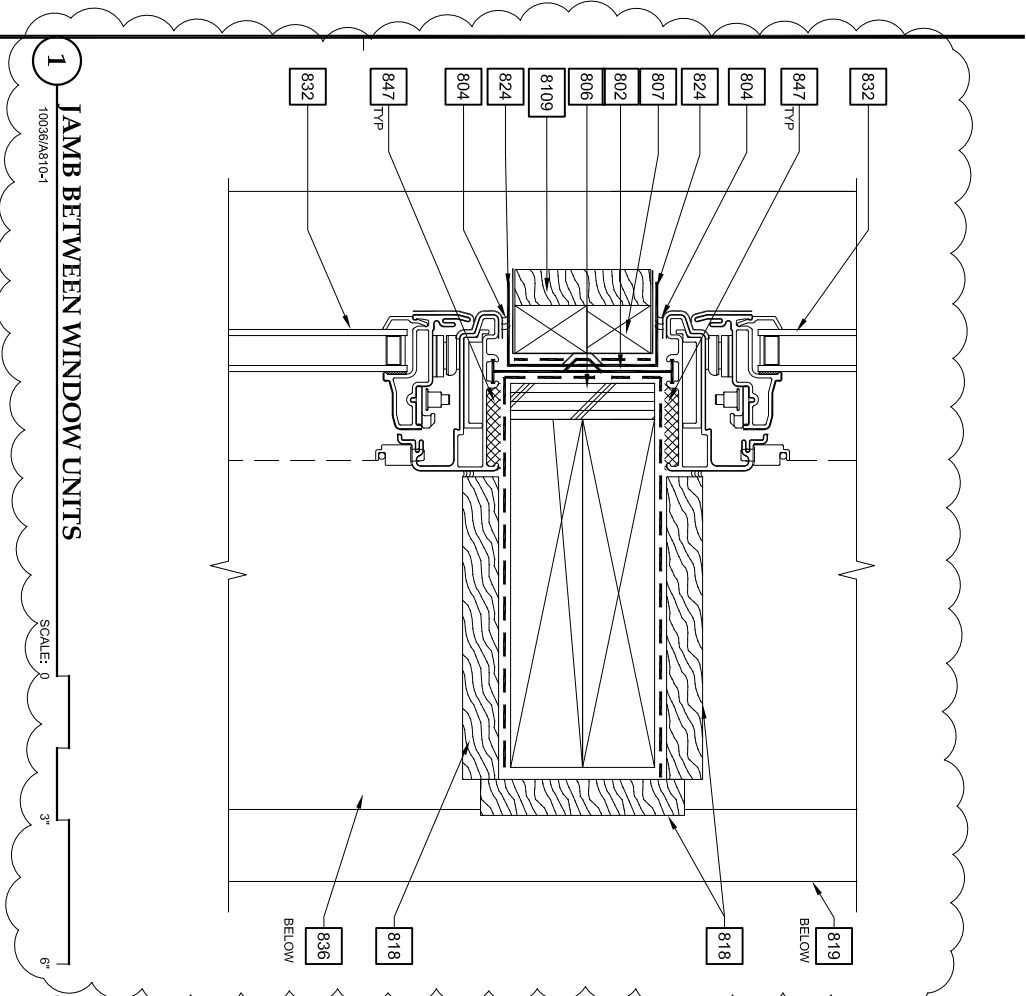


City and Borough of Juneau - Juneau School District  
**Auke Bay Elementary School Renovation**  
 CBJ Project No. E12-042  
 Juneau, Alaska

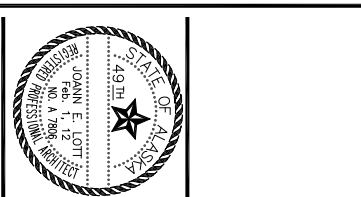
ADDENDUM NO. 3  
 REVISIONS  
 February 1, 2012

SHEET TITLE  
 WINDOW GROUPS

DATE: December 21, 2011  
 FILE: 10036  
**A007**

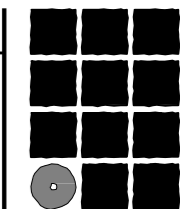


**Jensen Yorba Loft Inc.**  
 522 West 10th Street  
 Juneau, Alaska 99801  
 phone 907-586-1070  
 fax 907-586-3959  
 jensenyorbaloft.com



