AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE	OF	PAGES
	1		3

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. *(If applicable)*
0002	10 Sep 2001		

6. ISSUED BY CODE

US ARMY ENGINEER DISTRICT, FORT WORTH
ATTN: CESWF-CT (RM 2A19)
PO BOX 17300
FORT WORTH, TX 76102-0300

7. ADMINISTERED BY *(If other than Item 6)* CODE

8. NAME AND ADDRESS OF CONTRACTOR *(No., street, county, State and ZIP Code)*

CODE FACILITY CODE

(X)

☒ 9A. AMENDMENT OF SOLICIATION NO. DACA63-01-B-0015

9B. DATED *(SEE ITEM 11)* 17 August 2001

☐ 10A. MODIFICATION OF CONTRACT/ORDER NO.

10B. DATED *(SEE ITEM 11)*

11. 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, ☒ is not extended.

Offers 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 8 and 15, and returning 1 copies 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 ACKNOWLEDGMENT 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 this amendment your 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.

12. ACCOUNTING AND APPROPRIATION DATA *(If required)*

13. THIS ITEM ONLY APPLIES TO MODIFICATION OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

CHECK ONE	
	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: *(Specify authority)* THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES *(such as changes in paying office, appropriation date, etc.)* SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
	D. OTHER *(Specify type of modification and authority)*

E. IMPORTANT: Contractor ☐ is not, ☐ is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (*Organized by UCF section headings, including solicitation/contract subject matter where feasible.)*

The Solicitation for VISITORS QUARTERS, LAUGHLIN AIR FORCE BASE, DEL RIO, TEXAS, is amended as follows:

See Continuation Sheet (or Sheets)

NOTE: Bid Opening date is 17 September 2001, 2 p.m., as previously announced.

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER *(Type or print)*		16A. NAME AND TITLE OF CONTRACTING OFFICER *(Type or print)*	
15B. CONTRACTOR/OFFEROR *(Signature of person authorized to sign)*	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA *(Signature of Contracting Officer)*	16C. DATE SIGNED

Item 14. Continued.

CHANGES TO BIDDING SCHEDULE

1. Replace the Bidding Schedule, pages 00010-3 through 00010-4, with the accompanying new Bidding Schedule, bearing the notation "ACCOMPANYING AMENDMENT NO. 0002 TO SOLICITATION NO. DACA63-01-B-0015."

CHANGES TO THE SPECIFICATIONS

2. Replacement Sections - Replace the following sections with the accompanying new sections of the same number and title, bearing the notation "ACCOMPANYING AMENDMENT NO. 0002 TO SOLICITATION NO. DACA63-01-B-0015:"

02315 EXCAVATION, FILLING AND BACKFILLING FOR BUILDINGS
08120 ALUMINUM DOORS AND FRAMES

CHANGES TO THE DRAWINGS

3. Replacement Drawings – Replace the drawings listed below with the attached new drawing(s) of the same number, bearing the notation “AM 0002”.

CAL	Seq. No.	Sheet No.	Drawing file description or Sheet Title
A62_02.CAL	63	A6.2	Enlarged Floor Plans
A63_02.CAL	64	A6.3	Interior Elevations
A71_02.CAL	66	A7.1	Enlarged Stair and Elevator Plans
A84_02.CAL	72	A8.4	Door and Frame Details
A92_02.CAL	74	A9.2	Miscellaneous Details
SGN1_02.CAL	75	SGN1	Structural General Notes
S21_02.CAL	84	S2.1	Second Floor Framing Plan – Area 1
S22_02.CAL	85	S2.2	Second Floor Framing Plan – Area 2
S23_02.CAL	86	S2.3	Second Floor Framing Plan – Area 3
S31_02.CAL	88	S3.1	Roof Floor Framing Plan – Area 1
S32_02.CAL	89	S3.2	Roof Floor Framing Plan – Area 2
S33_02.CAL	90	S3.3	Roof Floor Framing Plan – Area 3
M51_02.CAL	119	M5.1	Enlarged Plans
M61_02.CAL	120	M6.1	Boiler and Chiller Piping Schematic
M71_02.CAL	121	M7.1	HVAC Controls
M81_02.CAL	123	M8.1	Mechanical Details
EG01_02.CAL	145	EG0.1	Electrical Legend and Light Fixture Schedule

4. Additional Revisions and Clarifications to Drawings – Below are additional revisions and clarifications to drawings to be included in Amendment #0002.

