

AMENDMENT OF SOLICITATION

1. AMENDMENT/MODIFICATION NO 0004		2. EFFECTIVE DATE APRIL 03, 2003	
3. ISSUED BY DEPARTMENT OF THE ARMY, BALTIMORE DISTRICT CORPS OF ENGINEERS P.O. BOX 1715 BALTIMORE, MARYLAND 21203-1715			
4. NAME AND ADDRESS OF CONTRACTOR (Name, street, county, State and ZIP Code)		4A. AMENDMENT OF SOLICITATION NO. DACA31-03-R-0019 <hr/> 4B. DATED (SEE ITEM 5) MARCH 06, 2003	
5. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers is extended. DATE OF RECEIPT OF PROPOSAL SEE BELOW Others must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods: (a) By completing items 4 and 8, and returning <u>1</u> copy of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of the amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.			
6. ACCOUNTING AND APPROPRIATION DATA (If required) COMMUNITY SUPPORT CENTER FORT DETRICK, MARYLAND			
7. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.) <p style="text-align: center;">SEE THE FOLLOWING PAGES</p>			
Except as provided herein, all terms and conditions of the document referenced in Item 4A, as heretofore changed, remains unchanged and in full force.			
8. NAME AND TITLE OF SIGNER (Type or print)		9. CONTRACTOR/OFFEROR _____ (Signature of person authorized to sign)	10. DATE SIGNED

GENERAL: FOR INFORMATION ONLY:

Regarding Detail 3/A2/A9: It is Wall Section shown for End Wall condition of main building on West side only. The Details at 11/A28 are TYPICAL, Details of EIFS – such as main entrance, above window, v control joints, etc., as indicated at subtitles of Details. These details do not necessarily reflect the specific condition at Wall Section 3/A2/A9.

Parapet at Column Line 15: At East side of main building, the parapet with metal fascia occurs. Refer to typical Wall Section 5 on Sheet A-5 and Structural details on S-5.

SOLICITATION:

- 1) COVER SHEET: Change to read: “THIS PROCUREMENT IS RESTRICTED TO 8A FIRMS IN THE TRANSITIONAL STAGE OF THE PROGRAM ONLY.”
- 2) THE BID OPENING TIME AND DATE HAS BEEN EXTENDED TO 4:00 PM LOCAL TIME, APRIL 15, 2003. Revise STANDARD FORM 1442 BLOCK 13A to reflect this change.
- 3) SECTION 00600 – REPRESENTATION & CERTIFICATIONS; CLAUSE 52.219.1 – SMALL BUSINESS PROGRAM REPRESENTATIONS (APR 2002) – ALTERNATE 1 (APR 2002):
 - a) Change NAICS code from “23320” to “236220”
 - b) Change small business size standard from “\$12,000,000.00” to “\$28,500,000.00”

SPECIFICATIONS:

- 4) TABLE OF CONTENTS: Following Section 01720, insert Section 01781 – OPERATIONS and MAINTENANCE DATA. Also, following 08120, delete 08520 ALUMINUM ENVIRONMENT CONTROL ALUMINUM WINDOWS and insert 08581 – BLAST RESISTANT TEMPERED GLASS WINDOWS.
- 5) PAGE 01720-5: Immediately following this page, insert the attached Section 01781 OPERATIONS and MAINTENANCE DATA.
- 6) SECTION 01330 – SUBMITTAL PROCEDURES, SUBMITTAL REGISTERS: Insert the attached submittal register 08581.
- 7) SECTION 08120: Immediately following this section, insert the attached SECTION 08581 – BLAST RESISTANT TEMPERED GLASS WINDOWS.
- 8) SECTION 08520 - ALUMINUM ENVIRONMENT CONTROL ALUMINUM WINDOWS: Delete this section in its entirety (specs, submittal register and toc).

9) PAGE 08710-8, PARA. 3.4 – KEY CABINET AND CONTROL SYSTEMS: Choose “directed” and delete “indicated”.

10) PAGE 08710-9: Immediately following this page, insert the attached **HARDWARE SCHEDULE** dated APRIL 02, 2003.

11) PAGE 12490A-3:

- a) Paragraph 2.1.2 – Vertical Blinds: - Delete.
- b) Paragraph 3.1 – Window Treatment Placement Schedule: Delete text as shown and insert “Mini blinds will only be installed in the occupiable space on the second floor.”
- c) Paragraph 3.2 – Installation: Delete first sentence and insert “Mini blinds shall be installed within the window opening.”

DRAWINGS:

12) SHEET E&S-1:

- a) Revise this sheet in accordance with the attached **SKETCH E&S-1**, dated 02 APR 03.
- b) To satisfy stormwater management requirements, grade the channel southeast of the new parking lot as shown; bottom width shall be 3’.
- c) Change Sequence of Construction Note #5 to the following: “WITH THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, CONSTRUCT SEDIMENT TRAP AND RIP RAP PROTECTION (RRP). INSTALL PERMANENT GRASS CHANNELS TO DIRECT FLOWS INTO THE TRAP AND STABILIZE CHANNELS WITH EROSION CONTROL MATTING. GRASS CHANNELS MUST BE CONSTRUCTED AS SHOWN IN ORDER TO SATISFY STORMWATER MANAGEMENT REQUIREMENTS. LONGER CHANNEL SOUTHEAST OF PARKING LOT SHALL HAVE A 3’ BOTTOM WIDTH; CHANNEL NORTH OF LOT SHALL HAVE A 2’ BOTTOM WIDTH. SIDE SLOPES OF BOTH CHANNELS SHALL BE 3:1.”