City and Borough of Juneau - Juneau School District  
**Auke Bay Elementary School Renovation**  
 CBJ Project No. E12-042  
 Juneau, Alaska

ADDENDUM NO. 3  
 REVISIONS  
 FEBRUARY 1, 2012  
 SHEET TITLE  
 EXTERIOR  
 DETAILS  
**A810**  
 DATE: December 21, 2011  
 FILE: 10036

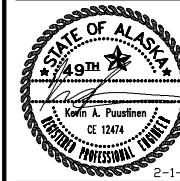


**Jensen  
Yorba  
Lott  
Inc.**

522 West 10th Street  
Juneau, Alaska 99801  
phone 907-586-1070  
fax 907-586-3959  
jensenyorbалott.com



**R & M ENGINEERING, INC.**  
6205 GLACIER HIGHWAY  
JUNEAU, AK. 99801  
Phone 907-780-6060  
Fax 907-780-4611  
rmengineering@rmjuneau.com



City and Borough of Juneau - Juneau School District  
**Auke Bay Elementary  
School Renovation**  
CBJ Project No. E12-042  
Juneau, Alaska

ADDENDUM NO. 3

REVISIONS

February 1, 2012

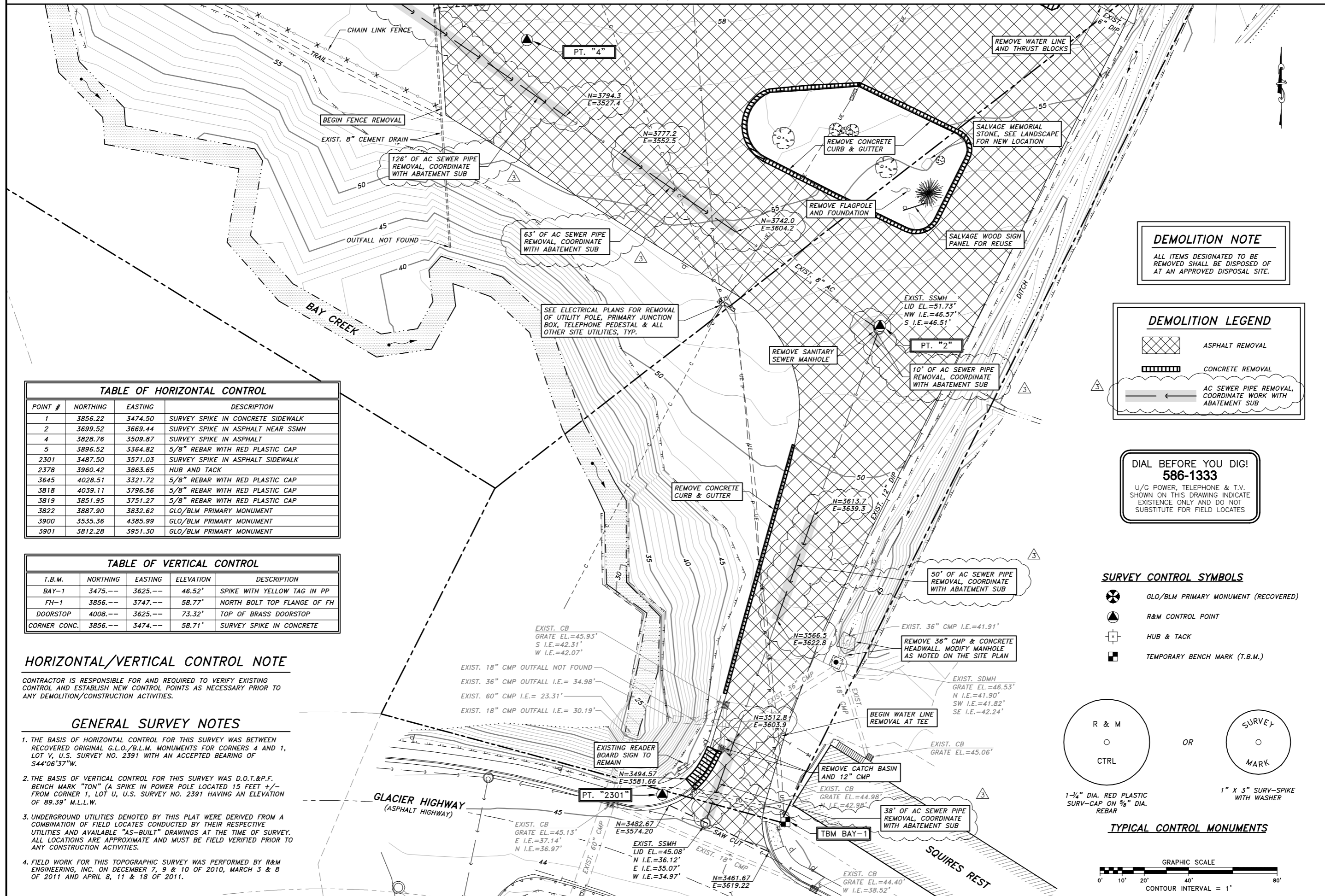
SHEET TITLE

EXISTING SITE  
CONDITIONS &  
DEMOLITION  
PLAN

DATE: December 21, 2011

FILE: 10036

**C100**



**DEMOLITION NOTE**

ALL ITEMS DESIGNATED TO BE REMOVED SHALL BE DISPOSED OF AT AN APPROVED DISPOSAL SITE.

**DEMOLITION LEGEND**

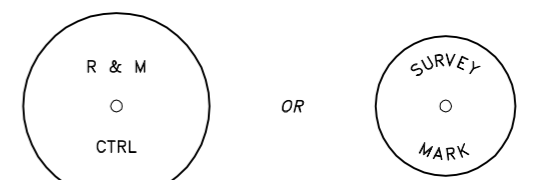
- ASPHALT REMOVAL
- CONCRETE REMOVAL
- AC SEWER PIPE REMOVAL, COORDINATE WORK WITH ABATEMENT SUB

**DIAL BEFORE YOU DIG!  
586-1333**

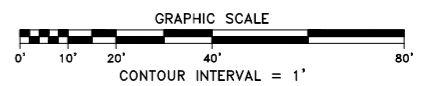
U/G POWER, TELEPHONE & T.V. SHOWN ON THIS DRAWING INDICATE EXISTENCE ONLY AND DO NOT SUBSTITUTE FOR FIELD LOCATES