Drawing A8.1, Sequence 69

All glazed openings shall have glass types to meet the following general requirements:

Exterior openings subject to safety glazing requirements of 16 CFR 1201 – Type G-1

Exterior openings not subject to safety glazing requirements of 16 CFR 1201 – Type G-2

Interior openings subject to safety glazing requirements of 16 CFR 1201 – Type G-3

Interior openings not subject to safety glazing requirements of 16 CFR 1201 – Type G-4

Exterior openings which occur between floor/ceiling lines (spandrel areas) – Type G-5

Openings 142A, 144, 145 shall be hollow metal doors in hollow metal frames. The drawing was revised for Amendment 0001 but these doors were not clouded and identified by “Delta a”.

Opening 217A shall not be 60-minute fire rated.

Drawing A8.2, Sequence 70

Frame Type F-1: Provide header framing (aluminum sections or steel internal reinforcing) within the 400 mm space above the door operator and within the 100 mm jambs each side of the automatic door system as required to fully support the automatic door system and provide full wind load capacity for the complete frame.

Frame Types F-8, F-9, F-10, F-12: The horizontal 200 mm member shall be made up of standard aluminum curtain wall (storefront) framing components and matching sheet aluminum closure panels.

Frame Types F-16, F-17: The horizontal 300 mm member shall be made up of standard aluminum curtain wall (storefront) framing components and matching sheet aluminum closure panels.

END OF AMENDMENT

ACCOMPANYING AMENDMENT NO. 0002 TO SOLICITATION NO. DACA63-01-B-0015

Visitors Quarters (Title)
Laughlin Air Force Base, Texas (Location)

Solicitation No. DACA63-01-B-0015

BIDDING SCHEDULE
(To be attached to SF 1442)

Item No.	Description	Estimated Quantity	Unit Unit	Cost	Estimated Amount

BASE BID: All work required by the plans and specifications except BID OPTIONS specifically identified below and further described by the plans and specifications.

0001 Visitors Quarters complete including all utilities to the 1524mm line of the buildings excluding all work listed separately

Job Sum *** $_____

0002 Site Work: All Exterior Work outside the building's 1524mm line (including all utilities, earthwork, paving, sidewalk, curb and gutter, turfing, and all other work not listed separately)

Job Sum *** $_____

TOTAL BASE BID $_____

0003 BID OPTION NO. 1: All work required by the plans and specifications for the construction of the entrance canopy portion of the Visitors Quarters

Job Sum *** $_____

0004 BID OPTION NO. 2: All work required by the plans and specifications for the landscaping and irrigation for the Visitors Quarters

Job Sum *** $_____

TOTAL BASE BID PLUS OPTIONS 1 THROUGH 2 $_____

Visitors Quarters (Title)
Laughlin Air Force Base, Del Rio, Texas (Location)

Solicitation No. DACA63-01-B-0015

BIDDING SCHEDULE (cont)

NOTES:

1. ARITHMETIC DISCREPANCIES (EFARS 14.407-2)

(a) For the purpose of initial evaluation of bids, the following will be utilized in resolving arithmetic discrepancies found on the face of the bidding schedule as submitted by bidders:

(1) Obviously misplaced decimal points will be corrected;

(2) In case of discrepancy between unit price and extended price, the unit price will govern;

(3) Apparent errors in extension of unit prices will be corrected; and

(4) Apparent errors in addition of lump-sum and extended prices will be corrected.

(b) For the purpose of bid evaluation, the Government will proceed on the assumption that the bidder intends his bid to be evaluated on the basis of the unit prices, the totals arrived at by resolution of arithmetic discrepancies as provided above and the bid will be so reflected on the abstract of bids.

(c) These correction procedures shall not be used to resolve any ambiguity concerning which bid is low.

2. If a modification to a bid based on unit prices is submitted, which provides for a lump sum adjustment to the total estimated cost, the application of the lump sum adjustment to each unit price in the bid schedule must be stated. If it is not stated, the bidder agrees that the lump sum adjustment shall be applied on a pro rata basis to every unit price in the bid schedule.

3. Bidders must bid on all items.

4. Responders are advised that this requirement may be delayed, cancelled or revised at any time during the solicitation, selection, evaluation, negotiation and/or final award process based on decisions related to DOD changes in force structure and disposition of the Armed Forces.

5. EXERCISE OF OPTIONS (SWDR 715-1-1 (16 January 1996))

The Government reserves the right to exercise the option(s) by written notice to the Contractor either singularly or in any combination for up to 90 calendar days after award of the Base Bid without an increase in the Offeror's Bid Price. Completion of added items shall continue at the same schedule as the Base Bid unless otherwise noted in Section 01000 CONSTRUCTION SCHEDULE, paragraph 1 entitled SCHEDULE.

