PORT & MARINE SERVICES
201 William Street
Key West, FL 33040

ADDENDUM NO. 1

REBID: TRANSIENT RESTROOM/ DOCKMASTER BUILDING
CITY MARINA at GARRISON BIGHT
ITB #18-010

The information contained in this Addendum adds information to be included in the Bid and is hereby made a part of the Contract Documents. The referenced bid package is hereby addended in accordance with the following items:

QUESTIONS and CLARIFICATIONS

1. Please advise if there are details forthcoming for the pre-finished aluminum and stainless steel cable rail assemblies (i.e.: dimensions/profiles on the posts, gauge of cabling, etc.).

   See revised sheet A-5.1 attached

2. There is no roof plan. The plans call for rigid insulation to slope at 1/4" per foot. Sheet A-1.1, Enlarged Site Plan, shows the roof slopes; are we to follow those slopes to create the roof pitches?

   Yes, follow sht. A-1.1, Enlarged Site Plan, for roof slopes

3. Who is responsible for the relocation of the existing oil recycling containment center?

   The oil recycling containment will be relocated by the owner.

4. Will the County require a permit for the new driveway cut?

   No, a Permanent Right-of-Way Permit will be required from the City.

5. What is the project cost estimate?

   Project cost estimate is $1,500,000

6. Please provide a geotechnical report.

   Geotechnical Report attached.

7. Bidder's Checklist, Page 30, Item Number 11 states: "*Bid submitted intact with the volume entitled "Bidding Requirement" and " Contract Forms"…"* If we are required to submit Part 2, Contract Forms Conditions of the Contract, what is the contractor required to complete and execute in Part 2, Contract Forms?

   Revise Bidder's Checklist item #11 to read "Bid submitted intact with the volume containing the all Procurement Requirements and any forms required in Part 2, 3, 4 & 5 of the documents, one (1) original, two (2) USB drives.

8. Is Certified Payroll required?

   No, certified payroll is not required.

9. Are there Davis Bacon Wages included in this contract?

   No, Davis Bacon does not apply to this contract.

10. Is a Flood Elevation Certificate available?

    No, there is no flood elevation certificate.

11. Page 12, Liquidated Damages states "Sundays and legal holidays shall be ***excluded***…". Pages 32, 54 and 63 state they are to be "***included***". Which is correct?

    Sundays and legal holidays shall be *included* in determining days in default.

12. Sheet E-3 note located in middle top of page states "Provide 24 volt transformer, video cameras with back-up……and wireless cameras." The note does not indicate the location and quantity. Please provide the location and quantities for the new cameras?

    See revised sheet A-5.1 attached

13. Sheet E-3 (in the same note) also states "... underground wire pull box @ GPS Coordinates 24336.07 N 81475.75 W…". These coordinates seem to indicate the pull box is located off property. Please provide drawings showing the exact location for this pull box?

    See revised sheet A-5.1 attached

14. Contractor is responsible to maintain one (1) active driveway off Palm Avenue. Temporary closure only for final paving and striping.

15. Contractor is responsible to maintain access to boat ramp. Temporary closure only for final paving and striping.

16. Staging Area Plan attached. Note that the shoulder area between the staging area and sidewalk may also be used for staging. It will be the contractor's responsibility to restore should, if used, at no cost to the owner.

17. Florida Building Code Energy Calculations attached

18. Miami-Dade Notice of Acceptance (NOA's) attached

19. Florida Green Building Coalition (FGBC) Checklist and Guidelines attached.

20. Mandatory Pre-Bid Sign-In sheet attached.

PROCUREMENT REQUIREMENTS

1. New Bid Schedule attached.

2. Non-Collusion Affidavit attached.

SPECIFICATIONS

Section 01010 – SCOPE OF WORK

1. Contractor to provide and maintain "two" (2) unisex ADA compliant portable toilets for the duration of the project. Toilets to be emptied a minimum of twice weekly.

DRAWINGS

1. Remove and replace sheet A-5.1 with attached

2. Remove and replace sheet E-3 with attached

3. Remove and replace sheet C-2 with attached.

All other elements of the Contract and Bid documents, including the Bid Date shall remain unchanged.

All Bidders shall acknowledge receipt and acceptance of this **Addendum No. 1** by submitting the addendum with their proposal. Proposals submitted without acknowledgement or without this Addendum may be considered non-responsive.

_____ _____

Signature Name of Business

REPORT OF
GEOTECHNICAL EXPLORATION

GARRISON BIGHT DOCK MASTER BUILDING
1801 NORTH ROOSEVELT BLVD.
KEY WEST, FLORIDA 33040

FOR

DOUGLAS N. HIGGINS, INC.
5707 COLLEGE ROAD
KEY WEST, FLORIDA 33040

PREPARED BY

NUTTING ENGINEERS OF FLORIDA, INC.
2051 NW 112TH AVENUE, SUITE 126
MIAMI, FLORIDA 33172

PROJECT No. 1218.7

MAY 2015

Nutting Engineers
of Florida Inc. | Established 1967
Your Project is Our Commitment

2051 N.W. 112th Avenue, Suite 126
Miami, Florida 33172
305-557-3083
Toll Free: 877-NUTTING (688-8464)
Fax: 305-824-8827
Broward 954-941-8700
Palm Beach 561-736-4900
St. Lucie 772-408-1050
www.nuttingengineers.com

May 29, 2015

Mr. Otis May
Douglas N. Higgins, Inc.
5707 College Road
Key West, Florida 33040
Phone: (305) 292-7889
Cell: (305) 304-1021
Email: otism@dnhiggins.com

Subject: Report of Geotechnical Exploration
Garrison Bight Dock Master Building
1801 North Roosevelt Blvd.
Key West, Florida 33040

Dear Mr. May:

Nutting Engineers of Florida, Inc. (NE) has performed a geotechnical exploration for the proposed building at the above referenced site. The purpose of this exploration was to obtain information concerning the site and subsurface conditions at specific locations in order to provide site preparation and foundation design recommendations for support of the proposed construction. This report presents our findings and recommendations.

PROJECT INFORMATION

Based on our conversations and review of the site plans provided to us, we understand that a metal prefabricated building consisting of five conex containers will be installed at Garrison Bight. We anticipate that the proposed building will elevated on columns four to five feet above existing grade; no additional fill will be used. Final elevations should be determined by a professional engineer or professional architect, or others. We note that if any of our understandings or assumptions are incorrect, we should be notified so that we may amend our recommendations accordingly.

GENERAL SUBSURFACE CONDITIONS

Subsurface Exploration

The exploration of subsurface conditions included site observation and Standard Penetration Test borings (ASTM D-1586). In order to explore the subsurface conditions at the site, two (2) Standard Penetration Test (SPT) borings were performed to a depth of twenty feet below the prevailing ground surface.

The locations of the test borings are indicated on the attached Test Boring Location Plan. Individual test boring reports are presented in the Appendix of this report. The boring locations were established in the field using approximate methods; namely, a measuring wheel and available surface controls.

Test Boring Results

The appended test boring logs present information and descriptions of the subsurface conditions as well as "N" values at each specific test boring location. The number of successive blows required to drive the sampler into the soil constitutes the test result commonly referred to as the "N" value. The "N" value has been empirically correlated with various soil properties and is considered to be indicative of the relative density of cohesionless soils and the consistency of cohesive soils.

In general, the test borings revealed a six inch layer of asphalt followed by loose to medium dense quartz fine silty sand and limestone fragments to depths of approximately six to fourteen feet underlain by very loose silt and limestone fragments to approximately fifteen feet. Below this depth, medium hard to hard limestone and quartz fine sand was observed to twenty feet, the maximum depth explored.

Representative samples collected from the SPT borings were visually reviewed in the laboratory by a geotechnical engineer to confirm the field classifications. A detailed description of the soil/rock profile is presented in the test boring records provided in the Appendix.

Groundwater Information

The immediate groundwater level was measured at the boring locations at the time of drilling. The groundwater level was encountered at a depth of approximately three and a half feet below the existing ground surface. The immediate depth to groundwater measurements presented in this report may not provide a reliable indication of stabilized or longer term depth to groundwater at this site. Water table elevations can vary dramatically with time through rainfall, droughts, storm events, flood control activities, nearby surface water bodies, tidal activity, pumping and many other factors. For these reasons, this immediate depth to water data **should not** be relied upon alone for project design considerations.

Further information regarding stabilized groundwater elevations at the site could be developed upon specific request. Additional evaluation might include monitoring of peizomenters, survey of the project area for evidence of current groundwater elevation influences such as wellfields, obvious construction dewatering, tidal activity, flood control canals and other surface water bodies.

ANALYSIS AND RECOMMENDATIONS

The test borings performed for this project revealed loose to medium dense quartz fine silty sand and limestone fragments to depths of approximately six to fourteen feet below surface. Due to these said conditions and the loads imparted by the structure, it is our opinion that shallow foundations, along with the 16-inch diameter anchor piles discussed below, should provide sufficient support for the proposed construction, provided foundation criteria and site preparations are followed as discussed in this report.

We understand that the local Monroe County building code requires that shallow foundation systems must also include 16-inch auger piles installed to a minimum of three feet into the limestone formation. The foundation design and construction must be in accordance with the local building codes.

Foundation Design

Once the site preparation recommendations have been implemented as described in this report, the site may be developed with the proposed structure using conventional shallow foundations designed for an allowable bearing pressure of ***3,000 pounds per square foot.***

The shallow foundations should be sized and reinforcement must be provided in accordance with the current Florida Building Code and other applicable standards.

In accordance with Monroe County Ordinance Section 9.5-316.2 (b), we recommend that 16-inch diameter augercast piles be socketed three (3) feet into the moderately to well cemented limestone which is at this site encountered approximately at depths in the range of approximately 11 to 15 feet below existing grade. Therefore the piles would need to be installed to an approximate depth of 14 to 18 feet below grade. Pile spacing and reinforcement should be determined and designed by the structural Engineer as required by the Florida Building Code; however, as a minimum it shall consist of four (4) #5 bars extending the entire pile length and shall be placed as required by the referenced Monroe County Ordinance.

Foundation Settlement

Shallow foundations designed and constructed in accordance with the recommendations of this report are estimated to sustain total settlement of less than approximately one inch. Settlement of the foundations will occur as an elastic response of the soil to the loads applied. In this case, nearly all of the settlement of the foundations due to dead loads is expected to take place during construction. The portion of the settlement due to the live load of the structure will generally take place soon after the first application of this load.

Differential settlement between adjacent foundations should be approximately half of an inch. Distortions that occur along the wall footings due to differential settlement should not be more than 1 in 500.

Floor Slab

It is our opinion that the floor slab system may be constructed as a slab on grade. We recommend that the procedures described under the "Site Preparation" section of this report be used to prepare the floor slab subgrades. Thickness of slab and adequate reinforcement must be designed by the Structural Engineer to resist all anticipated stresses and loads. We recommend that a vapor barrier be placed between the soil and concrete.

GENERAL INFORMATION

Prior to initiating compaction operations, we recommend that representative samples of the structural fill material to be used and acceptable in-place soils be collected and tested to determine their compaction and classification characteristics. The maximum dry density, optimum moisture content, gradation and plasticity characteristics should be determined. These tests are needed for compaction quality control of the structural fill and existing soils, and to determine if the fill material is acceptable.

A representative number of in-place field density tests should be performed in the compacted existing soils and in each lift of structural fill or backfill to confirm that the required degree of compaction has been obtained.

Vibratory compaction equipment will cause vibrations that will be felt by persons within adjacent buildings and could cause cosmetic damage to existing structures. The contractor should exercise due care during the performance of the vibratory compaction work. If such vibrations are not considered tolerable, then alternate foundation modification techniques such as a three feet undercut replacement method with small vibratory compactor or pressure grouting method should be considered.

Excavations of five feet or more in depth should be sloped or shored in accordance with OSHA and State of Florida requirements. Materials removed from any excavation should not be stockpiled immediately adjacent to the open excavation as this load may cause a sudden collapse of the sidewalls. The contractor is solely responsible for designing and constructing stable, temporary excavations and should shore, slope, or bench the sides of the excavations as required to maintain stability of both the excavation sides and bottom.

The assessment of the site environmental conditions or the presence of pollutants in the soil, rock or groundwater of the site is beyond the proposed scope of this exploration. If you desire, ***Nutting Engineers of Florida, Inc.***, can perform an environmental assessment of the project site.

The installation of the pile system should be monitored by a full-time representative of Nutting Engineers to verify that the engineering intent is accomplished.

Changes in the submitted project details or the discovery of any site or varying subsurface conditions prior to and/or during construction which deviate from the data obtained in this exploration should be immediately reported to us so that the condition or change can be evaluated and appropriate action taken. We request the opportunity to review the final plans and specifications to assure that the intent of the recommendations of this report is properly interpreted and incorporated.

Our clients for this geotechnical evaluation were:

Douglas N. Higgins, Inc.
5707 College Road
Key West, Florida 33040

This report is prepared exclusively for the uses of client, other members of the design & construction team and governmental authorities for specific application to this project at the above referenced site. The conclusions provided by ***Nutting Engineers of Florida, Inc.***, are based solely on the information presented in this report. As a mutual protection to clients, the public and ourselves, all reports are submitted as the confidential property of clients, and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval.

The recommended construction phase inspection by the Geotechnical Engineer will provide continuity in the implementation and interpretation of the recommendations contained in this report. For this reason, we believe that this inspection service should be provided by ***Nutting Engineers of Florida, Inc.*** we would also like to offer our services for quality control testing and inspection of proposed construction, i.e. Augercast piles, foundation bearing surface, soils, concrete, steel and roofing materials.

We appreciate the opportunity to provide these services for you and look forward to continuing our services for this project. If we can be of any further assistance with the design or construction services, or if you need additional information, please feel free to contact us at your convenience.

Sincerely,
NUTTING ENGINEERS OF FLORIDA, INC.

5/29/15

Paul C. Catledge, P.E. #68448
Senior Engineer

Attachments: Test Boring Location Plan
Test Boring Reports
Soil Classification Criteria
Limitations of Liability

Nutting Engineers
of Florida Inc. | Established 1967

NUTTING ENGINEERS OF FLORIDA, INC.
ESTABLISHED 1967

GARRISON BIGHT DOCK MASTER BUILDING
1801 NORTH ROOSEVELT BLVD.
KEY WEST, FL 33040

APPROXIMATE TEST LOCATIONS

NOT TO SCALE

FIGURE 1

Nutting Engineers of Florida, Inc. | Established 1957
Your Project is Our Commitment
1310 Neptune Drive
Boynton Beach, Fl., 33426
Telephone: 561-736-4900
Fax: 561-737-9975

BORING NUMBER B-1

PROJECT NUMBER 1218.7

CLIENT Douglas N. Higgins, Inc.

PROJECT NAME Garrison Bight Dock Master Building

PROJECT LOCATION 1801 North Roosevelt Blvd., Key West, FL 33040

DATE STARTED 4/27/15 COMPLETED 4/27/15

SURFACE ELEVATION REFERENCE Same as road crown

DRILLING METHOD Standard Penetration Boring

GROUND WATER LEVELS:

LOGGED BY D. Tyson CHECKED BY P. Catledge

▽ AT TIME OF DRILLING 3.5 ft ft

APPROXIMATE LOCATION OF BORING **As Shown on Site Plan**

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	Blows	N-Value
0		8-inch ASPHALT	SS 1	10-9-9	18
		Lt. tan LIMESTONE and slightly SILTY SAND			
		Lt. tan fine SILTY SAND	SS 2	10-7-6-6	13
		▽ Gray fine SILTY SAND and pieces of wood			
5			SS 3	4-4-4-4	8
			SS 4	1-2-3-2	5
		Lt. tan LIMESTONE FRAGMENTS and fine slightly SILTY SAND	SS 5	2-2-2-1	4
10		Lt. gray SILT	SS 6	1-1-2-3	3
		Lt. tan LIMESTONE and fine SAND			
			SS 7	7-8-10	18
15					
			SS 8	12-14-15	29
20		Bottom of hole at 20.0 feet.			

▲ SPT N VALUE ▲
10 20 30 40

PL MC LL
20 40 60 80

□ FINES CONTENT (%) □
20 40 60 80

TEST NUTTING BOREHOLE 2-1218.7 DOUGLAS N. HIGGINS, INC.- GARRISON BIGHT DOCK MASTER BUILDING.GPJ GINT US.GDT 5/29/15

Nutting Engineers of Florida, Inc. | Established 1967
Your Project is Our Commitment
1310 Neptune Drive
Boynton Beach, Fl., 33426
Telephone: 561-736-4900
Fax: 561-737-9975

BORING NUMBER B-2

PROJECT NUMBER 1218.7

CLIENT Douglas N. Higgins, Inc.

PROJECT NAME Garrison Bight Dock Master Building

PROJECT LOCATION 1801 North Roosevelt Blvd., Key West, FL 33040

DATE STARTED 4/27/15 COMPLETED 4/27/15

SURFACE ELEVATION REFERENCE Same as road crown

DRILLING METHOD Standard Penetration Boring

GROUND WATER LEVELS:

LOGGED BY D. Tyson CHECKED BY P. Catledge

▽ AT TIME OF DRILLING 3.5 ft ft

APPROXIMATE LOCATION OF BORING **As Shown on Site Plan**

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	Blows	N-Value	▲ SPT N VALUE ▲ 10 20 30 40 / PL MC LL 20 40 60 80 / □ FINES CONTENT (%) □ 20 40 60 80
0		4-inch TOPSOIL				
		Lt. tan to gray fine slightly SILTY SAND and LIMESTONE FRAGMENTS	SS 1	1-3-3-5	6	▲
		▽	SS 2	4-4-4-4	8	▲
5			SS 3	2-3-3-4	6	▲
		Brown SILT and LIMESTONE FRAGMENTS	SS 4	5-4-2-2	6	▲
			SS 5	3-2-1-1	3	▲
10			SS 6	2-2-1-1	3	▲
15			SS 7	1-2-2	4	▲
		Lt. tan LIMESTONE, some fine sand				
			SS 8	16-19-21	40	▲
20		Bottom of hole at 20.0 feet.				

TEST NUTTING BOREHOLE 2-1218.7 DOUGLAS N. HIGGINS, INC.- GARRISON BIGHT DOCK MASTER BUILDING.GPJ GINT US.GDT 5/29/15

SOIL AND ROCK CLASSIFICATION CRITERIA

SAND/SILT

N-VALUE (bpf)	RELATIVE DENSITY
0 – 4	Very Loose
5 – 10	Loose
11 – 29	Medium
30 – 49	Dense
>50	Very dense
100	Refusal

CLAY/SILTY CLAY

N-VALUE (bpf)	UNCONFINED COMP. STRENGTH (tsf)	CONSISTENCY
<2	<0.25	v. Soft
2 – 4	0.25 – 0.50	Soft
5 – 8	0.50 – 1.00	Medium
9 – 15	1.00 – 2.00	Soft
16 – 30	2.00 – 4.00	v. Stiff
>30	>4.00	Hard

ROCK

N-VALUE (bpf)	RELATIVE HARDNESS	ROCK CHARACTERISTICS
N≥ 100	Hard to v. hard	Local rock formations vary in hardness from soft to very hard within short vertical and horizontal distances and often contain vertical solution holes of 3 to 36 inch diameter to varying depths and horizontal solution features. Rock may be brittle to split spoon impact, but more resistant to excavation.
25≤ N ≤ 100	Medium hard to hard	
5≤ N ≤ 25	Soft to medium hard	

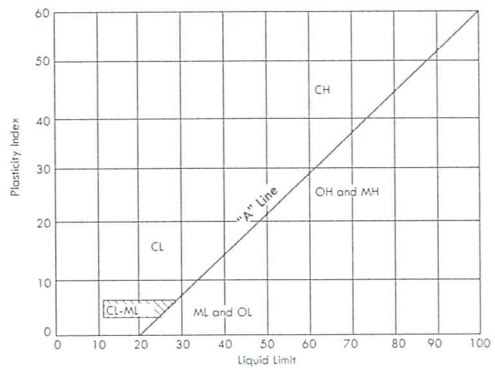
PARTICLE SIZE

Boulder	>12 in.
Cobble	3 to 12 in.
Gravel	4.76 mm to 3 in.
Sand	0.074 mm to 4.76 mm
Silt	0.005 mm to 0.074 mm
Clay	<0.005 mm

DESCRIPTION MODIFIERS

0 – 5%	Slight trace
6 – 10%	Trace
11 – 20%	Little
21 – 35%	Some
>35%	And

Major Divisions			Group Symbols	Typical names	Laboratory classification criteria
Coarse-grained soils (More than half of material is *larger* than No. 200 sieve size)	Gravels (More than half of coarse fraction is larger than No. 4 sieve size)	Clean gravels (Little or no fines)	GW	Well-graded gavels, gravel-sand mixtures, little or no fines	Determine percentages of sand and gravel from grain-size curve. Depending on percentage of fines (fraction smaller than No. 200 sieve size), coarse-grained soils are classified as follows: Less than five percent.....GW, GP, SW, SP; More than 12 percent.....GM, GC, SM, SC; 5 to 12 percent.....*Borderline* cases requiring dual systems**
			GP	Poorly graded gravels, gravel-sand mixtures, little or no fines	$C_u = \frac{D_{60}}{D_{10}}$ greater than 4; $C_z = \frac{(D_{30})^2}{D_{10} x D_{60}}$ *between* 1 and 3
		Gravels with fines (Appreciable amount of fines)	GW* d / u	Silty gravels, gravel-sand-silt mixtures	Not meeting all gradation requirements for GW
			GC	Clayey gravels, gravel-sand-clay mixtures	Atterberg limits below "A" line or P.I. less than 4; Atterberg limits above "A" line with P.I. greater than 7; Above "A" line with P.I. between 4 and 7 are *borderline* cases requiring use of dual symbols.
	Sands (More than half of coarse fraction is smaller than No. 4 sieve size)	Clean sands (Little or no fines)	SW	Well-graded sands, gravelly sands, little or no fines	$C_u = \frac{D_{60}}{D_{10}}$ greater than 6; $C_z = \frac{(D_{30})^2}{D_{10} x D_{60}}$ *between* 1 and 3
			SP	Poorly graded sands, gravelly sands, little or no fines	Not meeting all gradation requirements for SW
		Sands with fines (Appreciable amount of fines)	SM* d / u	Silty sands, sand-silt mixtures	Atterberg limits below "A" line or P.I. less than 4; Atterberg limits above "A" line with P.I. more than 7; Limits plotting in hatched zone with P.I. between 4 and 7 are *borderline* cases requiring use of dual system.
			SC	Clayey sands, sand-clay mixtures	
Fine-grained soils (More than half of material is *smaller* than No. 200 sieve size)	Silts and clays (Liquid limit less than 50)		ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity	
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy, clays, silty clays, lean clays	
			OL	Organic silts and organic silty clays of low plasticity	
	Silts and clays (Liquid limit greater than 50)		MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts	
			CH	Inorganic clays or high plasticity, fat clays	
			OH	Organic clays of medium to high plasticity, organic silts	
	Highly organic soils		PT	Peat and other highly organic soils	



Plasticity Chart

LIMITATIONS OF LIABLILITY

WARRANTY

We warranty that the services performed by Nutting Engineers of Florida, Inc. are conducted in a manner consistent with that level of care and skill ordinarily exercised by members of the profession in our area currently practicing under similar conditions at the time our services were performed. ***No other warranties, expressed or implied, are made***. While the services of Nutting Engineers of Florida, Inc. are a valuable and integral part of the design and construction teams, we do not warrant, guarantee or insure the quality, completeness, or satisfactory performance of designs, construction plans, specifications we have not prepared, nor the ultimate performance of building site materials or assembly/construction.

SUBSURFACE EXPLORATION

Subsurface exploration is normally accomplished by test borings; test pits are sometimes employed. The method of determining the boring location and the surface elevation at the boring is noted in the report. This information is represented in the soil boring logs and/or a drawing. The location and elevation of the borings should be considered accurate only to the degree inherent with the method used and may be approximate.

The soil boring log includes sampling information, description of the materials recovered, approximate depths of boundaries between soil and rock strata as encountered and immediate depth to water data. The log represents conditions recorded specifically at the location where and when the boring was made. Site conditions may vary through time as will subsurface conditions. The boundaries between different soil strata as encountered are indicated at specific depths; however, these depths are in fact approximate and dependent upon the frequency of sampling, nature and consistency of the respective strata. Substantial variation between soil borings may commonly exist in subsurface conditions. Water level readings are made at the time and under conditions stated on the boring logs. Water levels change with time, precipitation, canal level, local well drawdown and other factors. Water level data provided on soil boring logs shall not be relied upon for groundwater based design or construction considerations.

LABORATORY AND FIELD TESTS

Tests are performed in *general* accordance with specific ASTM Standards unless otherwise indicated. All criteria included in a given ASTM Standard are not always required and performed. Each test boring report indicates the measurements and data developed at each specific test location.

ANALYSIS AND RECOMMENDATIONS

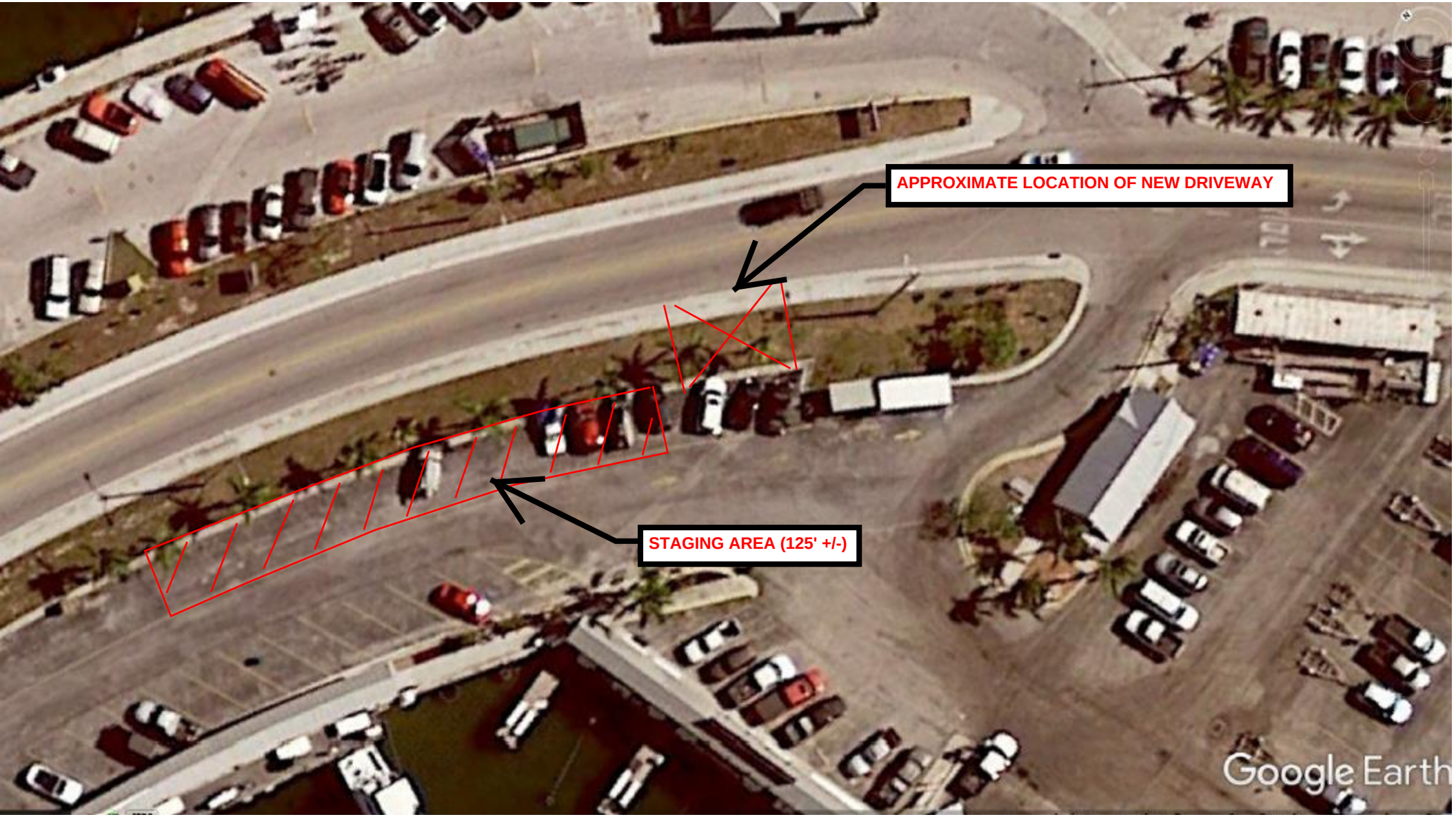
The geotechnical report is prepared primarily to aid in the design of site work and structural foundations. Although the information in the report is expected to be sufficient for these purposes, it shall not be utilized to determine the cost of construction nor to stand alone as a construction specification. Contractors shall verify subsurface conditions as may be appropriate prior to undertaking subsurface work.

Report recommendations are based primarily on data from test borings made at the locations shown on the test boring reports. Soil variations commonly exist between boring locations. Such variations may not become evident until construction. Test pits sometimes provide valuable supplemental information that derived from soil borings. If variations are then noted, the geotechnical engineer shall be contacted in writing immediately so that field conditions can be examined and recommendations revised if necessary.

The geotechnical report states our understanding as to the location, dimensions and structural features proposed for the site. ***Any significant changes of the site improvements or site conditions must be communicated in writing to the geotechnical engineer immediately*** so that the geotechnical analysis, conclusions, and recommendations can be reviewed and appropriately adjusted as necessary.

CONSTRUCTION OBSERVATION

Construction observation and testing is an important element of geotechnical services. The geotechnical engineer's field representative (G.E.F.R.) is the "owner's representative" observing the work of the contractor, performing tests and reporting data from such tests and observations. ***The geotechnical engineer's field representative does not direct the contractor's construction means, methods, operations or personnel.*** The G.E.F.R. does not interfere with the relationship between the owner and the contractor and, except as an observer, does not become a substitute owner on site. The G.E.F.R. is responsible for his/her safety, but has no responsibility for the safety of other personnel at the site. The G.E.F.R. is an important member of a team whose responsibility is to observe and test the work being done and report to the owner whether that work is being carried out in general conformance with the plans and specifications. The enclosed report may be relied upon solely by the named client.



STAGING AREA MAP

Florida Building Code, Fifth Edition (2014) - Energy Conservation

EnergyGauge Summit® Fla/Com-2015, Effective Date: June 30, 2015
IECC 2012 - Total Building Performance Compliance Option

Check List

Applications for compliance with the Florida Building Code, Energy Conservation shall include:

- ☑ This Checklist
- ☑ An Input report generated from the software just after completing compliance calculations without any further changes
- ☑ The full compliance report generated by the software that contains the project summary, complaince summary, certifications and detailed component compliance reports
- ☑ Boxes appropriately checked in the Miscellanous report generated by the software at the end of the compliance report

PROJECT SUMMARY

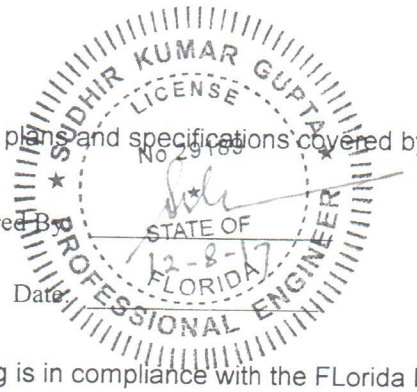
Short Desc:	DOCKMASTER	**Description:**	TRANSIENT RESTROOMS
Owner:			
Address1:	1801 N ROOSEVELT BLVD	**City:**	KEY WEST
Address2:		**State:**	FL
		Zip:	33040
Type:	Office	**Class:**	New Finished building
Jurisdiction:	KEY WEST, MONROE COUNTY, FL (541200)		
Conditioned Area:	1204 SF	**Conditioned & UnConditioned Area:**	1204 SF
No of Stories:	1	**Area entered from Plans**	1204 SF
Permit No:	0	**Max Tonnage**	5
		If different, write in:	_____

Compliance Summary

Component	Design	Criteria	Result
Gross Energy Cost (in $)	992.0	1,083.0	**PASSED**
LIGHTING CONTROLS			**PASSES**
EXTERNAL LIGHTING			**PASSES**
HVAC SYSTEM			**PASSES**
PLANT			**No Entry**
WATER HEATING SYSTEMS			**PASSES**
PIPING SYSTEMS			**PASSES**
Met all required compliance from Check List?			**(Yes)/No/NA**

IMPORTANT MESSAGE
Info 5009 -- -- -- An input report of this design building must be submitted along with this Compliance Report

CERTIFICATIONS



I hereby certify that the plans and specifications covered by this calculation are in compliance with the Florida Energy Code

Prepared By: _____ Date: 12-8-17

Building Official: _____ Date: _____

I certify that this building is in compliance with the FLorida Energy Efficiency Code

Owner Agent: _____ Date: _____

If Required by Florida law, I hereby certify (*) that the system design is in compliance with the Florida Energy Efficiency Code

Architect: _____ Reg No: _____

Electrical Designer: _____ Reg No: _____

Lighting Designer: _____ Reg No: _____

Mechanical Designer: SUDHIR K GUPTA Reg No: P.E. 29189 FL

Plumbing Designer: _____ Reg No: _____

(*) Signature is required where Florida Law requires design to be performed by registered design professionals. Typed names and registration numbers may be used where all relevant information is contained on signed/sealed plans.

Project: DOCKMASTER
Title: TRANSIENT RESTROOMS/DOCKMASTER BLDG
Type: Office
(WEA File: Keywest.tmy)

Building End Uses

	1) Proposed	2) Baseline
Total	*64.10*	*81.60*
	$992	*$1,274*
ELECTRICITY(MBtu/kWh/$)	64.10	81.60
	18753	23897
	$992	*$1,274*
AREA LIGHTS	18.80	13.80
	5512	4056
	$292	*$216*
MISC EQUIPMT	18.10	18.10
	5292	5292
	$280	*$282*
SPACE COOL	21.10	29.20
	6173	8550
	$327	*$456*
SPACE HEAT	0.00	0.00
	0	1
	$0	*$0*
VENT FANS	6.10	20.50
	1776	5998
	$94	*$320*

Credits Applied: None
Passing Criteria = 1083
Design (including any credits) = 992
Passing requires Proposed Building cost to be at most 85% of Baseline cost. This Proposed Building is at 77.9%

PASSES

Project: DOCKMASTER
Title: TRANSIENT RESTROOMS/DOCKMASTER BLDG
Type: Office
(WEA File: Keywest.tmy)

External Lighting Compliance

Description	Category	Tradable?	Allowance (W/Unit)	Area or Length or No. of Units (Sqft or ft)	ELPA (W)	CLP (W)
Ext Light 1	Uncovered Parking Areas -- Parking lots and Drives	Yes	0.15	1,400.0	210	180

Tradable Surfaces: 180 (W) Allowance for Tradable: 890 (W) **PASSES**
All External Lighting: 180 (W)
Complicance check includes a excess/Base allowance of 750.00(W)

Project: DOCKMASTER
Title: TRANSIENT RESTROOMS/DOCKMASTER BLDG
Type: Office
(WEA File: Keywest.tmy)

Lighting Controls Compliance

Acronym	Ashrae ID	Description	Area (sq.ft)	Design CP	Min CP	Compli-ance
Pr0Zo1Sp1	17	Office - Enclosed	1,204	1	1	PASSES

PASSES

Project: DOCKMASTER
Title: TRANSIENT RESTROOMS/DOCKMASTER BLDG
Type: Office
(WEA File: Keywest.tmy)

System Report Compliance

Pr0Sy1 **System 1** **Constant Volume Air Cooled Split System < 65000 Btu/hr** **No. of Units 1**

Component	Category	Capacity	Design Eff	Eff Criteria	Design IPLV	IPLV Criteria	Comp-liance
Cooling System	Air Conditioners Air Cooled Split System < 65000 Btu/h Cooling Capacity	60000	17.00	13.00	11.00		PASSES
Heating System	Electric Furnace	34000	1.00	1.00			PASSES
Air Handling System -Supply	Air Handler (Supply) - Constant Volume	1900	0.30	0.82			PASSES

PASSES

Plant Compliance

Description	Installed No	Size	Design Eff	Min Eff	Design IPLV	Min IPLV	Category	Compliance

None

Project: DOCKMASTER
Title: TRANSIENT RESTROOMS/DOCKMASTER BLDG
Type: Office
(WEA File: Keywest.tmy)

Water Heater Compliance

Description	Type	Category	Design Eff	Min Eff	Design Loss	Max Loss	Compliance
Water Heater 1	Electric water heater	<= 12 [kW]	0.88	0.86			PASSES

PASSES

Project: DOCKMASTER
Title: TRANSIENT RESTROOMS/DOCKMASTER BLDG
Type: Office
(WEA File: Keywest.tmy)

Piping System Compliance

Category	Pipe Dia [inches]	Is Runout?	Operating Temp [F]	Ins Cond [Btu-in/hr .SF.F]	Ins Thick [in]	Req Ins Thick [in]	Compliance
Heating System (Steam, Steam Condensate, & Hot Water)	0.50	True	105.00	0.28	1.00	0.00	PASSES

PASSES

Mandatory Requirements (as applicable)

Mandatory requirements compiled by US Department of Energy and Pacific Northwest National Laboratory. Adopted with permission

Topic	Section	Component	Description	Yes	N/A	Ex
1. To be checked by Designer or Engineer						
Fenestration	C402.2.7	Envelope	U-factor of opaque doors associated with the building thermal envelope meets requirements.	☑	☐	☐
Insulation	C402.2.1.1	Envelope	High-albedo roofs satisfy one of the following: 3-year-aged solar reflectance >= 0.55 and thermal emittance >= 0.75, 3-year-aged solar reflectance index >= 64.0, initial year solar reflectance >= 0.70 and thermal emittance >= 0.75, or initial year solar	☑	☐	☐
Wattage	C405.6	Exterior Lighting	Exterior grounds lighting over 100 W provides >60 lm/W unless on motion sensor or fixture is exempt from scope of code or from external LPD.	☑	☐	☐
Wattage	C405.4	Interior Lighting	Exit signs do not exceed 5 watts per face.	☑	☐	☐
Wattage	C405.2.3	Interior Lighting	Additional interior lighting power allowed for special functions per the approved lighting plans and is automatically controlled and separated from general lighting.	☑	☐	☐
HVAC	C403.2.6	Mechanical	Exhaust air energy recovery on systems meeting Table C403.2.6	☐	☑	☐
SYSTEM_SPECIFIC	C403.3.1,C403.3.1.1	Mechanical	Air economizers provided where required, meet the requirements for design capacity, control signal, ventilation controls, high-limit shut-off, integrated economizer control, and provide a means to relieve excess outside air during operation.	☐	☑	☐
SYSTEM_SPECIFIC	C403.3.1,C403.4.1	Mechanical	Water economizers provided where required, meet the requirements for design capacity, maximum pressure drop and integrated economizer control.	☐	☑	☐
SYSTEM_SPECIFIC	C403.4.1.4	Mechanical	Economizer operation will not increase heating energy use during normal operation.	☐	☑	☐
SYSTEM_SPECIFIC	C403.2.10.1	Mechanical	HVAC fan systems at design conditions do not exceed allowable fan system motor nameplate hp or fan system bhp.	☑	☐	☐
SYSTEM_SPECIFIC	C403.2.10.2	Mechanical	HVAC fan motors not larger than allowable limits.	☑	☐	☐
SYSTEM_SPECIFIC	C404.2	Mechanical	Service water heating equipment meets efficiency requirements.	☑	☐	☐
SYSTEM_SPECIFIC	C403.2.3	Mechanical	Centrifugal fan open-circuit cooling towers having combined rated capacity >= 1100 gpm meets minimum efficiency requirement: >=38.2 gpm/hp.	☐	☑	☐
2. To be checked by Plan Reviewer						
Air Leakage	C402.4.7	Envelope	Vestibules are installed on all building entrances. Doors have self-closing devices.	☐	☐	☐
Insulation	C402.2.6	Envelope	Slab edge insulation depth/length. Slab insulation extending away from building is covered by pavement or >= 10 inches of soil.	☐	☐	☐
Plan Review	C103.2	Envelope	Plans and/or specifications provide all information with which compliance can be determined for the building envelope and document where exceptions to the standard are claimed.	☐	☐	☐

Plan Review	C103.2	Exterior Lighting	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the exterior lighting and electrical systems and equipment and document where exceptions to the standard are claimed. Information provided should include exterior lighting power calculations, wattage of bulbs and ballasts, transformers and control devices.	☐ ☐ ☐
Wattage	C405.6.2	Exterior Lighting	Exterior lighting power is consistent with what is shown on the approved lighting plans, demonstrating proposed watts are less than or equal to allowed watts.	☐ ☐ ☐
Plan Review	C103.2	Interior Lighting	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the interior lighting and electrical systems and equipment and document where exceptions to the standard are claimed. Information provided should include interior lighting power calculations, wattage of bulbs and ballasts, transformers and control devices.	☐ ☐ ☐
HVAC	C403.2.5.1	Mechanical	Demand control ventilation provided for spaces >500 ft2 and >25 people/1000 ft2 occupant density and served by systems with air side economizer, auto modulating outside air damper control, or design airflow >3,000 cfm.	☐ ☐ ☐
HVAC	C403.2.4.3	Mechanical	Each zone equipped with setback controls using automatic time clock or programmable control system.	☐ ☐ ☐
Plan Review	C103.2	Mechanical	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the mechanical systems and equipment and document where exceptions to the standard are claimed. Load calculations per acceptable engineering standards and handbooks.	☐ ☐ ☐
Plan Review	C103.2	Mechanical	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the service water heating systems and equipment and document where exceptions to the standard are claimed. Hot water system sized per manufacturer's sizing guide.	☐ ☐ ☐
SYSTEM_SPECIFIC	C403.4.5	Mechanical	Zone controls can limit simultaneous heating and cooling and sequence heating and cooling to each zone.	☐ ☐ ☐
SYSTEM_SPECIFIC	C403.4.3.1	Mechanical	Three-pipe hydronic systems using a common return for hot and chilled water are not used.	☐ ☐ ☐
SYSTEM_SPECIFIC	C403.4.3.2	Mechanical	Two-pipe hydronic systems using a common distribution system have controls to allow a deadband >=15 °F, allow operation in one mode for at least 4 hrs before changeover, and have rest controls to limit heating and cooling supply temperature to <=30 °F.	☐ ☐ ☐
SYSTEM_SPECIFIC	C403.4.3.3.1	Mechanical	Hydronic heat pump systems connected to a common water loop meet heat rejection and heat addition requirements.	☐ ☐ ☐
SYSTEM_SPECIFIC	C408.2.2.2	Mechanical	HVAC hydronic heating and cooling coils have means to balance and have pressure test connections.	☐ ☐ ☐
SYSTEM_SPECIFIC	C403.4.2	Mechanical	VAV fan motors >=7.5 hp to be driven by variable speed drive, have a vane-axial fan with variable pitch blades, or have controls to limit fan motor demand.	☐ ☐ ☐
SYSTEM_SPECIFIC	C403.4.2.1	Mechanical	VAV fans have static pressure sensors positioned so setpoint <=1/3 total design pressure.	☐ ☐ ☐
SYSTEM_SPECIFIC	C403.4.2.2	Mechanical	Reset static pressure setpoint for DDC controlled VAV boxes reporting to central controller based on the zones requiring the most pressure.	☐ ☐ ☐
SYSTEM_SPECIFIC	C403.4.5.4	Mechanical	Multiple zone HVAC systems have supply air temperature reset controls.	☐ ☐ ☐
SYSTEM_SPECIFIC	C403.4.3.4	Mechanical	Hydronic systems greater than 300,000 Btu/h designed for variable fluid flow.	☐ ☐ ☐

SYSTEM_SPECIFIC	C403.4.3.4	Mechanical	Temperature reset by representative building loads in pumping systems for chiller and boiler systems >300,000 Btu/h.	☐	☐	☐
SYSTEM_SPECIFIC	C403.4.4	Mechanical	Fan systems with motors >=7.5 hp associated with heat rejection equipment to have capability to operate at 2/3 of full-speed and auto speed controls to control the leaving fluid temperature or condensing temp/pressure of heat rejection device.	☐	☐	☐
Plan Review	C406	Project	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the additional energy efficiency package options.	☐	☐	☐
Plan Review	C402.3.2.2	Envelope	Skylights in office, storage, automotive service, manufacturing, non-refrigerated warehouse, retail store, and distribution/sorting area have a measured haze value > 90 percent unless designed to exclude direct sunlight.	☐	☐	☐
3. To be checked by Inspector						
Air Leakage	C402.4.1,C402.4.2	Envelope	The building envelope contains a continuous air barrier that is sealed in an approved manner and either constructed or tested in an approved manner. Air barrier penetrations are sealed in an approved manner.	☐	☐	☐
Air Leakage	C402.4.3,C402.4.4	Envelope	Factory-built fenestration and doors are labeled as meeting air leakage requirements.	☐	☐	☐
Air Leakage	C402.4.1.1	Envelope	All sources of air leakage in the building thermal envelope are sealed, caulked, gasketed, weather stripped or wrapped with moisture vapor-permeable wrapping material to minimize air leakage.	☐	☐	☐
Air Leakage	C402.4.6	Envelope	Weatherseals installed on all loading dock cargo doors.	☐	☐	☐
Air Leakage	C402.4.8	Envelope	Recessed luminaires in thermal envelope to limit infiltration and be IC rated and labeled. Seal between interior finish and luminaire housing.	☐	☐	☐
Fenestration	C303.1.3	Envelope	Fenestration products rated in accordance with NFRC.	☐	☐	☐
Fenestration	C303.1.3	Envelope	Fenestration products are certified as to performance labels or certificates provided.	☐	☐	☐
Insulation	C303.2	Envelope	Below-grade wall insulation installed per manufacturer's instructions.	☐	☐	☐
Insulation	C303.2	Envelope	Slab edge insulation installed per manufacturer's instructions.	☐	☐	☐
Insulation	C403.2.7,C408.2.8,(	Envelope	Exterior insulation protected against damage, sunlight, moisture, wind, landscaping and equipment maintenance activities.	☐	☐	☐
Insulation	C402.4.2.1	Envelope	Roof R-value. For some ceiling systems, verification may need to occur during Framing Inspection.	☐	☐	☐
Insulation	C303.2	Envelope	Roof insulation installed per manufacturer's instructions. Blown or poured loose-fill insulation is installed only where the roof slope is <=3 in 12.	☐	☐	☐
Insulation	C402.2.1	Envelope	Skylight curbs are insulated to the level of roofs with insulation above deck or R-5.	☐	☐	☐
Insulation	C303.2	Envelope	Above-grade wall insulation installed per manufacturer's instructions.	☐	☐	☐
Insulation	C303.2	Envelope	Floor insulation installed per manufacturer's instructions.	☐	☐	☐
Insulation	C303.1	Envelope	Building envelope insulation is labeled with R-value or insulation certificate providing R-value and other relevant data.	☐	☐	☐
Insulation	C303.2.1	Envelope	Exterior insulation is protected from damage with a protective material. Verification for exposed foundation insulation may need to occur during Foundation Inspection.	☐	☐	☐

Insulation	C402.2.1	Envelope	Insulation intended to meet the roof insulation requirements cannot be installed on top of a suspended ceiling. Mark this requirement compliant if insulation is installed accordingly.	☐	☐	☐
Controls	C405.2.4	Exterior Lighting	Automatic lighting controls for exterior lighting installed.	☐	☐	☐
Controls	C405.2.2.1	Interior Lighting	Automatic controls to shut off all building lighting installed in all buildings.	☐	☐	☐
Controls	C405.2.1.1	Interior Lighting	Independent lighting controls installed per approved lighting plans and all manual controls readily accessible and visible to occupants.	☐	☐	☐
Controls	C405.2.1.2	Interior Lighting	Lighting controls installed to uniformly reduce the lighting load by at least 50%.	☐	☐	☐
Controls	C405.2.2.3	Interior Lighting	Daylight zones provided with individual controls that control the lights independent of general area lighting.	☐	☐	☐
Controls	C405.2.3	Interior Lighting	Sleeping units have at least one master switch at the main entry door that controls wired luminaires and switched receptacles.	☐	☐	☐
Controls	C405.2.2.2	Interior Lighting	Occupancy sensors installed in required spaces.	☐	☐	☐
Controls	C405.2.2.3	Interior Lighting	Primary sidelighted areas are equipped with required lighting controls.	☐	☐	☐
Controls	C405.2.2.3	Interior Lighting	Enclosed spaces with daylight area under skylights and rooftop monitors are equipped with required lighting controls.	☐	☐	☐
Controls	C405.2.3	Interior Lighting	Separate lighting control devices for specific uses installed per approved lighting plans.	☐	☐	☐
Controls	C405.3	Interior Lighting	Fluorescent luminaires within odd numbered lamp configurations that are with 10 feet center to center (if recess mounted) or are within 1 foot edge to edge (if pendant or surface mounted) shall be tandem wired.	☐	☐	☐
Wattage	C405.5.2	Interior Lighting	Interior installed lamp and fixture lighting power is consistent with what is shown on the approved lighting plans, demonstrating proposed watts are less than or equal to allowed watts.	☐	☐	☐
HVAC	C403.2.4.5	Mechanical	Freeze protection and snow/ice melting system sensors for future connection to controls.	☐	☐	☐
HVAC	C403.2.3	Mechanical	HVAC equipment efficiency verified.	☐	☐	☐
Air Leakage	C402.4.5.1	Envelope	Stair and elevator shaft vents have motorized dampers that automatically close.	☐	☐	☐
Air Leakage	C402.4.5.2	Envelope	Outdoor air and exhaust systems have motorized dampers that automatically shut when not in use and meet maximum leakage rates. Check gravity dampers where allowed.	☐	☐	☐
HVAC	C403.2.8.1	Mechanical	Piping Insulation exposed to weather is protected from damage (due to sun, moisture, wind, etc.).	☐	☐	☐
HVAC	C403.2.7	Mechanical	HVAC ducts and plenums insulated. Where ducts or plenums are installed in or under a slab, verification may need to occur during Foundation Inspection.	☐	☐	☐
HVAC	C403.2.8	Mechanical	Thermally ineffective panel surfaces of sensible heating panels have insulation >= R-3.5.	☐	☐	☐
HVAC	C403.2.7	Mechanical	Ducts and plenums sealed based on static pressure and location.	☐	☐	☐
HVAC	C408.2.2.1	Mechanical	Air outlets and zone terminal devices have means for air balancing.	☐	☐	☐
HVAC	C403.2.11	Mechanical	Unenclosed spaces that are heated use only radiant heat.	☐	☐	☐
HVAC	C403.2.4.1	Mechanical	Heating and cooling to each zone is controlled by a thermostat control.	☐	☐	☐
HVAC	C403.2.4.2	Mechanical	Thermostatic controls have a 5 °F deadband.	☐	☐	☐

HVAC	C403.2.4.2	Mechanical	Temperature controls have setpoint overlap restrictions.	☐	☐	☐
HVAC	C403.2.4.3	Mechanical	Automatic Controls: Setback to 55°F (heat) and 85°F (cool); 7-day clock, 2-hour occupant override, 10-hour backup	☐	☐	☐
SYSTEM_SPECIFIC	C404.3	Mechanical	Temperature controls installed on service water heating systems (110 °F for dwelling units and lavatories in public restrooms and 90 °F for other occupancies.)	☐	☐	☐
SYSTEM_SPECIFIC	C404.4	Mechanical	Automatic time switches installed to automatically switch off the recirculating hot-water system or heat trace.	☐	☐	☐
SYSTEM_SPECIFIC	C404.2	Mechanical	Heat traps installed on non-circulating storage water tanks.	☐	☐	☐
SYSTEM_SPECIFIC	C403.2.3	Mechanical	PTAC and PTHP with sleeves 16 in. by 42 in. labeled for replacement only as per Footnote b to Table C403.2.3(3).	☐	☐	☐
SYSTEM_SPECIFIC	C403.4.2	Mechanical	VAV fan >= 7.5 hp are driven by mechanical or electrical variable speed drive, or driven by vane-axial with variable speed blades, or operate with motor demand <=30% design kW at 50% design flow - calculations required	☐	☐	☐
SYSTEM_SPECIFIC	C403.2.8	Mechanical	HVAC piping insulation thickness. Where piping is installed in or under a slab, verification may need to occur during Foundation Inspection.	☐	☐	☐
SYSTEM_SPECIFIC	C403.2.7.1.3	Mechanical	Ductwork operating >3 in. water column requires air leakage testing.	☐	☐	☐
SYSTEM_SPECIFIC	C403.4.3.5	Mechanical	Reduce flow in pumping systems >10 hp to multiple chillers or boilers when others are shut down.	☐	☐	☐
SYSTEM_SPECIFIC	C403.4.3.3.3	Mechanical	Two-position automatic valve interlocked to shut off water flow when hydronic heat pump with pumping system >10 hp is off.	☐	☐	☐
SYSTEM_SPECIFIC	C403.4.6	Mechanical	Condenser heat recovery system that can heat water to 85 °F or provide 60% of peak heat rejection is installed for preheating of service hot water in 24/7 facility, water cooled systems reject >6 MMBtu, SHW load >=1 MMBtu.	☐	☐	☐
SYSTEM_SPECIFIC	C403.4.7	Mechanical	Hot gas bypass limited to: <=240 kBtu/h – 50% >240 kBtu/h – 25%	☐	☐	☐
SYSTEM_SPECIFIC	C403.2.4.2	Mechanical	Heating and cooling to each zone is controlled by a thermostat control. Minimum one humidity control device per installed humidification/dehumidification system.	☐	☐	☐
SYSTEM_SPECIFIC	C403.2.4.3.3	Mechanical	Systems include optimum start controls.	☐	☐	☐
SYSTEM_SPECIFIC	C403.2.4.1.1	Mechanical	Heat pump controls prevent supplemental electric resistance heat from coming on when not needed.	☐	☐	☐
SYSTEM_SPECIFIC	C404.3	Mechanical	Public lavatory faucet water temperature <=110°F.	☐	☐	☐
SYSTEM_SPECIFIC	C404.5	Mechanical	All piping in circulating system insulated	☐	☐	☐
SYSTEM_SPECIFIC	C404.5	Mechanical	First 8 ft of outlet piping is insulated	☐	☐	☐
SYSTEM_SPECIFIC	C404.5	Mechanical	All heat traced or externally heated piping insulated	☐	☐	☐
SYSTEM_SPECIFIC	C404.6	Mechanical	Controls are installed that limit the operation of a recirculation pump installed to maintain temperature of a storage tank.	☐	☐	☐
SYSTEM_SPECIFIC	C404.7.1	Mechanical	Pool heaters are equipped with on/off switch and no continuously burning pilot light.	☐	☐	☐
SYSTEM_SPECIFIC	C404.7.3	Mechanical	Vapor retardant pool covers are provided for heated pools and permanently installed spas.	☐	☐	☐
SYSTEM_SPECIFIC	C404.7.2	Mechanical	Time switches are installed on all pool heaters and pumps.	☐	☐	☐

Testing	C408.2.3.2	Mechanical	HVAC control systems have been tested to ensure proper operation, calibration and adjustment of controls.	☐ ☐ ☐
Mandatory Additional	C406	Project	Efficient HVAC performance, efficient lighting system, or on-site supply of renewable energy consistent with what is shown the approved plans.	☐ ☐ ☐
Insulation	C402.2.8	Project	Bottom surface of floor structures incorporating radiant heating insulated to >=R-3.5.	☐ ☐ ☐

4. To be checked by Inspector at Project Completion and Prior to Issuance of Certificate of Occupancy

Post Construction	C408.3	Exterior Lighting	Lighting systems have been tested to ensure proper calibration, adjustment, programming, and operation.	☐ ☐ ☐
Post Construction	C408.2.5.1	Interior Lighting	Furnished as-built drawings for electric power systems within 30 days of system acceptance.	☐ ☐ ☐
Post Construction	C303.3,C408.2.5.2	Interior Lighting	Furnished O&M instructions for systems and equipment to the building owner or designated representative.	☐ ☐ ☐
Post Construction	C408.3	Interior Lighting	Lighting systems have been tested to ensure proper calibration, adjustment, programming, and operation.	☐ ☐ ☐
Post Construction	C408.2.5.1	Mechanical	Furnished HVAC as-built drawings submitted within 90 days of system acceptance.	☐ ☐ ☐
Post Construction	C303.3,C408.2.5.2	Mechanical	Furnished O&M manuals for HVAC systems within 90 days of system acceptance.	☐ ☐ ☐
Post Construction	C408.2.5.3	Mechanical	An air and/or hydronic system balancing report is provided for HVAC systems.	☐ ☐ ☐
Post Construction	C408.2.1	Mechanical	Commissioning plan developed by registered design professional or approved agency.	☐ ☐ ☐
Post Construction	C408.2.4	Mechanical	Preliminary commissioning report completed and certified by registered design professional or approved agency.	☐ ☐ ☐
Post Construction	C408.2.5.4	Mechanical	Final commissioning report due to building owner within 90 days of receipt of certificate of occupancy.	☐ ☐ ☐
Post Construction	C408.2.3.1	Mechanical	HVAC equipment has been tested to ensure proper operation.	☐ ☐ ☐
Post Construction	C408.2.3.3	Mechanical	Economizers have been tested to ensure proper operation.	☐ ☐ ☐

EnergyGauge Summit® v5.20

INPUT DATA REPORT

Project Information

Project Name: DOCKMASTER

Project Title: TRANSIENT RESTROOMS/DOCKMASTER BLDG

Address: 1801 N ROOSEVELT BLVD

State: FL

Zip: 33040

Owner:

Orientation: North

Building Type: Office

Building Classification: New Finished building

No.of Stories: 1

GrossArea: 1204 SF

Zones

No	Acronym	Description	Type	Area [sf]	Multiplier	Total Area [sf]	
1	Pr0Zo1	Zone 1	CONDITIONED	1203.9	1	1203.9	☐

Spaces

No	Acronym	Description	Type	Depth [ft]	Width [ft]	Height [ft]	Multiplier	Total Area [sf]	Total Volume [cf]

In Zone: Pr0Zo1										
1	Pr0Zo1Sp1	Zo0Sp1	Office - Enclosed	40.13	30.00	10.00	1	1203.9	12039.0	☐

Lighting

No	Type	Category	No. of Luminaires	Watts per Luminaire	Power [W]	Control Type	No.of Ctrl pts	
In Zone: Pr0Zo1								
In Space: Pr0Zo1Sp1								
1	Compact Fluorescent	General Lighting	30	60	1800	Manual On/Off	1	☐

Walls

No	Description	Type	Width [ft]	H (Effec) [ft]	Multiplier	Area [sf]	Orientation	Conductance [Btu/hr. sf. F]	Heat Capacity [Btu/sf.F]	Dens. [lb/cf]	R-Value [h.sf.F/Btu]	
In Zone: Pr0Zo1												
1	Pr0Zo1Wa1	0.75 in. stucco, 2"styro,8"CMU,1x2 x24"oc,airspace,0.5" gyp	47.00	10.00	1	470.0	North	0.0838	11.224	50.24	11.9	☐
2	Pr0Zo1Wa2	0.75 in. stucco, 2"styro,8"CMU,1x2 x24"oc,airspace,0.5" gyp	19.00	10.00	1	190.0	East	0.0838	11.224	50.24	11.9	☐
3	Pr0Zo1Wa3	0.75 in. stucco, 2"styro,8"CMU,1x2 x24"oc,airspace,0.5" gyp	51.00	10.00	1	510.0	South	0.0838	11.224	50.24	11.9	☐
4	Pr0Zo1Wa4	0.75 in. stucco, 2"styro,8"CMU,1x2 x24"oc,airspace,0.5" gyp	62.00	10.00	1	620.0	West	0.0838	11.224	50.24	11.9	☐

Windows

	No	Description	Orientation	Shaded	U [Btu/hr sf F]	SHGC	Vis.Tra	W [ft]	H (Effec) [ft]	Multi plier	Total Area [sf]	
In Zone: Pr0Zo1												
In Wall: Pr0Zo1Wa1												
	1	Pr0Zo1Wa1Wi1	North	Yes	1.0000	0.30	0.21	14.25	8.00	1	114.0	☐
In Wall: Pr0Zo1Wa2												
	1	Pr0Zo1Wa2Wi1	East	Yes	1.0000	0.30	0.21	9.00	4.00	1	36.0	☐
In Wall: Pr0Zo1Wa3												
	1	Pr0Zo1Wa3Wi1	South	Yes	1.0000	0.30	0.21	13.25	8.00	1	106.0	☐
In Wall: Pr0Zo1Wa4												
	1	Pr0Zo1Wa4Wi1	West	Yes	1.0000	0.30	0.21	15.00	8.00	1	120.0	☐

Doors

	No	Description	Type	Shaded?	Width [ft]	H (Effec) [ft]	Multi plier	Area [sf]	Cond. [Btu/hr. sf. F]	Dens. [lb/cf]	Heat Cap. [Btu/sf. F]	R-Value [h.sf.F/Btu]	
In Zone: Pr0Zo1													
In Wall: Pr0Zo1Wa1													
	1	Pr0Zo1Wa1Dr1	Solid core flush (2.25)	No	3.00	6.67	1	20.0	0.3504	0.00	0.00	2.85	☐

Roofs

	No	Description	Type	Width [ft]	H (Effec) [ft]	Multi plier	Area [sf]	Tilt [deg]	Cond. [Btu/hr. Sf. F]	Heat Cap [Btu/sf. F]	Dens. [lb/cf]	R-Value [h.sf.F/Btu]	
In Zone: Pr0Zo1													
	1	Pr0Zo1Rf1	T24R19b	30.00	40.13	1	1203.9	0.00	0.0339	0.86	5.47	29.5	☐

Skylights

No	Description	Type	U [Btu/hr sf F]	SHGC	Vis.Trans	W [ft]	H (Effec) [ft]	Multiplier	Area [Sf]	Total Area [Sf]
In Zone:										
In Roof:										

Floors

No	Description	Type	Width [ft]	H (Effec) [ft]	Multiplier	Area [sf]	Cond. [Btu/hr. sf. F]	Heat Cap. [Btu/sf. F]	Dens. [lb/cf]	R-Value [h.sf.F/Btu]
In Zone: Pr0Zo1										
1	Pr0Zo1Fl1	1 ft. soil, concrete floor, carpet and rubber pad	30.00	40.13	1	1203.9	0.2681	34.00	113.33	3.73

Systems

Pr0Sy1 **System 1** **Constant Volume Air Cooled Split System < 65000 Btu/hr** **No. Of Units 1**

Component	Category	Capacity	Efficiency	IPLV
1	Cooling System	60000.00	17.00	11.00
2	Heating System	34000.00	1.00	
3	Air Handling System -Supply	1900.00	0.30	

Plant

Equipment	Category	Size	Inst.No	Eff.	IPLV

Water Heaters

	W-Heater Description	Capacity	Cap.Unit	I/P Rt.	Efficiency	Loss	
1	Electric water heater	80	[Gal]	9 [kW]	0.8800 [Ef]	[Btu/h]	☐

Ext-Lighting

	Description	Category	No. of Luminaires	Watts per Luminaire	Area/Len/No. of units [sf/ft/No]	Control Type	Wattage [W]	
1	Ext Light 1	Uncovered Parking Areas -- Parking lots and Drives	3	60	1400.00	Astronomical Timer Co	180.00	☐

Piping

No	Type	Operating Temperature [F]	Insulation Conductivity [Btu-in/h.sf.F]	Nomonal pipe Diameter [in]	Insulation Thickness [in]	Is Runout?	
1	Heating System (Steam, Steam Condensate, & Hot Water)	105.00	0.28	0.50	1.00	Yes	☐

Fenestration Used

Name	Glass Type	No. of Panes	Glass Conductance [Btu/h.sf.F]	SHGC	VLT	
ApLbWnd13	User Defined	1	1.0000	0.3000	0.2100	☐

Materials Used

Mat No	Acronym	Description	Only R-Value Used	RValue [h.sf.F/Btu]	Thickness [ft]	Conductivity [Btu/h.ft.F]	Density [lb/cf]	SpecificHeat [Btu/lb.F]	
187	Matl187	GYP OR PLAS BOARD,1/2IN	No	0.4533	0.0417	0.0920	50.00	0.2000	☐
178	Matl178	CARPET W/RUBBER PAD	Yes	1.2300					☐
265	Matl265	Soil, 1 ft	No	2.0000	1.0000	0.5000	100.00	0.2000	☐
48	Matl48	6 in. Heavyweight concrete	No	0.5000	0.5000	1.0000	140.00	0.2000	☐
267	Matl267	0.75" stucco	No	0.1563	0.0625	0.4000	16.00	0.2000	☐
215	Matl215	POLYSTYRENE, EXP., 2IN,	No	8.3350	0.1667	0.0200	1.80	0.2900	☐
105	Matl105	CONC BLK HW, 8IN, HOLLOW	No	1.1002	0.6667	0.6060	69.00	0.2000	☐
256	Matl256	WOOD, SOFT, 1-1/2IN	No	1.8939	0.1250	0.0660	32.00	0.3300	☐
244	Matl244	PLYWOOD, 1/2IN	No	0.6318	0.0417	0.0660	34.00	0.2900	☐
82	Matl82	ASPHALT-SHINGLE AND SIDING	Yes	0.4400					☐
91	Matl91	BUILDING PAPER, PERMEABLE FELT	Yes	0.0600					☐
407	Matl407	R-19 Generic Insulation	No	19.0000	0.4147	0.0218	0.30	0.2000	☐
414	Matl414	R-8 generic Insulatrion	No	8.0000	0.1746	0.0218	0.30	0.2000	☐
80	Matl80	AIR LAYER, 4IN OR MORE, HORIZ. ROOFS	Yes	0.9200					☐

Constructs Used

No	Name	Simple Construct	Massless Construct	Conductance [Btu/h.sf.F]	Heat Capacity [Btu/sf.F]	Density [lb/cf]	RValue [h.sf.F/Btu]	
1010	0.75 in. stucco, 2"styro,8"CMU,1x2x24"oc,airspace,0.5"gyp	No	No	0.08	11.22	50.24	11.9	☐

Layer	Material No.	Material	Thickness [ft]	Framing Factor	
1	267	0.75" stucco	0.0625	0.000	☐
2	187	GYP OR PLAS BOARD,1/2IN	0.0417	0.000	☐

No	Name	Simple Construct	Massless Construct	Conductance [Btu/h.sf.F]	Heat Capacity [Btu/sf.F]	Density [lb/cf]	RValue [h.sf.F/Btu]	
1010	0.75 in. stucco, 2"styro,8"CMU,1x2x24"oc,airspace,0.5"gyp	No	No	0.08	11.22	50.24	11.9	☐

Layer	Material No.	Material	Thickness [ft]	Framing Factor	
3	215	POLYSTYRENE, EXP., 2IN,	0.1667	0.000	☐
4	105	CONC BLK HW, 8IN, HOLLOW	0.6667	0.000	☐
5	256	WOOD, SOFT, 1-1/2IN	0.1250	0.000	☐

No	Name	Simple Construct	Massless Construct	Conductance [Btu/h.sf.F]	Heat Capacity [Btu/sf.F]	Density [lb/cf]	RValue [h.sf.F/Btu]	
1053	T24R19b	No	No	0.03	0.86	5.47	29.5	☐

Layer	Material No.	Material	Thickness [ft]	Framing Factor	
1	82	ASPHALT-SHINGLE AND SIDING		0.000	☐
2	91	BUILDING PAPER, PERMEABLE FELT		0.000	☐
3	244	PLYWOOD, 1/2IN	0.0417	0.000	☐
4	414	R-8 generic Insulatrion	0.1746	0.000	☐
5	407	R-19 Generic Insulation	0.4147	0.000	☐
6	80	AIR LAYER, 4IN OR MORE, HORIZ. ROOFS		0.000	☐
7	187	GYP OR PLAS BOARD,1/2IN	0.0417	0.000	☐

No	Name	Simple Construct	Massless Construct	Conductance [Btu/h.sf.F]	Heat Capacity [Btu/sf.F]	Density [lb/cf]	RValue [h.sf.F/Btu]	
1057	1 ft. soil, concrete floor, carpet and rubber pad	No	No	0.27	34.00	113.33	3.7	☐

Layer	Material No.	Material	Thickness [ft]	Framing Factor	
1	265	Soil, 1 ft	1.0000	0.000	☐
2	48	6 in. Heavyweight concrete	0.5000	0.000	☐
3	178	CARPET W/RUBBER PAD		0.000	☐

No	Name	Simple Construct	Massless Construct	Conductance [Btu/h.sf.F]	Heat Capacity [Btu/sf.F]	Density [lb/cf]	RValue [h.sf.F/Btu]	
1058	Solid core flush (2.25)	No	Yes	0.35			2.9	☐

Layer	Material No.	Material	Thickness [ft]	Framing Factor	
1	279	Solid core flush (2.25")		0.000	☐

MIAMI-DADE COUNTY
DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER)
BOARD AND CODE ADMINISTRATION DIVISION

MIAMI-DADE COUNTY
PRODUCT CONTROL SECTION
11805 SW 26 Street, Room 208
T (786) 315-2590 F (786) 315-2599
www.miamidade.gov/economy

NOTICE OF ACCEPTANCE (NOA)

Quality Engineered Products Co., Inc.
4506 Quality Lane
Tampa, FL 33634

SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed and accepted by Miami-Dade County RER - Product Control Section to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Section (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. RER reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Section that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein, and has been designed to comply with the Florida Building Code, including the High Velocity Hurricane Zone.

DESCRIPTION: Series 16 ga Outswing Commercial Steel Doors w/wo Panic Exit Device-Impact

APPROVAL DOCUMENT: Drawing No. 16GACOSD-1, titled "16 GA Commercial Outswing Steel Door", sheets 1 through 10 of 10, prepared by manufacturer, dated 02/26/16, with Revision 4 dated 02/26/16, signed and sealed by Cody Davis, P. E., bearing the Miami-Dade County Product Control Revision stamp with the Notice of Acceptance number and expiration date by the Miami-Dade County Product Control Section.

MISSILE IMPACT RATING: Large and Small Missile Impact Resistant.

Limitations:

1. See Design Pressure ratings VS lock types in sheet 1.

LABELING: Each unit shall bear a permanent label with the manufacturer's name or logo, city, state, model/series, and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

RENEWAL of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

ADVERTISEMENT: The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

INSPECTION: A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA **revises NOA# 12-0921.12** and consists of this page 1 and evidence pages E-1 and E-2, as well as approval document mentioned above.

The submitted documentation was reviewed by **Jorge M. Plasencia, P.E.**

MIAMI-DADE COUNTY APPROVED

07/19/2016

Quality Engineered Products Co., Inc.

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

A. DRAWINGS

1. Manufacturer's die drawings and sections.
   (Submitted under NOA No. 07-1017.09)
2. Drawing No. 16GACOSD-1, titled "16 GA Commercial Outswing Steel Door", sheets 1 through 10 of 10, prepared by manufacturer, dated 02/26/16, with Revision 4 dated 02/26/16, signed and sealed by Cody Davis, P. E..

B. TESTS

1. Test reports on: 1) Air Infiltration Test, per FBC, TAS 202–94
   2) Uniform Static Air Pressure Test, Loading per FBC TAS 202–94
   3) Water Resistance Test, per FBC, TAS 202–94
   4) Large Missile Impact Test per FBC, TAS 201–94
   5) Cyclic Wind Pressure Loading per FBC, TAS 203–94

   Along with marked-up drawings & installation diagram of Commercial Steel Doors w /Panic devices, prepared by Certified Testing Laboratories Inc., Test Report No. **CTLA 1276W,** dated Nov. 11, 2004, signed and sealed by Ramesh Patel, P. E.
   (Note: This test report has been revised under Test Report No. **CTLA 1276WR,** re-issued on 02/25/05 by Certified Testing Laboratories, signed and sealed by Ramesh Patel, P. E.)
   (Submitted under NOA No. 07-1017.09, 04-0220.02)
2. Test reports on:1) Uniform Static Air Pressure Test, Loading per FBC, TAS 202.
   2) Large Missile Impact Test per FBC, TAS 201-94
   3) Cyclic Wind Pressure Loading per FBC, TAS 203-94
   4) Forced Entry Test, per FBC and TAS 202-94

   Along with marked-up drawings and installation diagram of Steel Commercial Steel Doors, prepared by Certified Testing Laboratories Inc., Test Report No. **CTLA 114W,** dated December 09, 2003, signed and sealed by Ramesh Patel, P. E
   (Note: This test report has been revised by addendum letter dated May 26, 2004 & June 30, 2005, issued by Certified Testing Laboratories Inc.)
   (Submitted under NOA No. 04-0220.02)
3. Test reports on: 1) Air Infiltration Test, per FBC, TAS 202–94
   2) Uniform Static Air Pressure Test, Loading per FBC TAS 202–94
   3) Water Resistance Test, per FBC, TAS 202–94
   4) Large Missile Impact Test per FBC, TAS 201–94
   5) Cyclic Wind Pressure Loading per FBC, TAS 203–94

   Along with marked-up drawings and installation diagram of Steel Commercial Doors, prepared by Certified Testing Laboratories Inc., Test Report No. **CTLA 403W,** dated 07/25/00, signed and sealed by Ramesh Patel, P. E
   (Submitted under NOA No. 04-0220.02)

Jorge M. Plasencia, P.E.
Product Control Unit Supervisor
NOA No. 15-0422.03
Expiration Date: January 30, 2018
Approval Date: July 28, 2016

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

B. TESTS (continued)

4. Additional test report **HTL-0050-1012-97** tested per FBC, TAS 202-94, issued by Hurricane testing laboratories, Inc. dated 10-16-98, signed and sealed by Timothy S. Marshall, P. E.
   (Submitted under NOA No. 04-0220.02)

C. CALCULATIONS:

1. Anchor verification calculations, dated 10/20/15 and revised on 05/31/16, prepared, signed and sealed Cody Davis, P.E.

D. QUALITY ASSURANCE

1. Miami-Dade Department of Regulatory and Economic Resources (RER)

E. MATERIAL CERTIFICATIONS

1. Tensile test report prepared by Certified Testing Laboratories Inc., Test Report No. **CTL 1023J (CTLA114W),** tested per ASTM E-A370-97, dated December 02,2003, signed and sealed by Ramesh Patel, P. E.
   (Submitted under NOA No. 04-0823.05, 07-1017.09)
2. Notice of Acceptance No. **11-0926.07** issued to Dyplast Products, LLC (former Apache Products Co) for "EPS-Expanded Polystyrene Insulation", expiring on 01/11/2017.

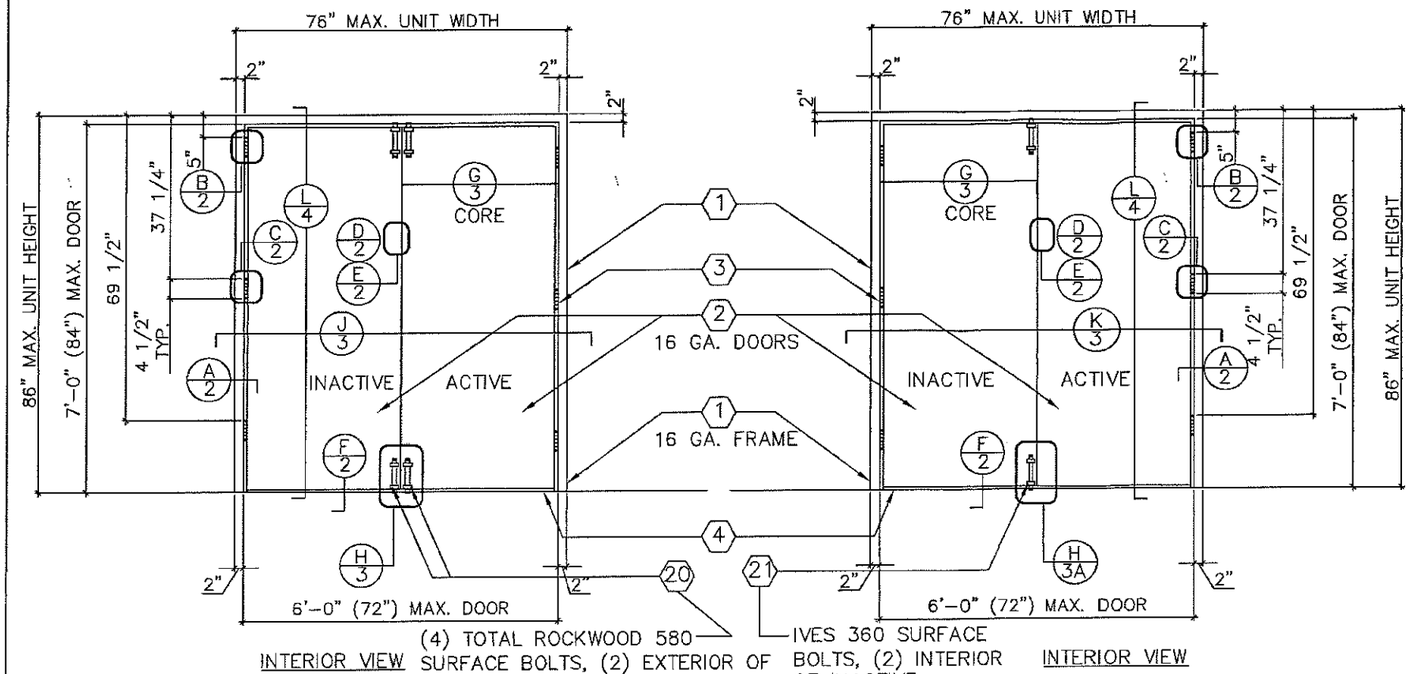
F. STATEMENTS

1. Statement letter of conformance, complying with **FBC–2014, 5th edition**, issued, prepared, signed, sealed and dated 05/31/16 by Cody Davis, P. E.
2. Statement letter of no financial interest, issued, prepared, signed, sealed and dated 05/31/16 by Cody Davis, P.E.
3. Statement letter of compliance, as a part of the above referenced test reports.
4. Statement letter dated 05/31/16 of successor engineer adopting as his own, another engineer's work per FAC, Rule Chapter 61G15-27, issued by Master Consulting Engineers, Inc., both signed and sealed by Cody Davis, P. E.

G. OTHERS

1. Notice of Acceptance No. **12-0921.12**, issued to Quality Engineered Products, Co., Inc., LLC for their Series 16 ga Outswing Commercial Steel Doors w/wo Panic Exit Device-Impact., approved on 01/17/13 and expiring on 01/30/18.

Jorge M. Plasencia, P.E.
Product Control Unit Supervisor
NOA No. 15-0422.03
Expiration Date: January 30, 2018
Approval Date: July 28, 2016



COMPLIANCE OF THESE UNITS TO FBC EGRESS/ESCAPE REQUIREMENTS TO BE REVIEWED BY BUILDING OFFICIAL ON A CASE BY CASE BASIS

LOCK TESTED: ITEM #9

PDQ MORTISE LOCK MODEL MR117

DESIGN PRESSURE RATING (OUTSWING DOUBLE DOORS) w/(4) ROCKWOOD SURFACE BOLTS

	WHERE WATER INFILTRATION REQUIREMENT IS NEEDED *	WHERE WATER INFILTRATION REQUIREMENT IS NOT NEEDED OR PROTECTED BY OVERHANG*
POSITIVE	NOT APPROVED WITHOUT OVERHANG *	+90 PSF
NEGATIVE	NOT APPROVED WITHOUT OVERHANG *	−90 PSF

* UNIT SHALL BE INSTALLED AT LOCATION PROTECTED BY OVERHANG SUCH THAT OVERHANG RATIO (OH) = OH LENGTH/OH HEIGHT IS GREATER THAN 1

LOCK TESTED: ITEM #22

SCHLAGE MORTISE LOCK MODEL L9453P

SARGENT MORTISE LOCK MODEL 8225NL

DESIGN PRESSURE RATING (OUTSWING DOUBLE DOORS) w/(2) IVES SURFACE BOLTS (INACTIVE DOOR LEAF)

	WHERE WATER INFILTRATION REQUIREMENT IS NEEDED *	WHERE WATER INFILTRATION REQUIREMENT IS NOT NEEDED OR PROTECTED BY OVERHANG*
POSITIVE	NOT APPROVED WITHOUT OVERHANG *	+70 PSF
NEGATIVE	NOT APPROVED WITHOUT OVERHANG *	−70 PSF

* UNIT SHALL BE INSTALLED AT LOCATION PROTECTED BY OVERHANG SUCH THAT OVERHANG RATIO (OH) = OH LENGTH/OH HEIGHT IS GREATER THAN 1

PRODUCT REVISED
as complying with the Florida Building Code
NOA-No. 15-0422.03
Expiration Date 01/30/2018
By Miami-Dade Product Control

CODY DAVIS LICENSE No. 75154 STATE OF FLORIDA PROFESSIONAL ENGINEER 7/8/16

CODY DAVIS
FLORIDA LIC. # 75154
(NOT VALID WITHOUT SEAL)

X = BILL OF MATERIALS REFERENCE, SEE SHEET 6 OF 10

16 GA. COMMERCIAL OUTSWING STEEL DOOR

4506 QUALITY LANE
TAMPA, FLORIDA 33634
(813) 885-1693

Quality Engineered Products Co., Inc.

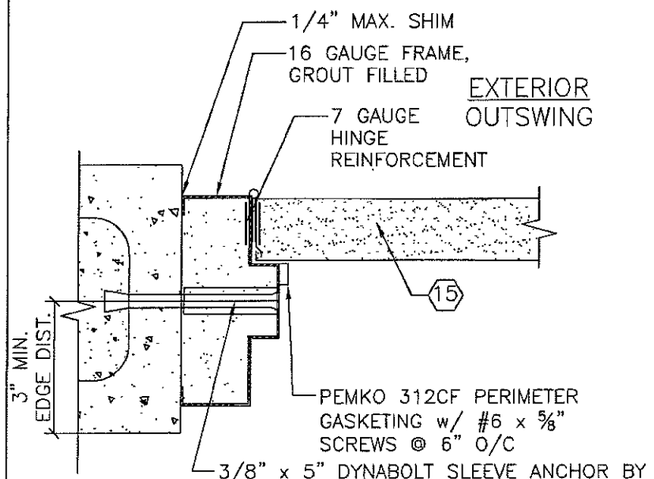
REVISIONS
1 05-25-04
2 07-06-04
3 01-26-06
4 02-26-16

DRAWING NUMBER 16GACOSD-1

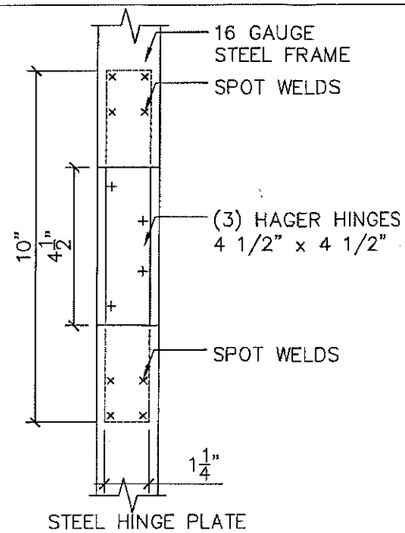
HURRICANE TEST APPROVAL
SERIES 16GACOSD
16 GAUGE COMMERCIAL
OUTSWING STEEL DOORS

SHEET 1 OF 10

DATE 02-26-16

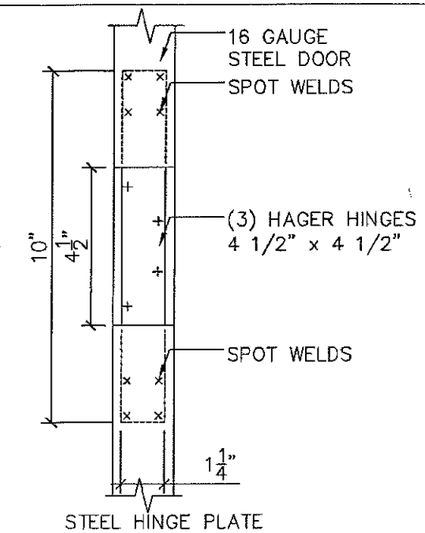


A2



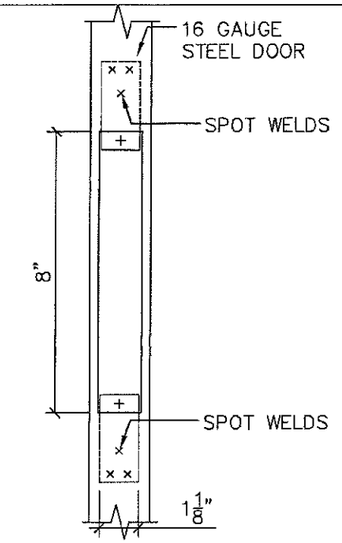
STEEL HINGE PLATE
7 GAUGE x 1 1/4" x 10"
FRAME HINGE REINFORCEMENT

B2



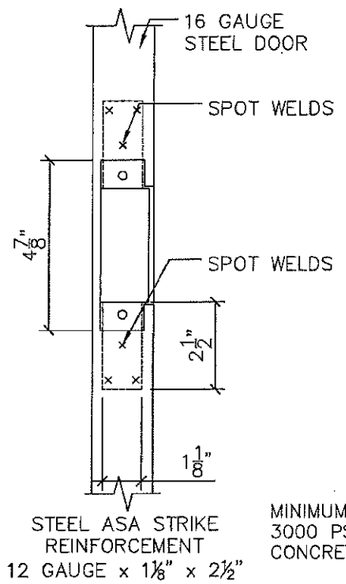
STEEL HINGE PLATE
7 GAUGE x 1 1/4" x 10"
DOOR HINGE REINFORCEMENT

C2



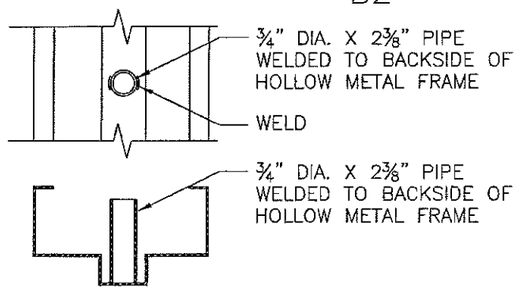
STEEL MORTISE LOCK REINFORCEMENT
12 GAUGE x 1⅛" x 2½"

D2

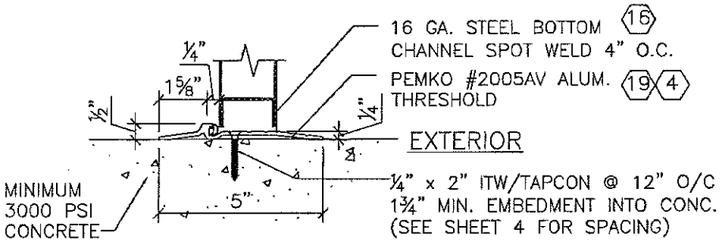


STEEL ASA STRIKE REINFORCEMENT
12 GAUGE x 1⅛" x 2½"

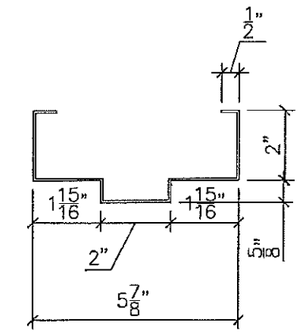
E2



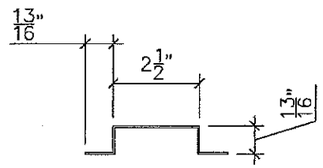
PIPE SLEEVE DETAIL



THRESHOLD INSTALLATION



16 GAUGE FRAME PROFILE



20 GA. STEEL HAT STIFFENER
SPOT WELD 6" O.C.
FULL HEIGHT OF DOOR.

PRODUCT REVISED
as complying with the Florida Building Code
NOA-No. 15-0422.03
Expiration Date 01/30/2018
By
Miami-Dade Product Control

CODY DAVIS LICENSE No. 75154 STATE OF FLORIDA 7/8/16 PROFESSIONAL ENGINEER

CODY DAVIS P.E.
FLORIDA LIC. # 75154
(NOT VALID WITHOUT SEAL)

X = BILL OF MATERIALS REFERENCE, SEE SHEET 6 OF 10

16 GA. COMMERCIAL OUTSWING STEEL DOOR

4506 QUALITY LANE
TAMPA, FLORIDA 33634
(813) 885-1693

Quality Engineered Products Co., Inc.