13) SHEET E&S-3: Change Sequence of Construction note #25 to the following: “WITH THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, REMOVE ALL REMAINING SEDIMENT CONTROL DEVICES AND FINAL STABILIZE ALL RE-DISTURBED AREAS. BACKFILL SEDIMENT TRAP WITH APPROVED COMPACTED BACKFILL IN ACCORDANCE WITH SECTION 02300 OF THE SPECIFICATIONS AND IMMEDIATELY APPLY STABILIZATION MATTING AND PERMANENT SEED.”

14) SHEET E-1:

- a) Add fixture VE to fixture V in the lighting fixture schedule.
- b) Change fixture V & VE in the lighting fixture schedule from HPS to metal halide.

15) SHEET E-2:

- a) Change the third light fixture from the West end of corridor 223 from an “H” fixture to an “HE” fixture.
- b) Change the exterior light fixture at the South stair from a “V” fixture to a “VE” fixture.

16) SHEET E-4

- a) Change “FLOOR MOUNTED MICROPHONE JACKS” to “WALL MOUNTED JACKS” by the symbol M in a circle under SYMBOLS.
- b) Move the microphone jack symbol, an M in a circle, to the wall in the training classes 1,2 &3, rooms 206 and 207.

17) SHEET E-8 Add the phrase “VE IS WITH EMERGENCY BATTERY PACK” after “DETAIL V AND VE” on the metal halide wall pack detail.

18) SHEET ES-1:

- a) Add to the note about the guy wire at the bottom right of the sheet “THE NEW GUY WIRE SHALL BE PLACED SO THAT IT IS NOT IN A PAVED AREA. USE A SIDEWALK GUY AS LONG AS OVERHEAD CONDUCTOR TENSION DOES NOT EXCEED 3,300 LBS.”
- b) Add to the note about the electrical line at the bottom left of the sheet “4,160 VOLT, AND A MAXIMUM OF 350 KCMIL IN NOT MORE THAN A 4 INCH CONDUIT”.

ATTACHMENT:

- 1) SECTION 01781 – OPERATIONS AND MAINTENANCE DATA
- 2) SUBMITTAL REGISTER 08581
- 3) SECTION 08581 – BLAST RESISTANT TEMPERED GLASS WINDOWS
- 4) HARDWARE SCHEDULE dated APRIL 02, 2003.
- 5) SKETCH E&S-1, dated 02 APR 03

SECTION 01781

OPERATION AND MAINTENANCE DATA
12/01

PART 1 GENERAL

1.1 SUBMISSION OF OPERATION AND MAINTENANCE DATA

Submit Operation and Maintenance (O&M) Data specifically applicable to this contract and a complete and concise depiction of the provided equipment, product, or system. Organize and present information in sufficient detail to clearly explain O&M requirements at the system, equipment, component, and subassembly level. Include an index preceding each submittal. Submit in accordance with this section and Section 01330, "Submittal Procedures."

1.1.1 Package Quality

Documents must be fully legible. Poor quality copies and material with hole punches obliterating the text or drawings will not be accepted.

1.1.2 Package Content

Data package content shall be as shown in the paragraph titled "Schedule of Operation and Maintenance Data Packages." Comply with the data package requirements specified in the individual technical sections, including the content of the packages and addressing each product, component, and system designated for data package submission.

1.1.3 Changes to Submittals

Manufacturer-originated changes or revisions to submitted data shall be furnished by the Contractor if a component of an item is so affected subsequent to acceptance of the O&M Data. Changes, additions, or revisions required by the Contracting Officer for final acceptance of submitted data, shall be submitted by the Contractor within 30 calendar days of the notification of this change requirement.

1.2 TYPES OF INFORMATION REQUIRED IN O&M DATA PACKAGES

1.2.1 Operating Instructions

Include specific instructions, procedures, and illustrations for the following phases of operation:

1.2.1.1 Safety Precautions

List personnel hazards and equipment or product safety precautions for all operating conditions.

1.2.1.2 Operator Prestart

Include procedures required to set up and prepare each system for use.

1.2.1.3 Startup, Shutdown, and Post-Shutdown Procedures

Provide narrative description for Startup, Shutdown and Post-shutdown operating procedures including the control sequence for each procedure.

1.2.1.4 Normal Operations

Provide narrative description of Normal Operating Procedures. Include Control Diagrams with data to explain operation and control of systems and specific equipment.

1.2.1.5 Emergency Operations

Include Emergency Procedures for equipment malfunctions to permit a short period of continued operation or to shut down the equipment to prevent further damage to systems and equipment. Include Emergency Shutdown Instructions for fire, explosion, spills, or other foreseeable contingencies. Provide guidance and procedures for emergency operation of all utility systems including required valve positions, valve locations and zones or portions of systems controlled.

1.2.1.6 Operator Service Requirements

Include instructions for services to be performed by the operator such as lubrication, adjustment, inspection, and recording gage readings.