END OF BIDDING SCHEDULE

SECTION 02315

EXCAVATION, FILLING AND BACKFILLING FOR BUILDINGS

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 basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM D 1556	(1990; R 1996) Density and Unit Weight of Soil in Place by the Sand-Cone Method
ASTM D 1557	(1991) Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/cu. ft. (2,700 kN-m/cu.m.))
ASTM D 2167	(1994) Density and Unit Weight of Soil in Place by the Rubber Balloon Method
ASTM D 2216	(1992) Laboratory Determination of Water (Moisture) Content of Soil, and Rock
ASTM D 2487	(1993) Classification of Soils for Engineering Purposes (Unified Soil Classification System)
ASTM D 2922	(1996) Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth)
ASTM D 2937	(1994) Density of Soil in Place by the Drive-Cylinder Method
ASTM D 3017	(1988; R 1993) Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth)
ASTM D 4318	(1995a) Liquid Limit, Plastic Limit, and Plasticity Index of Soils

1.2 DEGREE OF COMPACTION

Degree of compaction is expressed as a percentage of the maximum density obtained by the test procedure presented in ASTM D 1557, abbreviated as percent laboratory maximum density.

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. 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-06 Test Reports

Testing; G, RE

Copies of all laboratory and field test reports within 24 hours of the completion of the test.

PART 2 PRODUCTS

2.1 MATERIALS

2.1.1 Satisfactory Materials

[AM0002]Satisfactory Materials include materials classified in ASTM D 2487 as GW, GM, GC, GP, SW, SP, SC, CL, and CH and shall be free of trash, debris, roots, or other organic matter, or stones larger than 76 millimeters in any dimension.~~Satisfactory materials shall comprise any materials classified by ASTM D 2487 as GW, GP, GM, GP-GM, GW-GM, GC, GP-GC, GM-GC, SW, SP, SC, SW-SC, SP-SM, SP-SC, CL, .~~

2.1.2 Unsatisfactory Materials

[AM0002]Unsatisfactory materials include materials classified in ASTM D 2487 as Pt, OH, OL, ML, MH and any other materials not defined as satisfactory.~~Materials which do not comply with the requirements for satisfactory materials are unsatisfactory. Unsatisfactory materials also include man-made fills, trash, refuse, or backfills from previous construction. Unsatisfactory material also includes material classified as satisfactory which contains root and other organic matter, frozen material, and stones larger than 76 mm. The Contracting Officer shall be notified of any contaminated materials.~~

2.1.3 [AM0002]Nonexpansive Soils

Nonexpansive soils shall meet the requirements of Texas Department of Transportation Standard Specification for base course, Item 247, Type A, Grade 1 or 2.

2.1.4 Cohesionless and Cohesive Materials

[AM0002] Cohesionless materials include materials classified in ASTM D 2487 as GW, GP, SW, and SP. Cohesive materials include materials classified as GC, SC, ML, CL, MH, and CH. Materials classified as GM and SM will be identified as cohesionless only when the fines are nonplastic.~~Cohesionless materials include materials classified in ASTM D 2487 as GW, GP, SW, and~~

~~SP. Cohesive materials include materials classified as GC, SC, ML, CL, MH, and CH. Materials classified as GM, GP-GM, GW-GM, SW-SM, SP-SM, and SM shall be identified as cohesionless only when the fines are nonplastic.~~

2.1.5 Expansive Soils

Expansive soils are defined as soils that have a plasticity index equal to or greater than 15 when tested in accordance with ASTM D 4318.

2.1.6 Nonfrost Susceptible (NFS) Material

Nonfrost susceptible material shall be a uniformly graded washed sand with a maximum particle size of 2 mm and less than 5 percent passing the 0.075 mm size sieve, and with not more than 3 percent by weight finer than 0.02 mm grain size.

2.2 CAPILLARY WATER BARRIER

[AM0002] Capillary water barrier shall consist of clean, crushed, nonporous rock, crushed gravel, or uncrushed gravel. The maximum particle size shall be 38 millimeters and no more than 2 percent by weight pass the 4.75 millimeter size sieve.~~Capillary Water Barrier shall consist of clean, crushed, nonporous rock, crushed gravel, or uncrushed gravel. The maximum particle size shall be 37.5 mm and no more than 2 percent by weight shall pass the 4.75 mm size sieve.~~

PART 3 EXECUTION

3.1 CLEARING AND GRUBBING

The areas within lines 1.5 m outside of each building and structure line shall be cleared and grubbed of trees, stumps, roots, brush and other vegetation, debris, existing foundations, pavements, utility lines, structures, fences, and other items that would interfere with construction operations. Stumps, logs, roots, and other organic matter shall be completely removed and the resulting depressions shall be filled with satisfactory material, placed and compacted in accordance with paragraph FILLING AND BACKFILLING. Materials removed shall be disposed of outside the limits of Government-controlled property at the Contractor's responsibility.

3.2 TOPSOIL

Topsoil shall be stripped to the top of the limestone below existing grade within the designated excavations and grading lines and deposited in storage piles for later use. Excess topsoil shall be disposed as specified for excess excavated material.