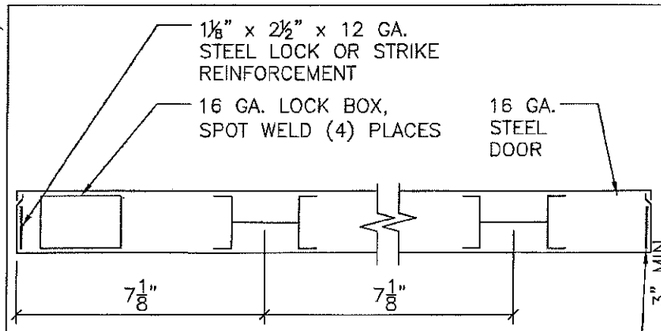
REVISIONS
- –
- –
3 3-01-26-06
4 02-26-16

DRAWING NUMBER 16GACOSD-1

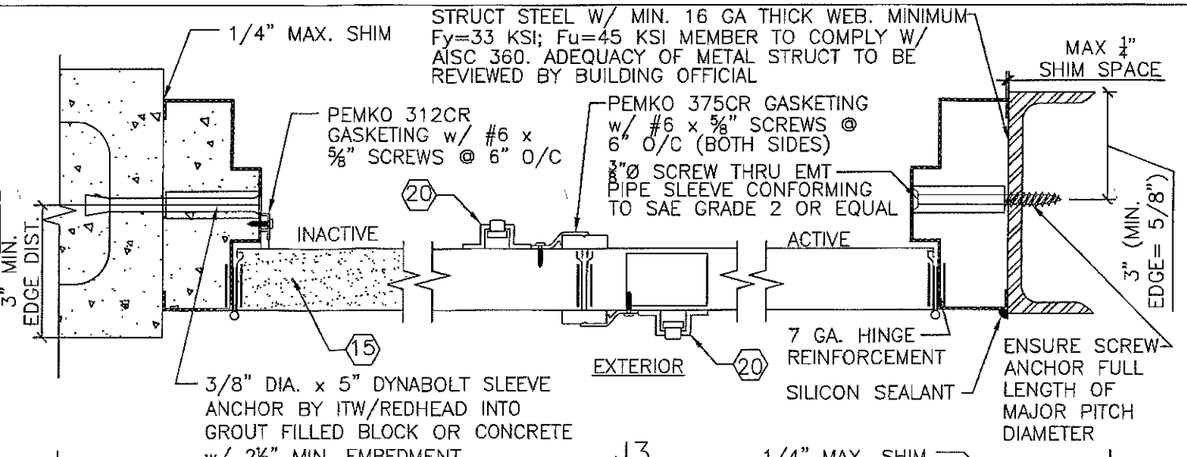
HURRICANE TEST APPROVAL
SERIES 16GACOSD
16 GAUGE COMMERCIAL
OUTSWING STEEL DOORS

SHEET 2 OF 10

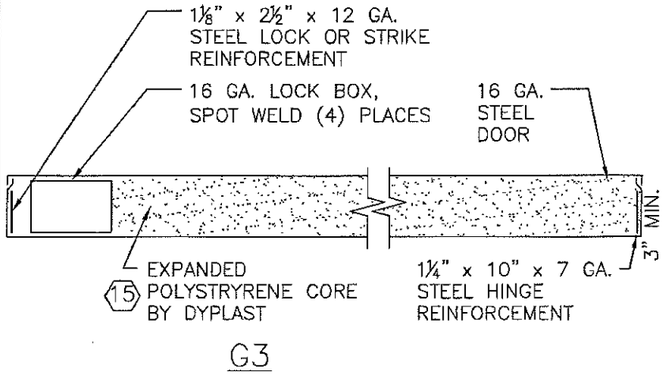
DATE 02-26-16



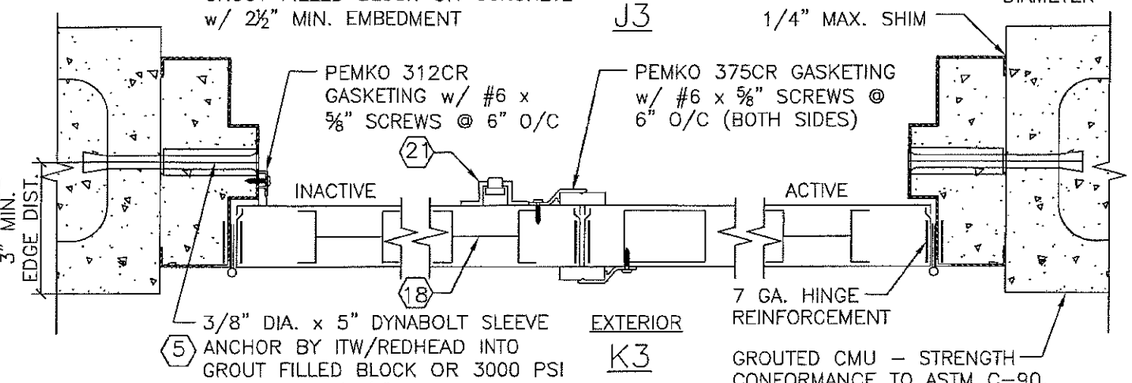
STEEL RIB CORE
G3



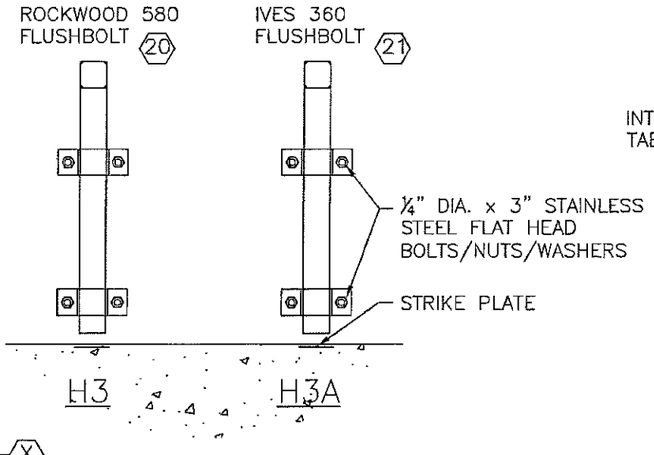
J3



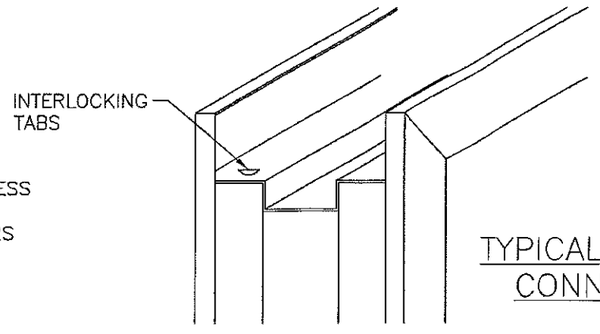
G3



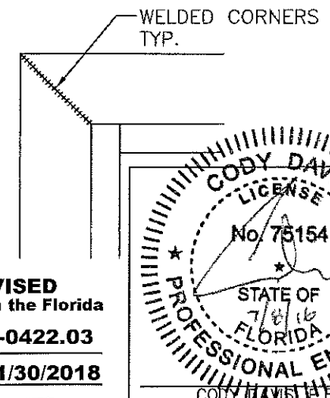
K3



H3 H3A



TYPICAL CORNER CONNECTION



(X) = BILL OF MATERIALS REFERENCE, SEE SHEET 6 OF 10

PRODUCT REVISED
as complying with the Florida Building Code
NOA-No. 15-0422.03
Expiration Date 01/30/2018
By Miami-Dade Product Control

CODY DAVIS LICENSE No. 75154 STATE OF FLORIDA PROFESSIONAL ENGINEER 7/6/16
CODY DAVIS P.E.
FLORIDA LIC. # 75154
(NOT VALID WITHOUT SEAL)

16 GA. COMMERCIAL OUTSWING STEEL DOOR

4506 QUALITY LANE
TAMPA, FLORIDA 33634
(813) 885-1693

Quality Engineered Products Co., Inc.

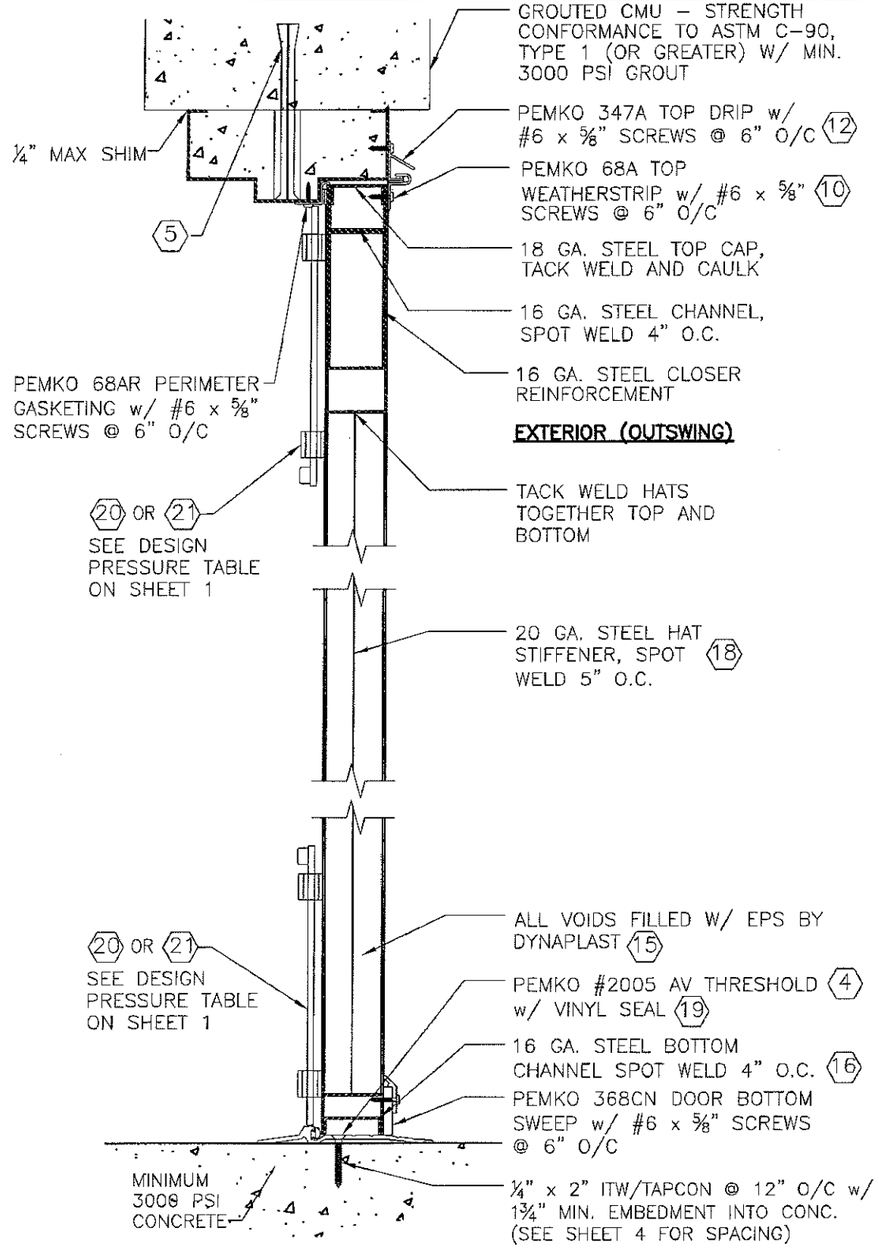
REVISIONS
1 – –
2 – –
3 01-26-06
4 02-26-16

DRAWING NUMBER 16GACOSD-1

HURRICANE TEST APPROVAL
SERIES 16GACOSD
16 GAUGE COMMERCIAL
OUTSWING STEEL DOORS

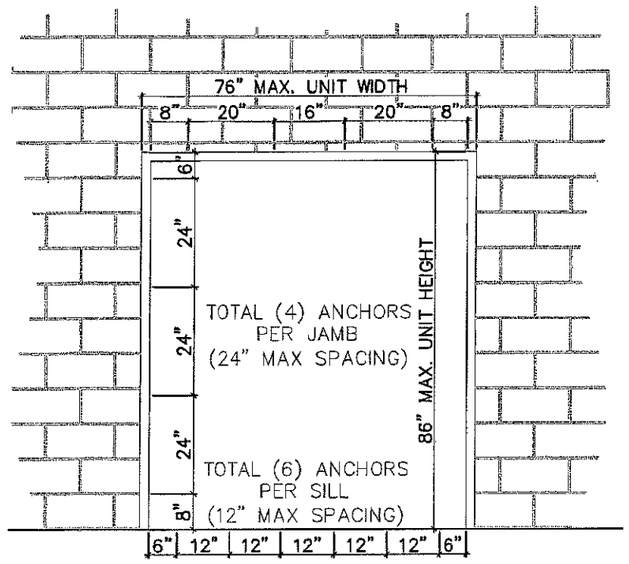
SHEET 3 OF 10

DATE 02-26-16

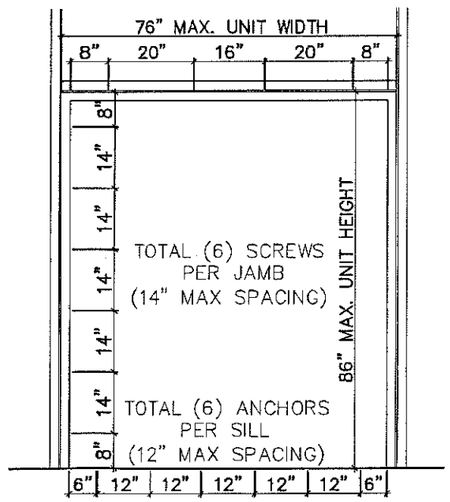


VERTICAL SECTION L4

(X) = BILL OF MATERIALS REFERENCE, SEE SHEET 6 OF 10



ANCHOR LOCATION INSTALLATION INTO NEW CONCRETE/ MASONRY (GROUT FILLED BLOCK)



ANCHOR LOCATION INSTALLATION INTO STRUCTURAL STEEL

PRODUCT REVISED
as complying with the Florida Building Code
NOA-No. 15-0422.03
Expiration Date 01/30/2018
By Miami-Dade Product Control

CODY DAVIS LICENSE No. 75154 STATE OF FLORIDA PROFESSIONAL ENGINEER
7/8/16

CODY DAVIS, P.E.
FLORIDA LIC. # 75154
(NOT VALID WITHOUT SEAL)

16 GA. COMMERCIAL OUTSWING STEEL DOOR

4506 QUALITY LANE
TAMPA, FLORIDA 33634
(813) 885-1693

Quality Engineered Products Co., Inc.

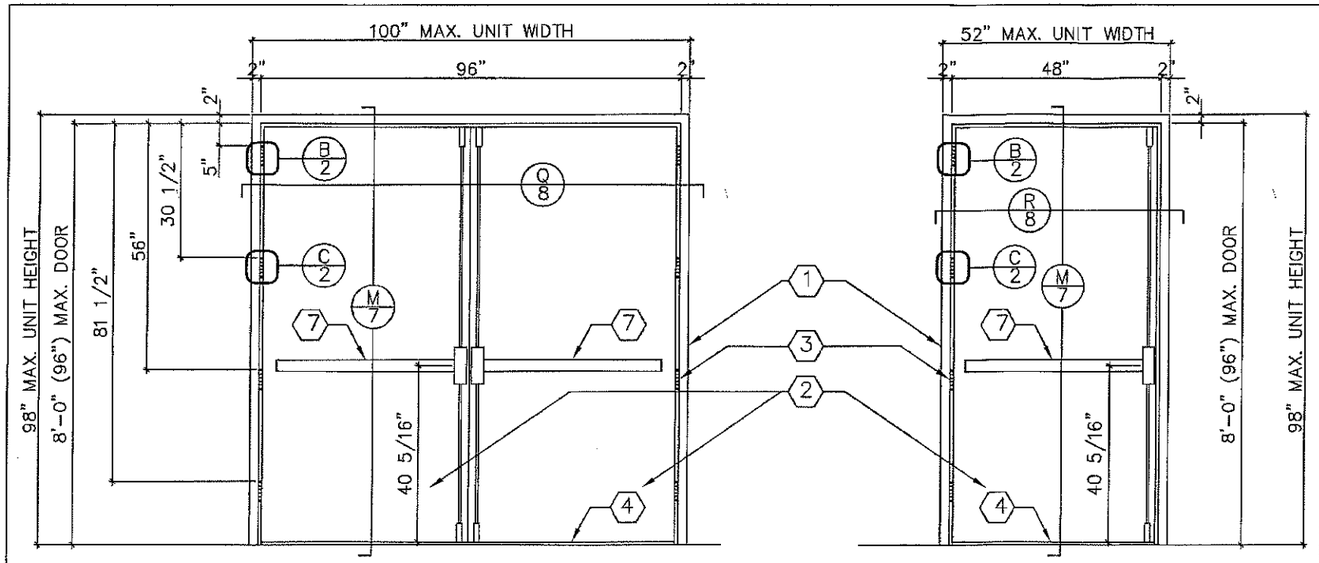
REVISIONS
- -
- -
3 01-26-06
4 02-26-16

DRAWING NUMBER 16GACOSD-1

HURRICANE TEST APPROVAL
SERIES 16GACOSD
16 GAUGE COMMERCIAL
OUTSWING STEEL DOORS

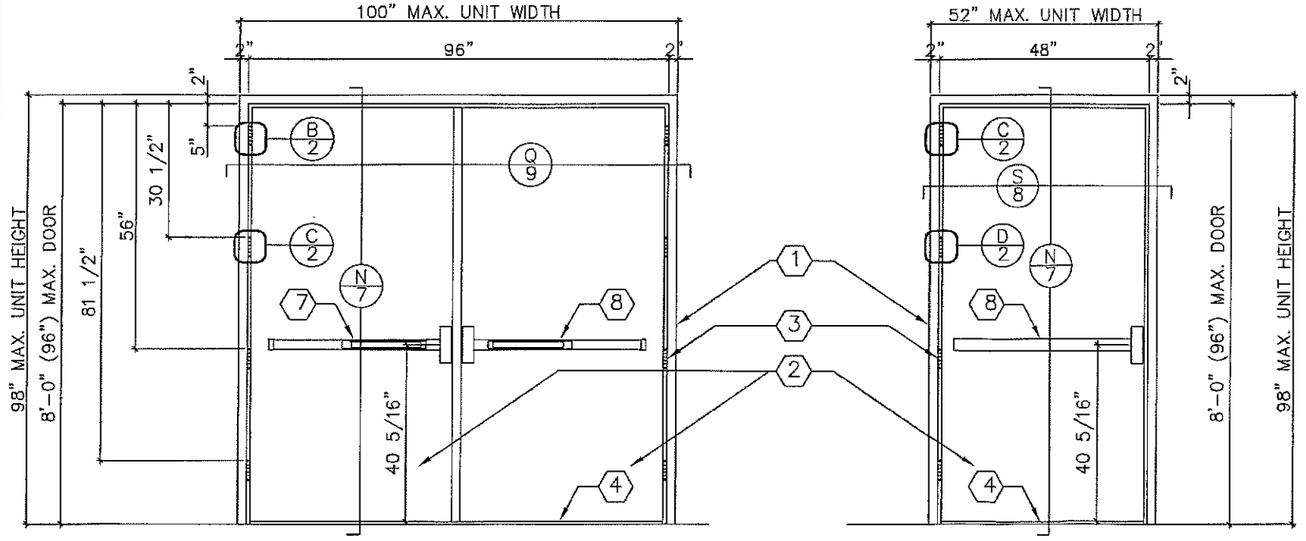
SHEET 4 OF 10

DATE 02-26-16



DOUBLE OUTSWING DOOR (INTERIOR VIEW)
w/ DORMA'S HCF 9400 VERTICAL ROD PANIC DEVICE

SINGLE OUTSWING DOOR (INTERIOR VIEW)
w/ DORMA'S HCF 9400 VERTICAL ROD PANIC DEVICE



DOUBLE OUTSWING DOOR (INTERIOR VIEW)
w/ DORMA'S HCF 9300 RIM EXIT DEVICE & 1300
REMOVABLE MULLION w/ 416 STRIKE PLATE

SINGLE OUTSWING DOOR (INTERIOR VIEW)
w/ DORMA'S HCF 9300 RIM EXIT DEVICE
w/ 416 STRIKE PLATE

(X) = BILL OF MATERIALS REFERENCE, SEE SHEET 6 OF 10

DESIGN PRESSURE RATING		
	WHERE AIR & WATER INFILTRATION REQUIREMENT IS NEEDED	WHERE AIR & WATER INFILTRATION REQUIREMENT IS NOT NEEDED
POSITIVE	+80 PSF	+80 PSF
NEGATIVE	−80 PSF	−80 PSF

PRODUCT REVISED
as complying with the Florida Building Code
NOA-No. 15-0422.03
Expiration Date 01/30/2018
By
Miami-Dade Product Control

CODY DAVIS LICENSE No. 75154 STATE OF FLORIDA PROFESSIONAL ENGINEER
CODY DAVIS, P.E.
FLORIDA LIC. # 75154
(NOT VALID WITHOUT SEAL)

16 GA. COMMERCIAL OUTSWING STEEL DOOR

4506 QUALITY LANE
TAMPA, FLORIDA 33634
(813) 885-1693

Quality Engineered Products Co., Inc.

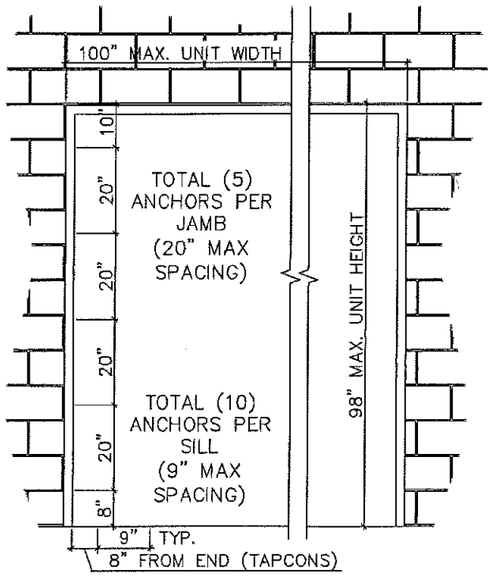
REVISIONS
1 –
2 –
3 01-26-06
4 02-26-16

DRAWING NUMBER 16GACOSD-1

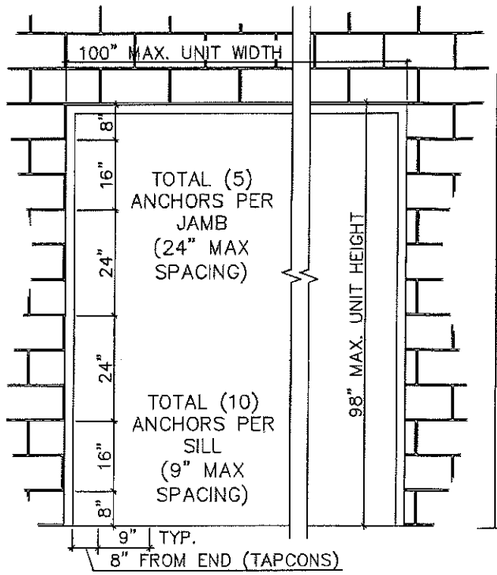
HURRICANE TEST APPROVAL
SERIES 16GACOSD
16 GAUGE COMMERCIAL
OUTSWING STEEL DOORS

SHEET 5 OF 10

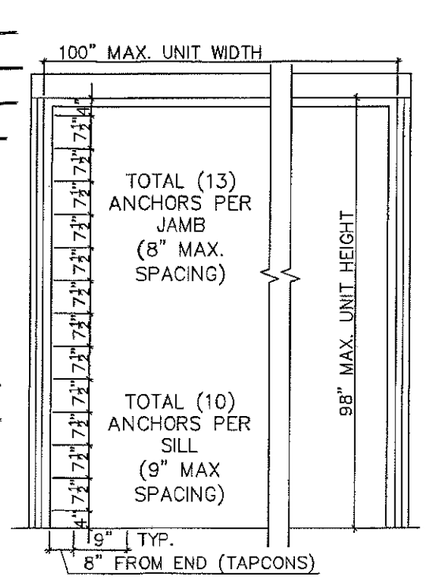
DATE 02-26-16



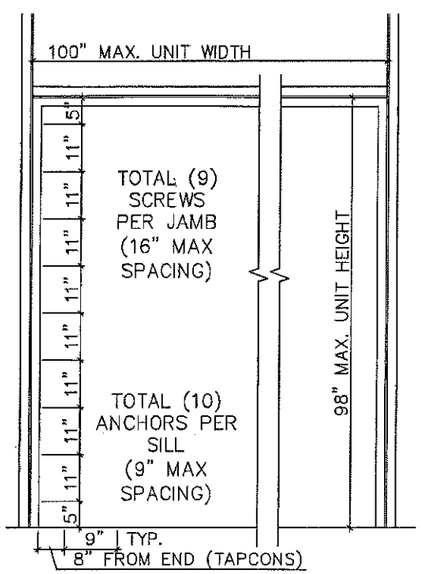
½"ø DYNABOLT SLEEVE ANCHOR
ANCHOR LOCATION INSTALLATION INTO NEW CONCRETE/MASONRY (GROUT FILLED BLOCK)



16 GA. T-ANCHOR
ANCHOR LOCATION INSTALLATION INTO NEW MASONRY (GROUT FILLED BLOCK)



3/8" LAG SCREWS
ANCHOR LOCATION INSTALLATION INTO WOOD STRUCTURE



3/8"ø SELF-DRILLING SCREWS THRU EMT PIPE
ANCHOR LOCATION INSTALLATION INTO STRUCTURAL STEEL

ITEM #	QUANTITY	BILL OF MATERIALS
1	1	16 GA. (.063") MIN. (14 GA. MAX.) STEEL HOLLOW METAL FRAME FyMIN= 46.3 KSI; FuMIN= 52.1 KSI (OR S.S. MEETING FyMIN= 50.5 KSI; FuMIN= 98.5 KSI)
2	2	16 GA. (.063") MIN. (14 GA. MAX.) GLAZED STEEL STORE FyMIN= 46.3 KSI; FuMIN= 52.1 KSI (OR S.S. MEETING FyMIN= 50.5 KSI; FuMIN= 98.5 KSI)
3	8	HAGAR HINGES BB1279 4½" x 4½" x 0.134" THICK
4	1	PEMKO 2005AV THRESHOLD
5	15	½"Ø DYNABOLT ITW/REDHEAD SLEEVE ANCHOR (⅜"Ø BOLT) X 5" SLEEVE ANCHOR w/ ¾"Ø EMT WELDED PIPE SLEEVE w/ 2-1/2" MIN. EMBEDMENT & 3" MIN. EDGE DISTANCE INTO 3 KSI CONCRETE OR GROUT FILLED BLOCK
6	20	½" x 6" WOOD LAG SCREWS w/ ¾" EMT PIPE SLEEVE
7	2	DORMA EXIT DEVICE HCF9400 VERTICAL ROD EXIT DEVICE w/ STRIKEPLATES TOP AND BOTTOM
8	2	DORMA EXIT DEVICE HCF9300 RIM EXIT DEVICE w/ STRIKE PLATES (416)
9	1	PDQ MORTISE LOCK MR117
10	1	PEMKO 68A DOOR TOP WEATHERSTRIP w/ #6 x ⅝" SCREWS
11	AS REQ.	NATIONAL GAURD #130SA WEATHERSTRIP w/ #6 x ⅝" SCREWS
12	1	PEMKO 347A TOP DRIP
13	8	7 GA. STEEL DOOR HINGE REINFORCEMENT

ITEM #	QUANTITY	BILL OF MATERIALS
14	8	7 GA. STEEL FRAME HINGE REINFORCEMENT
15	AS REQ.	EXPANDED POLYSTYRENE (EPS) BY DYPLAST w/ CURRENT NOA PRODUCTS OR 20 GA. STEEL RIB OR HONEYCOMB
16	4	16 GA. STEEL TOP AND BOTTOM "U" CHANNEL
17	2	12 GA. STEEL 1.5" x 4.5" x FULL LENGTH LOCK REINFORCEMENT
18	AS REQ.	20 GA. STEEL HAT STIFFENERS
19	1	VINYL GASKETING (THRESHOLD)
20	1	ROCKWOOD 580 SURFACE BOLTS
21	1	IVES 360 SURFACE BOLTS
22	1	SCHLAGE MORTISE LOCK MODEL L9453P, SARGENT MORTISE LOCK MODEL 8225NL (70 PSF ONLY)
23	1	DORMA HC1300 REMOVABLE MULLION (DOUBLE DOORS)

PRODUCT REVISED
as complying with the Florida Building Code
NOA-No. 15-0422.03
Expiration Date 01/30/2018
By Miami-Dade Product Control

CODY DAVIS LICENSE No. 75154 STATE OF FLORIDA PROFESSIONAL ENGINEER 7/8/16

CODY DAVIS, P.E.
FLORIDA LIC. # 75154
(NOT VALID WITHOUT SEAL)

16 GA. COMMERCIAL OUTSWING STEEL DOOR

4506 QUALITY LANE
TAMPA, FLORIDA 33634
(813) 885-1693

Quality Engineered Products Co., Inc.

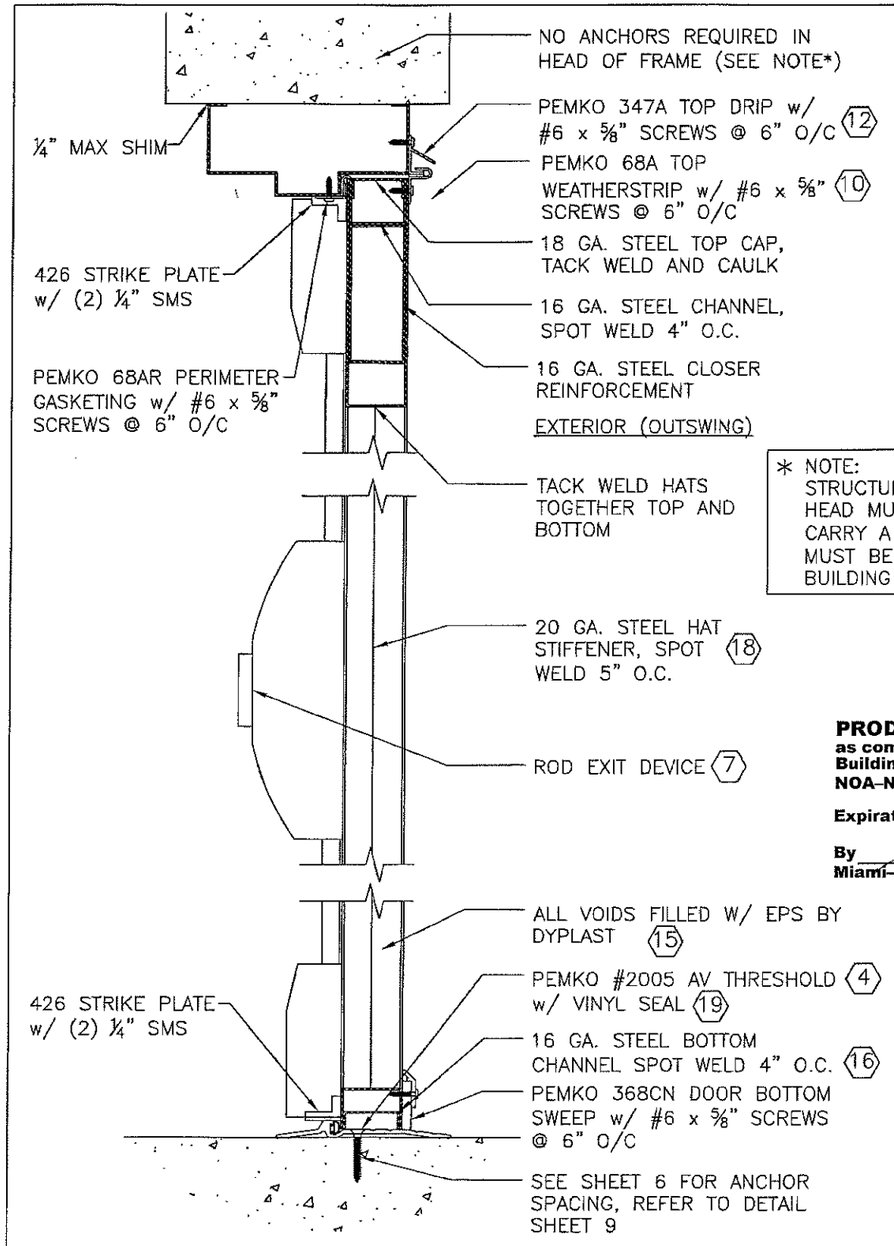
REVISIONS
1 –
2 –
3 01-26-06
4 02-26-16

DRAWING NUMBER 16GACOSD-1

HURRICANE TEST APPROVAL
SERIES 16GACOSD
16 GAUGE COMMERCIAL
OUTSWING STEEL DOORS

SHEET 6 OF 10

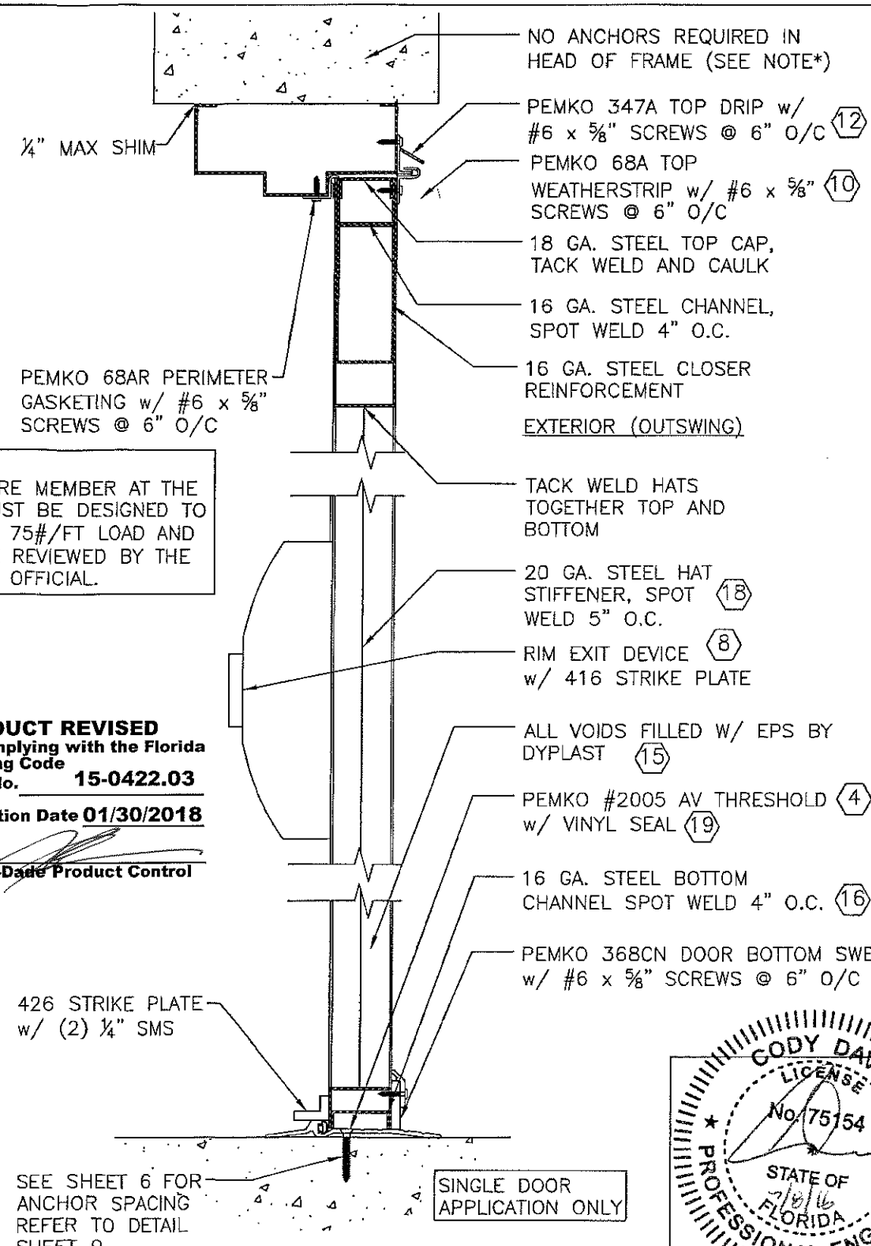
DATE 02-26-16



VERTICAL SECTION M7

* NOTE:
STRUCTURE MEMBER AT THE HEAD MUST BE DESIGNED TO CARRY A 75#/FT LOAD AND MUST BE REVIEWED BY THE BUILDING OFFICIAL.

PRODUCT REVISED
as complying with the Florida Building Code
NOA-No. 15-0422.03
Expiration Date 01/30/2018
By
Miami-Dade Product Control



VERTICAL SECTION N7

(X) = BILL OF MATERIALS REFERENCE, SEE SHEET 6 OF 10

CODY DAVIS LICENSE No. 75154 STATE OF FLORIDA PROFESSIONAL ENGINEER

CODY DAMS, P.E.
FLORIDA LIC. # 75154
(NOT VALID WITHOUT SEAL)

16 GA. COMMERCIAL OUTSWING STEEL DOOR

DRAWING NUMBER 16GACOSD-1

4506 QUALITY LANE
TAMPA, FLORIDA 33634
(813) 885-1693

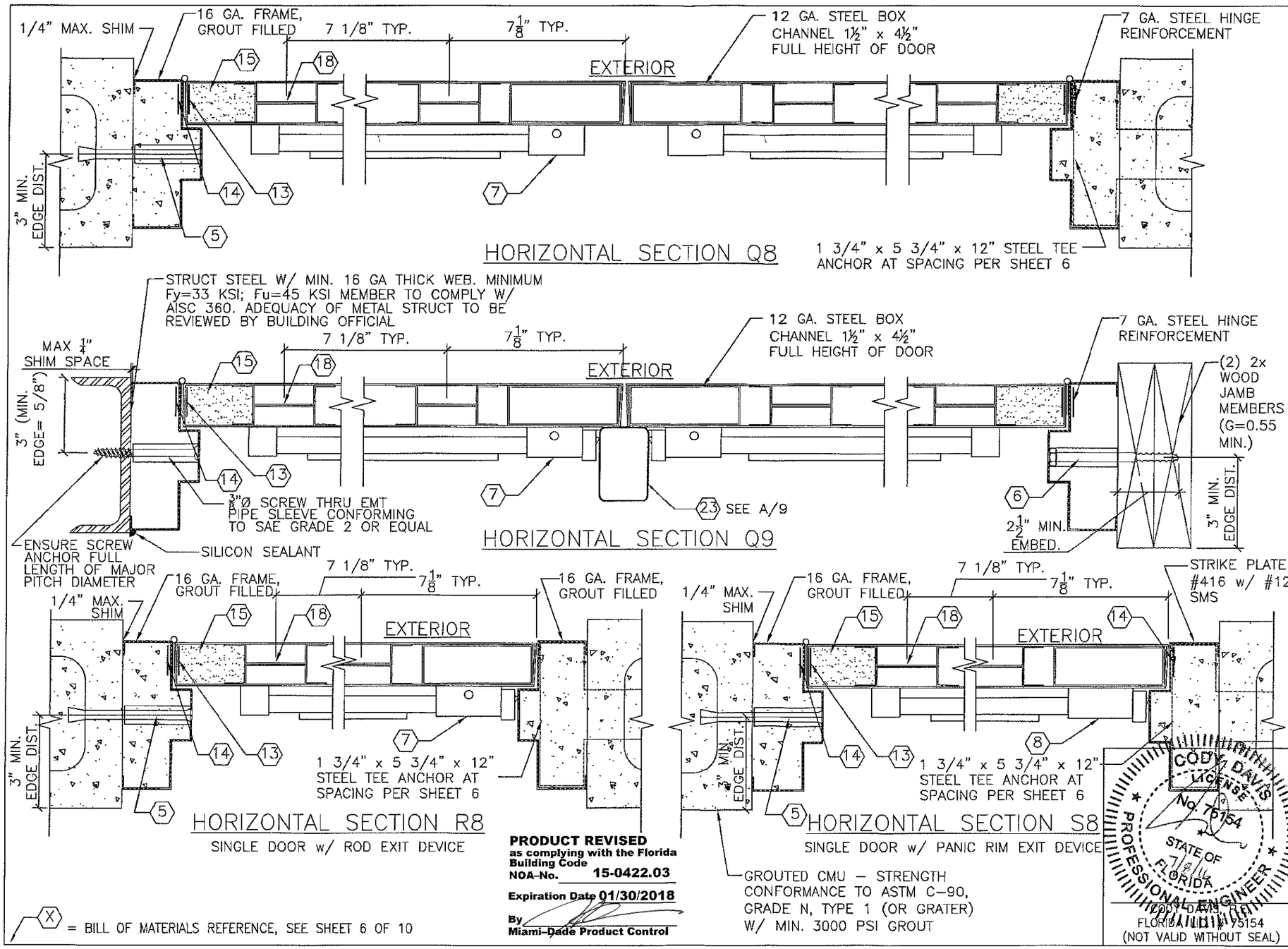
Quality Engineered Products Co., Inc.

REVISIONS
- -
- -
3 01-26-06
4 02-26-16

HURRICANE TEST APPROVAL
SERIES 16GACOSD
16 GAUGE COMMERCIAL
OUTSWING STEEL DOORS

SHEET 7 OF 10

DATE 02-26-16



PRODUCT REVISED
as complying with the Florida Building Code
NOA-No. 15-0422.03
Expiration Date 01/30/2018
By
Miami-Dade Product Control

CODY J. DAVIS LICENSE No. 75154 STATE OF FLORIDA PROFESSIONAL ENGINEER
CODY J. DAVIS, P.E.
FLORIDA LIC. # 75154
(NOT VALID WITHOUT SEAL)

DRAWING NUMBER 16GACOSD-1 | 16 GA. COMMERCIAL OUTSWING STEEL DOOR

HURRICANE TEST APPROVAL
SERIES 16GACOSD
16 GAUGE COMMERCIAL
OUTSWING STEEL DOORS

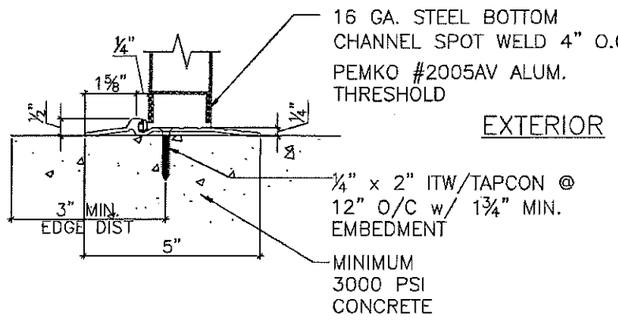
SHEET 8 OF 10

DATE 02-26-16

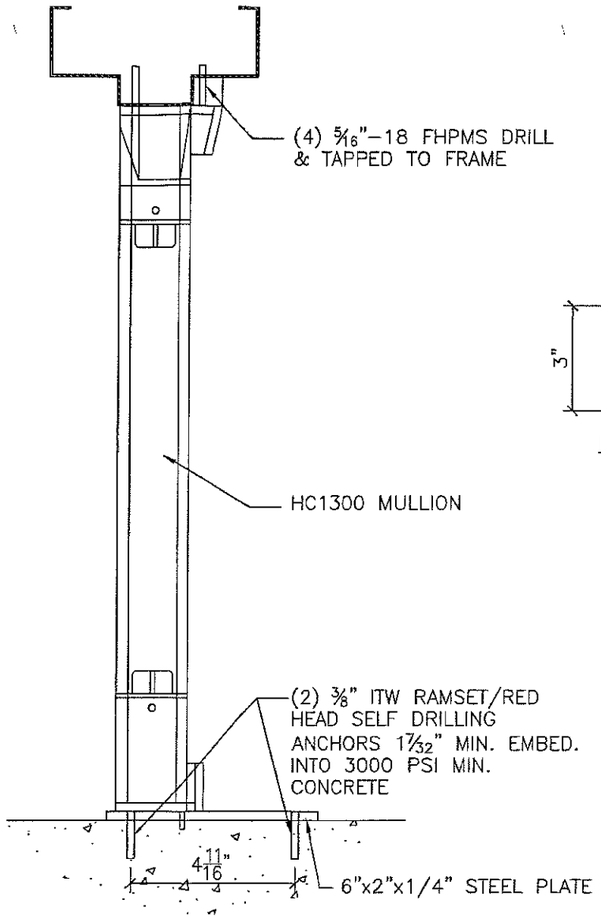
REVISIONS
1 – –
3 01-26-06
4 02-26-16

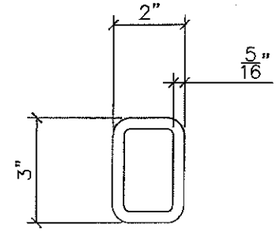
4506 QUALITY LANE
TAMPA, FLORIDA 33634
(813) 885-1693

Quality Engineered Products Co., Inc.

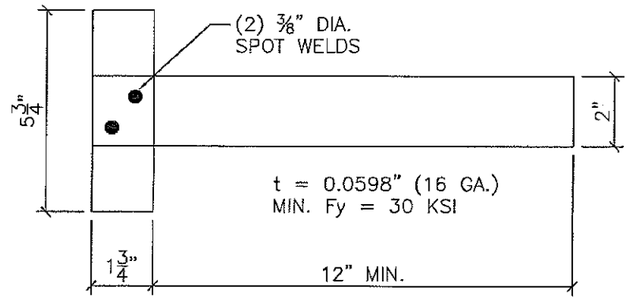


THRESHOLD INSTALLATION





HC1300 MULLION



ALT T ANCHOR ATTACHMENT

DORMA HC-1300 REMOVABLE MULLION

PRODUCT REVISED
as complying with the Florida Building Code
NOA-No. 15-0422.03
Expiration Date 01/30/2018
By Miami-Dade Product Control

CODY DAVIS LICENSE No. 75154 STATE OF FLORIDA PROFESSIONAL ENGINEER 7/8/16

CODY DAVIS, P.E.
FLORIDA LIC. # 75154
(NOT VALID WITHOUT SEAL)

X = BILL OF MATERIALS REFERENCE, SEE SHEET 6 OF 10

16 GA. COMMERCIAL OUTSWING STEEL DOOR

4506 QUALITY LANE
TAMPA, FLORIDA 33634
(813) 885-1693

Quality Engineered Products Co., Inc.

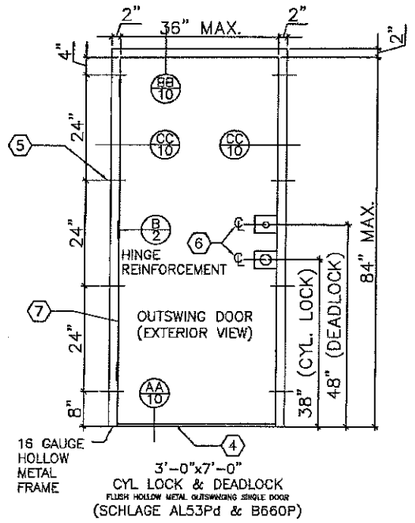
REVISIONS
- —
- —
3 01-26-06
4 02-26-16

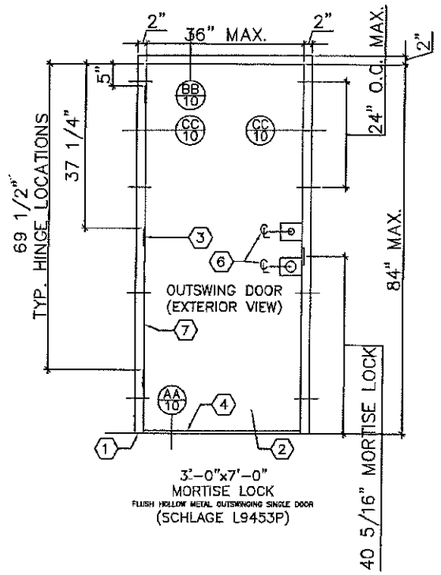
DRAWING NUMBER 16GACOSD-1

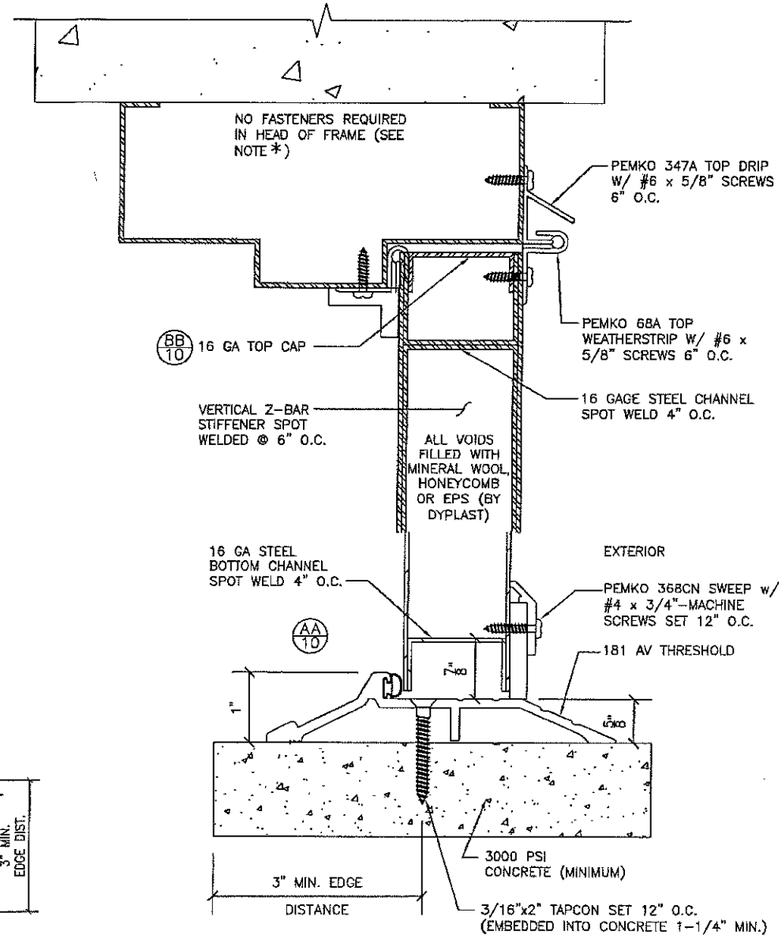
HURRICANE TEST APPROVAL
SERIES 16GACOSD
16 GAUGE COMMERCIAL
OUTSWING STEEL DOORS

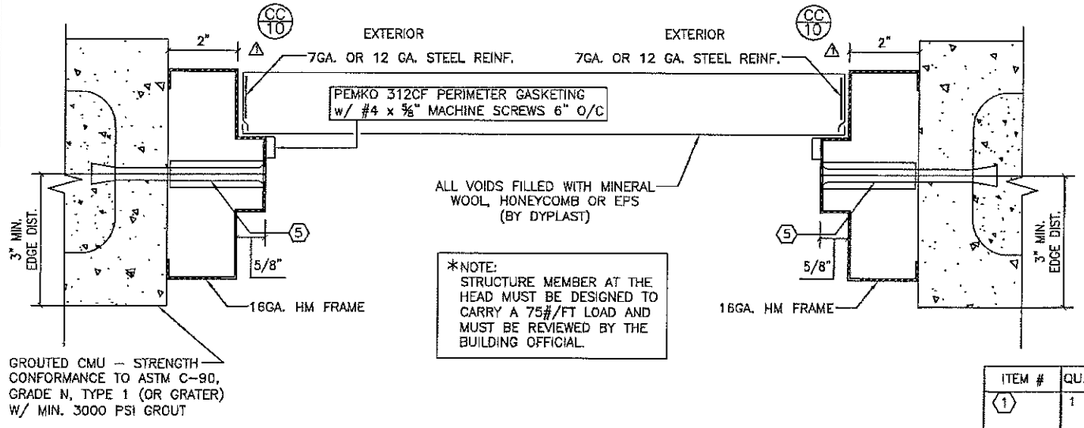
SHEET 9 OF 10

DATE 02-26-16









PRODUCT REVISED
as complying with the Florida Building Code
NOA-No. 15-0422.03
Expiration Date 01/30/2018
By Miami-Dade Product Control

DESIGN PRESSURE RATING - OUTSWING SINGLE DOOR (7'-0" MAX.)		
	WHERE AIR & WATER INFILTRATION REQUIREMENT IS NEEDED	WHERE AIR & WATER INFILTRATION REQUIREMENT NOT IS NEEDED
POSITIVE	+90 PSF	+90 PSF
NEGATIVE	-90 PSF	-90 PSF

(X) = BILL OF MATERIALS REFERENCE, SEE SHEET 10 OF 10

ITEM #	QUANTITY	BILL OF MATERIALS
(1)	1	16 GA. (.063") MIN. (14 GA. MAX.) STEEL HOLLOW METAL FRAME FyMIN= 46.3 KSI; FuMIN= 52.1 KSI (OR S.S. MEETING FyMIN= 50.5 KSI; FuMIN= 98.5 KSI)
2	1	18 GA. (0.05") MIN. (14 GA. MAX.) STEEL FLUSH DOOR FyMIN= 46.3 KSI; FuMIN= 52.1 KSI (OR S.S. MEETING FyMIN= 50.5 KSI; FuMIN= 98.5 KSI)
3	3	HAGER HINGES BB1279 4½" X 4½" .134" THICK
4	1	PEMKO THRESHOLD 181AV OR 2005AV
5	B	¾"Ø DYNABOLT ITW/REDHEAD SLEEVE ANCHOR (⅜"Ø BOLT) X 5" SLEEVE ANCHOR w/ ¾"Ø EMT WELDED PIPE SLEEVE w/ 2-1/2" MIN. EMBEDMENT & 3" MIN. EDGE DISTANCE INTO 3 KSI CONCRETE OR GROUT FILLED BLOCK
6	1	SCHLAGE LOCKSET AL53Pd W/ DEADLOCK B660 OR SCHLAGE MORTISE LOCKSET L9453Pd
7	AS REQ.	PEMKO 312CF PERIMETER GASKETING
8	1	PEMKO 368CN DOOR SWEEP
9	1	#347A X 68A TOP DRIP

CODY DAVIS LICENSE No. 75154 STATE OF FLORIDA 7/8/16 PROFESSIONAL ENGINEER
CODY DAVIS, P.E.
FLORIDA LIC. # 75154
(NOT VALID WITHOUT SEAL)

4506 QUALITY LANE
TAMPA, FLORIDA 33634
(813) 885-1693

Quality Engineered Products Co., Inc.

16 GA. COMMERCIAL OUTSWING STEEL DOOR

REVISIONS
- -
- -
3 01-26-06
4 02-26-16

DRAWING NUMBER 16GACOSD-1

HURRICANE TEST APPROVAL
SERIES 16GACOSD
16 GAUGE COMMERCIAL
OUTSWING STEEL DOORS

SHEET 10 OF 10

DATE 02-26-16

DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER)
BOARD AND CODE ADMINISTRATION DIVISION

MIAMI-DADE COUNTY
PRODUCT CONTROL SECTION
11805 SW 26 Street, Room 208
Miami, Florida 33175-2474
T (786) 315-2590 F (786) 315-2599
www.miamidade.gov/pera

NOTICE OF ACCEPTANCE (NOA)

Value Metal Corporation
426 NW 9th Ave
Homestead, FL 33030

SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed and accepted by Miami-Dade County RER - Product Control Section to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Section (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. RER reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Section that this product or material fails to meet the requirements of the applicable building code.
This product is approved as described herein, and has been designed to comply with the Florida Building Code including the High Velocity Hurricane Zone of the Florida Building Code.

DESCRIPTION: VMC 5V Crimp Architectural Metal Roof System

LABELING: Each unit shall bear a permanent label with the manufacturer's name or logo, city, state and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

RENEWAL of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

ADVERTISEMENT: The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

INSPECTION: A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This renews NOA# 09-0210.01 and consists of pages 1 through 5.
The submitted documentation was reviewed by Alex Tigera.

MIAMI-DADE COUNTY APPROVED

ROOFING ASSEMBLY APPROVAL:

Category:	Roofing
Sub-Category:	Non-Structural Metal Roofing
Material:	Steel
Deck Type:	Wood
Maximum Design Pressure	**-151.75psf (See General Limitation #2)**

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

Product	Dimensions	Test Specifications	Product Description
VMC 5V-Crimp Architectural Metal Roof Panel	l = varies w = 24" h = 3/8" Min. Thickness 0.0179" (26ga.) Min.Yield Strength: 55ksi	TAS 110	Corrosion resistant, galvanized, preformed, coated, prefinished, metal panels.
Trim Pieces	l = varies w = varies Min. Thickness 0.0179" (26ga.)	TAS 110	Standard flashing and trim pieces. Manufactured for each panel width.

MANUFACTURING LOCATION:

1. Homestead, FL.

EVIDENCE SUBMITTED:

Test Agency	Test Identifier	Test Name/Report	Date
PRI Construction Materials Technologies	VMC-002-02-01	ASTM G 23 ASTM B 117 TAS-100	02/20/08
Hurricane Test Laboratory, Inc.	0484-0811-07	TAS 125	10/18/07

APPROVED ASSEMBLIES:

System A:	5V-Crimp Metal Roof Panel
Deck Type:	Wood, Non-insulated
Deck Description:	New Construction or Re-Roof $^{15}/_{32}$" or greater plywood or wood plank.
Slope Range:	2": 12" or greater
Maximum Uplift Pressure:	**See Table A Below. (See Limitation #2)**

Deck Attachment:	In accordance with applicable Building Code, but in no case shall it be less than 8d ring shank nails spaced 6" o.c around the perimeter and 6" o.c. in the field. In reroofing, where the deck is less than $^{19}/_{32}$" thick (Minimum $^{15}/_{32}$") The above attachment method must be in addition to existing attachment.
Underlayment:	First layer of underlayment shall be an ASTM D 226 Type II installed with a minimum 4" side-lap and 6" end-laps. Underlayment shall be fastened with corrosion resistant tin-caps and 12 gauge 1 ¼" annular ring-shank nails, spaced 6" o.c. at all laps and two staggered rows 12" o.c. in the field of the roll. Or, any approved underlayment having a current NOA. An additional layer of Versashield (serving as a second underlayment) shall be installed with a minimum 4" side-lap and 6" end-laps. Underlayment shall be fastened with corrosion resistant tin-caps and 12 gauge 1 ¼" annular ring-shank nails, spaced 6" o.c. at all laps and two staggered rows 12" o.c. in the field of the roll.
Valleys:	Valley construction shall be in compliance with Roofing Application Standard RAS 133 and with Value Metal Corporation's current published installation instructions.
Fire Barrier Board:	Any approved fire barrier having a current NOA. Refer to a current fire directory listing for fire ratings of this roofing system assembly as well as the location of the fire barrier within the assembly. See Limitation # 1.
Metal Panels and Accessories:	Install the "5V-Crimp Panels" and accessories in compliance with Value Metal Corporation's current, published installation instructions and details. Flashing, penetrations, valley construction and other details shall be constructed in compliance with the minimum requirements provided in Roofing Application Standards RAS 133. Panel fasteners shall be #9HH wood screws with sealing washers of sufficient length to penetrate through the sheathing a minimum of $^{3}/_{16}$ inch Fasteners shall be installed at a maximum spacing as listed in **Table A** below parallel to the slope on top of the crimp. Fasteners shall be installed at a maximum of 12" o.c. at panel edge. See detail herein.

TABLE A
MAXIMUM DESIGN PRESSURES

Roof Areas	Field	Perimeter and Corner[1]
Maximum Design Pressures	**-110.5 psf**	**-151.75 psf**
Maximum Fastener Spacing	**12" o.c.**	**6" o.c.**

1. Extrapolation shall not be allowed

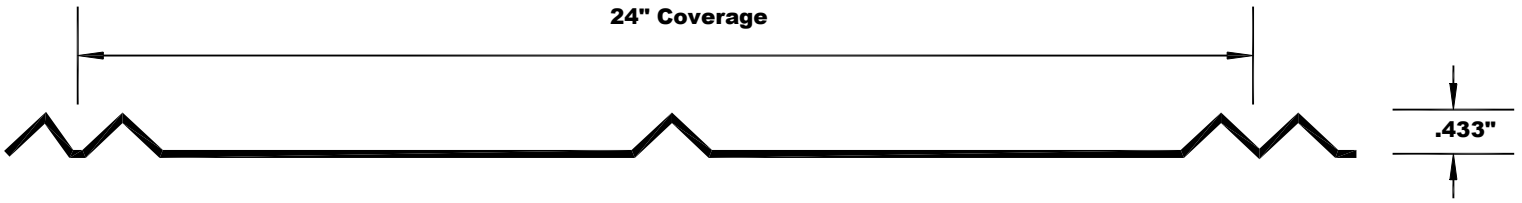
LIMITATIONS

1. Fire classification is not part of this acceptance; refer to a current Approved Roofing Materials Directory for fire ratings of this product.
2. The maximum designed pressure listed herein shall be applicable to all roof pressure zones (i.e. field, perimeters, and corners). Neither rational analysis, nor extrapolation shall be permitted for enhanced fastening at enhanced pressure zones (i.e. perimeters, extended corners and corners).
3. Panels may be rolls formed in continuous lengths from eave to ridge. Maximum lengths shall be as described in Roofing Application Standard RAS 133
4. All panels shall be permanently labeled with the manufacturer's name and/or logo, and the following statement: "Miami-Dade County Product Control Approved" or with the Miami-Dade County Product Control Seal as seen below. All clips shall be permanently labeled with the manufacturer's name and/or logo, and/or model.

MIAMI-DADE COUNTY APPROVED

5. All products listed herein shall have a quality assurance audit in accordance with the Florida Building Code and Rule 9N-3 of the Florida Administrative Code.

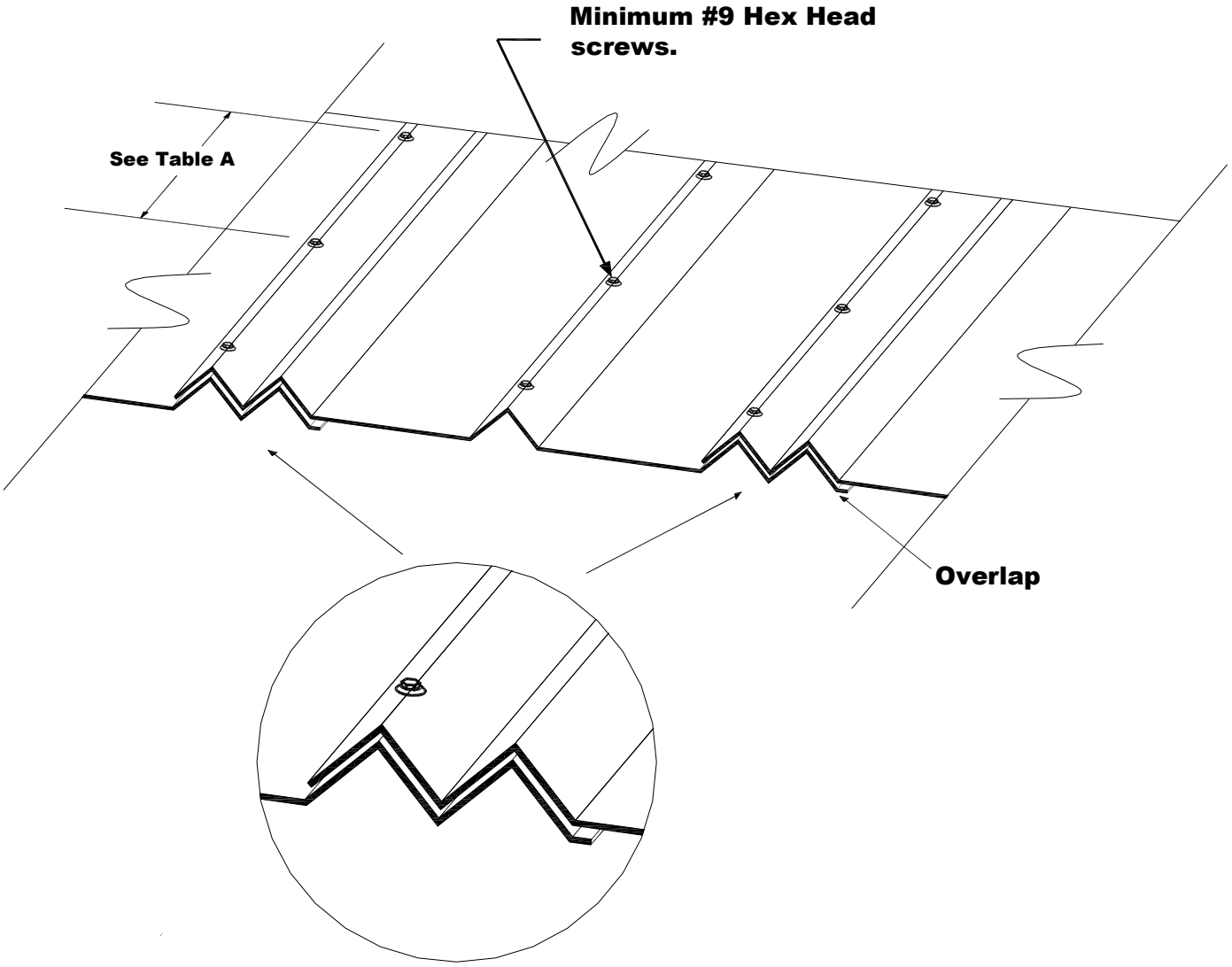
DETAIL DRAWINGS



5V PANEL

DETAIL A – SYSTEM A

5V-CRIMP METAL ROOF PANEL



Overlap Detail

END OF THIS ACCEPTANCE

MIAMI-DADE COUNTY
PRODUCT CONTROL SECTION
11805 SW 26 Street, Room 208
Miami, Florida 33175-2474
T (786) 315-2590 F (786) 315-2599
www.miamidade.gov/economy

DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER)
BOARD AND CODE ADMINISTRATION DIVISION

NOTICE OF ACCEPTANCE (NOA)

Rolling Door Industries LLC
8214 NW 64 Street
Miami, FL 33166

SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed and accepted by Miami-Dade County RER-Product Control Section to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).
This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Section (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. RER reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Section that this product or material fails to meet the requirements of the applicable building code.
This product is approved as described herein, and has been designed to comply with the Florida Building Code, including the High Velocity Hurricane Zone.

DESCRIPTION: 20 Gage Slat Steel Roll-up Door up to 26'-0" Wide

APPROVAL DOCUMENT: Drawing No. **13-020**, titled "26'-0" Maximum Wide, 20 Gage Slat Roll-up Door", sheets 1 through 3 of 3 (including sheet 1A), dated 02/26/2013, prepared by Tilteco, Inc., signed and sealed by Walter A. Tillit, Jr., P.E., bearing the Miami-Dade County Product Control approval stamp with the Notice of Acceptance number and approval date by the Miami-Dade County Product Control Section.

MISSILE IMPACT RATING: Large and Small Missile Impact Resistant

LABELING: A permanent label with the manufacturer's name or logo, city, state, model/series number, the positive and negative design pressure rating, indicate impact rated if applicable, installation instruction drawing reference number, approval number (NOA), the applicable test standards, and the statement reading 'Miami-Dade County Product Control Approved' is to be located on the door's side track, bottom angle, or inner surface of a panel.

RENEWAL of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

ADVERTISEMENT: The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

INSPECTION: A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.
This NOA consists of this page 1 and evidence page E-1, as well as approval document mentioned above.
The submitted documentation was reviewed by **Carlos M. Utrera, P.E.**

MIAMI-DADE COUNTY APPROVED

05/15/2013

NOA No. 13-0226.07
Expiration Date: May 23, 2018
Approval Date: May 23, 2013

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

A. DRAWINGS

1. Drawing No. **13-020**, titled "26'-0" Maximum Wide, 20 Gage Slat Roll-up Door", sheets 1 through 3 of 3 (including sheet 1A), dated 02/26/2013, prepared by Tilteco, Inc., signed and sealed by Walter A. Tillit, Jr., P.E.

B. TESTS

1. Test reports on: 1) Uniform Static Air Pressure Test, Loading per FBC, TAS 202-94
   2) Large Missile Impact Test per FBC, TAS 201-94
   3) Cyclic Wind Pressure Loading per FBC, TAS 203-94
   4) Forced Entry Test, per FBC 2411 3.2.1, TAS 202-94
   5) Tensile Test per ASTM A370-05,

   along with installation diagram of Series HV 2620 Roll-up 20 Gauge Slat Doors, prepared by Fenestration Testing Laboratory, Inc, Test Report No. **FTL-6444**, dated 02/23/2011, signed and sealed by Marlin D. Brinson, P.E.

C. CALCULATIONS

1. Anchor verification calculations and structural analysis, complying with FBC-2010, prepared by Tilteco, Inc, dated 02/26/2013, signed and sealed by Walter A. Tillit, Jr., P.E.

D. QUALITY ASSURANCE

1. Miami-Dade Department of Regulatory and Economic Resources (RER)

E. MATERIAL CERTIFICATIONS

1. None.

F. STATEMENTS

1. Statement letter of code conformance to 2010 FBC issued by Tilteco, Inc, dated 02/26/2013, signed and sealed by Walter A. Tillit, Jr., P.E.
2. Statement letter of no financial interest, issued by Tilteco, Inc, dated 02/26/2013, signed and sealed by Walter A. Tillit, Jr., P.E.

05/15/2013

Carlos M. Utrera, P.E.
Product Control Examiner
NOA No. 13-0226.07
Expiration Date: May 23, 2018
Approval Date: May 23, 2013

GENERAL NOTES:

1– ROLL–UP DOOR SHOWN ON THIS PRODUCT APPROVAL DOCUMENT (P.A.D.) HAS BEEN VERIFIED FOR CODE COMPLIANCE IN ACCORDANCE WITH THE **2010** EDITION OF THE FLORIDA BUILDING CODE.
DESIGN WIND LOADS SHALL BE DETERMINED AS PER SECTION **1620** OF THE ABOVE MENTIONED CODE, USING ASCE 7–10 AND SHALL NOT EXCEED THE MAXIMUM (A.S.D.) DESIGN PRESSURE RATINGS INDICATED ON NOTE 1.

IN ORDER TO VERIFY THE ABOVE CONDITION, ULTIMATE DESIGN WIND LOADS DETERMINATED PER ASCE 7–10 SHALL BE FIRST REDUCED TO A.S.D. DESIGN WIND LOADS BY MULTIPLYING THEM BY 0.6 IN ORDER TO COMPARE THESE W/ MAX. (A.S.D.) DESIGN PRESSURE RATINGS INDICATED ON NOTE 1.

ROLL–UP DOOR'S ADEQUACY FOR IMPACT AND FATIGUE RESISTANCE HAS BEEN VERIFIED IN ACCORDANCE WITH SECTION **1626** OF THE ABOVE MENTIONED CODE AS PER FENESTRATION TESTING LABORATORY, INC. REPORT # 6444, PER TAS–201, TAS–202 & TAS–203 PROTOCOLS.

MAX. A.S.D. DESIGN PRESSURE RATING: +70.0, –70.0 PSF

2–SLAT TO BE A.S.T.M. A–653 GR 40 STRUCTURAL QUALITY STEEL WITH MIN Fy = 46.9 ksi. AND G–90 GALVANIZING PER A.S.T.M. A–653, OR A.I.S.I. 304 SERIES STAINLESS STEEL MANUFACTURED WITH A MINIMUM YIELD STRENGTH OF Fy = 46.9 ksi.

3– ALL STEEL ANGLES TO BE A.S.T.M. A–36 DESIGNATION, SHOP PRIMED AGAINST CORROSION PRIOR TO INSTALLATION. PAINT TO CONFORM TO FEDERAL SPECIFICATIONS CORRESPONDING TO RED OXIDE PAINT OR EQUAL.

4– WINDLOCKS TO BE "MALLEABLE IRON" Fy = 42 ksi OR A.I.S.I. DESIGNATION STEEL W/ Fy = 40 ksi., CHROME OR NICKEL PLATED.

5– ALL ASSEMBLY BOLTS TO BE S.A.E. GRADE 2 CADMIUM PLATED OR GALVANIZED STEEL.

6– STEEL WINDBARS TO BE A.S.T.M. A–36 DESIGNATION, SHOP PRIMED PRIOR TO INSTALLATION. PAINT TO CONFORM TO FEDERAL SPECIFICATIONS CORRESPONDING TO RED OXIDE PAINT OR EQUAL.

7– HOOD TO BE 24 GA. A.S.T.M. A–653 DESIGNATION G–90 FINISH TYPE COATING.

8– ALL RIVETS TO BE A.I.S.I. C1006 SPHERODIZED ANNEALED ALUMINUM LOW CARBON COLD HEADING QUALITY STEEL, ZINC PLATED, W/ 55.0 ksi. MINIMUM TENSILE STRENGTH, AS MANUFACTURED BY UNIVERSAL RIVET, INC.

9– CONCRETE ANCHORS TO BE AS MANUFACTURED BY HILTI, INC AND POWERS FASTENERS, INC, AND SHALL BE INSTALLED FOLLOWING ALL OF THE RECOMMENDATIONS AND SPECIFICATIONS OF THE ANCHOR'S MANUFACTURER.

10– ALL WELDING TO CONFORM TO AMERICAN WELDING SOCIETY'S AWS D1.1 REGULATIONS.
USE A.W.S A5.1 OR A5.5 E60XX ELECTRODES MIN. 3/16" FILLET SIZE.

11– INSULATION MATERIAL SHALL BE EPS–EXPANDED POLYSTYRENE INSULATION, MANUFACTURED BY **DYPLAST PRODUCTS LLC.** W/ MIAMI DADE COUNTY APPROVAL.

12– IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THAT THE EXISTING STRUCTURE IS DESIGNED TO SUPPORT Vx AND Vy FORCES AT BOTH JAMBS.
SEE SCHEDULE ON SHEET 3 OF 3, FOR Vx & Vy VALUES.

13– ROLL–UP MECHANISM NOT PART OF THIS APPROVAL.

14– (A) THIS P.A.D. PREPARED BY THIS ENGINEER IS GENERIC AND DOES NOT PROVIDE INFORMATION FOR A SITE SPECIFIC PROJECT; I.E. WHERE THE SITE CONDITIONS DEVIATE FROM THE P.A.D.
(B) CONTRACTOR TO BE RESPONSIBLE FOR THE SELECTION, PURCHASE AND INSTALLATION OF THIS PRODUCT BASED ON THIS P.A.D. PROVIDED HE/SHE DOES NOT DEVIATE FROM THE CONDITIONS DETAILED ON THIS DOCUMENT. CONSTRUCTION SAFETY AT SITE IS THE CONTRACTOR'S RESPONSIBILITY.
(C) THIS P.A.D. WILL BE CONSIDERED INVALID IF MODIFIED.
(D) SITE SPECIFIC PROJECTS SHALL BE PREPARED BY A FLORIDA REGISTERED ENGINEER OR ARCHITECT WHICH WILL BECOME THE ENGINEER OF RECORD (E.O.R.) FOR THE PROJECT AND WHO WILL BE RESPONSIBLE FOR THE PROPER USE OF THE P.A.D. ENGINEER OF RECORD, ACTING AS A DELEGATED ENGINEER TO THE P.A.D. ENGINEER, SHALL SUBMIT TO THIS LATTER THE SITE SPECIFIC DRAWINGS FOR REVIEW.
(E) THIS P.A.D. SHALL BEAR THE DATE AND ORIGINAL SEAL AND SIGNATURE OF THE PROFESSIONAL ENGINEER OF RECORD THAT PREPARED IT.

Approved as complying with the Florida Building Code
Date 05/23/2013
NOA# 13-0226.07
Miami Dade Product Control
By _____

WALTER A. TILLIT JR. LICENSE NO 44167 STATE OF FLORIDA PROFESSIONAL ENGINEER
P.E. SEAL/SIGNATURE/DATE

Florida Building Code (High Velocity Hurricane Zone)

TILTECO INC.
TILLIT TESTING & ENGINEERING COMPANY
6355 N.W. 36th. St., Ste. 305, VIRGINA GARDENS, FL 33166
Phone : (305)871–1530 . Fax : (305)871–1531
e–mail: tilteco@aol.com
EB–0006719
WALTER A. TILLIT Jr. P.E.
FLORIDA Lic. # 44167

26'–0" MAXIMUM WIDE, 20 GAGE SLAT ROLL–UP DOOR

A.G.
DRAWN BY:

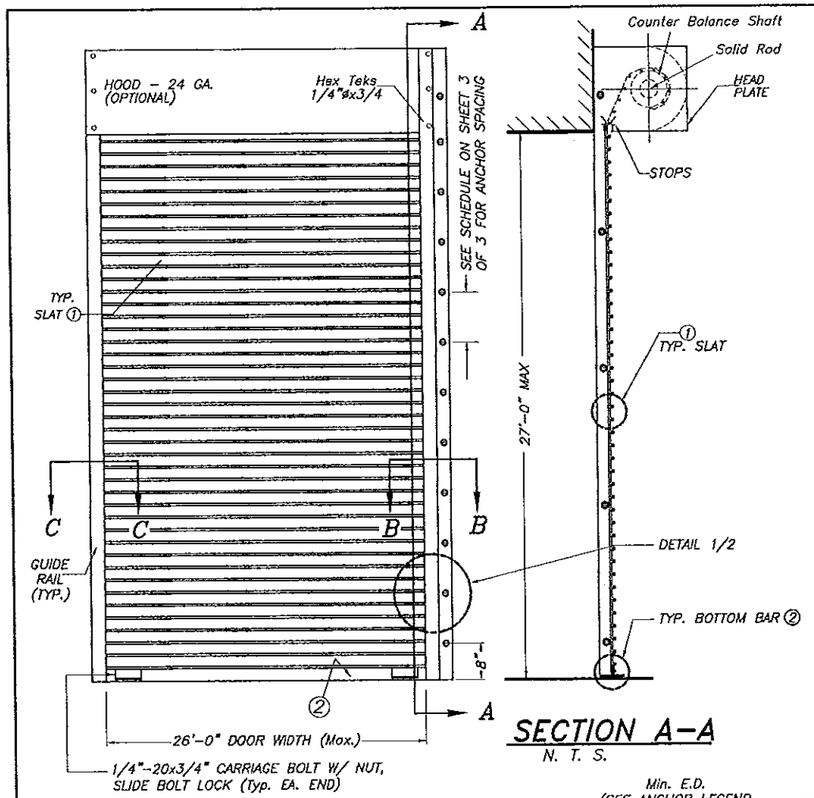
ROLLING DOOR INDUSTRIES, LLC.
8214 NW 64 ST
MIAMI, FL. 33166
PH: 305–599–9977 FAX: 305–599–9979

02/26/13
DATE

13–020
DRAWING No

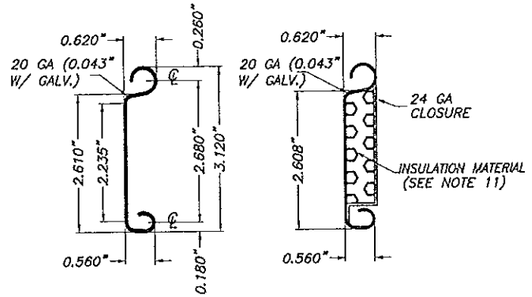
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	–	–	3	–	–
2	–	–	4	–	–

SHEET 1 OF 3



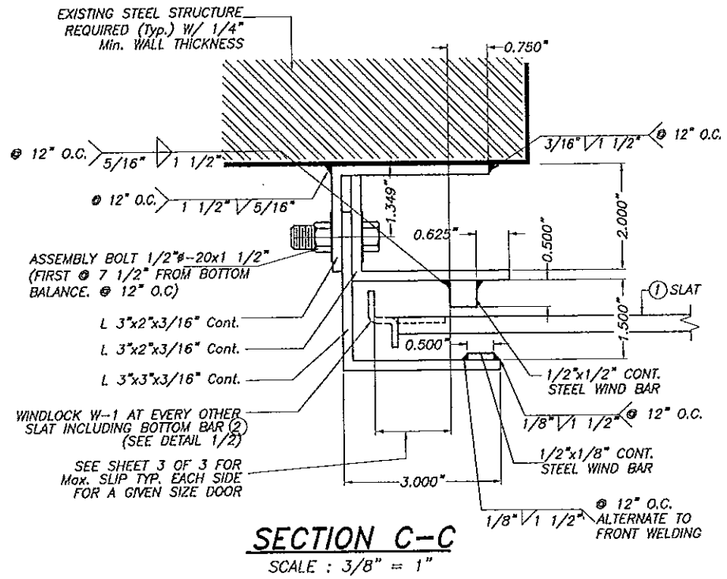
SECTION A–A
N. T. S.

TYPICAL DOOR ELEVATION
N. T. S.

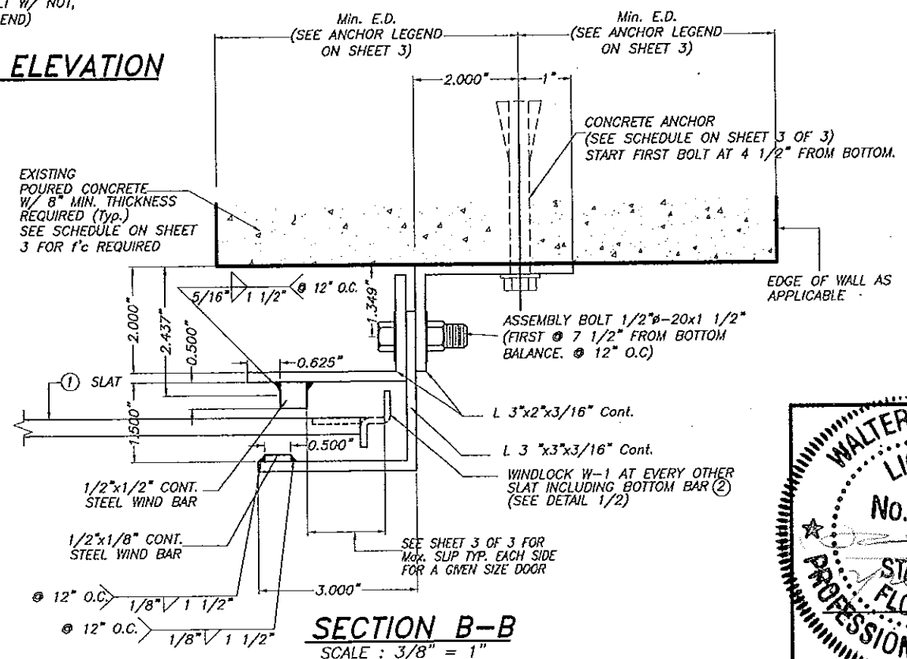


PLAIN INSULATED

① FLAT SLAT
SCALE : 1/2" = 1"



SECTION C–C
SCALE : 3/8" = 1"



SECTION B–B
SCALE : 3/8" = 1"

Approved as complying with the Florida Building Code
Date 05/23/2013
NOA# 13.0226.07
Miami Dade Product Control
By

WALTER A. TILLIT JR. LICENSE No. 44107 STATE OF FLORIDA PROFESSIONAL ENGINEER

P.E. SEAL/SIGNATURE/DATE

Florida Building Code (High Velocity Hurricane Zone)

TILTECO INC.
TILLIT TESTING & ENGINEERING COMPANY
6355 N.W. 36th. St., Ste. 305, VIRGINIA GARDENS, Fl. 33166
Phone : (305)871-1530 . Fax : (305)871-1531
e-mail: tilteco@aol.com
EB-0006719
WALTER A. TILLIT Jr. P.E.
FLORIDA Lic. # 44167

26'-0" MAXIMUM WIDE, 20 GAGE SLAT ROLL-UP DOOR

ROLLING DOOR INDUSTRIES, LLC.
8214 NW 64 ST
MIAMI, FL. 33166
PH: 305-599-9977 FAX: 305-599-9979

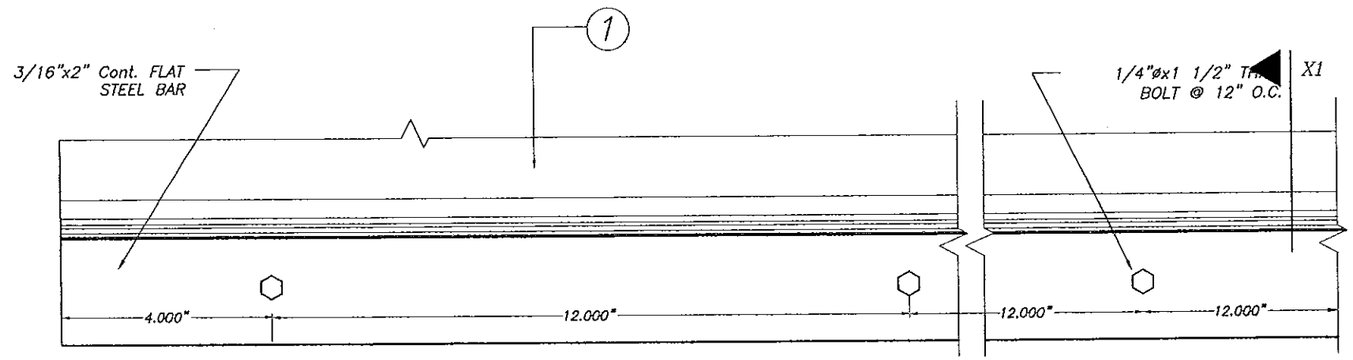
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	–	–	3	–	–
2	–	–	4	–	–

A.G.
DRAWN BY:

02/26/13
DATE

13-020
DRAWING No

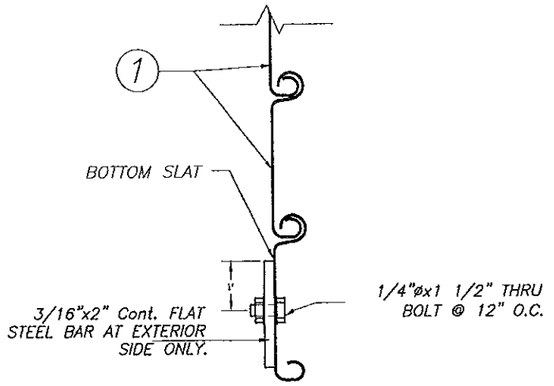
SHEET 1A OF 3



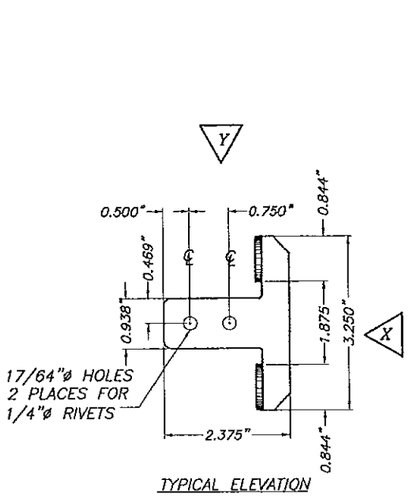
ELEVATION

(2) BOTTOM BAR

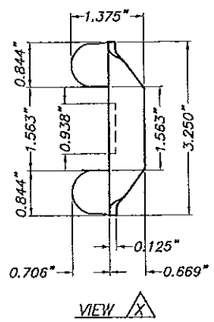
SCALE : 3/8" = 1"



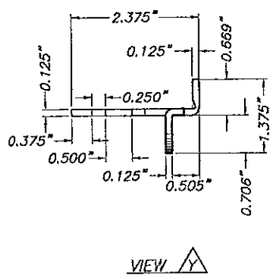
SECTION X1



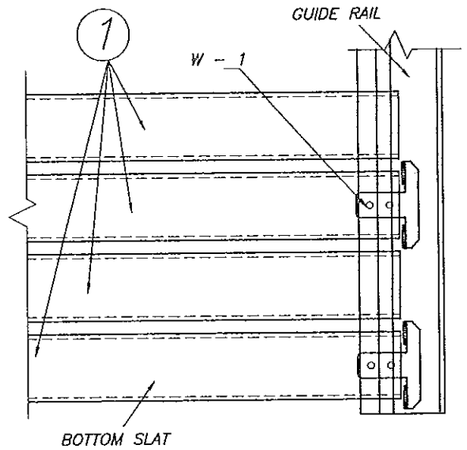
TYPICAL ELEVATION



VIEW X



VIEW Y



DETAIL 1 (elevation)

N.T.S.

(3) TYPICAL WINDLOCK W - 1 DETAIL

SCALE : 3/8" = 1"

Approved as complying with the Florida Building Code
Date 05/23/2013
NOA# 13-0226.07
Miami Dade Product Control
By

COMPONENTS

WALTER A. TILLIT JR LICENSE No. 44167 STATE OF FLORIDA PROFESSIONAL ENGINEER

P.E. SEAL/SIGNATURE/DATE

Florida Building Code (High Velocity Hurricane Zone)

TILTECO INC.
TILLIT TESTING & ENGINEERING COMPANY
6355 N.W. 36th. St., Ste. 305, VIRGINIA GARDENS, Fl. 33166
Phone : (305)871-1530 . Fax : (305)871-1531
e-mail: tilteco@aol.com
EB-0006719
WALTER A. TILLIT Jr. P.E.
FLORIDA Lic. # 44167

26'-0" MAXIMUM WIDE, 20 GAGE SLAT ROLL-UP DOOR

A.G. DRAWN BY:

ROLLING DOOR INDUSTRIES, LLC.
8214 NW 64 ST
MIAMI, FL. 33166
PH: 305-599-9977 FAX: 305-599-9979

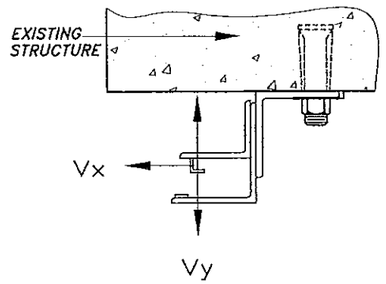
02/26/13 DATE

13-020 DRAWING No

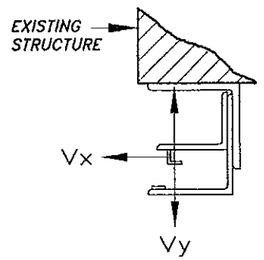
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	-	-	3	-	-
2	-	-	4	-	-

Vx & Vy REACTIONS & ANCHOR SPACING SCHEDULE

MAXIMUM A.S.D. DESIGN PRESSURE RATING (PSF)	DOOR WIDTH (Ft.)	SLIP (In)	Vx (Lb/Ft)	Vy (Lb/Ft)	MAX. ANCHOR SPACING TO POURED CONCRETE					
					ANCHOR TYPE 1 *			ANCHOR TYPE 2 *		
					f'c = 3 ksi Min.	f'c = 4 ksi Min.	f'c = 6 ksi Min.	f'c = 3 ksi Min.	f'c = 4 ksi Min.	f'c = 6 ksi Min.
+50.0, -50.0	16-0"	5/8"	1436	400	11"	11"	11"	11"	11"	11"
	18'-0"	1"	1419	450	11"	11"	11"	11"	11"	11"
	20'-0"	1 1/4"	1532	500	11"	11"	11"	11"	11"	11"
	24'-0"	1 1/2"	1885	600	10 1/2"	11"	11"	11"	11"	11"
	26'-0"	1 1/2"	2125	650	9"	10 1/2"	11"	10"	11"	11"
+55.0, -55.0	16-0"	5/8"	1591	440	11"	11"	11"	11"	11"	11"
	18'-0"	1"	1569	495	11"	11"	11"	11"	11"	11"
	20'-0"	1 1/4"	1689	550	11"	11"	11"	11"	11"	11"
	24'-0"	1 1/2"	2071	660	9 1/2"	10 1/2"	11"	10"	11"	11"
	26'-0"	1 1/2"	2331	715	8 1/2"	9 1/2"	10 1/2"	9"	10"	10 1/2"
+60.0, -60.0	16-0"	5/8"	1743	480	11"	11"	11"	11"	11"	11"
	18'-0"	1"	1718	540	11"	11"	11"	11"	11"	11"
	20'-0"	1 1/4"	1845	600	10 1/2"	11"	11"	11"	11"	11"
	24'-0"	1 1/2"	2256	720	8 1/2"	10"	10 1/2"	9 1/2"	10 1/2"	11"
	26'-0"	1 1/2"	2536	780	7 1/2"	8 1/2"	9 1/2"	8 1/2"	9 1/2"	9 1/2"
+70.0, -70.0	16-0"	5/8"	2046	560	10"	11"	11"	10 1/2"	11"	11"
	18'-0"	1"	2012	630	10"	11"	11"	10 1/2"	11"	11"
	20'-0"	1 1/4"	2155	700	9"	10"	11"	9 1/2""	11"	11"
	24'-0"	1 1/2"	2611	840	7 1/2"	8 1/2"	9"	9"	9"	9 1/2"
	26'-0"	1 9/16"	2881	910	7 1/2" ▲	7 1/2"	8 1/2"	6 1/2"	8"	8 1/2"



LOAD DIAGRAM



LOAD DIAGRAM

Approved as complying with the Florida Building Code
Date 05/23/2013
NOA# 13-0226.07
Miami Dade Product Control
By

ANCHOR LEGEND

* **ANCHOR TYPE 1:** – 5/8"ø POWERS FASTENERS, INC WEDGE BOLT ANCHOR W/ 5" MINIMUM EMBEDMENT, 6" MIN. EDGE DISTANCE & 8" MIN. WALL THICKNESS.

ANCHOR TYPE 2: – 3/4"ø HILTI KWIK BOLT 3 EXPANSION ANCHOR W/ 6 1/2" MIN. EMBEDMENT, 6" MIN. EDGE DISTANCE 8" MIN. WALL THICKNESS. ONLY ALLOWED TO BE USED AT JURISDICTIONS WHERE COMPLIANCE W/ ACI 318-05 APPENDIX D IS NOT ENFORCED BY BUILDING OFFICIAL.

