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/economy

NOTICE OF ACCEPTANCE (NOA)

Armor Screen Corporation 2744 Hillsboro Road West Palm Beach, FL 33405

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 High Velocity Hurricane Zone of the Florida Building Code.

DESCRIPTION: "Armor Screen Series 2000" Flexible Wind Abatement System

APPROVAL DOCUMENT: Drawing No. AS-001, titled "Armor Screen Series 2000 Flexible Wind Abatement/ Impact Protection System", sheets 1 through 9 of 9, prepared by Armor Screen Corporation, last revision dated January 11, 2018, signed and sealed by Theodore Berman, P.E., on January 11, 2018, bearing the Miami-Dade County Product Control Renewal stamp with the Notice of Acceptance number and the expiration date by the Miami-Dade County Product Control Section.

MISSILE IMPACT RATING: Large and Small Missile Impact Resistant

LABELING: Each screen shall bear a permanent label with the manufacturer's name or logo, city, state, the following statement: "Miami-Dade County Product Control Approved", and NOA number, per TAS-201, TAS-202, and TAS-203, 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 #18-0122.05 and consists of this page 1, evidence submitted pages E-1, E-2, E-3, & E-4 as well as approval document mentioned above.

The submitted documentation was reviewed by Helmy A. Makar, P.E., M.S.

MIAMI-DADE COUNTY

Helg A. Mla 12/27/2018

NOA No. 18-1128.01 Expiration Date: 01/07/2024 **Approval Date: 12/27/2018**

Page 1

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

1. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL # 99-0526.01

A. DRAWINGS

1. Drawing No. AS-001, titled "Armor Screen Series 2000 Wind Abatement System", prepared by Thomas J. Rogers, P.E., dated June 28, 1998, sheets 1 through 6 of 6, signed and sealed by Thomas J. Rogers, P.E.

B. TESTS

- 1. Test report on Large Missile Impact Test and Cyclic Wind Pressure Test of Armor Screen Series 2000 Wind Abatement System, prepared by Hurricane Test Laboratory, Inc., Report No. 0139-0305-98, dated July 23, 1998, signed and sealed by Timothy S. Marshall, P.E.
- 2. Test report on Static Wind Pressure Test of Armor Screen Series 2000 Wind Abatement System, prepared by Hurricane Test Laboratory, Inc., Report No. 0139-0604-98, dated July 23, 1998, signed and sealed by Timothy S. Marshall, P.E.
- 3. Test report on Large Missile Impact Test and Cyclic Wind Pressure Test of Armor Screen Series 2000 Wind Abatement System, prepared by Hurricane Test Laboratory, Inc., dated November 24, 1998, signed by Vinu J. Abraham.

C. CALCULATIONS

- 1. Anchor calculations, dated July 14, 1998, pages 1 through 10 of 10, prepared by Thomas J. Rogers, P.E., signed and sealed by Thomas J. Rogers, P.E.
- 2. Anchor calculations, dated October 4, 1999, pages 1 through 6 of 6, prepared by Thomas J. Rogers, P.E., signed and sealed by Thomas J. Rogers, P.E.

D. MATERIAL CERTIFICATIONS

1. Mill certified Inspection Report with chemical composition and physical properties of Woven Monofilament Geotextile.

2. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL #03-1204.01

A. DRAWINGS

1. None.

B. TESTS

1. None.

C. CALCULATIONS

1. None.

D. MATERIAL CERTIFICATIONS

1. None.

Helmy A. Makar, P.E., M.S.