**SURVEY CONTROL SYMBOLS**

- GLO/BLM PRIMARY MONUMENT (RECOVERED)
- R&M CONTROL POINT
- HUB & TACK
- TEMPORARY BENCH MARK (T.B.M.)



**TYPICAL CONTROL MONUMENTS**



POINT #	NORTHING	EASTING	DESCRIPTION
1	3856.22	3474.50	SURVEY SPIKE IN CONCRETE SIDEWALK
2	3699.52	3669.44	SURVEY SPIKE IN ASPHALT NEAR SSMH
4	3828.76	3509.87	SURVEY SPIKE IN ASPHALT
5	3896.52	3364.82	5/8" REBAR WITH RED PLASTIC CAP
2301	3487.50	3571.03	SURVEY SPIKE IN ASPHALT SIDEWALK
2378	3960.42	3863.65	HUB AND TACK
3645	4028.51	3321.72	5/8" REBAR WITH RED PLASTIC CAP
3818	4039.11	3796.56	5/8" REBAR WITH RED PLASTIC CAP
3819	3851.95	3751.27	5/8" REBAR WITH RED PLASTIC CAP
3822	3887.90	3832.62	GLO/BLM PRIMARY MONUMENT
3900	3535.36	4385.99	GLO/BLM PRIMARY MONUMENT
3901	3812.28	3951.30	GLO/BLM PRIMARY MONUMENT

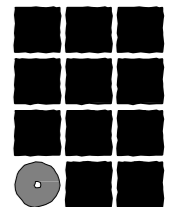
T.B.M.	NORTHING	EASTING	ELEVATION	DESCRIPTION
BAY-1	3475.--	3625.--	46.52'	SPIKE WITH YELLOW TAG IN PP
FH-1	3856.--	3747.--	58.77'	NORTH BOLT TOP FLANGE OF FH
DOORSTOP	4008.--	3625.--	73.32'	TOP OF BRASS DOORSTOP
CORNER CONC.	3856.--	3474.--	58.71'	SURVEY SPIKE IN CONCRETE

**HORIZONTAL/VERTICAL CONTROL NOTE**

CONTRACTOR IS RESPONSIBLE FOR AND REQUIRED TO VERIFY EXISTING CONTROL AND ESTABLISH NEW CONTROL POINTS AS NECESSARY PRIOR TO ANY DEMOLITION/CONSTRUCTION ACTIVITIES.