▲ SPACING ONLY VALID FOR 7 1/2" MIN. EDGE DISTANCE

WALTER A. TILLIT JR. LICENSE NO. 44167 STATE OF FLORIDA PROFESSIONAL ENGINEER

P.E. SEAL/SIGNATURE/DATE

Florida Building Code (High Velocity Hurricane Zone)

TILTECO INC.
TILLIT TESTING & ENGINEERING COMPANY
6355 N.W. 36th. St., Ste. 305, VIRGINIA GARDENS, Fl. 33166
Phone : (305)871-1530 . Fax : (305)871-1531
e-mail: tilteco@aol.com
EB-0006719
WALTER A. TILLIT Jr. P.E.
FLORIDA Lic. # 44167

26'-0" MAXIMUM WIDE, 20 GAGE SLAT ROLL-UP DOOR

ROLLING DOOR INDUSTRIES, LLC.
8214 NW 64 ST
MIAMI, FL. 33166
PH: 305-599-9977 FAX: 305-599-9979

REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	-	-	3	-	-
2	-	-	4	-	-

A.G.
DRAWN BY:

02/26/13
DATE

13-020
DRAWING No

MIAMI-DADE COUNTY
PRODUCT CONTROL SECTION
11805 SW 26 Street, Room 208
Miami, Florida 33175-2474
T (786) 315-2590 F (786) 315-2599
www.miamidade.gov/economy

DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER)
BOARD AND CODE ADMINISTRATION DIVISION

NOTICE OF ACCEPTANCE (NOA)

Quality Engineered Products Co., Inc.
4506 Quality Lane
Tampa, FL 33634

SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed and accepted by Miami-Dade County RER -Product Control Section to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Section (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. RER reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Section that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein, and has been designed to comply with the Florida Building Code, including the High Velocity Hurricane Zone.

DESCRIPTION: Series "HMF" 16 ga Outswing Full Louvered Commercial Steel Door-Impact

APPROVAL DOCUMENT: Drawing No. **QEP005**, titled "Full Louvered Steel Doors", sheets 1 through 5 of 5, prepared by manufacturer, dated Nov 12, 2009, signed and sealed by David M. Schonacher, P. E., bearing the Miami-Dade County Product Control Renewal stamp with the Notice of Acceptance number and expiration date by the Miami-Dade County Product Control Section.

MISSILE IMPACT RATING: Large and Small Missile Impact Resistant

Limitation: 1. Not approved where Air & Water infiltration is needed

LABELING: Each unit shall bear a permanent label with the manufacturer's name or logo, city, state and series and following statement: "Miami-Dade County Product Control Approved", noted herein.

RENEWAL of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

ADVERTISEMENT: The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

INSPECTION: A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA **renews NOA # 12-1115.12** and consists of this page 1 and evidence pages E-1, as well as approval document mentioned above.

The submitted documentation was reviewed by **Ishaq I. Chanda, P.E.**

MIAMI-DADE COUNTY APPROVED

10/31/14

Quality Engineered Products Co, Inc.

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

A. DRAWINGS

1. Manufacturer's die drawings and sections (Submitted under files **#12-1115.12/# 09-0812.17**)
2. Drawing No. **QEP005**, titled "Full Louvered Steel Doors", sheets 1 through 5 of 5, prepared by manufacturer, dated Nov 12, 2009, signed and sealed by David M. Schonacher, Jr., P. E.

Note: This renewal with no change.

B. TESTS (Submitted under files **#12-1115.12# 09-0812.17/ #04-0823.03**)

1. Test reports on 1) Air Infiltration Test, per FBC TAS 202-94 (Not Performed)
   2) Uniform Static Air Pressure Test, Loading per FBC TAS 202.
   3) Water Resistance Test per FBC TAS 202-94 (Not Performed).
   4) Large Missile Impact Test per FBC, TAS 201-94
   5) Cyclic Wind Pressure Loading per FBC, TAS 203-94
   6) Forced Entry Test, per FBC and TAS 202-94

Along with marked-up drawings and installation diagram of double Outswing full louvered Commercial Steel Doors, prepared by Certified Testing Laboratories Inc., Test Report No. **CTLA 1255-W-R,** w/ revision dated September 14, 2004 (original test report dated July 28, 2004), signed and sealed by Ramesh Patel, P. E.)

C. CALCULATIONS (Submitted under files **#12-1115.12/# 09-0812.17**)

1. Anchor verification calculations, dated 10/25/2005, prepared, signed and sealed by David M. Schonacher, Jr., P.E.

D. QUALITY ASSURANCE

1 Miami Dade Department of Regulatory and Economic Resources (RER)

E. MATERIAL CERTIFICATIONS

1. Tensile test report prepared by Certified Testing Laboratories Inc., Test Report No. **CTL 1023J (CTLA114W),** tested per ASTM E-A370-97, dated December 02,2003, signed and sealed by Ramesh Patel, P. E. (Submitted under file **#12-1115.12/#09-0812.17**)
2. Notice of Acceptance No. **11-0926.07** issued to Dyplastic Products, LLC (former Apache Products Co) for "EPS-Expanded Polystyrene Insulation", expiring on 01/11/2017.

F. STATEMENTS (except item #1, submitted under previous files)

1. Statement letter dated 08/06/14 issued by Quality Engineered Products Co., Inc., requesting Renewal with No change, signed by Andrew Bernstein.
2. Statement letter of conformance to FBC 2010 and "no financial interest", dated 01/15/13, signed and sealed by David M. Schonacher Jr., P. E. (Submitted under file **#12-1115.12**)
3. Statesman letter of conformance to FBC 2007 and "No financial interest", dated 12-01-2009, signed and sealed by David M. Schonacher Jr. , P. E. (Submitted under file # **09-0812.17**)
4. Statement letter of compliance, as a part of the above referenced test reports.

G. OTHER

1. This **renews NOA # 12-1115.12**, expiring October 28, 2019.

Ishaq I. Chanda

Ishaq I. Chanda, P.E.
Product Control Examiner
NOA No. 14-1015.05
Expiration Date: October 28, 2019
Approval Date: November 06, 2014

QUALITY ENGINEERED PRODUCTS

FULL LOUVERED COMMERCIAL STEEL DOOR

(OUTSWING)

INSTALLATION NOTES:

1. ONE (1) INSTALLATION ANCHOR IS REQUIRED AT EACH ANCHOR LOCATION SHOWN.
2. THE NUMBER OF INSTALLATION ANCHORS DEPICTED IS THE MINIMUM NUMBER OF ANCHORS TO BE USED FOR PRODUCT INSTALLATION.
3. SHIM AS REQUIRED AT EACH INSTALLATION ANCHOR WITH LOAD BEARING SHIM(S). MAXIMUM ALLOWABLE SHIM STACK TO BE 1/4 INCH. SHIM WHERE SPACE OF 1/16 INCH OR GREATER OCCURS. SHIM(S) SHALL BE CONSTRUCTED OF HIGH DENSITY PLASTIC OR BETTER.
4. FOR INSTALLATION INTO WOOD FRAMING USE 3/8 INCH DIAMETER WOOD LAG SCREWS OF SUFFICIENT LENGTH TO ACHIEVE 2 1/2 INCH MINIMUM EMBEDMENT INTO WOOD SUBSTRATE. WOOD LAG SCREWS TO BE USED IN 3/4 INCH EMT PIPE SLEEVE.
5. FOR INSTALLATION THROUGH 1X BUCK TO CONCRETE/MASONRY, OR DIRECTLY INTO CONCRETE/MASONRY, USE 3/8 INCH DIAMETER DYNABOLT SLEEVE ANCHOR BY ITW/REDHEAD OF SUFFICIENT LENGTH TO ACHIEVE 2 3/8 INCH MINIMUM EMBEDMENT.
6. MINIMUM EMBEDMENT AND EDGE DISTANCE EXCLUDE WALL FINISHES, INCLUDING BUT NOT LIMITED TO STUCCO, FOAM, BRICK VENEER, AND SIDING.
7. INSTALLATION ANCHORS AND ASSOCIATED HARDWARE MUST BE MADE OF CORROSION RESISTANT MATERIAL OR HAVE A CORROSION RESISTANT COATING.
8. FOR HOLLOW BLOCK AND GROUT FILLED BLOCK, DO NOT INSTALL INSTALLATION ANCHORS INTO MORTAR JOINTS. EDGE DISTANCE IS MEASURED FROM FREE EDGE OF BLOCK OR EDGE OF MORTAR JOINT INTO FACE SHELL OF BLOCK.
9. INSTALLATION ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH ANCHOR MANUFACTURER'S INSTALLATION INSTRUCTIONS, AND ANCHORS SHALL NOT BE USED IN SUBSTRATES WITH STRENGTHS LESS THAN THE MINIMUM STRENGTH SPECIFIED BY THE ANCHOR MANUFACTURER.
10. INSTALLATION ANCHOR CAPACITIES FOR PRODUCTS HEREIN ARE BASED ON SUBSTRATE MATERIALS WITH THE FOLLOWING PROPERTIES:
    A. WOOD - MINIMUM SPECIFIC GRAVITY OF 0.55.
    B. CONCRETE -MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI.
    C. MASONRY - STRENGTH CONFORMANCE TO ASTM C-90, GRADE N, TYPE 1 (OR GREATER).

GENERAL NOTES:

1. THE PRODUCT SHOWN HEREIN IS DESIGNED AND MANUFACTURED TO COMPLY WITH THE 2007 FLORIDA BUILDING CODE (FBC), INCLUDING HVHZ AND HAS BEEN EVALUATED ACCORDING TO THE FOLLOWING:
   • TAS 201-94/TAS 202-94 (STRUCTURAL ONLY)/TAS 203-94
2. ADEQUACY OF THE EXISTING STRUCTURAL CONCRETE/MASONRY AND 2X FRAMING AS A MAIN WIND FORCE RESISTING SYSTEM CAPABLE OF WITHSTANDING AND TRANSFERRING APPLIED PRODUCT LOADS TO THE FOUNDATION IS THE RESPONSIBILITY OF THE ENGINEER OR ARCHITECT OF RECORD FOR THE PROJECT OF INSTALLATION.
3. (2) 2X BUCKS (WHEN USED) SHALL BE DESIGNED AND ANCHORED TO PROPERLY TRANSFER ALL LOADS TO THE STRUCTURE. BUCK DESIGN AND INSTALLATION IS THE RESPONSIBILITY OF THE ENGINEER OR ARCHITECT OF RECORD FOR THE PROJECT OF INSTALLATION.
4. THE INSTALLATION DETAILS DESCRIBED HEREIN ARE GENERIC AND MAY NOT REFLECT ACTUAL CONDITIONS FOR A SPECIFIC SITE. IF SITE CONDITIONS CAUSE INSTALLATION TO DEVIATE FROM THE REQUIREMENTS DETAILED HEREIN, A LICENSED ENGINEER OR ARCHITECT SHALL PREPARE SITE SPECIFIC DOCUMENTS FOR USE WITH THIS DOCUMENT.
5. THIS PRODUCT IS LARGE AND SMALL MISSILE IMPACT RESISTANT APPROVED IMPACT PROTECTIVE SYSTEM IS NOT REQUIRED ON THIS PRODUCT IN AREAS REQUIRING IMPACT RESISTANCE.
6. DOOR FRAME MATERIAL: 16 GA. STEEL
7. STRUCTURAL MEMBER AT DOOR HEADER MUST BE DESIGNED TO CARRY 179#/FT LOAD AND TO BE REVIEWED BY BUILDING OFFICIAL

PRODUCT RENEWED
as complying with the Florida Building Code
Acceptance No. 14-1015.05
Expiration Date OCT. 28, 2019
By Ishaq I. Chaudhry
Miami Dade Product Control Division

PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No. 12-1115.12
Expiration Date OCT. 28, 2014
By Ishaq I. Chaudhry
Miami Dade Product Control Division

TABLE OF CONTENTS

SHEET	REVISION	SHEET DESCRIPTION
1	-	INSTALLATION & GENERAL NOTES
2	-	ELEVATIONS & DETAILS
3	-	ANCHOR LAYOUTS
4	-	VERTICAL SECTIONS & DETAILS
5	-	HORIZONTAL SECTION, BILL OF MATERIALS, & DETAILS

DESIGN PRESSURE RATING (OUTSWING DOORS WITH LOUVERS)

	WHERE AIR AND WATER FILTRATION REQUIREMENT IS NOT NEEDED	WHERE AIR AND WATER FILTRATION REQUIREMENT IS NEEDED	MISSILE IMPACT RATING
POSITIVE	+70.0 PSF	NOT APPROVED	LARGE AND SMALL IMPACT RATED
NEGATIVE	-70.0 PSF	NOT APPROVED	LARGE AND SMALL IMPACT RATED

PRODUCT RENEWED
as complying with the Florida Building Code
Acceptance No. 09-0812.17
Expiration Date OCT. 28, 2014
By Ishaq I. Chaudhry
Miami Dade Product Control Division

Quality Engineered Products Co., Inc.
4506 QUALITY LN.
TAMPA, FL. 33634
PH: (813) 885-1693 FX: (813) 884-2673

TITLE: FULL LOUVERED STEEL DOOR INSTALLION & GENERAL NOTES

PREPARED BY:
QUALITY ENGINEERED PRODUCTS
4506 QUALITY LN.
TAMPA, FL 33634
PH: 813.885.1693 FX: 813.884.2673

REVISIONS

NO.	DESCRIPTION	BY	DATE

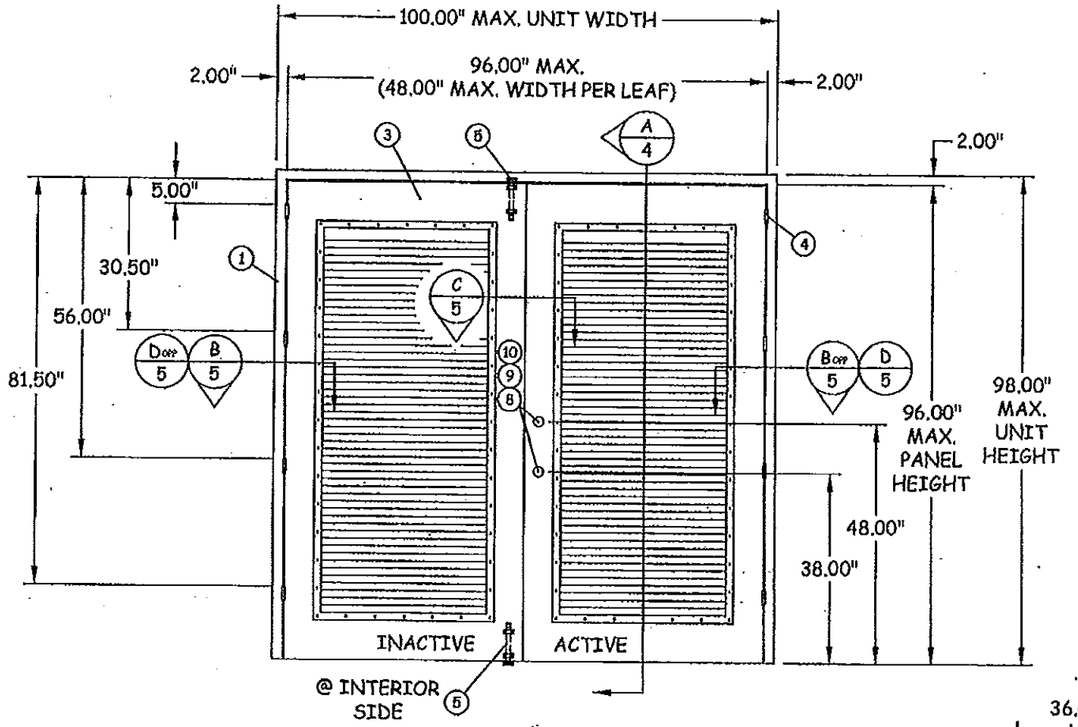
NOV 13 2009

DAVID M. SCHONACHER, P.E. FLORIDA REG. # 63131

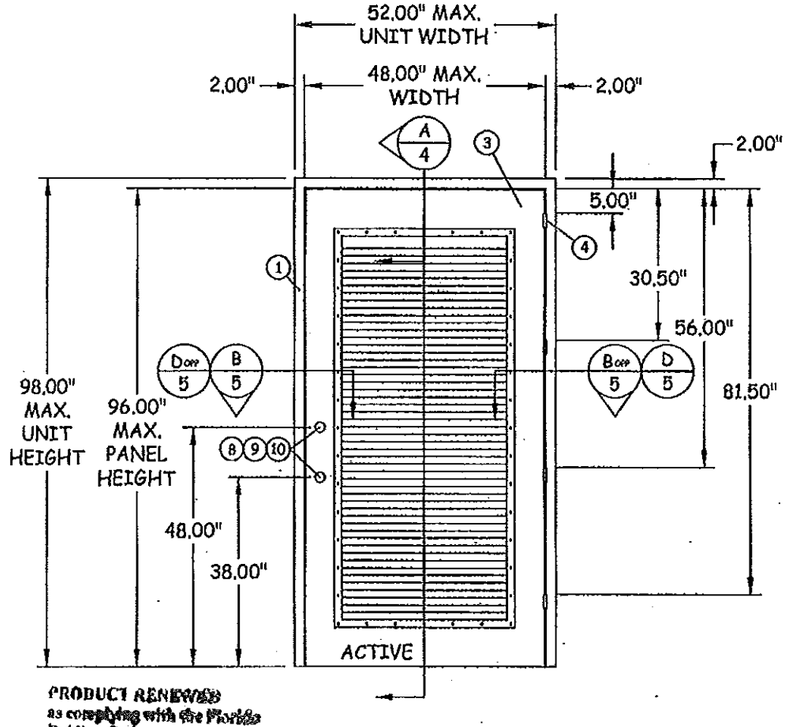
DATE: 11.11.09 | DWN BY: KRM | CHK BY: DMS | SCALE: NTS

DWG #: QEP005

SHEET: 1 OF 5

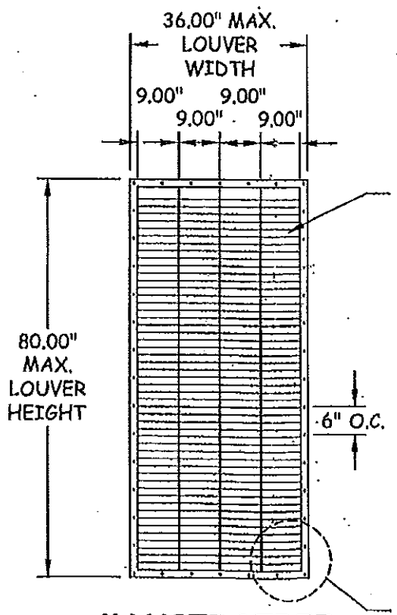


EXTERIOR ELEVATION



PRODUCT RENEWED
as complying with the Florida
Building Code
Acceptance No. 14-1015.05
Expiration Date 10/22/19
By Ishaq I. Chaudhry
Miami Dade Product Control

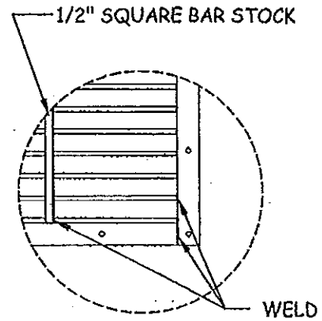
EXTERIOR ELEVATION



(3) PIECES, EACH LOUVER, 1/2" SQUARE BAR STOCK FROM TAMPA STEEL & SUPPLY WELDED TO LOUVER FRAME AND TACK WELDED TO EACH LOUVER BLADE

EACH LOUVER ATTACHED TO THE DOOR WITH (38) #6 X 1/2" SQUARE DRIVE SCREWS
14 - (LEFT)
14 - (RIGHT)
5 - (TOP)
5 - (BOTTOM)

ILLUSTRATRED INTERIOR VIEW LOUVER



DETAIL A

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No. 12-1115.12
Expiration Date 10/22/14
By Ishaq I. Chaudhry
Miami Dade Product Control

PRODUCT RENEWED
as complying with the Florida
Building Code
Acceptance No. 09-0812.17
Expiration Date OCT 22, 2014
By Ishaq I. Chaudhry
Miami Dade Product Control
Division

Quality Engineered Products Co., Inc.
4506 QUALITY LN.
TAMPA, FL. 33634
PH: (813) 885-1693 FX: (813) 884-2673

TITLE: FULL LOUVERED STEEL DOOR ELEVATIONS & DETAILS

PREPARED BY:
QUALITY ENGINEERED PRODUCTS
4506 QUALITY LN.
TAMPA, FL 33634
PH: 813.885.1693 FX: 813.884.2673

REVISIONS

NO.	DESCRIPTION	BY	DATE

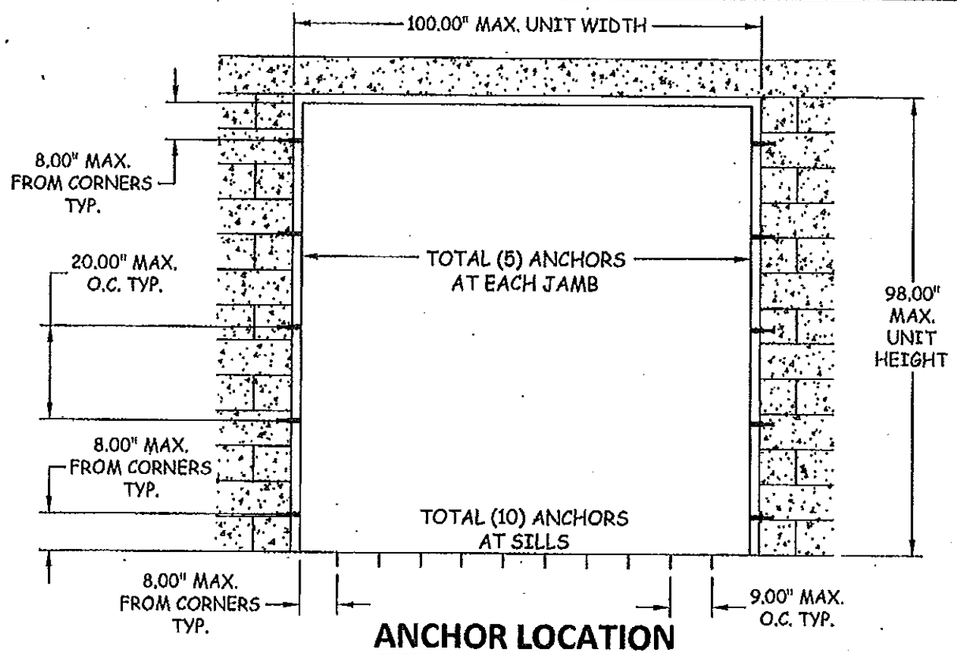
NOV 12 2009

DAVID M. SCHONACHER, P.E.
FLORIDA REG. # 63131

DATE: 11.11.09 | DWN BY: KRM | CHK BY: DMS | SCALE: NTS

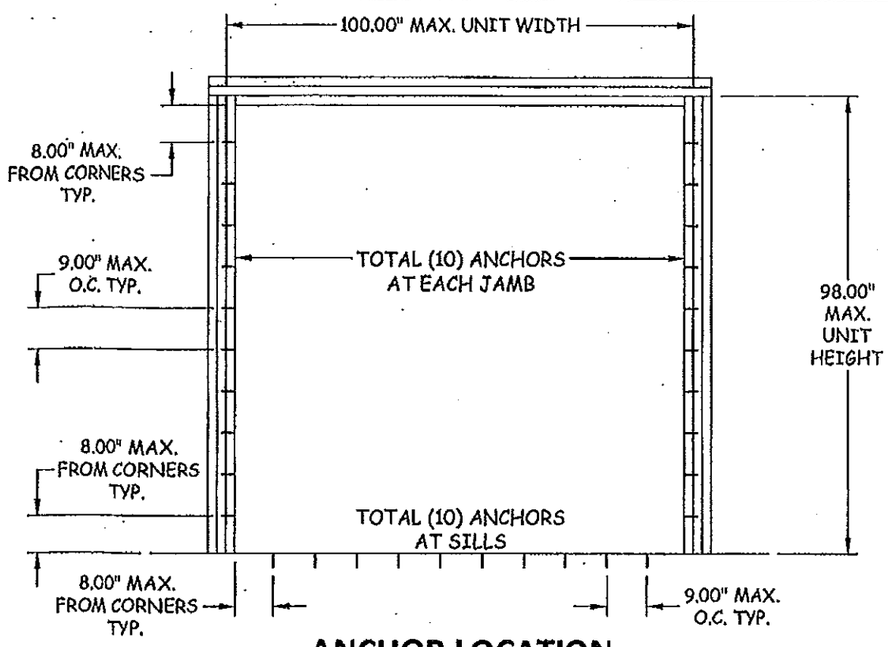
DWG #: QEP005

SHEET: 2 OF 5



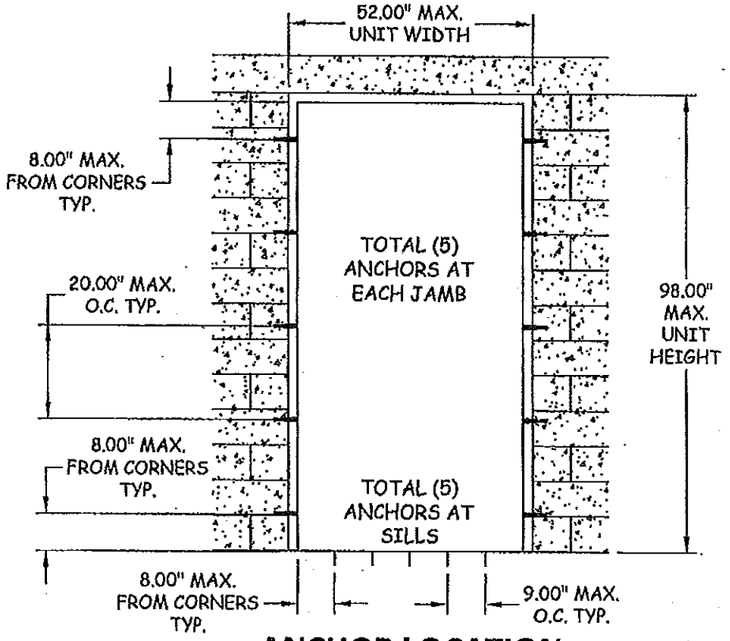
ANCHOR LOCATION

INSTALLATION INTO MASONRY
(GROUT FILLED BLOCKS)



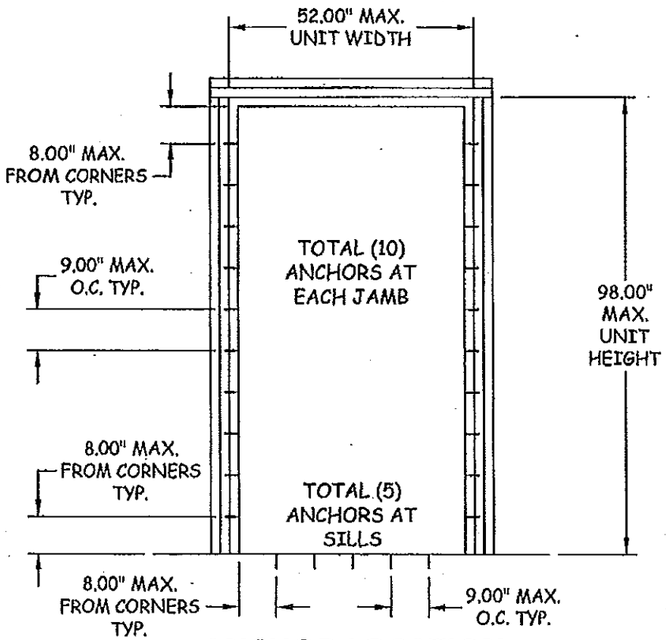
ANCHOR LOCATION

INSTALLATION INTO WOOD STRUCTURE



ANCHOR LOCATION

INSTALLATION INTO MASONRY
(GROUT FILLED BLOCKS)



ANCHOR LOCATION

INSTALLATION INTO WOOD STRUCTURE

PRODUCT RENEWED
as complying with the Florida Building Code
Acceptance No. 14-1015.05
Expiration Date 12/28/19
By Miami Dade Product Control Division

PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No. 12-1115.12
Expiration Date 12/28/14
By Miami Dade Product Control

PRODUCT RENEWED
as complying with the Florida Building Code
Acceptance No. 09-0812.17
Expiration Date DEC 28, 2014
By Miami Dade Product Control Division

Quality Engineered Products Co., Inc.
4506 QUALITY LN.
TAMPA, FL. 33634
PH: (813) 885-1693 FX: (813) 884-2673

TITLE: FULL LOUVERED STEEL DOOR ANCHOR LAYOUTS

PREPARED BY:
QUALITY ENGINEERED PRODUCTS
4506 QUALITY LN.
TAMPA, FL 33634
PH: 813.885.1693 FX: 813.884.2673

REVISIONS

NO.	DESCRIPTION	BY	DATE

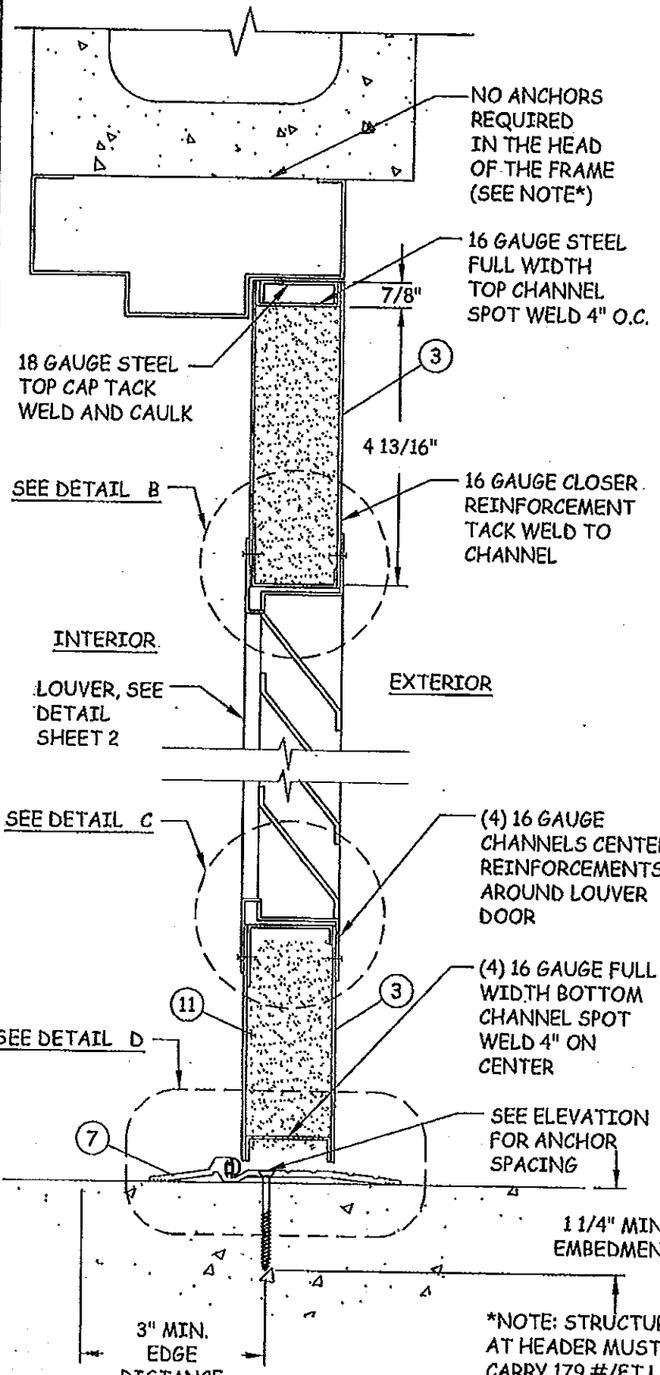
NOV 12 2009

DAVID M. SCHONACHER, P.E.
FLORIDA REG. # 63131

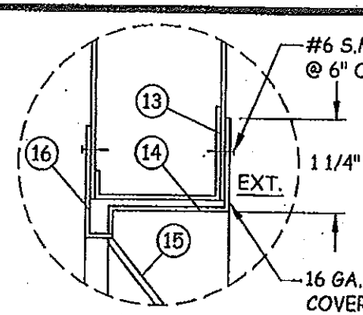
DATE: 11.11.09
DWN BY: KRM
CHK BY: DMS
SCALE: NTS

DWG #: QEP005

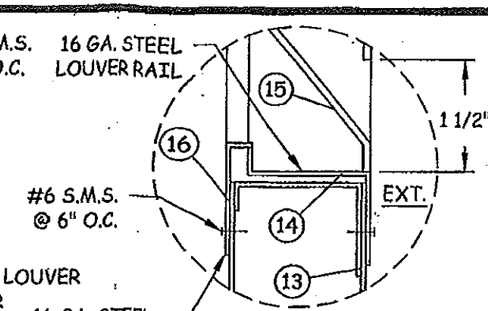
SHEET: 3 OF 5



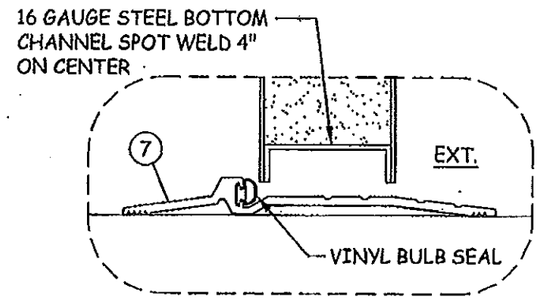
A/4 **VERTICAL SECTION**
CONCRETE/MASONRY



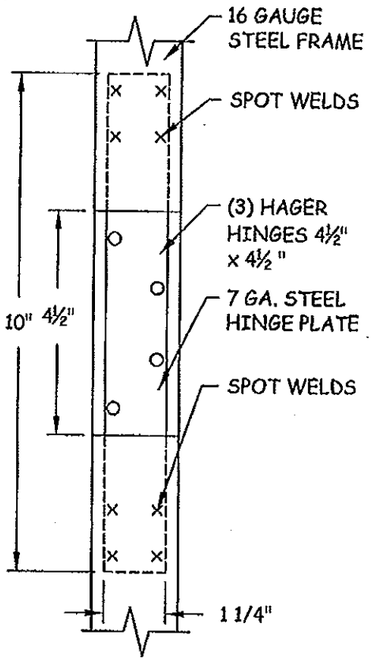
DETAIL B



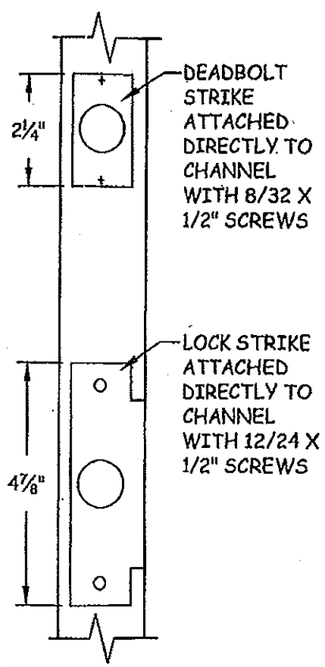
DETAIL C



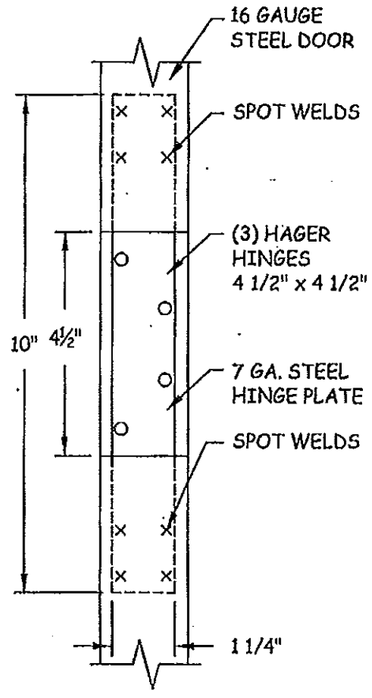
DETAIL D



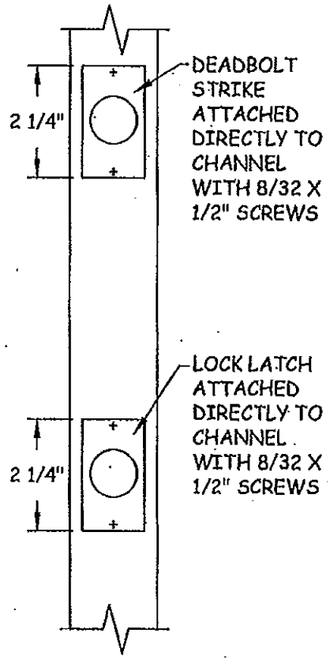
STEEL HINGE PLATE
7 GAUGE X 1-1/4" X 10"



INACTIVE DOOR
LOCK/DEAD BOLT STRIKE PLATE REINFORCEMENT



STEEL HINGE PLATE
7 GAUGE X 1-1/4" X 10"



ACTIVE DOOR
LOCK/DEAD BOLT REINFORCEMENT

PRODUCT RENEWED
as complying with the Florida Building Code
Acceptance No. 14-1015.05
Expiration Date 10/28/19
By Ishaq I. Chanda
Miami-Dade Product Control

PRODUCT RENEWED
as complying with the Florida Building Code
Acceptance No. 12-1115.11
Expiration Date 10/28/14
By Ishaq I. Chanda
Miami Dade Product Control

PRODUCT RENEWED
as complying with the Florida Building Code
Acceptance No. 09-0812.17
Expiration Date OCT 28, 2014
By Ishaq I. Chanda
Miami-Dade Product Control Division

Quality Engineered Products Co., Inc.
4506 QUALITY LN.
TAMPA, FL. 33634
PH: (813) 885-1693 FX: (813) 884-2673

TITLE: FULL LOUVERED STEEL DOOR VERTICAL SECTION & DETAILS

PREPARED BY:
QUALITY ENGINEERED PRODUCTS
4506 QUALITY LN.
TAMPA, FL 33634
PH: 813.885.1693 FX: 813.884.2673

REVISIONS

NO.	DESCRIPTION	BY	DATE

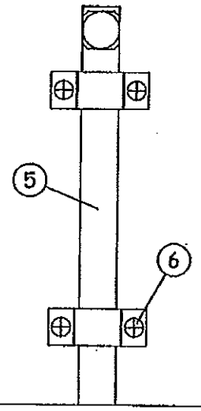
NOV 12 2009

DAVID M. SCHONACHER, P.E.
FLORIDA REG. # 63151

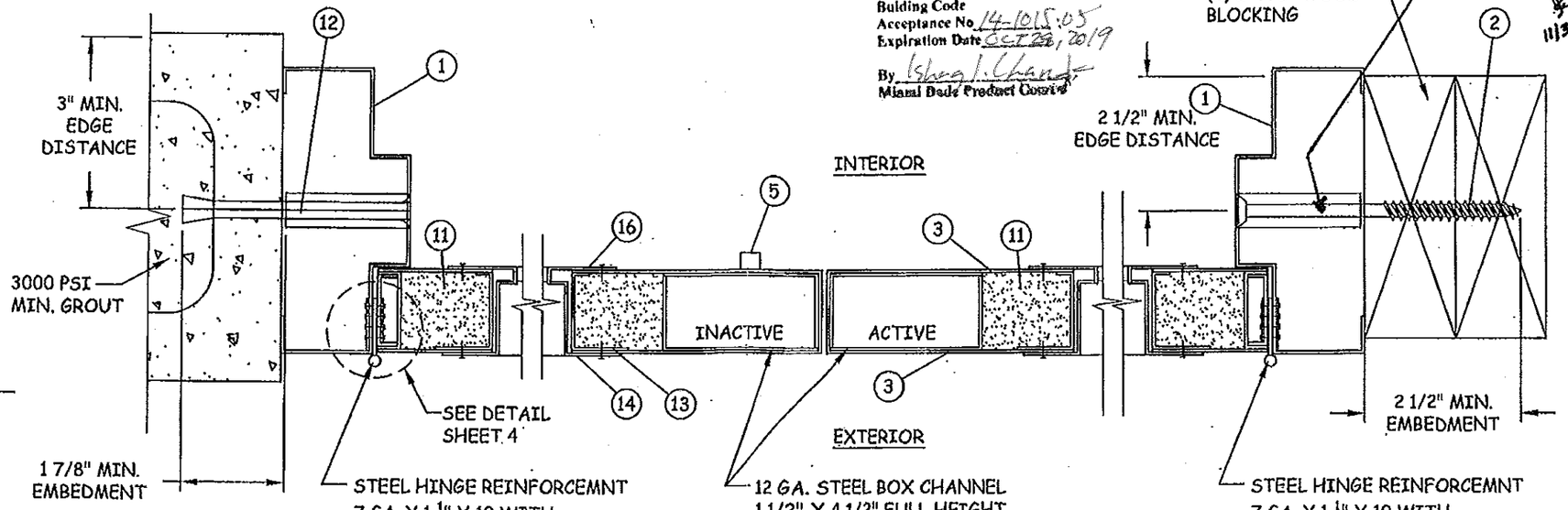
DATE: 11.11.09 | DWN BY: KRM | CHK BY: DMS | SCALE: NTS

DWG #: QEP005

SHEET: 4 OF 5



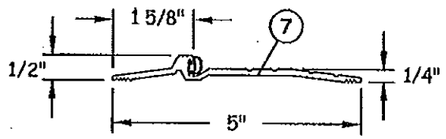
IVES 360 SURFACE BOLT



B/5 HORIZONTAL SECTION
JAMB - CONCRETE/MASONRY

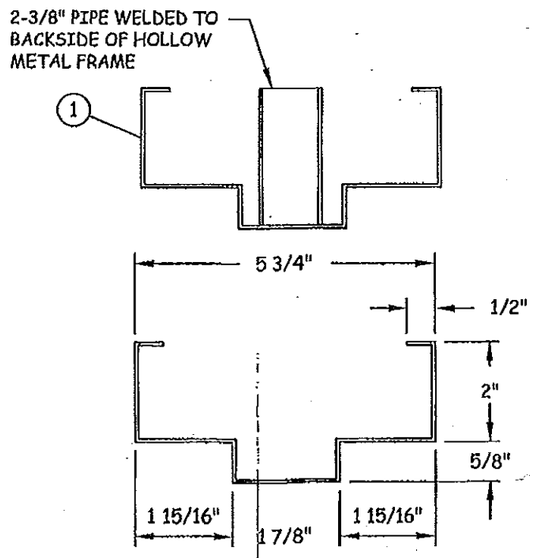
C/5 HORIZONTAL SECTION
ASTRAGAL

D/5 HORIZONTAL SECTION
JAMB - 2X WOOD FRAME

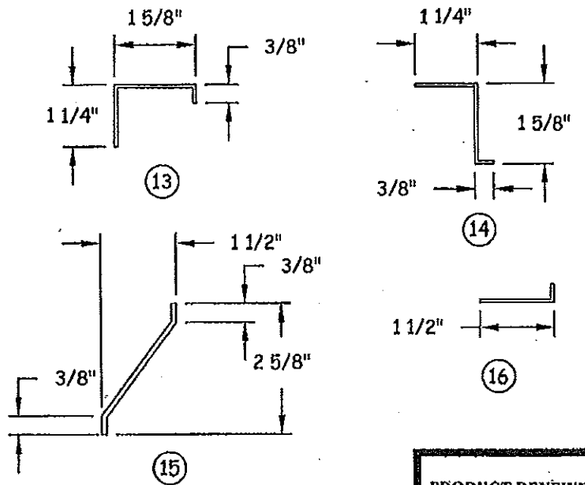


PEMKO 2005AV THRESHOLD WITH VINYL SEAL

BILL OF MATERIALS		
MARK	QUANTITY	DESCRIPTION
1	1	16 GA. (.063) MIN. STEEL HOLLOW METAL FRAME
2	SEE ELEV.	3/8" x 6" WOOD LAG SCREWS W/ 3/4" EMT PIPE SLEEVE
3	2	16 GA. (.0635) MIN. STEEL HOLLOW METAL DOORS W/ LOUVERS Fy MIN. = 41,200 PSI/FU MIN. = 57,800 PSI)
4	8	HANGER HINGES BB1279 4-1/2" x 4-1/2" x .134 THICK
5	2	IVES 360 SURFACE BOLTS
6	8	1/4" x 3" STAINLESS STEEL FLAT HEAD BOLT/WASHER/NUTS
7	1	THRESHOLD PEMKO #2005AV INSTALLED W/ #10 WOOD SCREWS OR 3/16" ITW TAPCONS (SEE ELEV. PER SHEET 3)
8	1	SCHLAGE AL53PD LOCK W/ B660 DEADLOCK
9	1	RUSWINN CL3355 LOCK W/ DL2113 DEADLOCK
10	1	MARKS 195AB LOCK W/ 130K DEADLOCK
11	AS REQ.	EXPANDED POLYSTYRENE (EPS) BY APPACHE PRODUCTS (CURRENT NOA)
12	SEE ELEV.	1/2" DIA. DYNABOLT ITW/REDHEAD SLEEVE ANCHOR (3/8" DIA.BOLT) X 4-1/2" SLEEVE ANCHOR W/ 3/4" DIA. WELDED PIPE SLEEVE W/ 1-7/8" MIN. EMBEDMENT & 3" MIN. EDGE DISTANCE
13	AS REQ.	16 GA. CUT OUT CHANNEL
14	AS REQ.	16 GA. LOUVER RAIL
15	AS REQ.	16 GA. LOUVER BLADE
16	AS REQ.	16 GA. LOUVER COVER



16 GA. (.063 MIN.) STEEL FRAME PROFILE



PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No. 12-1115.12
Expiration Date OCT 28, 2014
By Ishaq I. Chand
Miami-Dade Product Control

PRODUCT RENEWED
as complying with the Florida Building Code
Acceptance No. 14-1015.05
Expiration Date OCT 28, 2019
By Ishaq I. Chand
Miami-Dade Product Control

11/3/2014

Quality Engineered Products Co., Inc.
4506 QUALITY LN.
TAMPA, FL. 33634
PH: (813) 885-1693 FX: (813) 884-2673

TITLE: FULL LOUVERED STEEL DOOR HORIZONTAL SECTIONS, BILL OF MATERIALS, & DETAILS

PREPARED BY: QUALITY ENGINEERED PRODUCTS 4506 QUALITY LN. TAMPA, FL 33634 PH: 813.885.1693 FX: 813.884.2673

REVISIONS			
NO.	DESCRIPTION	BY	DATE

NOV 12 2009

DAVID M. SCHONACHER, P.E.
FLORIDA REG. # 63131

DATE: 11.11.09
DWN BY: KRM
CHK BY: DMS
SCALE: NTS

PRODUCT RENEWED
as complying with the Florida Building Code
Acceptance No. 09-0812.17
Expiration Date OCT 28, 2014
By Ishaq I. Chand
Miami-Dade Product Control Division

DWG #: QEP005

SHEET: 5 OF 5

MIAMI-DADE COUNTY
DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER)
BOARD AND CODE ADMINISTRATION DIVISION

MIAMI–DADE COUNTY, FLORIDA
PRODUCT CONTROL SECTION
11805 SW 26 Street, Room 208
T (786) 315–2590 F (786) 315–2599
www.miamidade.gov/economy

NOTICE OF ACCEPTANCE (NOA)

CGI Windows & Doors
10100 NW 25 Street
Miami, Fl. 33172

SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed and accepted by Miami–Dade County RER–Product Control Section to be used in Miami–Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami–Dade County Product Control Section (In Miami–Dade County) and/ or the AHJ (in areas other than Miami–Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. RER reserves the right to revoke this acceptance, if it is determined by Miami–Dade County Product Control Section that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein, and has been designed to comply with the Florida Building Code, including the High Velocity Hurricane Zone.

DESCRIPTION: Series "375" Aluminum Horizontal Rolling Window – L.M.I.

APPROVAL DOCUMENT: Drawing No. **W09–13**, titled "Series–375 Alum. Horiz. Rolling Wdw. (L.M.I.)", sheets 1 through 6, 6.1, 7, 8, 8.1,9 and 10 through 16 of 16, dated 02/27/09, with revision "**E**" dated 08/04/15, prepared by Al–Farooq Corporation, signed and sealed by Javad Ahmad, P. E., bearing the Miami–Dade County Product Control Revision stamp with the Notice of Acceptance number and expiration date by the Miami–Dade County Product Control Section.

MISSILE IMPACT RATING: Large and Small Missile Impact Resistant

LABELING: Each unit shall bear a permanent label with the manufacturer's name or logo, city, state, series, and following statement: "Miami–Dade County Product Control Approved", unless otherwise noted herein.

RENEWAL of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/ or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

ADVERTISEMENT: The NOA number preceded by the words Miami–Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

INSPECTION: A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA **renews NOA No. 14–0224.11** and consists of this page 1 and evidence pages E–1 and E–2, as well as approval document mentioned above.

The submitted documentation was reviewed by **Manuel Perez, P. E.**

MIAMI-DADE COUNTY APPROVED

8/14/15

CGI Windows & Doors

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

A. DRAWINGS

1. Manufacturer's die drawings and sections.
   (Submitted under NOA No. 09-0402.20)
2. Drawing No. **W09-13**, titled "Series-375 Alum. Horiz. Rolling Wdw. (L.M.I.)", sheets 1 through 6, 6.1, 7, 8, 8.1,9 and 10 through 16 of 16, dated 02/27/09 with revision "**E**" dated 08/04/15, prepared by Al-Farooq Corporation, signed and sealed by Javad Ahmad, P. E.

B. TESTS

1. Test reports on: 1) Uniform Static Air Pressure Test, Loading per FBC TAS 202-94
   2) Large Missile Impact Test, per FBC, TAS 201-94
   3) Cyclic Wind Pressure Loading, per FBC, TAS 203-94

   along with marked-up drawings and installation diagram of a series 7500 PVC fixed window, to qualify DuPont "Butacite" PVB interlayer, Duraseal® and Super Spacer® insulating glass spacer, prepared by Certified Test Laboratories, Test Report No. **CTLA-3056 WA**, dated 03/03/15, signed and sealed by Ramesh C. Patel, P.E.
2. Test reports on: 1) Uniform Static Air Pressure Test, Loading per FBC TAS 202-94
   2) Large Missile Impact Test, per FBC, TAS 201-94
   3) Cyclic Wind Pressure Loading, per FBC, TAS 203-94

   along with marked-up drawings and installation diagram of a series 7400 PVC project out window, to qualify DuPont "Butacite" PVB interlayer, Duraseal® and Super Spacer® insulating glass spacer, prepared by Certified Test Laboratories, Test Report No. **CTLA-3056 WB**, dated 03/03/15, signed and sealed by Ramesh C. Patel, P.E.
3. Test reports on: 1) Uniform Static Air Pressure Test, Loading per FBC TAS 202-94
   2) Large Missile Impact Test, per FBC, TAS 201-94
   3) Cyclic Wind Pressure Loading, per FBC, TAS 203-94

   along with marked-up drawings and installation diagram of a series 238 aluminum fixed window, to qualify DuPont "Butacite" PVB interlayer, Duraseal® and Super Spacer® insulating glass spacer, prepared by Certified Test Laboratories, Test Report No. **CTLA-3056 WC**, dated 04/16/15, signed and sealed by Ramesh C. Patel, P.E.
4. Test reports on: 1) Air Infiltration Test, per FBC, TAS 201-94
   4) Uniform Static Air Pressure Test, Loading per FBC, TAS 202-94
   5) Water Resistance Test, per FBC, TAS 202-94
   6) Small Missile Impact Test, per FBC, TAS 201-94
   7) Cyclic Wind Pressure Loading, per FBC, TAS 203-94
   8) Forced Entry Test, per FBC 2411 3.2.1, TAS 202-94

   along with marked-up drawings and installation diagram of aluminum horizontal sliding windows, prepared by Hurricane Test Laboratory, LLC, Test Report No. **HTL-0080-0907-08**, dated 12/18/08, signed and sealed by Vinu J. Abraham, P. E.
   (Submitted under NOA No. 09-0402.20)

Manuel Perez

Manuel Perez, P. E.
Product Control Examiner
NOA No. 15-0512.03
Expiration Date: June 10, 2019
Approval Date: August 20, 2015

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

C. CALCULATIONS

1. Anchor verification calculations and structural analysis, complying with **FBC 5th Edition (2014)**, prepared by Al-Farooq Corporation, dated 05/27/14, signed and sealed by Javad Ahmad, P. E.
   (Submitted under previous NOA No. 14-0224.11)
2. **Glazing complies with ASTM E1300-09**

D. QUALITY ASSURANCE

1. Miami-Dade Department of Regulatory and Economic Resources (RER).

E. MATERIAL CERTIFICATIONS

1. Notice of Acceptance No. **14-0916.11** issued to **Kuraray America, Inc.** for their **"SentryGlas® (Clear and White) Glass Interlayers"** dated 06/25/15, expiring on 07/04/18.
2. Notice of Acceptance No. **14-0423.15** issued to **Eastman Chemical Company (MA)** for their "**Saflex CP - Saflex and Saflex HP Composite Glass Interlayers with PET Core"** dated 06/19/14, expiring on 12/11/18.

F. STATEMENTS

1. Statement letter of conformance, complying with **FBC 5th Edition (2014)** and of no financial interest, dated 05/29/14, issued by Al-Farooq Corporation, signed and sealed by Javad Ahmad, P. E.
   (Submitted under previous NOA No. 14-0224.11)
2. Laboratory compliance letters for Test Reports No.'s **CTLA-3056 WA**, dated 03/03/15, **CTLA-3056 WB**, dated 03/03/15 and **CTLA-3056 WC**, dated 04/16/15, all issued by Certified Test Laboratories, all signed and sealed by Ramesh C. Patel, P. E.
3. Testing Proposal issued by the Product Control Section, dated 12/16/14, signed by Jaime Gascon, P. E., Section Supervisor.
4. Laboratory compliance letters for Test Report No. **HTL-0080-0907-08**, issued by Hurricane Test Laboratory, LLC, dated 12/18/08, signed and sealed by Vinu J. Abraham, P. E.
   (Submitted under NOA No. 09-0402.20)

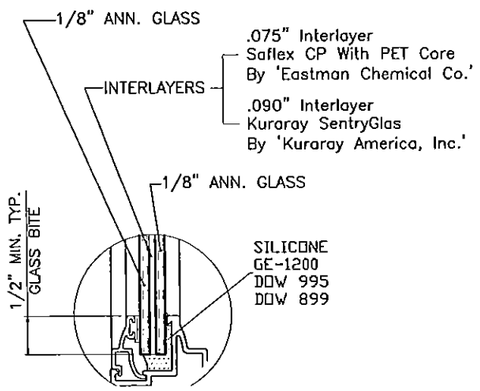
G. OTHERS

1. Notice of Acceptance No. **14-0224.11**, issued to CGI Windows & Doors for their Series "375" Aluminum Horizontal Sliding Window - L.M.I., approved on 06/05/14 and expiring on 06/10/19`.

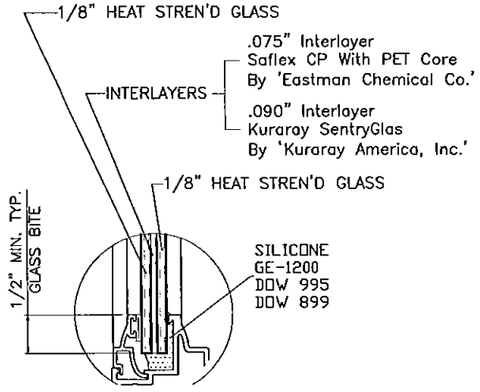
Manuel Perez

Manuel Perez, P. E.
Product Control Examiner
NOA No. 15-0512.03
Expiration Date: June 10, 2019
Approval Date: August 20, 2015

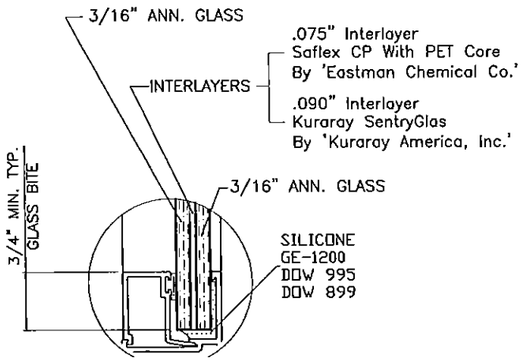
GLASS TYPES



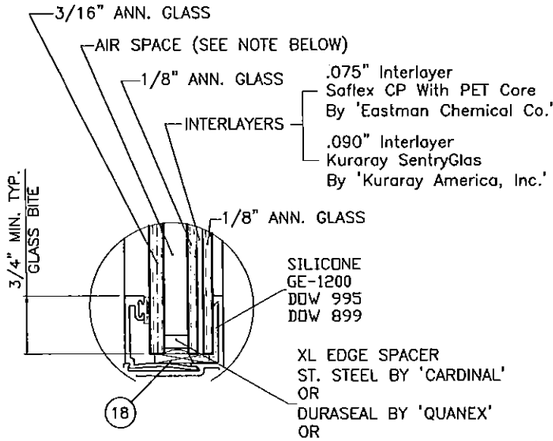
5/16" NOMINAL
GLASS TYPE '1'



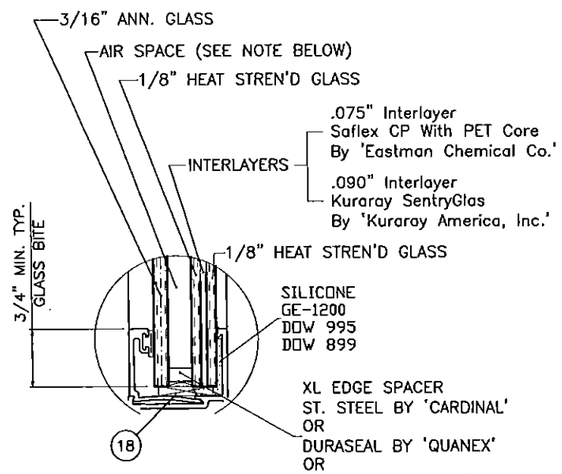
5/16" NOMINAL
GLASS TYPE '2'



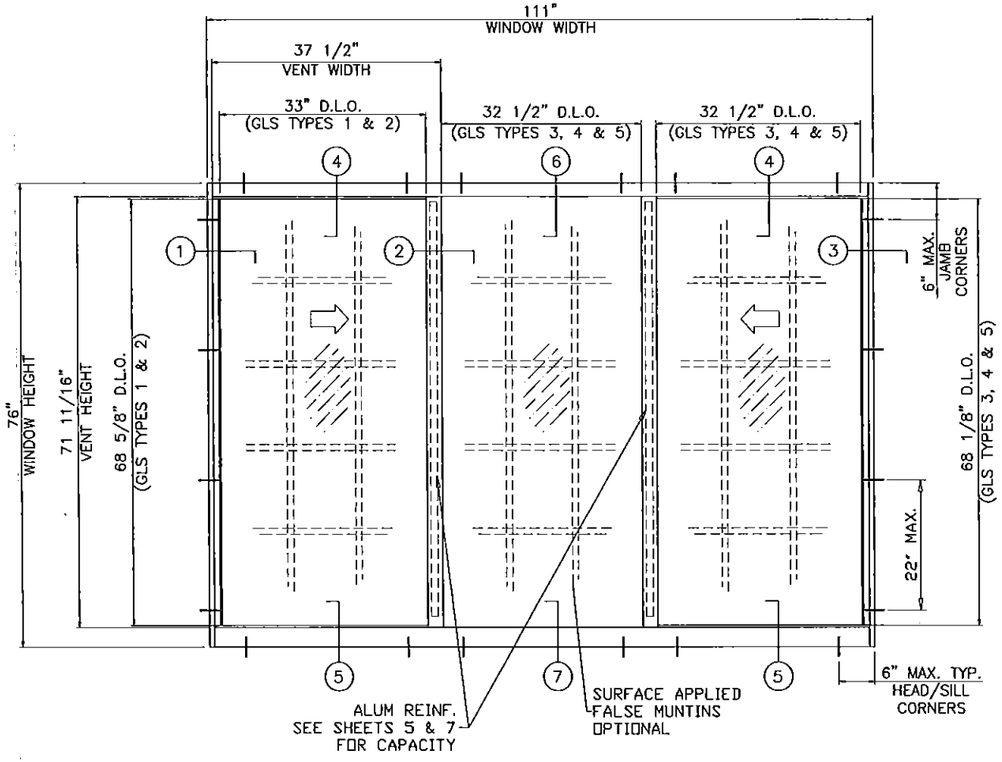
7/16" NOMINAL
GLASS TYPE '3'



13/16" INSULATED
GLASS TYPE '4'



13/16" INSULATED
GLASS TYPE '5'



TYPICAL TEST ELEVATION

INSTRUCTIONS FOR USING CAPACITY CHARTS:

STEP 1 DETERMINE THE REQUIRED DESIGN PRESSURES FOR A GIVEN WINDOW OPENING.

STEP 2 DETERMINE THE CAPACITY OF THE WINDOW SIZE/CONFIGURATION/GLASS TYPE FROM CHARTS ON SHEETS 5 AND 7.
FOR INSTALLATION ANCHOR TYPES SEE SHEETS 6 & 8.

STEP 3 IF ALUMINUM BUCKS ARE USED, VERIFY THE BUCK INSTALLATION CAPACITY FROM SHEETS 14 & 15.

STEP 4 FOR UNCLIPPED MULLED WINDOWS DETERMINE MULLION CAPACITY FOR 1X4 TUBE FROM CHARTS ON SHEET 12.

STEP 5 FOR MULLION ANCHOR CAPACITY SEE CHART ON SHEET 13.

• THE LOWEST SELECTED VALUE APPLY TO THE INSTALLATION AND MUST EQUAL OR EXCEED THE REQUIRED DESIGN PRESSURES OBTAINED FROM STEP 1.

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No. 15-0512.03
Expiration Date 06/10/2019
By Manuel Perez
Miami Dade Product Control

THESE WINDOWS ARE RATED FOR LARGE MISSILE IMPACT. SHUTTERS ARE NOT REQUIRED.

NOTES:

THIS PRODUCT HAS BEEN DESIGNED AND TESTED TO COMPLY WITH THE REQUIREMENTS OF THE FLORIDA BUILDING CODE INCLUDING HIGH VELOCITY HURRICANE ZONE (HVHZ).

WOOD BUCKS BY OTHERS, MUST BE ANCHORED PROPERLY TO TRANSFER LOADS TO THE STRUCTURE.

ANCHORS SHALL BE AS LISTED, SPACED AS SHOWN ON DETAILS, ANCHORS EMBEDMENT TO BASE MATERIAL SHALL BE BEYOND WALL DRESSING OR STUCCO.

ANCHORING OR LOADING CONDITIONS NOT SHOWN IN THESE DETAILS ARE NOT PART OF THIS APPROVAL.

A LOAD DURATION INCREASE IS USED IN DESIGN OF ANCHORS INTO WOOD ONLY.

MATERIALS INCLUDING BUT NOT LIMITED TO STEEL/METAL SCREWS, THAT COME INTO CONTACT WITH OTHER DISSIMILAR MATERIALS SHALL MEET THE REQUIREMENTS OF THE FLORIDA BLDG. CODE.

Engr: JAVAD AHMAD
CIVIL
FLA. PE # 70592
C.A.N. 3538
AUG 07 2015

AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
1235 S.W. 87 AVE
MIAMI, FLORIDA 33174
TEL. (305) 264-8100 FAX. (305) 262-6978
COMP-ANL\W09-13CGI

SERIES-375 ALUM. HORIZ. ROLLING WDW. (L.M.I.)

CGI WINDOWS & DOORS
10100 N.W. 25TH STREET
DORAL, FL. 33172
TEL. (305) 593-6590 FAX. (305) 593-6592

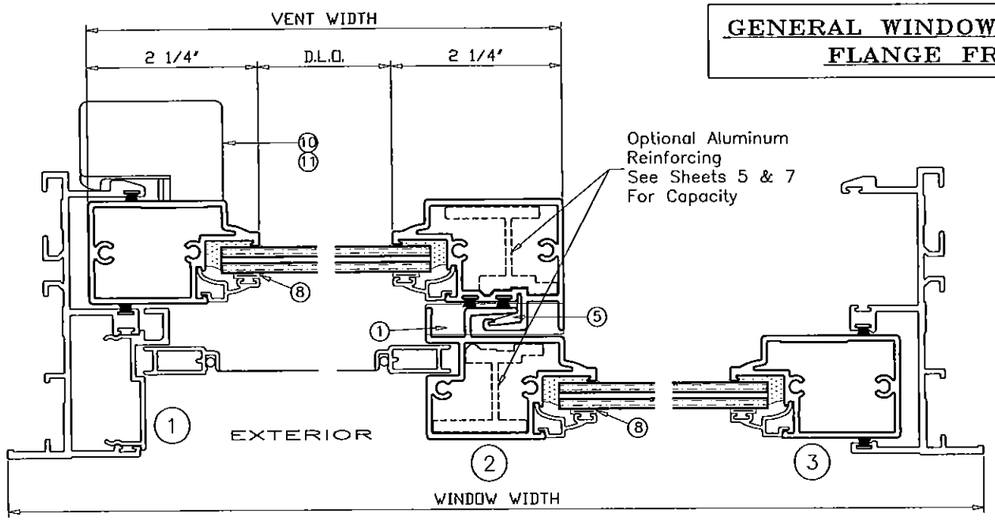
revisions:			
no	date	by	description
A	01.06.12		UPDATED TO 2010 FBC
B	02.10.14		INTERLAYER NAMES REV.
C	05.28.14		REV. PER RER COMMENTS
D	05.05.15		SPACER REV.
E	08.04.15		REV. PER RER COMMENTS

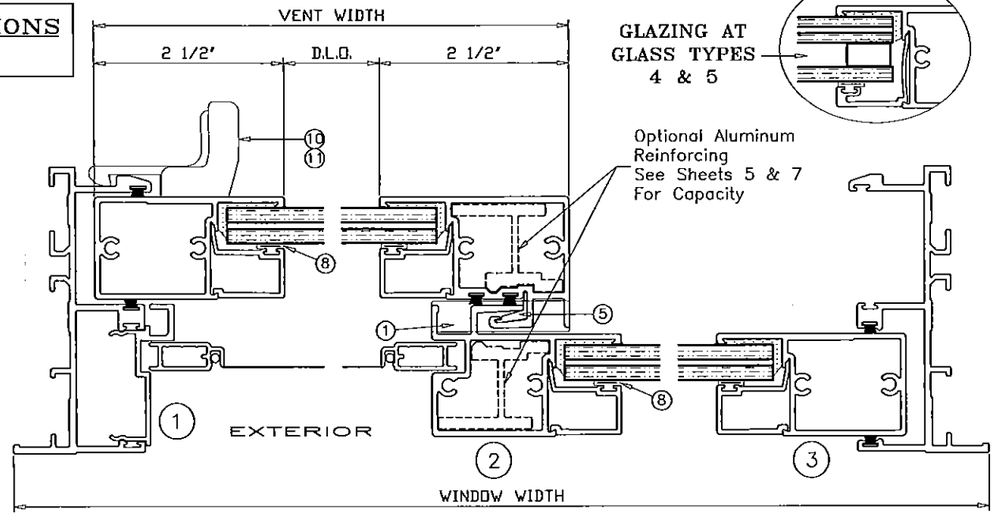
date: 02-27-09
scale: -
dr. by: -
chk. by:

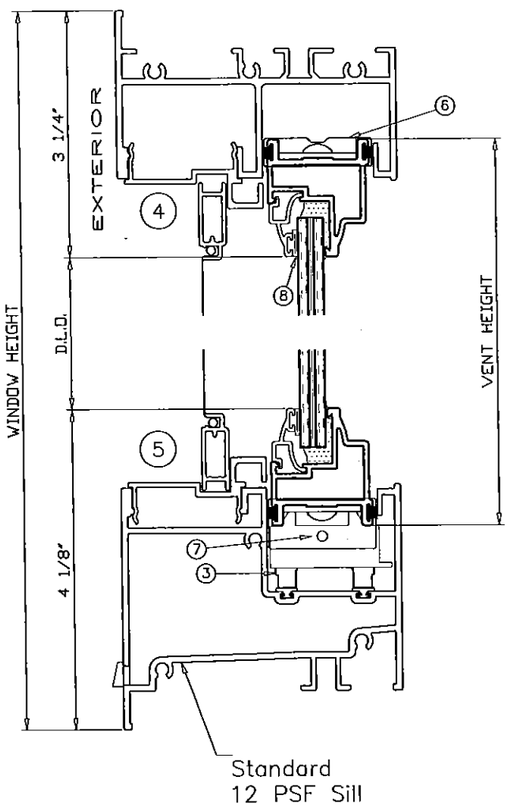
drawing no.
W09-13

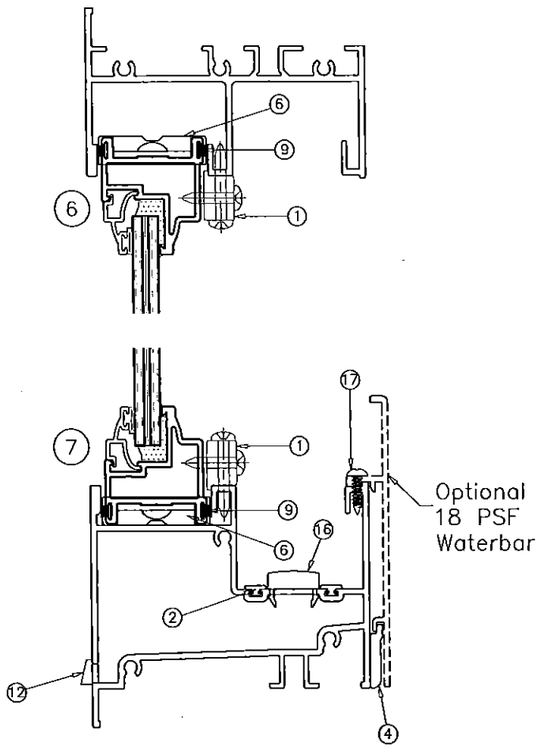
sheet 1 of 16

GENERAL WINDOW SECTIONS
FLANGE FRAME

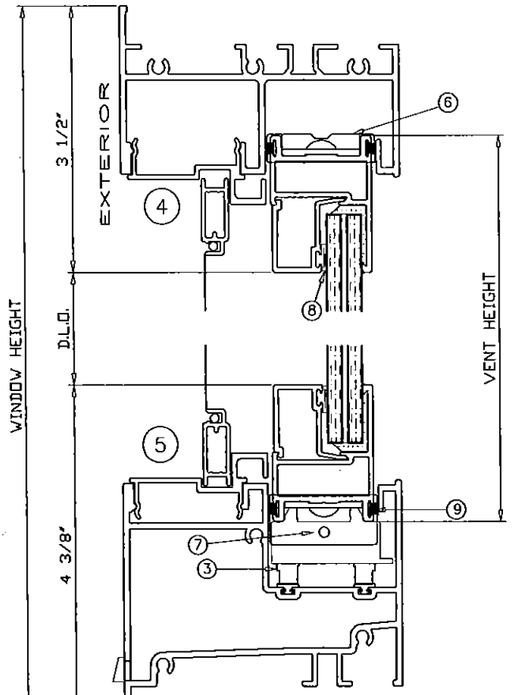


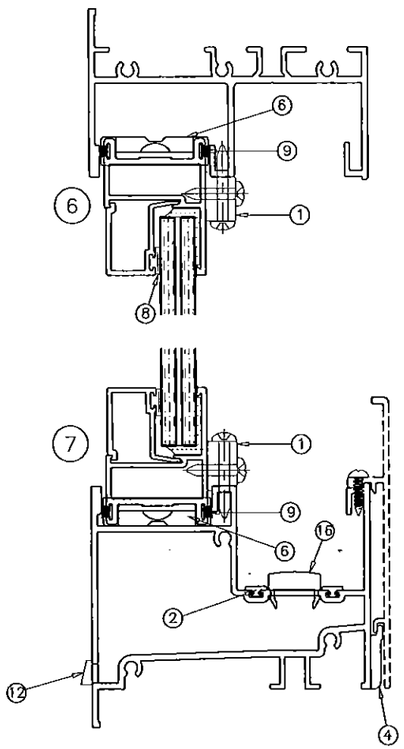






GLASS TYPES
1 & 2





GLASS TYPES
3, 4, & 5

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No 15-0512.03
Expiration Date 06/10/2019
By Manuel Perez
Miami Dade Product Control

Engr: JAVAD AHMAD
CIVIL
FLA. PE # 70592
C.A.N. 3538
AUG 07 2015

AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
1235 S.W. 87 AVE
MIAMI, FLORIDA 33174
TEL. (305) 264-8100 FAX. (305) 262-6978
COMP-ANL\W09-13CGI

SERIES-375 ALUM. HORIZ. ROLLING WDW. (L.M.I.)

CGI WINDOWS & DOORS
10100 N.W. 25TH STREET
DORAL, FL. 33172
TEL. (305) 593-6590 FAX. (305) 593-6592

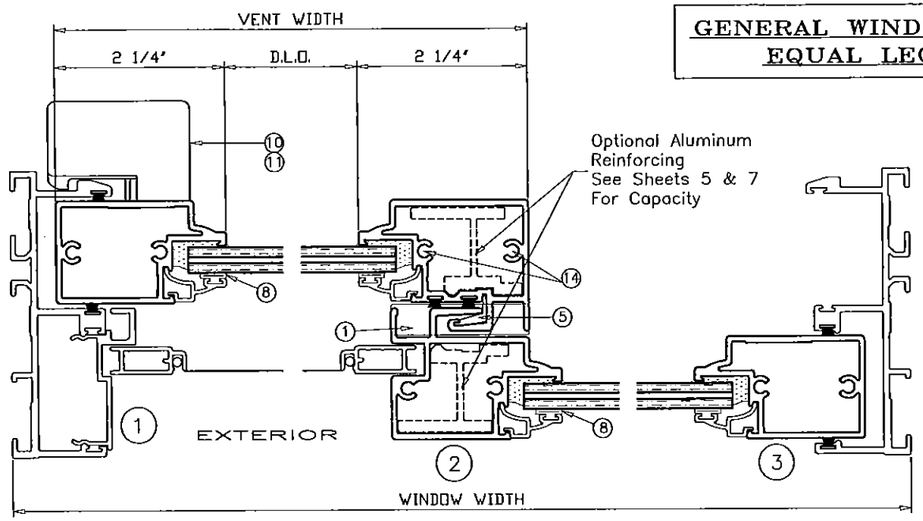
revisions:

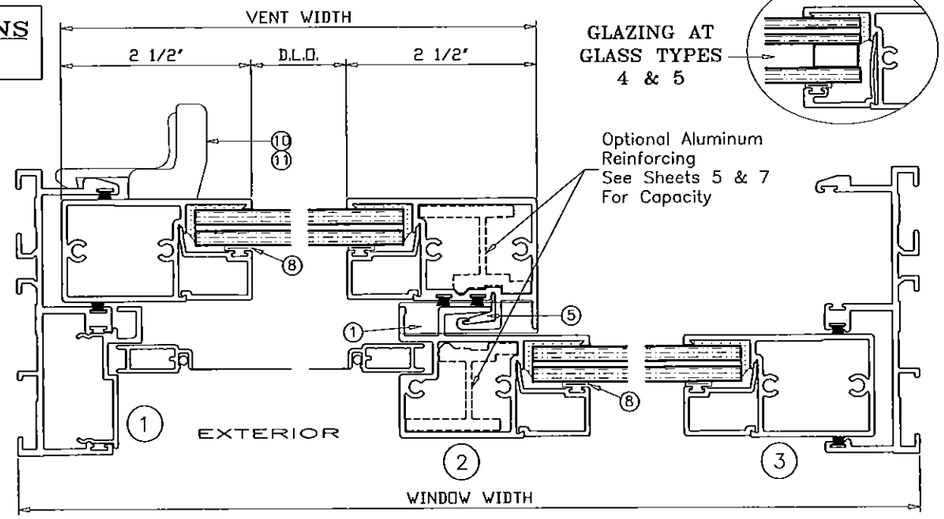
no	date	by	description
A	01.06.12		NO CHANGE THIS SHEET
B	02.10.14		NO CHANGE THIS SHEET
C	05.28.14		REV. PER RER COMMENTS
D	05.05.15		NO CHANGE THIS SHEET
E	08.04.15		NO CHANGE THIS SHEET

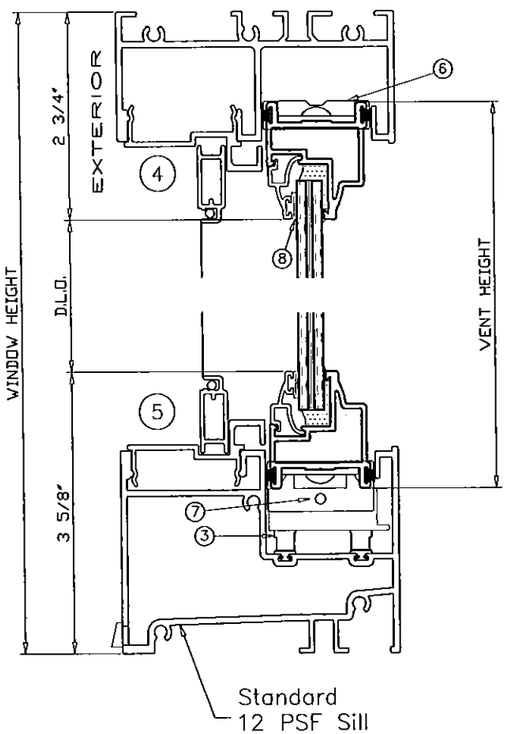
date: 02-27-09
scale: -
dr. by: -
chk. by:

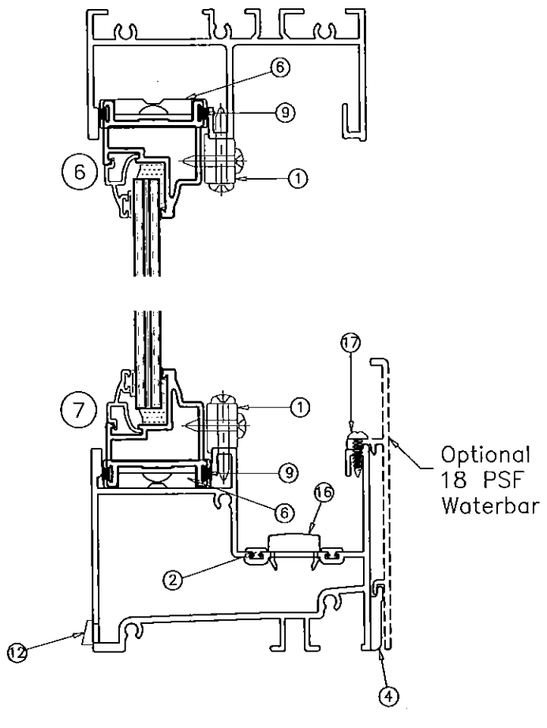
drawing no.
W09-13

GENERAL WINDOW SECTIONS
EQUAL LEG FRAME

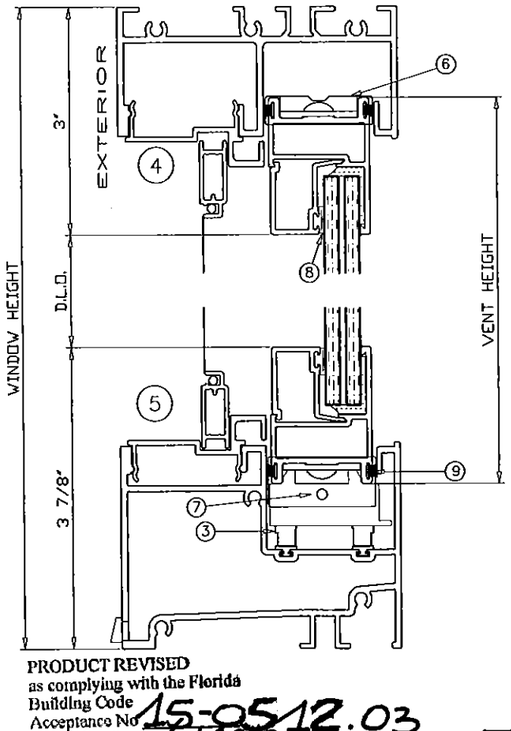


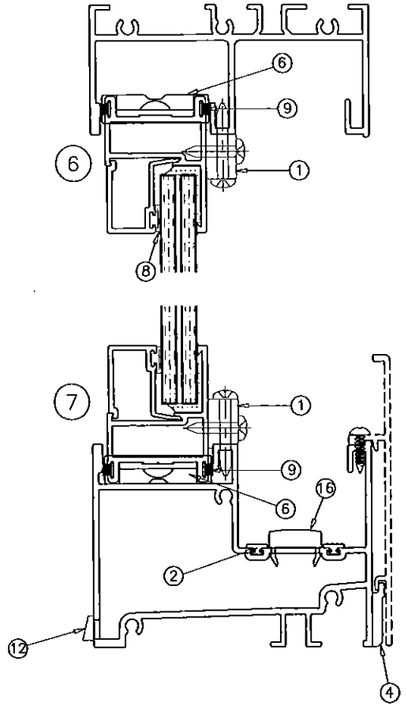






GLASS TYPES
1 & 2





GLASS TYPES
3, 4, & 5

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No 15-05-12.03
Expiration Date 06/10/2019
By Manuel Perez
Miami Dade Product Control

Engr: JAVAD AHMAD
CIVIL
FLA. PE # 70592
C.A.N. 3538
AUG 07 2015

AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
1235 S.W. 87 AVE
MIAMI, FLORIDA 33174
TEL. (305) 264-8100 FAX. (305) 262-6978

COMP-ANL\W09-13CGI

SERIES-375 ALUM. HORIZ. ROLLING WDW. (L.M.I.)

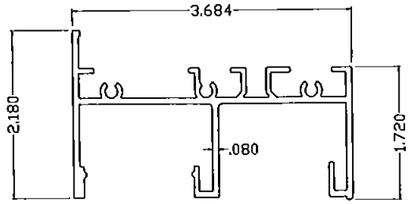
CGI WINDOWS & DOORS
10100 N.W. 25TH STREET
DORAL, FL. 33172
TEL. (305) 593-6590 FAX. (305) 593-6592

revisions:

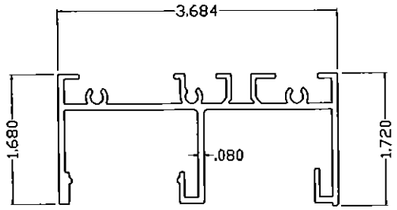
no	date	by	description
A	01.06.12		NO CHANGE THIS SHEET
B	02.10.14		NO CHANGE THIS SHEET
C	05.28.14		REV. PER RER COMMENTS
D	05.05.15		NO CHANGE THIS SHEET
E	08.04.15		NO CHANGE THIS SHEET

date: 02-27-09
scale: -
dr. by: -
chk. by:

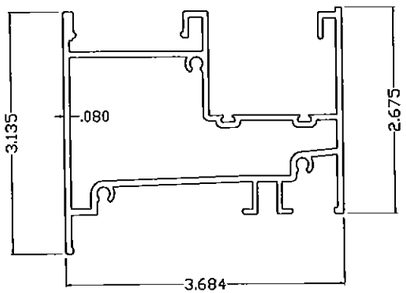
drawing no.
W09-13



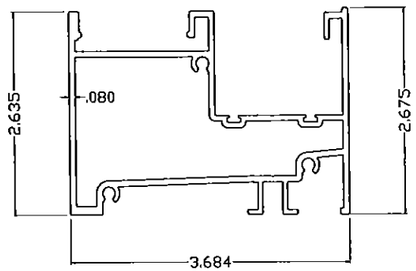
CGI–650
FLANGE FRAME HEAD
6063–T6



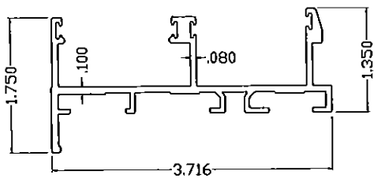
CGI–656
EQUAL LEG FRAME HEAD
6063–T6



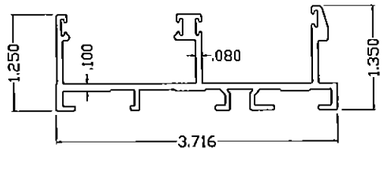
CGI–651
FLANGE FRAME SILL
6063–T6



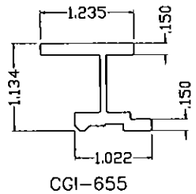
CGI–657
EQUAL LEG FRAME SILL
6063–T6



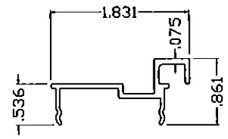
CGI–652
FLANGE FRAME JAMB
6063–T6



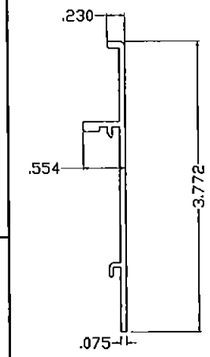
CGI–658
EQUAL LEG FRAME JAMB
6063–T6



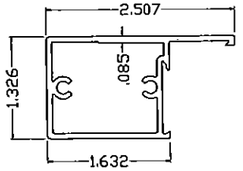
CGI–655
REINFORCEMENT
6063–T6



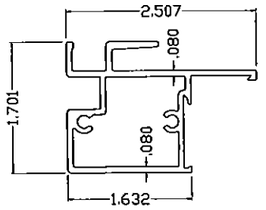
CGI–654
SCREEN ADAPTOR
6063–T5



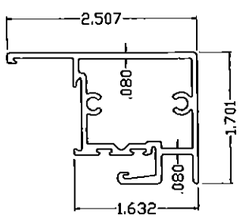
CGI–653
WATERBAR
6063–T5



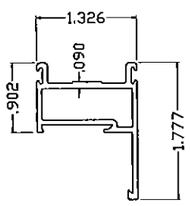
CGI–625
SQUARE LOCK STILE
6063–T6



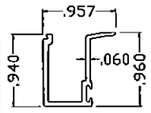
CGI–626
SQUARE FIXED INTERLOCK
6063–T6



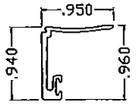
CGI–627
SQUARE OPERABLE INTERLOCK
6063–T6



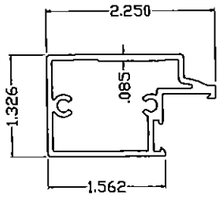
CGI–628
SQUARE TOP/BOTTOM RAIL
6063–T6



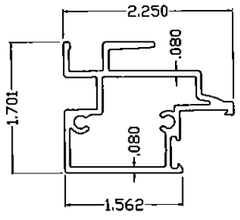
CGI–630
7/16" GLAZING BEAD
6063–T6



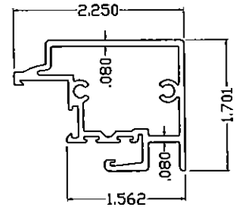
CGI–629
IG GLAZING BEAD
6063–T6



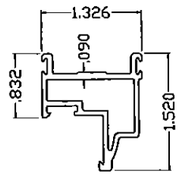
CGI–604
OGEE LOCK STILE
6063–T6



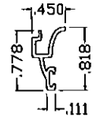
CGI–605
OGEE FIXED INTERLOCK
6063–T6



CGI–606
OGEE OPERABLE INTERLOCK
6063–T6



CGI–607
OGEE TOP/BOTTOM RAIL
6063–T6



CGI–609
5/16" GLAZING BEAD
6063–T5

ITEM	PART #	QUANTITY	DESCRIPTION	MATERIAL	MANF./SUPPLIER	REMARKS
1	CGI–614C	2	TIE DOWN BLOCK	ZINC	CUSTOM CASTING	w/ (2) #10 x 3/4" FH SMS into vent & (3) #8 x 1" FH SMS into frame
2	CGI–684	2	ROLLER TRACK INSERT	PVC	CGI EXTRUSION	Continous at frame sill
3	CGI–680	AS REQD.	QUAD ROLLER	NYLON	CUSTOM CASTING	Attached to CGI–685 (vent bottom clip) w/ (1) #6 x 1/2" FH SMS
4	CGI–683	3	WATERBAR CLIP	NYLON	CUSTOM CASTING	w/ (1) #10 x 3/4" FH SMS
5	CGI–612P	1/ INTRLK	INTERLOCK SNUBBER	PVC	CGI EXTRUSION	Continous at interlock
6	CGI–681	2/ OPER 4/ FXD	VENT END CLIP	NYLON	CUSTOM CASTING	Attached w/ vent assembly screws
7	CGI–685	2	OPERABLE VENT BOTTOM CLIP	NYLON	CUSTOM CASTING	Attached w/ vent assembly screws
8	CGI–382V	AS REQD.	VINYL BULB	PVC	CGI EXTRUSION	
9	W2301NG	AS REQD.	WOOL PILE WITH CENTER SOFT FIN (GRAY)	PILE	ULTRAFAB/SCHLEGEL	
10	CGI–615C & 616C	1	EGRESS LOCK AND PULL	ZINC	CUSTOM CASTING	w/ (2) #8 x 5/8" FH SMS
11	CGI–682	1	SELF CLOSING LOCK	ZINC	CUSTOM CASTING	w/ (2) #8 x 5/8" FH SMS
12	HI–FLO WEEPER	3 OR 4	WEEP HOLE COVER	NYLON	PEP	
13	–	3/ CORNER	FRAME ASSEMBLY SCREWS	S/S	VARIES	#10 x 1 1/4" PH SMS
14	–	2/ CORNER	VENT ASSEMBLY SCREWS	S/S	VARIES	#10 x 1 1/4" PH SMS
15	GE–2000	AS REQD.	LOW MODULUS SEALANT	SILICONE	GENERAL ELECTRIC	AT FRAME JOINTS
16	CGI–686	AS REQD.	ACCESS HOLE COVER (w/DRAIN PROVISION)	NYLON	CUSTOM CASTING	Minimum 1 at each Sill install. screw
17	–	AS REQD.	WATERBAR SCREWS AT 25" O.C. MAX.	S/S	VARIES	#6 X 1/4" PH SMS
18	–	2/ LITE	SETTING BLOCK	EPDM	VARIES	DUROMETER 85±5 SHORE A

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No 15-0512.03
Expiration Date 06/10/2019
By Manuel Perez
Miami Dade Product Control

Engr: JAVAD AHMAD
CIVIL
FLA. PE # 70592
C.A.N. 3538
AUG 07 2015

afc
AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
1235 S.W. 87 AVE
MIAMI, FLORIDA 33174
TEL. (305) 264-8100 FAX. (305) 262-6978
COMP–ANL\W09–13CGI

SERIES–375 ALUM. HORIZ. ROLLING WDW. (L.M.I.)