3.3 EXCAVATION

Excavation shall conform to the dimensions and elevations indicated for each building, structure, and footing except as specified, and shall include trenching for utility and foundation drainage systems to a point 1.5 m beyond the building line of each building and structure, and all

work incidental thereof. Excavation shall extend a sufficient distance from walls and footings to allow for placing and removal of forms. Excavations below indicated depths will not be permitted except to remove unsatisfactory material. Satisfactory material removed below the depths indicated, without specific direction of the Contracting Officer, shall be replaced, at no additional cost to the Government, with satisfactory materials to the indicated excavation grade; except that concrete footings shall be increased in thickness to the bottom of the overdepth excavations and over-break in rock excavation. Satisfactory material shall be placed and compacted as specified in paragraph FILLING AND BACKFILLING. Determination of elevations and measurements of approved overdepth excavation of unsatisfactory material below grades indicated shall be done under the direction of the Contracting Officer.

3.4 DRAINAGE AND DEWATERING

3.4.1 Drainage

Surface water shall be directed away from excavation and construction sites to prevent erosion and undermining of foundations. Diversion ditches, dikes and grading shall be provided and maintained as necessary during construction. Excavated slopes and backfill surfaces shall be protected to prevent erosion and sloughing. Excavation shall be performed so that the site, the area immediately surrounding the site, and the area affecting operations at the site shall be continually and effectively drained.

3.4.2 Dewatering

Groundwater flowing toward or into excavations shall be controlled to prevent sloughing of excavation slopes and walls, boils, uplift and heave in the excavation and to eliminate interference with orderly progress of construction. French drains, sumps, ditches or trenches will not be permitted within 900 mm of the foundation of any structure, except with specific written approval, and after specific contractual provisions for restoration of the foundation area have been made. Control measures shall be taken by the time the excavation reaches the water level in order to maintain the integrity of the in situ material. While the excavation is open, the water level shall be maintained continuously, at least 1 meters below the working level.

3.5 SHORING

Shoring, including sheet piling, shall be furnished and installed as necessary to protect workmen, banks, adjacent paving, structures, and utilities. Shoring, bracing, and sheeting shall be removed as excavations are backfilled, in a manner to prevent caving.

3.6 CLASSIFICATION OF EXCAVATION

Rock excavation shall consist of the removal and disposal of boulders 0.75 cubic meter or more in volume; solid rock; materials that cannot be removed without systematic drilling and blasting such as rock material in ledges or aggregate conglomerate deposits that are so firmly cemented as to possess the characteristics of solid rock; and concrete or masonry

structures exceeding 0.75 cubic meter in volume, except sidewalks and paving. Hard and compact materials such as cemented gravel, glacial till, and relatively soft or disintegrated rock that can be removed without continuous and systematic drilling and blasting will not be considered as rock excavation. Rock excavation will not be considered as such because of intermittent drilling and blasting that is performed merely to increase production. Excavation of the material claimed as rock shall not be performed until the material has been cross sectioned by the Contractor and approved by the Contracting Officer. Common excavation shall consist of all excavation not classified as rock excavation.

3.7 BLASTING

Blasting will not be permitted.

3.8 UTILITY AND DRAIN TRENCHES

Trenches for underground utilities systems and drain lines shall be excavated to the required alignments and depths. The bottoms of trenches shall be graded to secure the required slope and shall be tamped if necessary to provide a firm pipe bed. Recesses shall be excavated to accommodate bells and joints so that pipe will be uniformly supported for the entire length. Rock, where encountered, shall be excavated to a depth of at least 150 mm below the bottom of the pipe, and the overdepth shall be backfilled with satisfactory material placed and compacted in conformance with paragraph FILLING AND BACKFILLING.

3.9 BORROW

Where satisfactory materials are not available in sufficient quantity from required excavations, approved materials shall be obtained as specified in Section 02300 EARTHWORK .

3.10 EXCAVATED MATERIALS

Satisfactory excavated material required for fill or backfill shall be placed in the proper section of the permanent work required under this section or shall be separately stockpiled if it cannot be readily placed. Satisfactory material in excess of that required for the permanent work and all unsatisfactory material shall be disposed of as specified in Section 02300 EARTHWORK .

3.11 FINAL GRADE OF SURFACES TO SUPPORT CONCRETE

Excavation to final grade shall not be made until just before concrete is to be placed. Only excavation methods that will leave the foundation rock in a solid and unshattered condition shall be used. Approximately level surfaces shall be roughened, and sloped surfaces shall be cut as indicated into rough steps or benches to provide a satisfactory bond. Shales shall be protected from slaking and all surfaces shall be protected from erosion resulting from ponding or flow of water.