**GENERAL SURVEY NOTES**

1. THE BASIS OF HORIZONTAL CONTROL FOR THIS SURVEY WAS BETWEEN RECOVERED ORIGINAL G.L.O./B.L.M. MONUMENTS FOR CORNERS 4 AND 1, LOT V, U.S. SURVEY NO. 2391 WITH AN ACCEPTED BEARING OF 544°06'37"W.
2. THE BASIS OF VERTICAL CONTROL FOR THIS SURVEY WAS D.O.T.&P.F. BENCH MARK "TON" (A SPIKE IN POWER POLE LOCATED 15 FEET +/- FROM CORNER 1, LOT U, U.S. SURVEY NO. 2391 HAVING AN ELEVATION OF 89.39' M.L.L.W.
3. UNDERGROUND UTILITIES DENOTED BY THIS PLAT WERE DERIVED FROM A COMBINATION OF FIELD LOCATES CONDUCTED BY THEIR RESPECTIVE UTILITIES AND AVAILABLE "AS-BUILT" DRAWINGS AT THE TIME OF SURVEY. ALL LOCATIONS ARE APPROXIMATE AND MUST BE FIELD VERIFIED PRIOR TO ANY CONSTRUCTION ACTIVITIES.
4. FIELD WORK FOR THIS TOPOGRAPHIC SURVEY WAS PERFORMED BY R&M ENGINEERING, INC. ON DECEMBER 7, 9 & 10 OF 2010, MARCH 3 & 8 OF 2011 AND APRIL 8, 11 & 18 OF 2011.



**Jensen  
Yorba  
Lott  
Inc.**

522 West 10th Street  
Juneau, Alaska 99801  
phone 907-586-1070  
fax 907-586-3959  
jensenyorbaltott.com



**R & M ENGINEERING, INC.**  
6205 GLACIER HIGHWAY  
JUNEAU, AK. 99801  
Phone 907-780-6060  
Fax 907-780-4611  
rmengineering@rmjuneau.com



2-1-12

City and Borough of Juneau - Juneau School District  
**Auke Bay Elementary  
School Renovation**  
CBJ Project No. E12-042  
Juneau, Alaska