CGI WINDOWS & DOORS
10100 N.W. 25TH STREET
DORAL, FL. 33172
TEL. (305) 593–6590 FAX. (305) 593–6592

revisions:		
no	date	by description
A	01.06.12	NO CHANGE THIS SHEET
B	02.10.14	NO CHANGE THIS SHEET
C	05.28.14	REV. PER RER COMMENTS
D	06.05.15	NO CHANGE THIS SHEET
E	08.04.15	NO CHANGE THIS SHEET

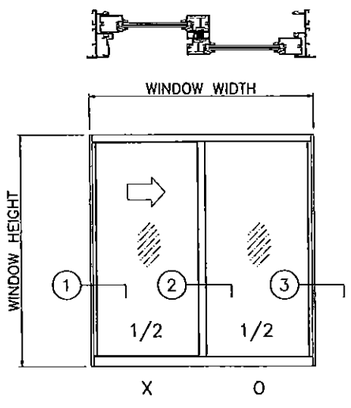
date: 02–27–09
scale: –
dr. by: –
chk. by:

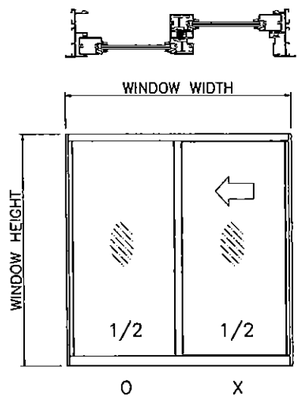
drawing no.
W09–13

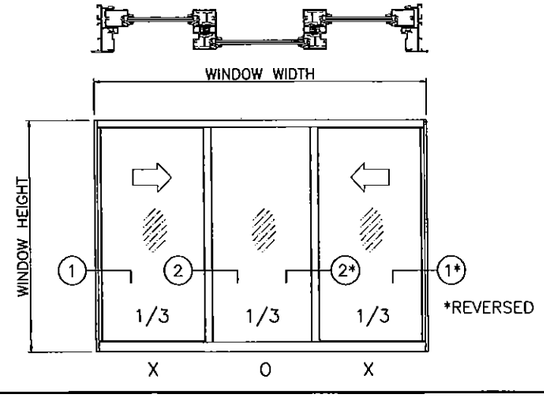
sheet 4 of 16

WINDOW DIMS. WIDTH 2 PANEL	WINDOW DIMS. WIDTH 3 PANEL	HEIGHT	INTERLOCKS WITHOUT REINFORCING GLASS TYPE 1 EXT.(+)	GLASS TYPE 1 INT.(−)	GLASS TYPE 4 EXT.(+)	GLASS TYPE 4 INT.(−)	GLASS TYPES 2, 3 & 5 EXT.(+)	GLASS TYPES 2, 3 & 5 INT.(−)	INTERLOCKS WITH REINFORCING GLASS TYPE 2 EXT.(+)	GLASS TYPE 2 INT.(−)	GLASS TYPE 3 EXT.(+)	GLASS TYPE 3 INT.(−)	GLASS TYPE 5 EXT.(+)	GLASS TYPE 5 INT.(−)
36"	54"	36"	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0
42"	63"		120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0
48"	72"		120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0
54"	81"		120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0
60"	90"		120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0
66"	99"		120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0
72"	108"		120.0	145.2	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0
78"	117"		120.0	130.6	120.0	145.7	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0
84"	126"		118.3	118.3	120.0	131.9	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0
36"	54"	48"	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0
42"	63"		120.0	135.1	120.0	135.1	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0
48"	72"		120.0	123.1	120.0	123.1	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0
54"	81"		114.2	114.2	114.2	114.2	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0
60"	90"		107.4	107.4	107.4	107.4	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0
66"	99"		102.3	102.3	102.3	102.3	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0
72"	108"		98.5	98.5	98.5	98.5	120.0	147.7	120.0	150.0	120.0	150.0	120.0	150.0
78"	117"		85.0	85.0	85.0	85.0	100.0	100.0	120.0	120.0	120.0	120.0	120.0	120.0
84"	126"		83.9	83.9	85.0	85.0	100.0	100.0	120.0	120.0	120.0	120.0	120.0	120.0
36"	54"	54"	120.0	131.3	120.0	131.3	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0
42"	63"		116.4	116.4	116.4	116.4	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0
48"	72"		105.5	105.5	105.5	105.5	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0
54"	81"		97.3	97.3	97.3	97.3	120.0	145.9	120.0	150.0	120.0	150.0	120.0	150.0
60"	90"		90.9	90.9	90.9	90.9	120.0	136.4	120.0	150.0	120.0	150.0	120.0	150.0
66"	99"		86.0	86.0	86.0	86.0	120.0	128.9	120.0	150.0	120.0	150.0	120.0	150.0
72"	108"		82.1	82.1	82.1	82.1	100.0	100.0	120.0	120.0	120.0	120.0	120.0	120.0
78"	117"		78.6	78.6	79.1	79.1	100.0	100.0	120.0	120.0	120.0	120.0	120.0	120.0
84"	126"		74.6	74.6	76.7	76.7	100.0	100.0	120.0	120.0	120.0	120.0	120.0	120.0
36"	54"	60"	115.9	115.9	115.9	115.9	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0
42"	63"		102.3	102.3	102.3	102.3	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0
48"	72"		92.3	92.3	92.3	92.3	120.0	138.5	120.0	150.0	120.0	150.0	120.0	150.0
54"	81"		84.7	84.7	84.7	84.7	120.0	127.1	120.0	150.0	120.0	150.0	120.0	150.0
60"	90"		78.8	78.8	78.8	78.8	118.2	118.2	120.0	150.0	120.0	150.0	120.0	150.0
66"	99"		74.1	74.1	74.1	74.1	100.0	100.0	120.0	120.0	120.0	120.0	120.0	120.0
72"	108"		70.4	70.4	70.4	70.4	100.0	100.0	120.0	120.0	120.0	120.0	120.0	120.0
78"	117"		67.3	67.3	67.3	67.3	100.0	100.0	120.0	120.0	117.7	117.7	120.0	120.0
84"	126"		64.9	64.9	64.9	64.9	97.4	97.4	120.0	120.0	110.6	110.6	120.0	120.0
36"	54"	66"	103.7	103.7	103.7	103.7	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0
42"	63"		91.3	91.3	91.3	91.3	120.0	136.9	120.0	150.0	120.0	150.0	120.0	150.0
48"	72"		82.1	82.1	82.1	82.1	120.0	123.1	120.0	150.0	120.0	150.0	120.0	150.0
54"	81"		75.0	75.0	75.0	75.0	112.6	112.6	120.0	150.0	120.0	150.0	120.0	150.0
60"	90"		69.5	69.5	69.5	69.5	100.0	100.0	120.0	120.0	120.0	120.0	120.0	120.0
66"	99"		65.1	65.1	65.1	65.1	97.7	97.7	120.0	120.0	120.0	120.0	120.0	120.0
72"	108"		61.6	61.6	61.6	61.6	92.3	92.3	120.0	120.0	116.7	116.7	120.0	120.0
78"	117"		58.7	58.7	58.7	58.7	88.0	88.0	117.3	117.3	107.3	107.3	117.3	117.3
84"	126"		56.3	56.3	56.3	56.3	84.4	84.4	112.6	112.6	100.9	100.9	112.6	112.6
36"	54"	72"	93.8	93.8	93.8	93.8	120.0	140.7	120.0	150.0	120.0	150.0	120.0	150.0
42"	63"		82.4	82.4	82.4	82.4	120.0	123.5	120.0	150.0	120.0	150.0	120.0	150.0
48"	72"		73.9	73.9	73.9	73.9	110.8	110.8	120.0	147.7	120.0	147.7	120.0	147.7
54"	81"		67.3	67.3	67.3	67.3	100.0	100.0	120.0	120.0	120.0	120.0	120.0	120.0
60"	90"		62.2	62.2	62.2	62.2	93.3	93.3	120.0	120.0	120.0	120.0	120.0	120.0
66"	99"		58.1	58.1	58.1	58.1	87.1	87.1	116.2	116.2	116.2	116.2	116.2	116.2
72"	108"		54.7	54.7	54.7	54.7	82.1	82.1	109.4	109.4	107.5	107.5	109.4	109.4
78"	117"		52.0	52.0	52.0	52.0	77.9	77.9	103.9	103.9	98.2	98.2	103.9	103.9
36"	54"	76"	88.2	88.2	88.2	88.2	120.0	132.3	120.0	150.0	120.0	150.0	120.0	150.0
42"	63"		77.3	77.3	77.3	77.3	116.0	116.0	120.0	150.0	120.0	150.0	120.0	150.0
48"	72"		69.3	69.3	69.3	69.3	100.0	100.0	120.0	120.0	120.0	120.0	120.0	120.0
54"	81"		63.0	63.0	63.0	63.0	94.6	94.6	120.0	120.0	120.0	120.0	120.0	120.0
60"	90"		58.1	58.1	58.1	58.1	87.2	87.2	116.3	116.3	116.3	116.3	116.3	116.3
66"	99"		54.2	54.2	54.2	54.2	81.3	81.3	108.4	108.4	108.4	108.4	108.4	108.4
72"	108"		50.8	50.8	50.9	50.9	76.4	76.4	101.7	101.7	101.9	101.9	101.9	101.9

WINDOW DIMS. WIDTH 2 PANEL	WINDOW DIMS. WIDTH 3 PANEL	HEIGHT	INTERLOCKS WITHOUT REINFORCING GLASS TYPE 1 EXT.(+)	GLASS TYPE 1 INT.(−)	GLASS TYPE 4 EXT.(+)	GLASS TYPE 4 INT.(−)	GLASS TYPES 2, 3 & 5 EXT.(+)	GLASS TYPES 2, 3 & 5 INT.(−)	INTERLOCKS WITH REINFORCING GLASS TYPE 2 EXT.(+)	GLASS TYPE 2 INT.(−)	GLASS TYPE 3 EXT.(+)	GLASS TYPE 3 INT.(−)	GLASS TYPE 5 EXT.(+)	GLASS TYPE 5 INT.(−)
26−1/2"	39−3/4"	38−3/8"	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0
37"	55−1/2"		120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0
53−1/8"	79−11/16"		120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0
74"	111"		120.0	131.8	120.0	144.7	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0
79−1/2"	119−1/4"		120.0	120.2	120.0	134.1	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0
106−1/4"	159−3/8"		80.7	80.7	85.0	85.0	100.0	100.0	120.0	120.0	120.0	120.0	120.0	120.0
26−1/2"	39−3/4"	50−5/8"	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0
37"	55−1/2"		120.0	139.0	120.0	139.0	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0
53−1/8"	79−11/16"		107.2	107.2	107.2	107.2	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0
74"	111"		85.0	85.0	85.0	85.0	100.0	100.0	120.0	120.0	120.0	120.0	120.0	120.0
79−1/2"	119−1/4"		83.2	83.2	85.0	85.0	100.0	100.0	120.0	120.0	120.0	120.0	120.0	120.0
106−1/4"	159−3/8"		66.0	66.0	73.6	73.6	100.0	100.0	120.0	120.0	107.6	107.6	120.0	120.0
26−1/2"	39−3/4"	63"	120.0	142.4	120.0	142.4	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0
37"	55−1/2"		107.0	107.0	107.0	107.0	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0
53−1/8"	79−11/16"		80.5	80.5	80.5	80.5	120.0	120.8	120.0	150.0	120.0	150.0	120.0	150.0
74"	111"		64.6	64.6	64.6	64.6	96.9	96.9	120.0	120.0	118.3	118.3	120.0	120.0
79−1/2"	119−1/4"		62.1	62.1	62.1	62.1	93.1	93.1	120.0	120.0	110.4	110.4	120.0	120.0
26−1/2"	39−3/4"	72"	120.0	122.8	120.0	122.8	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0
37"	55−1/2"		91.6	91.6	91.6	91.6	120.0	137.5	120.0	150.0	120.0	150.0	120.0	150.0
53−1/8"	79−11/16"		68.2	68.2	68.2	68.2	100.0	100.0	120.0	120.0	120.0	120.0	120.0	120.0
74"	111"		53.7	53.7	53.7	53.7	80.6	80.6	107.5	107.5	103.9	103.9	107.5	107.5
26−1/2"	39−3/4"	76"	115.7	115.7	115.7	115.7	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0
37"	55−1/2"		86.1	86.1	86.1	86.1	120.0	129.2	120.0	150.0	120.0	150.0	120.0	150.0
53−1/8"	79−11/16"		63.9	63.9	63.9	63.9	95.8	95.8	120.0	120.0	120.0	120.0	120.0	120.0
74"	111"		50.0	50.0	50.0	50.0	75.0	75.0	100.0	100.0	98.8	98.8	100.0	100.0







PERFORMANCE VALUES
EQUAL PANELS

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No 15-0512.03
Expiration Date 06/10/2019
By
Miami-Dade Product Control

All values shown are Design PSF (Pounds per Square Foot)

VALUES FOR EXTERIOR LOADS(+) SHOWN ARE
FOR SILL WITH WATERBAR ADAPTER
FOR WINDOWS WITHOUT WATERBAR ADAPTER
LIMIT EXTERIOR(+) LOADS TO 80.0 PSF

NOTE:
GLASS CAPACITIES ON THIS SHEET ARE
BASED ON ASTM E1300−09 (3 SEC. GUSTS)
AND FLORIDA BUILDING COMMISSION
DECLARATORY STATEMENT DCA05−DEC−219

MAXIMUM VENT SIZE IS 18.7 SQ. FT.
AND MAXIMUM VENT HEIGHT IS 71 11/16"

Engr: JAVAD AHMAD
CIVIL
FLA. PE # 70592
C.A.N. 3538
AUG 07 2015

AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
1235 S.W. 87 AVE
MIAMI, FLORIDA 33174
TEL (305) 264-8100 FAX. (305) 262-6978
COMP−ANL\W09−13CGI

SERIES−375 ALUM. HORIZ. ROLLING WDW. (L.M.I.)

CGI WINDOWS & DOORS
10100 N.W. 25TH STREET
DORAL, FL. 33172
TEL. (305) 593−6590 FAX. (305) 593−6592

revisions:

no	date	by	description
A	01.06.12		NO CHANGE THIS SHEET
B	02.10.14		NO CHANGE THIS SHEET
C	05.28.14		REV. PER RER COMMENTS
D	05.05.15		NO CHANGE THIS SHEET
E	08.04.15		NO CHANGE THIS SHEET

date: 02−27−09
scale: −
dr. by: −
chk. by:

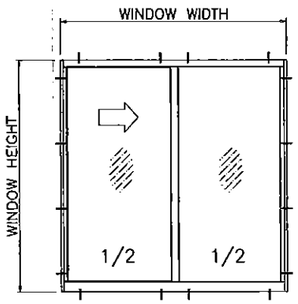
drawing no.
W09−13

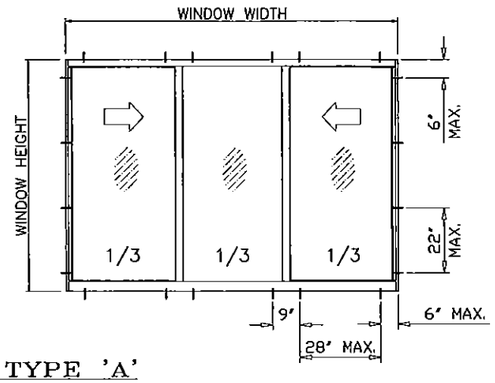
sheet 5 of 16

WINDOW DIMS.			ANCHORS TYPE 'A'	ANCHORS TYPE 'B'	ANCHORS TYPE 'C'
WIDTH		HEIGHT	EXT. (+)	EXT. (+)	EXT. (+)
2 PANEL	3 PANEL		INT. (−)	INT. (−)	INT. (−)
36"	54"	36"	150.0	150.0	150.0
42"	63"		150.0	150.0	150.0
48"	72"		150.0	150.0	150.0
54"	81"		144.6	150.0	150.0
60"	90"		130.1	150.0	150.0
66"	99"		118.3	150.0	150.0
72"	108"		108.4	150.0	150.0
78"	117"		100.1	150.0	150.0
84"	126"		93.0	150.0	150.0
36"	54"	48"	150.0	150.0	150.0
42"	63"		139.4	150.0	150.0
48"	72"		122.0	150.0	150.0
54"	81"		108.4	150.0	150.0
60"	90"		97.6	150.0	150.0
66"	99"		88.7	150.0	150.0
72"	108"		81.3	150.0	150.0
78"	117"		75.1	120.0	120.0
84"	126"		69.7	120.0	120.0
36"	54"	54"	144.6	150.0	150.0
42"	63"		123.9	150.0	150.0
48"	72"		108.4	150.0	150.0
54"	81"		96.4	150.0	150.0
60"	90"		86.8	150.0	150.0
66"	99"		78.9	150.0	150.0
72"	108"		72.3	120.0	120.0
78"	117"		66.7	120.0	120.0
84"	126"		62.0	120.0	120.0
36"	54"	60"	130.1	150.0	150.0
42"	63"		111.5	150.0	150.0
48"	72"		97.6	150.0	150.0
54"	81"		86.8	150.0	150.0
60"	90"		78.1	150.0	150.0
66"	99"		71.0	120.0	120.0
72"	108"		65.1	120.0	120.0
78"	117"		60.1	120.0	120.0
84"	126"		55.8	111.5	120.0
36"	54"	66"	118.3	150.0	150.0
42"	63"		101.4	150.0	150.0
48"	72"		88.7	150.0	150.0
54"	81"		78.9	150.0	150.0
60"	90"		71.0	120.0	120.0
66"	99"		64.5	120.0	120.0
72"	108"		59.2	118.3	120.0
78"	117"		54.6	109.2	120.0
84"	126"		50.7	101.4	120.0
36"	54"	72"	108.4	150.0	150.0
42"	63"		93.0	150.0	150.0
48"	72"		81.3	150.0	150.0
54"	81"		72.3	120.0	120.0
60"	90"		65.1	120.0	120.0
66"	99"		59.2	118.3	120.0
72"	108"		54.2	108.4	120.0
78"	117"		50.1	100.1	120.0
36"	54"	76"	102.7	150.0	150.0
42"	63"		88.1	150.0	150.0
48"	72"		77.1	120.0	120.0
54"	81"		68.5	120.0	120.0
60"	90"		61.6	120.0	120.0
66"	99"		56.0	112.1	120.0
72"	108"		51.4	102.7	120.0

WINDOW DIMS.			ANCHORS TYPE 'A'	ANCHORS TYPE 'B'	ANCHORS TYPE 'C'
WIDTH		HEIGHT	EXT. (+)	EXT. (+)	EXT. (+)
2 PANEL	3 PANEL		INT. (−)	INT. (−)	INT. (−)
26-1/2"	39-3/4"	38-3/8"	150.0	150.0	150.0
37"	55-1/2"		150.0	150.0	150.0
53-1/8"	79-11/16"		137.9	150.0	150.0
74"	111"		99.0	150.0	150.0
79-1/2"	119-1/4"		92.1	150.0	150.0
106-1/4"	159-3/8"		68.9	120.0	120.0
26-1/2"	39-3/4"	50-5/8"	150.0	150.0	150.0
37"	55-1/2"		150.0	150.0	150.0
53-1/8"	79-11/16"		104.5	150.0	150.0
74"	111"		75.0	120.0	120.0
79-1/2"	119-1/4"		69.8	120.0	120.0
106-1/4"	159-3/8"		52.3	104.5	120.0
26-1/2"	39-3/4"	63"	150.0	150.0	150.0
37"	55-1/2"		120.6	150.0	150.0
53-1/8"	79-11/16"		84.0	150.0	150.0
74"	111"		60.3	120.0	120.0
79-1/2"	119-1/4"		56.1	112.2	120.0
26-1/2"	39-3/4"	72"	147.3	150.0	150.0
37"	55-1/2"		105.5	150.0	150.0
53-1/8"	79-11/16"		73.5	120.0	120.0
74"	111"		52.8	105.5	120.0
26-1/2"	39-3/4"	76"	139.6	150.0	150.0
37"	55-1/2"		100.0	150.0	150.0
53-1/8"	79-11/16"		69.6	120.0	120.0
74"	111"		50.0	100.0	120.0

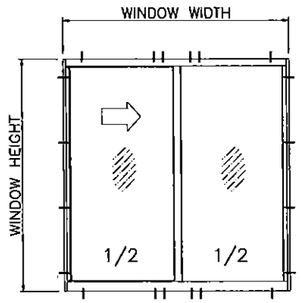
ALL VALUES SHOWN ARE DESIGN PSF
VALUES FOR EXT.(+) LOADS SHOWN ARE FOR SILL WITH WATERBAR ADAPTER.
FOR WINDOWS WITHOUT WATERBAR ADAPTER LIMIT EXT.(+) LOADS TO 80.0 PSF

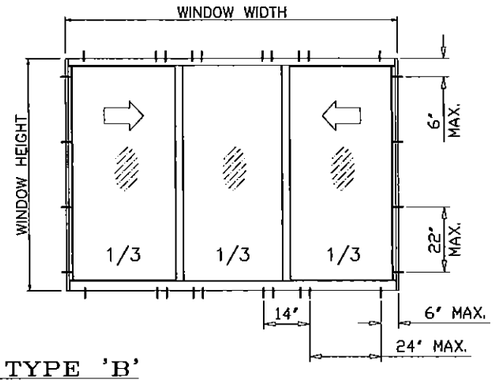




ANCHORS TYPE 'A'

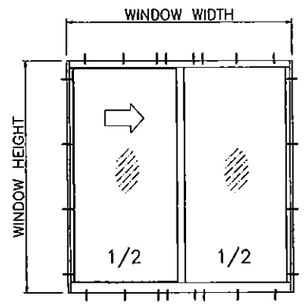
2 ANCHORS AT MTG. STILE ENDS
28" MAX. SPACING BETWEEN ANCHORS
LIMIT MAX. DESIGN LOADS TO 55 PSF

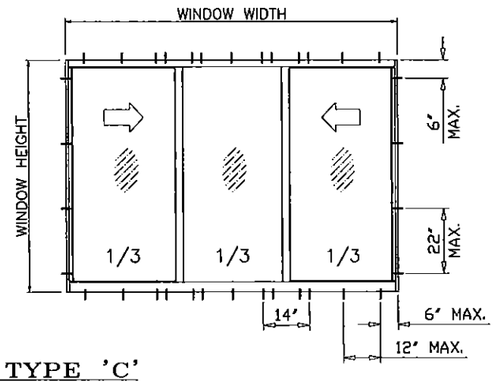




ANCHORS TYPE 'B'

4 ANCHORS AT MTG. STILE ENDS
24" MAX. SPACING BETWEEN ANCHORS
LIMIT MAX. DESIGN LOADS TO 100 PSF





ANCHORS TYPE 'C'

4 ANCHORS AT MTG. STILE ENDS
12" MAX. SPACING BETWEEN ANCHORS
LIMIT MAX. DESIGN LOADS TO 150 PSF

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No 15-0512.03
Expiration Date 06/10/2019
By Manuel Perez
Miami-Dade Product Control

NOTE:
ANCHOR SPACING TO BE AS LISTED ABOVE
1/2" MAX. SHIM SPACE FOR EQUAL LEG FRAMES ONLY

Engr: JAVAD AHMAD
CIVIL
FLA. PE # 70592
C.A.N. 3538
AUG 07 2015

AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
1235 S.W. 87 AVE
MIAMI, FLORIDA 33174
TEL. (305) 264-8100 FAX. (305) 262-6978

COMP-ANL\W09-13CGI

SERIES-375 ALUM. HORIZ. ROLLING WDW. (L.M.I.)

CGI WINDOWS & DOORS
10100 N.W. 25TH STREET
DORAL, FL. 33172
TEL. (305) 593-6590 FAX. (305) 593-6592

revisions:

no	date	by	description
A	01.06.12		NO CHANGE THIS SHEET
B	02.10.14		NO CHANGE THIS SHEET
C	05.28.14		REV. PER RER COMMENTS
D	05.05.15		NO CHANGE THIS SHEET
E	08.04.15		NO CHANGE THIS SHEET

date: 02-27-09
scale: -
dr. by: -
chk. by:

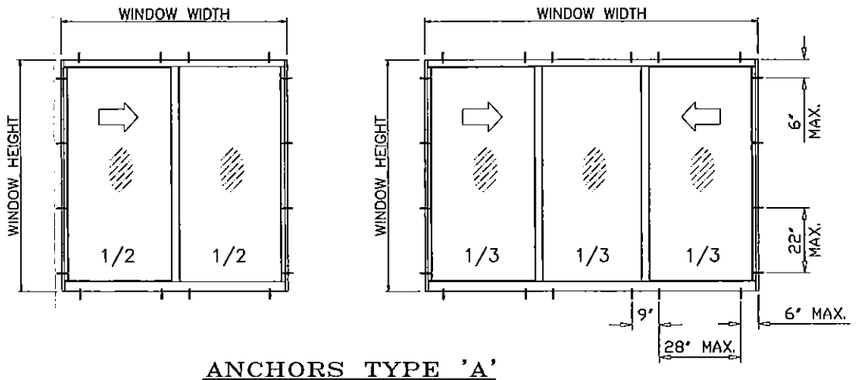
drawing no. W09-13

sheet 6 of 16

WINDOW DIMS.			ANCHORS TYPE 'A'	ANCHORS TYPE 'B'	ANCHORS TYPE 'C'
WIDTH		HEIGHT	EXT. (+)	EXT. (+)	EXT. (+)
2 PANEL	3 PANEL		INT. (–)	INT. (–)	INT. (–)
36"	54"	36"	150.0	150.0	150.0
42"	63"		150.0	150.0	150.0
48"	72"		150.0	150.0	150.0
54"	81"		143.4	150.0	150.0
60"	90"		129.1	150.0	150.0
66"	99"		117.3	150.0	150.0
72"	108"		107.6	150.0	150.0
78"	117"		99.3	150.0	150.0
84"	126"		92.2	150.0	150.0
36"	54"	48"	150.0	150.0	150.0
42"	63"		138.3	150.0	150.0
48"	72"		121.0	150.0	150.0
54"	81"		107.6	150.0	150.0
60"	90"		96.8	150.0	150.0
66"	99"		88.0	150.0	150.0
72"	108"		80.7	150.0	150.0
78"	117"		74.5	120.0	120.0
84"	126"		69.1	120.0	120.0
36"	54"	54"	143.4	150.0	150.0
42"	63"		122.9	150.0	150.0
48"	72"		107.6	150.0	150.0
54"	81"		95.6	150.0	150.0
60"	90"		86.0	150.0	150.0
66"	99"		78.2	150.0	150.0
72"	108"		71.7	120.0	120.0
78"	117"		66.2	120.0	120.0
84"	126"		61.5	120.0	120.0
36"	54"	60"	129.1	150.0	150.0
42"	63"		110.6	150.0	150.0
48"	72"		96.8	150.0	150.0
54"	81"		86.0	150.0	150.0
60"	90"		77.4	150.0	150.0
66"	99"		70.4	120.0	120.0
72"	108"		64.5	120.0	120.0
78"	117"		59.6	119.1	120.0
84"	126"		55.3	110.6	120.0
36"	54"	66"	117.3	150.0	150.0
42"	63"		100.6	150.0	150.0
48"	72"		88.0	150.0	150.0
54"	81"		78.2	150.0	150.0
60"	90"		70.4	120.0	120.0
66"	99"		64.0	120.0	120.0
72"	108"		58.7	117.3	120.0
78"	117"		54.2	108.3	120.0
84"	126"		50.3	100.6	120.0
36"	54"	72"	107.6	150.0	150.0
42"	63"		92.2	150.0	150.0
48"	72"		80.7	150.0	150.0
54"	81"		71.7	120.0	120.0
60"	90"		64.5	120.0	120.0
66"	99"		58.7	117.3	120.0
72"	108"		53.8	107.6	120.0
78"	117"		49.6	99.3	120.0
36"	54"	76"	101.9	150.0	150.0
42"	63"		87.3	150.0	150.0
48"	72"		76.4	120.0	120.0
54"	81"		67.9	120.0	120.0
60"	90"		61.1	120.0	120.0
66"	99"		55.6	111.2	120.0
72"	108"		50.9	101.9	120.0

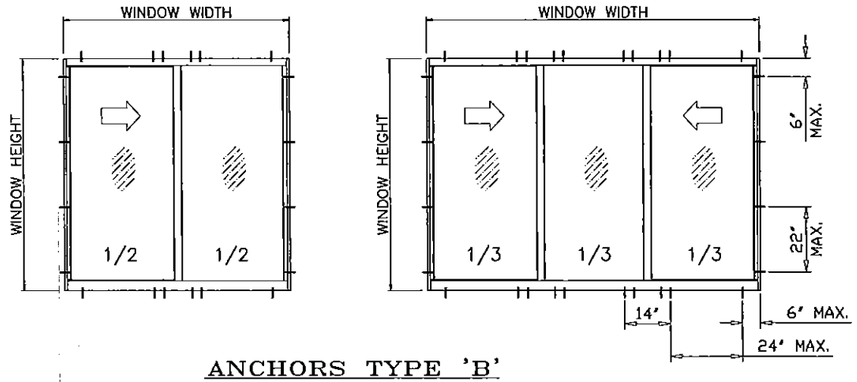
WINDOW DIMS.			ANCHORS TYPE 'A'	ANCHORS TYPE 'B'	ANCHORS TYPE 'C'
WIDTH		HEIGHT	EXT. (+)	EXT. (+)	EXT. (+)
2 PANEL	3 PANEL		INT. (–)	INT. (–)	INT. (–)
26–1/2"	39–3/4"	38–3/8"	150.0	150.0	150.0
37"	55–1/2"		150.0	150.0	150.0
53–1/8"	79–11/16"		136.7	150.0	150.0
74"	111"		98.2	150.0	150.0
79–1/2"	119–1/4"		91.2	150.0	150.0
106–1/4"	159–3/8"		68.4	120.0	120.0
26–1/2"	39–3/4"	50–5/8"	150.0	150.0	150.0
37"	55–1/2"		148.8	150.0	150.0
53–1/8"	79–11/16"		103.7	150.0	150.0
74"	111"		74.4	120.0	120.0
79–1/2"	119–1/4"		69.1	120.0	120.0
106–1/4"	159–3/8"		51.8	103.7	120.0
26–1/2"	39–3/4"	63"	150.0	150.0	150.0
37"	55–1/2"		119.6	150.0	150.0
53–1/8"	79–11/16"		83.3	150.0	150.0
74"	111"		59.8	119.6	120.0
79–1/2"	119–1/4"		55.5	111.1	120.0
26–1/2"	39–3/4"	72"	146.1	150.0	150.0
37"	55–1/2"		104.6	150.0	150.0
53–1/8"	79–11/16"		72.9	120.0	120.0
74"	111"		52.3	104.6	120.0
26–1/2"	39–3/4"	76"	138.4	150.0	150.0
37"	55–1/2"		99.1	150.0	150.0
53–1/8"	79–11/16"		69.0	120.0	120.0
74"	111"		49.6	99.1	120.0

ALL VALUES SHOWN ARE DESIGN PSF
VALUES FOR EXT.(+) LOADS SHOWN ARE FOR SILL WITH WATERBAR ADAPTER.
FOR WINDOWS WITHOUT WATERBAR ADAPTER LIMIT EXT.(+) LOADS TO 80.0 PSF



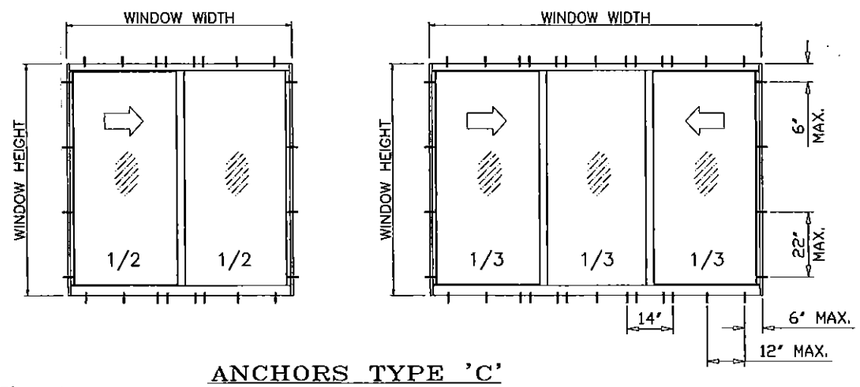
ANCHORS TYPE 'A'

2 ANCHORS AT MTG. STILE ENDS
28" MAX. SPACING BETWEEN ANCHORS
LIMIT MAX. DESIGN LOADS TO 55 PSF



ANCHORS TYPE 'B'

4 ANCHORS AT MTG. STILE ENDS
24" MAX. SPACING BETWEEN ANCHORS
LIMIT MAX. DESIGN LOADS TO 100 PSF



ANCHORS TYPE 'C'

4 ANCHORS AT MTG. STILE ENDS
12" MAX. SPACING BETWEEN ANCHORS
LIMIT MAX. DESIGN LOADS TO 150 PSF

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No 15-0512.03
Expiration Date 06/10/2019
By
Miami Dade Product Control

NOTE:
ANCHOR SPACING TO BE AS LISTED ABOVE
3/8" MAX. SHIM SPACE FOR FLANGE AND EQUAL LEG FRAMES

1/4" MAX. SHIM SPACE FOR INSTALLATIONS INTO METAL STRUCTURES

Engr: JAVAD AHMAD
CIVIL
FLA. PE # 70592
C.A.N. 3538
AUG 07 2015

AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
1235 S.W. 87 AVE
MIAMI, FLORIDA 33174
TEL (305) 264-8100 FAX. (305) 262-6978

COMP-ANL\W09-13CGI

SERIES-375 ALUM. HORIZ. ROLLING WDW. (L.M.I.)

CGI WINDOWS & DOORS
10100 N.W. 25TH STREET
DORAL, FL. 33172
TEL. (305) 593-6590 FAX. (305) 593-6592

revisions:			
no	date	by	description
A	01.06.12		CHART REV.
B	02.10.14		NO CHANGE THIS SHEET
C	05.28.14		REV. PER RER COMMENTS
D	05.05.15		NO CHANGE THIS SHEET
E	08.04.15		NO CHANGE THIS SHEET

date: 02-27-09
scale: –
dr. by: –
chk. by:

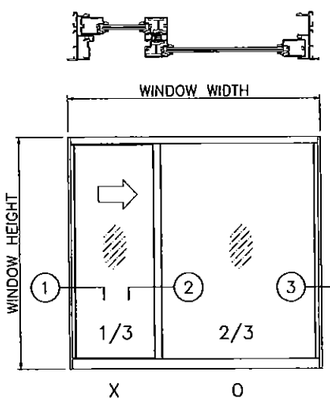
drawing no.
W09–13

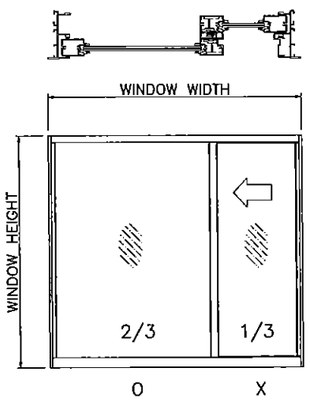
sheet 6.1 of 16

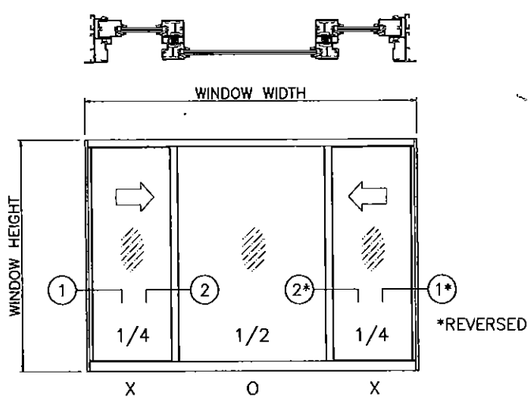
WINDOW DIMS.			INTERLOCKS WITHOUT REINFORCING						INTERLOCKS WITH REINFORCING					
WIDTH		HEIGHT	GLASS TYPE 1		GLASS TYPE 4		GLASS TYPES 2, 3 & 5		GLASS TYPE 2		GLASS TYPE 3		GLASS TYPE 5	
2 PANEL	3 PANEL		EXT.(+)	INT.(−)	EXT.(+)	INT.(−)	EXT.(+)	INT.(−)	EXT.(+)	INT.(−)	EXT.(+)	INT.(−)	EXT.(+)	INT.(−)
36"	48"	36"	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0
42"	56"		120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0
48"	64"		120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0
54"	72"		120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0
60"	80"		120.0	135.3	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0
66"	88"		118.4	118.4	120.0	132.0	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0
72"	96"		104.5	104.5	116.6	116.6	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0
78"	104"		85.0	85.0	85.0	85.0	100.0	100.0	120.0	120.0	120.0	120.0	120.0	120.0
84"	112"		83.8	83.8	85.0	85.0	100.0	100.0	120.0	120.0	120.0	120.0	120.0	120.0
96"	128"		71.9	71.9	80.2	80.2	100.0	100.0	120.0	120.0	120.0	120.0	120.0	120.0
108"	144"		61.5	61.5	68.6	68.6	100.0	100.0	120.0	120.0	120.0	120.0	120.0	120.0
36"	48"	48"	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0
42"	56"		120.0	130.6	120.0	139.4	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0
48"	64"		116.1	116.1	120.0	127.9	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0
54"	72"		105.6	105.6	117.7	117.7	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0
60"	80"		85.0	85.0	85.0	85.0	100.0	100.0	120.0	120.0	120.0	120.0	120.0	120.0
66"	88"		83.9	83.9	85.0	85.0	100.0	100.0	120.0	120.0	120.0	120.0	120.0	120.0
72"	96"		77.6	77.6	85.0	85.0	100.0	100.0	120.0	120.0	120.0	120.0	120.0	120.0
78"	104"		72.4	72.4	80.8	80.8	100.0	100.0	120.0	120.0	118.4	118.4	120.0	120.0
84"	112"		67.5	67.5	75.3	75.3	100.0	100.0	120.0	120.0	110.4	110.4	120.0	120.0
36"	48"	54"	120.0	134.3	120.0	134.3	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0
42"	56"		111.5	111.5	119.7	119.7	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0
48"	64"		97.5	97.5	108.7	108.7	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0
54"	72"		85.0	85.0	85.0	85.0	100.0	100.0	120.0	120.0	120.0	120.0	120.0	120.0
60"	80"		80.1	80.1	85.0	85.0	100.0	100.0	120.0	120.0	120.0	120.0	120.0	120.0
66"	88"		74.7	74.7	83.3	83.3	100.0	100.0	120.0	120.0	120.0	120.0	120.0	120.0
72"	96"		70.0	70.0	78.1	78.1	100.0	100.0	120.0	120.0	114.5	114.5	120.0	120.0
78"	104"		65.6	65.6	73.2	73.2	100.0	100.0	120.0	120.0	107.9	107.9	120.0	120.0
36"	48"	60"	118.2	118.2	118.2	118.2	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0
42"	56"		98.7	98.7	104.8	104.8	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0
48"	64"		84.0	84.0	85.0	85.0	100.0	100.0	120.0	120.0	120.0	120.0	120.0	120.0
54"	72"		76.9	76.9	85.0	85.0	100.0	100.0	120.0	120.0	120.0	120.0	120.0	120.0
60"	80"		70.5	70.5	78.6	78.6	100.0	100.0	120.0	120.0	120.0	120.0	120.0	120.0
66"	88"		66.4	66.4	74.1	74.1	100.0	100.0	120.0	120.0	110.6	110.6	120.0	120.0
36"	48"	66"	105.5	105.5	105.5	105.5	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0
42"	56"		85.0	85.0	85.0	85.0	100.0	100.0	120.0	120.0	120.0	120.0	120.0	120.0
48"	64"		77.5	77.5	84.2	84.2	100.0	100.0	120.0	120.0	120.0	120.0	120.0	120.0
54"	72"		68.3	68.3	76.2	76.2	100.0	100.0	120.0	120.0	120.0	120.0	120.0	120.0
60"	80"		62.3	62.3	69.5	69.5	100.0	100.0	120.0	120.0	110.2	110.2	120.0	120.0
36"	48"	72"	95.3	95.3	95.3	95.3	120.0	143.0	120.0	150.0	120.0	150.0	120.0	150.0
42"	56"		80.1	80.1	84.0	84.0	100.0	100.0	120.0	120.0	120.0	120.0	120.0	120.0
48"	64"		69.4	69.4	75.6	75.6	100.0	100.0	120.0	120.0	120.0	120.0	120.0	120.0
54"	72"		60.8	60.8	67.8	67.8	100.0	100.0	120.0	120.0	116.7	116.7	120.0	120.0
36"	48"	76"	85.0	85.0	85.0	85.0	100.0	100.0	120.0	120.0	120.0	120.0	120.0	120.0
42"	56"		78.7	78.7	78.7	78.7	100.0	100.0	120.0	120.0	120.0	120.0	120.0	120.0
48"	64"		65.0	65.0	70.7	70.7	100.0	100.0	120.0	120.0	120.0	120.0	120.0	120.0
54"	72"		56.6	56.6	63.1	63.1	96.9	96.9	113.1	113.1	112.0	112.0	120.0	120.0

WINDOW DIMS.			INTERLOCKS WITHOUT REINFORCING						INTERLOCKS WITH REINFORCING					
WIDTH		HEIGHT	GLASS TYPE 1		GLASS TYPE 4		GLASS TYPES 2, 3 & 5		GLASS TYPE 2		GLASS TYPE 3		GLASS TYPE 5	
2 PANEL	3 PANEL		EXT.(+)	INT.(−)	EXT.(+)	INT.(−)	EXT.(+)	INT.(−)	EXT.(+)	INT.(−)	EXT.(+)	INT.(−)	EXT.(+)	INT.(−)
26−1/2"	35−5/16"	38−3/8"	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0
37"	49−5/16"		120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0
53−1/8"	71"		120.0	147.2	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0
74"	99"		85.0	85.0	85.0	85.0	100.0	100.0	120.0	120.0	120.0	120.0	120.0	120.0
79−1/2"	106"		84.6	84.6	85.0	85.0	100.0	100.0	120.0	120.0	120.0	120.0	120.0	120.0
106−1/4"	142"		58.8	58.8	65.5	65.5	100.0	100.0	117.5	117.5	111.0	111.0	120.0	120.0
26−1/2"	35−5/16"	50−5/8"	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0
37"	49−5/16"		120.0	142.5	120.0	142.5	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0
53−1/8"	71"		98.8	98.8	110.2	110.2	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0
74"	99"		72.0	72.0	80.3	80.3	100.0	100.0	120.0	120.0	119.0	119.0	120.0	120.0
79−1/2"	106"		68.2	68.2	76.1	76.1	100.0	100.0	120.0	120.0	111.7	111.7	120.0	120.0
26−1/2"	35−5/16"	63"	120.0	144.3	120.0	144.3	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0
37"	49−5/16"		109.1	109.1	109.1	109.1	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0
53−1/8"	71"		73.4	73.4	81.9	81.9	100.0	100.0	120.0	120.0	120.0	120.0	120.0	120.0
26−1/2"	35−5/16"	72"	120.0	124.2	120.0	124.2	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0
37"	49−5/16"		93.2	93.2	93.2	93.2	120.0	139.7	120.0	150.0	120.0	150.0	120.0	150.0
53−1/8"	71"		61.6	61.6	68.7	68.7	100.0	100.0	120.0	120.0	119.4	119.4	120.0	120.0
26−1/2"	35−5/16"	76"	117.0	117.0	117.0	117.0	120.0	150.0	120.0	150.0	120.0	150.0	120.0	150.0
37"	49−5/16"		85.0	85.0	85.0	85.0	100.0	100.0	120.0	120.0	120.0	120.0	120.0	120.0
53−1/8"	71"		57.4	57.4	64.0	64.0	97.9	97.9	114.7	114.7	114.7	114.7	120.0	120.0

PERFORMANCE VALUES
UNEQUAL PANELS







*REVERSED

By complying with the Florida Building Code Acceptance No 15-0512.03
Expiration Date 06/10/2019
By Miami-Dade Product Control

All values shown are Design PSF (Pounds per Square Foot)

VALUES FOR EXTERIOR LOADS(+) SHOWN ARE
FOR SILL WITH WATERBAR ADAPTER
FOR WINDOWS WITHOUT WATERBAR ADAPTER
LIMIT EXTERIOR(+) LOADS TO 80.0 PSF

NOTE:
GLASS CAPACITIES ON THIS SHEET ARE
BASED ON ASTM E1300−09 (3 SEC. GUSTS)
AND FLORIDA BUILDING COMMISSION
DECLARATORY STATEMENT DCA05−DEC−219

MAXIMUM VENT SIZE IS 18.7 SQ. FT.
AND MAXIMUM VENT HEIGHT IS 71 11/16"

Engr: JAVAD AHMAD
CIVIL
FLA. PE # 70592
C.A.N. 3538
AUG 07 2015

AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
1235 S.W. 87 AVE
MIAMI, FLORIDA 33174
TEL. (305) 264-8100 FAX. (305) 262-6978

COMP−ANL\W09−13CGI

SERIES−375 ALUM. HORIZ. ROLLING WDW. (L.M.I.)

CGI WINDOWS & DOORS
10100 N.W. 25TH STREET
DORAL, FL. 33172
TEL. (305) 593−6590 FAX. (305) 593−6592

revisions:			
no	date	by	description
A	01.06.12		NO CHANGE THIS SHEET
B	02.10.14		NO CHANGE THIS SHEET
C	05.28.14		REV. PER RER COMMENTS
D	05.05.15		NO CHANGE THIS SHEET
E	08.04.15		NO CHANGE THIS SHEET

date: 02−27−09
scale: −
dr. by: −
chk. by:

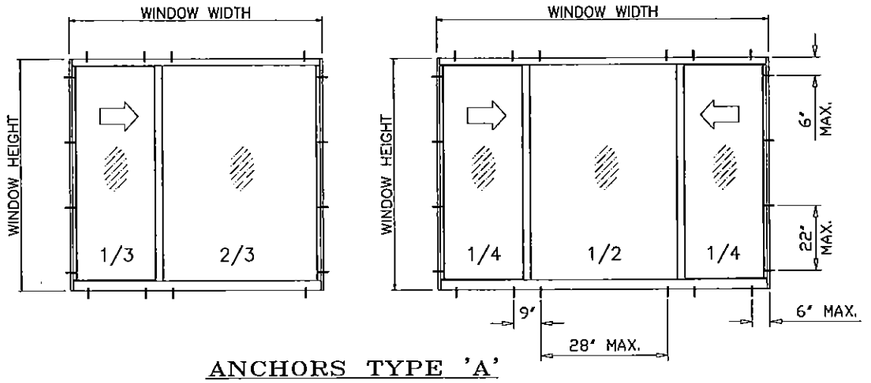
drawing no.
W09−13

sheet 7 of 16

WINDOW DIMS.			ANCHORS TYPE 'A'	ANCHORS TYPE 'B'
WIDTH		HEIGHT	EXT. (+)	EXT. (+)
2 PANEL	3 PANEL		INT. (–)	INT. (–)
36"	48"	36"	150.0	150.0
42"	56"		150.0	150.0
48"	64"		150.0	150.0
54"	72"		144.6	150.0
60"	80"		130.1	150.0
66"	88"		118.3	150.0
72"	96"		108.4	150.0
78"	104"		100.1	120.0
84"	112"		93.0	120.0
96"	128"		81.3	120.0
108"	144"		72.3	120.0
36"	48"	48"	150.0	150.0
42"	56"		139.4	150.0
48"	64"		122.0	150.0
54"	72"		108.4	150.0
60"	80"		97.6	120.0
66"	88"		88.7	120.0
72"	96"		81.3	120.0
78"	104"		75.1	120.0
84"	112"		69.7	120.0
36"	48"	54"	144.6	150.0
42"	56"		123.9	150.0
48"	64"		108.4	150.0
54"	72"		96.4	120.0
60"	80"		86.8	120.0
66"	88"		78.9	120.0
72"	96"		72.3	120.0
78"	104"		66.7	120.0
36"	48"	60"	130.1	150.0
42"	56"		111.5	150.0
48"	64"		97.6	120.0
54"	72"		86.8	120.0
60"	80"		78.1	120.0
66"	88"		71.0	120.0
36"	48"	66"	118.3	150.0
42"	56"		101.4	120.0
48"	64"		88.7	120.0
54"	72"		78.9	120.0
60"	80"		71.0	120.0
36"	48"	72"	108.4	150.0
42"	56"		93.0	120.0
48"	64"		81.3	120.0
54"	72"		72.3	120.0
36"	48"	76"	102.7	120.0
42"	56"		88.1	120.0
48"	64"		77.1	120.0
54"	72"		68.5	120.0

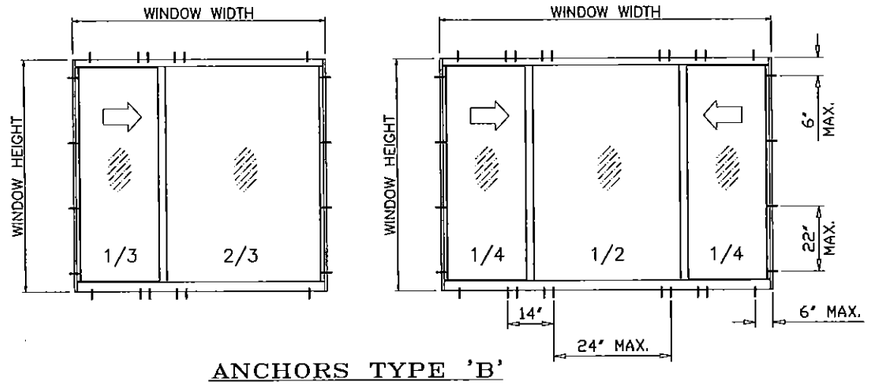
WINDOW DIMS.			ANCHORS TYPE 'A'	ANCHORS TYPE 'B'
WIDTH		HEIGHT	EXT. (+)	EXT. (+)
2 PANEL	3 PANEL		INT. (–)	INT. (–)
26-1/2"	35-5/16"	38-3/8"	150.0	150.0
37"	49-5/16"		150.0	150.0
53-1/8"	71"		137.6	150.0
74"	99"		98.7	120.0
79-1/2"	106"		92.1	120.0
106-1/4"	142"		68.8	120.0
26-1/2"	35-5/16"	50-5/8"	150.0	150.0
37"	49-5/16"		150.0	150.0
53-1/8"	71"		104.3	150.0
74"	99"		74.8	120.0
79-1/2"	106"		69.8	120.0
26-1/2"	35-5/16"	63"	150.0	150.0
37"	49-5/16"		120.6	150.0
53-1/8"	71"		83.8	120.0
26-1/2"	35-5/16"	72"	147.3	150.0
37"	49-5/16"		105.5	150.0
53-1/8"	71"		73.3	120.0
26-1/2"	35-5/16"	76"	139.6	150.0
37"	49-5/16"		100.0	120.0
53-1/8"	71"		69.5	120.0

ALL VALUES SHOWN ARE DESIGN PSF
VALUES FOR EXT.(+) LOADS SHOWN ARE FOR SILL WITH WATERBAR ADAPTER.
FOR WINDOWS WITHOUT WATERBAR ADAPTER LIMIT EXT.(+) LOADS TO 80.0 PSF



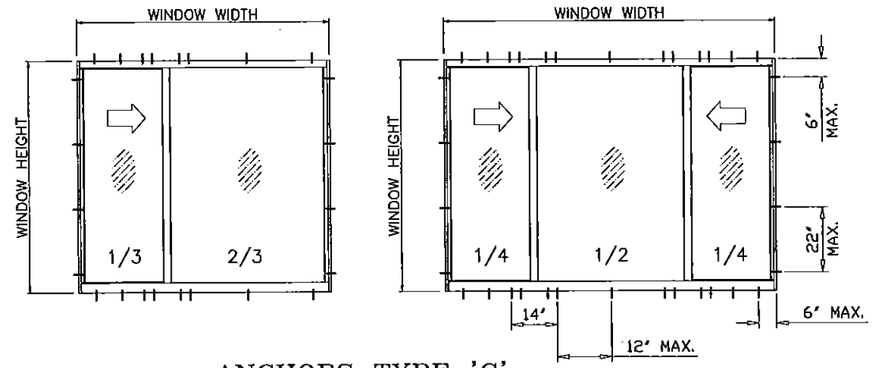
ANCHORS TYPE 'A'

2 ANCHORS AT MTG. STILE ENDS
28" MAX. SPACING BETWEEN ANCHORS
LIMIT MAX. DESIGN LOADS TO 55 PSF



ANCHORS TYPE 'B'

4 ANCHORS AT MTG. STILE ENDS
24" MAX. SPACING BETWEEN ANCHORS
LIMIT MAX. DESIGN LOADS TO 100 PSF



ANCHORS TYPE 'C'

4 ANCHORS AT MTG. STILE ENDS
12" MAX. SPACING BETWEEN ANCHORS
LIMIT MAX. DESIGN LOADS TO 150 PSF

NOTE:
ANCHOR SPACING TO BE AS LISTED ABOVE
1/2" MAX. SHIM SPACE FOR EQUAL LEG FRAMES ONLY

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No 15-0512.03
Expiration Date 06/10/2019
By Manuel Perez
Miami Dade Product Control

Engr: JAVAD AHMAD
CIVIL
FLA. PE # 70592
C.A.N. 3538
AUG 07 2015

AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
1235 S.W. 87 AVE
MIAMI, FLORIDA 33174
TEL (305) 264-8100 FAX. (305) 262-6978

COMP-ANL\W09-13CGI

SERIES-375 ALUM. HORIZ. ROLLING WDW. (L.M.I.)

CGI WINDOWS & DOORS
10100 N.W. 25TH STREET
DORAL, FL. 33172
TEL. (305) 593-6590 FAX. (305) 593-6592

revisions:

no	date	by	description
A	01.06.12		NO CHANGE THIS SHEET
B	02.10.14		NO CHANGE THIS SHEET
C	05.28.14		REV. PER RER COMMENTS
D	05.05.15		NO CHANGE THIS SHEET
E	08.04.15		NO CHANGE THIS SHEET

date: 02-27-09
scale: –
dr. by: –
chk. by:

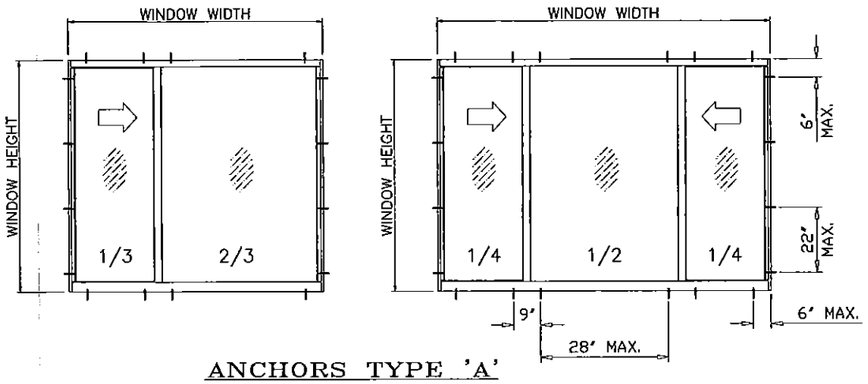
drawing no.
W09-13

sheet 8 of 16

WINDOW DIMS.			ANCHORS TYPE 'A'	ANCHORS TYPE 'B'
WIDTH		HEIGHT	EXT. (+)	EXT. (+)
2 PANEL	3 PANEL		INT. (–)	INT. (–)
36"	48"	36"	150.0	150.0
42"	56"		150.0	150.0
48"	64"		150.0	150.0
54"	72"		143.4	150.0
60"	80"		129.1	150.0
66"	88"		117.3	150.0
72"	96"		107.6	150.0
78"	104"		99.3	120.0
84"	112"		92.2	120.0
96"	128"		80.7	120.0
108"	144"		71.7	120.0
36"	48"	48"	150.0	150.0
42"	56"		138.3	150.0
48"	64"		121.0	150.0
54"	72"		107.6	150.0
60"	80"		96.8	120.0
66"	88"		88.0	120.0
72"	96"		80.7	120.0
78"	104"		74.5	120.0
84"	112"		69.1	120.0
36"	48"	54"	143.4	150.0
42"	56"		122.9	150.0
48"	64"		107.6	150.0
54"	72"		95.6	120.0
60"	80"		86.0	120.0
66"	88"		78.2	120.0
72"	96"		71.7	120.0
78"	104"		66.2	120.0
36"	48"	60"	129.1	150.0
42"	56"		110.6	150.0
48"	64"		96.8	120.0
54"	72"		86.0	120.0
60"	80"		77.4	120.0
66"	88"		70.4	120.0
36"	48"	66"	117.3	150.0
42"	56"		100.6	120.0
48"	64"		88.0	120.0
54"	72"		78.2	120.0
60"	80"		70.4	120.0
36"	48"	72"	107.6	150.0
42"	56"		92.2	120.0
48"	64"		80.7	120.0
54"	72"		71.7	120.0
36"	48"	76"	101.9	120.0
42"	56"		87.3	120.0
48"	64"		76.4	120.0
54"	72"		67.9	120.0

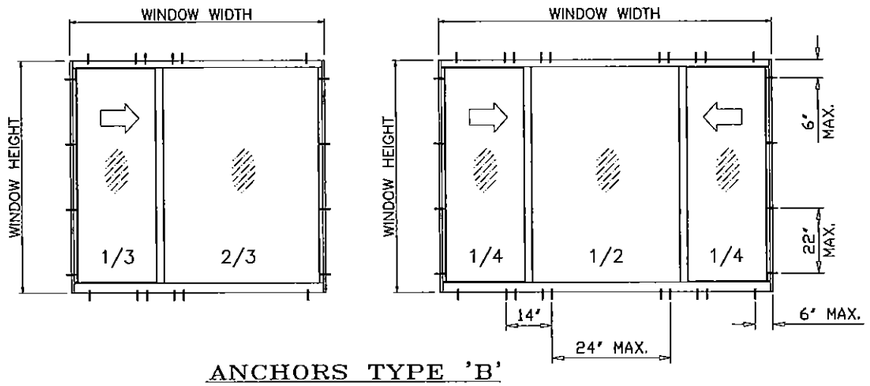
WINDOW DIMS.			ANCHORS TYPE 'A'	ANCHORS TYPE 'B'
WIDTH		HEIGHT	EXT. (+)	EXT. (+)
2 PANEL	3 PANEL		INT. (–)	INT. (–)
26–1/2"	35–5/16"	38–3/8"	150.0	150.0
37"	49–5/16"		150.0	150.0
53–1/8"	71"		136.4	150.0
74"	99"		97.8	120.0
79–1/2"	106"		91.4	120.0
106–1/4"	142"		68.2	120.0
26–1/2"	35–5/16"	50–5/8"	150.0	150.0
37"	49–5/16"		148.8	150.0
53–1/8"	71"		103.4	150.0
74"	99"		74.2	120.0
79–1/2"	106"		69.3	120.0
26–1/2"	35–5/16"	63"	150.0	150.0
37"	49–5/16"		119.6	150.0
53–1/8"	71"		83.1	120.0
26–1/2"	35–5/16"	72"	146.1	150.0
37"	49–5/16"		104.6	150.0
53–1/8"	71"		72.7	120.0
26–1/2"	35–5/16"	76"	138.4	150.0
37"	49–5/16"		99.1	120.0
53–1/8"	71"		68.9	120.0

ALL VALUES SHOWN ARE DESIGN PSF
VALUES FOR EXT.(+) LOADS SHOWN ARE FOR SILL WITH WATERBAR ADAPTER.
FOR WINDOWS WITHOUT WATERBAR ADAPTER LIMIT EXT.(+) LOADS TO 80.0 PSF



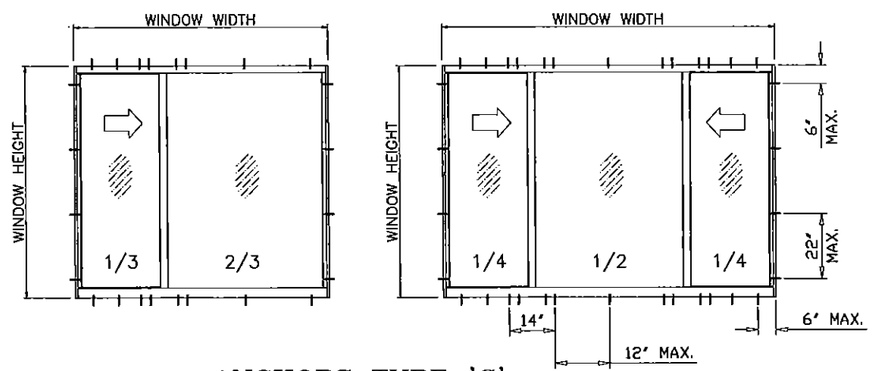
ANCHORS TYPE 'A'

2 ANCHORS AT MTG. STILE ENDS
28" MAX. SPACING BETWEEN ANCHORS
LIMIT MAX. DESIGN LOADS TO 55 PSF



ANCHORS TYPE 'B'

4 ANCHORS AT MTG. STILE ENDS
24" MAX. SPACING BETWEEN ANCHORS
LIMIT MAX. DESIGN LOADS TO 100 PSF



ANCHORS TYPE 'C'

4 ANCHORS AT MTG. STILE ENDS
12" MAX. SPACING BETWEEN ANCHORS
LIMIT MAX. DESIGN LOADS TO 150 PSF

NOTE:
ANCHOR SPACING TO BE AS LISTED ABOVE
3/8" MAX. SHIM SPACE FOR FLANGE AND EQUAL LEG FRAMES

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No 15-0512.03
Expiration Date 06/10/2015
By Manuel Perez
Miami Dade Product Control

Engr: JAVAD AHMAD
CIVIL
FLA. PE # 70592
C.A.N. 3538
AUG 07 2015

AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
1235 S.W. 87 AVE
MIAMI, FLORIDA 33174
TEL (305) 264-8100 FAX. (305) 262-6978

COMP–ANL\W09–13CGI

SERIES–375 ALUM. HORIZ. ROLLING WDW. (L.M.I.)

CGI WINDOWS & DOORS
10100 N.W. 25TH STREET
DORAL, FL. 33172
TEL. (305) 593–6590 FAX. (305) 593–6592

revisions:

no	date	by	description
A	01.06.12		CHART REV.
B	02.10.14		NO CHANGE THIS SHEET
C	05.28.14		REV. PER RER COMMENTS
D	05.05.15		NO CHANGE THIS SHEET
E	08.04.15		NO CHANGE THIS SHEET

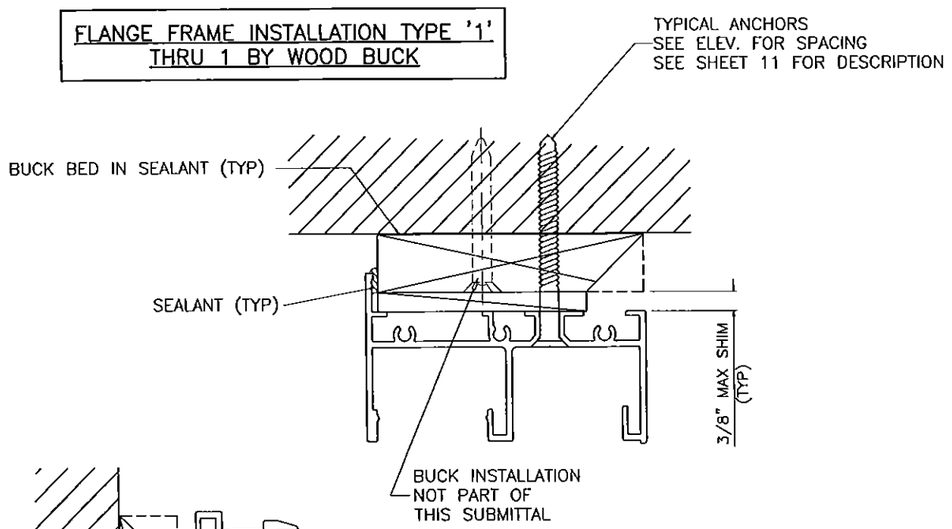
date: 02-27-09
scale: –
dr. by: –
chk. by:

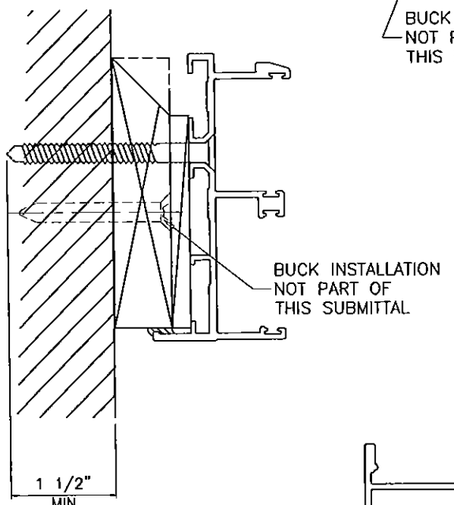
drawing no.
W09–13

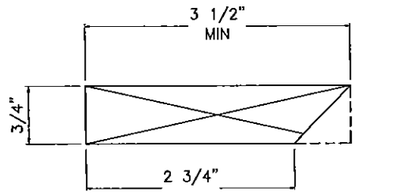
sheet 8.1 of 16

INSTALLATION CONDITIONS FLANGE FRAME

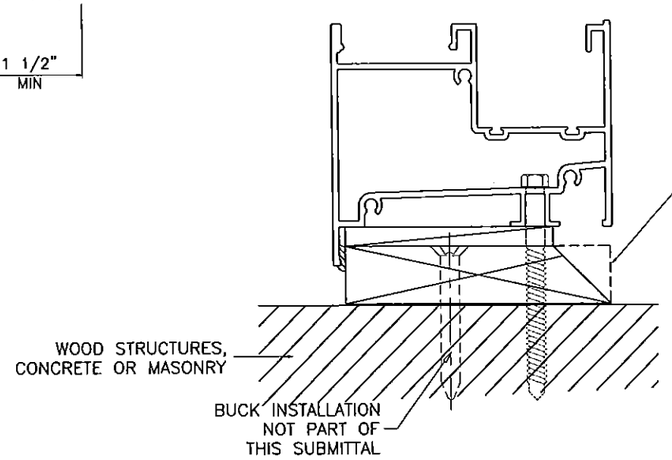
FLANGE FRAME INSTALLATION TYPE '1' THRU 1 BY WOOD BUCK

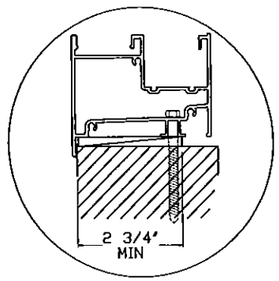


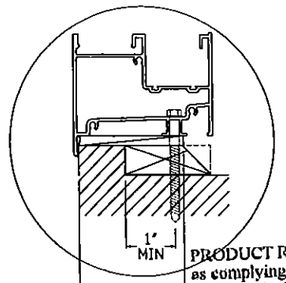




1 x 4 BEVELED PRESSURE TREATED WOOD BUCK (TYP)



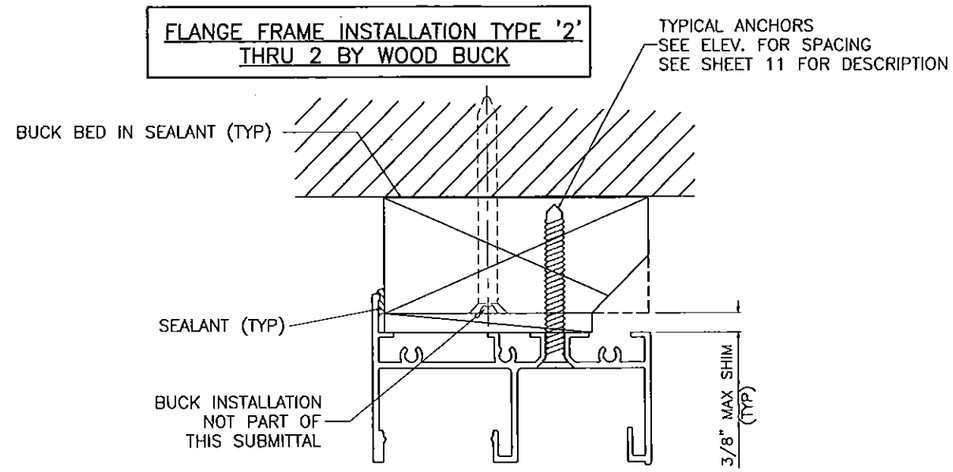


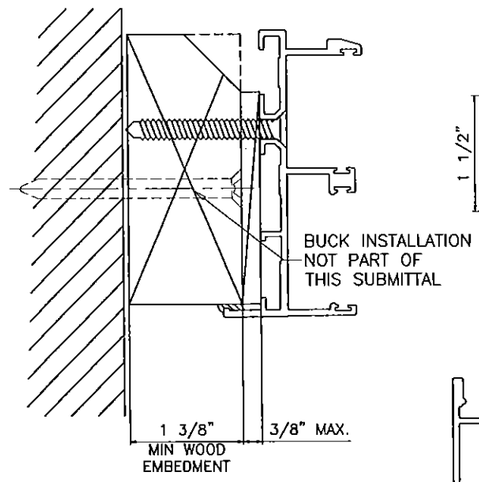


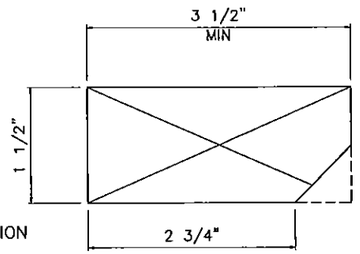
Optional Pre-Cast Sill

WOOD BUCKS NOT BY CGI CORP., MUST SUSTAIN LOADS IMPOSED BY GLAZING SYSTEM AND TRANSFER THEM TO THE BUILDING STRUCTURE.

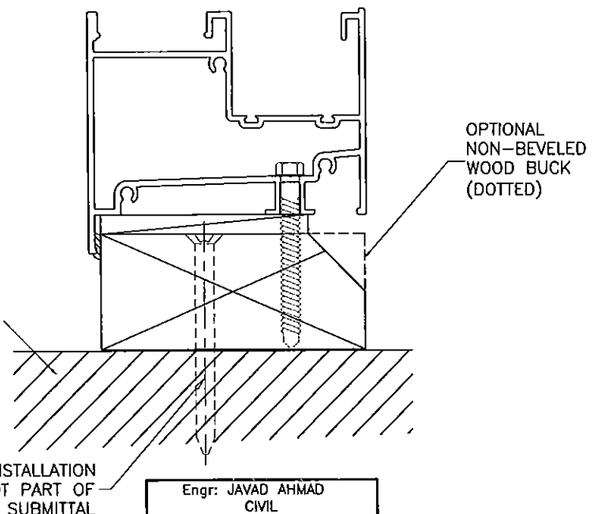
FLANGE FRAME INSTALLATION TYPE '2' THRU 2 BY WOOD BUCK







2 x 4 BEVELED PRESSURE TREATED WOOD BUCK (TYP)



PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No 15-0512.03
Expiration Date 06/1012019
By Manuel Perez
Miami Dade Product Control

Engr: JAVAD AHMAD
CIVIL
FLA. PE # 70592
C.A.N. 3538
AUG 07 2015

AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
1235 S.W. 87 AVE
MIAMI, FLORIDA 33174
TEL (305) 264-8100 FAX. (305) 262-6978
COMP-ANL\W09-13CGI

SERIES-375 ALUM. HORIZ. ROLLING WDW. (L.M.I.)

CGI WINDOWS & DOORS
10100 N.W. 25TH STREET
DORAL, FL. 33172
TEL. (305) 593-6590 FAX. (305) 593-6592

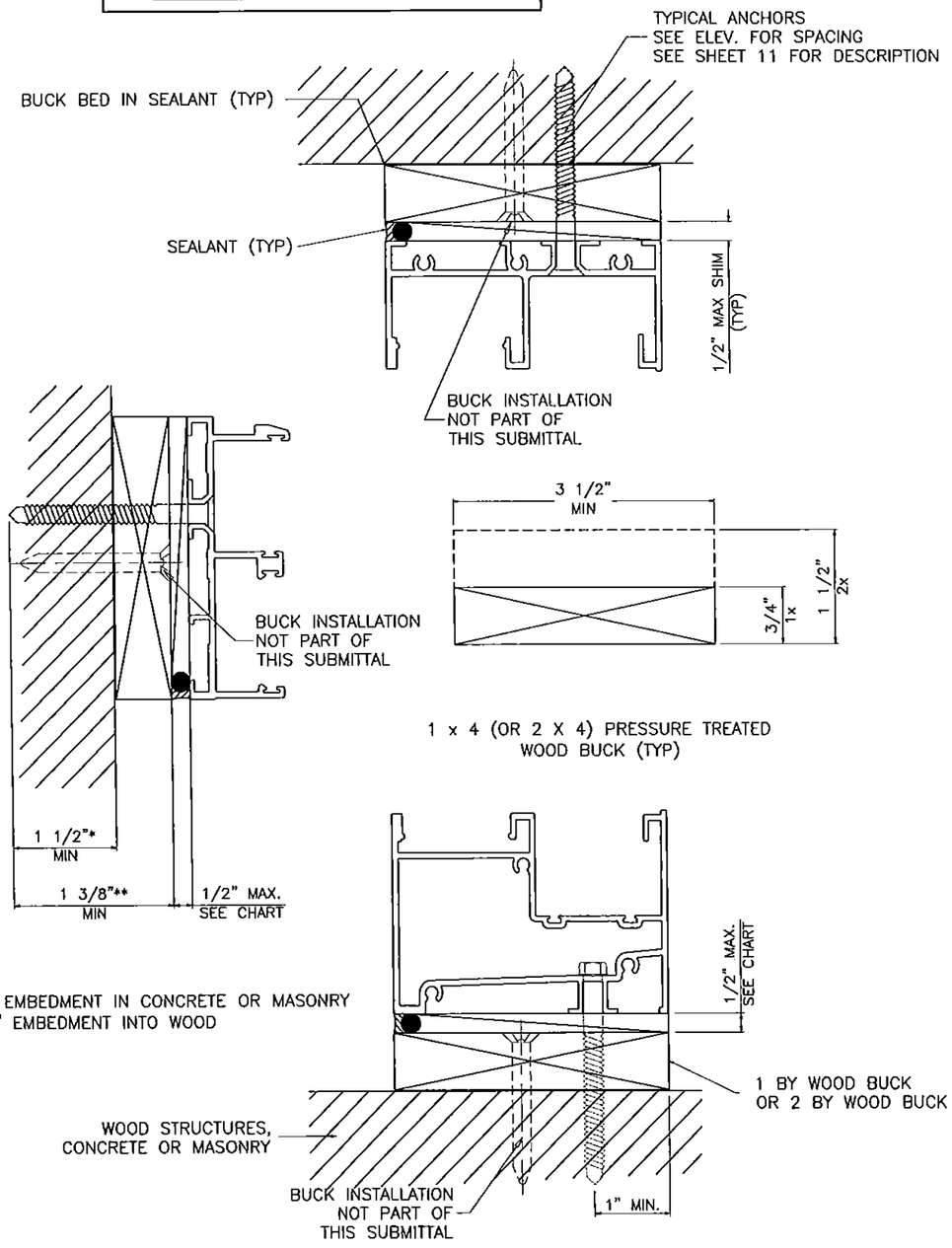
revisions:			
no	date	by	description
A	01.06.12		NO CHANGE THIS SHEET
B	02.10.14		NO CHANGE THIS SHEET
C	05.28.14		REV. PER RER COMMENTS
D	05.05.15		NO CHANGE THIS SHEET
E	08.04.15		NO CHANGE THIS SHEET

date: 02-27-09
scale: -
dr. by: -
chk. by:

drawing no. W09-13

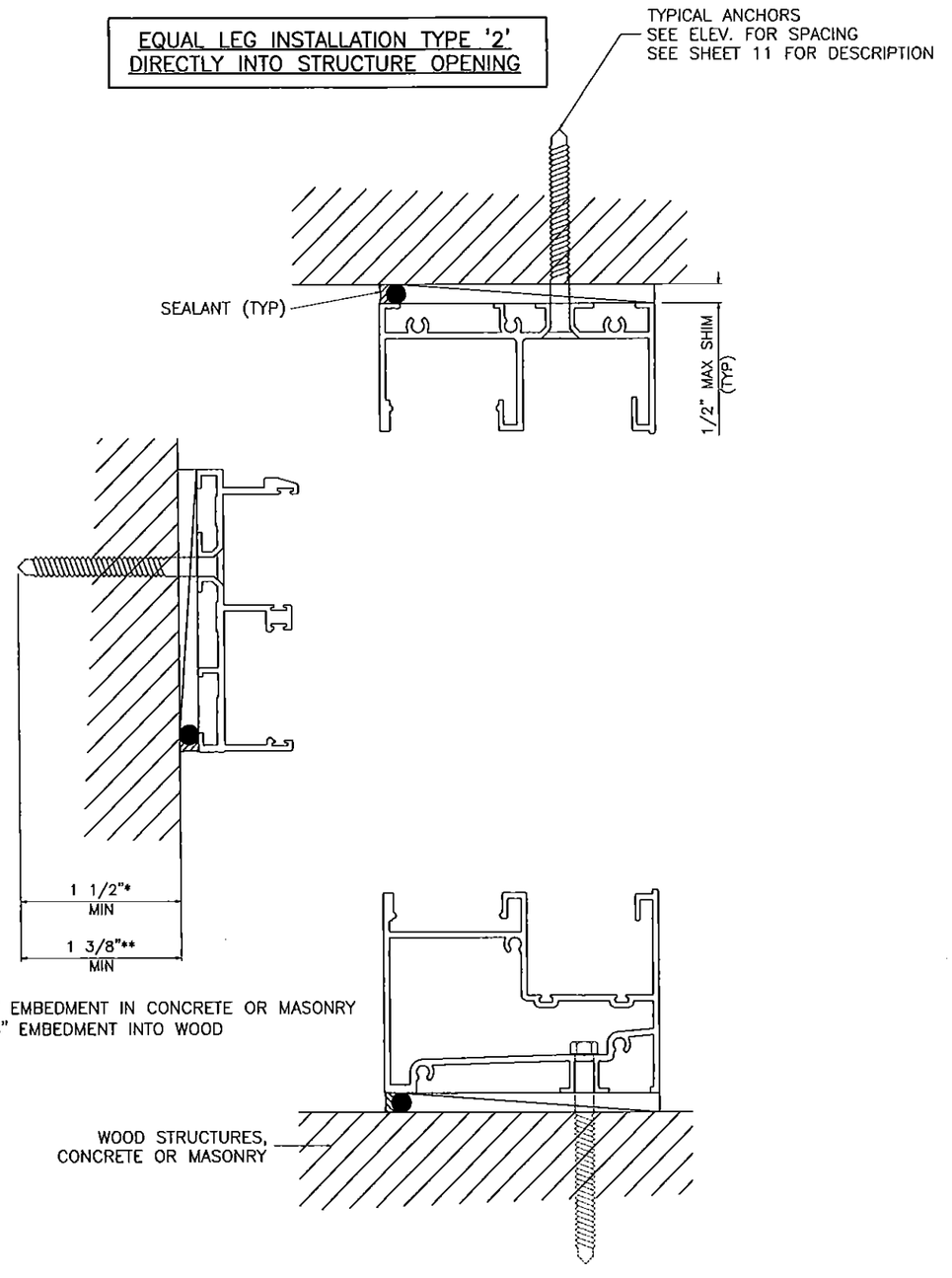
INSTALLATION CONDITIONS EQUAL LEG FRAME

EQUAL LEG INSTALLATION TYPE '1' THRU 1 OR 2 BY WOOD BUCK



*1 1/2" EMBEDMENT IN CONCRETE OR MASONRY
**1 3/8" EMBEDMENT INTO WOOD

EQUAL LEG INSTALLATION TYPE '2' DIRECTLY INTO STRUCTURE OPENING



*1 1/2" EMBEDMENT IN CONCRETE OR MASONRY
**1 3/8" EMBEDMENT INTO WOOD

WOOD BUCKS NOT BY CGI CORP., MUST SUSTAIN LOADS IMPOSED BY GLAZING SYSTEM AND TRANSFER THEM TO THE BUILDING STRUCTURE.

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No. 15-0512.03
Expiration Date 06/10/2019
By Manuel Perez
Miami Dade Product Control

Engr: JAVAD AHMAD
CIVIL
FLA. PE # 70592
C.A.N. 3538
AUG 07 2015

AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
1235 S.W. 87 AVE
MIAMI, FLORIDA 33174
TEL (305) 264-8100 FAX. (305) 262-6978

COMP-ANL\W09-13CGI

SERIES-375 ALUM. HORIZ. ROLLING WDW. (L.M.I.)

CGI WINDOWS & DOORS
10100 N.W. 25TH STREET
DORAL, FL. 33172
TEL (305) 593-6590 FAX. (305) 593-6592

revisions:

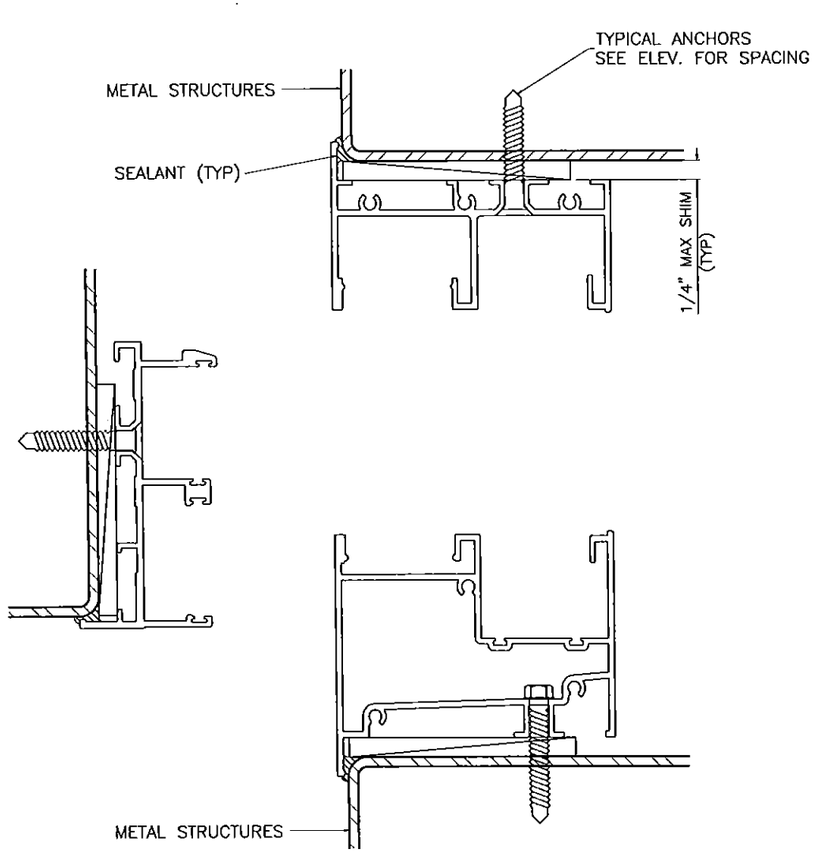
no	date	by	description
A	01.06.12		NO CHANGE THIS SHEET
B	02.10.14		NO CHANGE THIS SHEET
C	05.28.14		REV. PER RER COMMENTS
D	05.05.15		NO CHANGE THIS SHEET
E	08.04.15		NO CHANGE THIS SHEET

date: 02-27-09
scale: -
dr. by: -
chk. by:

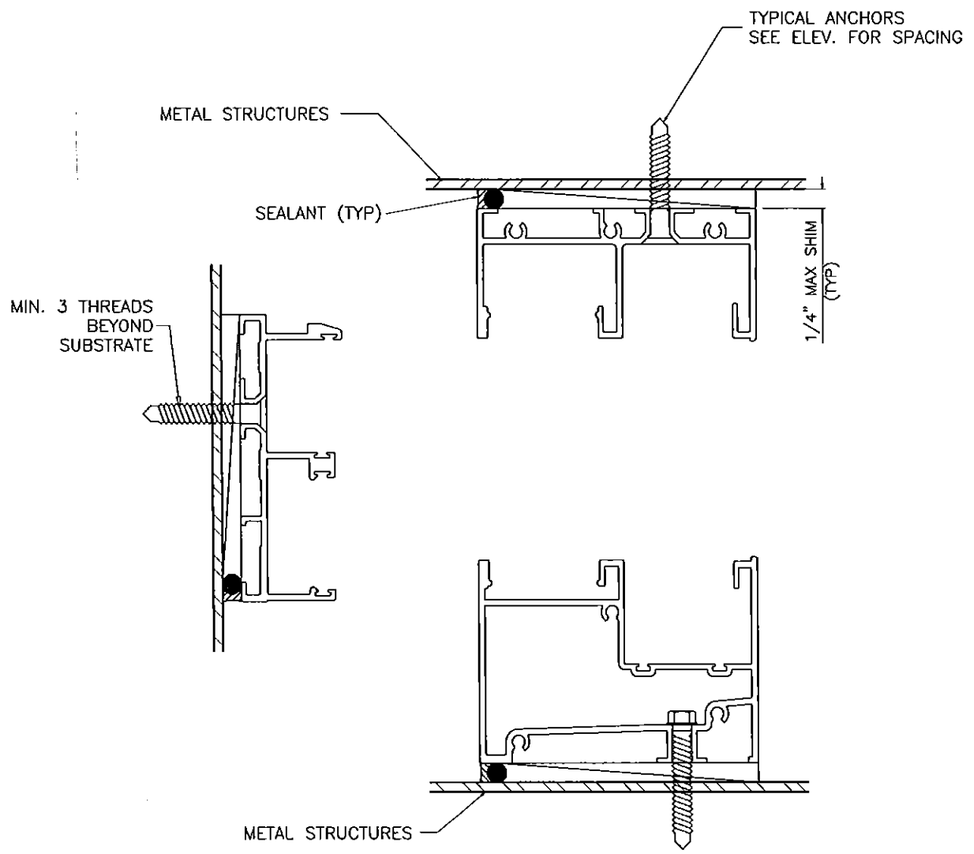
drawing no.
W09-13

INSTALLATION CONDITIONS METAL STRUCTURES

FLANGE FRAME INSTALLATION



EQUAL LEG FRAME INSTALLATION



TYPICAL ANCHORS: SEE ELEV. FOR SPACING

1/4" DIA. ULTRACON BY 'ELCO' (Fu=177 KSI, Fy=155 KSI)

1/4" DIA. HILTI KWIK-CON II (Fu=163 KSI, Fy=157 KSI)

INTO 2BY WOOD BUCKS OR WOOD STRUCTURES
1-1/2" MIN. PENETRATION INTO WOOD

THRU 1BY BUCKS INTO CONC. OR MASONRY
1-3/4" MIN. EMBED INTO CONCRETE (HEAD/SILL)
1-1/4" MIN. EMBED INTO CONC. OR MASONRY (JAMBS)

DIRECTLY INTO CONC. OR MASONRY
1-1/2" MIN. EMBED INTO CONCRETE (HEAD/SILL)
1-1/2" MIN. EMBED INTO CONC. OR MASONRY (JAMBS)

1/4" DIA. TEKS OR SELF DRILLING SCREWS (GRADE 5 CRS)
INTO MIAMI-DADE COUNTY APPROVED MULLIONS (MIN. THK. = .090")
INTO METAL STRUCTURES
STEEL : 1/8" THK. MIN. (Fy = 36 KSI MIN.)
ALUMINUM : 1/8" THK. MIN. (6063-T5 MIN.)
(STEEL IN CONTACT WITH ALUMINUM TO BE PLATED OR PAINTED)

TYPICAL EDGE DISTANCE

INTO CONCRETE AND MASONRY = 2-1/2" MIN.
INTO WOOD STRUCTURE = 1" MIN.
INTO METAL STRUCTURE = 3/4" MIN.

WOOD AT HEAD, SILL OR JAMBS SG = 0.55 MIN.
CONCRETE AT HEAD, SILL OR JAMBS f'c = 3000 PSI MIN.
C-90 FILLED NORMAL WEIGHT BLOCK AT JAMBS f'm = 2000 PSI MIN.

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No 15-0512.03
Expiration Date 06/10/2019
By Manuel Perez
Miami-Dade Product Control

Engr: JAVAD AHMAD
CIVIL
FLA. PE # 70592
C.A.N. 3538
AUG 07 2015

AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
1235 S.W. 87 AVE
MIAMI, FLORIDA 33174
TEL (305) 264-8100 FAX. (305) 262-6978
COMP-ANL\W09-13CGI

SERIES-375 ALUM. HORIZ. ROLLING WDW. (L.M.I.)

CGI WINDOWS & DOORS
10100 N.W. 25TH STREET
DORAL, FL. 33172
TEL. (305) 593-6590 FAX. (305) 593-6592

revisions:			
no	date	by	description
A	01.06.12		NO CHANGE THIS SHEET
B	02.10.14		NO CHANGE THIS SHEET
C	05.28.14		REV. PER RER COMMENTS
D	05.05.15		NO CHANGE THIS SHEET
E	08.04.15		REV. PER RER COMMENTS

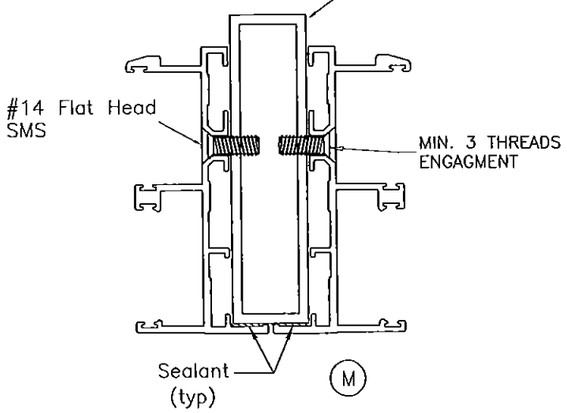
date: 02-27-09
scale: -
dr. by: -
chk. by:

drawing no. W09-13

MULLION PERFORMANCE

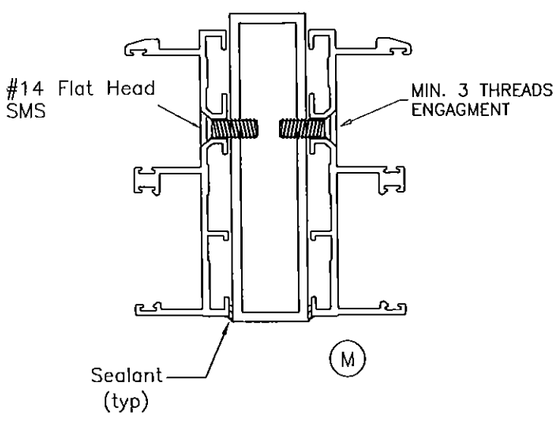
MULLION AT FLANGE WINDOWS

1" x 4" x 1/8" thk. Aluminum Tube Mullion (unclipped at ends) (Mull length = Wdw Height − 1")

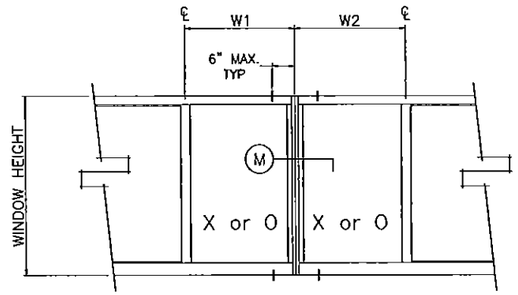


MULLION AT EQUAL LEG WINDOWS

1" x 4" x 1/8" thk. Aluminum Tube Mullion (unclipped at ends) (Mull length = Wdw Height)

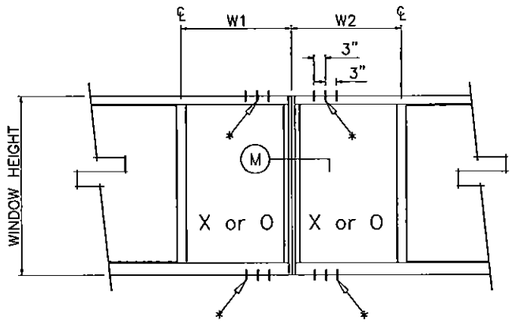


STANDARD INSTALLATION



MULTIPLE OPENING
(2 OR MORE WINDOWS)
w/ 1 SCREW ON EACH SIDE OF MULLION

HIGH LOAD INSTALLATION



MULTIPLE OPENING
(2 OR MORE WINDOWS)
w/ 2 OR 3 SCREWS ON EACH SIDE OF MULLION
(* = ADDITIONAL HOLES TO BE DRILLED BY INSTALLER)

$$\text{TRIBUTARY WIDTH} = \frac{W1 + W2}{2}$$

MULLION DESIGN LOAD CAPACITY − PSF		
TRIBUTARY WIDTH	WINDOW HEIGHT	EXT.(+) INT.(−)
24"	54"	150.0
28"		150.0
30"		150.0
32"		150.0
36"		120.0
39"		120.0
40"		120.0
42"		120.0
44"		120.0
46"		120.0
48"		120.0
52"		120.0
24"	60"	150.0
28"		150.0
30"		150.0
32"		120.0
36"		120.0
39"		120.0
40"		120.0
42"		120.0
44"		120.0
46"		120.0
24"	66"	150.0
28"		120.0
30"		120.0
32"		120.0
36"		120.0
39"		120.0
40"		120.0
42"		120.0

MULLION DESIGN LOAD CAPACITY − PSF		
TRIBUTARY WIDTH	WINDOW HEIGHT	EXT.(+) INT.(−)
24"	72"	150.0
28"		120.0
30"		120.0
32"		120.0
36"		120.0
39"		120.0
24"	76"	120.0
28"		120.0
30"		120.0
32"		120.0
36"		120.0
37"		120.0

MULLION DESIGN LOAD CAPACITY − PSF		
TRIBUTARY WIDTH	WINDOW HEIGHT	EXT.(+) INT.(−)
18"	38-3/8"	150.0
26-1/2"		150.0
37"		150.0
44"		150.0
56"		120.0
71"		120.0
18"	50-5/8"	150.0
26-1/2"		150.0
37"		120.0
44"		120.0
55"		120.0
18"	63"	150.0
26-1/2"		150.0
37"		120.0
44"		120.0
18"	72"	150.0
26-1/2"		120.0
37"		120.0
39"		120.0
18"	76"	150.0
26-1/2"		120.0
37"		120.0

NOTE: VALUES FROM CHARTS MAY BE INTERPOLATED BETWEEN SIZES

PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No 15-0512.03
Expiration Date 06/10/2019
By Miami-Dade Product Control

ALL VALUES SHOWN ARE DESIGN PSF
VALUES FOR EXT.(+) LOADS SHOWN ARE FOR SILL WITH WATERBAR ADAPTER.
FOR WINDOWS WITHOUT WATERBAR ADAPTER LIMIT EXT.(+) LOADS TO 80.0 PSF

Engr: JAVAD AHMAD
CIVIL
FLA. PE # 70592
C.A.N. 3538
AUG 07 2015

AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
1235 S.W. 87 AVE
MIAMI, FLORIDA 33174
TEL. (305) 264-8100 FAX. (305) 262-6978
COMP-ANL\W09-13CGI

SERIES-375 ALUM. HORIZ. ROLLING WDW. (L.M.I.)