1.2.1.7 Environmental Conditions

Include a list of Environmental Conditions (temperature, humidity, and other relevant data) that are best suited for the operation of each product, component or system. Describe conditions under which the item equipment should not be allowed to run.

1.2.2 Preventive Maintenance

Include the following information for preventive and scheduled maintenance to minimize corrective maintenance and repair.

1.2.2.1 Lubrication Data

Include preventative maintenance lubrication data, in addition to instructions for lubrication provided under paragraph titled "Operator Service Requirements":

- a. A table showing recommended lubricants for specific temperature ranges and applications.
- b. Charts with a schematic diagram of the equipment showing lubrication points, recommended types and grades of lubricants, and capacities.
- c. A Lubrication Schedule showing service interval frequency.

1.2.2.2 Preventive Maintenance Plan and Schedule

Include manufacturer's schedule for routine preventive maintenance, inspections, tests and adjustments required to ensure proper and economical operation and to minimize corrective maintenance. Provide manufacturer's projection of preventive maintenance work-hours on a daily, weekly, monthly, and annual basis including craft requirements by type of craft. For periodic calibrations, provide manufacturer's specified frequency and procedures for each separate operation.

1.2.3 Corrective Maintenance (Repair)

Include manufacturer's recommended procedures and instructions for correcting problems and making repairs.

1.2.3.1 Troubleshooting Guides and Diagnostic Techniques

Include step-by-step procedures to promptly isolate the cause of typical malfunctions. Describe clearly why the checkout is performed and what conditions are to be sought. Identify tests or inspections and test equipment required to determine whether parts and equipment may be reused or require replacement.

1.2.3.2 Wiring Diagrams and Control Diagrams

Wiring diagrams and control diagrams shall be point-to-point drawings of wiring and control circuits including factory-field interfaces. Provide a complete and accurate depiction of the actual job specific wiring and control work. On diagrams, number electrical and electronic wiring and pneumatic control tubing and the terminals for each type, identically to actual installation configuration and numbering.

1.2.3.3 Maintenance and Repair Procedures

Include instructions and a list of tools required to repair or restore the product or equipment to proper condition or operating standards.

1.2.3.4 Removal and Replacement Instructions

Include step-by-step procedures and a list required tools and supplies for removal, replacement, disassembly, and assembly of components, assemblies, subassemblies, accessories, and attachments. Provide tolerances, dimensions, settings and adjustments required. Instructions shall include a combination of text and illustrations.

1.2.3.5 Spare Parts and Supply Lists

Include lists of spare parts and supplies required for maintenance and repair to ensure continued service or operation without unreasonable delays. Special consideration is required for facilities at remote locations. List spare parts and supplies that have a long lead-time to obtain.

1.2.4 Corrective Maintenance Work-Hours

Include manufacturer's projection of corrective maintenance work-hours including requirements by type of craft. Corrective maintenance that requires completion or participation of the equipment manufacturer shall be identified and tabulated separately.

1.2.5 Appendices

Provide information required below and information not specified in the preceding paragraphs but pertinent to the maintenance or operation of the product or equipment. Include the following:

1.2.6 Parts Identification

Provide identification and coverage for all parts of each component, assembly, subassembly, and accessory of the end items subject to replacement. Include special hardware requirements, such as requirement to use high-strength bolts and nuts. Identify parts by make, model, serial number, and source of supply to allow reordering without further identification. Provide clear and legible illustrations, drawings, and exploded views to enable easy identification of the items. When illustrations omit the part numbers and description, both the illustrations and separate listing shall show the index, reference, or key number that will cross-reference the illustrated part to the listed part. Parts shown in the listings shall be grouped by components, assemblies, and subassemblies in accordance with the manufacturer's standard practice. Parts data may cover more than one model or series of equipment, components, assemblies, subassemblies, attachments, or accessories, such as typically shown in a master parts catalog

1.2.6.1 Warranty Information

List and explain the various warranties and include the servicing and technical precautions prescribed by the manufacturers or contract documents in order to keep warranties in force. Include warranty information for primary components such as the compressor of air conditioning system.

1.2.6.2 Personnel Training Requirements

Provide information available from the manufacturers that is needed for use in training designated personnel to properly operate and maintain the equipment and systems.

1.2.6.3 Testing Equipment and Special Tool Information

Include information on test equipment required to perform specified tests and on special tools needed for the operation, maintenance, and repair of components.

1.2.6.4 Contractor Information

Provide a list that includes the name, address, and telephone number of the General Contractor and each Subcontractor who installed the product or

equipment, or system. For each item, also provide the name address and telephone number of the manufacturer's representative and service organization most convenient to the project site. Provide the name, address, and telephone number of the product, equipment, and system manufacturers.