ADDENDUM NO. 3

REVISIONS  
February 1, 2012

SHEET TITLE  
EXISTING SITE  
CONDITIONS &  
DEMOLITION  
PLAN

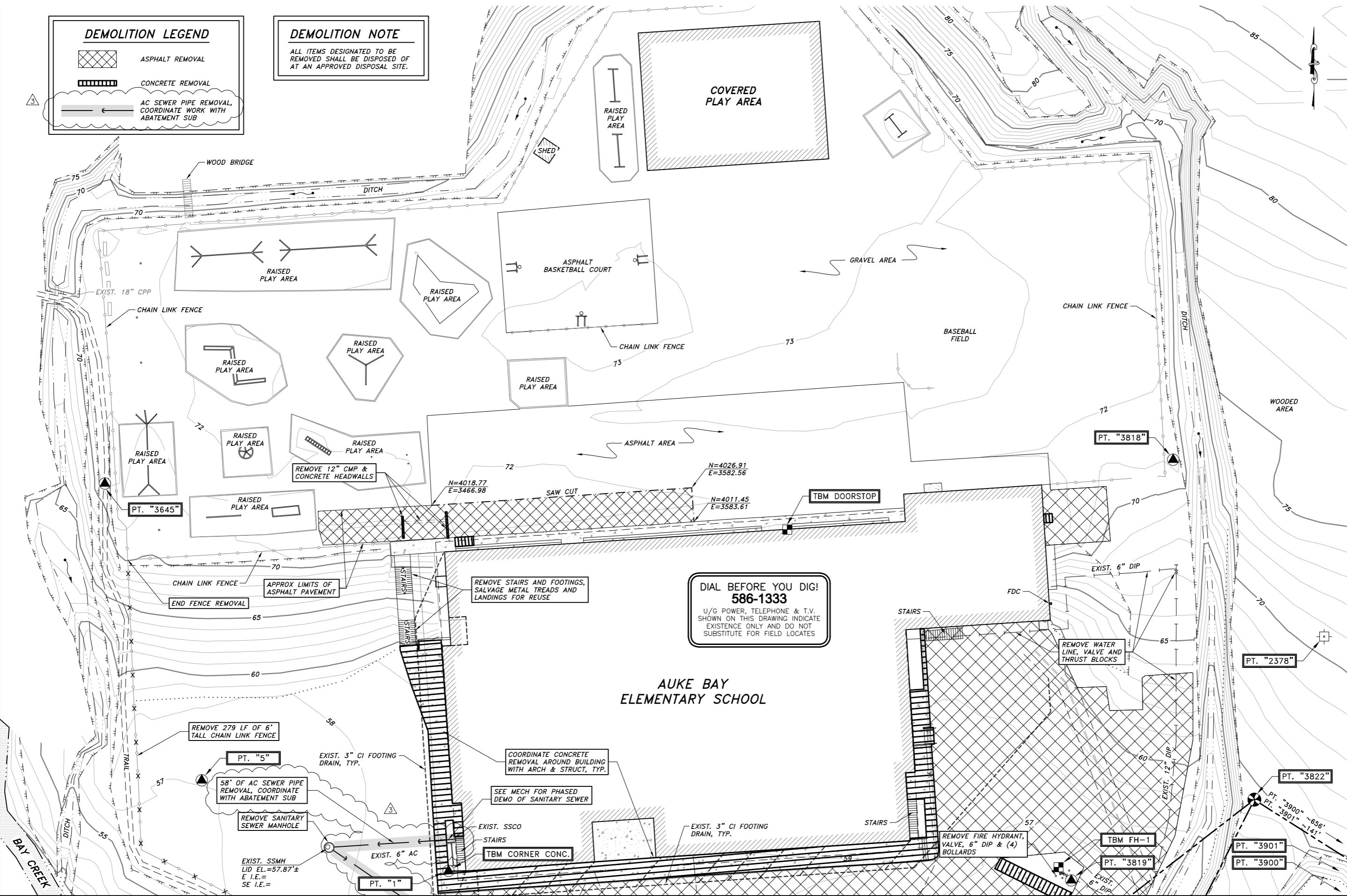
DATE: December 21, 2011  
FILE: 10036

**C101**

**DEMOLITION LEGEND**

- ASPHALT REMOVAL
- CONCRETE REMOVAL
- AC SEWER PIPE REMOVAL, COORDINATE WORK WITH ABATEMENT SUB

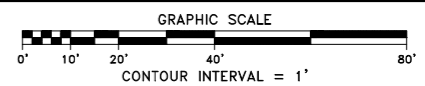
**DEMOLITION NOTE**  
ALL ITEMS DESIGNATED TO BE REMOVED SHALL BE DISPOSED OF AT AN APPROVED DISPOSAL SITE.

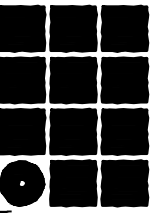


**DIAL BEFORE YOU DIG!**  
**586-1333**  
U/G POWER, TELEPHONE & T.V. SHOWN ON THIS DRAWING INDICATE EXISTENCE ONLY AND DO NOT SUBSTITUTE FOR FIELD LOCATES

**AUKE BAY  
ELEMENTARY SCHOOL**

MATCH LINE, SHEET C100



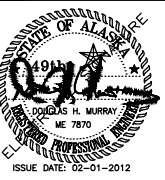


**Jensen  
Yorba  
Lott  
Inc.**

522 West 10th Street  
Juneau, Alaska 99801  
phone 907-586-1070  
fax 907-586-3959  
jensenyorbaltott.com

MURRAY &  
ASSOCIATES, P.C.  
CONSULTING ENGINEERS

P.O. BOX 21081  
JUNEAU, ALASKA 99802  
TEL: 907 780-6151  
FAX: 907 780-6182



City and Borough of Juneau - Juneau School District  
**Auke Bay Elementary  
School Renovation**  
CBJ Project No. E12-042  
Juneau, Alaska