CGI WINDOWS & DOORS
10100 N.W. 25TH STREET
MIAMI, FL. 33172
TEL. (305) 593-6590 FAX. (305) 593-6592

revisions:			
no	date	by	description
A	01.06.12		NO CHANGE THIS SHEET
B	02.10.14		NO CHANGE THIS SHEET
C	05.28.14		REV. PER RER COMMENTS
D	05.05.15		NO CHANGE THIS SHEET
E	08.04.15		NO CHANGE THIS SHEET

date: 02-27-09
scale: -
dr. by: -
chk. by:

drawing no. W09-13

PERFORMANCE VALUES OF UNCLIPPED MULLION ANCHORS EXT.(+) & INT.(−)				
TRIBUTARY WIDTH	WINDOW HEIGHT	CLUSTER OF 2	CLUSTER OF 4	CLUSTER OF 6
24"	54"	107.6	150.0	150.0
28"		92.2	150.0	150.0
30"		86.0	150.0	150.0
32"		80.7	150.0	150.0
36"		71.7	120.0	120.0
40"		64.5	120.0	120.0
44"		58.7	117.3	120.0
48"		53.8	107.6	120.0
52"		49.6	99.3	120.0
24"	60"	96.8	150.0	150.0
28"		83.0	150.0	150.0
30"		77.4	150.0	150.0
32"		72.6	120.0	120.0
36"		64.5	120.0	120.0
40"		58.1	116.2	120.0
44"		52.8	105.6	120.0
24"	66"	88.0	150.0	150.0
28"		75.4	120.0	120.0
30"		70.4	120.0	120.0
32"		66.0	120.0	120.0
36"		58.7	117.3	120.0
40"		52.8	105.6	120.0
24"	72"	80.7	150.0	150.0
28"		69.1	120.0	120.0
30"		64.5	120.0	120.0
32"		60.5	120.0	120.0
36"		53.8	107.6	120.0
24"	76"	76.4	120.0	120.0
28"		65.5	120.0	120.0
30"		61.1	120.0	120.0
32"		57.3	114.6	120.0
36"		50.9	101.9	120.0

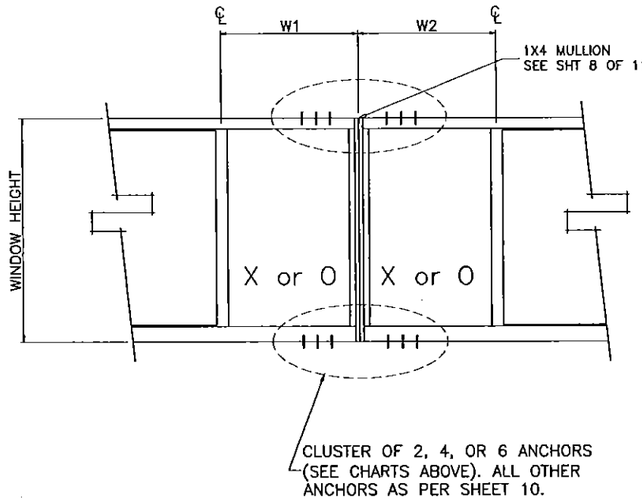
PERFORMANCE VALUES OF UNCLIPPED MULLION ANCHORS EXT.(+) & INT.(−)				
TRIBUTARY WIDTH	WINDOW HEIGHT	CLUSTER OF 2	CLUSTER OF 4	CLUSTER OF 6
18"	38-3/8"	150.0	150.0	150.0
26-1/2'		137.1	150.0	150.0
37"		98.2	150.0	150.0
44"		82.6	150.0	150.0
56"		64.9	120.0	120.0
71"		51.2	102.3	120.0
18"	50-5/8"	150.0	150.0	150.0
26-1/2'		103.9	150.0	150.0
37"		74.4	120.0	120.0
44"		62.6	120.0	120.0
18"	63"	122.9	150.0	150.0
26-1/2'		83.5	150.0	150.0
37"		59.8	119.6	120.0
44"		50.3	100.6	120.0
18"	72"	107.6	150.0	150.0
26-1/2'		73.1	120.0	120.0
37"		52.3	104.6	120.0
18"	76"	101.9	150.0	150.0
26-1/2'		69.2	120.0	120.0
37"		49.6	99.1	120.0

NOTE: VALUES FROM CHARTS MAY BE INTERPOLATED BETWEEN SIZES

ALL VALUES SHOWN ARE DESIGN PSF
VALUES FOR EXT.(+) LOADS SHOWN ARE FOR SILL WITH WATERBAR ADAPTER.
FOR WINDOWS WITHOUT WATERBAR ADAPTER LIMIT EXT.(+) LOADS TO 80.0 PSF

MULLION ANCHORS
ADJACENT TO MULLIONS AT HEAD & SILL
ALL OTHER WINDOW ANCHORS
AS PER SHEETS 9 THRU 11

$$\text{TRIBUTARY WIDTH} = \frac{W1 + W2}{2}$$



PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No 15-0512.03
Expiration Date 06/10/2019
By Manuel Perez
Miami-Dade Product Control

Engr: JAVAD AHMAD
CIVIL
FLA. PE # 70592
C.A.N. 3538
AUG 07 2015

AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
1235 S.W. 87 AVE
MIAMI, FLORIDA 33174
TEL. (305) 264-8100 FAX. (305) 262-6978
COMP-ANL\W09-13CGI

SERIES-375 ALUM. HORIZ. ROLLING WDW. (L.M.I.)

CGI WINDOWS & DOORS
10100 N.W. 25TH STREET
MIAMI, FL. 33172
TEL. (305) 593-6590 FAX. (305) 593-6592

revisions:			
no	date	by	description
A	01.06.12		CHART REV.
B	02.10.14		NO CHANGE THIS SHEET
C	05.28.14		REV. PER RER COMMENTS
D	05.05.15		NO CHANGE THIS SHEET
E	08.04.15		NO CHANGE THIS SHEET

date: 02-27-09
scale: -
dr. by: -
chk. by:

drawing no.
W09-13

sheet 13 of 16

ALUMINUM BUCK FRAMING DETAILS

REFER TO SHEETS 5 & 7 FOR WINDOW CAPACITIES
USE LOWER APPLICABLE VALUES.

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No. 15-0512.03
Expiration Date 06/10/2019
By Manuel Perez
Miami-Dade Product Control

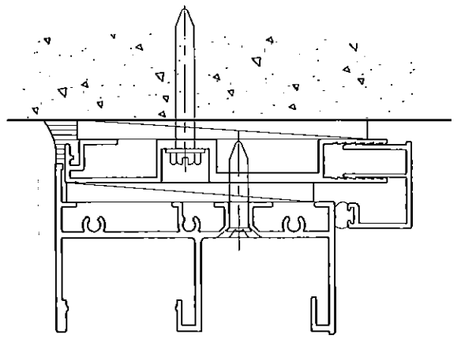
PERFORMANCE VALUES OF ALUMINUM BUCK INSTALLATION ANCHORS
EXT.(+) & INT.(−)

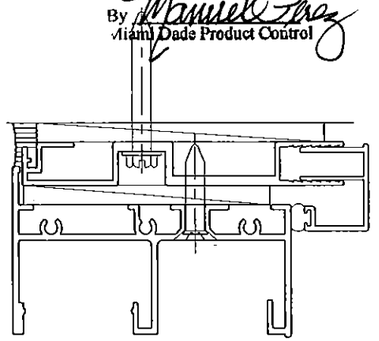
WINDOW DIMS.		ANCHORS AT 16" O.C.		ANCHORS AT 8" O.C.	
WIDTH	HEIGHT	WOOD/BLOCK	CONC.	WOOD/BLOCK	CONC.
36"	36"	150.0	150.0	150.0	150.0
48"		150.0	150.0	150.0	150.0
56"		124.6	150.0	150.0	150.0
60"		112.8	150.0	150.0	150.0
64"		128.7	150.0	150.0	150.0
72"		109.6	150.0	150.0	150.0
80"		114.6	150.0	150.0	150.0
84"		107.6	150.0	150.0	150.0
88"		101.5	144.0	150.0	150.0
96"		106.3	150.0	150.0	150.0
108"		92.1	130.7	150.0	150.0
112"		100.8	143.0	150.0	150.0
117"		95.7	135.8	150.0	150.0
126"		98.7	140.0	150.0	150.0
144"		94.0	133.3	150.0	150.0
36"	48"	150.0	150.0	150.0	150.0
48"		148.0	150.0	150.0	150.0
56"		111.0	150.0	150.0	150.0
60"		98.7	140.0	150.0	150.0
64"		111.0	150.0	150.0	150.0
72"		92.5	131.3	150.0	150.0
80"		95.1	135.0	150.0	150.0
84"		88.8	126.0	148.0	150.0
88"		83.3	118.1	150.0	150.0
96"		86.3	122.5	148.0	150.0
108"		74.0	105.0	137.4	150.0
112"		80.7	114.5	141.3	150.0
117"		76.4	108.4	143.2	150.0
126"		78.4	111.2	139.3	150.0
144"		74.0	105.0	133.2	150.0
36"	54"	131.6	150.0	150.0	150.0
48"		118.4	150.0	150.0	150.0
56"		108.9	150.0	150.0	150.0
60"		95.7	135.8	150.0	150.0
64"		106.7	150.0	150.0	150.0
72"		87.7	124.4	150.0	150.0
80"		89.4	126.8	148.9	150.0
84"		83.1	117.9	138.5	150.0
88"		77.6	110.2	142.3	150.0
96"		80.1	113.6	137.3	150.0
108"		68.2	96.8	126.7	150.0
112"		74.3	105.4	130.0	150.0
117"		70.2	99.6	131.6	150.0
126"		71.8	101.8	127.6	150.0
144"		67.5	95.7	121.4	150.0
36"	60"	112.8	150.0	150.0	150.0
48"		98.7	140.0	150.0	150.0
56"		95.1	135.0	150.0	150.0
60"		94.7	134.4	150.0	150.0
64"		94.7	134.4	150.0	150.0
72"		84.6	120.0	150.0	150.0
80"		85.2	121.0	142.1	150.0
84"		78.9	112.0	131.6	150.0
88"		73.5	104.3	134.7	150.0
96"		75.3	106.9	129.2	150.0
108"		63.8	90.5	118.4	150.0
112"		69.3	98.3	121.3	150.0
117"		65.3	92.7	122.5	150.0
126"		66.6	94.5	118.4	150.0

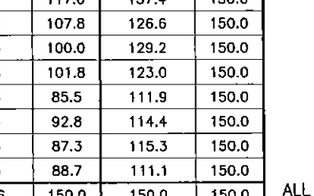
PERFORMANCE VALUES OF ALUMINUM BUCK INSTALLATION ANCHORS
EXT.(+) & INT.(−)

WINDOW DIMS.		ANCHORS AT 16" O.C.		ANCHORS AT 8" O.C.	
WIDTH	HEIGHT	WOOD/BLOCK	CONC.	WOOD/BLOCK	CONC.
36"	66"	123.3	150.0	150.0	150.0
48"		105.7	150.0	150.0	150.0
56"		100.2	142.1	150.0	150.0
60"		94.7	134.4	150.0	150.0
64"		97.9	139.0	150.0	150.0
72"		82.8	117.5	149.0	150.0
80"		82.4	117.0	137.4	150.0
84"		76.0	107.8	126.6	150.0
88"		70.5	100.0	129.2	150.0
96"		71.8	101.8	123.0	150.0
108"		60.3	85.5	111.9	150.0
112"		65.4	92.8	114.4	150.0
117"		61.5	87.3	115.3	150.0
126"		62.5	88.7	111.1	150.0
36"	72"	109.6	150.0	150.0	150.0
48"		92.5	131.3	150.0	150.0
56"		86.5	122.7	150.0	150.0
60"		84.6	120.0	150.0	150.0
64"		83.2	118.1	149.8	150.0
72"		82.2	116.7	148.0	150.0
80"		80.7	114.5	134.5	150.0
84"		74.0	105.0	123.3	150.0
88"		68.3	96.9	125.2	150.0
96"		69.1	98.0	118.4	150.0
108"		57.6	81.7	106.9	150.0
112"		62.3	88.4	109.1	150.0
117"		58.5	83.0	109.6	150.0
36"	76"	102.1	144.8	150.0	150.0
48"		85.4	121.2	150.0	150.0
56"		79.3	112.5	142.7	150.0
60"		77.2	109.6	139.0	150.0
64"		75.7	107.4	136.2	150.0
72"		74.0	105.0	133.2	150.0
80"		73.8	104.7	132.8	150.0
84"		73.2	103.8	121.9	150.0
88"		67.3	95.5	123.4	150.0
96"		67.7	96.0	116.0	150.0
108"		56.1	79.6	104.2	147.8

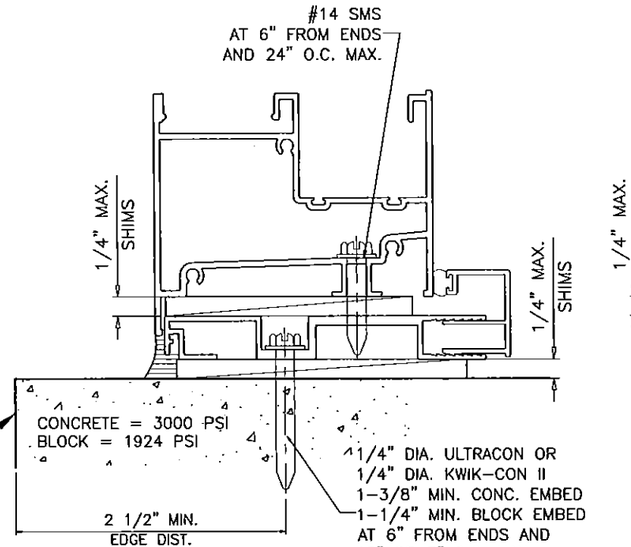
ALL VALUES SHOWN ARE DESIGN PSF
VALUES FOR EXT.(+) LOADS SHOWN ARE FOR SILL WITH WATERBAR ADAPTER.
FOR WINDOWS WITHOUT WATERBAR ADAPTER LIMIT EXT.(+) LOADS TO 80.0 PSF

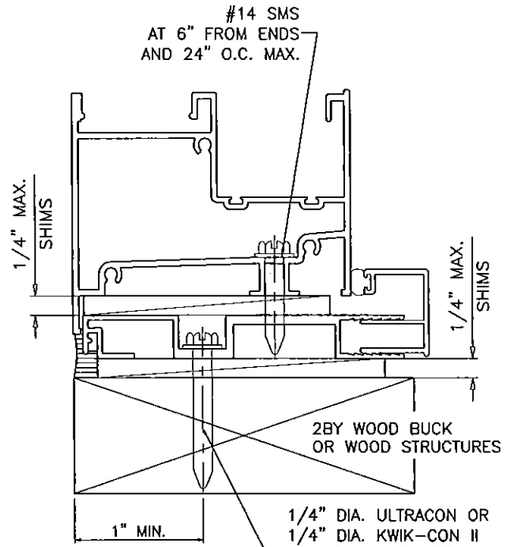




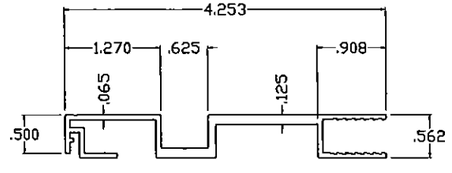


SILLS CAN ALSO BE USED WITH OPTIONAL WATERBAR

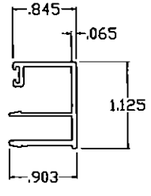




TYPICAL INSTALLATION DETAIL
ON ALL FOUR SIDES/USING ALUMINUM BUCK SYSTEM



ALUMINUM BUCK
6063-T6



OPTIONAL COVER
6063-T6

NOTE: VALUES FROM CHARTS MAY BE INTERPOLATED BETWEEN SIZES

Engr: JAVAD AHMAD
CIVIL
FLA. PE # 70592
C.A.N. 3538
AUG 07 2015

AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
1235 S.W. 87 AVE
MIAMI, FLORIDA 33174
TEL. (305) 264-8100 FAX. (305) 262-6978

COMP-ANL\W09-13CGI

SERIES-375 ALUM. HORIZ. ROLLING WDW. (L.M.I.)

CGI WINDOWS & DOORS
10100 N.W. 25TH STREET
MIAMI, FL. 33172
TEL. (305) 593-6590 FAX. (305) 593-6592

revisions:			
no	date	by	description
A	01.06.12		CHART REV.
B	02.10.14		NO CHANGE THIS SHEET
C	05.28.14		REV. PER RER COMMENTS
D	05.05.15		NO CHANGE THIS SHEET
E	08.04.15		NO CHANGE THIS SHEET

date: 02-27-09
scale: -
dr. by: -
chk. by:

drawing no.
W09-13

sheet 14 of 16

ALUMINUM BUCK FRAMING DETAILS

REFER TO SHEETS 5 & 7 FOR WINDOW CAPACITIES
USE LOWER APPLICABLE VALUES.

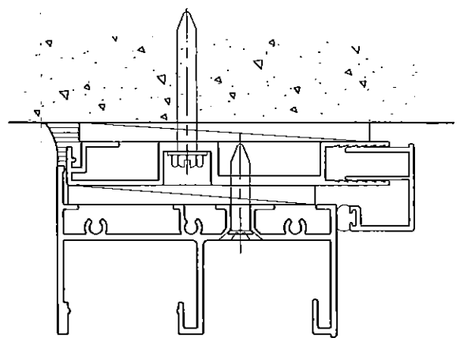
PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No 15-0512.03 a f c
Expiration Date 06/10/2019
By Manuel Perez
Miami-Dade Product Control

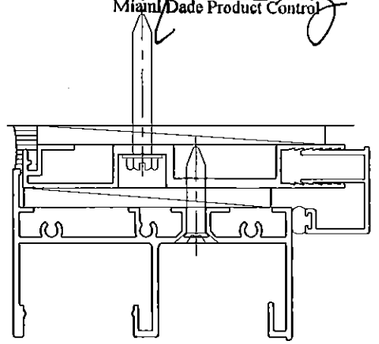
PERFORMANCE VALUES
OF ALUMINUM BUCK
INSTALLATION ANCHORS
EXT.(+) & INT.(−)

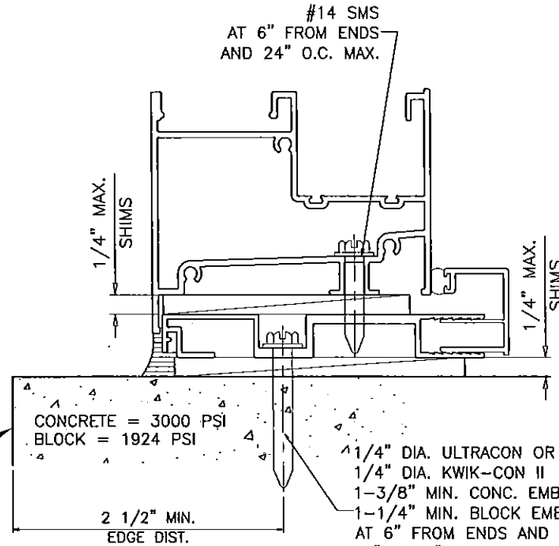
WINDOW DIMS.		ANCHORS AT 16" O.C.		ANCHORS AT 8" O.C.	
WIDTH	HEIGHT	WOOD/BLOCK	CONC.	WOOD/BLOCK	CONC.
26-1/2"	38-3/8"	150.0	150.0	150.0	150.0
53-1/8"		130.9	150.0	150.0	150.0
79-11/16"		110.2	150.0	150.0	150.0
106-1/4"		89.3	126.7	150.0	150.0
111"		96.8	137.3	150.0	150.0
119-1/4"		88.8	126.0	150.0	150.0
159-3/8"		87.2	123.7	150.0	150.0
26-1/2"	50-5/8"	150.0	150.0	150.0	150.0
53-1/8"		121.1	150.0	150.0	150.0
79-11/16"		92.9	131.8	150.0	150.0
106-1/4"		72.8	103.3	135.2	150.0
111"		78.6	111.5	137.6	150.0
119-1/4"		71.7	101.7	134.4	150.0
159-3/8"		69.1	98.0	125.6	150.0
26-1/2"	63"	150.0	150.0	150.0	150.0
53-1/8"		110.1	150.0	150.0	150.0
79-11/16"		84.2	119.5	140.4	150.0
106-1/4"		63.4	89.9	117.7	150.0
111"		68.1	96.6	119.1	150.0
119-1/4"		61.7	87.5	115.7	150.0
26-1/2"	72"	136.9	150.0	150.0	150.0
53-1/8"		88.3	125.3	150.0	150.0
79-11/16"		81.3	115.4	135.5	150.0
106-1/4"		59.0	83.7	109.6	150.0
111"		63.1	89.6	110.5	150.0
26-1/2"	76"	128.2	150.0	150.0	150.0
53-1/8"		81.1	115.1	146.1	150.0
79-11/16"		73.8	104.7	132.8	150.0
106-1/4"		57.5	81.6	106.8	150.0
111"		61.5	87.2	107.6	150.0

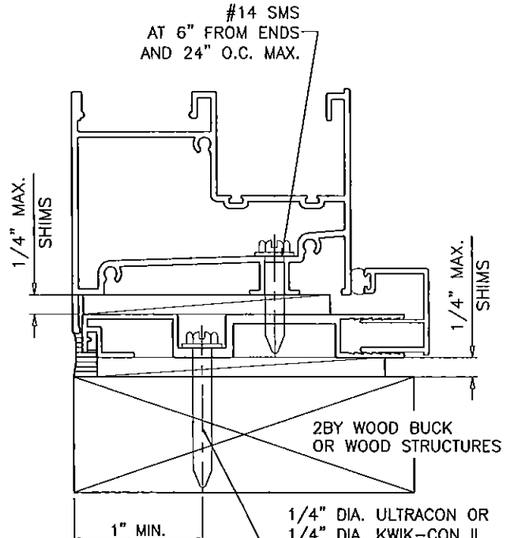
NOTE: VALUES FROM CHARTS MAY
BE INTERPOLATED BETWEEN SIZES

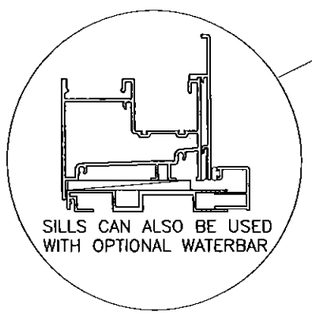
ALL VALUES SHOWN ARE DESIGN PSF
VALUES FOR EXT.(+) LOADS SHOWN ARE FOR
SILL WITH WATERBAR ADAPTER.
FOR WINDOWS WITHOUT WATERBAR ADAPTER
LIMIT EXT.(+) LOADS TO 80.0 PSF



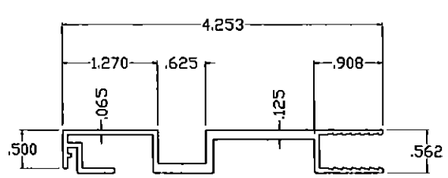




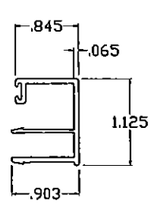




TYPICAL INSTALLATION DETAIL
ON ALL FOUR SIDES/USING ALUMINUM BUCK SYSTEM



ALUMINUM BUCK
6063-T6



OPTIONAL COVER
6063-T6

Engr: JAVAD AHMAD
CIVIL
FLA. PE # 70592
C.A.N. 3538
AUG 07 2015

AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
1235 S.W. 87 AVE
MIAMI, FLORIDA 33174
TEL (305) 264-8100 FAX. (305) 262-6978

COMP-ANL\W09-13CGI

SERIES-375 ALUM. HORIZ. ROLLING WDW. (L.M.I.)

CGI WINDOWS & DOORS
10100 N.W. 25TH STREET
MIAMI, FL. 33172
TEL. (305) 593-6590 FAX. (305) 593-6592

revisions:			
no	date	by	description
A	01.06.12		CHART REV.
B	02.10.14		NO CHANGE THIS SHEET
C	05.28.14		REV. PER RER COMMENTS
D	05.05.15		NO CHANGE THIS SHEET
E	08.04.15		NO CHANGE THIS SHEET

date: 02-27-09
scale: -
dr. by: -
chk. by:

drawing no.
W09-13

sheet 15 of 16

PERFORMANCE VALUES OF ALUMINUM BUCK ANCHORS AT MULLION JOINTS

EXT.(+) & INT.(–)

TRIBUTARY WIDTH	WINDOW HEIGHT	ANCHORS INTO WOOD OR HOLLOW BLOCK			ANCHORS INTO CONCRETE		
		CLUSTER OF 2	CLUSTER OF 4	CLUSTER OF 6	CLUSTER OF 2	CLUSTER OF 4	CLUSTER OF 6
24"	54"	65.8	131.6	150.0	93.3	150.0	150.0
28"		56.4	112.8	150.0	80.0	150.0	150.0
32"		49.3	98.7	148.0	70.0	140.0	150.0
36"		43.9	87.7	131.6	62.2	124.4	150.0
39"		40.5	81.0	121.4	57.4	114.9	150.0
40"		39.5	78.9	118.4	56.0	112.0	150.0
42"		37.6	75.2	112.8	53.3	106.7	150.0
44"		35.9	71.8	107.6	50.9	101.8	150.0
46"		34.3	68.6	103.0	48.7	97.4	146.1
48"		32.9	65.8	98.7	46.7	93.3	140.0
52"		30.4	60.7	91.1	43.1	86.2	129.2
24"	60"	59.2	118.4	150.0	84.0	150.0	150.0
28"		50.7	101.5	150.0	72.0	144.0	150.0
32"		44.4	88.8	133.2	63.0	126.0	150.0
36"		39.5	78.9	118.4	56.0	112.0	150.0
39"		36.4	72.9	109.3	51.7	103.4	150.0
40"		35.5	71.0	106.6	50.4	100.8	150.0
42"		33.8	67.7	101.5	48.0	96.0	144.0
44"		32.3	64.6	96.9	45.8	91.6	137.5
46"		30.9	61.8	92.7	43.8	87.7	131.5
24"	66"	53.8	107.6	150.0	76.4	150.0	150.0
28"		46.1	92.3	138.4	65.5	130.9	150.0
32"		40.4	80.7	121.1	57.3	114.5	150.0
36"		35.9	71.8	107.6	50.9	101.8	150.0
39"		33.1	66.2	99.4	47.0	94.0	141.0
40"		32.3	64.6	96.9	45.8	91.6	137.5
42"		30.8	61.5	92.3	43.6	87.3	130.9
24"	72"	49.3	98.7	148.0	70.0	140.0	150.0
28"		42.3	84.6	126.9	60.0	120.0	150.0
32"		37.0	74.0	111.0	52.5	105.0	150.0
36"		32.9	65.8	98.7	46.7	93.3	140.0
39"		30.4	60.7	91.1	43.1	86.2	129.2
24"	76"	46.7	93.5	140.2	66.3	132.6	150.0
28"		40.1	80.1	120.2	56.8	113.7	150.0
32"		35.1	70.1	105.2	49.7	99.5	149.2
36"		31.2	62.3	93.5	44.2	88.4	132.6

PERFORMANCE VALUES OF ALUMINUM BUCK ANCHORS AT MULLION JOINTS

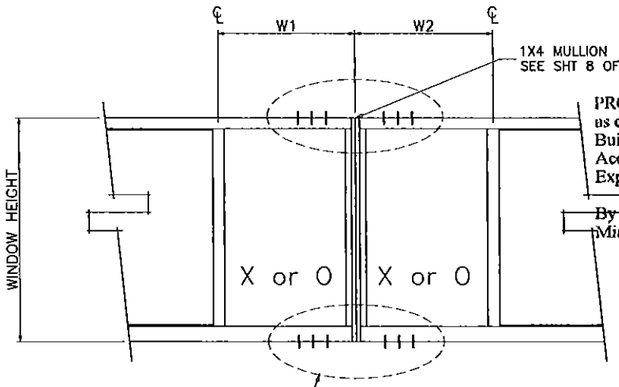
EXT.(+) & INT.(–)

TRIBUTARY WIDTH	WINDOW HEIGHT	ANCHORS INTO WOOD OR HOLLOW BLOCK			ANCHORS INTO CONCRETE		
		CLUSTER OF 2	CLUSTER OF 4	CLUSTER OF 6	CLUSTER OF 2	CLUSTER OF 4	CLUSTER OF 6
18"	38-3/8"	123.4	150.0	150.0	150.0	150.0	150.0
26-1/2'		83.8	150.0	150.0	118.9	150.0	150.0
37"		60.0	120.1	150.0	85.2	150.0	150.0
44"		50.5	101.0	150.0	71.6	143.3	150.0
56"		39.7	79.3	119.0	56.3	112.6	150.0
71"		31.3	62.6	93.9	44.4	88.8	150.0
18"	50-5/8"	93.6	150.0	150.0	132.7	150.0	150.0
26-1/2'		63.5	127.1	150.0	90.2	150.0	150.0
37"		45.5	91.0	136.5	64.6	129.2	150.0
44"		38.3	76.5	114.8	54.3	108.6	150.0
18"	63"	75.2	150.0	150.0	106.7	150.0	150.0
26-1/2'		51.1	102.1	150.0	72.5	144.9	150.0
37"		36.6	73.1	109.7	51.9	103.8	150.0
44"		30.8	61.5	92.3	43.6	87.3	130.9
18"	72"	65.8	131.6	150.0	93.3	150.0	150.0
26-1/2'		44.7	89.4	134.0	63.4	126.8	150.0
37"		32.0	64.0	96.0	45.4	90.8	136.2
18"	76"	62.3	124.6	150.0	88.4	150.0	150.0
26-1/2'		42.3	84.7	127.0	60.1	120.1	150.0
37"		30.3	60.6	90.9	43.0	86.0	129.0

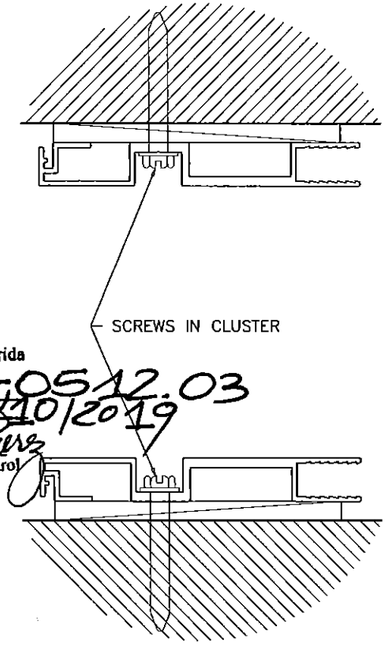
NOTE: VALUES FROM CHARTS MAY BE INTERPOLATED BETWEEN SIZES

ALL VALUES SHOWN ARE DESIGN PSF
VALUES FOR EXT.(+) LOADS SHOWN ARE FOR SILL WITH WATERBAR ADAPTER.
FOR WINDOWS WITHOUT WATERBAR ADAPTER LIMIT EXT.(+) LOADS TO 80.0 PSF

TRIBUTARY WIDTH = $\frac{W1 + W2}{2}$



CLUSTER OF 2, 4, OR 6 ANCHORS (SEE CHARTS ABOVE). ALL OTHER BUCK ANCHORS AS PER SHEET 15.



PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No 15-0512.03
Expiration Date 06/10/2019
By Manuel Perez
Miami Dade Product Control

NOTE: ALUMINUM BUCKS ARE SUPPLIED WITH CLUSTER OF 2 (1 SCREW HOLE PER SIDE) STANDARD. EXTRA HOLES MUST BE FIELD DRILLED IF REQUIRED.

Engr: JAVAD AHMAD
CIVIL
FLA. PE # 70592
C.A.N. 3538
AUG 07 2015

ALUMINUM BUCK ANCHORS ADJACENT TO MULLIONS AT HEAD & SILL ALL OTHER ALUMINUM BUCK ANCHORS AS PER SHEET 14

AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
1235 S.W. 87 AVE
MIAMI, FLORIDA 33174
TEL (305) 264-8100 FAX. (305) 262-6978

COMP-ANL\W09-13CGI

SERIES-375 ALUM. HORIZ. ROLLING WDW. (L.M.I.)

CGI WINDOWS & DOORS
10100 N.W. 25TH STREET
MIAMI, FL. 33172
TEL. (305) 593-6590 FAX. (305) 593-6592

revisions:

no	date	by	description
A	01.06.12		CHART REV.
B	02.10.14		NO CHANGE THIS SHEET
C	05.28.14		REV. PER RER COMMENTS
D	05.05.15		NO CHANGE THIS SHEET
E	08.04.15		NO CHANGE THIS SHEET

date: 02-27-09
scale: –
dr. by: –
chk. by:

drawing no.
W09-13

sheet 16 of 16

MIAMI-DADE COUNTY
DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER)
BOARD AND CODE ADMINISTRATION DIVISION

MIAMI-DADE COUNTY
PRODUCT CONTROL SECTION
11805 SW 26 Street, Room 208
T (786) 315-2590 F (786) 315-2599
www.miamidade.gov/economy

NOTICE OF ACCEPTANCE (NOA)

CGI Windows and Doors, Inc.
10100 NW 25th Street
Miami, FL 33172

SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed and accepted by Miami-Dade County RER - Product Control Section to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Section (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. RER reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Section that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein, and has been designed to comply with the Florida Building Code, including the High Velocity Hurricane Zone.

DESCRIPTION: Series "360" Aluminum Single Hung Window – L.M.I.

APPROVAL DOCUMENT: Drawing No. **W05–04**, titled Series "360" Alum Single Hung Wdw. (L.M.I.), sheets 1, 1A, 2, 2A, 3, 3A, 4, 4A and 5 through 10 of 10, dated 01/28/05, with revision F dated 05/05/15, prepared by Al-Farooq Corporation, signed and sealed by Javad Ahmad, P.E., bearing the Miami-Dade County Product Control Revision stamp with the Notice of Acceptance number and expiration date by the Miami-Dade County Product Control Section.

MISSILE IMPACT RATING: Large Missile Impact Resistant.

LABELING: Each unit shall bear a permanent label with the manufacturer's name or logo, city, state, model/series, and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

RENEWAL of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

ADVERTISEMENT: The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

INSPECTION: A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA **revises NOA# 12-0822.11** and consists of this page 1 and evidence pages E-1, E-2 and E-3, as well as approval document mentioned above.

The submitted documentation was reviewed by **Manuel Perez, P.E.**

MIAMI-DADE COUNTY APPROVED

8/24/15

NOA No. 15-0512.07
Expiration Date: May 05, 2020
Approval Date: September 03, 2015

CGI Windows and Doors, Inc.

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

A. DRAWINGS

1. Manufacturer's die drawings and sections.
   (Submitted under NOA No. 05-0215.02)
2. Drawing No. **W05-04** titled Series "360" Alum Single Hung Wdw. (L.M.I.)", sheets 1, 1A, 2, 2A, 3, 3A, 4, 4A and 5 through 10 of 10, dated 01/28/05, with revision F dated 05/05/15, prepared by Al-Farooq Corporation, signed and sealed by Javad Ahmad, P.E.

B. TESTS

1. Test reports on: 1) Uniform Static Air Pressure Test, Loading per FBC TAS 202-94
   2) Large Missile Impact Test per FBC, TAS 201-94
   3) Cyclic Wind Pressure Loading per FBC, TAS 203-94
   along with marked-up drawings and installation diagram of a series 7500 PVC fixed window, to qualify DuPont "Butacite" PVB interlayer, Duraseal® and Super Spacer® insulating glass spacer, prepared by Certified Test Laboratories, Test Report No. **CTLA-3056 WA**, dated 03/03/15, signed and sealed by Ramesh C. Patel, P.E.
2. Test reports on: 1) Uniform Static Air Pressure Test, Loading per FBC TAS 202-94
   2) Large Missile Impact Test per FBC, TAS 201-94
   3) Cyclic Wind Pressure Loading per FBC, TAS 203-94
   along with marked-up drawings and installation diagram of a series 7400 PVC project out window, to qualify DuPont "Butacite" PVB interlayer, Duraseal® and Super Spacer® insulating glass spacer, prepared by Certified Test Laboratories, Test Report No. **CTLA-3056 WB**, dated 03/03/15, signed and sealed by Ramesh C. Patel, P.E.
3. Test reports on: 1) Uniform Static Air Pressure Test, Loading per FBC TAS 202-94
   2) Large Missile Impact Test per FBC, TAS 201-94
   3) Cyclic Wind Pressure Loading per FBC, TAS 203-94
   along with marked-up drawings and installation diagram of a series 238 aluminum fixed window, to qualify DuPont "Butacite" PVB interlayer, Duraseal® and Super Spacer® insulating glass spacer, prepared by Certified Test Laboratories, Test Report No. **CTLA-3056 WC**, dated 04/16/15, signed and sealed by Ramesh C. Patel, P.E.

Manuel Perez

Manuel Perez, P.E.
Product Control Examiner
NOA No. 15-0512.07
Expiration Date: May 05, 2020
Approval Date: September 03, 2015

B. TESTS (CONTINUED)

4. Test reports on: 1) Air Infiltration Test, per FBC, TAS 202-94
2) Uniform Static Air Pressure Test, Loading per FBC TAS 202-94
3) Water Resistance Test, per FBC, TAS 202-94
4) Large Missile Impact Test per FBC, TAS 201-94
5) Small Missile Impact Test per FBC, TAS 201-94
6) Cyclic Wind Pressure Loading per FBC, TAS 203-94
7) Forced Entry Test, Type "A-A" vertical sliding window, Grade 10, per FBC 2411 3.2.1, TAS 202-94, per ASTM F 588–04, AAMA 1302.5–04 and CAWM 301–04
along with marked-up drawings and installation diagram of an aluminum single hung window, prepared by Hurricane Test Laboratory, LLC, Test Report No. **HTL-0080-0402-08, specimens 1, 2, 3** and **4**, dated 04/03/08 to 07/22/08, signed and sealed by Vinu J. Abraham, P.E.
(Submitted under NOA No. 08-1208.06)

5. Test reports on: 1) Air Infiltration Test, per FBC, TAS 202-94
2) Uniform Static Air Pressure Test, Loading per FBC TAS 202-94
3) Water Resistance Test, per FBC, TAS 202-94
4) Small Missile Impact Test per FBC, TAS 201-94
5) Cyclic Wind Pressure Loading per FBC, TAS 203-94
6) Forced Entry Test, Type "A-A" vertical sliding window, Grade 10, per FBC 2411 3.2.1, TAS 202-94, per ASTM F 588-04, AAMA 1302.5-04 and CAWM 301–04
along with marked-up drawings and installation diagram of an aluminum single hung window, prepared by Hurricane Test Laboratory, LLC, Test Report No. **HTL-0080-0323-04, specimens 1, 2, 3, 4, 5, 6, 7** and **9**, dated 03/29/04 to 04/02/04, signed and sealed by Vinu J. Abraham, P.E.
(Submitted under NOA No. 05-0215.02)

C. CALCULATIONS

1. Statement letter of conformance, complying with **FBC-5th Edition (2014)**, and of no financial interest, dated July 16, 2014, issued by Al-Farooq Corporation, signed and sealed by Javad Ahmad, P.E.
(Submitted under previous NOA No. 14-0822.11)

2. Glazing complies with **ASTM E1300-09.**

D. QUALITY ASSURANCE

1. Miami-Dade Department of Regulatory and Economic Resources (RER)

Manuel Perez, P.E.
Product Control Examiner
NOA No. 15-0512.07
Expiration Date: May 05, 2020
Approval Date: September 03, 2015

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

E. MATERIAL CERTIFICATIONS

1. Notice of Acceptance No. **14-0916.11** issued to **Kuraray America, Inc.** for their **"SentryGlas® (Clear and White) Glass Interlayers"** dated 06/25/15, expiring on 07/04/18.
2. Notice of Acceptance No. **14–0423.15** issued to **Eastman Chemical Company (MA)** for their "**Saflex CP – Saflex and Saflex HP Composite Glass Interlayers with PET Core"** dated 06/19/14, expiring on 12/11/18.
3. Notice of Acceptance No. **14-0423.16** issued to **Eastman Chemical Company (MA)** for their "**Saflex HP Clear or Color Glass Interlayers**" dated 06/19/14, expiring on 04/14/18.

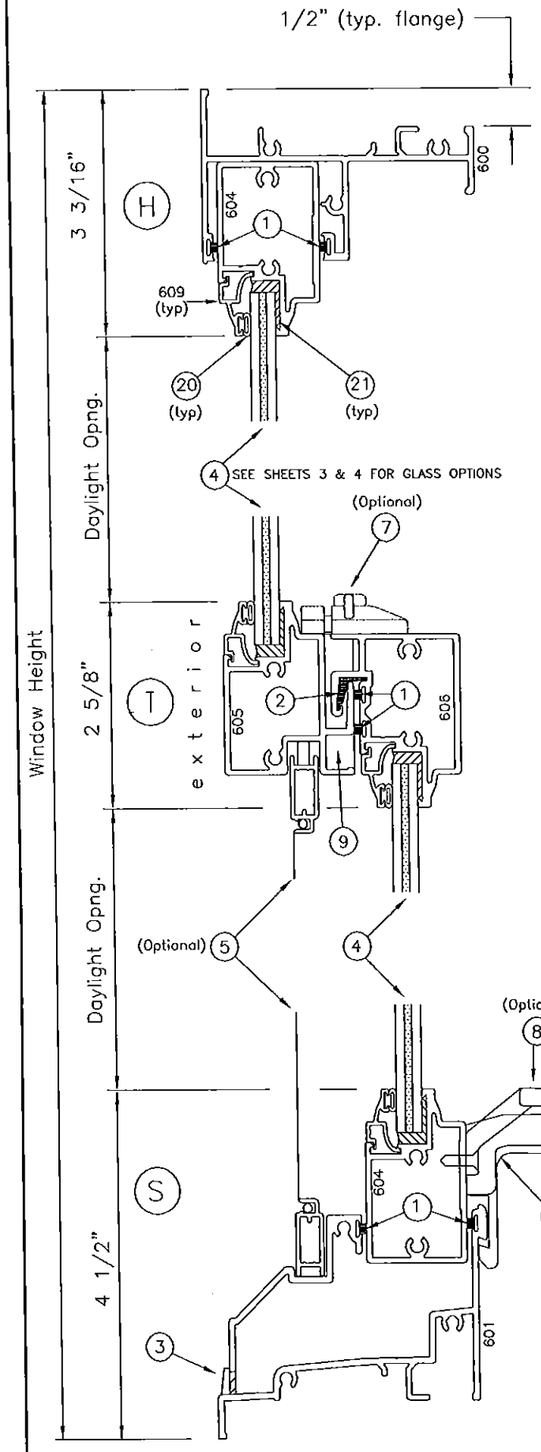
F. STATEMENTS

1. Statement letter of conformance, complying with **FBC-5th Edition (2014)**, and of no financial interest, dated July 16, 2014, issued by Al-Farooq Corporation, signed and sealed by Javad Ahmad, P.E.
   (Submitted under previous NOA No. 14-0822.11)
2. Laboratory compliance letters for Test Report No. **HTL-0080-0402-08, specimens 1, 2, 3** and **4,** issued by Hurricane Test Laboratory, Inc., dated 07/22/08, signed and sealed by Vinu J. Abraham, P.E.
   (Submitted under NOA No. 08-1208.06)
3. Laboratory compliance letters for Test Report No. **HTL-0080-0323-04, specimens 1, 2, 3, 4, 5, 6, 7** and **9,** issued by Hurricane Test Laboratory, Inc., dated 04/02/04, signed and sealed by Vinu J. Abraham, P.E.
   (Submitted under NOA No. 05-0215.02)
4. Test Proposal for the qualification of ***Butacite®*** PVB glass interlayer by DuPont as well as ***Duraseal®*** and ***Super Spacer® Standard*** warm-edge flexible insulating glass spacers, dated December 16, 2014, issued by RER, Product Control Section, signed by Jaime Gascon, Supervisor.

G. OTHERS

1. Notice of Acceptance No. **14-0822.11**, issued to CGI Windows & Doors for their Series "360" Aluminum Single Hung Window – L.M.I., approved on 10/16/14 and expiring on 05/05/20.

Manuel Perez, P.E.
Product Control Examiner
NOA No. 15-0512.07
Expiration Date: May 05, 2020
Approval Date: September 03, 2015

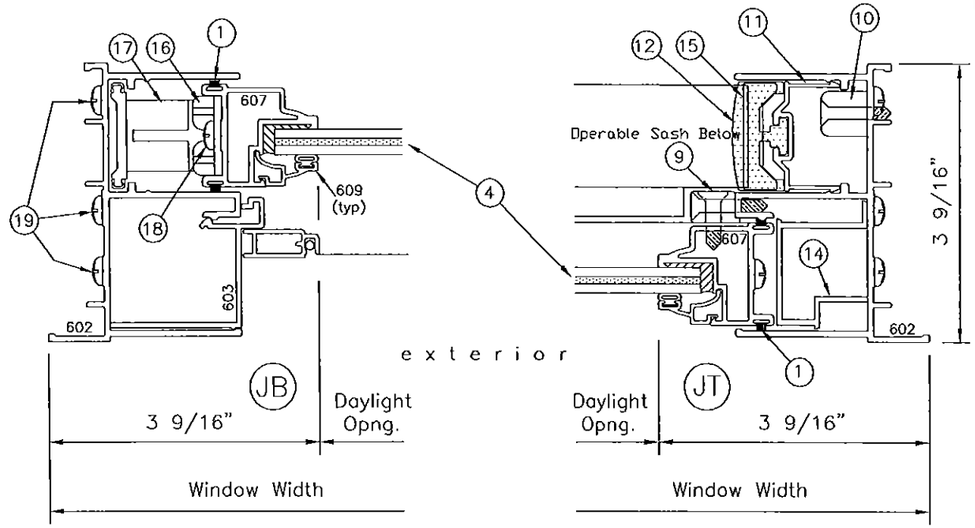


Standard 12 Psf Sill

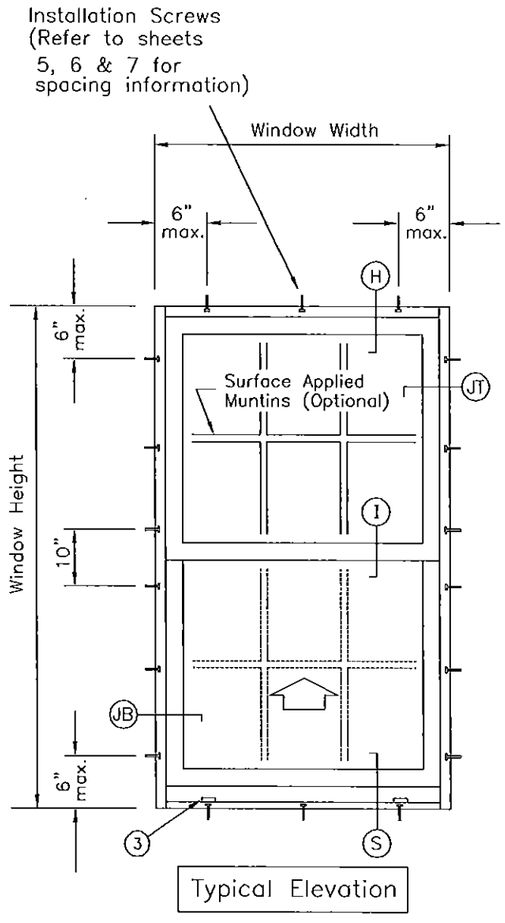
Optional 15 PSF Water Bar Adaptors

Can not be used with lock type ⑥

General Window Sections



FRAME AND VENT DETAILS FOR GLASS TYPES 1 & 2.
SEE SHEETS 3 & 4 FOR CAPACITIES.



Typical Elevation

INSTRUCTIONS FOR USING CAPACITY CHARTS:

STEP 1 DETERMINE THE REQUIRED DESIGN PRESSURES FOR A GIVEN WINDOW OPENING.

STEP 2 DETERMINE THE CAPACITY OF THE WINDOW SIZE/CONFIGURATION/GLASS TYPE FROM CHARTS ON SHEETS 3 AND 4.

STEP 3 DETERMINE THE ANCHOR CAPACITY FROM SHEET 7 FOR SINGLE OPENINGS, APPLICABLE TO ANCHORS TYPE A, B OR C SHOWN ON SHEETS 5 AND 6.

STEP 4 IF ALUMINUM BUCKS ARE USED, VERIFY THE BUCK INSTALLATION CAPACITY FROM SHEET 9.

STEP 5 FOR UNCLIPPED MULLED WINDOWS DETERMINE MULLION/MULLION ANCHORS CAPACITY FOR 1X4 TUBE MULLION FROM CHARTS ON SHEET 8.

STEP 6 IF ALUMINUM BUCKS ARE USED DETERMINE BUCK ANCHORING REQUIREMENTS FROM CHARTS ON SHEET 10.

THE LOWEST SELECTED VALUE APPLY TO THE INSTALLATION AND MUST EQUAL OR EXCEED THE REQUIRED DESIGN PRESSURES OBTAINED FROM STEP 1.

SERIES '360' ALUMINUM SINGLE HUNG WINDOW

APPROVAL APPLIES TO SINGLE UNITS OR SIDE BY SIDE COMBINATIONS OF S.H./S.H. OR SINGLE HUNG WITH OTHER MIAMI-DADE COUNTY APPROVED WINDOWS USING MIAMI-DADE COUNTY APPROVED MULLIONS IN BETWEEN.
LOWER DESIGN PRESSURE FROM WINDOWS OR MULLION APPROVAL WILL APPLY TO ENTIRE SYSTEM.

THIS PRODUCT HAS BEEN DESIGNED AND TESTED TO COMPLY WITH THE REQUIREMENTS OF THE FLORIDA BUILDING CODE INCLUDING HIGH VELOCITY HURRICANE ZONE (HVHZ).

WOOD BUCKS BY OTHERS, MUST BE ANCHORED PROPERLY TO TRANSFER LOADS TO THE STRUCTURE.

ANCHORS SHALL BE AS LISTED, SPACED AS SHOWN ON DETAILS, ANCHORS EMBEDMENT TO BASE MATERIAL SHALL BE BEYOND WALL DRESSING OR STUCCO.

ANCHORING OR LOADING CONDITIONS NOT SHOWN IN THESE DETAILS ARE NOT PART OF THIS APPROVAL.

A LOAD DURATION INCREASE IS USED IN DESIGN OF ANCHORS INTO WOOD ONLY.

MATERIALS INCLUDING BUT NOT LIMITED TO STEEL/METAL SCREWS, THAT COME INTO CONTACT WITH OTHER DISSIMILAR MATERIALS SHALL MEET THE REQUIREMENTS OF THE FLORIDA BLDG. CODE.

THESE WINDOWS ARE RATED FOR LARGE MISSILE IMPACT. SHUTTERS ARE NOT REQUIRED.

PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No 15-0512.07
Expiration Date May 5 2020
By _____
Miami Dade Product Control

Engr: JAVAD AHMAD
CIVIL
FLA. PE # 70592
C.A.N. 3538

JUL 30 2015

AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
1235 S.W. 87 AVE
MIAMI, FLORIDA 33174
TEL. (305) 264-8100 FAX. (305) 262-6978
COMP-ANL\W005-04CGI

SERIES '360' ALUM SINGLE HUNG WDW. (L.M.I.)

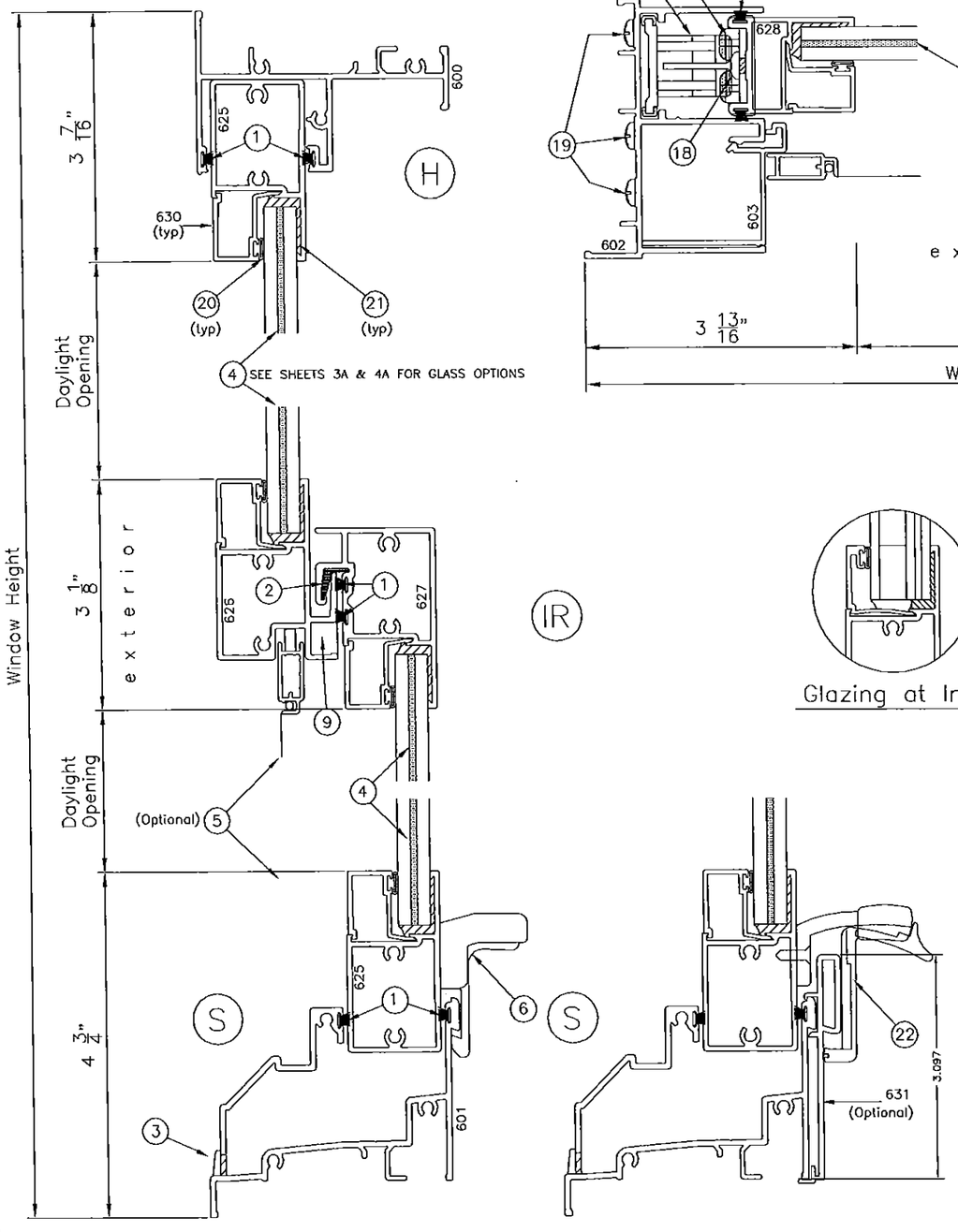
CGI WINDOWS & DOORS
10100 N.W. 25TH STREET
MIAMI, FL. 33172
TEL. (305) 593-6590 FAX. (305) 593-6592

revisions:			
no	date	by	description
C	11.12.08		NOTES REV.
D	01.03.12		UPDATED TO 2010 FBC
E	08.06.14		UPDATED TO 2014 FBC
F	05.05.15		NO CHANGE THIS SHEET

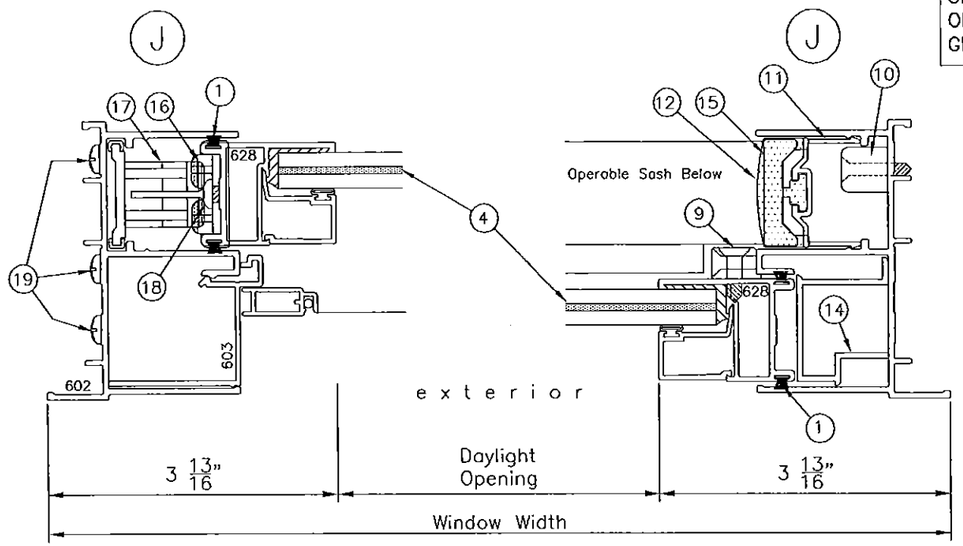
date: 01-28-05
scale: -
dr. by: -
chk. by:

drawing no.
W05-04

FRAME AND VENT DETAILS FOR GLASS TYPES 3, 3A, 4 AND 4A.
SEE SHEETS 3A & 4A FOR CAPACITIES.
OPTIONAL TOP RAIL SWEEP LOCK NOT AVAILABLE WITH THESE GLASS TYPES.



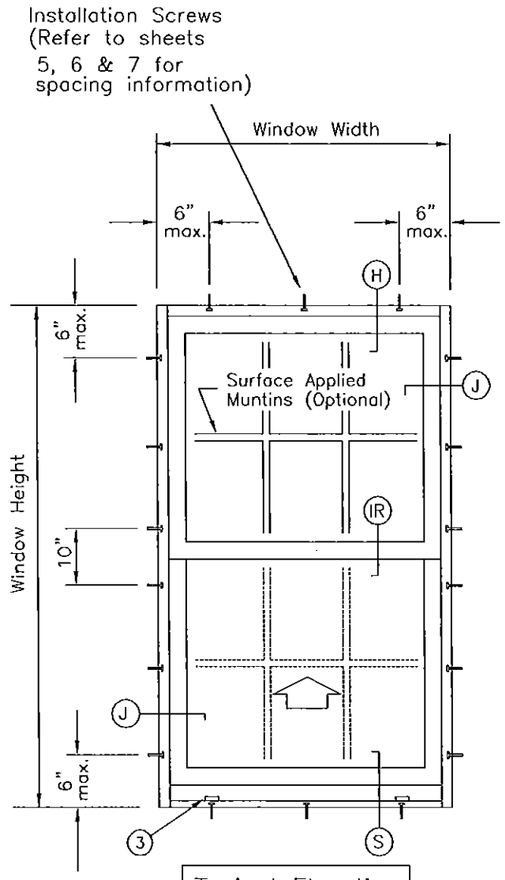
Standard 12 Psf Sill



Glazing at Insulated Laminated

Optional 15 PSF Water Bar Adaptor

Can not be used with lock type ⑥



Typical Elevation

Engr: JAVAD AHMAD
CIVIL
FLA. PE # 70592
C.A.N. 3538

JUL 30 2015

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No. 15-0512.07
Expiration Date May 5, 2020
By Manuel Perez
Miami-Dade Product Control

afc
AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
1235 S.W. 87 AVE
MIAMI, FLORIDA 33174
TEL. (305) 264-8100 FAX. (305) 262-6978
COMP--ANL\W005-04CGI

SERIES '360' ALUM SINGLE HUNG WDW. (L.M.I.)

CGI WINDOWS & DOORS
10100 N.W. 25TH STREET
MIAMI, FL. 33172
TEL. (305) 593-6590 FAX. (305) 593-6592

revisions:

no	date	by	description
C	11.12.08		NEW SHEET ADDED
D	01.03.12		NO CHANGE THIS SHEET
E	08.06.14		UPDATED TO 2014 FBC
F	05.05.15		NO CHANGE THIS SHEET

date: 01-28-05
scale: -
dr. by: -
chk. by:

drawing no.
W05-04

sheet 1A of 10

Bill of Materials

ITEM	PART #	QUANTITY	DESCRIPTION	MATERIAL	MANF./SUPPLIER	REMARKS
1	W23201NG	AS REQD.	WOOL PILE WITH CENTER SOFT FIN (GRAY)	PILE	ULTRAFAB/SCHLEGEL	
2	CGI-612P	AS REQD.	PLASTIC BUMPER GUIDE	PVC	PROTOTYPE PLASTIC EXTRUSIONS	CONTINUOUS AT INTERLOCK
3	#146-4	2	WEEP HOLE COVER	NYLON	BUILDERS PLASTIC COMPANY	
4	N/A	AS REQD.	GLAZING	GLASS	VARIES	
5	N/A	1	COMPLETE SCREEN	ALUM/MESH		
6	CGI-615C & 616C	1 OR 2	COMBINATION EGRESS LOCK AND LIFT/PULL ATTACHED W/(2) #8 X 5/8" FH SMS	ZINC	CUSTOM CASTING	1 @ WDWS. 28" WIDE & SMALLER 2 @ WDWS. OVER 28" WIDE
7	A30700 & C30705	1 OR 2	OPTIONAL SWEEP LOCK & KEEPER (replaces item 6) ATTACHED W/(4) #6 X 5/8" FH SMS	ZINC	TRUTH HARDWARE OR EQUIV.	1 @ WDWS. 28" WIDE & SMALLER 2 @ WDWS. OVER 28" WIDE
8	18-11-XX-100	1 OR 2		ZINC	TRUTH HARDWARE OF EQUIV.	1 @ WDWS. 28" WIDE & SMALLER 2 @ WDWS. OVER 28" WIDE
9	CGI-614C	2	TIE DOWN BLOCK	ZINC	CUSTOM CASTING	
10	VARIES	2	BALANCES (B&T OR SPIRAL)	VARIES	VARIES	BOTH BALANCES CAN BE USED
11	CGI-617P	2	BALANCE COVER	PVC	PROTOTYPE PLASTIC EXTRUSIONS	LOCATED AT TOP HALF OF EACH JAMB
12	CGI-618P	2	VENT STOP	PVC	PROTOTYPE PLASTIC EXTRUSIONS	LOCATED AT TOP OF JAMBS
14	CGI-613P	2	FIXED VENT SHIM	PVC	PROTOTYPE PLASTIC EXTRUSIONS	LOCATED AT TOP OF FIXED VENT
15	CGI-619P	2	TOP GUIDE AT OPERABLE VENT	NYLON	CUSTOM CASTING	
16	CGI-622N	2	BOTTOM GUIDE/CLIP AT OPERABLE VENT	NYLON	CUSTOM CASTING	
17	CGI-620C & 621N	2	CARRIER SYSTEM	ZINC	CUSTOM CASTING	OPTIONAL - BALANCE ATTACHES TO IT
18	N/A	16	VENT ASSEMBLY SCREWS	S/S	VARIES	#10 X 1 1/4" PH SMS (2 PER CORNER)
19	N/A	12	FRAME ASSEMBLY SCREWS	S/S	VARIES	#10 X 1 1/4" PH SMS (2 PER CORNER)
20	CGI-382V	AS REQD.	VINYL BULB	PVC	PROTOTYPE PLASTIC EXTRUSIONS	
21	VARIES	AS REQD.	STUCTURAL SILICONE	SILICONE	3 SILICONES	GE-1200, GE-2000, & DOW 995
22	CGI-632	1 OR 2	COMBINATION EGRESS WB LOCK & LIFT/PULL ATTACHED W/(2) #8 X 5/8" FH SMS	ZINC	CUSTOM CASTING (FOR USE WITH WATERBAR)	1 @ WDWS. 28" WIDE & SMALLER 2 @ WDWS. OVER 28" WIDE
23	-	2/ LITE	SETTING BLOCKS	EPDM	-	DUROMETER 85±5 SHORE A

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No 15.0512.07
Expiration Date May 5,2020
By Manuel Perez
Miami-Dade Product Control

Engr: JAVAD AHMAD
CIVIL
FLA. PE # 70592
C.A.N. 3538
JUL 30 2015

AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
1235 S.W. 87 AVE
MIAMI, FLORIDA 33174
TEL. (305) 264-8100 FAX. (305) 262-6978
COMP-ANL\W005-04CGI

SERIES '360' ALUM SINGLE HUNG WDW. (L.M.I.)

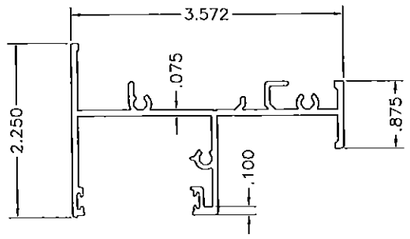
CGI WINDOWS & DOORS
10100 N.W. 25TH STREET
MIAMI, FL. 33172
TEL (305) 593-6590 FAX. (305) 593-6592

revisions:

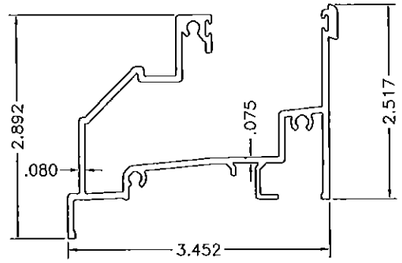
no	date	by	description
C	11.12.08		NO CHANGE THIS SHEET
D	01.03.12		NO CHANGE THIS SHEET
E	08.06.14		UPDATED TO 2014 FBC
F	05.05.15		NO CHANGE THIS SHEET

date: 01-28-05
scale: -
dr. by: -
chk. by:

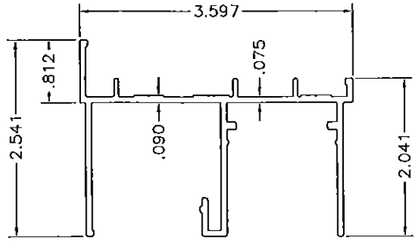
drawing no.
W05-04



600–Frame Head
6063–T6

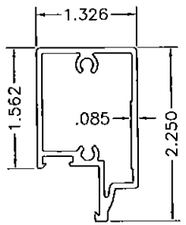


601–Frame Sill
6063–T6

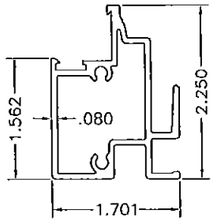


602–Frame Jamb
6063–T6

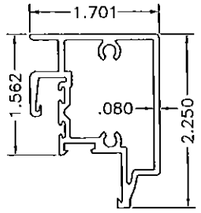
VENT SHAPES FOR GLASS TYPES 1 & 2



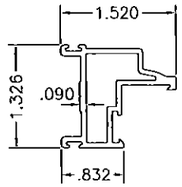
604–Horiz. Rail
6063–T6



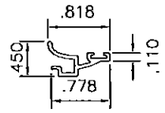
605–Fixed Intlck.
6063–T6



606–Moving Intlck.
6063–T6

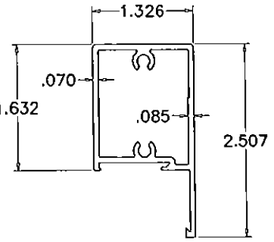


607–Side Rail
6063–T6

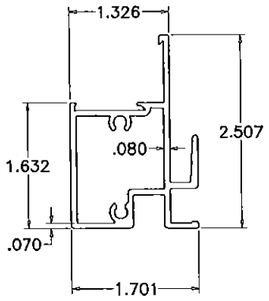


609–Glzg. Bead
6063–T5

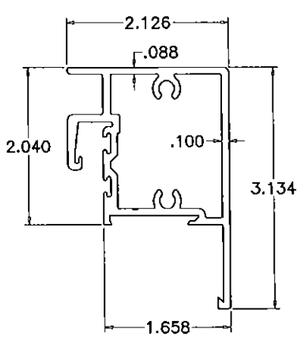
VENT SHAPES FOR GLASS TYPES 3, 3A, 4 & 4A



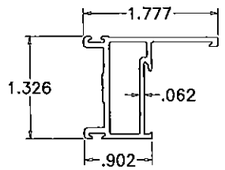
625–Horiz. Rail
6063–T6



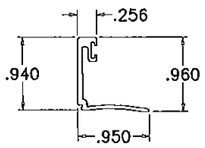
626–Fixed Intlck.
6063–T6



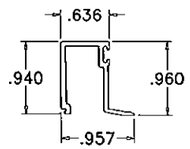
627–Moving Intlck.
6063–T6



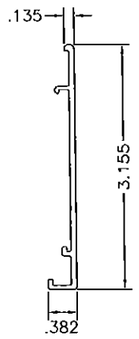
628–Side Rail
6063–T6



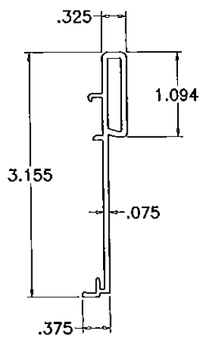
629–Glzg. Bead
6063–T6
For Glass Types 4 & 4A



630–Glzg. Bead
6063–T6
For Glass Types 3 & 3A



611–Waterbar
6063–T5



631–Waterbor
6063–T5

Engr: JAVAD AHMAD
CIVIL
FLA. PE # 70592
C.A.N. 3538
JUL 30 2015

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No 15-0512.07
Expiration Date May 5, 2020
By Manuel Perez
Miami-Dade Product Control

AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
1235 S.W. 87 AVE
MIAMI, FLORIDA 33174
TEL. (305) 264-8100 FAX. (305) 262-6978

COMP-ANL\W005-04CGI

SERIES '360' ALUM SINGLE HUNG WDW. (L.M.I.)

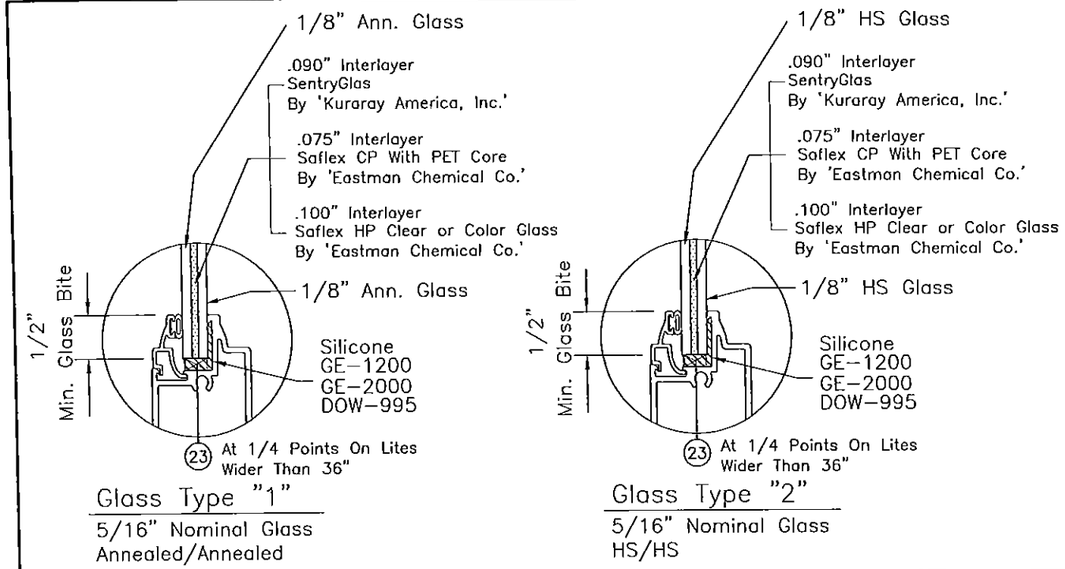
CGI WINDOWS & DOORS
10100 N.W. 25TH STREET
MIAMI, FL. 33172
TEL. (305) 593-6590 FAX. (305) 593-6592

revisions:

no	date	by	description
C	11.12.08		NEW SHEET ADDED
D	01.03.12		NO CHANGE THIS SHEET
E	08.06.14		UPDATED TO 2014 FBC
F	05.05.15		NO CHANGE THIS SHEET

date: 01-28-05
scale: -
dr. by: -
chk. by:

drawing no.
W05-04



Glass Type "1"
5/16" Nominal Glass
Annealed/Annealed

Glass Type "2"
5/16" Nominal Glass
HS/HS

Supplemental Test Results for:
Air Infiltration – Water Leakage Resistance – Forced Entry

Test Type and Method	Results
Air Infiltration Test (ASTM-E283)	
@ 1.57 psf pressure differential	PASSED (.044 C.F. / Min / Sq Ft)
@ 6.24 psf pressure differential	PASSED (.076 C.F. / Min / Sq Ft)
Water Leakage Test (ASTM-E331)	No leakage allowed
without waterbar adaptor	PASSED @ 12.0 PSF
with waterbar adaptor	PASSED @ 15.0 PSF
Forced Entry Resistance test (ASTM F588 & Grade 10)	PASSED

EQUAL LITES WINDOWS
DESIGN LOAD CAPACITY – PSF

WINDOW DIMS.		GLASS TYPE '1'		GLASS TYPE '2'	
WIDTH	HEIGHT	EXT.(+)	INT.(–)	EXT.(+)	INT.(–)
24"	48"	100.0	210.0	100.0	210.0
30"		100.0	210.0	100.0	210.0
32"		100.0	210.0	100.0	210.0
36"		100.0	180.0	100.0	210.0
42"		100.0	144.0	100.0	210.0
48"		100.0	120.0	100.0	200.0
54"		100.0	102.9	100.0	171.4
24"	60"	100.0	210.0	100.0	210.0
30"		100.0	199.7	100.0	210.0
32"		100.0	190.3	100.0	210.0
36"		100.0	164.3	100.0	210.0
42"		100.0	128.0	100.0	210.0
48"		100.0	104.7	100.0	120.0
54"		88.6	88.6	100.0	120.0
24"	72"	100.0	201.1	100.0	210.0
30"		100.0	162.1	100.0	210.0
32"		100.0	167.6	100.0	210.0
36"		100.0	150.7	100.0	210.0
42"		100.0	120.0	100.0	120.0
48"		96.0	96.0	100.0	120.0
54"		80.0	80.0	100.0	120.0
24"	84"	100.0	179.1	100.0	210.0
30"		100.0	143.4	100.0	210.0
32"		100.0	135.3	100.0	210.0
36"		100.0	120.0	100.0	120.0
42"		100.0	106.1	100.0	120.0
48"		85.6	85.6	100.0	120.0
54"		74.8	74.8	100.0	120.0

EQUAL LITES WINDOWS
DESIGN LOAD CAPACITY – PSF

WINDOW DIMS.		GLASS TYPE '1'		GLASS TYPE '2'	
WIDTH	HEIGHT	EXT.(+)	INT.(–)	EXT.(+)	INT.(–)
24"	96"	100.0	161.9	100.0	210.0
30"		100.0	118.8	100.0	120.0
32"		100.0	111.9	100.0	120.0
36"		100.0	101.5	100.0	120.0
42"		85.4	85.4	100.0	120.0
48"		76.2	76.2	100.0	120.0
54"		68.9	68.9	100.0	120.0
24"	108"	100.0	142.4	100.0	210.0
30"		100.0	102.2	100.0	120.0
32"		94.9	94.9	100.0	120.0
36"		85.9	85.9	100.0	120.0
42"		75.3	75.3	100.0	120.0
48"		68.6	68.6	100.0	120.0
24"	120"	100.0	120.0	100.0	120.0
30"		90.7	90.7	100.0	120.0
32"		83.6	83.6	100.0	120.0
36"		75.9	75.9	100.0	120.0
42"		66.4	66.4	100.0	120.0

EQUAL LITES WINDOWS
DESIGN LOAD CAPACITY – PSF

WINDOW DIMS.		GLASS TYPE '1'		GLASS TYPE '2'	
WIDTH	HEIGHT	EXT.(+)	INT.(–)	EXT.(+)	INT.(–)
19-1/8"	26"	100.0	210.0	100.0	210.0
26-1/2"		100.0	210.0	100.0	210.0
37"		100.0	210.0	100.0	210.0
53-1/8"		100.0	171.1	100.0	210.0
19-1/8"	38-3/8"	100.0	210.0	100.0	210.0
26-1/2"		100.0	210.0	100.0	210.0
37"		100.0	197.2	100.0	210.0
53-1/8"		100.0	124.1	100.0	206.9
19-1/8"	50-5/8"	100.0	210.0	100.0	210.0
26-1/2"		100.0	210.0	100.0	210.0
37"		100.0	168.3	100.0	210.0
53-1/8"		100.0	101.2	100.0	168.7
19-1/8"	63"	100.0	210.0	100.0	210.0
26-1/2"		100.0	207.5	100.0	210.0
37"		100.0	154.9	100.0	210.0
53-1/8"		88.1	88.1	100.0	120.0
19-1/8"	72"	100.0	210.0	100.0	210.0
26-1/2"		100.0	181.5	100.0	210.0
37"		100.0	146.8	100.0	210.0
53-1/8"		82.0	82.0	100.0	120.0
19-1/8"	76"	100.0	210.0	100.0	210.0
26-1/2"		100.0	171.4	100.0	210.0
37"		100.0	136.6	100.0	210.0
53-1/8"		80.0	80.0	100.0	120.0

Equal Lite Window

PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No 15-0512.07
Expiration Date May 5, 2020
By Manuel Perez
Miami Dade Product Control

NOTE:
GLASS CAPACITIES ON THIS SHEET ARE BASED ON ASTM E1300-09 (3 SEC. GUSTS) AND FLORIDA BUILDING COMMISSION DECLARATORY STATEMENT DCA05-DEC-219

All values shown are Design PSF (Pounds per Square Foot)

VALUES FOR EXTERIOR LOADS(+) SHOWN ARE
FOR SILL WITH WATERBAR ADAPTER
FOR WINDOWS WITHOUT WATERBAR ADAPTER
LIMIT EXTERIOR(+) LOADS TO 80.0 PSF

Engr: JAVAD AHMAD
CIVIL
FLA. PE # 70592
C.A.N. 3538
JUL 30 2015

afc
AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
1235 S.W. 87 AVE
MIAMI, FLORIDA 33174
TEL (305) 264-8100 FAX. (305) 262-6978
COMP-ANL\W005-04CGI

SERIES '360' ALUM SINGLE HUNG WDW. (L.M.I.)

CGI WINDOWS & DOORS
10100 N.W. 25TH STREET
MIAMI, FL. 33172
TEL. (305) 593-6590 FAX. (305) 593-6592

revisions:	no	date	by	description
	C	11.12.08		NO CHANGE THIS SHEET
	D	01.03.12		UPDATED TO 2010 FBC
	E	08.06.14		UPDATED TO 2014 FBC
	F	05.05.15		NO CHANGE THIS SHEET

date: 01-28-05
scale: -
dr. by: -
chk. by:

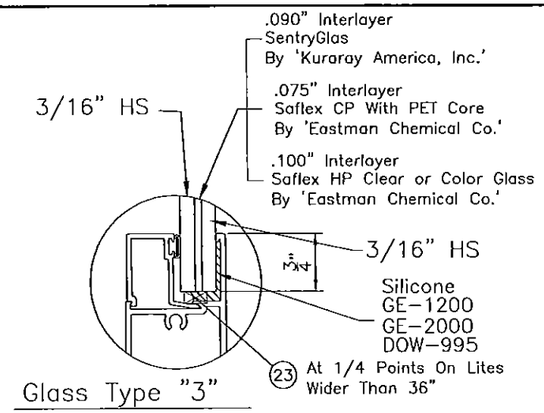
drawing no.
W05-04

NOTE:
GLASS CAPACITIES ON THIS SHEET ARE
BASED ON ASTM E1300-09 (3 SEC. GUSTS)
AND FLORIDA BUILDING COMMISSION
DECLARATORY STATEMENT DCA05-DEC-219

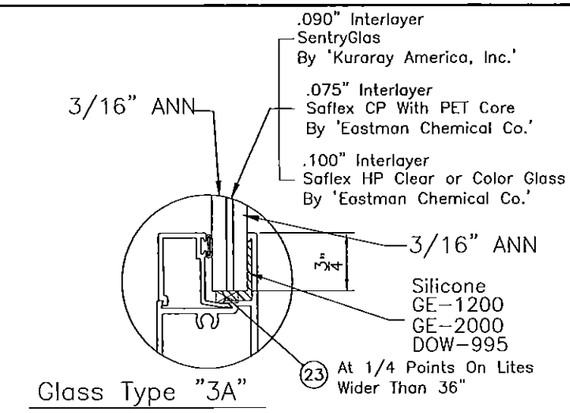
EQUAL LITES WINDOWS

DESIGN LOAD CAPACITY - PSF

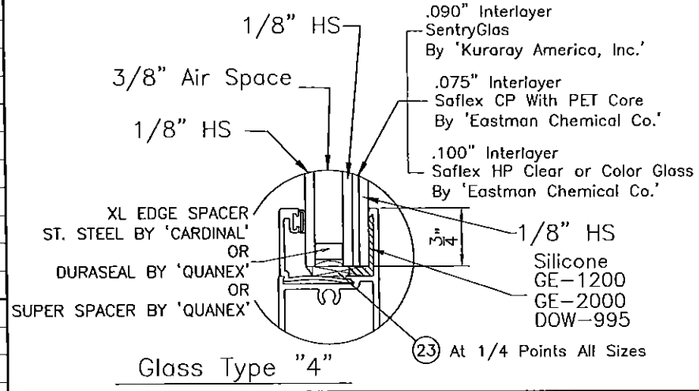
WINDOW DIMS.		GLASS TYPE '3'		GLASS TYPE '3A'		GLASS TYPE '4'		GLASS TYPE '4A'	
WIDTH	HEIGHT	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)
24"	48"	100.0	210.0	100.0	210.0	100.0	210.0	100.0	210.0
30"		100.0	210.0	100.0	210.0	100.0	210.0	100.0	210.0
32"		100.0	210.0	100.0	210.0	100.0	210.0	100.0	210.0
36"		100.0	210.0	100.0	210.0	100.0	210.0	100.0	208.2
42"		100.0	210.0	100.0	210.0	100.0	210.0	100.0	175.9
48"		100.0	200.0	100.0	200.0	100.0	200.0	100.0	158.6
54"		100.0	171.4	100.0	171.4	100.0	171.4	100.0	139.5
24"	60"	100.0	210.0	100.0	210.0	100.0	210.0	100.0	210.0
30"		100.0	210.0	100.0	210.0	100.0	210.0	100.0	210.0
32"		100.0	210.0	100.0	210.0	100.0	210.0	100.0	202.2
36"		100.0	210.0	100.0	210.0	100.0	210.0	100.0	174.5
42"		100.0	210.0	100.0	210.0	100.0	210.0	100.0	153.8
48"		100.0	120.0	100.0	120.0	100.0	120.0	100.0	120.0
54"		100.0	120.0	100.0	120.0	100.0	120.0	100.0	106.3
24"	72"	100.0	210.0	100.0	210.0	100.0	210.0	100.0	210.0
30"		100.0	210.0	100.0	210.0	100.0	210.0	100.0	172.2
32"		100.0	210.0	100.0	191.2	100.0	210.0	100.0	178.0
36"		100.0	210.0	100.0	198.4	100.0	210.0	100.0	160.1
42"		100.0	120.0	100.0	120.0	100.0	120.0	100.0	120.0
48"		100.0	120.0	100.0	120.0	100.0	120.0	100.0	109.5
54"		100.0	120.0	100.0	120.0	100.0	120.0	90.5	90.5
24"	84"	100.0	210.0	100.0	210.0	100.0	210.0	100.0	190.2
30"		100.0	210.0	100.0	210.0	100.0	210.0	100.0	152.3
32"		100.0	210.0	100.0	210.0	100.0	210.0	100.0	143.7
36"		100.0	120.0	100.0	120.0	100.0	120.0	100.0	120.0
42"		100.0	120.0	100.0	120.0	100.0	120.0	100.0	112.7
48"		100.0	120.0	100.0	120.0	100.0	120.0	90.9	90.9
54"		100.0	120.0	100.0	120.0	100.0	120.0	80.6	80.6
24"	96"	100.0	210.0	100.0	210.0	100.0	210.0	100.0	172.0
30"		100.0	120.0	100.0	120.0	100.0	120.0	100.0	120.0
32"		100.0	120.0	100.0	120.0	100.0	120.0	100.0	118.9
36"		100.0	120.0	100.0	120.0	100.0	120.0	100.0	107.8
42"		100.0	120.0	100.0	120.0	100.0	120.0	90.8	90.8
48"		100.0	120.0	100.0	120.0	100.0	120.0	80.9	80.9
54"		100.0	120.0	100.0	112.6	100.0	120.0	73.2	73.2
24"	108"	100.0	210.0	100.0	210.0	100.0	210.0	100.0	151.2
30"		100.0	120.0	100.0	120.0	100.0	120.0	100.0	108.6
32"		100.0	120.0	100.0	120.0	100.0	120.0	100.0	100.8
36"		100.0	120.0	100.0	120.0	100.0	120.0	91.2	91.2
42"		100.0	120.0	100.0	120.0	100.0	120.0	80.0	80.0
48"		100.0	120.0	100.0	112.2	100.0	120.0	72.9	72.9
24"	120"	100.0	120.0	100.0	120.0	100.0	120.0	100.0	120.0
30"		100.0	120.0	100.0	120.0	100.0	120.0	96.4	96.4
32"		100.0	120.0	100.0	120.0	100.0	120.0	88.8	88.8
36"		100.0	120.0	100.0	120.0	100.0	120.0	80.6	80.6
42"		100.0	120.0	100.0	114.1	100.0	120.0	70.6	70.6



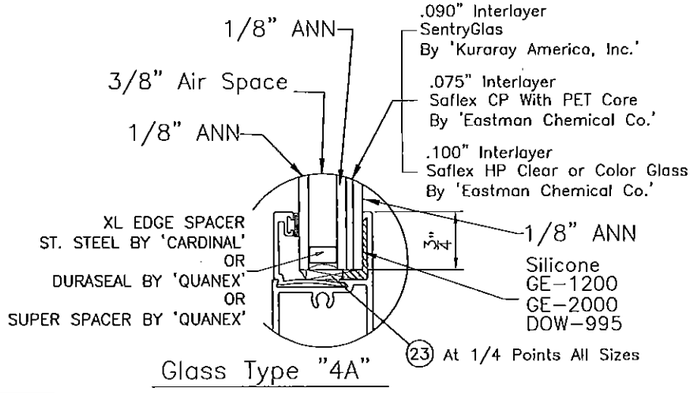
Glass Type "3"



Glass Type "3A"



Glass Type "4"

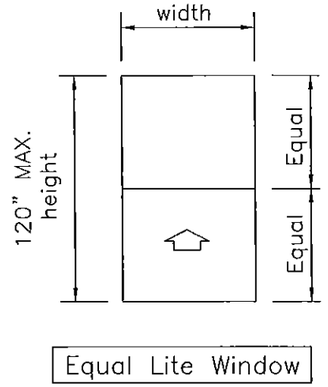


Glass Type "4A"

EQUAL LITES WINDOWS

DESIGN LOAD CAPACITY - PSF

WINDOW DIMS.		GLASS TYPE '3'		GLASS TYPE '3A'		GLASS TYPE '4'		GLASS TYPE '4A'	
WIDTH	HEIGHT	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)
19-1/8"	26"	100.0	210.0	100.0	210.0	100.0	210.0	100.0	210.0
26-1/2"		100.0	210.0	100.0	210.0	100.0	210.0	100.0	210.0
37"		100.0	210.0	100.0	210.0	100.0	210.0	100.0	210.0
53-1/8"		100.0	210.0	100.0	210.0	100.0	210.0	100.0	210.0
19-1/8"	38-3/8"	100.0	210.0	100.0	210.0	100.0	210.0	100.0	210.0
26-1/2"		100.0	210.0	100.0	210.0	100.0	210.0	100.0	210.0
37"		100.0	210.0	100.0	210.0	100.0	210.0	100.0	210.0
53-1/8"		100.0	206.9	100.0	206.9	100.0	206.9	100.0	206.9
19-1/8"	50-5/8"	100.0	210.0	100.0	210.0	100.0	210.0	100.0	210.0
26-1/2"		100.0	210.0	100.0	210.0	100.0	210.0	100.0	210.0
37"		100.0	210.0	100.0	210.0	100.0	210.0	100.0	193.1
53-1/8"		100.0	168.7	100.0	168.7	100.0	168.7	100.0	131.7
19-1/8"	63"	100.0	210.0	100.0	210.0	100.0	210.0	100.0	210.0
26-1/2"		100.0	210.0	100.0	210.0	100.0	210.0	100.0	210.0
37"		100.0	210.0	100.0	191.9	100.0	210.0	100.0	177.6
53-1/8"		100.0	120.0	100.0	120.0	100.0	120.0	100.0	104.5
19-1/8"	72"	100.0	210.0	100.0	210.0	100.0	210.0	100.0	210.0
26-1/2"		100.0	210.0	100.0	210.0	100.0	210.0	100.0	192.9
37"		100.0	210.0	100.0	196.5	100.0	210.0	100.0	156.0
53-1/8"		100.0	120.0	100.0	120.0	100.0	120.0	94.6	94.6
19-1/8"	76"	100.0	210.0	100.0	210.0	100.0	210.0	100.0	210.0
26-1/2"		100.0	210.0	100.0	210.0	100.0	210.0	100.0	182.1
37"		100.0	210.0	100.0	194.8	100.0	210.0	100.0	145.1
53-1/8"		100.0	120.0	100.0	120.0	100.0	120.0	88.3	88.3



Equal Lite Window

All values shown are Design PSF (Pounds per Square Foot)

VALUES FOR EXTERIOR LOADS(+) SHOWN ARE
FOR SILL WITH WATERBAR ADAPTER
FOR WINDOWS WITHOUT WATERBAR ADAPTER
LIMIT EXTERIOR(+) LOADS TO 80.0 PSF

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No 15-0512.07
Expiration Date May 5 2020
By Manuel Perez
Miami-Dade Product Control

Engr: JAVAD AHMAD
CIVIL
FLA. PE # 70592
C.A.N. 3538

JUL 20 2015

AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
1235 S.W. 87 AVE
MIAMI, FLORIDA 33174
TEL. (305) 264-8100 FAX. (305) 262-6978
COMP-ANL\W005-04CGI

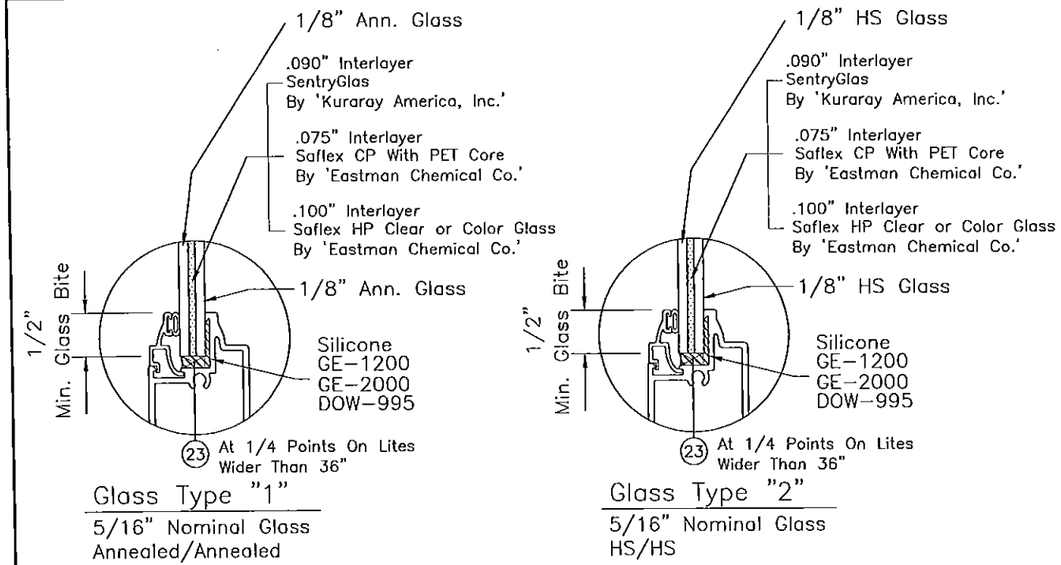
SERIES '360' ALUM SINGLE HUNG WDW. (L.M.I.)