1.3 SCHEDULE OF OPERATION AND MAINTENANCE DATA PACKAGES

Furnish the O&M data packages specified in individual technical sections. The required information for each O&M data package is as follows:

1.3.1 Data Package 1

- a. Safety precautions
- b. Maintenance and repair procedures
- c. Warranty information
- d. Contractor information
- e. Spare parts and supply list

1.3.2 Data Package 2

- a. Safety precautions
- b. Normal operations
- c. Environmental conditions
- d. Lubrication data
- e. Preventive maintenance plan and schedule
- f. Maintenance and repair procedures
- g. Removal and replacement instructions
- h. Spare parts and supply list
- i. Parts identification
- j. Warranty information
- k. Contractor information

1.3.3 Data Package 3

- a. Safety precautions
- b. Normal operations
- c. Emergency operations

- d. Environmental conditions
- e. Lubrication data
- f. Preventive maintenance plan and schedule
- g. Troubleshooting guides and diagnostic techniques
- h. Wiring diagrams and control diagrams
- i. Maintenance and repair procedures
- j. Removal and replacement instructions
- k. Spare parts and supply list
- l. Parts identification
- m. Warranty information
- n. Testing equipment and special tool information
- o. Contractor information

1.3.4 Data Package 4

- a. Safety precautions
- b. Operator prestart
- c. Startup, shutdown, and post-shutdown procedures
- d. Normal operations
- e. Emergency operations
- f. Operator service requirements
- g. Environmental conditions
- h. Lubrication data
- i. Preventive maintenance plan and schedule
- j. Troubleshooting guides and diagnostic techniques
- k. Wiring diagrams and control diagrams
- l. Maintenance and repair procedures
- m. Removal and replacement instructions
- n. Spare parts and supply list

- o. Corrective maintenance man-hours
- p. Parts identification
- q. Warranty information
- r. Personnel training requirements
- s. Testing equipment and special tool information
- t. Contractor information

1.3.5 Data Package 5

- a. Safety precautions
- b. Operator prestart
- c. Start-up, shutdown, and post-shutdown procedures
- d. Normal operations
- e. Environmental conditions
- f. Preventive maintenance plan and schedule
- g. Troubleshooting guides and diagnostic techniques
- h. Wiring and control diagrams
- i. Maintenance and repair procedures
- j. Spare parts and supply list
- k. Testing equipments and special tools
- l. Warranty information
- m. Contractor information

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

Not used.

-- End of Section --

SUBMITTAL REGISTER

CONTRACT NO.
DACA31-03-R-0019

TITLE AND LOCATION COMMUNITY SUPPORT CENTER, EXPAN / RENOV., DETRICK, MD						CONTRACTOR											
A C T I V I T Y N O	T R A N S M I T T A L N O	S P E C T N O	D E S C R I P T I O N	P A R A G R A P H N O	C L A S S I F I C A T I O N	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION		APPROVING AUTHORITY				M A I L E D T O C O N T R A C T O R /	R E M A R K S	
						S U B M I T	B Y	B Y	A C T I O N C O D E	D A T E O F A C T I O N	D A T E F W D T O A P P R A U T H	D A T E F W D T O O T H E R	D A T E R C D F R O M O T H E R	A C T I O N C O D E			D A T E O F A C T I O N
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
	08581		SD-02 Shop Drawings														
			Window units	2.1	G ED												
			SD-03 Product Data														
			Window units	2.1	G ED												
			Hardware	2.4.7													
			Setting materials	2.3													
			SD-04 Samples														
			Window units	2.1													
			SD-08 Manufacturer's Instructions														
			Glass	2.2													
			SD-10 Operation and Maintenance Data														
			Window units	2.1	G ED												

SECTION 08581

BLAST RESISTANT TEMPERED GLASS WINDOWS
08/01

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

AMERICAN ARCHITECTURAL MANUFACTURERS ASSOCIATION (AAMA)

AAMA 101 (1997) Aluminum, Vinyl (PVC) and Wood Windows and Glass Doors

AAMA 605.2 (1992; Addendum 1995) High Performance Organic Coatings on Architectural Extrusions and Panels

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI Z97.1 (1984; R 1994) Safety Glazing Materials Used in Buildings

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM C 509 (1994) Elastomeric Cellular Preformed Gasket and Sealing Material

ASTM C 920 (1998) Elastomeric Joint Sealants

ASTM C 1048 (1997; Rev. B) Heat-Treated Flat Glass - Kind HS, Kind FT Coated and Uncoated Glass

GLASS ASSOCIATION OF NORTH AMERICA (GANA)

GANA Glazing Manual (1997) Glazing Manual

1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only or as otherwise designated. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

Window units; G ED

Submit drawings indicating elevations of windows, full-size sections, thickness of metal, fastenings, proposed method of anchoring, size and spacing of anchors, details of construction, complete details of setting methods and materials for each type of glazing material, details of hardware, mullion details, method and materials for weatherstripping, support conditions for the glass, material and method of attaching subframes, stools, casings, sills, trim, installation details, and other related items.

SD-03 Product Data

Window units; G ED

Hardware

Setting materials

SD-04 Samples

Window units

Submit when factory-finished color coating is provided.

SD-08 Manufacturer's Instructions

Glass

Submit glass manufacturer's instructions for setting and sealing materials and for installation of each type of glazing material specified.

SD-10 Operation and Maintenance Data

Window units, Data Package 1; G ED

Submit data package in accordance with Section 01781, "Operation and Maintenance Data."

1.3 QUALITY ASSURANCE

1.3.1 Label

Each prime window unit shall bear the AAMA Label warranting that the product complies with AAMA 101. Certificates of Compliance attesting that the prime window units meet the requirements of AAMA 101 will be acceptable in lieu of product labeling.