3.12 SUBGRADE PREPARATION

Unsatisfactory material in surfaces to receive fill or in excavated areas shall be removed and replaced with [AM0002] nonexpansive soils~~satisfactory materials~~ as directed by the Contracting Officer. TSloped surfaces steeper than 1 vertical to 4 horizontal shall be plowed, stepped, benched, or broken up so that the fill material will bond with the existing material. Material shall not be placed on surfaces that are muddy, frozen, or contain frost.

3.13 FILLING AND BACKFILLING

[AM0002] nonexpansive soils~~Satisfactory materials~~ shall be used in bringing fills and backfills to the lines and grades indicated and for replacing unsatisfactory materials. [AM0002] nonexpansive soils~~Satisfactory materials~~ shall be placed in horizontal layers not exceeding 200 mm in loose thickness, or 150 mm when hand-operated compactors are used. After placing, each layer shall be plowed, disked, or otherwise broken up, moistened or aerated as necessary, thoroughly mixed and compacted as specified. Backfilling shall not begin until construction below finish grade has been approved, underground utilities systems have been inspected, tested and approved, forms removed, and the excavation cleaned of trash and debris. Backfill shall be brought to indicated finish grade . Backfill shall not be placed in wet or frozen areas. Where pipe is coated or wrapped for protection against corrosion, the backfill material up to an elevation 600 mm above sewer lines and 300 mm above other utility lines shall be free from stones larger than 25 mm in any dimension. Heavy equipment for spreading and compacting backfill shall not be operated closer to foundation or retaining walls than a distance equal to the height of backfill above the top of footing; the area remaining shall be compacted in layers not more than 100 mm in compacted thickness with power-driven hand tampers suitable for the material being compacted. Backfill shall be placed carefully around pipes or tanks to avoid damage to coatings, wrappings, or tanks. Backfill shall not be placed against foundation walls prior to 7 days after completion of the walls. As far as practicable, backfill shall be brought up evenly on each side of the wall and sloped to drain away from the wall. Each layer of fill and backfill shall be compacted to not less than the percentage of maximum density specified below:

	Percent Laboratory maximum density	
	Cohesive material	Cohesionless material
Fill, embankment, and backfill		
Under structures, building slabs, steps, paved areas, around footings, and in trenches	92	92
Under sidewalks and grassed areas	85	90

	Percent Laboratory maximum density	
	Cohesive material	Cohesionless material
Nonfrost susceptible materials		95
Subgrade		
Under sidewalks, top 150 mm	90	90

Approved compacted subgrades that are disturbed by the Contractor's operations or adverse weather shall be scarified and compacted as specified herein before to the required density prior to further construction thereon. Recompaction over underground utilities and heating lines shall be by hand tamping.

3.14 TESTING

Testing shall be the responsibility of the Contractor and shall be performed at no additional cost to the Government. Testing shall be performed by an approved commercial testing laboratory or may be performed by the Contractor subject to approval. Field in-place density shall be determined in accordance with ASTM D 1556, ASTM D 2167, or ASTM D 2922. When ASTM D 2922 is used, the calibration curves shall be checked and adjusted if necessary by the procedure described in ASTM D 2922, paragraph ADJUSTING CALIBRATION CURVE. ASTM D 2922 results in a wet unit weight of soil and when using this method ASTM D 3017 shall be used to determine the moisture content of the soil. The calibration curves furnished with the moisture gauges shall also be checked along with density calibration checks as described in ASTM D 3017. The calibration checks of both the density and moisture gauges shall be made at the beginning of a job on each different type of material encountered and at intervals as directed by the Contracting Officer. ASTM D 2937 shall be used only for soft, fine-grained, cohesive soils. The following number of tests, if performed at the appropriate time, shall be the minimum acceptable for each type operation.

3.14.1 In-Place Densities

In-place density and moisture content test results shall be included with the Contractor's daily construction quality control reports.

3.14.1.1 In-Place Density of Subgrades

One test per 20 square meters or fraction thereof.

3.14.1.2 In-Place Density of Fills and Backfills

One test per 500 square meters or fraction thereof of each lift for fill or backfill areas compacted by other than hand or hand-operated machines. The density for each lift of fill or backfill materials for trenches, pits, building perimeters or other structures or areas less than 20 meters in width, which are compacted with hand or hand-operated machines shall be tested as follows: One test per each area less than 20 square meters, or one test for each 20 linear meter of long narrow fills 50 meters or more in length. If ASTM D 2922 is used, in-place densities shall be checked by ASTM D 1556 as follows: One check per lift for each 80 linear meters of long narrow fills, and a minimum of 2 checks per lift for other fill and backfill areas.

3.14.2 Moisture Content

In the stockpile, excavation or borrow areas, a minimum of two tests per day per type of material or source of materials being placed is required during stable weather conditions. During unstable weather, tests shall be made as dictated by local conditions and approved moisture content shall be tested in accordance with ASTM D 2216.