CGI WINDOWS & DOORS
10100 N.W. 25TH STREET
MIAMI, FL. 33172
TEL. (305) 593-6590 FAX. (305) 593-6592

revisions:			
no	date	by	description
C	11.12.08		NEW SHEET ADDED
D	01.03.12		UPDATED TO 2010 FBC
E	08.06.14		UPDATED TO 2014 FBC
F	05.05.15		SPACER REV.

date: 01-28-05
scale: -
dr. by: -
chk. by:

drawing no.
W05-04



Glass Type "1"
5/16" Nominal Glass
Annealed/Annealed

Glass Type "2"
5/16" Nominal Glass
HS/HS

UNEQUAL LITES WINDOWS (ORIEL)

DESIGN LOAD CAPACITY - PSF

WINDOW DIMS.		TOP VENT	GLASS TYPE '1'		GLASS TYPE '2'	
WIDTH	HEIGHT	HEIGHT	EXT.(+)	INT.(−)	EXT.(+)	INT.(−)
24"	96" (MAX.)	48"	100.0	161.9	100.0	210.0
30"			100.0	118.8	100.0	120.0
32"			100.0	111.9	100.0	120.0
36"			100.0	101.5	100.0	120.0
42"			85.4	85.4	100.0	120.0
48"			76.2	76.2	100.0	120.0
54"			68.9	68.9	100.0	120.0
24"	108" (MAX.)	54"	100.0	142.4	100.0	210.0
30"			100.0	102.2	100.0	120.0
32"			94.9	94.9	100.0	120.0
36"			85.9	85.9	100.0	120.0
42"			75.3	75.3	100.0	120.0
48"			68.6	68.6	100.0	120.0
24"	120" (MAX.)	60"	100.0	120.0	100.0	120.0
30"			90.7	90.7	100.0	120.0
32"			83.6	83.6	100.0	120.0
36"			75.9	75.9	100.0	120.0
42"			66.4	66.4	100.0	120.0
24"	120" (MAX.)	66"	100.0	120.0	100.0	120.0
30"			81.7	81.7	100.0	120.0
32"			77.7	77.7	100.0	120.0
36"			67.4	67.4	100.0	120.0
24"	120" (MAX.)	72"	100.0	113.6	100.0	120.0
30"			77.1	77.1	100.0	120.0
32"			70.1	70.1	100.0	120.0
36"			60.3	60.3	100.0	120.0
24"	120" (MAX.)	78"	100.0	120.0	100.0	120.0
30"			71.2	71.2	100.0	120.0
32"			63.8	63.8	100.0	120.0
24"	120" (MAX.)	84"	100.0	120.0	100.0	120.0
30"			66.6	66.6	100.0	120.0

All values shown are Design PSF (Pounds per Square Foot)

UNEQUAL LITES WINDOWS (ORIEL)

DESIGN LOAD CAPACITY - PSF

WINDOW DIMS.		TOP VENT	GLASS TYPE '1'		GLASS TYPE '2'	
WIDTH	HEIGHT	HEIGHT	EXT.(+)	INT.(−)	EXT.(+)	INT.(−)
19-1/8"	96" (MAX.)	48"	100.0	210.0	100.0	210.0
26-1/2"			100.0	138.5	100.0	210.0
37"			99.3	99.3	100.0	120.0
53--1/8"			69.8	69.8	100.0	120.0
19-1/8"	108" (MAX.)	54"	100.0	210.0	100.0	210.0
26-1/2"			100.0	120.0	100.0	120.0
37"			83.6	83.6	100.0	120.0
19-1/8"	120" (MAX.)	60"	100.0	210.0	100.0	210.0
26-1/2"			100.0	108.6	100.0	120.0
37"			73.7	73.7	100.0	120.0
19-1/8"	120" (MAX.)	66"	100.0	210.0	100.0	210.0
26-1/2"			99.5	99.5	100.0	120.0
37"			65.7	65.7	100.0	120.0
19-1/8"	120" (MAX.)	72"	100.0	210.0	100.0	210.0
26-1/2"			93.9	93.9	100.0	120.0
19-1/8"	120" (MAX.)	78"	100.0	120.0	100.0	120.0
26-1/2"			88.0	88.0	100.0	120.0
19-1/8"	120" (MAX.)	84"	100.0	120.0	100.0	120.0
26-1/2"			79.8	79.8	100.0	120.0

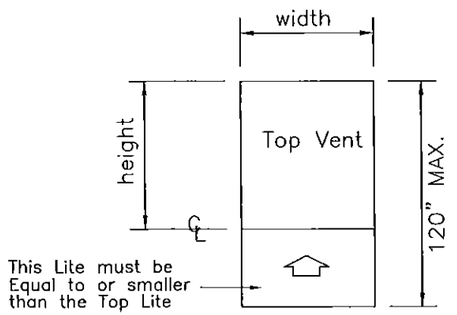
NOTE:
GLASS CAPACITIES ON THIS SHEET ARE
BASED ON ASTM E1300-09 (3 SEC. GUSTS)
AND FLORIDA BUILDING COMMISSION
DECLARATORY STATEMENT DCA05-DEC-219

Supplemental Test Results for:
Air Infiltration - Water Leakage Resistance - Forced Entry

Test Type and Method	Results
Air Infiltration Test (ASTM-E283)	
@ 1.57 psf pressure differential	PASSED (.044 C.F. / Min / Sq Ft)
@ 6.24 psf pressure differential	PASSED (.076 C.F. / Min / Sq Ft)
Water Leakage Test (ASTM-E331)	No leakage allowed
without waterbar adaptor	PASSED @ 12.0 PSF
with waterbar adaptor	PASSED @ 15.0 PSF
Forced Entry Resistance test (ASTM F588 & Grade 10)	PASSED

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No 15.0512.07
Expiration Date May 5, 2020
By Manuel Perez
Miami-Dade Product Control

VALUES FOR EXTERIOR LOADS(+) SHOWN ARE
FOR SILL WITH WATERBAR ADAPTOR
FOR WINDOWS WITHOUT WATERBAR ADAPTOR
LIMIT EXTERIOR(+) LOADS TO 80.0 PSF



Unequal Lite Window

Engr: JAVAD AHMAD
CIVIL
FLA. PE # 70592
C.A.N. 3538

JUL 30 2015

afc
AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
1235 S.W. 87 AVE
MIAMI, FLORIDA 33174
TEL. (305) 264-8100 FAX. (305) 262-6978
COMP-ANL\W005-04CGI

SERIES '360' ALUM SINGLE HUNG WDW. (L.M.I.)

CGI WINDOWS & DOORS
10100 N.W. 25TH STREET
MIAMI, FL. 33172
TEL. (305) 593-6590 FAX. (305) 593-6592

revisions:			
no	date	by	description
C	11.12.08		NO CHANGE THIS SHEET
D	01.03.12		UPDATED TO 2010 FBC
E	08.06.14		UPDATED TO 2014 FBC
F	05.05.15		NO CHANGE THIS SHEET

date: 01-28-05
scale: -
dr. by: -
chk. by:

drawing no.
W05-04

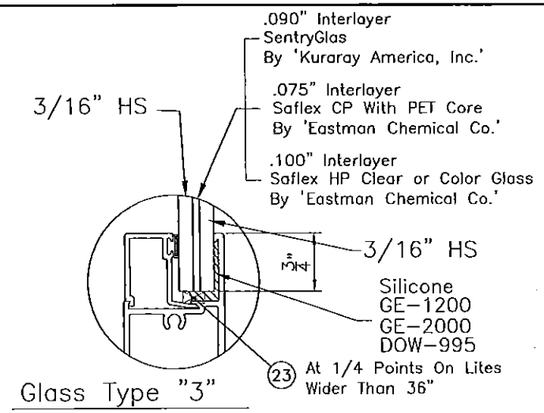
sheet 4 of 10

NOTE:
GLASS CAPACITIES ON THIS SHEET ARE
BASED ON ASTM E1300-09 (3 SEC. GUSTS)
AND FLORIDA BUILDING COMMISSION
DECLARATORY STATEMENT DCA05-DEC-219

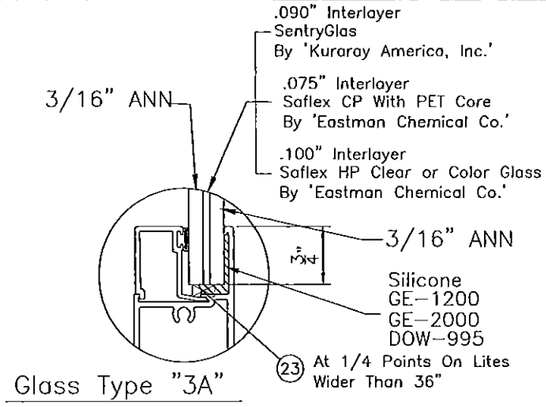
UNEQUAL LITES WINDOWS (ORIEL)

DESIGN LOAD CAPACITY - PSF

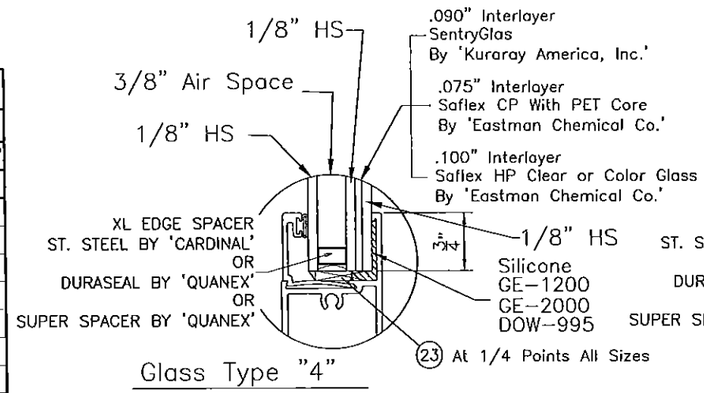
WINDOW DIMS.		TOP VENT	GLASS TYPE '3'		GLASS TYPE '3A'		GLASS TYPE '4'		GLASS TYPE '4A'	
WIDTH	HEIGHT	HEIGHT	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)
24"	96" (MAX.)	48"	100.0	210.0	100.0	210.0	100.0	210.0	100.0	172.0
30"			100.0	120.0	100.0	120.0	100.0	120.0	100.0	120.0
32"			100.0	120.0	100.0	120.0	100.0	120.0	100.0	118.9
36"			100.0	120.0	100.0	120.0	100.0	120.0	100.0	107.8
42"			100.0	120.0	100.0	120.0	100.0	120.0	90.8	90.8
48"			100.0	120.0	100.0	120.0	100.0	120.0	80.9	80.9
54"			100.0	120.0	100.0	112.6	100.0	120.0	73.2	73.2
24"	108" (MAX.)	54"	100.0	210.0	100.0	210.0	100.0	210.0	100.0	151.2
30"			100.0	120.0	100.0	120.0	100.0	120.0	100.0	108.6
32"			100.0	120.0	100.0	120.0	100.0	120.0	100.0	100.8
36"			100.0	120.0	100.0	120.0	100.0	120.0	91.2	91.2
42"			100.0	120.0	100.0	120.0	100.0	120.0	80.0	80.0
48"			100.0	120.0	100.0	112.2	100.0	120.0	72.9	72.9
24"	120" (MAX.)	60"	100.0	120.0	100.0	120.0	100.0	120.0	100.0	120.0
30"			100.0	120.0	100.0	120.0	100.0	120.0	96.4	96.4
32"			100.0	120.0	100.0	120.0	100.0	120.0	88.8	88.8
36"			100.0	120.0	100.0	120.0	100.0	120.0	80.6	80.6
42"			100.0	120.0	100.0	114.1	100.0	120.0	70.6	70.6
24"	120" (MAX.)	66"	100.0	120.0	100.0	120.0	100.0	120.0	100.0	120.0
30"			100.0	120.0	100.0	120.0	100.0	120.0	86.8	86.8
32"			100.0	120.0	100.0	120.0	100.0	120.0	82.6	82.6
36"			100.0	120.0	100.0	120.0	100.0	120.0	71.6	71.6
24"	120" (MAX.)	72"	100.0	120.0	100.0	120.0	100.0	120.0	100.0	120.0
30"			100.0	120.0	100.0	120.0	100.0	120.0	81.9	81.9
32"			100.0	120.0	100.0	120.0	100.0	120.0	74.5	74.5
36"			100.0	120.0	100.0	120.0	100.0	115.2	64.0	64.0
24"	120" (MAX.)	78"	100.0	120.0	100.0	120.0	100.0	120.0	100.0	120.0
30"			100.0	120.0	100.0	120.0	100.0	120.0	75.6	75.6
32"			100.0	120.0	100.0	120.0	100.0	120.0	67.8	67.8
24"	120" (MAX.)	84"	100.0	120.0	100.0	120.0	100.0	120.0	100.0	120.0
30"			100.0	120.0	100.0	120.0	100.0	120.0	70.7	70.7



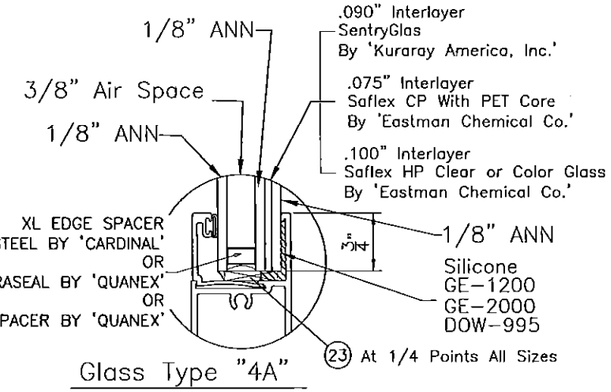
Glass Type "3"



Glass Type "3A"



Glass Type "4"



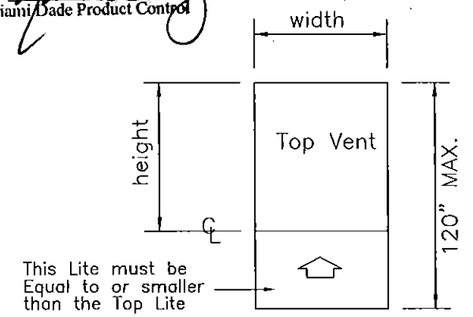
Glass Type "4A"

UNEQUAL LITES WINDOWS (ORIEL)

DESIGN LOAD CAPACITY - PSF

WINDOW DIMS.		TOP VENT	GLASS TYPE '3'		GLASS TYPE '3A'		GLASS TYPE '4'		GLASS TYPE '4A'	
WIDTH	HEIGHT	HEIGHT	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)
19-1/8"	96" (MAX.)	48"	100.0	210.0	100.0	210.0	100.0	210.0	100.0	210.0
26-1/2"			100.0	210.0	100.0	210.0	100.0	210.0	100.0	147.1
37"			100.0	120.0	100.0	120.0	100.0	120.0	100.0	105.5
53-1/8"			100.0	120.0	100.0	114.4	100.0	120.0	74.2	74.2
19-1/8"	108" (MAX.)	54"	100.0	210.0	100.0	210.0	100.0	210.0	100.0	210.0
26-1/2"			100.0	120.0	100.0	120.0	100.0	120.0	100.0	120.0
37"			100.0	120.0	100.0	120.0	100.0	120.0	88.8	88.8
19-1/8"	120" (MAX.)	60"	100.0	210.0	100.0	204.2	100.0	210.0	100.0	210.0
26-1/2"			100.0	120.0	100.0	120.0	100.0	120.0	100.0	115.4
37"			100.0	120.0	100.0	120.0	100.0	120.0	78.3	78.3
19-1/8"	120" (MAX.)	66"	100.0	210.0	100.0	210.0	100.0	210.0	100.0	210.0
26-1/2"			100.0	120.0	100.0	120.0	100.0	120.0	100.0	105.7
37"			100.0	120.0	100.0	120.0	100.0	120.0	69.8	69.8
19-1/8"	120" (MAX.)	72"	100.0	210.0	100.0	210.0	100.0	210.0	100.0	210.0
26-1/2"			100.0	120.0	100.0	120.0	100.0	120.0	99.8	99.8
19-1/8"	120" (MAX.)	78"	100.0	210.0	100.0	210.0	100.0	210.0	100.0	203.3
26-1/2"			100.0	120.0	100.0	120.0	100.0	120.0	93.5	93.5
19-1/8"	120" (MAX.)	84"	100.0	210.0	100.0	210.0	100.0	210.0	100.0	163.5
26-1/2"			100.0	120.0	100.0	120.0	100.0	120.0	84.8	84.8

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No 15-0512.07
Expiration Date May 5,2020
By
Miami-Dade Product Control



Unequal Lite Window

All values shown are Design PSF (Pounds per Square Foot)

VALUES FOR EXTERIOR LOADS(+) SHOWN ARE
FOR SILL WITH WATERBAR ADAPTER
FOR WINDOWS WITHOUT WATERBAR ADAPTER
LIMIT EXTERIOR(+) LOADS TO 80.0 PSF

Engr: JAVAD AHMAD
CIVIL
FLA. PE # 70592
C.A.N. 3538

JUL 30 2015

AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
1235 S.W. 87 AVE
MIAMI, FLORIDA 33174
TEL. (305) 264-8100 FAX. (305) 262-6978

COMP-ANL\W005-04CGI

SERIES '360' ALUM SINGLE HUNG WDW. (L.M.I.)

CGI WINDOWS & DOORS
10100 N.W. 25TH STREET
MIAMI, FL. 33172
TEL. (305) 593-6590 FAX. (305) 593-6592

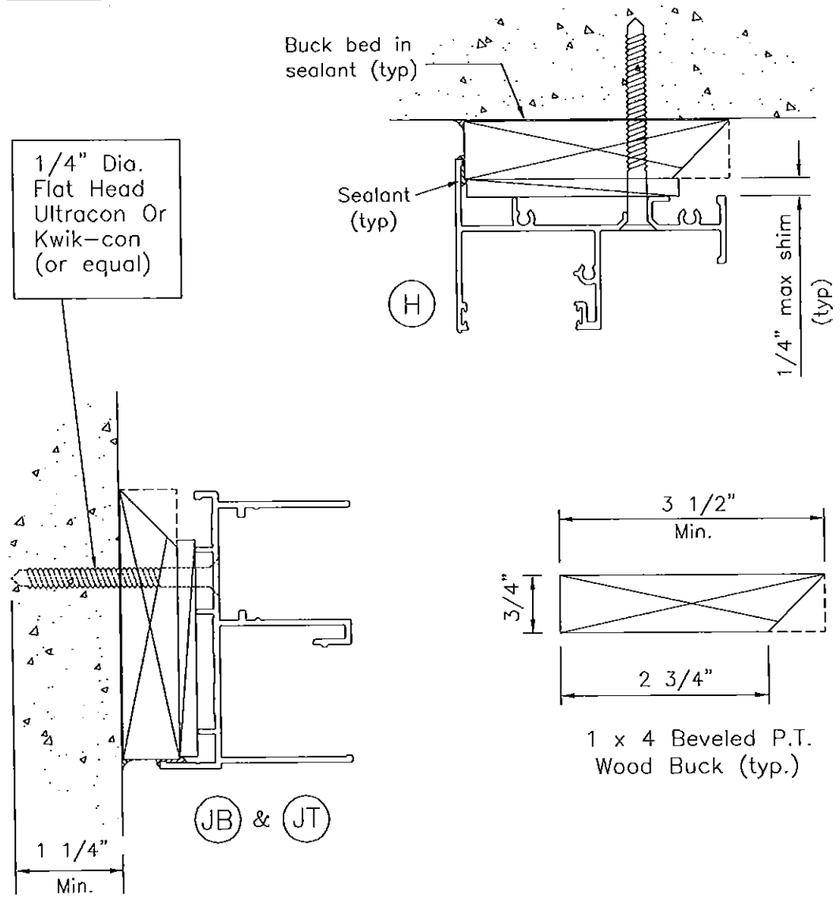
revisions:			
no	date	by	description
C	11.12.08		NEW SHEET ADDED
D	01.03.12		UPDATED TO 2010 FBC
E	08.06.14		UPDATED TO 2014 FBC
F	05.05.15		SPACER REV.

date: 01-28-05
scale: -
dr. by: -
chk. by:

drawing no.
W05-04

Installation Type "A"

w/ 1 x 4 Beveled P.T. Wood Buck



IMPORTANT NOTE:

Wood Bucks must sustain loads imposed by glazing system and transfer them to the building structure.

TYPICAL ANCHORS: SEE ELEV. FOR SPACING

1/4" DIA. ULTRACON BY 'ELCO' (Fu=177 KSI, Fy=155 KSI)

1/4" DIA. HILTI KWIK-CON II (Fu=163 KSI, Fy=157 KSI)

INTO 2BY WOOD BUCKS OR WOOD STRUCTURES
1-1/2" MIN. PENETRATION INTO WOOD

THRU 1BY BUCKS INTO CONC. OR MASONRY
1-1/4" MIN. EMBED INTO CONC. OR MASONRY

DIRECTLY INTO CONCRETE OR FILLED BLOCKS
1-3/4" MIN. EMBED INTO CONCRETE OR FILLED BLOCK

1/4" DIA. TEKS OR SELF DRILLING SCREWS (GRADE 5 CRS)

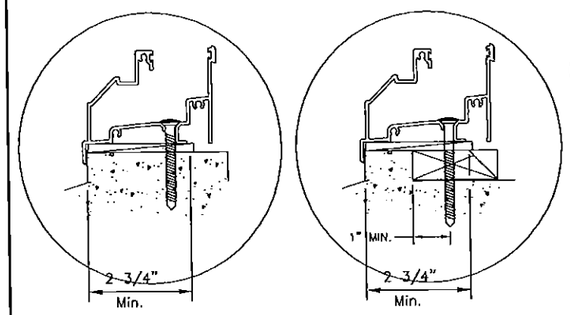
INTO MIAMI-DADE COUNTY APPROVED MULLIONS (MIN. THK. = 1/8")

INTO METAL STRUCTURES
STEEL : 12 GA. MIN. (Fy = 36 KSI MIN.)
ALUMINUM : 1/8" THK. MIN. (6063-T5 MIN.)
(STEEL IN CONTACT WITH ALUMINUM TO BE PLATED OR PAINTED)

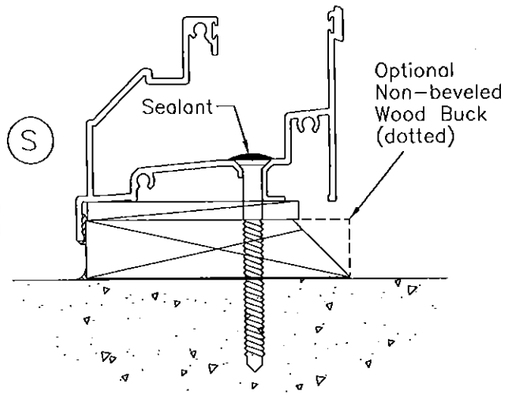
TYPICAL EDGE DISTANCE

INTO CONCRETE AND MASONRY = 2-1/2" MIN.
INTO WOOD STRUCTURE = 1" MIN.
INTO METAL STRUCTURE = 3/4" MIN.

WOOD AT HEAD, SILL OR JAMBS SG = 0.55 MIN.
CONCRETE AT HEAD, SILL OR JAMBS f'c = 3000 PSI MIN.
C-90 FILLED BLOCK AT JAMBS f'm = 2000 PSI MIN.



Optional Pre-Cast Sill



Values for Installation Type "A" apply to the following installation types, with maximum shim space 1/4":

1- Using 1by P.T. wood bucks, min. 3/4" thick,

2- Directly into masonry, without the use of wood bucks.

3- Directly into a steel or aluminum structure
Min. 1/8" thick and using #14 Teks or Self drilling screws.
Structure must be designed by others to sustain the loads imposed by the window.

PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No 15-0512.07
Expiration Date May 5, 2020
By Manuel Perez
Miami-Dade Product Control

Engr: JAVAD AHMAD
CIVIL
FLA. PE # 70592
C.A.N. 3538
JUL 20 2015

AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
1235 S.W. 87 AVE
MIAMI, FLORIDA 33174
TEL. (305) 264-8100 FAX. (305) 262-6978

COMP-ANL\W005-04CGI

SERIES '360' ALUM SINGLE HUNG WDW. (L.M.I.)

CGI WINDOWS & DOORS
10100 N.W. 25TH STREET
MIAMI, FL. 33172
TEL. (305) 593-6590 FAX. (305) 593-6592

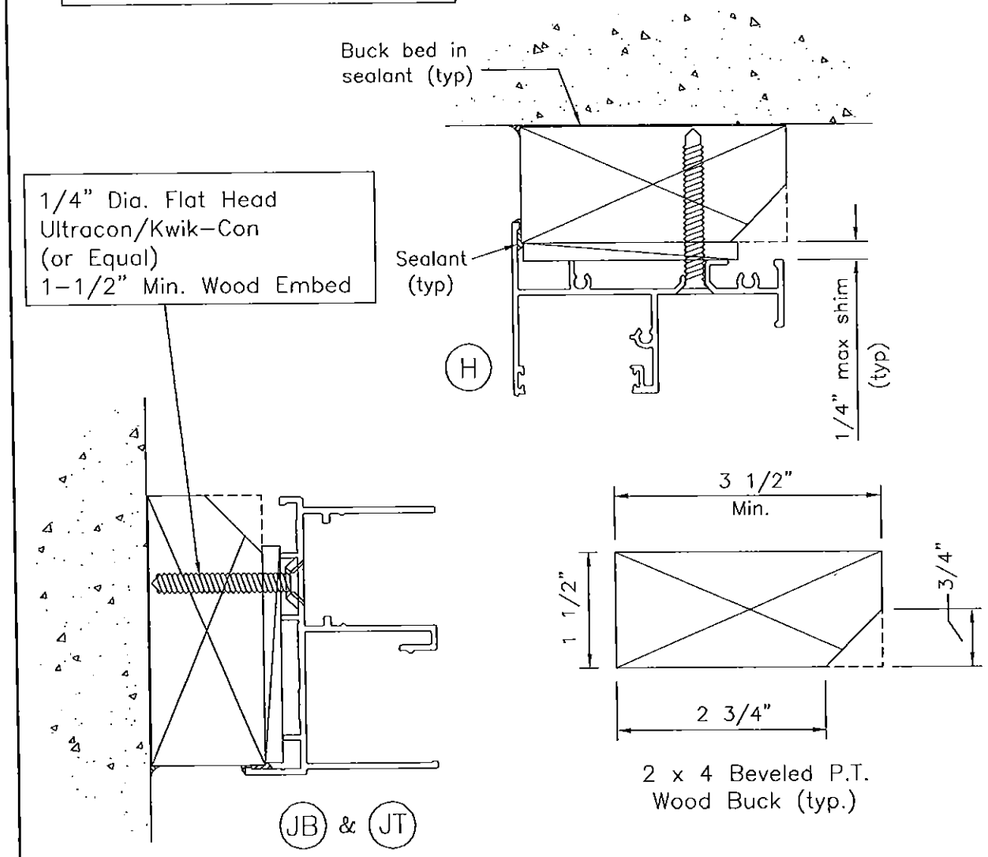
revisions:			
no	date	by	description
C	11.12.08		NO CHANGE THIS SHEET
D	01.03.12		NO CHANGE THIS SHEET
E	08.06.14		UPDATED TO 2014 FBC
F	05.05.15		NO CHANGE THIS SHEET

date: 01-28-05
scale: -
dr. by: -
chk. by:

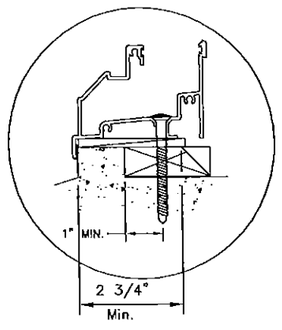
drawing no.
W05-04

Installation Type "B"

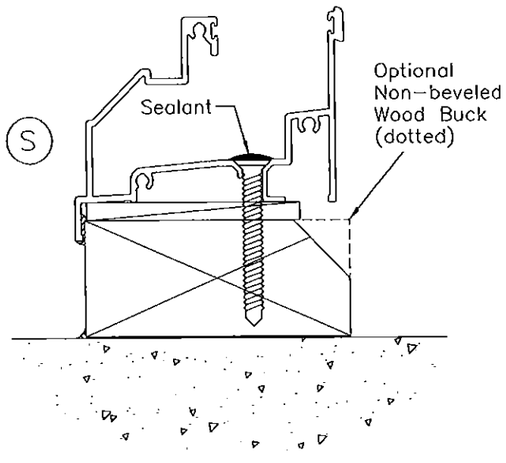
w/ 2 x 4 Beveled P.T. Wood Buck



2 x 4 Beveled P.T. Wood Buck (typ.)

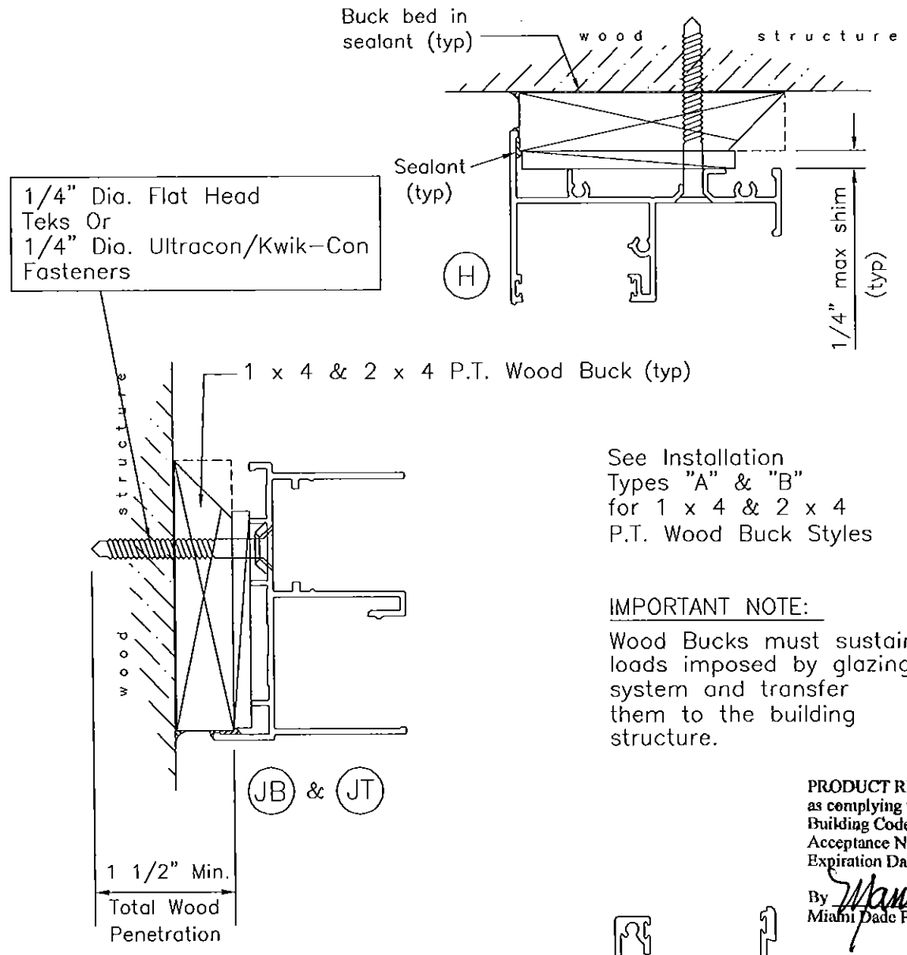


Optional Pre-Cast Sill



Installation Type "C"

based on wood penetration only
using 1 x 4 or 2 x 4 wood bucks

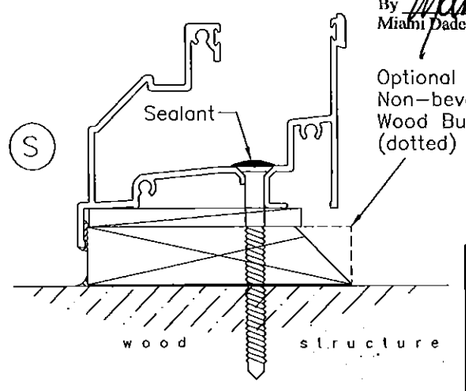


See Installation Types "A" & "B" for 1 x 4 & 2 x 4 P.T. Wood Buck Styles

IMPORTANT NOTE:

Wood Bucks must sustain loads imposed by glazing system and transfer them to the building structure.

PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No 15-0512.07
Expiration Date May 5, 2020
By Manuel Perez
Miami Dade Product Control



Engr: JAVAD AHMAD
CIVIL
FLA. PE # 70592
C.A.N. 3538
JUL 30 2015

AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
1235 S.W. 87 AVE
MIAMI, FLORIDA 33174
TEL (305) 264-8100 FAX. (305) 262-6978
COMP-ANL\W005-04CGI

SERIES '360' ALUM SINGLE HUNG WDW. (L.M.I.)

CGI WINDOWS & DOORS
10100 N.W. 25TH STREET
MIAMI, FL. 33172
TEL (305) 593-6590 FAX. (305) 593-6592

revisions:			
no	date	by	description
C	11.12.08		NO CHANGE THIS SHEET
D	01.03.12		NO CHANGE THIS SHEET
E	08.06.14		UPDATED TO 2014 FBC
F	05.05.15		NO CHANGE THIS SHEET

date: 01-28-05
scale: -
dr. by: -
chk. by:

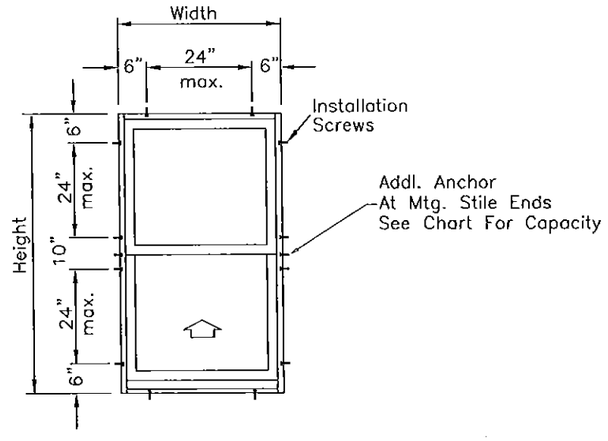
drawing no.
W05-04

sheet 6 of 10

ANCHORS				
DESIGN LOAD CAPACITY – PSF				
WINDOW DIMS.		NO. OF ANCHORS AT JAMB	STD. HOLE PATTERN W/O ADDL. ANCHOR	STD. HOLE PATTERN WITH ADDL. ANCHOR
WIDTH	HEIGHT		EXT.(+) & INT.(–)	EXT.(+) & INT.(–)
24"	48"	4	210.0	210.0
30"			210.0	210.0
32"			210.0	210.0
36"			210.0	210.0
42"			201.8	210.0
48"			175.7	210.0
54"			147.2	206.4
24"	60"	4	210.0	210.0
30"			193.7	210.0
32"			185.5	210.0
36"			170.9	210.0
42"			152.9	191.2
48"			138.4	173.0
54"			126.3	157.9
24"	72"	6	210.0	210.0
30"			210.0	210.0
32"			210.0	210.0
36"			201.8	210.0
42"			181.6	210.0
48"			145.3	192.6
54"			117.2	175.7
24"	84"	6	210.0	210.0
30"			189.5	210.0
32"			180.3	210.0
36"			165.1	192.6
42"			148.2	173.0
48"			135.4	157.9
54"			111.2	145.3
24"	96"	6	194.6	210.0
30"			161.4	188.3
32"			153.2	178.8
36"			139.7	163.0
42"			124.5	145.3
48"			113.5	132.4
54"			104.8	122.2
24"	108"	8	210.0	210.0
30"			187.5	210.0
32"			177.7	199.9
36"			161.4	181.6
42"			143.1	161.0
48"			129.7	145.9
24"	120"	8	201.8	210.0
30"			166.0	186.8
32"			157.2	176.8
36"			142.4	160.2
42"			125.8	141.5

ANCHORS				
DESIGN LOAD CAPACITY – PSF				
WINDOW DIMS.		NO. OF ANCHORS AT JAMB	STD. HOLE PATTERN W/O ADDL. ANCHOR	STD. HOLE PATTERN WITH ADDL. ANCHOR
WIDTH	HEIGHT		EXT.(+) & INT.(–)	EXT.(+) & INT.(–)
19–1/8"	26"	4	210.0	210.0
26–1/2"			210.0	210.0
37"			210.0	210.0
53–1/8"			210.0	210.0
19–1/8"	38–3/8"	4	210.0	210.0
26–1/2"			210.0	210.0
37"			210.0	210.0
53–1/8"			176.9	210.0
19–1/8"	50–5/8"	4	210.0	210.0
26–1/2"			210.0	210.0
37"			208.1	210.0
53–1/8"			145.6	196.3
19–1/8"	63"	4	210.0	210.0
26–1/2"			198.4	210.0
37"			157.4	196.7
53–1/8"			120.5	150.7
19–1/8"	72"	6	210.0	210.0
26–1/2"			210.0	210.0
37"			198.1	210.0
53–1/8"			120.6	178.7
19–1/8"	76"	6	210.0	210.0
26–1/2"			210.0	210.0
37"			184.4	210.0
53–1/8"			118.2	166.9

LOADS APPLY TO INSTALLATION TYPES A, B & C AND INTO ALUMINUM BUCKS FOR ALUMINUM BUCK INSTALLATION SEE SHEETS 9 AND 10.



CGI Standard Hole Pattern

Refer to sheets 5 & 6 of 10 for description of installation types A – B – C

Engr: JAVAD AHMAD
CIVIL
FLA. PE # 70592
C.A.N. 3538

NOV 30 2015

PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No 15-0512.07
Expiration Date May 5, 2020
By Manuel Perez
Miami-Dade Product Control

AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
1235 S.W. 87 AVE
MIAMI, FLORIDA 33174
TEL (305) 264-8100 FAX. (305) 262-6978
COMP-ANL\W005-04CGI

SERIES '360' ALUM. SINGLE HUNG WDW. (L.M.I.)

CGI WINDOWS & DOORS
10100 N.W. 25TH STREET
MIAMI, FL. 33172
TEL (305) 593-6590 FAX. (305) 593-6592

revisions:

no	date	by	description
C	11.12.08		NO CHANGE THIS SHEET
D	01.03.12		CHART REV.
E	08.06.14		UPDATED TO 2014 FBC
F	05.05.15		NO CHANGE THIS SHEET

date: 01-28-05
scale: -
dr. by: -
chk. by:

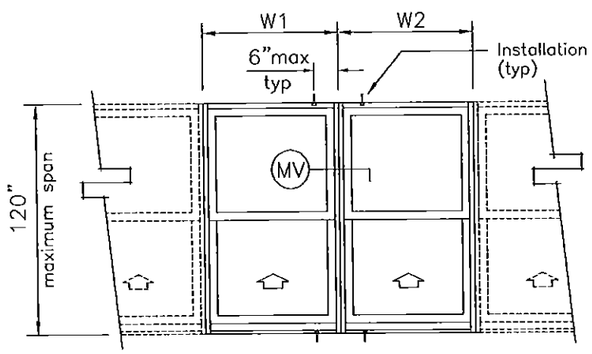
drawing no.
W05-04

sheet 7 of 10

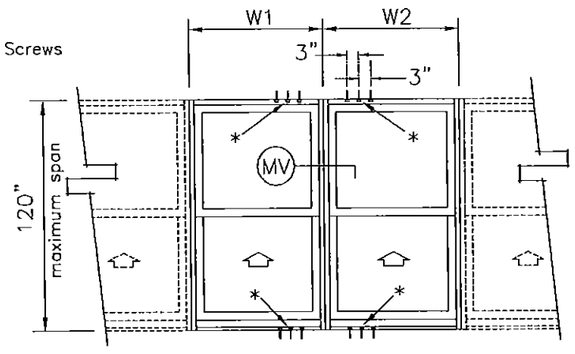
Vertical Mullion Performance

$$\text{Tributary Width} = \frac{W1 + W2}{2}$$

For Window Performance, refer to sheets 3 or 4



Multiple Opening
(2 or more windows)
w/ 1 screw on each side of mullion
Standard Installation

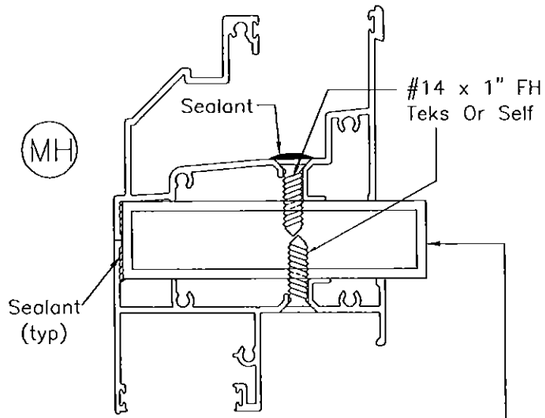


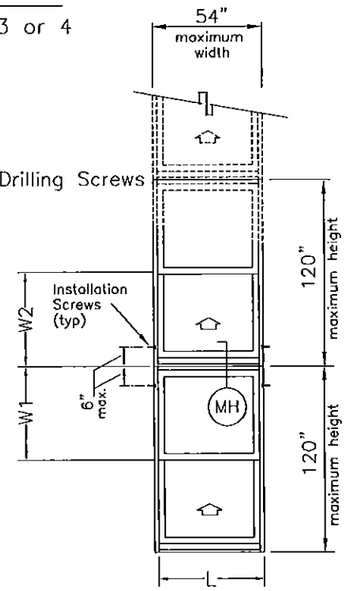
Multiple Opening
(2 or more windows)
w/ 2 or 3 screws on each side of mullion
High Load Installation

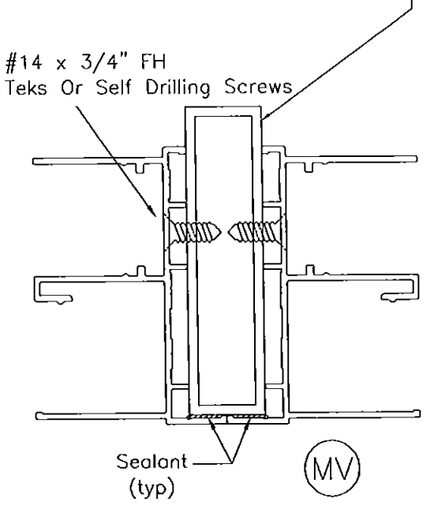
(* = additional holes to be drilled by installer)

Horizontal Mullion Performance

For Window Performance, refer to sheets 3 or 4







MULLION DESIGN LOAD CAPACITY – PSF				
WINDOW DIMS.		ONE ANCHOR EACH SIDE	TWO ANCHORS EACH SIDE	THREE ANCHORS EACH SIDE
WIDTH	HEIGHT	EXT.(+) & INT.(–)	EXT.(+) & INT.(–)	EXT.(+) & INT.(–)
24"	48"	150.0	210.0	210.0
30"		130.9	210.0	210.0
32"		126.6	210.0	210.0
36"		120.0	210.0	210.0
42"		114.5	210.0	210.0
48"		112.5	210.0	210.0
54"		112.5	210.0	210.0
24"	60"	112.5	210.0	210.0
30"		96.0	192.0	210.0
32"		92.0	184.1	210.0
36"		85.7	171.4	210.0
42"		79.1	158.2	210.0
48"		75.0	150.0	210.0
54"		72.7	145.5	210.0
24"	72"	90.0	180.0	210.0
30"		75.8	151.6	210.0
32"		72.3	144.6	210.0
36"		66.7	133.3	200.0
42"		60.5	121.0	181.5
48"		56.3	112.5	168.8
54"		53.3	106.7	160.0
24"	84"	75.0	150.0	210.0
30"		62.6	125.2	172.5
32"		59.6	119.1	162.9
36"		54.5	109.1	147.1
42"		49.0	98.0	129.7
48"		45.0	90.0	117.4
54"		42.1	84.2	108.4

MULLION DESIGN LOAD CAPACITY – PSF				
WINDOW DIMS.		ONE ANCHOR EACH SIDE	TWO ANCHORS EACH SIDE	THREE ANCHORS EACH SIDE
WIDTH	HEIGHT	EXT.(+) & INT.(–)	EXT.(+) & INT.(–)	EXT.(+) & INT.(–)
24"	96"	64.3	128.6	140.7
30"		53.3	106.7	114.1
32"		50.6	101.2	107.6
36"		46.2	92.3	96.8
42"		41.1	82.3	84.8
48"		37.5	75.0	76.1
54"		34.8	69.6	69.6
24"	108"	56.3	98.3	98.3
30"		46.5	79.5	79.5
32"		44.0	74.9	74.9
36"		40.0	67.2	67.2
42"		35.5	58.5	58.5
48"		32.1	52.2	52.2
24"	120"	50.0	71.4	71.4
30"		41.1	57.6	57.6
32"		38.9	54.2	54.2
36"		35.3	48.5	48.5
42"		31.2	42.2	42.2

MULLION DESIGN LOAD CAPACITY – PSF				
WINDOW DIMS.		ONE ANCHOR EACH SIDE	TWO ANCHORS EACH SIDE	THREE ANCHORS EACH SIDE
WIDTH	HEIGHT	EXT.(+) & INT.(–)	EXT.(+) & INT.(–)	EXT.(+) & INT.(–)
53-1/8"	26"	210.0	210.0	210.0
19-1/8"	38-3/8"	210.0	210.0	210.0
26-1/2"		194.6	210.0	210.0
37"		176.2	210.0	210.0
53-1/8"		176.0	210.0	210.0
19-1/8"	50-5/8"	165.0	210.0	210.0
26-1/2"		130.9	210.0	210.0
37"		109.0	210.0	210.0
53-1/8"		101.1	202.3	210.0
19-1/8"	63"	126.8	210.0	210.0
26-1/2"		98.3	196.6	210.0
37"		78.7	157.4	210.0
53-1/8"		67.0	133.9	200.9
19-1/8"	72"	108.5	210.0	210.0
26-1/2"		83.2	166.5	210.0
37"		65.5	130.9	196.4
53-1/8"		53.7	107.4	161.1
19-1/8"	76"	102.0	204.0	210.0
26-1/2"		77.9	155.9	210.0
37"		60.9	121.8	182.7
53-1/8"		49.3	98.7	148.0

Engr: JAVAD AHMAD
CIVIL
FLA. PE # 70592
C.A.N. 3538

JUL 30 2015

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No 15-0512.07
Expiration Date May 5, 2020
By Manuel Perez
Miami-Dade Product Control

AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
1235 S.W. 87 AVE
MIAMI, FLORIDA 33174
TEL. (305) 264-8100 FAX. (305) 262-6978
COMP-ANL\W005-04CGI

SERIES '360' ALUM. SINGLE HUNG WDW. (L.M.I.)

CGI WINDOWS & DOORS
10100 N.W. 25TH STREET
MIAMI, FL. 33172
TEL. (305) 593-6590 FAX. (305) 593-6592

revisions:

no	date	by	description
C	11.12.08		NO CHANGE THIS SHEET
D	01.03.12		NO CHANGE THIS SHEET
E	08.06.14		UPDATED TO 2014 FBC
F	05.05.15		NO CHANGE THIS SHEET

date: 01-28-05
scale: –
dr. by: –
chk. by:

drawing no.
W05-04

PERFORMANCE VALUES OF ALUMINUM BUCK INSTALLATION ANCHORS

EXT.(+) & INT.(–)

WINDOW DIMS.		ANCHOR SPACING INTO CONC.		ANCHOR SPACING INTO HOLLOW BLOCK		ANCHOR SPACING INTO WOOD	
WIDTH	HEIGHT	16" O.C.	8" O.C.	16" O.C.	8" O.C.	16" O.C.	8" O.C.
24"	48"	210.0	210.0	178.7	210.0	210.0	210.0
30"		210.0	210.0	155.9	210.0	210.0	210.0
32"		210.0	210.0	150.8	210.0	210.0	210.0
36"		210.0	210.0	142.9	210.0	210.0	210.0
42"		205.7	210.0	131.3	204.2	176.3	210.0
48"		205.7	210.0	131.3	201.0	180.0	210.0
54"		168.0	210.0	107.2	187.6	144.0	210.0
24"	60"	210.0	210.0	134.0	210.0	210.0	210.0
30"		179.2	210.0	114.3	200.1	210.0	210.0
32"		171.8	210.0	109.6	191.9	210.0	210.0
36"		160.0	210.0	102.1	178.7	210.0	210.0
42"		147.7	210.0	94.2	164.9	176.3	210.0
48"		140.0	210.0	89.3	156.3	180.0	210.0
54"		135.8	210.0	86.6	151.6	142.2	210.0
24"	72"	210.0	210.0	134.0	210.0	210.0	210.0
30"		176.8	210.0	112.8	203.1	210.0	210.0
32"		168.8	210.0	107.7	193.8	210.0	210.0
36"		155.6	210.0	99.3	178.7	210.0	210.0
42"		141.2	210.0	90.1	162.2	176.3	210.0
48"		131.3	210.0	83.8	150.8	180.0	210.0
54"		124.4	210.0	79.4	142.9	142.2	210.0
24"	84"	210.0	210.0	134.0	210.0	210.0	210.0
30"		175.3	210.0	111.9	186.4	210.0	210.0
32"		166.8	210.0	106.4	177.4	210.0	210.0
36"		152.7	210.0	97.5	162.4	210.0	210.0
42"		137.1	210.0	87.5	145.9	176.3	210.0
48"		126.0	210.0	80.4	134.0	180.0	210.0
54"		117.9	196.5	75.2	125.4	142.2	210.0
24"	96"	210.0	210.0	134.0	210.0	210.0	210.0
30"		174.2	210.0	111.2	190.6	210.0	210.0
32"		165.4	210.0	105.5	180.9	210.0	210.0
36"		150.8	210.0	96.2	164.9	210.0	210.0
42"		134.4	210.0	85.8	147.0	176.3	210.0
48"		122.5	210.0	78.2	134.0	180.0	210.0
54"		113.6	194.8	72.5	124.3	142.2	210.0
24"	108"	183.8	210.0	117.3	210.0	210.0	210.0
30"		151.7	210.0	96.8	179.8	210.0	210.0
32"		143.8	210.0	91.8	170.4	210.0	210.0
36"		130.7	210.0	83.4	154.8	210.0	210.0
42"		115.9	210.0	73.9	137.3	176.3	210.0
48"		105.0	195.0	67.0	124.4	180.0	210.0
24"	120"	186.7	210.0	119.1	210.0	210.0	210.0
30"		153.6	210.0	98.0	183.8	210.0	210.0
32"		145.4	210.0	92.8	173.9	210.0	210.0
36"		131.8	210.0	84.1	157.6	210.0	210.0
42"		116.4	210.0	74.3	139.2	176.3	210.0

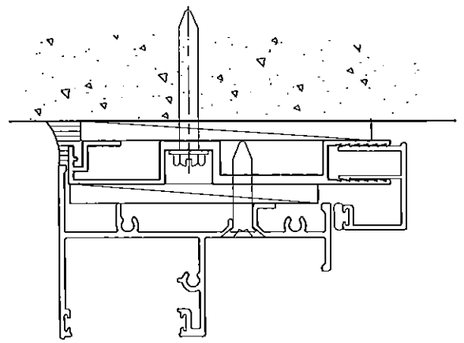
PERFORMANCE VALUES OF ALUMINUM BUCK INSTALLATION ANCHORS

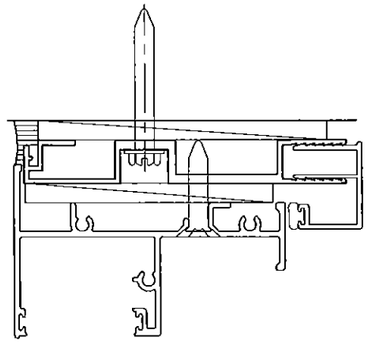
EXT.(+) & INT.(–)

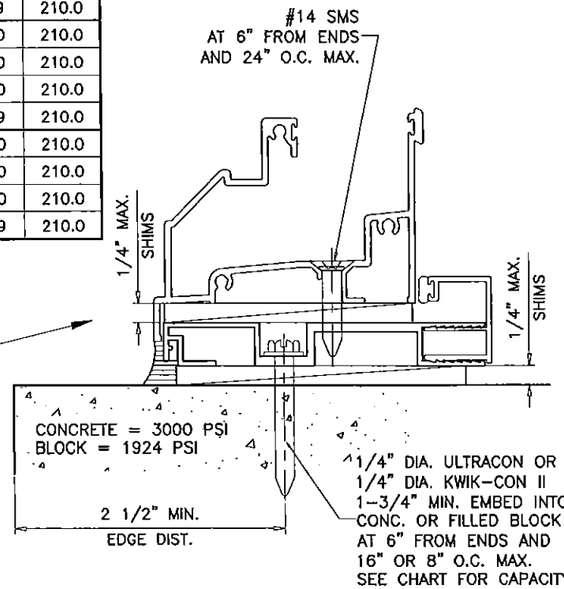
WINDOW DIMS.		ANCHOR SPACING INTO CONC.		ANCHOR SPACING INTO HOLLOW BLOCK		ANCHOR SPACING INTO WOOD	
WIDTH	HEIGHT	16" O.C.	8" O.C.	16" O.C.	8" O.C.	16" O.C.	8" O.C.
19-1/8"	26"	210.0	210.0	210.0	210.0	210.0	210.0
26-1/2"		210.0	210.0	210.0	210.0	210.0	210.0
37"		210.0	210.0	185.5	210.0	210.0	210.0
53-1/8"		210.0	210.0	148.0	210.0	198.8	210.0
19-1/8"	38-3/8"	210.0	210.0	210.0	210.0	210.0	210.0
26-1/2"		210.0	210.0	173.9	210.0	210.0	210.0
37"		210.0	210.0	157.4	210.0	210.0	210.0
53-1/8"		185.8	210.0	118.5	207.4	159.2	210.0
19-1/8"	50-5/8"	210.0	210.0	196.6	210.0	210.0	210.0
26-1/2"		210.0	210.0	155.9	210.0	210.0	210.0
37"		203.5	210.0	129.9	194.8	210.0	210.0
53-1/8"		171.8	210.0	109.6	180.7	147.3	210.0
19-1/8"	63"	210.0	210.0	188.8	210.0	210.0	210.0
26-1/2"		210.0	210.0	146.4	210.0	210.0	210.0
37"		183.7	210.0	117.2	187.5	210.0	210.0
53-1/8"		156.2	210.0	99.7	159.5	146.9	210.0
19-1/8"	72"	210.0	210.0	161.6	210.0	210.0	210.0
26-1/2"		194.2	210.0	123.9	210.0	210.0	210.0
37"		152.8	210.0	97.5	175.5	210.0	210.0
53-1/8"		125.3	210.0	79.9	143.9	146.9	210.0
19-1/8"	76"	210.0	210.0	151.9	210.0	210.0	210.0
26-1/2"		181.9	210.0	116.0	208.9	210.0	210.0
37"		142.1	210.0	90.7	163.3	210.0	210.0
53-1/8"		115.1	207.3	73.5	132.2	146.9	210.0

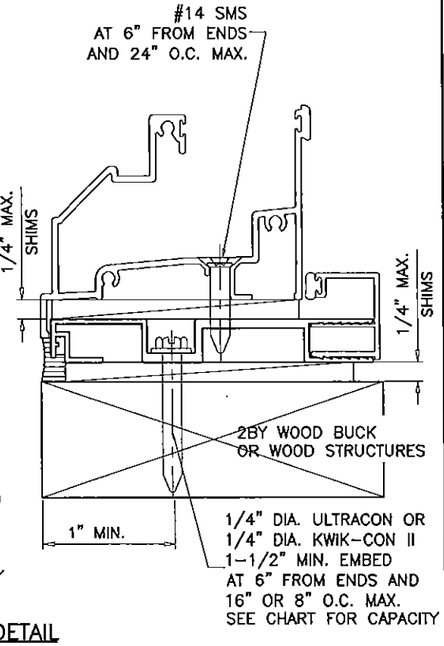
ALUMINUM BUCK FRAMING DETAILS

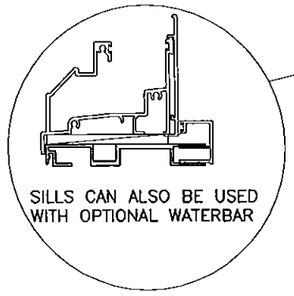
REFER TO SHEETS 3 THRU 9 FOR WINDOW CAPACITIES
USE LOWER APPLICABLE VALUES.



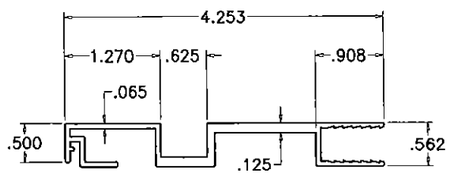




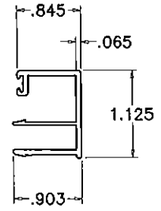




TYPICAL INSTALLATION DETAIL ON ALL FOUR SIDES/USING ALUMINUM BUCK SYSTEM



ALUMINUM BUCK
6063-T6



OPTIONAL COVER
6063-T6

Engr: JAVAD AHMAD
CIVIL
FLA. PE # 70592
C.A.N. 3538

JUL 30 2015

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No 15-0512.07
Expiration Date May 5, 2020
By Manuel Perez
Miami-Dade Product Control

AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
1235 S.W. 87 AVE
MIAMI, FLORIDA 33174
TEL. (305) 264-8100 FAX. (305) 262-6978

COMP-ANL\W005-04CGI

SERIES '360' ALUM SINGLE HUNG WDW. (L.M.I.)

CGI WINDOWS & DOORS
10100 N.W. 25TH STREET
MIAMI, FL. 33172
TEL. (305) 593-6590 FAX. (305) 593-6592

revisions:

no	date	by	description
C	11.12.08		NO CHANGE THIS SHEET
D	01.03.12		CHART REV.
E	08.06.14		UPDATED TO 2014 FBC
F	05.05.15		NO CHANGE THIS SHEET

date: 01-28-05
scale: -
dr. by: -
chk. by:

drawing no.
W05-04

sheet 9 of 10

PERFORMANCE VALUES OF ALUMINUM BUCK INSTALLATION ANCHORS

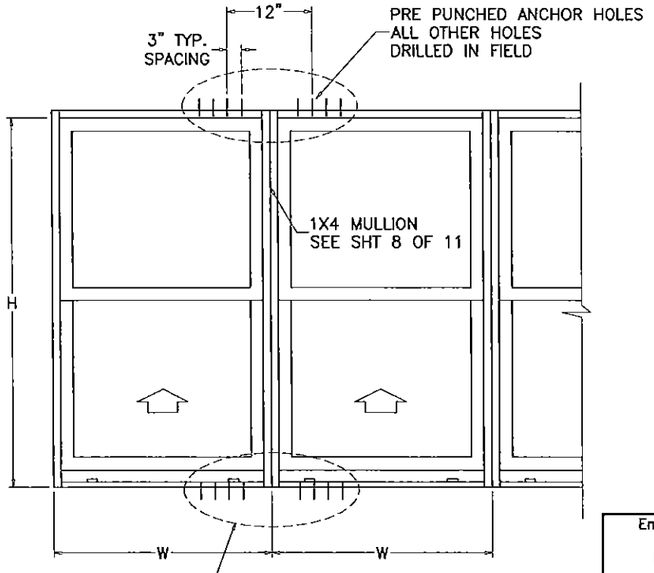
EXT.(+) & INT.(–)

WINDOW DIMS.		ANCHORS INTO HOLLOW BLOCK				ANCHORS INTO CONC.				ANCHORS INTO WOOD			
WIDTH	HEIGHT	CLUSTER OF 2	CLUSTER OF 4	CLUSTER OF 6	CLUSTER OF 8	CLUSTER OF 2	CLUSTER OF 4	CLUSTER OF 6	CLUSTER OF 8	CLUSTER OF 2	CLUSTER OF 4	CLUSTER OF 6	CLUSTER OF 8
24"	48"	89.3	178.7	210.0	210.0	140.0	210.0	210.0	210.0	120.0	210.0	210.0	210.0
30"		78.0	155.9	210.0	210.0	122.2	210.0	210.0	210.0	104.7	209.5	210.0	210.0
32"		75.4	150.8	210.0	210.0	118.1	210.0	210.0	210.0	101.3	202.5	210.0	210.0
36"		71.5	142.9	210.0	210.0	112.0	210.0	210.0	210.0	96.0	192.0	210.0	210.0
42"		68.1	136.1	204.2	210.0	106.7	210.0	210.0	210.0	91.4	182.9	210.0	210.0
48"		67.0	134.0	201.0	210.0	105.0	210.0	210.0	210.0	90.0	180.0	210.0	210.0
54"		67.0	134.0	201.0	210.0	105.0	210.0	210.0	210.0	90.0	180.0	210.0	210.0
24"	60"	67.0	134.0	201.0	210.0	105.0	210.0	210.0	210.0	90.0	180.0	210.0	210.0
30"		57.2	114.3	171.5	210.0	89.6	179.2	210.0	210.0	76.8	153.6	210.0	210.0
32"		54.8	109.6	164.5	210.0	85.9	171.8	210.0	210.0	73.6	147.3	210.0	210.0
36"		51.0	102.1	153.1	204.2	80.0	160.0	210.0	210.0	68.6	137.1	205.7	210.0
42"		47.1	94.2	141.4	188.5	73.8	147.7	210.0	210.0	63.3	126.6	189.9	210.0
48"		44.7	89.3	134.0	178.7	70.0	140.0	210.0	210.0	60.0	120.0	180.0	210.0
54"		43.3	86.6	129.9	173.3	67.9	135.8	203.6	210.0	58.2	116.4	174.5	210.0
24"	72"	53.6	107.2	160.8	210.0	84.0	168.0	210.0	210.0	72.0	144.0	210.0	210.0
30"		45.1	90.3	135.4	180.5	70.7	141.5	210.0	210.0	60.6	121.3	181.9	210.0
32"		43.1	86.1	129.2	172.3	67.5	135.0	202.5	210.0	57.9	115.7	173.6	210.0
36"		39.7	79.4	119.1	158.8	62.2	124.4	186.7	210.0	53.3	106.7	160.0	210.0
42"		36.0	72.1	108.1	144.1	56.5	112.9	169.4	210.0	48.4	96.8	145.2	193.6
48"		33.5	67.0	100.5	134.0	52.5	105.0	157.5	210.0	45.0	90.0	135.0	180.0
54"		31.8	63.5	95.3	127.1	49.8	99.6	149.3	199.1	42.7	85.3	128.0	170.7
24"	84"	44.7	89.3	134.0	178.7	70.0	140.0	210.0	210.0	60.0	120.0	180.0	210.0
30"		37.3	74.6	111.9	149.1	58.4	116.9	175.3	210.0	50.1	100.2	150.3	200.3
32"		35.5	70.9	106.4	141.9	55.6	111.2	166.8	210.0	47.6	95.3	142.9	190.6
36"		32.5	65.0	97.5	129.9	50.9	101.8	152.7	203.6	43.6	87.3	130.9	174.5
42"		29.2	58.3	87.5	116.7	45.7	91.4	137.1	182.9	39.2	78.4	117.6	156.7
48"		26.8	53.6	80.4	107.2	42.0	84.0	126.0	168.0	36.0	72.0	108.0	144.0
54"		25.1	50.2	75.2	100.3	39.3	78.6	117.9	157.2	33.7	67.4	101.1	134.7
24"	96"	38.3	76.6	114.9	153.1	60.0	120.0	180.0	210.0	51.4	102.9	154.3	205.7
30"		31.8	63.5	95.3	127.1	49.8	99.6	149.3	199.1	42.7	85.3	128.0	170.7
32"		30.1	60.3	90.4	120.6	47.2	94.5	141.7	189.0	40.5	81.0	121.5	162.0
36"		27.5	55.0	82.5	109.9	43.1	86.2	129.2	172.3	36.9	73.8	110.8	147.7
42"		24.5	49.0	73.5	98.0	38.4	76.8	115.2	153.6	32.9	65.8	98.7	131.7
48"		22.3	44.7	67.0	89.3	35.0	70.0	105.0	140.0	30.0	60.0	90.0	120.0
54"		20.7	41.4	62.1	82.9	32.5	64.9	97.4	129.9	27.8	55.7	83.5	111.3
24"	108"	33.5	67.0	100.5	134.0	52.5	105.0	157.5	210.0	45.0	90.0	135.0	180.0
30"		27.7	55.3	83.0	110.7	43.4	86.7	130.1	173.4	37.2	74.3	111.5	148.6
32"		26.2	52.4	78.7	104.9	41.1	82.2	123.3	164.3	35.2	70.4	105.7	140.9
36"		23.8	47.6	71.5	95.3	37.3	74.7	112.0	149.3	32.0	64.0	96.0	128.0
42"		21.1	42.2	63.4	84.5	33.1	66.2	99.3	132.4	28.4	56.7	85.1	113.5
48"		19.1	38.3	57.4	76.6	30.0	60.0	90.0	120.0	25.7	51.4	77.1	102.9
24"	120"	29.8	59.6	89.3	119.1	46.7	93.3	140.0	186.7	40.0	80.0	120.0	160.0
30"		24.5	49.0	73.5	98.0	38.4	76.8	115.2	153.6	32.9	65.8	98.7	131.7
32"		23.2	46.4	69.6	92.8	36.3	72.7	109.0	145.4	31.2	62.3	93.5	124.6
36"		21.0	42.0	63.1	84.1	32.9	65.9	98.8	131.8	28.2	56.5	84.7	112.9
42"		18.6	37.1	55.7	74.3	29.1	58.2	87.3	116.4	24.9	49.9	74.8	99.7

PERFORMANCE VALUES OF ALUMINUM BUCK INSTALLATION ANCHORS

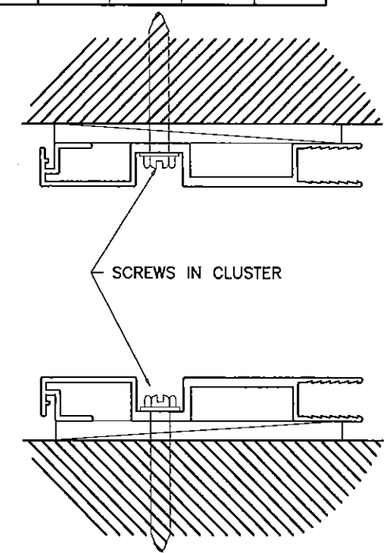
EXT.(+) & INT.(–)

WINDOW DIMS.		ANCHORS INTO HOLLOW BLOCK				ANCHORS INTO CONC.				ANCHORS INTO WOOD			
WIDTH	HEIGHT	CLUSTER OF 2	CLUSTER OF 4	CLUSTER OF 6	CLUSTER OF 8	CLUSTER OF 2	CLUSTER OF 4	CLUSTER OF 6	CLUSTER OF 8	CLUSTER OF 2	CLUSTER OF 4	CLUSTER OF 6	CLUSTER OF 8
19-1/8"	26"	210.0	210.0	210.0	210.0	210.0	210.0	210.0	210.0	210.0	210.0	210.0	210.0
26-1/2"		210.0	210.0	210.0	210.0	210.0	210.0	210.0	210.0	210.0	210.0	210.0	210.0
37"		210.0	210.0	210.0	210.0	210.0	210.0	210.0	210.0	210.0	210.0	210.0	210.0
53-1/8"		210.0	210.0	210.0	210.0	210.0	210.0	210.0	210.0	210.0	210.0	210.0	210.0
19-1/8"	38-3/8"	140.1	210.0	210.0	210.0	210.0	210.0	210.0	210.0	188.2	210.0	210.0	210.0
26-1/2"		115.9	210.0	210.0	210.0	181.7	210.0	210.0	210.0	155.7	210.0	210.0	210.0
37"		105.0	209.9	210.0	210.0	164.5	210.0	210.0	210.0	141.0	210.0	210.0	210.0
53-1/8"		104.8	209.6	210.0	210.0	164.3	210.0	210.0	210.0	140.8	210.0	210.0	210.0
19-1/8"	50-5/8"	98.3	196.6	210.0	210.0	154.0	210.0	210.0	210.0	132.0	210.0	210.0	210.0
26-1/2"		77.9	155.9	210.0	210.0	122.1	210.0	210.0	210.0	104.7	209.4	210.0	210.0
37"		64.9	129.9	194.8	210.0	101.8	203.5	210.0	210.0	87.2	174.5	210.0	210.0
53-1/8"		60.2	120.5	180.7	210.0	94.4	188.8	210.0	210.0	80.9	161.8	210.0	210.0
19-1/8"	63"	75.5	151.0	210.0	210.0	118.4	210.0	210.0	210.0	101.4	202.9	210.0	210.0
26-1/2"		58.5	117.1	175.6	210.0	91.7	183.5	210.0	210.0	78.6	157.3	210.0	210.0
37"		46.9	93.8	140.6	187.5	73.5	146.9	210.0	210.0	63.0	125.9	188.9	210.0
53-1/8"		39.9	79.7	119.6	159.5	62.5	125.0	187.5	210.0	53.6	107.1	160.7	210.0
19-1/8"	72"	64.6	129.3	193.9	210.0	101.3	202.6	210.0	210.0	86.8	173.7	210.0	210.0
26-1/2"		49.6	99.2	148.7	198.3	77.7	155.4	210.0	210.0	66.6	133.2	199.8	210.0
37"		39.0	78.0	117.0	156.0	61.1	122.2	183.3	210.0	52.4	104.8	157.1	209.5
53-1/8"		32.0	64.0	95.9	127.9	50.1	100.2	150.3	200.4	43.0	85.9	128.9	171.8
19-1/8"	76"	60.7	121.5	182.2	210.0	95.2	190.4	210.0	210.0	81.6	163.2	210.0	210.0
26-1/2"		46.4	92.8	139.2	185.7	72.7	145.5	210.0	210.0	62.3	124.7	187.0	210.0
37"		36.3	72.6	108.8	145.1	56.9	113.7	170.6	210.0	48.7	97.5	146.2	194.9
53-1/8"		29.4	58.8	88.2	117.6	46.1	92.1	138.2	184.2	39.5	79.0	118.4	157.9



CLUSTER OF 2, 4, 6 OR 8 ANCHORS (SEE CHARTS ABOVE). ALL OTHER BUCK ANCHORS AS PER SHEET 9. (CLUSTER OF 8 BEING SHOWN)

NOTE: ALUMINUM BUCKS ARE SUPPLIED WITH CLUSTER OF 2 (1 SCREW HOLE PER SIDE) STANDARD. EXTRA HOLES MUST BE FIELD DRILLED IF REQUIRED.



ANCHORS MIN. EDGE DIST. = 2-1/2 IN.

ANCHORS AT ALUMINUM BUCK FRAMING (AT MULLION ENDS)

FOR WINDOW ANCHORING TO ALUMINUM BUCKS USE #14 SCREWS SPACED AS PER SHEETS 7 & 8.

Engr: JAVAD AHMAD
CIVIL
FLA. PE # 70592
C.A.N. 5538

JUL 2015

PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No 15-0512.07
Expiration Date May 5, 2020
By Manuel Perez
Miami-Dade Product Control

AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
1235 S.W. 87 AVE
MIAMI, FLORIDA 33174
TEL. (305) 264-8100 FAX. (305) 262-6978
COMP-ANL\W005-04CGI

SERIES '360' ALUM. SINGLE HUNG WDW. (L.M.I.)

CGI WINDOWS & DOORS
10100 N.W. 25TH STREET
MIAMI, FL. 33172
TEL. (305) 593-6590 FAX. (305) 593-6592

revisions:

no	date	by	description
C	11.12.08		NO CHANGE THIS SHEET
D	01.03.12		CHART REV.
E	08.05.14		UPDATED TO 2014 FBC
F	05.05.15		NO CHANGE THIS SHEET

date: 01-28-05
scale: -
dr. by: -
chk. by:

drawing no.
W05-04

sheet 10 of 10

MIAMI-DADE COUNTY
PRODUCT CONTROL SECTION
11805 SW 26 Street, Room 208
Miami, Florida 33175-2474
T (786) 315-2590 F (786) 315-2599
www.miamidade.gov/economy

DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER)
BOARD AND CODE ADMINISTRATION DIVISION

NOTICE OF ACCEPTANCE (NOA)

Greenheck Fan Corporation
P.O. Box 410
Schofield, WI 54476

SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed and accepted by Miami-Dade County RER - Product Control Section to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Section (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. RER reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Section that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein, and has been designed to comply with the Florida Building Code, including the High Velocity Hurricane Zone.

DESCRIPTION: Model ESD-635DE Aluminum Louver

APPROVAL DOCUMENT: Drawing No. **ESD-635DE**, titled "ESD-635DE NOA Drawings", sheets 1 through 9 of 9, dated 10/27/2015, prepared by Greenheck Fan Corporation, signed and sealed by Chander P. Nangia, P.E., bearing the Miami-Dade County Product Control approval stamp with the Notice of Acceptance number and approval date by the Miami-Dade County Product Control Section.

MISSILE IMPACT RATING: Large and Small Missile Impact Resistant

LABELING: Each unit shall bear a permanent label with the manufacturer's name or logo, city, state, model/series, and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

RENEWAL of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

ADVERTISEMENT: The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

INSPECTION: A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA consists of this page 1 and evidence page E-1, as well as approval document mentioned above.

The submitted documentation was reviewed by **Carlos M. Utrera, P.E.**

MIAMI-DADE COUNTY APPROVED

01/28/2016

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

A. DRAWINGS

1. Drawing No. **ESD-635DE**, titled "ESD-635DE NOA Drawings", sheets 1 through 9 of 9, dated 10/27/2015, prepared by Greenheck Fan Corporation, signed and sealed by Chander P. Nangia, P.E.

B. TESTS

1. Test report on 1) Uniform Static Air Pressure Test per FBC, TAS 202-94
   2) Large Missile Impact Test per FBC, TAS 201-94,
   3) Cyclic Wind Pressure Test per FBC, TAS 203-94,
   along with marked-up drawings and installation diagram of Model ESD-635DE (sleeved) aluminum louvers, prepared by Architectural Testing, Inc., Test Report No. **F0132.01-602-18**, dated 10/26/2015, signed and sealed by Justin P. McDonald, P.E.
2. Test report on 1) Uniform Static Air Pressure Test per FBC, TAS 202-94
   2) Large Missile Impact Test per FBC, TAS 201-94,
   3) Cyclic Wind Pressure Test per FBC, TAS 203-94,
   along with marked-up drawings and installation diagram of Model ESD-635DE (non-sleeved) aluminum louvers, prepared by Architectural Testing, Inc., Test Report No. **F0133.01-602-18**, dated 08/27/2015, signed and sealed by Justin P. McDonald, P.E.

C. CALCULATIONS

1. Structural and anchors calculations prepared by Chander P. Nangia, P.E., dated 10/26/2015, signed and sealed by Chander P. Nangia, P.E.

D. QUALITY ASSURANCE

1. Miami-Dade Department of Regulatory and Economic Resources (RER)

E. MATERIAL CERTIFICATIONS

1. None.

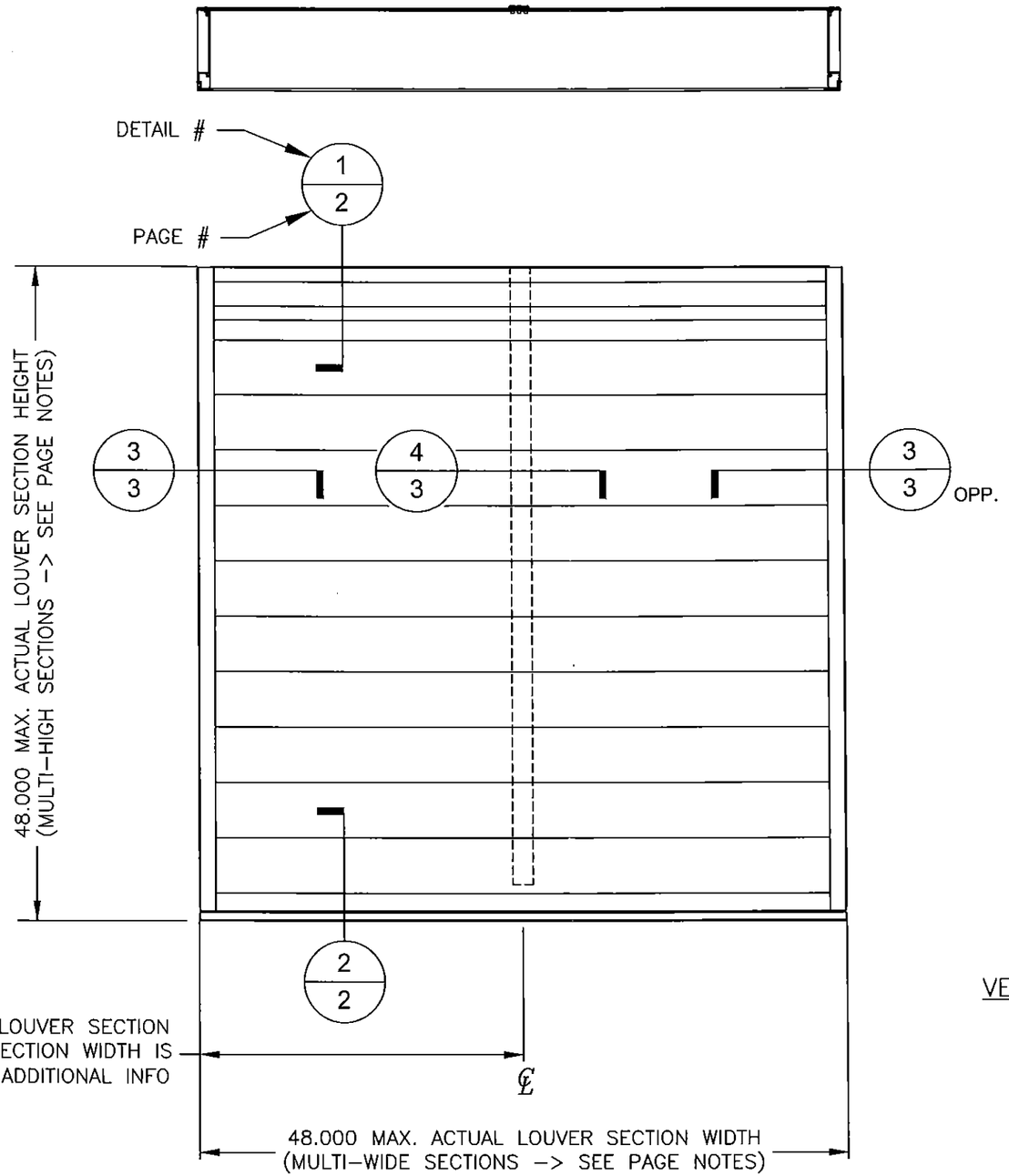
F. STATEMENTS

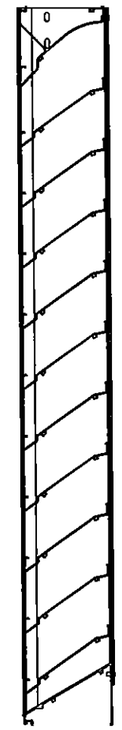
1. Statement letter of code compliance to the 5th edition (2014) FBC issued by Chander P. Nangia, P.E., dated 10/27/2015, signed and sealed by Chander P. Nangia, P.E.
2. Statement letter of no financial interest issued by Chander P. Nangia, P.E., dated 10/27/2015, signed and sealed by Chander P. Nangia, P.E.

01/28/2016

Carlos M. Utrera, P.E.
Product Control Examiner
NOA No. 15-1109.04
Expiration Date: February 4, 2021
Approval Date: February 4, 2016

HORIZONTAL SECTION CUT





VERTICAL SECTION CUT

CHANDER P. NANGIA PE
7423 HOLLOW RIDGE DR.
HOUSTON, TX 77095
FLORIDA PE # 21938

CHANDER P. NANGIA
LICENSE
No. 21938
STATE OF FLORIDA
PROFESSIONAL ENGINEER

OCT 27 2015

Approved as complying with the Florida Building Code
Date 02/04/2016
NOA# 15-1109.04
Miami Dade Product Control
By _____

PAGE NOTES (TYP. ALL PAGES)

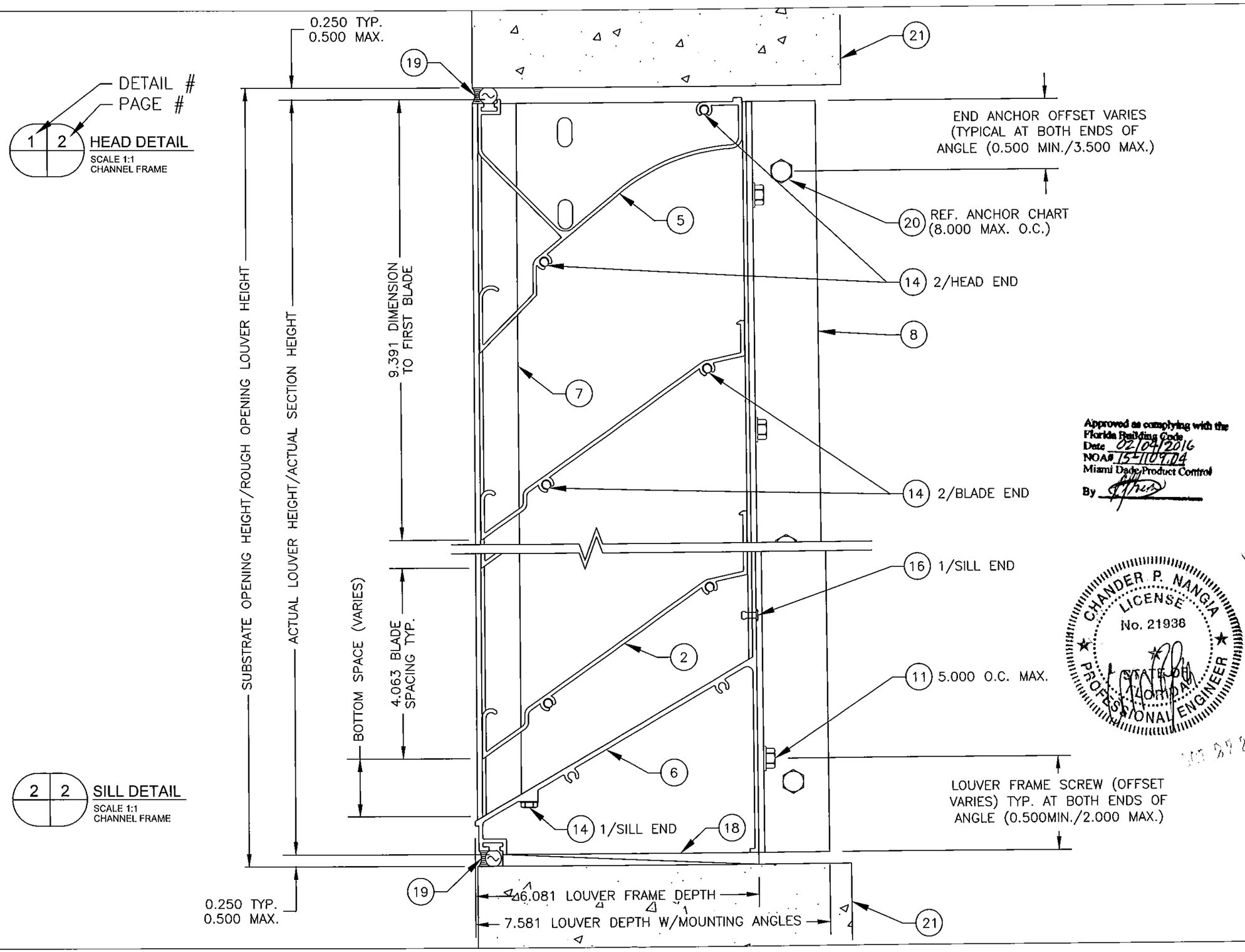
PAGE NOTES:

- MULTI-WIDE AND/OR MULTI-HIGH ASSEMBLIES ARE PERMITTED AS-LONG-AS EACH LOUVER SECTION'S WIDTH/HEIGHT ARE WITHIN THE ALLOWABLE MAXIMUMS AND SUITABLE SUBSTRATES SURROUNDS EACH LOUVER SECTION ASSEMBLY PERIMETER AND EACH LOUVER SECTION IS INSTALLED PER DETAILS HEREIN (REFERENCE PAGES 2 & 3 OF 9).
- STRAP NOT REQUIRED FOR NOA OR AMCA 540 IMPACT LEVEL D (50 ft/s), BUT IS REQUIRED TO PASS AMCA 540 IMPACT LEVEL E (80 ft/s).

GREENHECK
P.O.BOX 410 SCHOFIELD, WISCONSIN 54476-0410

TITLE:
ESD-635DE NOA DRAWINGS
CHANNEL FRAME ELEVATION

DRAWN BY	DATE
NAH	10/27/15
SCALE	
1:5	
SHEET NO.	
1 OF 9	
CAD DRAWING NO.	
ESD-635DE	



Approved as complying with the Florida Building Code
Date 02/04/2016
NOA# 15-1109.04
Miami Dade Product Control
By

CHANDER P. NANGIA
LICENSE
No. 21936
STATE OF FLORIDA
PROFESSIONAL ENGINEER

OCT 27 2015

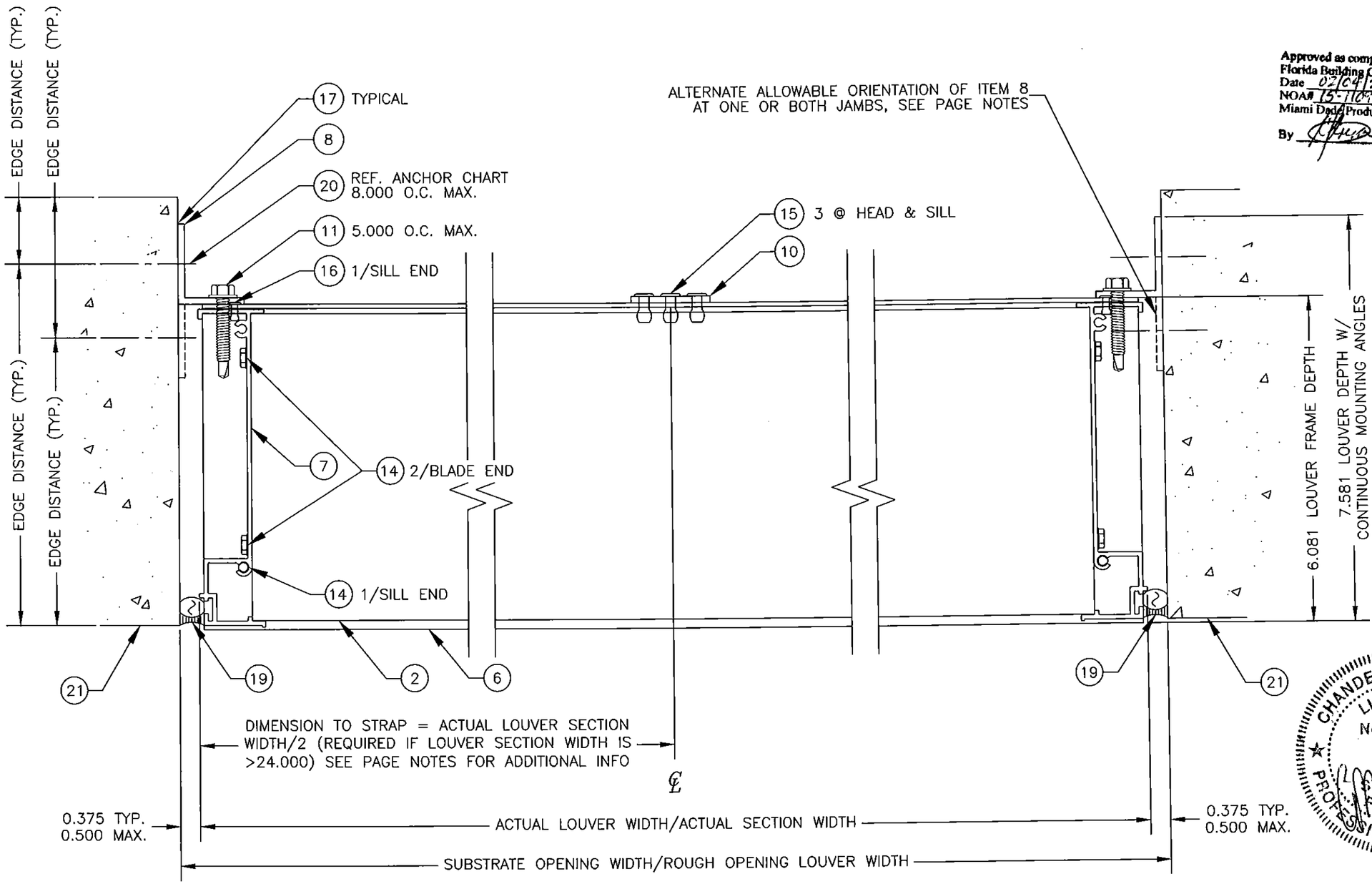
GREENHECK
P.O.BOX 410 SCHOFIELD, WISCONSIN 54476-0410

DRAWN BY NAH | DATE 10/27/15
SCALE 1:1 | SHEET NO. 2 OF 9
CAD DRAWING NO. ESD-635DE

TITLE: ESD-635DE NOA DRAWINGS
CHANNEL FRAME DETAILS

PAGE NOTES:

- STANDARD LOUVER HEIGHT DOWNSIZING IS 0.250 PER END (0.500 OVERALL TOTAL) WHEN ORDERED BASED ON ROUGH OPENING SIZING.
- STRAP (ITEM 10) NOT SHOWN FOR CLARITY – SEE PAGE 3 FOR DETAIL AND NOTE.