1.3.2 Glass and Glazing

Provide materials that are certified to meet ANSI Z97.1 by an independent testing laboratory.

1.3.3 Independent Testing

Testing shall be performed by an independent testing laboratory (certified by the Contracting Officer) and test report shall be signed by a registered professional engineer and shall include results from tests in the calculations.

1.4 DELIVERY, STORAGE, AND HANDLING

- a. Deliver products to the site in unopened containers, labeled plainly with manufacturers' name and brands. Deliver window assemblies in an undamaged condition. Exercise care in handling and hoisting windows during transportation and at the job site. Store windows and components out of contact with the ground, under a weathertight covering, so as to prevent bending, warping, or otherwise damaging the windows.
- b. Finished surfaces shall be protected during shipping and handling using the manufacturer's standard method, except that no coatings or lacquers shall be applied to surfaces to which sealants, caulking, or glazing compounds must adhere.

1.5 ENVIRONMENTAL CONDITIONS

Do not start glazing work until the outdoor temperature is above 40 degrees F and rising unless approved provisions are made to warm the glass and rabbet surfaces. Provide sufficient ventilation to prevent condensation of moisture on glazing work during installation. Do not perform glazing work if moisture collects on window assemblies or during rainy weather.

PART 2 PRODUCTS

2.1 WINDOW UNITS

Primed window frames shall conform to AAMA 101 and the requirements specified herein. Provide windows of types, grades, performance classes, combinations, and sizes indicated or specified. Provide windows to accommodate hardware, glass, weatherstripping and accessories. Each window shall be a complete factory-assembled unit with glass factory or field installed.

2.2 GLASS

Use ASTM C 1048 and ANSI Z97.1 Grade B (tempered), Style I (uncoated), Type 2, Class 1 (transparent).

2.3 SETTING MATERIALS

Provide types required for the applicable setting method specified in the GANA Glazing Manual, unless specified otherwise herein. Do not use metal sash putty, non-skinning compounds, nonresilient preformed sealers, or impregnated preformed gaskets. Materials exposed to view and unpainted shall be gray, black or neutral color.

2.3.1 Elastomeric Sealant

ASTM C 920, Type S or M, Grade NS, Class 12.5, Use NT. Use for channel or stop glazing and metal sash. Sealant shall be chemically compatible with setting blocks, edge blocks, and sealing tapes. Color of sealant shall be as selected.

2.3.2 Sealing Tapes, Beads or Gaskets

Gaskets or beads shall be at least 3/8 inch wide with a Shore "A" durometer hardness of 50 and conform to ASTM C 509.

2.3.3 Setting Blocks and Edge Blocks

Use neoprene of 70 to 90 Shore "A" durometer hardness, chemically compatible with sealants used, and of sizes recommended by the glass manufacturer.

2.3.4 Accessories

Use accessories as required to provide a complete installation, including glazing points, clips, shims, angles, beads, and spacer strips. Provide noncorroding metal accessories. Provide primer-sealers and cleaners as recommended by the glass and sealant manufacturers.

2.4 WINDOW ASSEMBLIES

Window units shall conform to AAMA 101.

2.4.1 Provisions for Glazing

Provide windows and rabbets suitable for specified glass thickness. Minimum edge clearance shall be 1/4 inch. Nominal bite shall be 1/2 inch. Minimum face clearance shall be 1/8 inch. Provide sash for glazing and for securing glass with metal beads, glazing clips, glazing channels and glazing compound.

2.4.2 Sealant, Gaskets, and Beads

Sealant, gaskets, and beads shall be continuous around the perimeter of the glass.

2.4.3 Fasteners

Provide flathead, cross-recessed type, exposed head screws and bolts with standard threads for use on windows, trim, and accessories. Screw heads shall finish flush with adjoining surfaces. Self-tapping sheet-metal screws are not acceptable for material more than 1/16 inch thick.

2.4.4 Drips and Weep Holes

Provide drips and weep holes as required to return water to the outside.

2.4.5 Combination Windows

Windows used in combination shall be the same grade and performance class and shall be factory assembled. Where factory assembly of individual windows into larger units is limited by transportation considerations, prefabricate, match mark, transport, and field assemble.

2.4.6 Accessories

Provide windows complete with necessary hardware, fastenings, clips, fins, anchors, glazing beads, and other appurtenances necessary for complete installation.

2.4.7 Hardware

The item, type, and functional characteristics shall be the manufacturer's standard for the particular window type and shall conform to AAMA 101. Provide hardware that functions after the window assembly has withstood the application of the design blast pressure causing the development of a static design resistance, r_u , uniformly applied over both glazing and frame as defined in paragraph entitled "Certificates of Compliance" of this section.

2.4.8 Anchors

Provide concealed anchors of the type recommended by the window manufacturer for the specific type of construction. Anchors and fasteners shall be compatible with the window and the adjoining construction. Provide a minimum of three anchors for each jamb located approximately 6 inches from each end and at midpoint.

2.4.9 Finishes

Exposed aluminum surfaces shall be factory finished with an organic coating. Color shall be as indicated in the Color Schedule. Windows shall have the same finish.