3.14.3 Optimum Moisture and Laboratory Maximum Density

Tests shall be made for each type material or source of material, including borrow material to determine the optimum moisture and laboratory maximum density values. One representative test per 500 cubic meters of fill and backfill, or when any change in material occurs which may affect the optimum moisture content or laboratory maximum density will be made.

3.15 CAPILLARY WATER BARRIER

Capillary water barrier under concrete floor and area-way slabs on grade shall be placed directly on the subgrade and shall be compacted with a minimum of two passes of a hand-operated plate-type vibratory compactor.

3.16 GRADING

Areas within 1.5 m outside of each building and structure line shall be constructed true-to-grade, shaped to drain, and shall be maintained free of trash and debris until final inspection has been completed and the work has been accepted.

3.17 SPREADING TOPSOIL

Areas outside the building lines from which topsoil has been removed shall be topsoiled. The surface shall be free of materials that would hinder planting or maintenance operations. The subgrade shall be pulverized to a depth of 50 mm by disking or plowing for the bonding of topsoil with the subsoil. Topsoil shall then be uniformly spread, graded, and compacted to the thickness, elevations, slopes shown, and left free of surface irregularities. Topsoil shall be compacted by one pass of a cultipacker, roller, or other approved equipment weighing 1.46 kN/m to 2.34 kN/m of roller. Topsoil shall not be placed when the subgrade is frozen, excessively wet, extremely dry, or in a condition otherwise detrimental to

seeding, planting, or proper grading.

3.18 PROTECTION

Settlement or washing that occurs in graded, topsoiled, or backfilled areas prior to acceptance of the work, shall be repaired and grades reestablished to the required elevations and slopes.

-- End of Section --

SECTION 08120

ALUMINUM DOORS AND FRAMES
07/98
AMENDMENT NO. 0002

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 basic designation only.

ALUMINUM ASSOCIATION (AA)

AA DAF-45	(1997) Designation System for Aluminum Finishes

AMERICAN ARCHITECTURAL MANUFACTURERS ASSOCIATION (AAMA)

AAMA 605	(1998) Voluntary Specification for High Performance Organic Coatings on Architectural Aluminum Extrusions and Panels
AAMA 1503	(1998) Voluntary Test Method for Thermal Transmittance and Condensation Resistance of Windows, Doors and Glazed Wall Sections

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM B 209	(1996) Aluminum and Aluminum-Alloy Sheet and Plate
ASTM B 209M	(1995) Aluminum and Aluminum-Alloy Sheet and Plate (Metric)
ASTM B 221	(1996) Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes
ASTM B 221M	(1996) Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes (Metric)
ASTM E 283	(1991) Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen
ASTM E 330	(1997el) Structural Performance of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference
ASTM E 331	(1996) Water Penetration of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference

1.2 SYSTEM DESCRIPTION

Frames and swing-type aluminum doors, of size and design shown on the drawings, shall be provided at the locations indicated. Frames shall be furnished complete with doors, subframes, transoms, adjoining sidelights, adjoining window wall system, trim, and other accessories indicated and specified.

1.3 PERFORMANCE REQUIREMENTS

1.3.1 Wind Load Performance

Doors and frames shall be of sufficient strength to withstand a design wind load of 1440 Pa (30 pounds per square foot) of supported area with a deflection of not more than 1/175 times the length of the member. Doors shall be tested in accordance with ASTM E 330 at a pressure not less than 1.5 times the design load.

1.3.2 Water Penetration Performance

Frames and fixed areas, and non-handicap complying doors shall have no water penetration when tested in accordance with ASTM E 331 at a pressure of 383 Pa.

1.4 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. 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-03 Product Data

Aluminum Doors and Frames; G, ED

Manufacturer's descriptive data and catalog cuts including air-infiltration data.

Installation; ,
Cleaning; ,

Manufacturer's installation instructions and cleaning instructions.

SD-04 Samples

Finishes; G, ED

Samples of the color anodized coating, showing the extreme color range .

SD-06 Test Reports

Aluminum Doors; ,

For full-glazed and flush doors, certified test reports from an independent testing laboratory, stating that doors are identical in design, materials, and construction to a door that has been tested and meets all test and specified requirements.

1.5 DELIVERY AND STORAGE

Materials delivered to the jobsite shall be inspected for damage, and shall be unloaded with a minimum of handling. Storage shall be in a dry location with adequate ventilation, free from dust, water, and other contaminants, and which permits easy access for inspecting and handling. Materials shall be neatly stored on the floor, properly stacked on nonabsorptive strips or wood platforms. Doors and frames shall not be covered with tarps, polyethylene film, or similar coverings.