Approved as complying with the Florida Building Code
Date 02/04/2016
NOA# 15-1109.04
Miami Dade Product Control
By

3 | 3 JAMB DETAIL
SCALE: 1:1
CHANNEL FRAME

4 | 3 SUPPORT STRAP DETAIL
SCALE: 1:1
CHANNEL FRAME (SEE PAGE NOTES - STRAP)

3opp. | 3 JAMB DETAIL
SCALE: 1:1
CHANNEL FRAME

PAGE NOTES:
- TO ALLOW FOR SUBSTRATE ANCHOR HEAD CLEARANCE, STANDARD LOUVER WIDTH DOWNSIZING IS 0.375 PER END (0.750 OVERALL TOTAL) WHEN ORDERED BASED ON ROUGH OPENING SIZING. THERE IS NO NEED FOR ADDITIONAL DOWNSIZING AT THE JAMBS WHEN USING THE ALTERNATE ANCHOR ORIENTATION.
- STRAP NOT REQUIRED FOR NOA OR AMCA 540 IMPACT LEVEL D (50 ft/s), BUT IS REQUIRED TO PASS AMCA 540 IMPACT LEVEL E (80 ft/s).

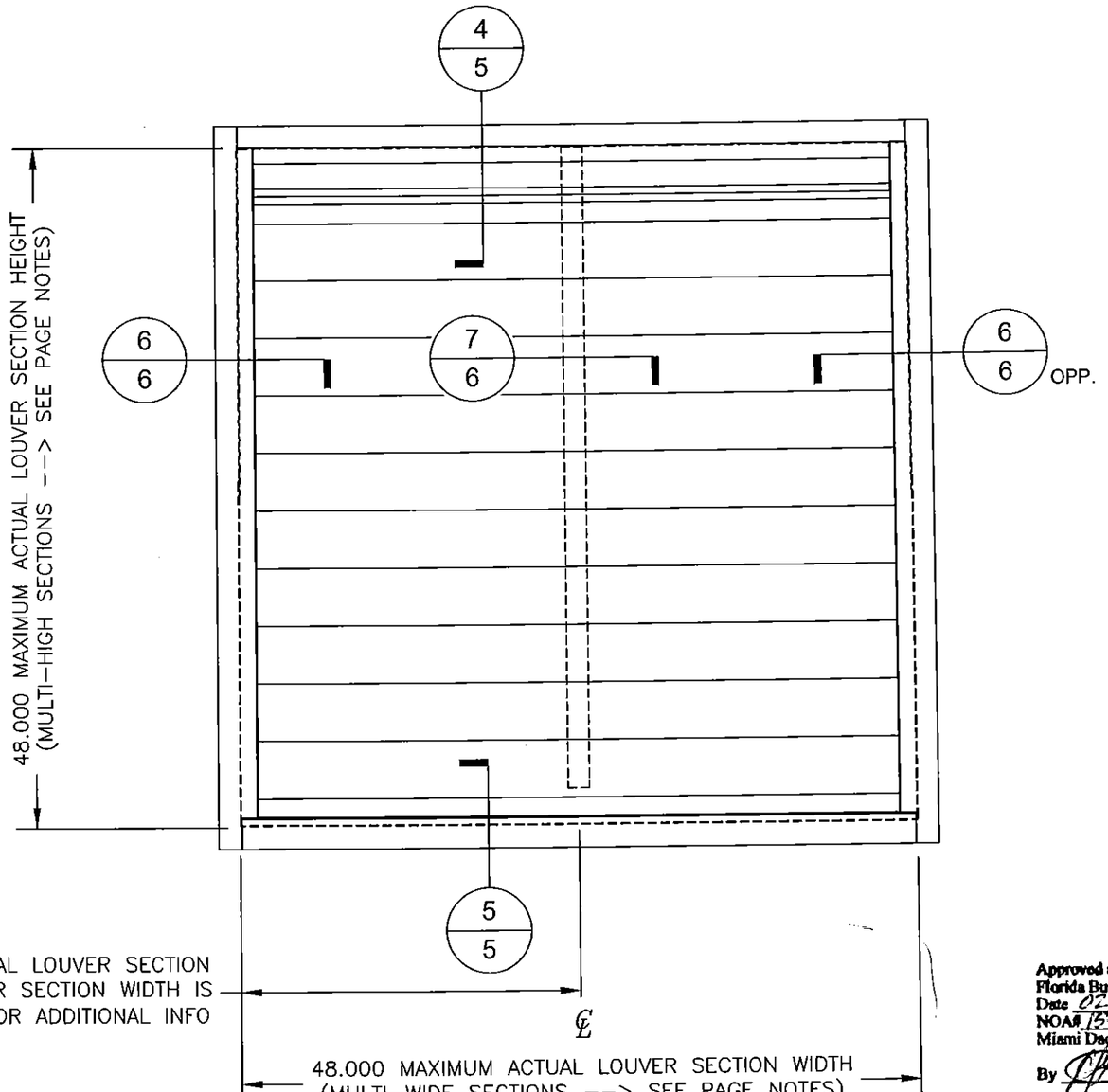
CHANDER P. NANGIA LICENSE No. 21938 STATE OF FLORIDA PROFESSIONAL ENGINEER
JAN 27 2016

GREENHECK
P.O.BOX 410 SCHOFIELD, WISCONSIN 54476-0410

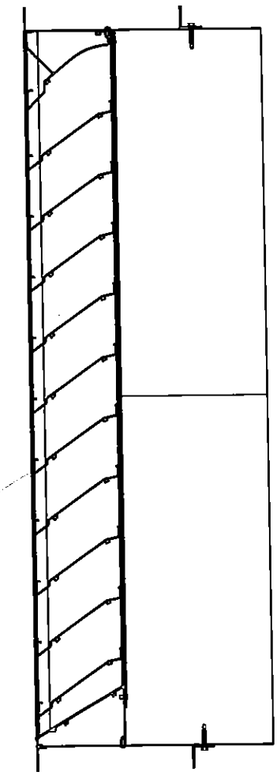
TITLE: ESD-635DE NOA DRAWINGS CHANNEL FRAME DETAILS

DRAWN BY	DATE
NAH	10/27/15
SCALE	
1:1	
SHEET NO.	CAD DRAWING NO.
3 OF 9	ESD-635DE

HORIZONTAL SECTION CUT



DIMENSION TO STRAP = ACTUAL LOUVER SECTION WIDTH/2 (REQUIRED IF LOUVER SECTION WIDTH IS >24.000) SEE PAGE NOTES FOR ADDITIONAL INFO



VERTICAL SECTION CUT

Approved as complying with the Florida Building Code
Date 02/04/2016
NOA# 15-1102.14
Miami Dade Product Control
By

CHANDER P. NANGIA
LICENSE
No. 21938
STATE OF FLORIDA
PROFESSIONAL ENGINEER

OCT 27 2015

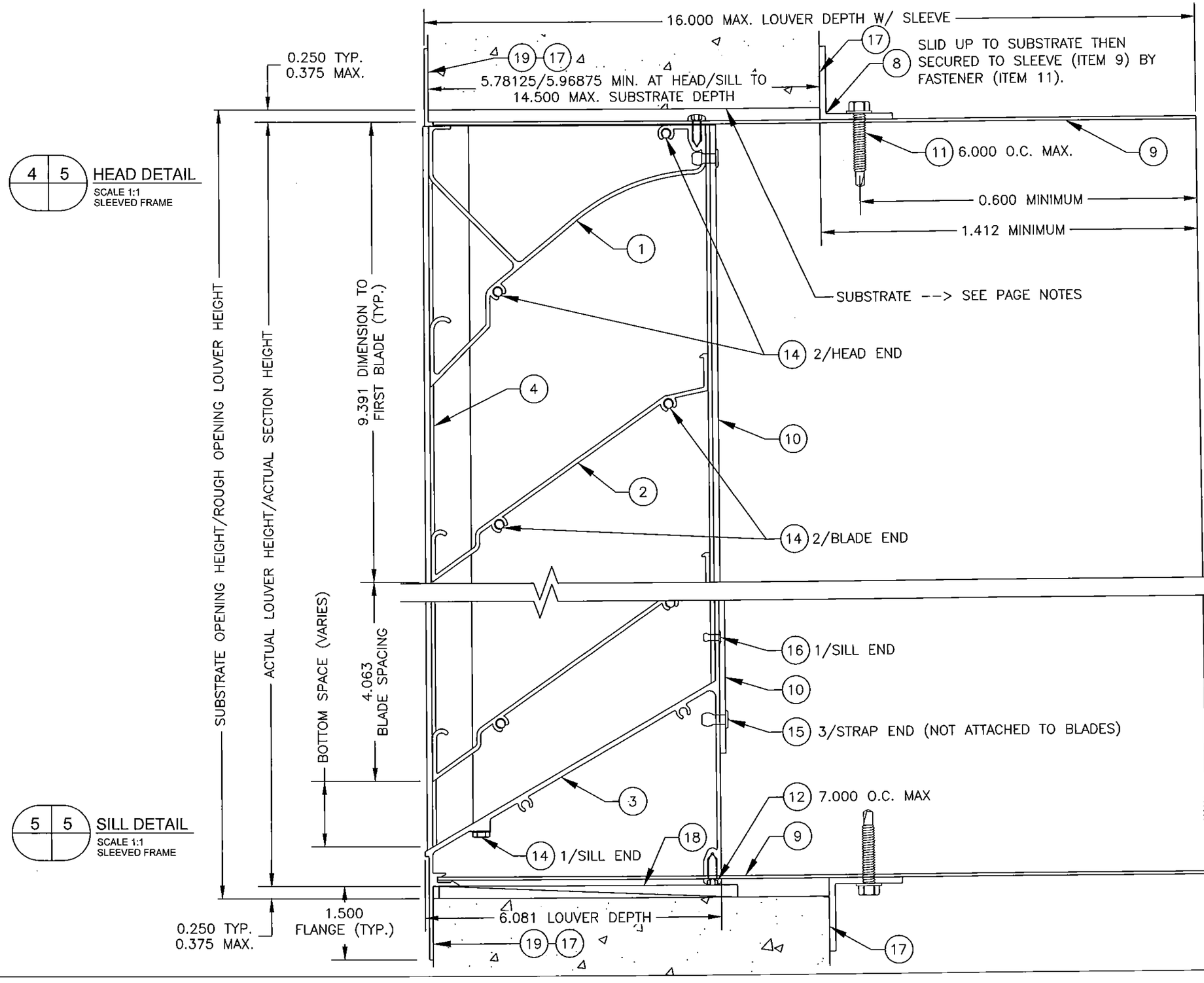
PAGE NOTES:

- MULTI-WIDE AND/OR MULTI-HIGH ASSEMBLIES ARE PERMITTED AS-LONG-AS EACH LOUVER SECTION'S WIDTH/HEIGHT ARE WITHIN THE ALLOWABLE MAXIMUMS AND SUITABLE SUBSTRATES SURROUNDS EACH LOUVER SECTION ASSEMBLY PERIMETER AND EACH LOUVER SECTION IS INSTALLED PER DETAILS HEREIN (REF. PAGES 5 & 6 OF 9).
- STRAP NOT REQUIRED FOR NOA OR AMCA 540 IMPACT LEVEL D (50 ft/s), BUT IS REQUIRED TO PASS AMCA 540 IMPACT LEVEL E (80 ft/s).

GREENHECK
P.O.BOX 410 SCHOFIELD, WISCONSIN 54476-0410

TITLE: ESD-635DE NOA DRAWINGS
SLEEVED FRAME ELEVATION

DRAWN BY	DATE
NAH	10/27/15
SCALE	
1:5	
SHEET NO.	CAD DRAWING NO.
4 OF 9	ESD-635DE



4 5 HEAD DETAIL
SCALE 1:1
SLEEVED FRAME

5 5 SILL DETAIL
SCALE 1:1
SLEEVED FRAME

Approved as complying with the Florida Building Code
Date 02/04/2016
NOA# 15-1102.04
Miami Dade Product Control
By

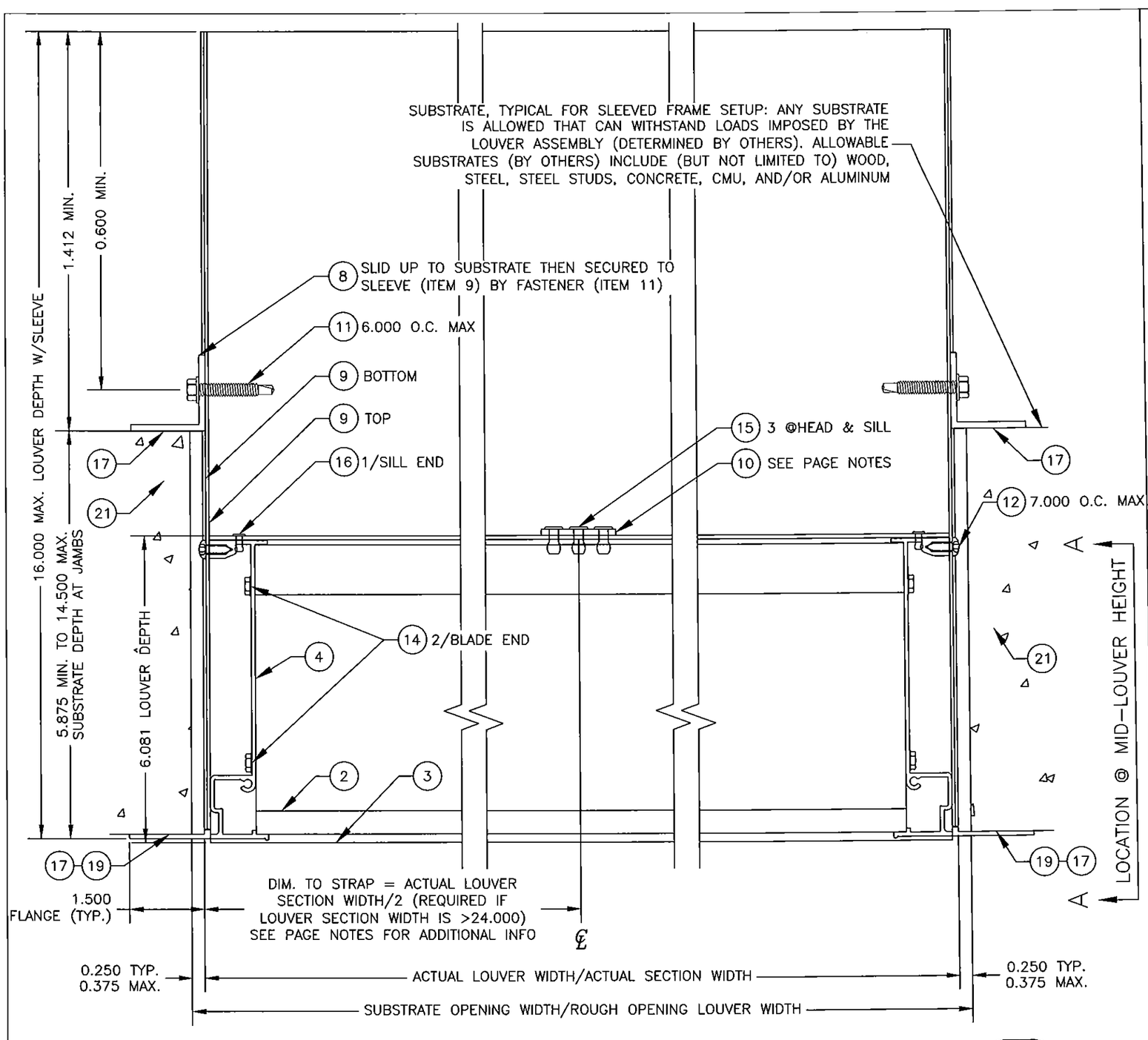
CHANDER P. NANGIA
LICENSE
No. 21038
STATE OF FLORIDA
PROFESSIONAL ENGINEER
OCT 27 2015

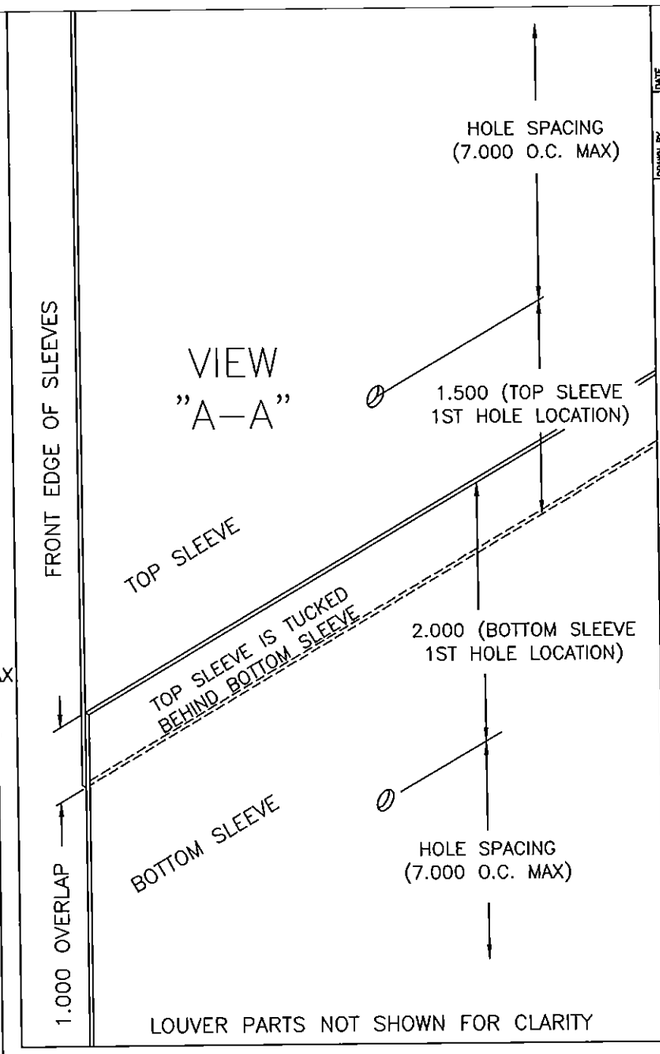
PAGE NOTES:
- SUBSTRATE, TYP. FOR SLEEVED FRAME SETUP: ANY SUBSTRATE IS ALLOWED THAT CAN WITHSTAND LOADS IMPOSED BY THE LOUVER ASSEMBLY (DETERMINED BY OTHERS). ALLOWABLE SUBSTRATES (BY OTHERS) INCLUDE (BUT NOT LIMITED TO) WOOD, STEEL, STEEL STUDS, CONCRETE, CMU, AND/OR ALUMINUM.
- STANDARD LOUVER HEIGHT DOWNSIZING IS 0.375 TOTAL PER END (0.750 OVERALL) WHEN ORDERED BASED ON ROUGH OPENING HEIGHT
- STRAP NOT REQUIRED FOR NOA OR AMCA 540 IMPACT LEVEL D (50 ft/s), BUT IS REQUIRED TO PASS AMCA 540 IMPACT LEVEL E (80 ft/s).

DRAWN BY NAH | DATE 10/27/15
SCALE 1:1 | SHEET NO. 5 OF 9
CAD DRAWING NO. ESD-635DE

GREENHECK
P.O.BOX 410 SCHOFIELD, WISCONSIN 54476-0410

TITLE:
ESD-635DE NOA DRAWINGS
SLEEVED FRAME DETAILS





6 | 6 JAMB DETAIL
SCALE 1:1
SLEEVED FRAME

7 | 6 SUPPORT STRAP DETAIL
SCALE 1:1
SLEEVED FRAME

6opp | 6 JAMB DETAIL
SCALE 1:1
SLEEVED FRAME

Approved as complying with the Florida Building Code
Date 02/04/2016
NOA# E-11064.04
Miami Dade Product Control
By

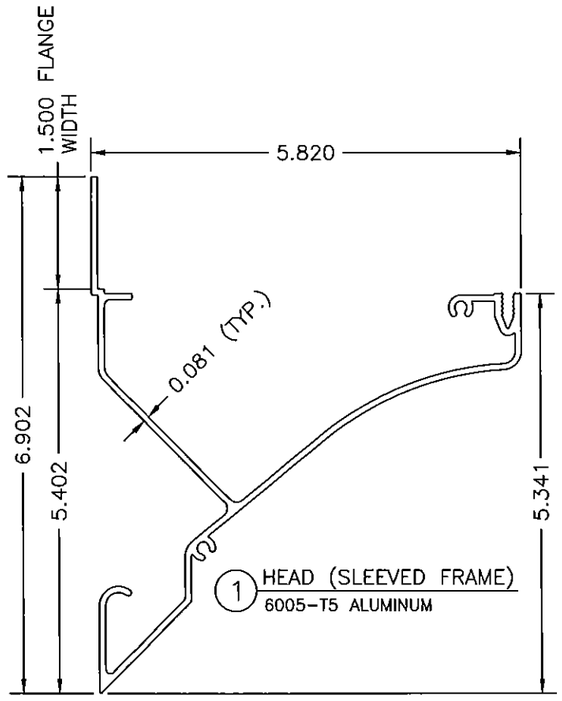
CHANDER P. NANGIA
LICENSE
No. 21938
STATE OF FLORIDA
PROFESSIONAL ENGINEER
OCT 27 2015

PAGE NOTES:
- STANDARD LOUVER WIDTH DOWNSIZING IS 0.250, BUT UP TO 0.375 TOTAL PER END (0.750" OVERALL TOTAL) IS ALLOWABLE. CONSULT YOUR LOCAL REP OR THE MANUFACTURER IF ASSISTANCE IS NEEDED FOR PROPER DOWNSIZING FOR YOUR APPLICATION.
- STRAP NOT REQUIRED FOR NOA OR AMCA 540 IMPACT LEVEL D (50 ft/s), BUT IS REQUIRED TO PASS AMCA 540 IMPACT LEVEL E (80 ft/s).

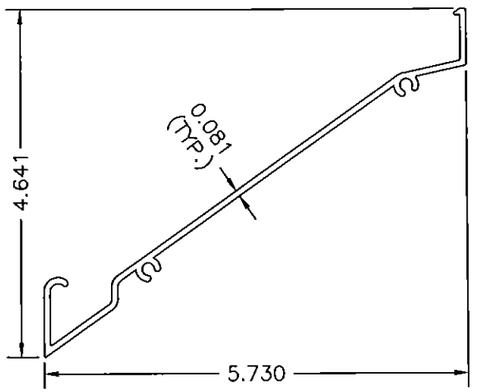
DRAWN BY NAH | DATE 10/27/15
SCALE 1:1.1 | SHEET NO. 6 OF 9
CAD DRAWING NO. ESD-635DE

GREENHECK
P.O.BOX 410 SCHOFIELD, WISCONSIN 54476-0410

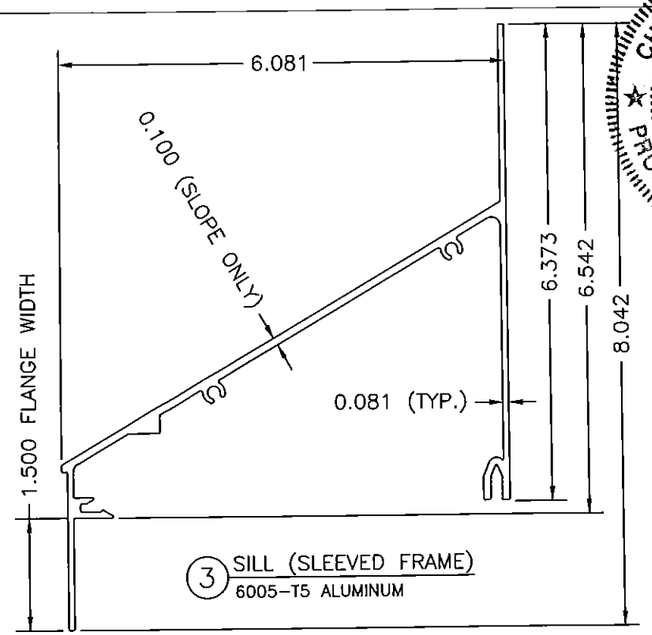
TITLE:
ESD-635DE NOA DRAWINGS
SLEEVED FRAME DETAILS



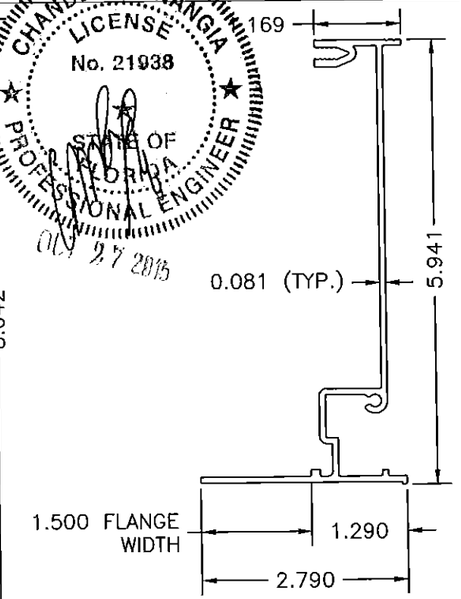
1 HEAD (SLEEVED FRAME)
6005-T5 ALUMINUM



2 BLADE (ALL FRAME TYPES)
6063-T5 ALUMINUM



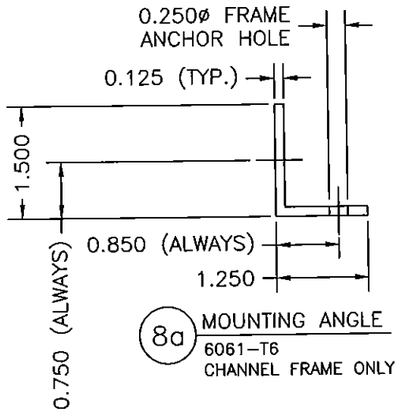
3 SILL (SLEEVED FRAME)
6005-T5 ALUMINUM



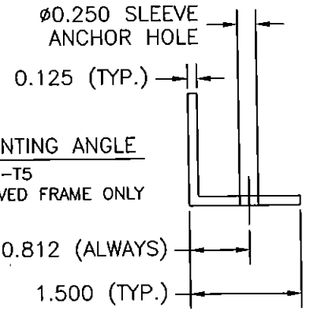
4 JAMB (SLEEVED FRAME)
6005-T5 ALUMINUM

CHANDER P. NANGIA
LICENSE
No. 21938
STATE OF FLORIDA
PROFESSIONAL ENGINEER
OCT 27 2015

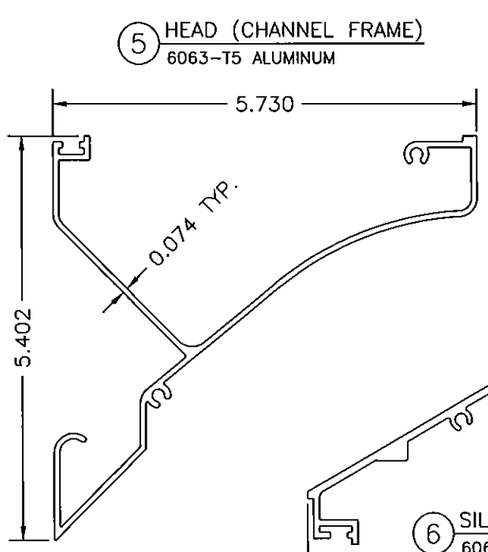
Approved as complying with the Florida Building Code
Date 07/07/2016
NOA# 15-1007.09
Miami Dade Product Control
By

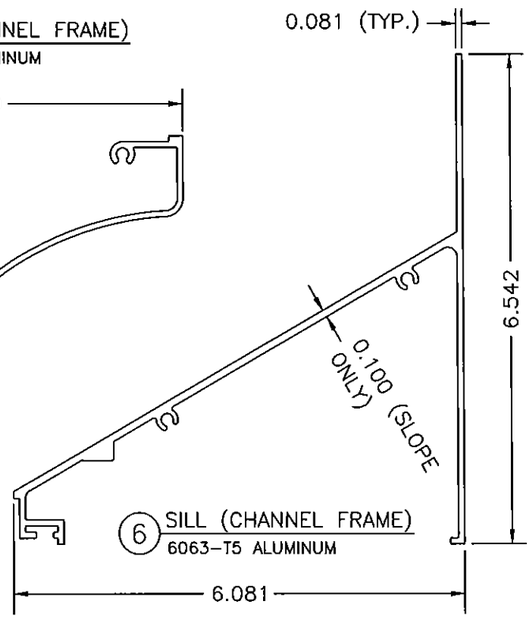


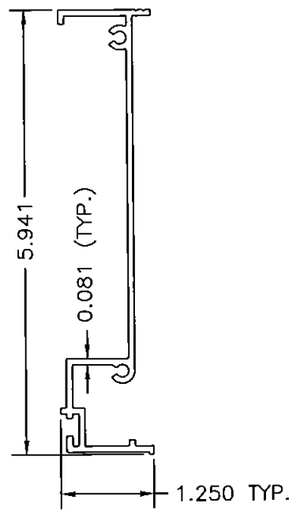
8a MOUNTING ANGLE
6061-T6
CHANNEL FRAME ONLY



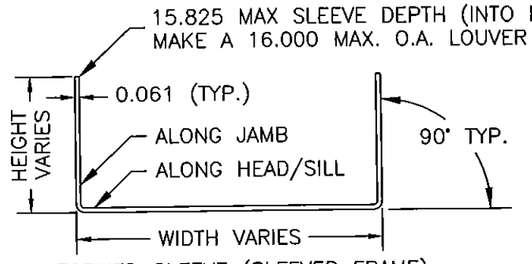
8b MOUNTING ANGLE
6063-T5
SLEEVED FRAME ONLY



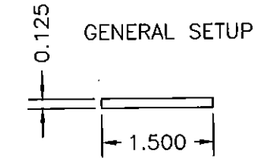




7 JAMB (CHANNEL FRAME)
6063-T5 ALUMINUM



9 FORMED SLEEVE (SLEEVED FRAME)
5052-H32 ALUMINUM



10 STRAP
ALUMINUM
* *SEE PAGE NOTES* *

PAGE NOTES:
- STRAP NOT REQUIRED FOR NOA OR AMCA 540 IMPACT LEVEL D (50 ft/s), BUT IS REQUIRED TO PASS AMCA 540 IMPACT LEVEL E (80 ft/s).
- ALL SHEET METAL PARTS ARE SHOWN AT ACTUAL THICKNESSES

GREENHECK
P.O.BOX 410 SCHOFIELD, WISCONSIN 54476-0410

TITLE: ESD-635DE NOA DRAWINGS
PART DETAILS

DRAWN BY NAH | DATE 10/27/15
SCALE 1:1 | SHEET NO. 7 OF 9
CAD DRAWING NO. ESD-635DE

ITEM	DESCRIPTION	MATERIAL	INTERNAL ID#	NOTES
1	HEAD	6005-T5 ALUMINUM	126098	SLEEVED FRAME ONLY
2	BLADE	6063-T5 ALUMINUM	125263	4.063" O.C. SPACING (TYPICAL ALL UNITS)
3	SILL	6005-T5 ALUMINUM	126099	SLEEVED FRAME ONLY
4	JAMB	6005-T5 ALUMINUM	126100	SLEEVED FRAME ONLY
5	HEAD	6063-T5 ALUMINUM	125043	CHANNEL FRAME (NON-SLEEVED) ONLY
6	SILL	6063-T5 ALUMINUM	125867	CHANNEL FRAME (NON-SLEEVED) ONLY
7	JAMB	6063-T5 ALUMINUM	125045	CHANNEL FRAME (NON-SLEEVED) ONLY
8a	MOUNTING ANGLE (CHANNEL FRAME)	6061-T6	125811	TYPICAL AT JAMBS ONLY
8b	MOUNTING ANGLE (SLEEVED FRAME)	6063-T5	125151	TYPICAL AROUND SLEEVE PERIMETER
9	SLEEVE	5052-H32 ALUMINUM	100172	0.061 ACTUAL THICKNESS
10	STRAP	ALUMINUM	130311	ATTACHED @ HEAD/SILL ONLY, NOT REQ'D FOR NOA
---	---	---	---	---
11	1/4-20x1.500L SCREW, HILTI KWIK-FLEX, SUPPLIED BY LOUVER MANUFACTURER	COATED STEEL	416581	8.000 O.C. MAX. (CHANNEL FRAME) AND 6.000 O.C. MAX. (SLEEVED FRAME), SHORTER OVERALL LENGTH (WITH 0.313 MIN THREADED LENGTH) ALLOWABLE
12	#10-16x0.500L SCREW	300 SERIES SS	417207	7.000 MAX. ON CENTERS - TYPICAL SLEEVED UNITS ONLY
13	NOT USED	---	---	---
14	#10-16x2.250L SCREW	300 SERIES SS	416351	
15	3/16"ø RIVET	300 SERIES SS	416588	NOT REQUIRED FOR NOA
16	1/8"ø RIVET	ALUMINUM	415194	
---	---	---	---	---
17	SHIM/SEPARATE DISSIMILAR MATL'S AS REQ'D	VARIES	N/A	BY OTHERS AS NEEDED
18	SHIM, NON-COMPRESSIBLE	VARIES	N/A	BY OTHERS, OPTIONAL
19	SEALANT AND BACKER ROD	VARIES	N/A	BY OTHERS, OPTIONAL
20	SUBSTRATE FASTENER - SEE ANCHOR TABLE	SEE ANCHOR TABLE	N/A	BY OTHERS, MINIMUM OF ONE TYPE REQUIRED, SEE ANCHOR TABLE FOR ADDITIONAL INFORMATION
21	SUBSTRATE - GROUT FILLED CMU	GROUT FILLED CMU	N/A	BY OTHERS, MINIMUM OF ONE SUBSTRATE TYPE REQUIRED. SEE ANCHOR TABLE FOR NEEDED EDGE DISTANCE, SPACING, EMBEDMENT, ETC. IT IS THE RESPONSIBILITY OF THE PERMIT HOLDER TO VERIFY AND TO FACILITATE SEPARATION OF DISSIMILAR MATERIALS.
	SUBSTRATE - CONCRETE	CONCRETE	N/A	
	SUBSTRATE - STEEL STUD	STEEL	N/A	
	SUBSTRATE - STRUCTURAL STEEL	STEEL	N/A	
	SUBSTRATE - WOOD	WOOD	N/A	
	SUBSTRATE - ALUMINUM	ALUMINUM	N/A	

6. INSTALLER TO PROVIDE SEPARATION OF DIS-SIMILAR MATERIALS AS REQUIRED (SEE CURRENT FLORIDA BUILDING CODE). SEE OLDER 2010 FLORIDA BUILDING CODE SECTION 2003.8.4 FOR ADDITIONAL INFORMATION ON SEPARATION OF DIS-SIMILAR MATERIALS.

7. STEEL, STAINLESS STEEL, AND ALUMINUM PARTS MAY BE MADE OUT OF ALTERNATE ALLOY THAT HAS EQUAL OR GREATER YIELD STRENGTH. PART DIMENSIONS ARE MINIMUMS UNLESS DEFINED OTHERWISE.

9. THE INTERNAL ID NUMBERS SHOWN ON THIS PAGE ARE FOR FACTORY PURPOSES ONLY AND MAY BE UPDATED AT ANY TIME. ANY UPDATES WILL NOT ALTER THE ITEM AS DESCRIBED HEREIN.

10. THE LOUVER IS NOT DESIGNED TO PREVENT WIND-DRIVEN RAIN FROM PENETRATING INTO THE SPACE BEHIND THE LOUVER. THE LOUVER SHALL BE INSTALLED IN A LOCATION WHERE THE SPACE BEHIND THE LOUVER IS DESIGNED TO DRAIN WATER PENETRATING INTO THE ROOM OR THE ROOM WILL HOUSE WATER RESISTANT/PROOF EQUIPMENT, COMPONENTS, OR SUPPLIES.

10. ALL DIMENSION UNITS ARE IMPERIAL.

CHANDER P. NANGIA LICENSE No. 21038 STATE OF FLORIDA PROFESSIONAL ENGINEER

OCT 27 2016

Approved as complying with the Florida Building Code
Date 02/04/2016
NOA# 15-1109.09
Miami Dade Product Control
By

GENERAL NOTES:
1. IT IS THE RESPONSIBILITY OF THE PERMIT HOLDER TO VERIFY THE STRUCTURAL INTEGRITY OF THE EXISTING STRUCTURE TO SUPPORT THE LOADS IMPOSED BY THE LOUVER ASSEMBLY. THE LOUVER MANUFACTURER DOES NOT DETERMINE THE STRUCTURAL INTEGRITY OF THE SUBSTRATE STRUCTURE.

2. THE LOUVER HAS BEEN DESIGNED AND TESTED IN ACCORDANCE WITH MIAMI-DADE COUNTY PROTOCOLS (AND QUALIFIED IN ACCORDANCE WITH THE CURRENT FLORIDA BUILDING CODE AND TEST PROTOCOLS/STANDARDS THEREIN):
   TAS-201 (LARGE MISSILE IMPACT TEST)
   TAS-202 (UNIFORM STATIC WIND PRESSURE TEST)
   TAS-203 (UNIFORM CYCLIC WIND PRESSURE TEST)

3. THIS LOUVER HAS BEEN DESIGNED, TESTED, AND APPROVED TO WITHSTAND DESIGN PRESSURES OF UP TO AND INCLUDING +/-150PSF.

4. THE MAXIMUM SINGLE SECTION SIZE IS 48 INCHES WIDE BY 48 INCHES HIGH. MULTIPLE SECTIONS MAY BE MOUNTED TOGETHER TO CREATE A MULTI-WIDE AND/OR MULTI-HIGH ASSEMBLY PROVIDED THERE IS ADEQUATE SUBSTRATE ON ALL FOUR SIDES OF EACH SINGLE SECTION AND SECURED TO THE SUBSTRATE AS NOTED HEREIN.

5. GENERAL LOUVER CONSTRUCTION: HEAD, SILL, JAMBS, AND BLADES FOR ALL CASES ARE EXTRUDED ALUMINUM (SEE PAGE 7 FOR ALLOY TYPES). THE BLADE SPACING IS 4.063 INCHES. BLADES AND HEADS ARE SECURED TO THE JAMBS WITH TWO SCREWS PER END. THE SILLS ARE SECURED TO THE JAMBS WITH ONE SCREW AND ONE RIVET PER SILL END. STRAP NOT REQUIRED FOR NOA OR AMCA 540 IMPACT LEVEL D (50 ft/s), BUT IS REQUIRED TO PASS AMCA 540 IMPACT LEVEL E (80 ft/s).

DRAWN BY NAH | DATE 10/27/15
SCALE 1:1 | SHEET NO. 8 OF 9
CAD DRAWING NO. ESD-635DE

GREENHECK
P.O.BOX 410 SCHOFIELD, WISCONSIN 54476-0410

TITLE: ESD-635DE NOA DRAWINGS
ITEM DESCRIPTIONS/GENERAL NOTES

PAGE NOTES:

SUBSTRATE AND SUBSTRATE FASTENER TABLE

ITEM 21, SUBSTRATE			ITEM 20, SUBSTRATE FASTENER									
TYPE	THICKNESS MIN	MATERIAL MIN	TYPE (ALL FASTENERS ARE HEX HEAD STYLE)	MAT'L	DIA.	EDGE MIN	EMBED. MIN	SPACING MAX	SPACING MIN	HEAD DIA. MIN	ANGLE HOLE ITEM 5, MAX	SUBSTRATE HOLE, MAX
WOOD	3	G OF 0.42	LAG SCREW, 3 INCH MIN LENGTH	*	1/4	1 1/2	23/32	5 3/4	3	1/2	5/16	SEE FASTENER MANUFACTURER INSTRUCTIONS
					3/8	1 1/2	23/32	6 1/4	3	5/8	7/16	
STEEL	16 GA (0.056)	Fy 33 KSI Fu 45 KSI	BOLT W/ NUT	*	1/4-20	5/8	0.056	8	1	1/2 HEAD 9/16 NUT	5/16	5/16
								5 5/8				
	14 GA (0.070)		THREAD CUTTING/TAPPING SCREW				0.070	6 3/4		1/2		SEE FASTENER MANUFACTURER INSTRUCTIONS
	12 GA (0.099)						0.099	8				
ALUMINUM	1/8	6063-T5	BOLT W/ NUT	*	1/4-20	1/2	1/8	8	1	1/2 HEAD 9/16 NUT	5/16	1/4
			THREAD CUTTING/TAPPING SCREW							1/2		SEE FASTENER MANUFACTURER INSTRUCTIONS
CONCRETE	VARIES WITH SIZE OF FASTENER USED, SEE FASTENER MANUFACTURER INSTRUCTIONS	2 KSI	BUILDEX TAPCON (BLUE, WHITE, OR 410 SS)	VARIES	1/4	1 1/2	1 1/2	4	2	AS MANUFACTURED	1/4	SEE FASTENER MANUFACTURER INSTRUCTIONS
						2 1/8		6				
		3 KSI			1/4	1 1/2	1 1/4	4	2			
						3		6				
						1 1/2	1 3/4	6				
		2.3 KSI	ELCO AGGRE-GATOR	300 SS	1/4	1 1/2	1 3/8	6	3	AS MANUFACTURED	1/4	
		2.9 KSI	ELCO ULTRACON SS4	410 SS	1/4	1	1 3/4	4	3	AS MANUFACTURED	1/4	
						2 1/2		8				
		3.4 KSI	ELCO CRETE-FLEX SS4, SMALL HEAD	410 SS	1/4	1	1 3/4	6	6	AS MANUFACTURED	1/4	
			ELCO CRETE-FLEX SS4, FLANGED HEAD					8				
		2.5 KSI	POWERS 316 STAINLESS STEEL WEDGE-BOLT	316 SS	1/4	1 3/8	1 7/8	4	1	AS MANUFACTURED	5/16	
						2		6				
					3/8	1 1/8	2 3/8	4			7/16	
						1 5/8		6				
						2 3/8		8				
		2 KSI	POWERS WEDGE-BOLT PLUS	STEEL	1/4	1	1 1/2	4	1	AS MANUFACTURED	5/16	
						1 1/2		6				
						2		8				
		4 KSI				1		4				
						1 1/4		6				
						1 5/8		8				
		2 KSI			3/8	1 1/4		4	1 1/2		7/16	
						1 5/8		6				
						2 1/8		8				
		4 KSI				1 1/8		4				
						1 3/8		6				
						1 3/4		8				
GROUT FILLED CMU	NOTE 1		ELCO AGGRE-GATOR	300 SS	1/4	2	2	8	3	AS MANUFACTURED	1/4	SEE FASTENER MANUFACTURER INSTRUCTIONS
	NOTE 2		ELCO ULTRACON SS4	410 SS	1/4	1	2	2	1 1/2		1/4	
						2.5		6	3			
	NOTE 3		ELCO CRETE-FLEX SS4, FLANGED HEAD	410 SS	1/4	1 3/4	1 1/4	6	6		1/4	
	NOTE 4		POWERS WEDGE-BOLT PLUS	STEEL	3/8	2	2 1/2	8	6		7/16	

NOTE *: LAG SCREWS SHALL HAVE STRENGTHS OF MINIMUM GRADE 1 STEEL, OTHER BOLT AND SCREWS SHALL HAVE STRENGTHS OF MINIMUM GRADE 2 STEEL.

NOTE 1: CONCRETE MASONRY (CMU) SHALL BE > THE FOLLOWING: 6" WIDE, CMU CONFORMING TO ASTM C-90 FILLED WITH 4,747 PSI GROUT.

NOTE 2: CONCRETE MASONRY (CMU) SHALL BE > THE FOLLOWING: 6" WIDE, 2 KSI CMU CONFORMING TO ASTM C-90 FILLED WITH 1624 PSI GROUT.

NOTE 3: CONCRETE MASONRY (CMU) SHALL BE > THE FOLLOWING: 6" WIDE, CONFORMING TO ASTM C-9,0 FILLED WITH 3,350 PSI GROUT.

NOTE 4: CONCRETE MASONRY (CMU) SHALL BE > THE FOLLOWING: 6" WIDE, GRADE N, TYPE II, LIGHT-WEIGHT/MEDIUM-WEIGHT/NORMAL-WEIGHT CMU CONFORMING TO ASTM C-90, MORTAR MUST BE TYPE N.

Approved as complying with the Florida Building Code
Date 02/04/2016
NOA# 13-1109.14
Miami Dade Product Control
By

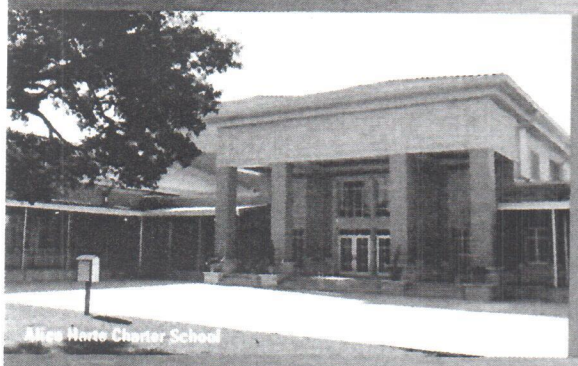
CHANDER P. NANGIA LICENSE No. 21938 STATE OF FLORIDA PROFESSIONAL ENGINEER
DEC 27 2015

GREENHECK
P.O.BOX 410 SCHOFIELD, WISCONSIN 54476-0410

DRAWN BY NAH | DATE 10/27/15
SCALE 1:1.2 | SHEET NO. 9 OF 9
CAD DRAWING NO. ESD-635DE

TITLE: ESD-635DE NOA DRAWINGS
SUBSTRATE AND ANCHOR TABLE

PAGE NOTES:



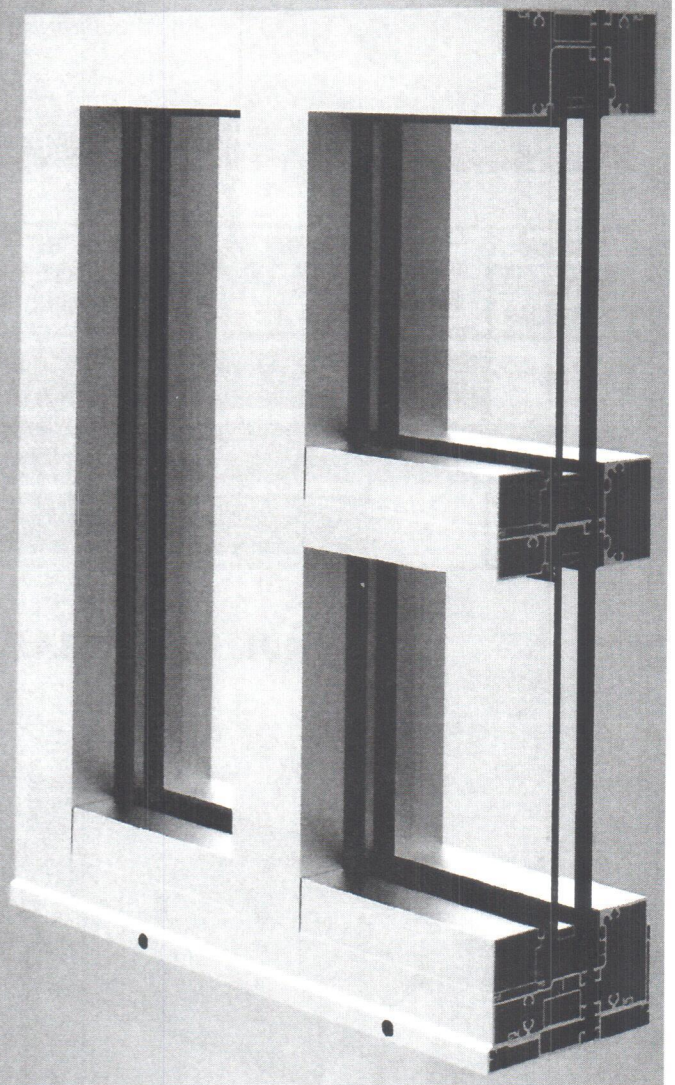
> YHS 50 TU

Thermally Broken Impact Resistant and Blast Mitigation Storefront System

ProTek

YKK AP Hurricane & Blast Solutions

YHS 50 TU is a high performance storefront system designed for insulating glass 1" to 1-5/16" thick and tested to meet the most demanding conditions. With varied infill and components, YHS 50 TU can meet the requirements for Impact Resistance, Blast Mitigation or both. YHS 50 TU is thermally broken by means of a poured and debridged pocket that employs ThermaBond Plus® to greatly improve the adhesion of the polyurethane to the extruded aluminum. The system integrates with H Series and HL Series entrances with medium or wide stiles. Entrances feature a wide variety of tested and approved hinging and locking hardware, including rim panic and concealed vertical rod exit devices.



FEATURES:

- **Hurricane Impact** - Large and Small Missle
  - IBC and Florida Product Approval
  - Wind Zone 3 & Florida High Velocity Hurricane Zone (HVHZ)
- **Blast Mitigation** - Static and Dynamic Analysis capability to meet DoD, GSA and VA standards
- Design Pressures to 70 psf
- Engineered corners reduce job specific engineering
- Inside or outside glazing available
- Integrates with ThremaShade® and Luminance® sun control products and YKK AP venting windows

Entrances | Storefronts | Curtain Walls | Sun Controls | Windows | Balcony Doors

YKK AP® Quality inspires®

> YHS 50 TU

Thermally Broken Impact Resistant and Blast Mitigation Storefront System

PERFORMANCE SUMMARY:

Air Infiltration (ASTM E 283): 0.06 CFM / FT² @ 6.24 PSF (299 Pa)

Water Infiltration (ASTM E 331): 12 PSF (575 Pa)

YHS 50 TU Acoustical and Thermal:

Acoustical Performance (AAMA 1801):

STC 1-5/16" Laminated - 39

OITC 1-5/16" Laminated - 33

Thermal Performance (AAMA 507, AAMA 1503, NFRC 100):

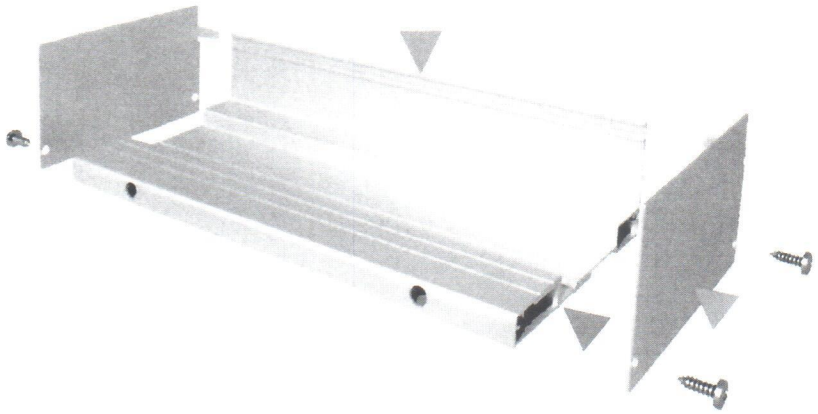
Frame CRF = minimum of 59

Overall System U-factor = 0.45 (using Ucog of 0.29)

YHS SYSTEM	.060 SentryGlass 50 PSF	DESIGN PRESSURE			144" SPAN	108" to 120" SPAN	OUTSIDE GLAZE	IMPACT MISSILES A & D	INSIDE GLAZE	IMPACT ESSENTIAL FACILITIES
		50	65-70	90						
YHS 50 FS		■	■	■	■	■	■	■	■	
YHS 50 FI	■	■	■	■	■	■	■	■	■	■
YHS 50 TU	■	■	■			■	■	■		

INDUSTRY-LEADING SILL FLASHING DESIGN

- **Taller back leg** - Enhanced water resistance (12 psf)
- **Patented 3 Point End Dam Attachment** - Greater protection against handling damage and building settling
- **No blind seals** - Eliminates secondary penetration of the sill flashing



For additional information on architectural aluminum products visit our web site at www.ykkap.com.

Search Criteria

Refine Search

Code Version	2014	FL#	14218.5
Application Type	ALL	Product Manufacturer	ALL
Category	ALL	Subcategory	ALL
Application Status	ALL	Compliance Method	ALL
Quality Assurance Entity	ALL	Quality Assurance Entity Contract Expired	ALL
Product Model, Number or Name	ALL	Product Description	ALL
Approved for use in HVHZ	ALL	Approved for use outside HVHZ	ALL
Impact Resistant	ALL	Design Pressure	ALL
Other	ALL		

Search Results - Applications

FL#	Type	Manufacturer	Validated By	Status
FL14218-R9 History	Revision	YKK AP America **FL#:** FL14218.5 **Model:** YHS 50 FI **Description:** Missile Level E Impact Rated Aluminum Storefront for Insulating Glass - Inside Glazed **Category:** Panel Walls **Subcategory:** Storefronts	Locke Bowden (334) 300-1800	Approved

*Approved by DBPR. Approvals by DBPR shall be reviewed and ratified by the POC and/or the Commission if necessary.

Florida Green Commercial Building Standard

Version 2: Revised 1/17/13

Final Project Application

Project Information

Project Name: _____

Address: _____

City& Zip: _____ County: _____

Size (SF): _____

Occupancy Type: _____

New or Existing: _____ Website: _____

Designated Professional Contact Information		**Building Owner Contact Information**	
Name:			
Company:			
Address:			
City / Zip:			
Phone:			
Fax:			
E-mail:			

Total Fee Due: _____ For payment options, refer to the "Project Registration Form"

Deposit Paid: _____

Amount Due: _____ Balance Due Must Be Submitted with Final Application.

Project Point Summary

Minimum Points to Qualify (may be over 100 if a category minimum is missed) 112

Please refer to Standards Documents and Green Commercial Reference Guide for additional information.

Category	Your Score	Required Min
Category 1: Project Management	1	0 Points
Category 2: Energy	18	30 Points
Category 3: Water	44	30 Points
Category 4: Site	29	10 Points
Category 5: Health	20	10 Points
Category 6: Materials	6	5 Points
Category 7: Disaster Mitigation	10	10 Points
Total:	128	
Total Needed:	112	
Certification Level	Certified	

To Qualify your project must

Certified	0 - 50	points over the projet's adjusted required minimum
Silver	51 - 100	points over the projet's adjusted required minimum
Gold	101 - 150	points over the projet's adjusted required minimum
Platinum	150 >	points over the projet's adjusted required minimum

Version 2: Revised 1/17/13

FINAL PROJECT POINTS				Project Summary
Current Project Score		128	Points Below Category Minimum	
Total Points Available		Final Points Achieved	12	
Category 1	9	1	0	**Category 1: Project Management Points (Minimum Required Points: 0)**
Prereq 1.1	R	Complete		**Green Project Meeting**
PM1	3	0		Building Information Modeling
PM2	5	0		Cost Benefit Analysis
PM3	1	1		Green Education
Category 2	144	18	12	**Category 2: Energy Points (Minimum Required Points: 30)**
Prereq 2.1	R			**Owner Project Requirements (OPR)**
Prereq 2.2	R			**Basis of Design**
Prereq 2.3	R			**Testing and balancing of installed equipment**
Prereq 2.4	R			**Minimum Energy Performance**
Prereq 2.5	R			**Ozone Depletion Potential Management**
E1	2	1		EPA Target Finder
E2	2	2		Portfolio Manager
E3	10	0		Commissioning
E4	70	8		Energy Performance Improvement
E5	2	0		Envelope Testing
E6	28	0		Renewable Energy Production
E7	4	0		Green Power
E8	4	1		Daylight Sensors
E9	4	1		Occupancy Sensors
E10	1	0		Interior Lighting
E11	5	5		Lighting Power Density
E12	2	0		Solar Study of Building
E13	10	0		Energy Monitoring Interface
Category 3	77	44	0	**Category 3: Water Points (Minimum Required Points: 30)**
Prereq 3.1	R			**Water Use Reduction, acquire at least 3 points from Section W1 (i.e. any combination of W1.1 - W1.6)**
Prereq 3.2	R	Complete		**No Invasive (native or exotic) Plants**
Prereq 3.3	R			**Irrigation zones for turf and landscape beds are separate**
Prereq 3.4	R			**Rain shut off device installed CORRECTLY and operable**
Prereq 3.5	R	Complete		**Drought Tolerant Landscape, 25%**
W1	15	10		Interior Water Use
W2	4	0		Greywater Reuse
W3	10	3		Rainwater Harvesting
W4	26	14		Installed Landscape
W5	7	2		Water Conservation Certifications
W6	15	15		Installed Irrigation
Category 4	75	29	0	**Category 4: Site Points (Minimum Required Points: 10)**
Prereq 4.1	R			**Copy of Stormwater Pollution Prevention Plan (SWPPP) and Florida Department of Environmental Protection (FDEP)**
S1	3	3		FDEP Professional
S2	22	16		Site Selection
S3	7	2		Site Enhancement
S4	9	0		Reduce Heat Islands - Hardscape
S5	4	4		Reduce Heat Islands - Roof
S6	4	0		Reduce Heat Islands - Building
S7	18	0		Stormwater
S8	4	4		Vehicular Transportation Alternatives
S9	4	0		Exterior Lighting (not attached to building)
Category 5	42	20	0	**Category 5: Health (Minimum Required Points: 10)**
Prereq 5.1	R			**Environmental Tobacco Smoke (ETS) Control**
Prereq 5.2	R			**Indoor Air Quality (IAQ) Management Plan, During Construction**
H1	14	1		Protect, Monitor, and Remediate Poor IAQ
H2	7	6		Low Emitting Materials
H3	8	4		System Controls
H4	13	9		Productive Work Environment
Category 6	39	6	0	**Category 6: Materials (Minimum Required Points: 5)**
Prereq 6.1	R			**Storage & Collection of Recyclables**
M1	21	2		Material Efficiency and Global Responsibility
M2	9	4		Waste Management
M3	9	0		Local/Regional Materials
Category 7	33	10	0	**Category 7: Disaster Mitigation (Minimum Required Points: 10)**
DM1	16	3		Hurricane Resistance
DM2	9	3		Pest Management
DM3	6	2		Flood
DM4	2	2		Fire Resistance

FGBC FLORIDA GREEN BUILDING COALITION

Setting the Standards for Green Building in Florida

Florida Green Commercial Building Certification Standard

REFERENCE GUIDE

Florida Green Commercial Building Standard Reference Guide

Version 2

Effective July 1, 2011

Revised

10/23/2012

This reference guide is intended to serve two purposes:

- To provide information on green commercial practices.
- To provide details on how to earn points for complying with the Florida Green Commercial Designation Standard.

Note:
It is possible to combine many submittals in one detailed plan. Letters or documented verbal communication from vendors can substitute for material and equipment cut sheets where required. No document produced by FGBC is intended to supersede or contradict the Florida Building Code.

Table of Contents

CATEGORY 1: PROJECT MANAGEMENT

PM Prerequisite 1: Green Project Meeting

Requirement: Owner and project team decision makers must participate in a green project meeting no later than the design development phase of the project. Attendees must include a participant from all disciplines currently under contract for the project. FGBC recommends that all design team members, construction team members, owners, and occupants are represented at the green team meeting.

Points: **Prerequisite - Required**

Intent: To engage all project team members in the green process prior to building design. At a minimum the team meeting shall be used to introduce the FGBC Standard and Checklist to all team members, identify project goals, and complete a preliminary checklist.

Submittals: A letter signed by the project owner that indicates the date, location, and time of the meeting and a copy of the attendance sheet and a copy of the preliminary project checklist.

Resources: -

PM1 Building Information Modeling (BIM)

Requirement: Project team including the contractor uses BIM process to improve the efficiencies related to design, estimating, materials ordering, and construction.

Points: **3**

Intent: Maximize project efficiencies, both resources and financial, from planning, design and construction by using Building Information Modeling.

Submittals: Design team and contractor must both submit letters stating BIM software was used. FGBC project team member may sign off on this project credit. Provide a copy of summary report.

Resources: -

PM2 Cost Benefit Analysis

Requirement: FGBC project team member shall document the cost impact of each energy and water credit the project is pursuing for certification. Analysis shall include a minimum of two building alternatives considered to achieve the credit, the cost associated with each alternative and calculated annual kWh, gallons of water, and cost savings.

Points: **5**

Intent: To collect data on the life cycle cost and environmental impacts of the energy and water credits of this certification.

Submittals: The project must submit a copy of the FGBC Checklist from:

1. The team kickoff meeting
2. 100% Construction Document Phase
3. Final FGBC Submittal

Include assumptions regarding interest rates, life of materials, and any other assumptions made for the analysis. A short narrative must accompany each credit explaining the

options reviewed, environmental benefits, and reasoning for final selection for inclusion in the project.

Resources: -

PM3 Green Education

Requirement: Provide permanently installed signage that educates building occupants and visitors of the sustainable features and benefits that are incorporated into the building. A minimum of 5 signs must be placed in public/common/high traffic areas of the building to receive this credit.

Points: **1**

Intent: To educate both building occupants and visitors on the green features and benefits of the building. FGBC also recommends that the signs are made from a green material.

Submittals: Submit a floor plan of the building indicating the location of the signs, the content for each of the 5 signs, and either a graphic design of the sign or a photo of the actual sign.

Resources: -

CATEGORY 2: ENERGY

E Prerequisite 1: Owner Project Requirements (OPR)

Requirement: Owner designated representative must develop a list of owner project requirements related to each of the categories of the commercial standard. The OPR should indicate minimum goals for each category and any specific credits the Owner wishes to target.

Points: **Prerequisite - Required**

Intent: To establish performance criteria for the project as it relates to each of the FGBC Green Commercial Building categories.

Submittals: Submit a narrative explaining the OPR for the project.

Resources: -

E Prerequisite 2: Basis of Design (BOD)

Requirement: Design team representatives develop and document how the design will achieve the Owner Project Requirements. The Basis of Design should include specifically how the performance desires of the Owner will be achieved by the proposed design.

Points: **Prerequisite - Required**

Intent: To assist the design team in fulfilling the Owner project requirements.

Submittals: The design team must submit a narrative that explains how the design decisions support the Owner project requirements.

Resources: -

E Prerequisite 3: Testing and Balancing of Installed Equipment

Requirement: Mechanical Electrical Plumbing (MEP) Engineering Firm works with the Architect or design team leader to verify field installed equipment meet OPR, BOD and is installed and operating correctly. Testing and verification must include at a minimum, Heating, Ventilation, Air Conditioning and Refrigeration (HVAC&R) systems & controls, lighting systems and controls, renewable energy systems, hot water system, and energy and water measurement devices. Testing and verification shall be performed by a licensed engineer or a professional certified by the National Environmental Balancing Bureau (NEBB), the Associated Air Balance Council (AABC), or other nationally accredited organization.

Points: **Prerequisite - Required**

Intent: To verify that the as built structure performs as the design intended and that the installed equipment is installed and set to the manufacturer's requirements.

Submittals: The design team shall provide a copy of the testing and balancing report.

Resources: -

E Prerequisite 4: Minimum Energy Performance

Requirement: Building must perform the minimum required by the Florida Commercial Building Energy Code when the building is permitted - as verified by the Energy Gauge Summit FLA/COM software or other allowable performance based software.

Points: **Prerequisite - Required**

Intent: Reduce energy use

Submittals: Submit a copy of the FLA/COM Form 400A or printout from software approved by the Florida Building Commission that identifies the percent above code minimum the proposed building design has achieved.

Resources: -

E Prerequisite 5: Ozone Depletion Potential Management

Requirement: Requires that all building HVAC&R systems be free of CFC's and Halons.

When reusing existing base building HVAC equipment, complete a comprehensive 5-year CFC phase-out conversion.

Points: **Prerequisite - Required**

Intent: Reduce ozone depletion.

Submittals: Mechanical engineer will submit a signed letter declaring that the building's new HVAC&R systems do not use CFC-based refrigerants or that the existing HVAC&R systems will be phased out in 5 years.

Resources: -

E1 EPA Target Finder

Requirement: Designated project team member is required to enter baseline building and proposed design building information into the EPA Target Finder Program.

Points: **1 point for using Target Finder**

2 points for achieving a Target Finder score > 75

Intent: Target Finder is a no-cost online tool that enables you to set energy targets and receive an EPA energy performance score for projects during the design process. The "Target Rating" uses the EPA energy performance rating of 1-100. 75 or higher denotes ENERGY STAR. An "Energy Reduction Target" is the percentage reduction from the average energy consumption of a similar building in your climate region, ie. A Target Finder score of 75 indicates that the building performs better than 75% of similar buildings in its region.

Submittals: Submit a copy of the printout of the building from the Target Finder Program.

Resources: www.energystar.gov/index.cfm?c=new_bldg_design.bus_target_finder

E2 Portfolio Manager

E2.1 Input building into Portfolio Manager

Requirement: Use EPA Portfolio Manager to baseline and track building design and ongoing performance

Points: **1**

Intent: To assist the project team in benchmarking, tracking, and reporting on their building projects with respect to environmental impacts. Portfolio Manager is an interactive energy management tool that allows you to track and assess energy and water consumption across your entire portfolio of buildings in a secure online environment. Whether you own, manage, or hold properties for investment, Portfolio Manager can help you set investment priorities, identify under-performing buildings, verify efficiency improvements, and receive EPA recognition for superior energy performance.

Submittals: Submit a print out showing the project listed in Portfolio Manager

Resources: https://www.energystar.gov/istar/pmpam/

E2.2 Grant FGBC access to the project Portfolio Manager Account

Requirement: FGBC is given access to the building information within Portfolio Manager.

Points: **1**

Intent: To allow FGBC to collect performance data on FGBC Certified Projects.

Submittals: User name and password (access information) for Portfolio Manager

Resources: https://www.energystar.gov/istar/pmpam/

E3 Commissioning

E3.1 Fundamental Building Systems Commissioning

Requirement: Implement or have a contract in place to implement all of the following fundamental best practice commissioning procedures.

- Engage a commissioning authority (CxA).
- Develop owner's performance requirements for energy, water and indoor environmental quality (IEQ) and review the basis of design to verify performance requirements have been met.
- Incorporate commissioning requirements into the construction documents.
- Develop and utilize a commissioning plan.
- Verify installation, functional performance, training and operation, and maintenance documentation.
- Complete a commissioning report.

Engage a commissioning authority and adopt a commissioning plan. Include commissioning requirements in bid documents and task the CxA to produce a commissioning report once commissioning activities are completed.

Points: **4**

Intent: Verify and ensure that fundamental building elements and systems are designed, installed and calibrated to operate as intended.

Submittals: Copy of signed contract explaining scope of work (contract amount may be excluded) and a letter from the CxA or the building owner stating all CxA duties were completed.

Resources: http://www.wbdg.org/project/buildingcomm.php

E3.2 Advanced Building Systems Commissioning

Requirement: In addition to fundamental commissioning, retain a CxA prior to completing the design phase of the project.

The CxA, in addition to the Fundamental Building Commissioning, must:

1. Conduct a focused review of the design prior to the construction documents phase.
2. Conduct a focused review of the drawings and specifications near completion of the construction documents phase and prior to issuing them for construction.
3. Review the contractor submittals relative to systems being commissioned.
4. Provide information to the owner in a single document (manual) that is required for re-commissioning building systems.

5. Within one year after construction completion date, have a contract in place to review building operation with O&M staff, including a plan for resolution of outstanding commissioning-related issues.

Points: **5**

Intent: Verify and ensure that the entire building is designed, constructed and calibrated to operate as intended.

Submittals: Copy of signed contract explaining scope of work (contract amount may be excluded) and a letter from the CxA or the building owner stating all CxA duties were completed.

Resources: http://www.wbdg.org/project/buildingcomm.php

E3.3 Additional Building Systems Commissioning

Requirement: Commissioning shall also include building envelope, elevators, commercial kitchen equipment, and any other equipment as recommended by the CxA.

Points: **1**

Intent: Verify and ensure that the entire building is designed, constructed and calibrated to operate as intended.

Submittals: Copy of signed contract explaining scope of work (contract amount may be excluded) and a letter from the CxA or the building owner stating all CxA duties were completed. Also should include a list of equipment from the CxA that they recommended for additional commissioning.

Resources: http://www.wbdg.org/project/buildingcomm.php

E4 Energy Performance Improvement

Requirement: The designed building must have a minimum of a 5% energy savings above the current minimum energy code to begin accumulating points. To complete the checklist enter the Gross Energy Use numbers for both the "Criteria" and the "Design" conditions from FLA/COM Form 400A page 2 Compliance Summary Gross Energy Use. The building energy savings as a percentage is automatically calculated for the project as are the corresponding FGBC points.

Points: **Points awarded increase as energy efficiency increases according to the table provided below**

2 points ≥ 5% and < 10% above minimum energy code	24 points ≥ 50% and < 55% above minimum energy code
4 points ≥ 10% and < 15% above minimum energy code	27 points ≥ 55% and < 60% above minimum energy code
6 points ≥ 15% and < 20% above minimum energy code	30 points ≥ 60% and < 65% above minimum energy code
8 points ≥ 20% and < 25% above minimum energy code	34 points ≥ 65% and < 70% above minimum energy code
10 points ≥ 25% and < 30% above minimum energy code	38 points ≥ 70% and < 75% above minimum energy code
12 points ≥ 30% and < 35% above minimum energy code	42 points ≥ 75% and < 80% above minimum energy code
15 points ≥ 35% and < 40% above minimum energy code	46 points ≥ 80% and < 85% above minimum energy code
18 points ≥ 40% and < 45% above minimum energy code	50 points ≥ 85% and < 90% above minimum energy code
21 points ≥ 45% and < 50% above minimum energy code	60 points ≥ 90% and < 100% above minimum energy code
	70 points Building is net zero

Intent: Achieve increasing levels of energy performance above the prerequisite standard to reduce environmental impacts associated with excessive energy use.

Submittals: Submit a copy of the FLA/COM Form 400A

Resources: http://www.energygauge.com/flacom/

E5 Envelope Testing

Requirement: Conduct a commercial blower door test of the building envelope to help identify and correct building infiltration to improve the buildings performance. To qualify for this credit, the building must be designed with sufficient outdoor air intake to meet the ASHRAE 62.1 minimum air changes per hour rate and the intake system shall have an easily accessible and clearly marked filter that can be regularly changed by the building maintenance staff.

Points: **1 point for ACH50 < 8.0 (but greater than 5.0)**

2 points for ACH50 < 5.0

Intent: Identify and correct any building envelope deficiencies prior to building occupancy.

Submittals: Provide a copy of the commercial energy rater report.

Resources: www.fsec.ucf.edu/en/education/cont_ed/bldg/commrater.php

E6 Renewable Energy Production

Requirement: YOU MAY ONLY CLAIM RENEWABLE ENERGY PRODUCTION CREDITS IF THE BUILDING HAS ACHIEVED A MINIMUM OF 20% PERFORMANCE IMPROVEMENT (E4 of 4 points). FGBC strongly encourages conservation before purchasing renewable energy. Renewable energy Production, for the purposes of this certification, refers to renewable power generated ON THE BUILDING SITE

Supply a fraction of the building's total energy use (as expressed as a fraction of annual energy cost) through the use of on-site renewable energy systems. The Checklist requires that you enter the total kWh of energy that your specified renewable systems can generate. The checklist will automatically generate the percentage of renewable energy and corresponding FGBC Points.

Points:

1 points ≥1% and <3% of demand supplied by renewables	**10 points** ≥13% and <15% of demand supplied by renewables
2 points ≥3% and <5% of demand supplied by renewables	**12 points** ≥15% and <17% of demand supplied by renewables
3 points ≥5% and <7% of demand supplied by renewables	**15 points** ≥17% and <19% of demand supplied by renewables
4 points ≥7% and <9% of demand supplied by renewables	**18 points** ≥19% and <21% of demand supplied by renewables
6 points 9% and <11% of demand supplied by renewables	**21 points** ≥21% and <23% of demand supplied by renewables
8 point 11% and <13% of demand supplied by renewables	**24 points** ≥23% and <25% of demand supplied by renewables
	28 points ≥25% of demand supplied by renewables

Intent: Encourage improved efficiencies and reduce reliance on non renewable energy sources.

Submittals: Provide a copy of the contract for the purchase of renewable energy indicating the types of renewable purchased and the total kWh of energy production capacity.

Resources: -

E7 Green Power

Requirement: Provide a percentage of the building's electricity from renewable sources by engaging in at least a one-year renewable energy contract to purchase green power. Earn one point for each 25% of the building total annual energy demand from certified green power generator for one year, i.e. purchase/contract 50% for 1 year OR 25% for 2 years (2

points), purchase/contract 75% for 1 year OR 25% for 3 years (3 points). The FGBC Checklist requires that you enter the kWh that are being purchased and the length of the contract.

Points: **1 point for 25% for 1 year**

2 points for 50% for 1 year or 25% for 2 years

3 points for 75% for 1 year or 25% for 3 years

Earn 1 bonus point for Certified Green Power which is provided by renewable generation in Florida.

Intent: Encourage the development and use of grid-source, renewable energy technologies on a net zero pollution basis. Renewable sources are as defined by the Center for Resource Solutions (CRS) Green-e products certification requirements. Green power may be procured from a Green-e certified power marketer, a Green-e accredited utility program, or through Green-e certified Tradable Renewable Certificates.

Submittals: Provide a copy of the green power purchase contract.

Resources: -

E8 Daylight Sensors

Requirement: Earn one point for each 25% of the building, based on total square feet, which are equipped with daylighting sensors. Daylighting sensors installed shall provide controls that automatically reduce lighting power in response to available daylighting, either by continuous daylight dimming OR a combination of stepped switching and daylight-sensing automatic controls, which are capable of incrementally reducing the light level in step automatically and turning the lights off automatically.

Points: **1 point ≥ 25% and < 50% of building square footage equipped with daylight sensors**

2 points ≥ 50% and < 75% of building square footage equipped with daylight sensors

3 points ≥75% and < 100% of building square footage equipped with daylight sensors

4 points 100% of building square footage equipped with daylight sensors

Intent: Reduce energy consumption from lighting by installing sensors that automatically dim artificial lighting when enough daylight is available for the tasks conducted in a given building space.

Submittals: Floor plan with location of daylight sensors and either a cut sheet of the sensors or copy of the specifications that call out the sensors.

Resources: -

E9 Occupancy Sensors

Requirement: Earn one point for each 25% of the building square feet that include areas with occupancy sensors. Occupancy sensors shall be equipped to automatically turn lighting off within 15 minutes of all occupants leaving a space and allow "manual off" control. In addition, all occupancy sensor controls shall be either "manual on" or use bi-level switching coupled with manual-on control ("automatic on" programmed to a low light level combined with multi-level circuitry and "manual on" switching for higher lighting levels). Where occupancy sensors and daylighting sensors are utilized, the occupancy sensor shall work in conjunction with the daylighting controls.

Points:

1 point **≥ 25% & < 50% of building square footage equipped with occupancy sensors**

2 points **≥ 50% & < 75% of building square footage equipped with occupancy sensors**

3 points **≥ 75% & <100% of building square footage equipped with occupancy sensors**

4 points **100% of building square footage equipped with occupancy sensors**

Intent: Reduce energy demand from the building by incorporating occupancy sensors that turn off lighting when an area is not in use.

Submittals: Floor plan indicating the location of the occupancy sensors and either a cut sheet on the sensors or a copy of the specifications that call out the sensors.

Resources: -

E10 Interior Lighting

Requirement: Building has an "all off" policy where all interior lighting is on timer, or motion sensors with override, so no lights can be left on after regular business hours - except for security lighting.

Points: **1**

Intent: Reduce energy demand from artificial lighting in unoccupied buildings after business hours.

Submittals: Letter from Owner agreeing to "all off" policy and a letter from the lighting designer or MEP that explains the installed system, features and benefits.

Resources: -

E11 Lighting Power Density

Requirement: The average lighting power density for the building is < 0.8 W/SF

Points: **5**

Intent: Reduce energy consumption associated with lighting.

Submittals: Florida Building Commission approved Energy Code printout, signed by lighting designer or MEP with lighting power densities.

Resources: -

E12 Solar Study of Building

Requirement: Project team conducts solar study of project site and building location – To receive this credit the team must document the design or orientation modification that was incorporated into the project to reduce solar heat gain as a result of the solar study.

Points: **2**

Intent: Reduce energy consumption by modifying the building design and orientation based on solar study findings.

Submittals: Submit the design or orientation modification that was incorporated into the project to reduce solar heat gain as a result of the solar study.

Resources: -

E13 Energy Monitoring Interface

Requirement: Install a building user feedback system that indicates the real time building energy consumption. The monitoring interface should be available to facility or building manager. If the building uses renewable energy generation on site, the energy generated from renewable sources should also be displayed. To receive 5 points the energy monitoring interface must be centrally located in a public or common space with appropriate signage. To receive 10 points the energy monitoring interface should be available at multiple feedback points and provide an interface at each building occupant work station.

Points:	**5 points**	**Single system in common area**
	10 points	**System has multiple feedback points AND may be viewed by every building occupant.**

Intent: Improve the energy performance

Submittals: A floor plan showing the location of the energy monitoring interface device(s) and photos of the device(s) and the information sign.

Resources: -

CATEGORY 3: WATER

W Prerequisite 1 Water Use Reduction, acquire at least 3 points from W1

Requirement: Water Use Reduction, acquire at least 3 points from Section W1 below (i.e. any combination of W1.1 - W1.6)

Points: **Prerequisite - Required**

Intent: Reduce the potable water demand inside buildings

Submittals: FGBC Checklist

Resources: -

W Prerequisite 2 No Invasive (native or exotic) Plants

Requirement: Landscape comprised of no invasive plants.

Points: **Prerequisite - Required**

Intent: Avoid the spread of exotic plants and promote a Florida Friendly landscape.

Submittals: Landscape plan and plant list

Resources: A list of such plants can be found at http://www.fleppc.org/list/list.htm

W Prerequisite 3 Irrigation zones for turf and landscape beds are separate

Requirement: Florida WaterStar Prerequisite

Points: **Prerequisite - Required**

Intent: Reduce the amount of supplemental water, potable and non potable, needed for irrigation.

Submittals: Landscape plan indicating vegetation and irrigation zones, location, and type of controller.

Resources: http://www.sjrwmd.com/floridawaterstar/index.html and Florida Friendly Best Management Practices for Protection of Water Resources by the Green Industries, http://www.floridayards.org/

W Prerequisite 4 Rain shut off device installed CORRECTLY and operable

Requirement: Install a shut off device for irrigation per Florida Statutes 373.62 effective May 1, 1991 and field verify that the device is operating correctly

Points: **Prerequisite - Required**

Intent: Reduce the amount of supplemental water, potable and non potable, needed for irrigation.

Submittals: Field inspection report signed by a responsible team member indicating that the rain shut off device is correctly functioning.

Resources: Florida Statutes 373.62

W Prerequisite 5 Drought Tolerant Landscape, 25%

Requirement: Landscaped area is a minimum of 25% Drought Tolerant Plants

Points: **Prerequisite - Required**

Intent: Reduce the amount of supplemental water, potable and non potable, needed for irrigation.

Submittals: Plant list for the project specifically identifying Florida Friendly low water plants

Resources: To obtain a list of drought tolerant plants and trees for your area, contact your local water management district, consult the Waterwise Florida Landscapes publication, or consult with a FY&N professional, Master Gardener, Florida WaterStar or WaterSense Certifier. For References here are some helpful websites: http://www.sjrwmd.com/waterwiselandscapes/, http://fyn.ifas.ufl.edu, http://www.floridawaterstar.com.

W1 Interior water use reduction

W1.1 Toilets

Requirement: All installed toilets must have a minimum MaP (Maximum Performance) rating of 800 OR are WaterSense Certified. For Dual Flush toilets, to receive one point, ONE of the two flush options must be ≤ 1.1gpf. Points available for this credit are listed below.

Points:

1 point	**all toilets ≤ 1.28 gallons per flush (gpf)**
2 points	**all dual flush (one flush option must be < 1.1gpf)**
3 points	**all toilets ≤ 1.0 gpf**

Intent: Toilets represent the largest source of indoor water use in buildings, accounting for up to 30%-40% of water demand. The Florida building code and National Energy Policy Act of 1992 (EPACT) require that all installed toilets be rated at a maximum flow rate of 1.6 gallons/flush. There are toilets on the market today that exceed these standards.

To make it easy to find and select water-efficient products with good performance, the EPA (Environmental Protection Agency) has introduced its WaterSense® program, a label that's backed by independent testing and certification. WaterSense®-labeled products perform their intended functions as well as or better than their less-efficient counterparts. And generally speaking, they're about 20 percent more water-efficient.

Submittals: Cut sheet for toilets.

Resources: For a list of high efficiency commodes that have earned the WaterSense® label, visit http://www.epa.gov/watersense/pp/het.htm. For MaP ratings of commercial (flushometer) toilets, select "Reports" from http://www.veritec.ca (Veritec Consulting, Inc.). For MaP and Water-Sense combined results for Toilets (commercial and non), visit http://www.cwwa.ca/freepub_e.asp.

W1.2 Urinals

Requirement: All installed urinals must have flow rate of less than 0.5 gpf or be waterless.

Points:

1 point	**all urinals ≤ 0.5 gpf**
2 points	**Waterless urinals**

Intent: Reduce potable water used inside the building

Submittals: Cut sheet for urinal

Resources: -

W1.3 Lavatory Faucets

Requirement: All lavatory faucets must be low flow, WaterSense, or sensor faucets to achieve this credit. Points available are listed below

Points:

1 point	**all lavatory faucets are ≤ 2.0 gallons per minute (gpm)**
2 points	**all lavatory faucets are ≤ 1.5 gpm**
2 points	**all lavatory faucets are WaterSense Certified**
3 points	**all lavatory faucets are ≤ 0.5 gpm**
3 points	**Motion Sensor self closing faucet (0.25 gal/metering cycle Max)**

Intent: Reduce potable water used inside the building

Submittals: Cut sheet for lavatory faucets

Resources: -

W1.4 Kitchen Faucets

Requirement: All kitchen faucets must have a flow rate less than or equal to 2.2 gpm. Points available are listed below.

Points:

1 point	**all kitchen faucets are ≤ 2.2 gpm**
2 points	**all kitchen faucets are ≤ 1.5 gpm**

Intent: Reduce potable water used inside the building

Submittals: Cut sheet for kitchen faucets

Resources: -

W1.5 Showerheads

Requirement: All Installed showerheads with flow rate less than or equal to 2.2 gallon per minute (gpm). Points available are listed below

Points:

1 point	**all showerheads are ≤ 2.2 gpm**
2 points	**all showerheads are ≤ 1.75 gpm**
3 points	**all showerheads are ≤ 1.5 gpm**

Intent: Reduce potable water used inside the building

Submittals: Cut sheet for showerheads

Resources: -

W1.6 Dishwashers

Requirement: All installed dishwashers must be Energy Star qualified with a Water Factor (WF) of 7.0 or less. Dishwashers installed in commercial kitchens must be Energy Star Qualified.

Points:

1 point	**all dishwashers are Energy Star Qualified with Water Factor (WF ≤ 7.0)**
2 point	**all dishwashers are Energy Star Qualified with Water Factor (WF ≤ 5.8)**

Intent: Reduce the amount of potable water used inside the building

Submittals: Cut sheet for dishwashers

Resources: -

W2 Greywater Reuse

W2.1 Air conditioner condensate collected and used to reduce potable water use

Requirement: Greywater system is installed to reduce demand on potable water. System must have a specific collection source and a dedicated use. Greywater system is installed to reduce demand on potable water. System must have a specific collection source and a dedicated use.

Points: **1 point**

Intent: Reduce the consumption of potable water by using alternative sources. For example, air conditioner condensate could be used to refill site water features, used for irrigation, or as make-up water chillers.

Submittals: Construction drawings indicating design and location of system

Resources: -

W2.2 Greywater System - dual piping system is installed throughout building

Requirement: Greywater system is installed to reduce demand on potable water. System must have a specific collection source and a dedicated use. Greywater system is installed to reduce demand on potable water. System must have a specific collection source and a dedicated use.

Points: **3 point**

Intent: Reduce the consumption of potable water by using alternative sources. For example, water from lavatory sinks could be used to refill site water features, used for irrigation, or as make-up water chillers.

Submittals: Construction drawings indicating design and location of system

Resources: -

W3 Rainwater Harvesting

With an average rainfall of 54 inches/year in the state of Florida (compared to the national average of 27 inches/year), harvested rainwater is an excellent source of water for landscape irrigation, chiller water make-up, some industrial uses, greywater (toilet and urinal flushing) and with minimal treatment can be made potable for consumption. Rainwater is generally harvested from a roof surface, and system components include properly designed gutters, piping, roof washes, screens, and storage tank/cisterns.

Requirement: Install rainwater harvesting collection and storage system. The minimum requirement for this credit is a simple collection system, which for all intents and purposes would be for demonstration. Achieve additional points, per the break down below, as the rainwater collection system increases in functional use to replace both potable and non potable water.

1. Simple Collection: Used to supplement irrigation and for demonstration purposes.

2. Dedicated use for irrigation: Harvested Rainwater is used to supply irrigation to landscape.

3. Rainwater is collected and used in lieu of potable water for flushing toilets and urinals: Rainwater is collected and fed to dual piping system as greywater to reduce potable water demand inside the building.

4. Collected and treated to potable standards for whole building use: Water is treated to potable standards and supplements whole building water use

Points:	**1 point**	**Simple Collection**
	3 points	**Collection with dedicated use for irrigation**
	5 points	**Collection for toilet/urinal flushing**
	10 points	**Rainwater is collected and treated to potable standards for use throughout the building**

Intent: Decrease both potable and non potable water use by collecting and using rainwater

Submittals: Construction drawings indicating design and location of system

Resources: For more information consult A Guide to Environmentally Landscaping: Florida Friendly Landscape Handbook or visit http://fyn.ifas.ufl.edu/materials/FYN_Handbook_vSept09.pdf

Additional information on rainwater harvesting can be found at: http://rainwater.sustainablesources.com/ and http://www.toolbase.org/Techinventory/TechDetails.aspx?ContentDetailID=918&BucketID=6&CategoryID=11.

W4 Installed Landscape

W4.1 Florida Friendly Low Water Landscape

Requirement: Use of at least 60% of the plants and trees incorporated into the landscape are from a local drought tolerant list; 2 points are available if 80% are from such a list; and 3 points are available if 100% of the plants and trees are from such a list. A minimum of twelve total plants must be present in the landscape to qualify for the credit.

Points:	**1 point**	**≥ 60% and < 80% Low water Florida Friendly**
	2 points	**≥ 80% and < 100% Low water Florida Friendly**
	3 points	**100% Low water Florida Friendly**

Intent: Decrease the water resources used to irrigate landscape

Submittals: Letter verifying compliance with the criteria is signed by one of the following: the landscape architect, a WaterStar or WaterSense Certifier, a Florida Friendly Landscape representative, or a Master Gardener.

Resources: To obtain a list of drought tolerant plants and trees for your area, contact your local water management district, consult the Waterwise Florida Landscapes publication, or consult with a FY&N professional, Master Gardener, or Florida WaterStar or WaterSense Certifier. For References here are some helpful websites: http://www.sjrwmd.com/waterwiselandscapes/, http://fyn.ifas.ufl.edu, http://www.floridawaterstar.com/floridawaterstar/.

W4.2 Turf/Sod Percentage

Requirement: Turf is installed on less than 50% of landscape, Install drought tolerant turf, Bahia, Zoysia, or Bermuda grass in sunny areas (<20% shade on June 21) and do not use turf is used in densely shaded areas (>60% shade on June 21).

Points:

1 point < 50% Turf/sod

2 point < 40% Turf/sod

3 point < 30% Turf/sod

4 point < 20% Turf/sod

5 point < 10% Turf/sod

Intent: Turf is generally the largest consumer of water in the landscape, and most types will not flourish in shady areas. Use of drought tolerant plants in shaded areas

Submittals: Site plan indicating total SF of turf. Letter verifying compliance with the criteria is signed by one of the following: the landscape architect, a WaterStar or WaterSense Certifier, a Florida Friendly Landscape representative, or a Master Gardener.

Resources: -

W4.3 No Turf/ Sod and No Installed Irrigation

Requirement: Landscape has no turf or sod installed and contains no permanently installed irrigation system.

Points: **10**

Intent: Reduce both potable and non potable water used for irrigation

Submittals: Copy of landscape plan and letter from the building owner stating that no permanent irrigation will be used at the site

Resources: -

W4.4 All plants/trees selected to be compatible with local environment / microclimate

Requirement: All plants (including shrubs, groundcovers, and vines and trees) are compatible with their location in the landscape

Points: **2**

Intent: Even if preferred native, drought tolerant, and low maintenance plants are selected for the landscape, many times the plants are installed in areas of the landscape where they are not likely to remain healthy due to various sun/shade and soil type requirements. Incompatibility between the plant(s) and their placement results in over watering and over fertilizing.

Submittals: Landscape plan and plant list. Letter verifying compliance with the criteria is signed by one of the following: the landscape architect, a WaterStar or WaterSense Certifier, a Florida Friendly Landscape representative, or a Master Gardener.

Resources: http://floridayards.org/fyplants/index.php

W4.5 Evenly shaped turf areas, no turf on berms

Requirement: 100% of turf is planted in evenly-shaped areas (such as circles, ovals, and large rectangular areas rather than in long thin strips) and if no turf is planted on berms.

Points: **2**

Intent: Evenly-shaped turf areas are easier to water efficiently and easier to maintain. Turf planted on berms requires more water to remain healthy, due to water run-off from the slope.

Submittals: Landscape plans and photos of installed vegetation

Resources: -

W4.6 Plants with similar maintenance grouped together

Requirement: Landscape is planned and installed according to plant maintenance requirements such that similar maintenance plants are grouped together.