2.4.9.1 Organic Coating

Clean and prime exposed aluminum surfaces. Provide a high-performance finish in accordance with AAMA 605.2 with total dry film thickness of not less than 1.2 mils.

2.5 SOURCE QUALITY CONTROL

2.5.1 Window Assembly Structural Test

2.5.1.1 Test Sample Number

At least two sample window assemblies for each type of window provided shall be tested, under an increasing uniform static load. Number of samples, beyond two, is left up to the vendor. However, it is noted that the acceptance criteria encourages a larger number of test samples.

2.5.1.2 Test Procedure

Test windows (glass panes and support frame) shall be identical in type, size, sealant, gasket or bead and construction to those furnished by the window manufacturer. The frame assembly in the test setup shall be secured by boundary conditions that simulate the adjoining walls of the structure for intended installation. The simulation securing boundary conditions shall be verified and attested by an attending Professional Engineer. Using either a vacuum or a liquid-filled bladder, an increasing uniform load shall be applied to the entire window assembly (glass and frame) until failure occurs in either the glass or frame. Failure shall be defined as either breaking of glass or loss of frame resistance. The failure load, r_f , shall be recorded to three significant figures. The load should be applied at a rate of 0.5 ru per minute where ru is the static design resistance:

<u>Glass Size</u>	<u>Static Design Resistance</u>
As indicated on drawings	1 psi

2.5.1.3 Acceptance Criteria

The static load capacity (r_s) of a glass pane for the specified acceptance test procedure is:

$$r_s = 0.876 r_u \quad (1)$$

The window assembly (frame and glass) is considered acceptable when the arithmetic mean of all the samples tested, r^- such that:

$$r^- \Rightarrow r_s + sA \quad (2)$$

where: r_s = static load capacity of the glass pane for certification testing

s = sample standard deviation

A = acceptance coefficient (Table 1)

- a. Arithmetic mean/standard deviation: For n test samples, r^- is defined as:

$$r^- = \text{sum from } i = 1 \text{ thru } n \text{ for } r_{fi} \text{ divided by } n \quad (3)$$

where r_{fi} is the recorded failure load of the i th test sample.

The sample standard deviation, s , is defined as:

$$s = \text{the square root of the quantity of the sum from } i = 1 \text{ thru } n \text{ for } (r_{fi} - r^-)^2 \text{ divided by } (n - 1) \quad (4)$$

The minimum value of the sample standard deviation, s , permitted to be employed in Equation (2) is:

$$s = 0.145 r_s \quad (5)$$

This assures a sample standard deviation no better than observed for the general population of tempered glass.

- b. Additional sampled determination: The following equation can be used by tester to determine if additional test samples are justified. If:

$$r- \leq r_s + s_B \tag{6}$$

then with 90% confidence, the design will not prove to be adequate with additional tests. Obtain rejection coefficient, B, from Table 1.

Table 1. Statistical Acceptance and Rejection Coefficients

Number of Window Assemblies <u>n</u>	Acceptance Coefficient <u>A</u>	Rejection Coefficient <u>B</u>
2	4.14	.546
3	3.05	.871
4	2.78	1.14
5	2.65	1.27
6	2.56	1.36
7	2.50	1.42
8	2.46	1.48
9	2.42	1.49
10	2.39	1.52
11	2.37	1.54
12	2.35	1.57
13	2.33	1.58
14	2.32	1.60
15	2.31	1.61
16	2.30	1.62
17	2.28	1.64
18	2.27	1.65
19	2.27	1.65
20	2.26	1.66
21	2.25	1.67
22	2.24	1.68
23	2.24	1.68
24	2.23	1.69
25	2.22	1.70
30	2.19	1.72
40	2.17	1.75
50	2.14	1.77

PART 3 EXECUTION

3.1 INSTALLATION

3.1.1 Method of Installation

Install in accordance with the window manufacturer's printed instructions and details. Set windows at proper elevation, location, and reveal. Brace properly to prevent distortion and misalignment. Bed screws or bolts in

sill members, joints at mullions, contacts of windows with sills, built-in fins, and subframes in mastic sealant of a type recommended by the window manufacturer. Install windows in a manner that will prevent entrance of water. Fasten hardware to windows.

3.1.2 Glass Setting

Items to be glazed shall be either shop or field glazed using glass of the quality and thickness specified or indicated. Preparation and glazing, unless otherwise approved, shall conform to applicable recommendations in the GANA Glazing Manual. Windows may be glazed in conformance with one of the glazing methods described in the standards under which they are produced, except that face puttying with no bedding will not be permitted. Handle and install glazing materials in accordance with manufacturer's instructions. Use beads or stops furnished with items to be glazed, to secure glass in place.

3.1.3 Dissimilar Materials

Where aluminum surfaces are in contact with, or fastened to, masonry, wood, or dissimilar metals, except stainless steel or zinc, the aluminum surface shall be protected from dissimilar materials as recommended in the Appendix to AAMA 101. Do not coat surfaces on which sealants are to adhere.

3.1.4 Anchors and Fastenings

Make provision for securing units to each other and to adjoining construction.

3.2 CLEANING

Clean interior and exterior surfaces of window units of mortar, plaster, paint spattering spots, and other foreign matter to present a neat appearance, and to prevent fouling of weathering surfaces. Remove stained, discolored, or abraded windows that cannot be restored to their original condition, and replace with new windows.