1.6 WARRANTY

Manufacturer's standard performance guarantees or warranties that extend beyond a one-year period shall be provided.

PART 2 PRODUCTS

2.1 ALUMINUM DOORS AND FRAMES

Extrusions shall comply with ASTM B 221M , Alloy 6063-T5 or -T6, except alloy used for anodized color coatings shall be required to produce the specified color. Aluminum sheets and strips shall comply with ASTM B 209M , alloy and temper best suited for the purpose. Fasteners shall be hard aluminum or stainless steel.

2.1.1 Finishes

Finish shall be color anodized . Color anodized finish shall be AA-M10C22A44 in accordance with the requirements of AA DAF-45.

2.1.2 Welding and Fastening

Where possible, welds shall be located on unexposed surfaces. Welds required on exposed surfaces shall be smoothly dressed. Welding shall produce a uniform texture and color in the finished work, free of flux and spatter. Exposed screws or bolts will be permitted only at inconspicuous locations and shall have heads countersunk.

2.1.3 Anchors

Anchors shall be stainless steel or steel with a hot-dipped galvanized finish. Anchors of the sizes and shapes required shall be provided for securing aluminum frames to adjacent construction. Anchors shall be placed near top and bottom of each jamb and at intermediate points not more than 625 mm apart. Transom bars shall be anchored at ends, and mullions shall be anchored at head and sill. Where indicated on the drawings, vertical mullion reinforcement shall be of sufficient length to extend up to the overhead structural slab or framing and be securely attached thereto. The bottom of each frame shall be anchored to the rough floor construction with 2.4 mm (3/32 inch) thick stainless steel angle clips secured to the back of each jamb and to floor construction. Stainless steel bolts and expansion rivets shall be used for fastening clip anchors.

2.1.4 Hardware

(AM#2) Hardware for aluminum doors shall be provided by the aluminum door and frame manufacturer/supplier except for lock cylinders which shall be furnished under specification Section 08700. Hardware for aluminum doors shall include manufacturer's standard as appropriate for application indicated as follows:

Exit devices, locksets, and latchsets
Heavy duty ball bearing hinges
Threshold
Weatherstripping
Overhead parallel arm closer with cushion stop
Full width push bar
Pull handle

At exterior aluminum doors 117A, 118A, 128B, 169A, 173A provide exit device with lever handle entry locking function exterior.

At exterior aluminum doors 217A, 228B, 258A provide lever handle passage latchset (no locking function).

At exterior aluminum doors C6 and D6 provide lever handle lockset with entry locking.

Doors and frames shall be cut, reinforced, drilled, and tapped at the factory to receive all hardware items. Reinforcement shall be provided in the core of doors to receive locks, door closers, and other hardware. Doors to receive surface applied hardware shall be reinforced as required.

2.1.5 Glazing

Glazing shall be as specified in Section 08810 GLASS AND GLAZING. Metal glazing beads, vinyl inserts, and glazing gaskets shall be provided for securing glass. Glass stops shall be tamperproof on exterior side.

2.1.6 Weatherstripping

Weatherstripping shall be continuous silicone-treated wool pile type, or a type recommended by the door manufacturer and shall be provided on head and jamb of exterior door frames. Weatherstripping for bottom of doors shall be as shown. Weatherstripping shall be easily replaced without special tools, and shall be adjustable at meeting stiles of pairs of doors. Air leakage rate of weatherstripping shall not exceed 0.775 L/s per lineal meter (0.5 cfm per lineal foot) of crack when tested in accordance with ASTM E 283 at standard test conditions.

2.2 ALUMINUM FRAMES

Frames shall be double-glazed window wall system. Frames shall be fabricated of extruded aluminum shapes to contours as shown on the drawings. Shapes shown are representations of design, function, and required profile. Dimensions shown are minimum. Shapes of equivalent design may be submitted, subject to approval of samples. Minimum metal wall thickness shall be 2.29 mm, except glazing beads, moldings, and trim shall be not less than 1.27 mm. Frames that are to receive glass shall have removable snap-on glass stops and glazing beads. Joints in frame members shall be milled to a hairline tight fit so that raw edges of the assembly are not visible, sealed internally to prevent water infiltration, reinforced, and secured mechanically by appropriate screws or by screw spline attachment.

2.3 ALUMINUM DOORS

Doors shall be not less than 44.4 mm (1-3/4 inches) thick. Clearances at hinge stiles, lock stiles and top rails, floors and thresholds, shall comply with manufacturer's standard. Single-acting doors shall be beveled 3 mm at lock and meeting stile edges. Double-acting doors shall have rounded edges at hinge stile, lock stile, and meeting stile edges.