Points: **2**

Intent: Grouping plants with similar maintenance requirements together increases irrigation efficiency. Lawns that require a lot of water from sprayers and rotors should not be watered in the same irrigation zone as drought-tolerant plants that require less water and that can be efficiently irrigated with micro-irrigation (micro-spray jets, drip systems, bubblers, or soaker hoses).

Submittals: Landscape plans and photos of installed vegetation. Letter verifying compliance with the criteria is signed by one of the following: the landscape architect, a WaterStar or WaterSense Certifier, a Florida Friendly Landscape representative, or a Master Gardener.

Resources: -

W4.7 Mulch (non-cypress) applied 3"-4" deep

Requirement: Apply 3-4” of mulch around plants and trees (extending out to drip line) and in landscaped beds avoiding volcano mulching.

Points: **2**

Intent: In addition to preventing weed growth, a thick layer of mulch will help retain soil moisture, retard erosion, cool the soil surface, and reduce some soil pests. Mulching around trees also reduces damage from mowers and line trimmers. It is important to avoid volcano mulching (a cone of piled mulch placed around newly installed plants and trees). This practice can hold moisture against the tree and encourages rot in the trunk.

Submittals: Landscape plans and photos of installed vegetation

Resources: http://fyn.ifas.ufl.edu/materials/FYN_Handbook_vSept09.pdf

Incorrect Volcano Mulching

Correct Installation

W5 Water Conservation Certifications

W5.1 Meet or exceed Florida WaterStar ™ or WaterSense Standards

Requirement: Meet the WaterStar™ or WaterSense certification program requirements.

Points: **5**

Intent: Florida WaterStar™ is a voluntary, third-party certification program designed to increase water efficiency in landscapes, irrigation systems and indoor uses. While many certification programs provide general guidelines for water efficiency, Florida WaterStar™ specifically addresses uses relevant to Florida.

WaterSense® labeled new homes will combine WaterSense® labeled products with other water-efficient fixtures and practices to reduce the amount of water used by approximately 20 percent. Homes must meet criteria in three areas: indoor water use, outdoor water use, and homeowner education.

Submittals: Copy of certificate

Resources: http://www.sjrwmd.com/floridawaterstar/index.html

www.epa.gov/watersense/

W5.2 Florida Friendly Landscape™ Program Certification

Requirement: Obtain Florida Friendly Landscaping™ Program New Construction Certification

Points: **2**

Intent: Florida-Friendly Landscaping™ offers a certification program for new construction throughout the state. The new construction checklist for builders and developers for certification of Florida-Friendly Landscaping™ includes design criteria that help drive maintenance of landscapes in a Florida-Friendly way; that is through less use of irrigation, fertilizers and pesticides. The certification criteria embrace the nine principles of Florida-Friendly Landscaping™ which are: Right plant, right place; water efficiently; fertilize appropriately; mulch; attract wildlife; manage yard pests responsibly; recycle yard waste; reduce stormwater runoff; and protect the waterfront. Florida-Friendly Landscapes, as defined in 2009 Florida Statutes, Chp. 373, are landscapes which are: "…quality landscapes that conserve water, protect the environment, are adaptable to local conditions, and are drought tolerant." For more information, contact the county UF/IFAS Extension office. Many of the criteria dovetail with other green certification programs.

Submittals: Copy of certificate

Resources: http://fyn.ifas.ufl.edu/materials/FYN_Handbook_vSept09.pdf

http://fyn.ifas.ufl.edu/

W6 Installed Irrigation

Requirement: Irrigation must comply with all of the following to achieve Installed Irrigation W6 credits

To receive points for Installed Irrigation, each system must have the following features:

1. **Separate zones for turf and landscape beds – multi program controller:** It is recommended that the irrigation systems be calibrated to supply less than ¾" of water per zone, per application. The controller must be a multiple program controller that can divide the landscape into zones and operate the different zones for different

lengths of time. The controller must have a battery backup to retain system settings and include a functioning rain sensor in an operable location as required by Florida Statute 373.62.

2. **High volume irrigation does not exceed 60% of the landscape area:** Landscape zones requiring a high volume of water supplied by rotors or spray heads cannot exceed 60% of the landscape area.
3. **Head to head coverage for rotor/spray heads:** Many irrigation system designs incorporate spray/rotor head pattern overlap to ensure complete coverage. In order to minimize over watering in the overlap zone, one emitter's coverage pattern should not extend past adjacent emitters.
4. **Micro-irrigation only in landscape beds and narrow areas:** Landscape features other than turf can be watered much more efficiently by using micro-irrigation rather than sprayers and rotors. Equipment such as drip emitters, bubblers, micro-spray jets, and soaker hoses deliver water precisely where it is needed. In contrast, much of the water emitted from sprayers and rotors is blown away by wind or evaporates. In addition, narrow areas that are 4 ft. wide or less are difficult to irrigate effectively with rotor or spray heads, for most patterns are greater than 4 feet in diameter. Micro-irrigation is a better choice for irrigating narrow areas.
5. **Minimize overspray on impermeable surfaces:** The irrigation system must be visually inspected while operating to ensure that no irrigation water is directed to areas not intended to be watered (driveway, street, etc.). The system must also not direct water onto walls of the house.
6. **In poor drainage (low) areas, heads are installed with check valves:** Equipment with check valves must be used in some areas to prevent low pressure drainage. Low pressure drainage is a situation in which the system drains to the lowest head and resultant water flows onto or over adjacent property, non-irrigated areas, walks, roadways, or structures. Not only could this be a localized wet spot problem, but it also wastes the water that is in the zone piping each time the system runs. To help prevent this situation, heads with check valves need to be installed if there is over an 18 inch difference in elevation or if there is undulating terrain.
7. **Provide building owner and or facility manager with plan and instructions:** The building owner and the facility manager should receive a copy of as built plans, operating manuals, and warranties. The package should also include a general irrigation schedule with recommendations and instructions on modifying the schedule for local climatic and growing conditions. Each of the following items should be installed adjacent to the controller or in an easily accessible weather-protected area:
    a. Controller handbook/operating instructions
    b. Zone diagram
    c. Specific zone application rates and maintenance run times
    d. Soil moisture sensor probe location (when applicable)
8. **Irrigation heads have matched precipitation rates:** Matching precipitation rates allows for sprinklers with various arcs and radii to be included in the same zone and each deliver the same target application rate.
9. **Pop-up sprinkler heads significantly rise about turf grass height:** If heads do not pop up sufficiently above turf, the uniformity of distribution will not be adequate and will result in poor coverage.
    a. A minimum of 5-inch sprinkler heads for St. Augustine, Zoysia and Bahia grasses

b. A minimum of 4-inch sprinkler heads for centipede, Bermuda and seashore paspalum

Points: **15**

Intent: Use water correctly to irrigate landscape only when necessary

Submittals: Irrigation system design drawing as installed and irrigation schedule.

Resources: http://www.sjrwmd.com/floridawaterstar/index.html and Florida Friendly Best Management Practices for Protection of Water Resources by the Green Industries, http://www.dep.state.fl.us/water/nonpoint/docs/nonpoint/grn-ind-bmp-en-12-2008.pdf

CATEGORY 4: SITE

S Prerequisite 1: Copy of Stormwater Pollution Prevention Plan (SWPPP) and Florida Department of Environmental Protection (FDEP) Notice of Intent (NOI) onsite

Requirement: Keep copy of SWPPP & FDEP National Pollutant Discharge Elimination System (NPDES) Notice of Intent (NOI) onsite for contractor to implement & maintain SWPPP Best Management Practices (BMP) as designed by civil engineer or SWPPP designer.

Points: **Prerequisite - Required**

Intent: Reduce the quantity and improve the quality of stormwater discharge that leaves the jobsite.

Submittals: Copy of Notice of Intent

Resources: -

S1 FDEP Professional

Requirement: The general contractor has on staff or contracts with a FDEP Certified Erosion and Sedimentation Control Professional.

Points: **3**

Intent: Increase the proper design, construction, and maintenance of erosion and sediment control during construction to assure the proper log term operation and maintenance of stormwater systems after construction is complete.

Submittals: Name of Certified FDEP Professional and a copy of the page of the permit application identifying the FDEP individual and their contact information.

Resources: www.dep.state.fl.us/water/nonpoint/erosion.htm

S2 Site Selection

S2.1 Select Appropriate Site

Requirement: Do not develop buildings, roads, or parking areas on portions of sites that meet any one of the following criteria:

- Prime farmland as defined by the United States Department of Agriculture.
- Land which elevation is lower than 5 feet above the elevation of the 100-year flood as defined by FEMA.
- Land that is specifically identified as habitat for any species on Federal or State threatened or endangered lists.
- Within 100 feet of any water including wetlands as defined by 40 CFR, Parts 230-233 and Part 22, and isolated wetland or areas of special concern identified by state or local rule OR greater than distances given in state or local regulations as defined by local or state rule or law, whichever is more stringent.

Land which prior to acquisition for the project was public parkland, unless land of equal or greater value as parkland is accepted in trade by the public landowner (Park Authority projects are exempt).

Points: **1**

Intent: Avoid development of environmentally sensitive sites.

Submittals: Provide a site plan, in context, so the credit criteria may be verified and a letter from the building owner or civil engineer confirming site as appropriate.

Resources: -

S2.2 Urban Growth Boundary

Requirement: Locate building on a site that is located inside the designated Urban Growth Boundary

Points: **1**

Intent: Reduce the need for additional infrastructure to service the building.

Submittals: Map of Urban Growth Boundary with project site identified.

Resources: Local Government Website – Planning Department

S2.3 Permit Ready Site

Requirement: Locate building on a site that is listed as "Permit Ready" and designated by local government as preferred growth area.

Points: **1**

Intent: Respect the municipal governments planning for development.

Submittals: Letter from the local government indicating that the site is “permit ready” or a preferred site targeted for development.

Resources: Local Government Website – Planning Department

S2.4 Greyfield/Redevelopment of an existing site

Requirement: Locate the building on a site that has existing hardscape or other structure that must be replaced. To achieve this credit, the site must have utility connections available within 1/8 mile boundary.

Points: **3**

Intent: Encourage redevelopment, increase density and reduce the need for additional infrastructure.

Submittals: Copy of a site plan with the existing conditions at the time of permit application.

Resources: Many economic development boards have a list of existing sites ready for redevelopment.

S2.5 Brownfield Redevelopment

Requirement: Development of any EPA or Federal/State/Local Government Classified Brownfield and provide remediation as required by EPA’s Sustainable Redevelopment of Brownfields Program.

Points: **3**

Intent: Rehabilitate and use damaged sites

Submittals: Provide a copy of the Phase II Environmental Site Assessment OR a letter from a local, state or federal regulatory agency confirming that the site is classified as a brownfield.

Resources: http://epa.gov/brownfields/

S2.6 Access to Public Transportation

Requirement: Site is located within 1/2 mile of an existing or funded rail node OR within 1/4 mile of at least 1 active bus stop (this can be measured as the crow flies)**.**

Points: **2**

Intent: Reduce traffic, greenhouse gas emissions, need to expand roadways and overall pollution from automobile use.

Submittals: Regional/Local drawing or transit map highlighting the building location and the fixed rail stations and bus lines, and indicate the distances between them. Include a scale bar for distance measurement.

Resources: Local jurisdiction website.

S2.7 Adjacent to dense residential development

Requirement: Locate the building on a site that is within 1 mile of residential developments with the minimum density of 10 units per acre (this can be measured as the crow flies).

Points: **1**

Intent: Locate commercial buildings close to densely populated areas to reduce vehicle miles traveled.

Submittals: Area map that identifies adjacent properties, their use, and the building site.

Resources: -

S2.8 Access to Basic Services

Requirement: Locate the building on a site that is within 1/2 mile of and has walkable access to basic services (this can be measured as the crow flies). Each type of service may only be counted once, i.e. if there are 3 banks, for the purposes of this checklist that is equal to ONE service. Site must be within 1/2 mile of 3 services to receive 1 point, 1 additional point is available for each 2 additional services as listed below.

- financial institutions
- place of worship
- convenience grocery store
- day care
- dry cleaners
- fire station
- beauty shop
- hardware store
- Laundromat
- Library

- Medical/dental office
- senior care facility
- park
- pharmacy
- post office
- restaurant
- school
- supermarket
- theater
- community center
- fitness center
- museum
- local government facility

Points:

points	number of services
1	3 services
2	5 services
3	7 services
4	9 services
5	11 services
6	13 services
7	15 services
8	17 services
9	19 services
10	21 services

Intent: Reduce vehicle miles traveled by locating building close to basic services.

Submittals: Aerial context map with building location, and location and type of basic services within ½ mile.

Resources: -

S3 Site Enhancement

S3.1 Wetland Protection and Enhancement

Requirement: Sites located within 100 feet of wetlands shall restore the wetland and provide a minimum of a 25 foot buffer of uplands that include native vegetation, no irrigation, and signs indicating that the area is a restored natural area.

Points: **2**

Intent: Minimize the impact and restore the wetlands.

Submittals: Site map identifying wetlands, plant list and restoration plan, delineating 25' upland buffer and showing that no irrigation will be installed within the 25' upland buffer.

Resources: -

S3.2 Minimize Site Disturbance

Requirement: The maximum square footage of the site that may be disturbed, excluding the building footprint, must be less than or equal to the building footprint.

Points: **1**

Intent: Minimize site disturbance.

Submittals: Copy of project site indicating building footprint, square footage of building footprint and outlining site cleaning operation boundaries and staging areas. Provide photos of site demonstrating minimal site disturbance.

Resources: -

S3.3 Site Open Space

Requirement: Provide shaded open space, minimum of 50% shade coverage from trees within 10 years for open space. Meet minimum zoning requirements for open space or if there is no local zoning requirement for open space, provide vegetated and shaded area equivalent to the square footage of the building footprint, or 20% of the site, whichever is greater.

Points: **2**

Intent: Provide natural open space with shade to reduce the heat islands around the building, provide building occupants with outdoor spaces, and enhance the environment with trees.

Submittals: Provide a site plan with the building footprint, square footage of building footprint (or a copy of the local zoning open space requirements) that shows the designated open space and landscape plan. Also provide a list of trees and their projected canopies after 10 years.

Resources: -

S3.4 Sidewalks

Requirement: Provide sidewalks for all paths marked for use by the building occupants. Sidewalks shall be a minimum of 4’ wide, stable, firm, slip-resistant materials.

Points: **1**

Intent: Improve the walkability and safety of the site.

Submittals: Site plan showing sidewalks.

Resources: -

S3.5 Connectivity

Requirement: Provide connections to adjacent sites via sidewalks, bike paths, and trails.

Points: **1**

Intent: Improve the connectivity of the community and encourage pedestrian and bike traffic.

Submittals: Site plan showing connections and trails.

Resources: -

S4 Reduce Heat Islands – Hardscape

S4.1 Minimize Provided Parking

Requirement: Parking provided on site must be less than required by local jurisdiction. Design team must work with the local jurisdiction to reduce the typically required parking by proposing shared parking or other multimodal transportation methods. The project must also provide preferred parking for carpools or vanpools capable of serving 5% of the building occupants; OR add no new parking for rehabilitation projects AND provide preferred parking for carpools or van pools capable of serving 5% of the building occupants.

Points: **2**

Intent: Reduce areas that may be impervious, create heat islands, or discourage use of multimodal transportation.

Submittals: Provide a calculation of the zoning required parking spaces, a letter from the local jurisdiction indicating the projects parking requirements and a site plan with a total parking count.

Resources: -

S4.2 Under Building Parking

Requirement: A minimum of 50% of the space under the building shall be used for parking.

Points: **3**

Intent: Reduce heat islands, reduce impervious surface, and raise the finish floor elevation (FFE) for disaster mitigation.

Submittals: Provide the site plan indicating parking layout and building footprint.

Resources: -

S4.3 Shaded, Covered or High Albedo Hardscape

Requirement: Shade, cover or use high albedo hardscape for a minimum of 20% of the site hardscape. For the purpose of this credit site hardscape includes roads, sidewalks, courtyards, and parking lots. Areas square footage that may be included in this calculation are hardscape shading by trees (within 10 years, structures with roof materials with a SRI >= 78, structured parking or hardscape with a SRI > 35. The building footprint, ie. square footage of roof, is NOT considered hardscape. Hardscape shaded by photovoltaic panels or other systems that are generating electricity can be included in the shade square footage calculation and are exempt from meeting the SRI >= 78 requirement. (note: enter "0" in the checklist if the project does not have any SF associated with the shading type). Earn 1 point for each 20% of the hardscape that is shaded, covered or has a high albedo. The checklist requires that you enter the square footage of the total hardscape and the square footage of the complying hardscapes and will calculate the total shaded hardscape and corresponding points.

Points:

1 point	**≥ 20% and < 40% shaded, covered or reflectent**
2 points	**≥ 40% and < 60% shaded, covered or reflectent**
3 points	**≥ 60% and < 80% shaded, covered or reflectent**

	4 points	**≥ 80% shaded, covered or reflectent**

Intent: Reduce heat islands of the developed site.

Submittals: Provide a site plan identifying all the site features and a cut sheet for any reflective materials used to achieve this credit.

Resources: -

S5 Reduce Heat Islands - Roof

Requirement: To qualify for this credit, the roof materials must be Energy Star, have a SRI >= 78 or be a vegetated roof structure. The vegetated roof must have a minimum of 80% Florida friendly low water vegetation installed. One point is awarded for each 20% of roof area that is reflective, vegetated, or shaded by solar electric devices. The Checklist requires that you enter the total square footage of the roof and the square footage of Energy Star, high reflectance, and vegetated roof. It will return the percentage and award points.

Points:	**1 point**	**≥ 20% and < 40% Energy Star, reflectent or vegetated roof**
	2 points	**≥ 40% and < 60% Energy Star, reflectent or vegetated roof**
	3 points	**≥ 60% and < 80% Energy Star, reflectent or vegetated roof**
	4 points	**≥ 80% Energy Star, reflectent or vegetated roof**

Intent: Reduce heat island effect of site development.

Submittals: Provide a roof drawing with area calculations and cut sheets for the materials used.

Resources: -

S6 Reduce Heat Islands - Building

Requirement: To qualify for this credit, a minimum of 20% of the exterior wall surface area minus the glazing must have a SRI >= 78 or be shaded by tree canopy. One additional point is awarded for each additional 20% of reflective or shaded exterior wall surface area.

Points:	**1 point**	**≥ 20% and < 40% reflectent or shaded exterior wall**
	2 points	**≥ 40% and < 60% reflectent or shaded exterior wall**
	3 points	**≥ 60% and < 80% reflectent or shaded exterior wall**
	4 points	**≥ 80% reflectent or shaded exterior wall**

Intent: Reduce heat island effect of site development and vertical construction.

Submittals: Provide a cut sheet of the exterior wall coating/paint and any shading calculations of claimed.

References: -

S7 Stormwater

S7.1 Less than 10 acres, less than 2 acres of impact (<10<2)

Requirement: Increase the quality of stormwater discharge. One point is available for each 50% improvement in water quality as calculated by the project civil engineer.

Points:	**1 point**	**≥ 50% and < 100% increase in water quality**
	2 points	**≥ 100% and < 150% increase in water quality**

3 points **≥ 150% increase in water quality**

Intent: Improve natural waterways by minimizing stormwater run-off contaminants.

Submittals: Civil Engineer stormwater calculations.

References:

S7.2 Standard General

Requirement: Increase the quality of stormwater discharge. One point is available for a 50% increase in water quality and a maximum 85% predevelopment discharge. One additional point is available for each 10% decrease in predevelopment discharge.

Points:
1 point **≥ 50% increase in water quality, ≤ 85% and > 75% predevelopment discharge**
2 points **≥ 50% increase in water quality, ≤ 75% and > 65% predevelopment discharge**
3 points **≥ 50% increase in water quality, ≤ 65% predevelopment discharge**

Intent:

Submittals: Civil Engineering stormwater calculations and narrative explaining how the design improves the water quality

References:

S7.3 Treat Stormwater from adjacent sites

Requirement: Collect and treat stormwater from adjacent properties to assist in controlling both the quantity and quality of stormwater in the community. Earn one point for each additional 10% of stormwater volume the project site can retain and treat.

Points:
1 point **Collect and treat an additional 10% to < 20%**
2 points **Collect and treat an additional 20% to < 30%**
3 points **Collect and treat an additional 30% or more**

Intent: Improve the quality of natural waterways by improving the quality of and reducing the quantity of stormwater discharge.

Submittals: Civil Engineering stormwater calculations.

Resources: -

S7.4 Littoral Vegetation of Manmade Stormwater Detention

Requirement: Littoral zone of man-made stormwater detention basins that function as wet ponds shall have a minimum of 50% of the pond bank vegetated with native wetland plants of diverse species in appropriate locations for the vegetation type. To create this landscaped littoral shelf, the slope between the normal water level elevation and three feet below the normal water level elevation should be no greater than 6:1. Earn one point for 50% of pond bank coverage and earn an additional point for each additional 25% of pond bank coverage.

Points:
1 point **≥ 50% and < 75% of pond bank planted with littorals**
2 points **≥ 75% and < 100% of pond bank planted with littorals**

3 points **100% of pond bank planted with littorals**

Intent: Improve stormwater quality, littoral vegetation reduces the amount and proximity of sod which also reduces the amount of pesticides and fertilizers that enter our waterways.

Submittals: Plant list and detention pond design.

References: -

S7.5 Pervious Hardscape

Requirement: Install pervious hardscape for a minimum of 25% of the site. Site hardscape includes roads, sidewalks, courtyards, and parking lots. Hardscape may be porous pavers (open grid pavers) or permeable pavement (minimum percolation rate of 2 gal/min/SF and a minimum of 6 inches of open graded base below.

Points:
1 point **≥ 25% and < 50% pervious hardscape installed**
2 points **≥ 50% and < 75% pervious hardscape installed**
3 points **≥ 75% pervious hardscape installed**

Intent: Improve quality of stormwater discharge and allow groundwater recharge.

Submittals: Site drawing with pervious hardscape identified and cut sheet or calculations regarding percolation or perviousness.

References:

S7.6 Alternative Stormwater Detention

Requirement: Uses Low Impact Development (LID) alternatives to collect and treat stormwater. Alternative systems that qualify include rain gardens, bio-retention filtration systems, infiltration trenches, and vegetated roofing. A minimum of 50% of the stormwater collection and treatment must use the low impact development treatment system to achieve this credit. Earn one point if 50% of the site stormwater is collected using low LID techniques. Earn an additional point for each additional 25% of total site stormwater that is collected using LID techniques.

Points:
1 point **≥ 50% and < 75% of stormwater is collected using LID techniques**
2 points **≥ 75% and < 100% of stormwater is collected using LID techniques**
3 points **100% of stormwater is collected using LID techniques**

Intent: Improve quality of natural waterways and stormwater discharge.

Submittals: Site design, stormwater calculations and construction details of low impact development designs.

Resources: -

S8 Vehicular Transportation Alternatives

S8.1 Bicycle Storage

Requirement: Project must provide securing locations for minimum of 2 bicyclers (1 bike rack) or 1 bike rack per 10,000 square feet of retail and 25,000 SF of commercial.

Points: **1**

Intent: Encourage transportation alternatives to the automobile.
Submittals: Site plan identifying bike racks and cut sheet of bike racks selected.
Resources: -

S8.2 Changing Rooms

Requirement: Project must provide a minimum of 1 changing room per 15,000 SF of building.
Points: **1**
Intent: Provide a location for individuals walking or biking to work to change.
Submittals: Floor plan that identifies changing room.
Resources: -

S8.3 Showering Facility

Requirement: Full time occupants have access to a shower facility, free of charge, located on site or in an immediately adjacent facility (within 200 yards). If the showers are located on site, one shower for each 0.5% full time equivalent employee.
Points: **1**
Intent: Provide a location for individuals walking or biking to work to change.
Submittals: Floor plan that identifies the showers.
Resources: -

S8.4 Low-Emitting, Fuel-Efficient and High Occupancy Vehicles

Requirement: Provide preferred parking for 3% of the parking capacity for the use of low-emitting, fuel-efficient and high occupancy vehicles. Preferred parking spaces may also include charging stations for electric vehicles.
Points: 1
Intent: Provide an incentive for individuals to use alternatively fueled vehicles.
Submittals: Site drawing with designated parking spaces and total parking count.
Resources: -

S9 Exterior Lighting (not attached to building)

S9.1 Meets Dark Sky Requirements

Requirement: Do not exceed the light levels and uniformity ratios recommended by the Illuminating Engineering Society of North America (IESNA) Recommended *Practice Manual: Lighting for Exterior Environments* (RP-33-99). Design exterior lighting such that all exterior luminaires with more than 1000 initial lamp lumens are shielded and all luminaires with more than 3500 initial lamp lumens meet the Full Cutoff IESNA Classification. If the bulb exceeds 26W the lights shall be full cut off luminaires so that no light or brightness from those luminaires crosses the property boundary.
Points: **1**

Intent: Eliminate light trespass from the building and site, improve night sky access and reduce development impact on nocturnal environments.

Submittals: Provide specifications, construction detail and lighting cut sheets indicating dark sky compliance.

Resources: -

S9.2 Lights Provide >95 lumens/watt

Requirement: Exterior lighting fixtures selected provide a minimum of 95 lumens/watt.

Points: **1**

Intent: Provide lighting while reducing energy consumption.

Submittals: Cut sheets of lighting fixtures selected.

Resources: -

S9.3 Lights are Solar Powered

Requirement: Exterior lighting fixtures are equipped with solar panels. Site design and landscape design allow for maximum solar collection over the life of the PV's. Collectors must remain unobstructed from shade from trees (within the site boundaries) for 15 years

Points: **1**

Intent: Provide exterior lighting while reducing energy consumption.

Submittals: Cut sheets of lighting fixtures selected and a copy of the landscape plan that indicates mature growth does not obstruct lights.

Resources: -

S9.4 Exterior lighting is on motion and daylight sensors

Requirement: A minimum of 50% of the installed exterior lighting in controlled by motion and daylight sensors

Points: **1**

Intent: Reduce energy consumption from lighting by installing sensors that automatically dim artificial lighting when daylight is available and when occupants are not present.

Submittals: Site plan with location of daylight/motion sensors and either a cut sheet of the sensors or copy of the specifications that call out the sensors.

Resources: -

CATEGORY 5: HEALTH

H Prerequisite 1: Environmental Tobacco Smoke (ETS) Control

Requirement: No smoking allowed in the building and only in designated areas that are located 25 feet away from all doors, operable windows, HVAC equipment, and fresh air intakes.

Points: **Prerequisite - Required**

Intent: Prevent exposure of building occupants and systems to Environmental Tobacco Smoke (ETS).

Submittals: Site plan indicating designated smoking area.

Resources: -

H Prerequisite 2: Indoor Air Quality (IAQ) Management Plan, During Construction

Requirement: Indoor Environmental Quality shall be protected during construction according to SMACNA guidelines.

Develop and implement an Indoor Air Quality (IAQ) Management Plan for the construction and pre-occupancy phases of the building as follows:

- During construction meet or exceed the minimum requirements recommended in Design Approaches of the Sheet Metal and Air Conditioning National Contractors Association (SMACNA) IAQ Guideline for Occupied Buildings under Construction, 1995.
- Protect stored on-site or installed absorptive materials from moisture damage.
- Replace all filtration media immediately prior to occupancy. Filtration media shall have a Minimum Efficiency Reporting Value (MERV) of 13, as determined by ASHRAE 52.2-1999 for media installed at the end of construction, and a MERV of 8, for media used to protect HVAC at each return air grill during construction.

Points: **Prerequisite - Required**

Intent: Prevent indoor air quality problems resulting from the construction/renovation process in order to help sustain the long-term health, comfort and well-being of construction workers and building occupants.

Submittals: Provide copy of the specifications indicating use of SMACNA guidelines and letter from the contractor signed both by the project manager and field superintendant indicating they have implemented the SMACNA guidelines.

Resources: -

H1 Protect, Monitor & Remediate Poor IAQ

H1.1 Carbon Dioxide

Requirement: Systems shall be designed to monitor carbon dioxide (CO2) within the building and activate an audible alarm w/ corrective action plan such that mechanical air conditioning system can introduce treated fresh air as needed.

Points: **1**

Intent: Provide capacity for indoor air quality (IAQ) monitoring to help sustain long-term occupant health, comfort and well-being.

Submittals: Mechanical engineer to provide a brief narrative indicating system design and function. Narrative shall also contain construction detail sheet numbers.

Resources: -

H1.2 Humidity Monitoring & Control

Requirement: Systems shall be designed to monitor humidity within the building and activate an audible alarm w/ corrective action plan. System installed to control building humidity such as a desiccant system, enthalpy wheel, heat pipes, or dual path system. The dehumidification system shall be a centrally located and permanent.

Points: **5**

Intent: Reduce relative humidity inside the building to improve the indoor environment

Submittals: Letter from the mechanical engineer and cut sheet of dehumidification equipment.

Resources: -

H1.3 Building Entrance – Outdoor Pollutants

Requirement: Project shall employ measures such as permanent walk off grates or mats located at the building main entrance to reduce pollutant contamination of the building entrances.

Points: **1**

Intent: Improve the indoor environmental quality by reducing the amount of pollutants brought inside the building by foot traffic.

Submittals: Provide cut sheet and construction detail of the system installed

Resources: -

H1.4 Building Entrance – Covered Entrance

Requirement: Main entrance of the building shall be covered with no less than 50 square feet of roof to protect entrance from rain. 1 point is available for a covered entrance; 2 points are available if there is a covered path from parking to the main entrance or a porte cochere at the main entrance.

Points:

1 point	**50 SF minimum of covered entrance**
2 points	**50 SF minimum covered entrance, covered path from parking to main entrance or porte cochere.**

Intent: Protect the building from water intrusion from rain and provide a protected path for building occupants.

Submittals: Provide a copy of the dimensioned plan indicating the covered entrance and the square footage of the entrance cover.

Resources: -

H1.5 High Efficiency Air Filtration System

Requirement: Design a mechanical ventilation system to include a minimum MERV 13 air filter.

Points: **2**

Intent: Provide improved indoor air quality.

Submittals: Cut sheet of air filter system.

Resources: -

H1.6 Chemical and Cleaning Product Storage

Requirement: Any room(s) containing chemicals or cleaning products for building O&M is ventilated and under negative pressure with respect to the building. The room must also have a door installed that will automatically close. For mechanically ventilated buildings, design ventilation systems that result in an air change effectiveness greater than or equal to 0.9 as determined by ASHRAE 129-1997.

Points: **1**

Intent: Provide for the effective delivery and mixing of fresh air to support the health, safety, comfort and well-being of building occupants.

Submittals: Letter from mechanical engineer indicating the design achieves an air change effectiveness of 0.9 or greater in each ventilated zone or that the design complies with the recommended design approaches in ASHRAE 2001 Fundamentals Chapter 32, Space Air Diffusion.

Resources: -

H1.7 Radon Mitigation

Requirement: Install a passive or active system as needed for your building location to mitigate for radon.

Points: **1**

Intent: Improve the indoor environment

Submittals: Construction detail

Resources: -

H1.8 Pre Occupancy IAQ testing

Requirement: Test and remediate building prior to occupancy using procedure consistent with the United States Environmental Protection Agency's current *Protocol for Environmental Requirements, Baseline IAQ and Materials, for the Research Triangle Park Campus, Section 01445.*

Test for the following contaminants and maximum concentration:

Contaminant	Maximum Concentration
Formaldehyde	50 parts per billion
Particulates (PM10)	50 micrograms per cubic meter
Total Volatile Organic Compounds (TVOC)	500 micrograms per cubic meter
* 4-Phenylcyclohexene (4-PCH)	6.5 micrograms per cubic meter
Carbon Monoxide (CO)	9 part per million and no greater than 2 parts per million above outdoor levels.
*This test is only required if carpets and fabrics with styrene butadiene rubber (SBR)	

latex backing material are installed as part of the base building systems.

Points: 1

Intent: Provide the Owner with the option to test indoor air quality prior to occupancy.

Submittals: Copy of the IAQ testing results indicating that the maximum chemical contaminant concentration requirements are not exceeded.

Resources: -

H2 Low Emitting Materials

H2.1 Adhesives and Sealants

Requirement: All Adhesives and Sealants shall be low Volatile Organic Compound (VOC) and meet the VOC limits below which were established by the South Coast Air Quality Management District (SCAQMD) Rule #1168 AND all sealants used as fillers must meet or exceed the requirements of the Bay Area Air Quality Management District Regulation 8, Rule 51.

VOC Limit, Less Water and Less Exempt Compounds in Grams per Liter

Architectural Applications	Current VOC Limit
Indoor Carpet Adhesives	50
Carpet Pad Adhesives	50
Outdoor Carpet Adhesives	150
Wood Flooring Adhesive	100
Rubber Floor Adhesives	60
Subfloor Adhesives	50
Ceramic Tile Adhesives	65
VCT and Asphalt Tile Adhesives	50
Dry Wall and Panel Adhesives	50
Cove Base Adhesives	50
Multipurpose Construction Adhesives	70
Structural Glazing Adhesives	100
Single Ply Roof Membrane Adhesives	250

Points: 1

Intent: Improve indoor air quality by minimizing the VOC's used during the construction process.

Submittals: Contractor shall maintain all Material Safety Data Sheet (MSDS) highlighting the stated VOC emissions for each adhesive and sealant used in the building.

Resources: http://www.arb.ca.gov/DRDB/SC/CURHTML/R1168.PDF

H2.2 Paints & Coatings

Requirement: Paints and coatings shall have VOC less than or equal to the values listed below.

Interior Coating	Gram / Liter
Non-Flat	150
Flat	50
Exterior Coating	Gram / Liter
Non-Flat	200
Flat	100

Points: **1**

Intent: Improve indoor air quality by minimizing the VOC's used during the construction process.

Submittals: Contractor shall maintain all Material Safety Data Sheet (MSDS) highlighting the stated VOC emissions for each adhesive and sealant used in the building.

Resources:

http://www.greenseal.org/FindGreenSealProductsandServices/Products.aspx?vid=ViewProductDetail&cid=10

H2.3 Carpet Systems

Requirement: All carpet and carpet products shall meet the Carpet & Rug Institute Green Label Certification Program.

Points: **1**

Intent: Reduce the quantity of indoor air contaminants that are odorous, potentially irritating and/or harmful to the health, comfort and well-being of installers and occupants.

Submittals: Provide carpet cut sheets or the VOC limits for each carpet product used in the building.

Resources: http://www.carpet-rug.org/commercial-customers/green-building-and-the-environment/green-building-standards.cfm

H2.4 Healthy Flooring

Requirement: 80% of a minimum of the flooring installed shall be classified as hard or resilient and comply with GreenGuard or similar health related certification.

Points: **1**

Intent: Provide a healthier indoor environment.

Submittals: Cut sheets of flooring selections.

Resources: http://www.greenguard.org/

H2.5 Composite Wood and Agrifiber

Requirement: All composite wood and agrifiber products will contain no added urea-formaldehyde.

Points: **1**

Intent: Reduce the quantity of indoor air contaminants that are odorous, potentially irritating and/or harmful to the health, comfort and well-being of installers and occupants.

Submittals: Provide a manufacturers catalog cut sheet for each composite wood or agrifiber product used in the building indicating that the bonding agent used in each product contains no added urea-formaldehyde.

Resources: -

H2.6 Insulation

Requirement: All Insulation products will be free of formaldehyde.

Points: **1**

Intent: Reduce the quantity of indoor air contaminants that are odorous, potentially irritating and/or harmful to the health, comfort and well-being of installers and occupants.

Submittals: Provide a manufacturers catalog cut sheet for each insulation product used in the building indicating that it contains no formaldehyde.

Resources: -

H2.7 Cleaning Products

Requirement: Owner shall maintain or contract a cleaning service to maintain the property using only non-toxic cleaning supplies in the regular maintenance of the building. A list of approved supplies must be posted in janitor closets and in common areas such as break rooms and restrooms. Non-Toxic is defined as having a zero Health Hazard rating on the product's Material Safety Data Sheet (MSDS) and listed as "non-toxic" for Acute Toxicity under "Section V - Health Information" on the MSDS.

Points: **1**

Intent: Reduce the amount of harmful chemicals used in the maintenance operations of the building.

Submittals: Provide a list of approved cleaning products for the building. Provide documentation confirming a 3rd party verification of green attributes such as Green Seal, GreenSpec or other nationally recognized testing organization or submit the Materials Safety Data Sheet (MSDS) that indicates a zero Health Hazard rating and are listed as "non-toxic" for Acute Toxicity under "Section V - Health Information" on the MSDS.

Resources: -

H3 System Control

H3.1 Lighting

Requirement: A minimum of 25% of the full time occupants must be able to directly control their individual lighting either through ambient or task lighting. One additional point is available for each additional 25% of full time occupants that can control their lighting.

Points:

1 point	**≥ 25% and < 50% of full time occupants can control individual lighting**
2 points	**≥ 50% and < 75% of full time occupants can control individual lighting**
3 points	**≥ 75% and < 100% of full time occupants can control individual lighting**
4 points	**100% of full time occupants can control individual lighting**

Intent: Increase occupant comfort and productivity by providing individual control over building occupant workspaces.

Submittals: Provide the building floorplan indicating lighting controls, a narrative explaining how occupants can control their immediate environment, and cut sheets of lighting selections.

Resources: -

H3.2 Thermal Comfort

Requirement: A minimum of 25% of the full time occupants must be able to directly control their temperature settings for thermal comfort. One additional point is available for each additional 25% of full time occupants that have control over their thermal comfort settings. Comply with ASHRAE Standard 55-1992, Addenda 1995, for thermal comfort standards including humidity control within established ranges per climate zone. Projects must employ both thermal and humidity control measures and systems to keep the space within the designated ranges specified by ASHRAE 55-1992.

Points:
1 point ≥ 25% & < 50% of full time occupants can control temperature settings
2 points ≥ 50% & < 75% of full time occupants can control temperature settings
3 points ≥ 75% & <100% of full time occupants can control temperature settings
4 points 100% of full time occupants can control temperature settings

Intent: Increase occupant comfort and productivity by providing individual control over building occupant workspaces.

Submittals: Provide a narrative from the mechanical engineer explaining how the project complies with ASHRAE Standard 55-1992, Addenda 1995.

Resources: -

H4 Productive Work Environment

H4.1 Daylighting

Requirement**:** Achieve a minimum Daylight Factor (the ratio between the measured interior and exterior light levels in lumens) of 2% for a minimum of 25% of the occupied spaces of the building. Natural light, preferably indirect, is provided via clearstories, solar tubes, light shelves or translucent panels to improve the indoor environmental quality.

*Occupied Space refers to an area occupied at least 75% of regular daytime business hours by a full or part time employee or by multiple individuals who use the same space throughout the day.

Points: 1 point ≥ 25% and < 50% of occupied spaces achieve 2% Daylight Factor
2 points ≥ 50% and < 75% of occupied spaces achieve 2% Daylight Factor
3 points ≥ 75% and < 100% of occupied spaces achieve 2% Daylight Factor
4 points 100% of occupied spaces achieve 2% Daylight Factor

Intent: Increase occupant comfort and productivity by providing natural light to the building occupant workspaces.

Submittals: Provide plans specifying the daylit areas and daylighting calculations for occupied spaces
Resources: -

H4.2 Acoustics

Requirement: Earn one point for each assembly, exterior, interior, and fenestration that complies with the sound transmission coefficient (STC) ratings listed.

Exterior wall and Roof assembly have STC rating >= 50
Fenestration STC rating >= 30
Interior spaces: Private adjacent to private STC >= 45
Interior spaces: Private adjacent to public/common space STC >= 55

Points:

1 point	**1 assembly**
2 points	**2 assemblies**
3 points	**3 assemblies**
4 points	**4 assemblies**

Intent: Increase occupant comfort and productivity by providing appropriate acoustical control for the building occupants.

Submittals: Provide cut sheets for the wall assembly and fenestration indicating the STC ratings.

Resources: -

H4.3 Views

Requirement: To comply with this credit, a minimum of 25% of the full time occupants must have line of sight from their work station to the exterior. Earn one point for each 25% of the full time occupants that have line of site to the exterior.

Points:

1 point	**≥ 25% and < 50% of full time occupants have line of sight to exterior**
2 points	**≥ 50% and < 75% of full time occupants have line of sight to exterior**
3 points	**≥ 75% and < 100% of full time occupants have line of sight to exterior**
4 points	**100% of full time occupants have line of sight to exterior**

Intent: Increase occupant comfort and productivity by providing line of site to the outdoors.

Submittals: Provide a furniture plan of the building; indicate the location of building occupants and their line of site to the outdoors.

Resources: -

H4.4 Outdoor Space Provided for Employees

Requirement: Provide a covered and or screened area outdoors for employee meetings or lunch breaks. To receive credit, this space must be designated non-smoking and be a minimum of 250 SF.

Points: **1**

Intent: Increase occupant productivity by covered outdoor space for lunch, breaks, and meetings.

Submittals: Provide a site plan indicating outdoor space, type of cover and square footage.

Resources: -

CATEGORY 6: MATERIALS

M Prerequisite 1: Storage & Collection of Recyclables

Requirement: Provide an accessible area (sized based on building use, operations and building size) that serves the entire building and is dedicated to the separation, collection and storage of materials for recycling including (at a minimum) paper, corrugated cardboard, glass, plastics and metals. If fluorescent or High Intensity Discharge (HID) lighting is specified and used on the project, space should be allocated in the recycling room for storage and proper disposal of light bulbs.

Points: **Prerequisite - Required**

Intent: Facilitate the reduction of waste generated by building occupants that is hauled to and disposed of in landfills.

Submittals: Floor plan indicating recycling room and a list of waste management recycling services or local recyclers.

Resources: -

M1 Material Efficiency and Global Responsibility

M1.1 Remodel Existing Building

Requirement: Rehabilitate existing building.

Maintain 100% total of existing building structure and shell (exterior skin and framing, excluding window assemblies) and non-structural roofing material.

Points: **10**

Intent: Renovate existing building stock to conserve resources, retain cultural resources, reduce waste and reduce environmental impacts of new buildings as they relate to materials manufacturing and transport.

Submittals: Floor plan of existing building, demolition plan, and new building floor plan.

Resources: -

M1.2 Recycled Content

Requirement: Incorporate recycled materials (based on materials cost). Use materials with recycled content such that post-consumer and/or post-industrial recycled content constitutes a minimum of 5% of the total project cost. Earn one additional point for each additional 5% of recycled content materials. The value of the recycled content portion of a material or furnishing shall be determined by dividing the weight of recycled content in the item by the total weight of all material in the item, then multiplying the resulting percentage by the total value of the item.

Mechanical and electrical components shall not be included in this calculation. Recycled content materials shall be defined in accordance with the Federal Trade Commission document, Guide for the Use of Environmental Marketing Claims, 15 CFR 260.7 (e), available at www.ftc.gov/bcp/grnrule/guides980427.htm.

Points: **1 point** **≥ 5% and < 10% recycled content**

2 points **≥ 10% and < 15% recycled content**

	3 points	**≥ 15% and < 20% recycled content**
	4 points	**≥ 20% recycled content**

Intent: Encourage the use of recycled content materials to minimize the environmental impacts associated with the extraction of virgin materials.

Submittals: Submit recycled content calculations used in the construction of the project

Resources: -

M1.3 Rapidly Renewable Materials

Requirement: Incorporate rapidly renewable (plant to harvest cycle <10 years) for 3% of the total value of all building materials and products used in the project. Earn one additional point for each 2% of additional rapidly renewable materials such as bamboo flooring, wool carpets, straw board, cotton batt insulation, linoleum flooring, poplar OSB, and sunflower seed board and wheatgrass cabinetry qualify for this credit.

Points:	**1 point**	**≥ 3% and < 5% rapidly renewable materials**
	2 points	**≥ 5% and < 7% rapidly renewable materials**
	3 points	**≥ 7% rapidly renewable materials**

Intent: Reduce the use and depletion of finite raw materials and long-cycle renewable materials by replacing them with rapidly renewable materials.

Submittals: Submit calculations demonstrating that the project incorporates the required percentage of rapidly renewable products used in the construction of the project.

Resources: -

M1.4 Certified Wood

Requirement: Wood products are FSC, SFI or CSA certified. Use a minimum of 50% certified of wood-based materials and products, for wood building components including, but not limited to, structural framing and general dimensional framing, flooring, finishes, furnishings and non-rented temporary construction applications such as bracing, concrete form work and pedestrian barriers. Earn one additional point for each 25% additional certified wood used on the project.

Points:	**1 point**	**≥ 50% and < 75% of certified wood**
	2 points	**≥ 75% and < 100% of certified wood**
	3 points	**100% of certified wood**

Intent: Encourage environmentally responsible forest management.

Submittals: Submit a copy of the wood certification and the calculations showing percentage of certified wood used in the construction of the project.

Resources: -

M1.5 Biobased Materials

Requirement: Earn one point if 5% of the materials, based on cost, that are biobased such as solid wood, engineered wood, bamboo, wool, cotton, cork, agricultural fibers, or other biobased materials with at least 50% biobased content.

Points: **1**

Intent: Encourage the use of natural products.

Submittals: Cut sheets of materials used and the calculations showing percentage of biobased materials used in the construction of the project.

Resources: -

M2 Waste Management

M2.1 Construction Waste Recycling

Requirement: Develop and implement a waste management plan, quantifying material diversion goals. Recycle and/or salvage a minimum of 25% of construction, demolition and land clearing waste. Calculations can be done by weight or volume, but must be consistent throughout. Earn one additional point for each additional 25% of waste diverted.

Points:

1 point	**≥ 25% and < 50% waste diverted**
2 points	**≥ 50% and < 75% waste diverted**
3 points	**≥ 75% and < 100% waste diverted**
4 points	**100% waste diverted**

Intent: Divert construction, demolition and land clearing debris from landfill disposal. Redirect recyclable recovered resources back to the manufacturing process. Redirect reusable materials to appropriate sites.

Submittals: Calculate the total waste material, quantities diverted and the means by which diverted.

Resources: -

M2.2 Leased Floor Coverings

Requirement: Demonstrate that a minimum of 50% of the floor coverings utilized on the project are being leased from the manufacture and that once the floor coverings are no longer wanted, the manufacture will reclaim the floor coverings for recycling and materials reuse.

Points: **1**

Intent: To increase the reclamation and recycling of one of the largest volumes of landfill materials.

Submittals: Provide a copy of the contract that highlights the terms of the purchase / lease of floor coverings that will be taken back by the manufacturer for recycling rather than disposal in landfill

Resources: -

M2.3 Recyclable Materials

Requirement: Use materials that at the end of their useful lifecycle can be recycled by the manufacturer into the raw materials stream of another product. The value of such products will constitute a minimum of 10% of the total value of the materials in the project. The

materials selected to comply with this category must be recyclable through a structured existing program.

Points: **1**

Intent: Increase the demand for materials that are recyclable at the end of their useful life cycle.

Submittals: Provide cut sheets for the products calculated as a part of this credit and information about the existing recycling facilities.

Resources: -

M2.4 Demountable / Adaptable Interiors

Requirement: A minimum of 50% of the linear feet (LF) of interior wall partitions must be constructed from demountable / adaptable partitions.

Points: **1**

Intent: Reduce the amount of waste generated over the life of the building as a result of churn and remodeling.

Submittals: Provide a floor plan indicating the location of the demountable wall partitions, a calculation of the total LF of partition walls and a calculation of the total LF of demountable walls. Also provide a cut sheet of the wall systems used.

Resources: -

M2.5 Durable Materials, Exterior Finish Materials

Requirement: Use finishes systems and materials capable of withstanding the moisture and heat impacts of the local climate for a period of 30 years on 100% of the exposed exterior surfaces. Exterior surface products must have a minimum of a 30 year warranty.

Points: **1**

Intent: Improve the durability of the building envelope and reduce the need to replace existing structural finish components and materials over the expected lifetime of the building.

Submittals: Provide a copy of the exterior surface finish warranties.

Resources: -

M2.6 Low Maintenance Finishes

Requirement: Use interior and exterior finish materials that require minimal or no periodic cleaning. Use materials (on the floors, walls and ceilings) that can be maintained in a serviceable condition with minimal periodic cleaning for 100% of the interior finishes and 50% (by surface area) of the exterior finishes of the building.

Points: **1**

Intent: Reduce the need for harsh maintenance chemicals thereby reducing the source pollution within and around the building and improving the indoor air quality.

Submittals: Provide copies of the manufacturer's recommended maintenance procedures for the interior and exterior finishes.

Resources: -

M3 Local/Regional Materials

M3.1 Local Manufacturing

Requirement: Earn one point by using a minimum of 25% (by cost) based on project cost (div 2-10) of building materials and products that are manufactured* within a 700 mile radius of the project site. Earn one additional point for each additional 25% of materials that are manufactured within 700 miles of the project site.

*Manufacturing refers to the final assembly of components into the building product that is furnished and installed by the tradesman. For example, if the hardware comes from Dallas, Texas, the lumber from Vancouver, British Columbia and the truss is assembled in Kent, Washington; then the location of the final assembly is Kent, Washington.

Points:

1 point ≥ 25% and < 50% of building materials manufactured within 700 mile radius

2 points ≥ 50% and < 75% of building materials manufactured within 700 mile radius

3 points ≥ 75% and < 100% of building materials manufactured within 700 mile radius

4 points 100% of building materials manufactured within 700 mile radius

Intent: Increase demands for building materials and products that are extracted and manufactured within the region, thereby reducing the environmental impacts resulting from transportation and supporting the regional economy.

Submittals: Provide calculations demonstrating that the project incorporates the required percentage of regional materials/products and show their cost, and percent of regional components, distance from project to manufacturer and the total cost of all materials for the project.

Resources: -

M3.2 Local Raw Materials Extraction

Requirement: A minimum of 10% of the project materials are made from raw materials that are harvested, extracted, or recovered within a 700 mile radius from project site (div 2-10). Earn additional points for each additional 10% of the project materials that are extracted within 700 miles of project site.

Points:

1 point ≥ 10% and < 20% harvested, extracted or recovered within 700 mile radius

2 points ≥ 20% and < 30% harvested, extracted or recovered within 700 mile radius

3 points ≥ 30% harvested, extracted or recovered within 700 mile radius

Intent: Reduce the use of virgin materials.

Submittals: Provide calculations demonstrating that the project incorporates the required percentage of regional materials/products and show their cost, and percent of regional components, distance from project to manufacturer and the total cost of all materials for the project.

Resources: -

M3.3 Resource Reuse

Requirement**:** Use salvaged, refurbished or reused materials, products and furnishings for at least 5% of building materials (based on cost) to earn one point. An additional point may be earned by reusing 10% of materials.

Points:	**1 point**	**≥ 5% and < 10% of salvaged, refurbished or reused**
	2 points	**≥ 10% of salvaged, refurbished or reused**
Intent:	Reuse building materials and products in order to reduce demand for virgin materials and to reduce waste thereby reducing impacts associated with the extraction and processing of virgin resources.	
Submittals:	Provide a listing of each material or product and the original source of the material used to meet the credit.	
Resources:	-	

CATEGORY 7: DISASTER MITIGATION

DM1 Hurricane Resistance

DM1.1 Impact Glazing

Requirement: ALL installed glazing is impact resistant.

Points: **3**

Intent: Increase the structural integrity of the building during high wind conditions, reducing the potential for damage, thus decreasing the potential waste and need for replacement materials after the storm.

Submittals: Provide the manufacturer's cut sheets for the impact resistant products indicating the required approvals and classifications.
Provide a door and window schedule listing impact-resistant products used on the project.

Resources: www.buildingcodeonline.com or http://hus.parkingspa.com/hc3.asp

DM1.2 Building Integrated Hurricane Shutters

Requirement: Building is equipped with solid, integrated Miami Dade approved hurricane shutters. Shutters that rain can penetrate or shutters that must be manually installed do not qualify for this credit.

Points: **3**

Intent: Improve the durability of the structure against high winds, driving rain conditions, and atmospheric pressurization; thereby reducing the potential for interior damage, and decreasing the potential waste and need for replacement after a storm.

Submittals: Cut sheet and design detail of building integrated hurricane shutters.

Resources: www.buildingcodeonline.com or http://hus.parkingspa.com/hc3.asp

DM1.3 Building Hardening

Requirement: Building is engineered to withstand design pressures that are 20 mph greater than the code requirements for the area.

Points: **2**

Intent: Increase the hurricane resistance of the building.

Submittals: Design calculations and a narrative from the architect or structural engineer explaining measures taken to improve the buildings resistance to hurricanes.

Resources: -

DM1.4 Uninterrupted Operations

Requirement: The building through use of renewable energy or generators must be able to continue operations during times of extended grid source power loss. The power back-up system must be designed to provide a minimum 8 hours of operation per day for 3 days.

Points: **3**

Intent: Allow businesses to run and service the community after storm events.

Submittals: Cut sheet of back-up power system.

Resources: -

DM1.5 Building is Designated a Hurricane Shelter

Requirement: The building is designed to meet or exceed the requirements for Florida hurricane shelters. Requirements may vary based on local jurisdiction and wind loads. The credits are only available if the building complies with the Hurricane Shelter requirements of the location.

Points: **5**

Intent: Provide a durable building that cal also service the community.

Submittals: A brief narrative describing the features added to comply with the local hurricane shelter requirements.

Resources: Florida Disaster Hurricane Shelters and Critical Facilities Library
http://www.floridadisaster.org/Response/engineers/library.htm

Standards for Hurricane Evacuation Shelter Selection

http://www.floridadisaster.org/Response/engineers/SESPlans/2010SESPlan/documents/2010-SESP-AppxCfinal.pdf

Performance Standards and Expectations of Hurricane Shelters

http://www.floridadisaster.org/Response/engineers/documents/06_GHC-PerfStds-of-Shelters.pdf

ICC/NSSA Storm Shelter Standard (Draft)

http://www.floridadisaster.org/Response/engineers/documents/2006%20GHC%20ICC%20Tezak.pdf

DM2 Pest Management

DM2.1 Termite Prevention

Requirement: The building uses an alternative to traditional soil poison for termite treatment. Systems may include the use of borate or Alkaline Copper Quaternary (ACQ) treated lumber or termite bait systems. To achieve this credit any and all plants, turf and irrigation lines must be a minimum of 3’ from the foundation. Additionally, any foam insulation must terminate above ground. The exterior cladding of the building must also terminate a least 8” above grade. Rainwater from the roof must also be dispersed a minimum of 3’ from the building foundation (by the use of downspouts or scuppers and extensions or splashblocks). All AC condensate lines must also discharge a minimum of 3’ from the building.

Points: **3**

Intent: Increase the termite resistance of the building, reducing the potential for damage from termite infestation, thus decreasing the potential waste and need for replacement materials after the damage is detected.

Submittals: Provide appropriate drawings and specifications, illustrating compliance to all requirements.

Resources: -

DM2.2 Physical Termite Barrier

Requirement: Physical barriers must be used in addition to or in lieu or traditional termite treatments. Physical barriers include stainless steel mesh, elastomeric plumbing boots, or other means of physically sealing the slab penetrations.

Points: **3**

Intent: Increase the termite resistance of the building, reducing the potential for damage from termite infestation, thus decreasing the potential waste and need for replacement materials after the damage is detected.

Submittals: Provide photos showing all sealed slab penetrations.

Resources: -

DM2.3 Integrated Pest Management

Requirement: Work with a skilled pest control professional to develop an Integrated Pest Management Plan that addresses the following four items:

- Monitoring and prevention of pest populations.
- Application of pesticides only "as needed" after prevention and physical controls have been implemented.
- Selecting the least hazardous pesticides for control of targeted pests.
- Precision targeting of pesticides to areas not contacted or accessible to the occupants.

Points: **3**

Intent: Integrated pest management (IPM) is a process for achieving long term, environmentally sound pest suppression through the use of a wide variety of technological and management practices. Control strategies in an IPM program extend beyond the application of pesticides to include structural and procedural modifications that reduce the food, water, harborage, and access used by pests. IPM can reduce the use of chemicals and provide economical and effective pest suppression. IPM does not involve the complete elimination of the use of pesticides, nor does it involve solely substituting "good" pesticides for "bad" pesticides. IPM attempts to achieve a balance of both chemical and non-chemical methods to control pest problems. Integrated pest management (IPM) can reduce or eliminate the need for chemicals to control pests inside and outside of the building.

To properly implement IPM, there are maintenance issues that need to be undertaken by the Owner after construction, therefore an IPM maintenance plan should be developed and included in a Owner's manual that is presented to the Owner.

Submittals: IPM plan

Resources: An excellent source of information on IPM is the Sustainable Building Sourcebook by Austin Energy, Austin, TX. It can be found on the internet at http://nontoxictermite.sustainablesources.com/ Another source of information is "Integrated Pest Management for Schools: A Catalog of Resources", put together by the

University of Florida Institute of Food and Agricultural Sciences, and available at: http://schoolipm.ifas.ufl.edu/school_ipm.pdf .

DM3 Flood

DM3.1 Finished Floor Elevation (FFE)

Requirement: FFE must be 12" above 100 year flood plain or finished grade adjacent to building, whichever is higher. All grades around building must slope away from the foundation a minimum of 6” at 10’-0” distance. The 100-year flood plain is determined by FEMA.

Points: **2**

Intent: Reduce the potential for flooding and the resulting moisture and mildew problems.

Submittals: Provide the appropriate drawings illustrating the foundation design, floor elevation and grading requirements. Include a copy of the NFIP Elevation Certificate certified by the surveyor, engineer or architect showing the 100-year flood plain elevation or grade.

Resources: -

DM3.2 All mechanical equipment pads

Requirement: All mechanical equipment pads must be 12" above 100 year flood plain or grade, whichever is higher. All grades around building must slope away from the foundation a minimum of 6” at 10’-0” distance. The 100-year flood plain is determined by FEMA.

Points: **2**

Intent: Increase the longevity of equipment by providing a buffer from flood events.

Submittals: Provide the appropriate drawings illustrating the foundation design, floor elevation and grading requirements. Include a copy of the NFIP Elevation Certificate certified by the surveyor, engineer or architect showing the 100-year flood plain elevation or grade.

Resources: -

DM3.3 Buildings within 1 Mile of the Coast

Requirement: For building within 1 mile of the coast, or seaward of the Coastal Construction Control Line the FFE and equipment elevations are 24" above 100 year flood plain.

Points: **2**

Intent: Increase the longevity of equipment by providing a buffer from flood events.

Submittals: Provide the appropriate drawings illustrating the building proximity to the coast and the elevations of the FFE and equipment slabs. Include a copy of the NFIP Elevation Certificate certified by the surveyor, engineer or architect.

Resources: -

DM4 Fire Resistant Exterior Finishes

Requirement: Project must utilize Fire Resistant Exterior Wall cladding, roof covering or Subroof, Soffit and Vent materials. An exterior cladding other than wood or vinyl must be used on all exterior walls. A roof covering other than asphalt shingles or wood shakes must be used on the entire roof. Credit is also available if the sub-roof (roof deck) is of a fire resistant material, instead of the covering. Soffit and vent materials must be other than wood or

vinyl. When these parts of the building are compromised, embers from nearby fires can enter into the attic.

Strategies: Use exterior wall materials made of stucco, unfinished CBS, brick, aluminum, stone or fiber-cement. Use roof coverings made of metal, concrete, fiber-cement, or tile. Use soffit and vent materials made of aluminum or fiber-cement.

Points: **2**

Intent: Increase the fire resistance of the building, reducing the potential for damage from wildfires, thus decreasing the potential waste and need for replacement materials after the fire.

Submittals: Provide the completed Letter Template, signed by the architect or other responsible party, and appropriate drawings and manufacturer's cut sheets illustrating the fire resistance of the exterior finish materials.

Resources: -

CATEGORY 8: ENVIRONMENTAL INNOVATION

EI Environmental Innovation

Requirement: Up to five points are available for innovative and environmentally beneficial regionally specific additions to the project.

Points: **1-5**

Intent: These credits are intended to provide the design teams and projects the opportunity to be awarded points for exceptional performance above the requirements set by the Florida Green Building Coalition and/or innovative performance in Green Building categories not specifically addressed by this standard

Submittals: The submittals will be determined based on the innovation request.

Resources: -

REBID: TRANSIENT RESTROOM/DOCKMASTER BUILDING
City Marina @ Garrison Bight
ITB #18-010
Mandatory Pre-Bid Meeting SIGN-IN Sheet
January 31, 2018
2:30 PM

NAME / COMPANY	CONTACT #	EMAIL
KOREN OLSON / CITY OF KEY WEST	305/809-3803	KOLSON@CITYOFKEYWEST-FL.GOV
Jeff Tison Anglers Contracting	772 834 4879	anglers contracting@gmail.com
Jennifer MCTEAGUE MCTEAGUE CONSTRUCTION	772.286.6100	JENNIFER@MCTEAGUECONSTRUCTION.COM
Michael MCTEAGUE	772.286.6100	MIKE@MCTEAGUECONSTRUCTION.COM
Sylvia Romans TRON CONSTRUCTION LLC	954-533-8670	sylvia.romans@troncontract.com
KEY/RON WORKS/INC	(305) 304-1088	GENERAL@KIW-KEYWEST.com
Doug Bradshaw, City	305-809-3772	dbradshaw@cityofkeywest-fl.gov
Carolyn Sheldon, CKW	305-809-3741	csheldon@cityofkeywest-fl.gov
David Hawthorne	305-809-3981	Dhawthorne@cityofkeywest-fl.gov
Ron Gage	305-510-7587	RGAGE@BCGCONSTRUCTION.NET
JOHN A. O'NEILL / BURKE	240-405-5520	JONEILL@BCGCONSTRUCTION.NET
Eric Bovee / Burke	305-363-2952	ebovee@BCGcontractors.net
Gary's Plumbing & Fire	305-797-1062	garysplumbing1@aol.com
Pedro Falcon Contractors Inc	305-872-2200	cb@pedrofalcon.com
Robert Blanchard / D.L. Porter Constructors	941-929-9400	mwhite@dlporter.com
Chris Vazquez FL Keys Electric Inc	305-394-7253	CLVazquez@FLKeyselectric.com
West Construction Lake Worth	561 588 2027	btividal@westconstruction Inc.net
Jonathan Phelps / IFSS	305 340 9243	JPhelps@IFSSI.com
WILLIAM HORN	305-296-8302	WILLIAM@WRHORNARCHITECT.COM

BID SCHEDULE

REBID: TRANSIENT RESTROOMS / DOCKMASTER BUILDING
CITY MARINA at GARRISON BIGHT

LUMP SUM BID PRICE
Bidder will complete the Work in accordance with the Contract Documents for a fixed fee price.

Pricing for each line item to be broken out into percentages as indicated.

1. Mobilization, General Conditions, Permit Fees and Demobilization

Dockmaster / Maintenance	1LS (68%)	$_____
Transient Restroom	1LS (32%)	$_____

2. Grant Requirements

Transient Restroom	1LS (100%)	$_____

3. Demolition (includes all labor, equipment and disposal for a complete product)

Dockmaster / Maintenance	1LS (50%)	$_____
Transient Restroom	1LS (50%)	$_____

4. Foundation (includes all labor, equipment and material for a complete product)

Dockmaster / Maintenance	1LS (68%)	$_____
Transient Restroom	1LS (32%)	$_____

5. Lift, Stairs, Decking, Railings & Building Signage (includes all labor, equipment and material for a complete product)

Dockmaster / Maintenance	1LS (50%)	$_____
Transient Restroom	1LS (50%)	$_____

6. Building Structure & Roof (includes all labor, equipment & material for a complete product)

Dockmaster / Maintenance	1LS (68%)	$_____
Transient Restroom	1LS (32%)	$_____

7. Interior Finishes (includes all labor, equipment, material and disposal for a complete product)

Dockmaster / Maintenance	1LS (68%)	$_____
Transient Restroom	1LS (32%)	$_____

8. Doors & Windows (includes all labor, equipment and material for a complete product)

Dockmaster / Maintenance 1LS (79%) $_____

Transient Restroom 1LS (21%) $_____

9. Mechanical (includes all labor, equipment and material for a complete product)

Dockmaster / Maintenance 1LS (72%) $_____

Transient Restroom 1LS (28%) $_____

10. Electrical (includes all labor, fixtures, equipment and material for a complete product)

Dockmaster / Maintenance 1LS (68%) $_____

Transient Restroom 1LS (32%) $_____

11. Plumbing (includes all labor, fixtures, equipment and material for a complete product)

Dockmaster / Maintenance 1LS (31%) $_____

Transient Restroom 1LS (69%) $_____

12. Site Work (includes all labor, equipment and material for a complete product)

Dockmaster / Maintenance 1LS (50%) $_____

Transient Restroom 1LS (50%) $_____

13. Landscaping (includes all labor, equipment and material for a complete product)

Dockmaster / Maintenance 1LS (50%) $_____

Transient Restroom 1LS (50%) $_____

14. General Allowance (only to be used with owner's written directive)

1 LS $ **25,000**

TOTAL OF ALL EXTENDED LINE ITEMS LISTED ABOVE:

Total of BASE BID lump sum items 1 - 14 $_____

_____Dollars & _____Cents

(amount written in words)

BID ALTERNATES

NOTE: OWNER HAS THE RIGHT TO ACCEPT OR REJECT ANY, ALL, OR NO BID ALTERNATE ITEMS. THE TOTAL OF BASE BID PLUS THE SUM OF OWNER SELECTED BID ALTERNATES WILL BE THE BASIS OF EVALUATING LOW BIDDER AND BASIS OF AWARD.

1. Provide galvanized metal standing seem roofing on entry canopy roof in-lieu of V- crimp metal roofing. White finish as specified in section 07617 sheet A-8.

   1 LS $_____

2. Provide IPE wood decking (5/4 x 6 premium, square edge) in-lieu of 5/4 x 6 PT wood decking for the stairs and covered porch decks.

   1 LS $_____

3. Provide PT wood louver panels in-lieu of PT wood lattice panels (vertical pattern) to infill the holes for the crawl space.

   1 LS $_____

4. Reconstruct approximately 6,700sf asphalt, Sub-base and base material.

   1 LS $_____

ALLOWANCE ITEM:

1. Secondary underground electrical over specified 75'-0".

   Per FOOT unit price $_____/lf

The Bidder shall submit a Schedule of Values with the Proposal. It shall be broken down by Technical Specification Divisions included in the Base Bid and it shall be used as a basis for payment. The Bidder will be considered non-responsive if Schedule of Values not included in Bid package.

Payment for materials and equipment authorized by the Owner in a written Change Order but not listed in the above Proposal will be provided at the suppliers invoice plus 10 %.

NON-COLLUSION AFFIDAVIT

STATE OF FLORIDA)
:
SS COUNTY OF MONROE)

I, the undersigned hereby declares that the only persons or parties interested in this Proposal are those named herein, that this Proposal is, in all respects, fair and without fraud, that it is made without collusion with any official of the Owner, and that the Proposal is made without any connection or collusion with any person submitting another Proposal on this Contract.

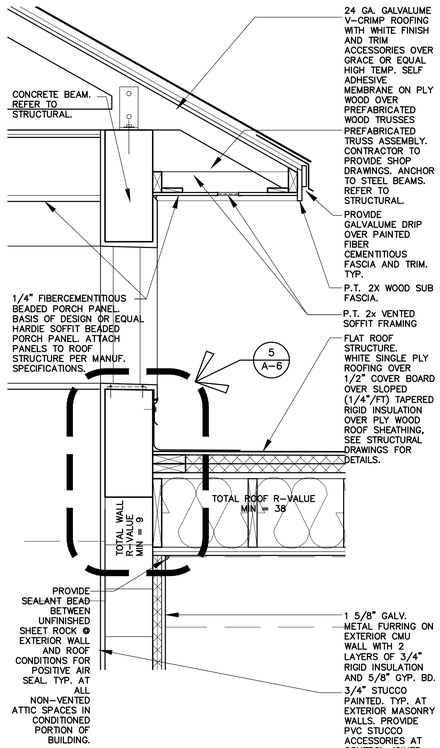
By: _____

Sworn and subscribed before me this

_____ day of _____, 2018.

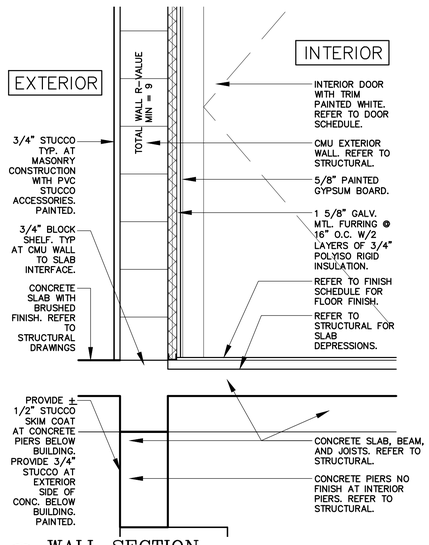
_____
NOTARY PUBLIC, State of Florida at Large

My Commission Expires: _____



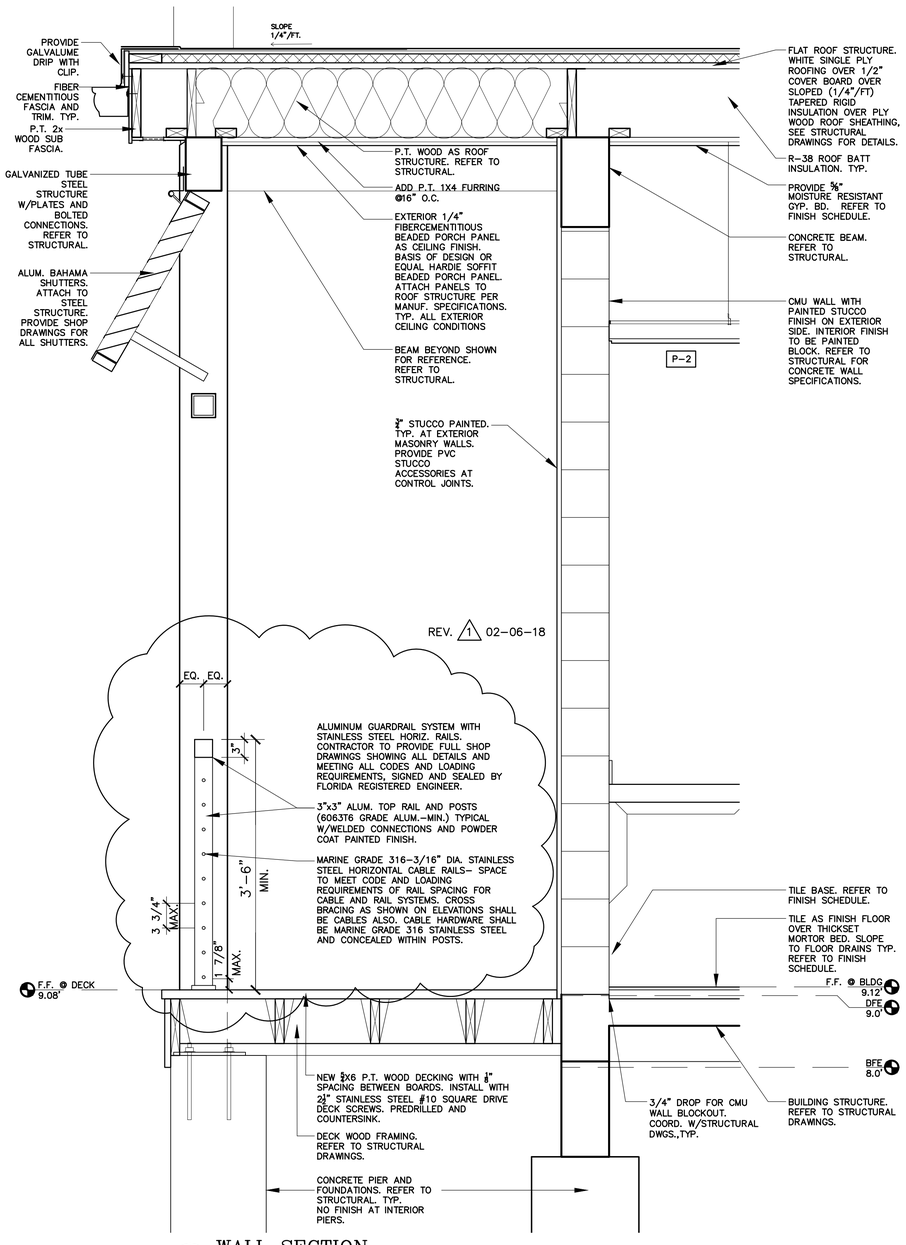
1 A-5.1 WALL SECTION

SCALE 1" = 1'-0"



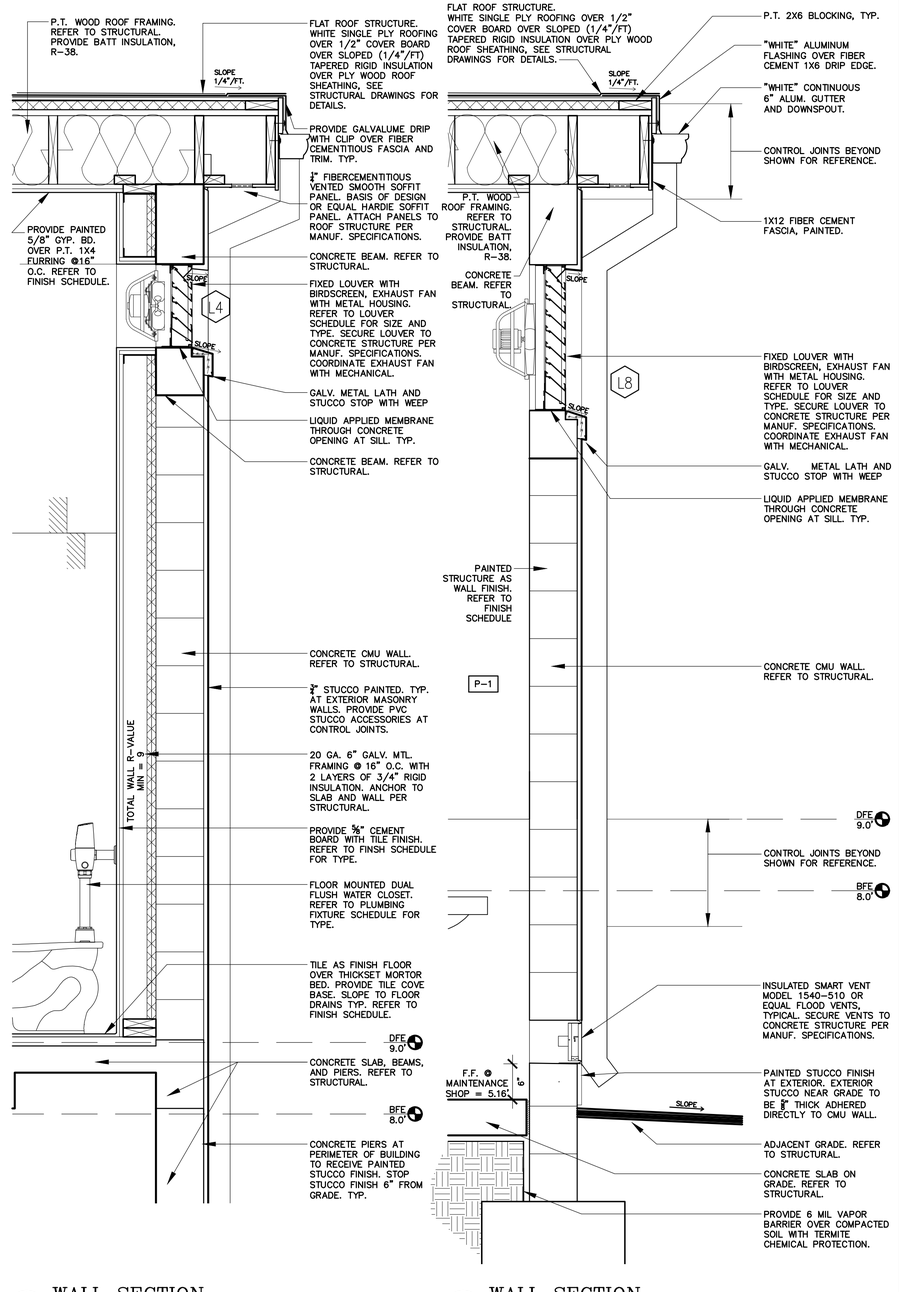
2 A-5.1 WALL SECTION

SCALE 1" = 1'-0"



3 A-5.1 WALL SECTION

SCALE 1" = 1'-0"



4 A-5.1 WALL SECTION

SCALE 1" = 1'-0"

5 A-5.1 WALL SECTION

SCALE 1" = 1'-0"

TRANSIENT RESTROOMS / DOCK MASTER BUILDING

CITY MARINA / GARRISON BIGHT
KEY WEST, FLORIDA

WILLIAM P. HORN
ARCHITECT, P.A.

915 EATON ST.
KEY WEST,
FLORIDA
33040

TEL. (305) 296-8302
FAX (305) 296-1033

LICENSE NO.
AA 0003040

TRANSIENT RESTROOMS / DOCK MASTER BUILDING

CITY MARINA
GARRISON BIGHT
1801 N. ROOSEVELT BLVD.
KEY WEST, FL. 33040

SEAL

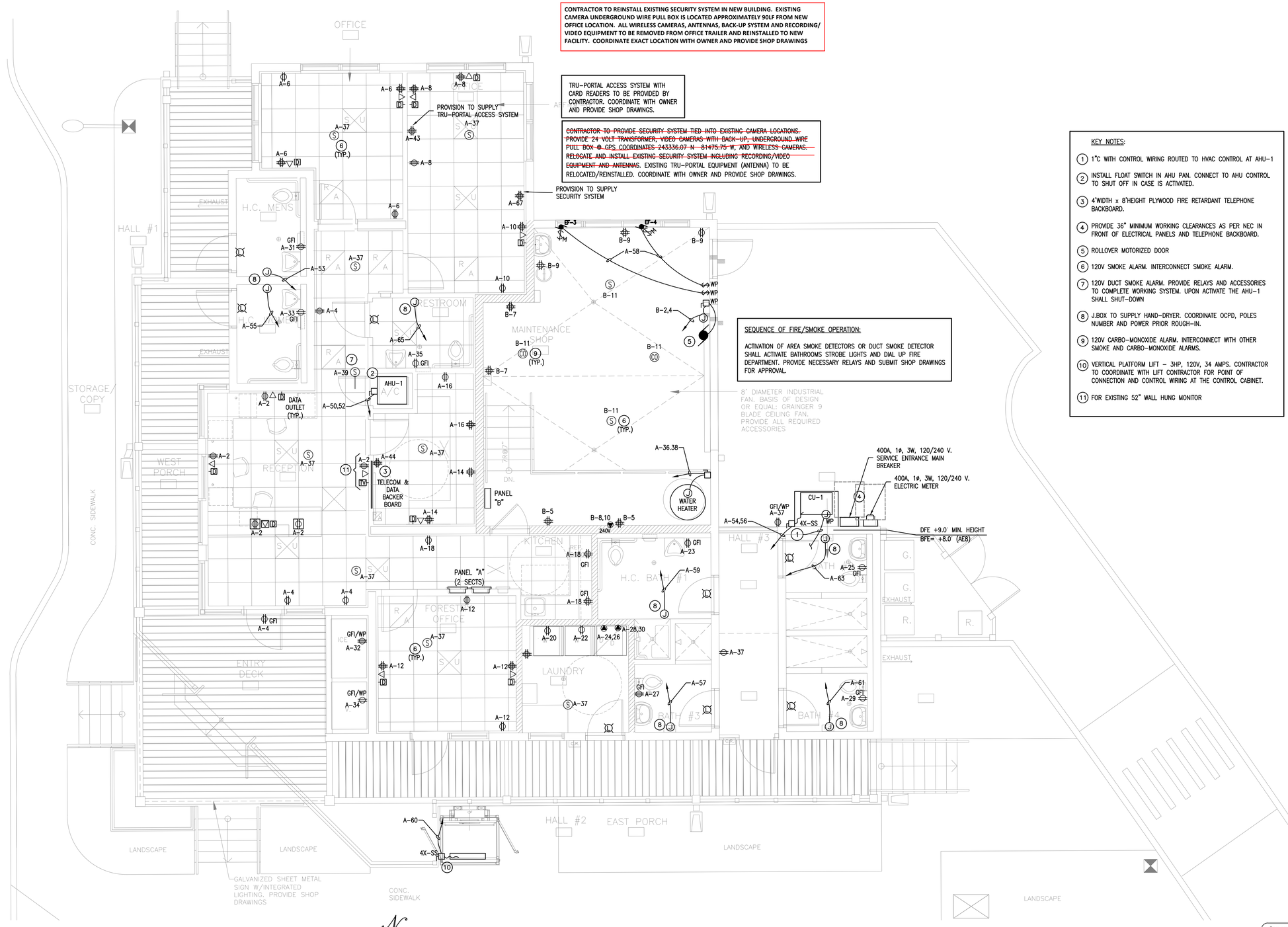
DATE

REVISIONS
11-17-17 BID SET
02-06-18 REV 1

DRAWN BY
KMA
EMA

PROJECT NUMBER
1215

A-5.1



CONTRACTOR TO REINSTALL EXISTING SECURITY SYSTEM IN NEW BUILDING. EXISTING CAMERA UNDERGROUND WIRE PULL BOX IS LOCATED APPROXIMATELY 90LF FROM NEW OFFICE LOCATION. ALL WIRELESS CAMERAS, ANTENNAS, BACK-UP SYSTEM AND RECORDING/ VIDEO EQUIPMENT TO BE REMOVED FROM OFFICE TRAILER AND REINSTALLED TO NEW FACILITY. COORDINATE EXACT LOCATION WITH OWNER AND PROVIDE SHOP DRAWINGS

TRU-PORTAL ACCESS SYSTEM WITH CARD READERS TO BE PROVIDED BY CONTRACTOR. COORDINATE WITH OWNER AND PROVIDE SHOP DRAWINGS.

~~CONTRACTOR TO PROVIDE SECURITY SYSTEM TIED INTO EXISTING CAMERA LOCATIONS. PROVIDE 24 VOLT TRANSFORMER, VIDEO CAMERAS WITH BACK-UP, UNDERGROUND WIRE PULL BOX @ GPS COORDINATES 243336.07 N 81475.75 W, AND WIRELESS CAMERAS. RELOCATE AND INSTALL EXISTING SECURITY SYSTEM INCLUDING RECORDING/VIDEO EQUIPMENT AND ANTENNAS.~~ EXISTING TRU-PORTAL EQUIPMENT (ANTENNA) TO BE RELOCATED/REINSTALLED. COORDINATE WITH OWNER AND PROVIDE SHOP DRAWINGS.

SEQUENCE OF FIRE/SMOKE OPERATION:

ACTIVATION OF AREA SMOKE DETECTORS OR DUCT SMOKE DETECTOR SHALL ACTIVATE BATHROOMS STROBE LIGHTS AND DIAL UP FIRE DEPARTMENT. PROVIDE NECESSARY RELAYS AND SUBMIT SHOP DRAWINGS FOR APPROVAL.

KEY NOTES:

1. 1℃ WITH CONTROL WIRING ROUTED TO HVAC CONTROL AT AHU-1
2. INSTALL FLOAT SWITCH IN AHU PAN. CONNECT TO AHU CONTROL TO SHUT OFF IN CASE IS ACTIVATED.
3. 4'WIDTH x 8'HEIGHT PLYWOOD FIRE RETARDANT TELEPHONE BACKBOARD.
4. PROVIDE 36" MINIMUM WORKING CLEARANCES AS PER NEC IN FRONT OF ELECTRICAL PANELS AND TELEPHONE BACKBOARD.
5. ROLLOVER MOTORIZED DOOR
6. 120V SMOKE ALARM. INTERCONNECT SMOKE ALARM.
7. 120V DUCT SMOKE ALARM. PROVIDE RELAYS AND ACCESSORIES TO COMPLETE WORKING SYSTEM. UPON ACTIVATE THE AHU-1 SHALL SHUT-DOWN
8. J.BOX TO SUPPLY HAND-DRYER. COORDINATE OCPD, POLES NUMBER AND POWER PRIOR ROUGH-IN.
9. 120V CARBO-MONOXIDE ALARM. INTERCONNECT WITH OTHER SMOKE AND CARBO-MONOXIDE ALARMS.
10. VERTICAL PLATFORM LIFT - 3HP, 120V, 34 AMPS. CONTRACTOR TO COORDINATE WITH LIFT CONTRACTOR FOR POINT OF CONNECTION AND CONTROL WIRING AT THE CONTROL CABINET.
11. FOR EXISTING 52" WALL HUNG MONITOR

POWER PLAN

SCALE : 1/4" = 1'-0"

TRANSIENT RESTROOMS / DOCK MASTER BUILDING

CITY MARINA / GARRISON BIGHT
KEY WEST, FLORIDA

WILLIAM P. HORN ARCHITECT , P.A.

915 EATON ST.
KEY WEST,
FLORIDA
33040

TEL. (305) 296-8302
FAX (305) 296-1033

LICENSE NO.
AA 0003040

TRANSIENT RESTROOMS / DOCK MASTER BUILDING

CITY MARINA
GARRISON BIGHT
1801 N. ROOSEVELT BLVD.
KEY WEST, FL. 33040

SEAL

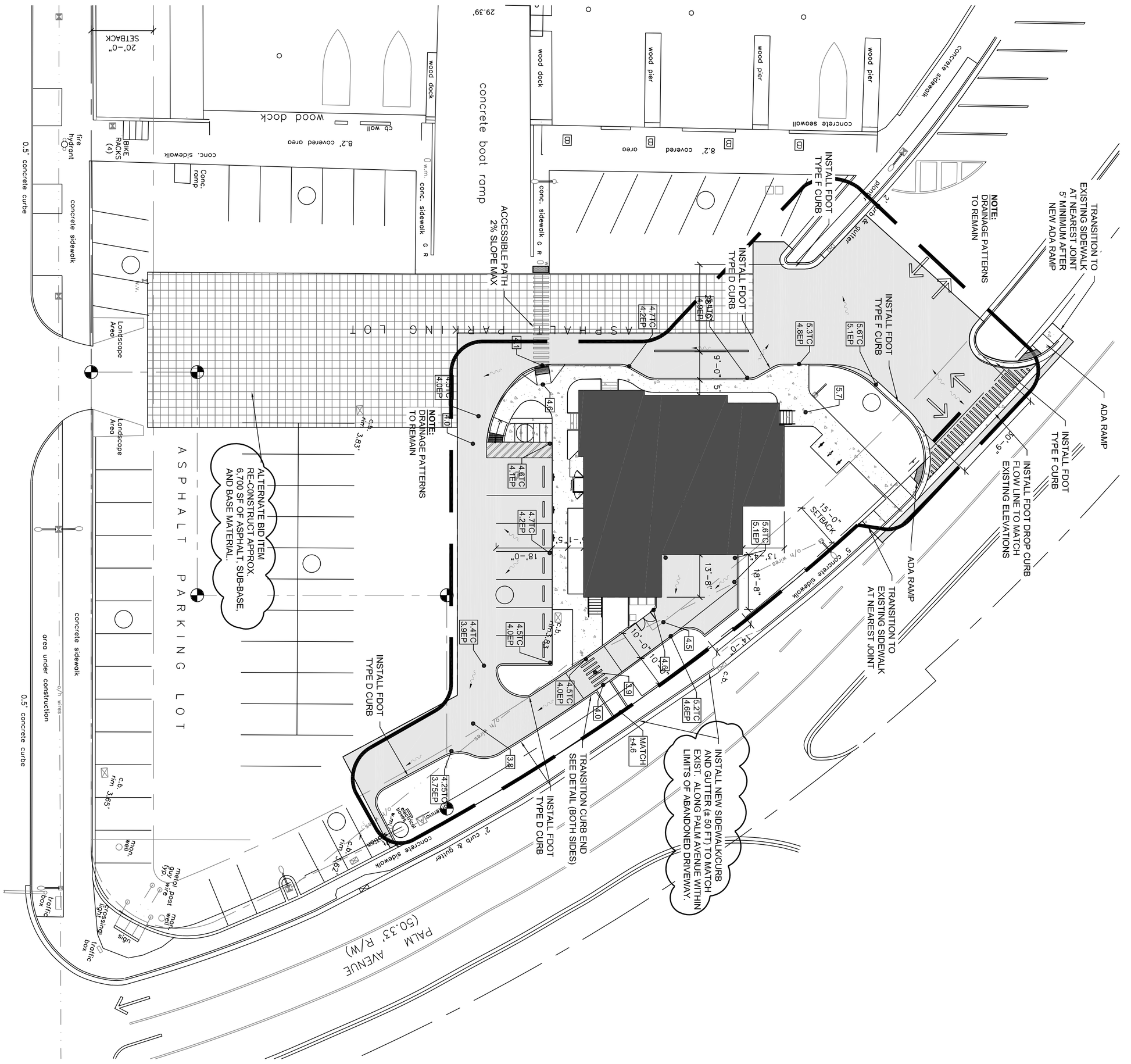
DATE
02-14-13 D.R.C.
05-14-13 PL. BD.
01-12-16 PL. BD.
01-31-17 BID SET
03-08-17 ADDENDUM #4

REVISIONS
11-17-17 FLAT ROOF REV. BID SET

DRAWN BY
KMA
EMA

PROJECT NUMBER
1215

Innovative Engineering Group Inc. CA#6717
2500 NW 79th Ave., #240
Doral, FL 33122
305-468-1783
Sudhir K. Gupta, P.E.
Fla. Reg. No. 29189



LEGEND

- PROJECT LIMITS
- NEW ASPHALT PAVEMENT
- NEW CONCRETE
- DRY RETENTION AREA
- EXISTING GRADE
- PROPOSED GRADE
- STORMWATER PIPE
- STORMWATER INLET (NYLOPLAST INLINE BASIN)
- STORMWATER INLET (FDOT DITCH BOTTOM)
- STORMWATER FLOW
- STORMWATER MANHOLE

NOTE:SYMBOLS IN LEGEND ARE NOT TO SCALE

NOTE: CONTRACTOR TO COORDINATE CONVEYANCE OF ROOF DRAINS/RUNOFF TO EXISTING STORMWATER MANAGEMENT SYSTEM

SCALE 1"=20'
BAR IS TWO INCHES ON ORIGINAL DRAWINGS IF NOT TWO INCHES ON THIS SHEET ADJUST SCALES ACCORDINGLY

20' 0 20'

NORTH

JOB NO. 161018
DRAWN BGO
DESIGNED AEP
CHECKED AEP
QC
SHEET C-2

CITY OF KEY WEST
3132 FLAGLER AVENUE
KEY WEST, FL 33040

DOCKMASTER BUILDING
GARRISON BIGHT
KEY WEST, FL 33040
DRAINAGE PLAN

REVISIONS: ORIGINAL:
1 BID SET 11/17/17
2
3
4
5
6

ALLEN E. PEREZ, P.E.
Florida P.E. NO. 51468
February 5, 2018

CIVIL ENGINEERING • REGULATORY PERMITTING • CONSTRUCTION MANAGEMENT
PEREZ ENGINEERING & DEVELOPMENT, INC
CERTIFICATE OF AUTHORIZATION NO. 8579
KEY WEST OFFICE
1010 EAST KENNEDY DRIVE, SUITE 201
KEY WEST, FLORIDA 33040
TEL: (305) 293-9440 FAX: (305) 296-0243