-- End of Section --

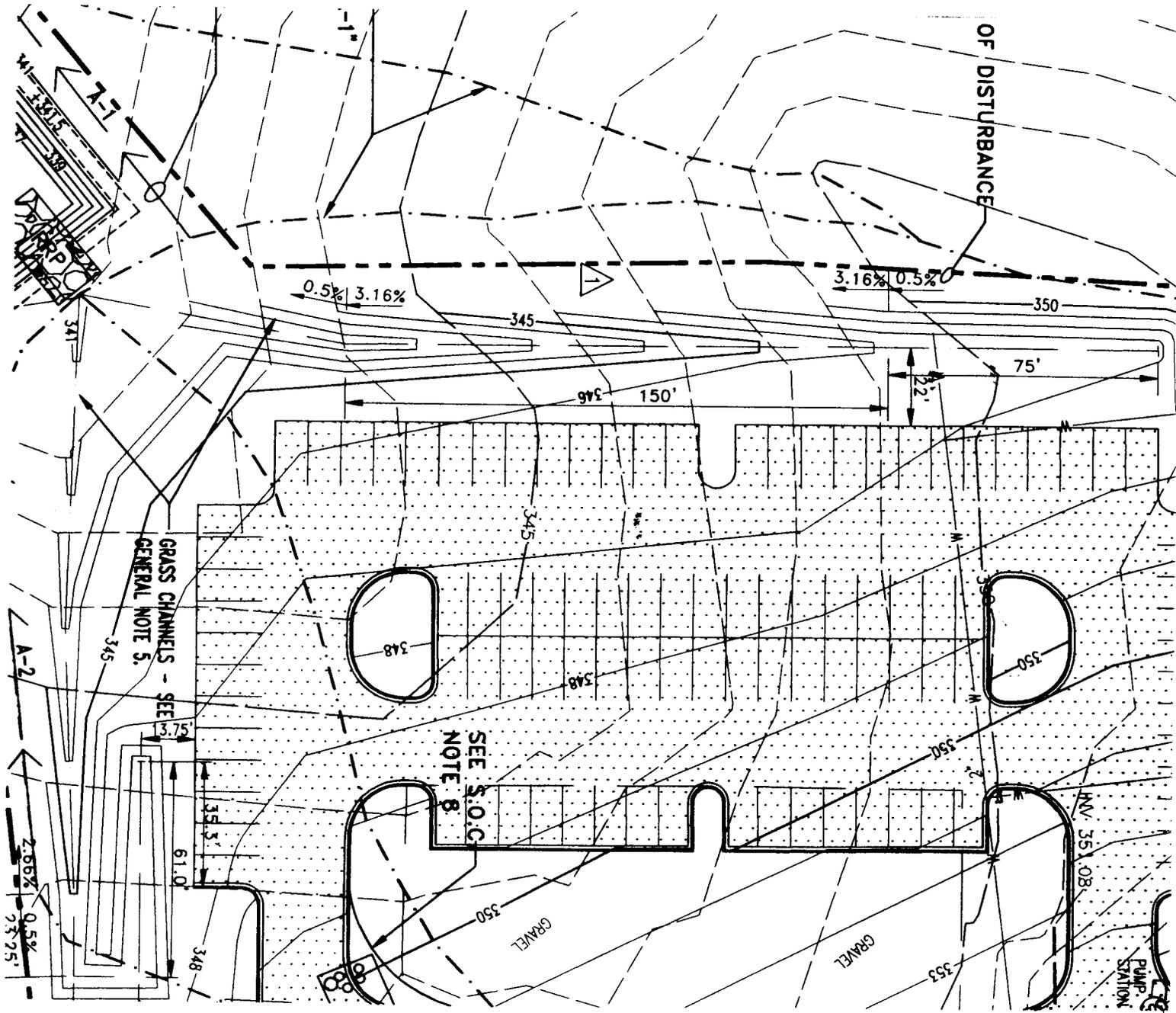
HARDWARE SETS

HDW #QTY.	ITEM	ANSI#	FINISH
901	3 Pr. Hinges.....	A2111 (NRP)	624
	2 Ea. Exit Device.....	Type 6, Func.04.....	627, 646, 654
	2 Ea. Closers w/dead stop	C02021 PT-4G	627, 646
	➤ Closers shall be 'low energy Power Assisted'.		
	2 Ea. Dust Proof Strike.....	L04011	627, 654
	1 Ea. Threshold	J35130	627, 654
	1 Set Weather-stripping		
902	1.5 Pr. Hinges	A2111 (NRP)	624
	1 Ea. Exit Device	Type 1, Func.01	619, 627, 654
	1 Ea. Closers	C02021 PT-4G.....	627, 646
	1 Ea. Kick Plate	J106.....	Black
	1 Ea. Threshold	J35130	627, 646
	1 Set Weather-stripping		
903	1.5 Pr. Hinges	A8111 (NRP)	624
	1 Ea. Exit Device	Type 1, Func.08	619, 627, 654
	1 Ea. Closers	C02011	627, 646
	1 Ea. Kick Plate	J106	Black
	1 Ea. Threshold	J35130	627, 646
	1 Set Weather-stripping		
904	1.5 Pr. Hinges.....	A8112	626
	1 Ea. Lockset/Latchset.....	F86	606, 612, 633
	1 Ea. Closers w/ hold-open	C02021.....	627, 646
	1 Ea. Dead-Stop (wall - convex)	L02101	606, 612, 633
	1 Set Silencers	L03011	
905	3 Pr. Hinges	A2111 (NRP).....	624, 626,
	1 Ea. Lockset/Latchset	F04	606, 612, 633,
	2 Ea. Closers w/dead stop	C02011 PT-4G	627, 646,
	1 Set Weather-stripping		
	2 Ea. Kick Plate	J106	Black
906	1.5 Pr. Hinges.....	A2111 (NRP)	624,
	1 Ea. Exit Device.....	Type 1, Func.1	619, 627, 654,
	1 Ea. Closers	C02011	627, 646,
	1 Ea. Kick Plate.....	J106.....	Black
	1 Ea. Threshold	J35130	627, 646,
	1 Set Weather-stripping		