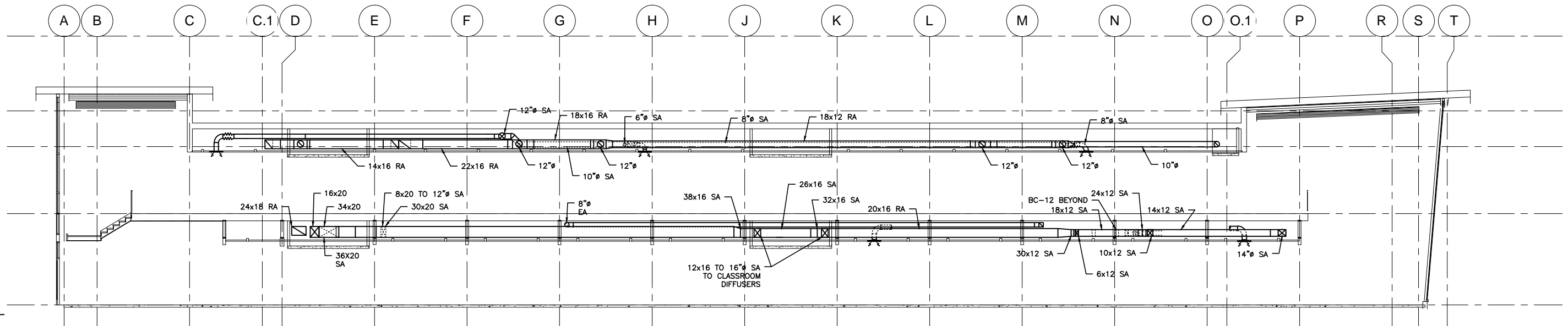
Addendum 3

REVISIONS	
△	FEBRUARY 1, 2012
△	
△	

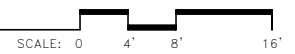
SHEET TITLE  
SECTIONS

DATE: December 21, 2011  
FILE: 10036

**M405**

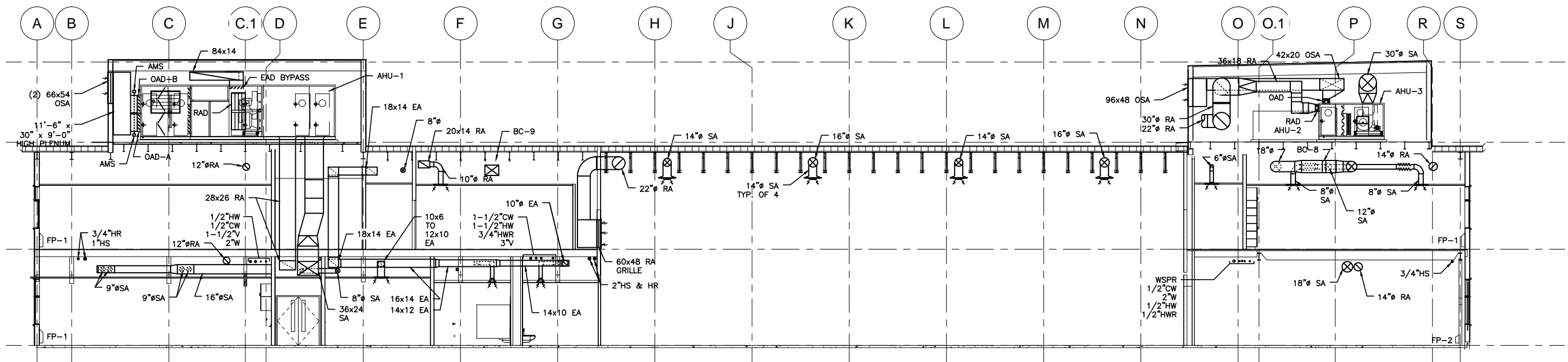


1 BUILDING SECTION △



SHEET NOTES:

1. SECTIONS ARE PROVIDED FOR CLARIFICATION ONLY. NOT ALL SYSTEMS ARE SHOWN, PARTICULARLY PIPING. COORDINATE WITH PLAN SHEETS



2 BUILDING SECTION △