2.3.1 Full-Glazed Stile and Rail Doors

Doors shall have medium stiles and rails as shown, and shall be fabricated from extruded aluminum hollow seamless tubes or from a combination of open-shaped members interlocked or welded together. Doors shall be double-glazed and shall have a minimum total average unit thermal resistance of 0.34 square meter degree K per W (R value 1.92) . Top and bottom rail shall be fastened together by means of welding or by 10 mm diameter plated tensioned steel tie rods. Extruded aluminum snap-in glazing beads shall be provided on interior side of doors. Extruded aluminum theft-proof snap-in glazing beads or fixed glazing beads shall be provided on exterior or security side of doors. Glazing beads shall have vinyl insert glazing gaskets, designed to receive glass of thickness required. Glass is specified in Section 08810 GLASS AND GLAZING.

2.3.2 Automatic Sliding Doors

Header shall be 13 mm high by 102 mm wide. Track shall be 13 mm wide stainless steel capped roller track with five year warranty.

Aluminum Sections: Doors and sidelites shall be heavy duty extruded aluminum interlocked sections and thru rod bolted construction. DC 13 Dark Bronze anodized.

Sag Free Construction: Sliding doors shall be carrier suspended and shall have a steel corner support at the hinge stile.

Motor/Gear Box Operator: Shall be Dor-O-Matic's Astro-Slide self-contained electro-mechanical operator with cog belt drive.

Control Box: Microprocessor control box shall completely eliminate any rotary cam mechanism or door position switches along the header. Speed controls shall be adjustable for opening and closing speed. Adjustable time delay shall provide from one (1) to thirty (30) seconds of door hold open. Control box shall have an adjustable safety reverse feature as standard. The safety reverse function shall automatically reverse the sliding door(s) to the full open position should a person or object be encountered during the closing cycle. If the sliding door is obstructed during the opening cycle, the door shall stop.

Activating Controls: Shall be by Dor-O-Matic's Astro-Scan motion detector, push plate, or any other momentary contact device.

Safety Beams: Sliding door packages shall be equipped with two (2) safety beams, as standard. "Look-See" threshold sensor shall be included.

Door Suspension System: Door suspension system shall be over centerline of the door. Provide 44 mm diameter nylon rollers.

Non-adjustable magnetic latch shall be provided.

Sliding door package shall meet ANSI/BHMA A156.10 - 1991 and UL 325 standards.

Energy-wise Sealing Including:

Adjustable nylon sweeps on the bottom of sliding doors.
Dual weather stripping on leading edge of sliding doors, including lock stile.
Single weather stripping between the carrier and header, on the lock stiles of the sidelights and pivot stiles of sliding doors.

Energy-wise switch (optional) which allows door opening to be reduced.

Doors sliding on inside of building/header:

Security latches shall be provided on sliding doors to positively latch sliding doors to sidelites when doors are closed.
Floor Guides: Sliding doors shall slide in floor guides in the sidelite area only.
Emergency Egress: Swing out exterior sidelites and doors shall be provided to comply with NFPA #101.

And/or doors sliding on outside of building/header and sliding doors in full pocket units:

The interior sidelite shall be fixed so that when doors are in closed position and locked the automatic door package is secure.
Side Guides: Sliding doors shall slide in side guides in the sidelite area only.
Emergency Egress: Sliding door shall slide on the exterior and shall swing out 90 degrees from any position in its cycle to comply with NFPA #101.
Mechanical closer in sliding door: Sliding doors shall have a mechanical spring closer as standard.

2.4 COLOR, TEXTURE, AND PATTERN

Color, Texture, and pattern shall be smooth, satin, dark bronze

PART 3 EXECUTION

3.1 INSTALLATION OF DOORS, FRAMES, AND ACCESSORIES

3.1.1 Protection of Aluminum

Aluminum shall not be used where it will be in contact with copper or where it will contact water which flows over copper surfaces. Aluminum that will be in contact with wet or pressure-treated wood, mortar, concrete, masonry, or ferrous metals shall be protected against galvanic or corrosive action by one of the following methods.

3.1.1.1 Paint

Aluminum surfaces to be protected shall be solvent cleaned and given a coat of zinc-molybdate primer and one coat of aluminum paint.

3.1.1.2 Nonabsorptive Tape or Gasket

Nonabsorptive tape or gasket shall be placed between the adjoining surfaces and shall be cemented to the aluminum surface using a cement compatible with aluminum.

3.1.2 Installation

Frames and framing members shall be accurately set in position to receive adjoining components. Frames shall be plumb, square, level, and in alignment, and securely anchored to adjacent construction. Metal-to-metal joints between framing members and joints between framing members and building surfaces shall be sealed as specified in Section 07900 JOINT SEALING. Doors shall be accurately hung with proper clearances, and adjusted to operate properly.

3.1.3 Cleaning

Doors and frames shall be cleaned in accordance with the manufacturer's approved instructions.

-- End of Section --