907	1.5 Pr.	Hinges	A2112	626,
	1 Ea.	Lockset/Latchset	F81	606, 612, 633,
	1 Ea.	Closers	C02011	627, 646,
	1 Ea.	Dead-Stop (wall - concave).....	L02251	606, 612, 633,
	1 Set	Gasket (acoustic)		
	1 Ea.	Door Sweep (acoustic)		
908	1.5 Pr.	Hinges	A2112	626,
	1 Ea.	Lockset/Latchset	F81	606, 612, 633,
	1 Ea.	Closers	C02021	627, 646,
	1 Ea.	Dead-Stop (wall - concave)	L02251.....	606, 612, 633,
	1 Set	Gasket (acoustic)		
	1 Ea.	Door Sweep (acoustic)		
909	1.5 Pr.	Hinges.....	A2112	626,
	1 Ea.	Lockset/Latchset.....	F81.....	606, 612, 633,
	1 Ea.	Dead-Stop (wall – concave)	L0225.....	606, 612, 633,
	1 Set	Gasket (acoustic)		
	1 Ea.	Door Sweep (acoustic)		
910	3 Pr.	Hinges.....	A8112	626,
	1 Ea.	Lock/Latchset.....	F13.....	606, 612, 633,
	1 Ea.	Automatic Flush Bolt (LH Leaf	Type 25	606, 612, 633
	2 Ea.	Closers w/dead stop.....	C02021 PT-4G	606, 612, 633
	1 Ea.	Coordinator	Type 21	606, 612, 633
	1 Ea.	Threshold	Resilient transition strip	
	1 Ea.	Dust Proof Strike	L04021	
	1 Ea.	Astregal (LH Leaf)		
	2 Ea.	Kick Plate.....	J102.....	627
	1 Set	Gasket (acoustic)		
	1 Ea.	Door Sweep (acoustic)		
911	1.5 Pr.	Hinges.....	A2112	626,
	1 Ea.	Lockset/Latchset.....	F76.....	606, 612, 633,
	1 Ea.	Closers	C02011.....	627, 646,
	1 Ea.	Dead-Stop (wall – concave).....	L02251.....	606, 612, 633,
	1 Ea.	Kick Plate.....	J106.....	Black
	1 Ea.	Mop Plate.....	J107.....	Black
	1 Set	Silencers.....	L03011	
912	1.5 Pr.	Hinges.....	A2112	626,
	1 Ea.	Lockset/Latchset.....	F86.....	606, 612, 633,
	1 Ea.	Closers w/ hold-open.....	C02051.....	627, 646,
	1 Ea.	Dead-Stop (wall – convex)	L02101.....	606, 612, 633,
	1 Set	Silencers.....	L03011	

913	1.5 Pr.	Hinges.....	A2111	626,
	1 Set.	Push/Pull plates	J407.....	606, 612, 633,
	1 Ea.	Closers	C02011.....	627, 646,
	1 Ea.	Dead-Stop (wall – convex).....	L02101.....	606, 612, 633,
	1 Ea.	Kick Plate.....	J106.....	Black
	1 Ea.	Mop Plate.....	J107.....	Black
	1 Set	Silencers.....	L03011	
914	1.5 Pr.	Hinges.....	A2112	626,
	1 Ea.	Lockset/Latchset.....	F86.....	606, 612, 633,
	1 Ea.	Closers w/ hold-open.....	C02071.....	627, 646,
	1 Ea.	Dead-Stop (wall – convex)	L02101.....	606, 612, 633,
	1 Set	Silencers.....	L03011	
915	3 Pr.	Hinges.....	A2111	624
	2 Ea.	Push/Pull	J504	
	2 Ea.	Closers w/dead stop.....	C02021 PT-4G	627, 646
		➤ Closers shall be ‘low energy Power Assisted’.		
	2 Ea.	Dust Proof Strike	L04011.....	627, 654
	1 Ea.	Threshold	J35130.....	627, 654
	1 Set	Weather-stripping		

END OF SECTION.



GRASS CHANNELS - SEE
GENERAL NOTE 5

SEE S.O.C.
NOTE 8

GRANVEL

GRANVEL

PUMP
STATION

OF DISTURBANCE

SKETCH E&S-1
AMEND #0004
02 APR 03
1" = 40'