Product Control Section Supervisor NOA No. 18-1128.01

Expiration Date: 01/07/2024 Approval Date: 12/27/2018

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

- 3. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL #07-0424.04
- A. DRAWINGS
 - 1. None.
- B. TESTS
 - 1. None.
- C. CALCULATIONS
 - 1. None.
- D. OUALITY ASSURANCE
 - 1. By Miami-Dade County Building Code Compliance Office.
- E. MATERIAL CERTIFICATIONS
 - 1. None.
- 4. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL # 08-1008.03
- A. DRAWINGS
 - 1. None.
- B. TESTS
 - 1. Test report on Large Missile Impact Test, Cyclic Wind Pressure Test, and Static Wind Pressure Test of Armor Screen Series 2000 Wind Abatement System, prepared by Fenestration Testing Laboratory, Inc., Report No. 5651-02, dated 06/21/08, signed and sealed by Carlos S. Rionda, P.E., and Michael Wenzel. P.E.
- C. CALCULATIONS
 - None.
- D. OUALITY ASSURANCE
 - 1. By Miami-Dade County Building Code Compliance Office.
- E. MATERIAL CERTIFICATIONS
 - 1. None.
- 5. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL # 12-0223.12
- A. DRAWINGS
 - 1. Drawing No. AS-001, titled "Armor Screen Series 2000 Flexible Wind Abatement/ Impact Protection System", sheets 1 through 8 of 8, prepared, signed and sealed by Gary D. Foreman, P.E., last revision dated May 17, 2012.

CHelmy A. Makar, P.E., M.S.

Product Control Section Supervisor

NOA No. 18-1128.01 Expiration Date: 01/07/2024

Approval Date: 12/27/2018

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

B. TESTS

1. Test report on Self-Ignition Temperature, Rate of Burning, and Smoke Density test of Composite Material (**Armor Screen Series 2000 Wind Abatement System**), prepared by Hurricane Engineering & Testing, Inc., Report No. HETI-12-F105, dated April 11, 2012, signed and sealed by Rafael E. Droz-Seda, P.E.

C. CALCULATIONS

None.

D. QUALITY ASSURANCE

1. By Miami-Dade County Department of Permitting, Environment, and Regulatory Affairs.

E. MATERIAL CERTIFICATIONS

1. None.

F. OTHERS

1. Letters from David M. Jones of Tencate, dated April 02 & 14, 2012, certifying the Weathering Test Per G154 (5100 hours at 92% tensile retention) performed is harsher than G155 (4500 hours) required.

6. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL # 13-0710.01

A. DRAWINGS

1. Drawing No. AS-001, titled "Armor Screen Series 2000 Flexible Wind Abatement/ Impact Protection System", sheets 1 through 9 of 9, prepared by Armor Screen Corporation, last revision dated 06/06/2013, signed & sealed by Eugenio M. Santiago, P.E., on June 19,2013.

B. TESTS

1. None.

C. CALCULATIONS

1. None.

D. QUALITY ASSURANCE

1. By Miami-Dade County Department of Regulatory and Economic Resources.

E. MATERIAL CERTIFICATIONS

1. None.

7. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL # 15-0518.04

A. DRAWINGS

1. Drawing No. AS-001, titled "Armor Screen Series 2000 Flexible Wind Abatement/ Impact Protection System", sheets 1 through 9 of 9, prepared by Armor Screen Corporation, last revision dated June 06, 2013, signed & sealed by Eugenio M. Santiago, P.E., on 05/12/2015.

Helmy A. Makar, P.E., M.S.

Product Control Section Supervisor NOA No. 18-1128.01

> Expiration Date: 01/07/2024 Approval Date: 12/27/2018

NOTICE OF ACCEPTANCE: **EVIDENCE SUBMITTED**

- В. **TESTS**
 - 1. None.
- C. **CALCULATIONS**
 - None. 1.
- **QUALITY ASSURANCE** D.
 - By Miami-Dade County Department of Regulatory and Economic Resources.
- **MATERIAL CERTIFICATIONS** E.
 - None.
- EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL # 18-0122.05 8.
- A. **DRAWINGS**
 - Drawing No. AS-001, titled "Armor Screen Series 2000 Flexible Wind Abatement/Impact Protection System", sheets 1 through 9 of 9, prepared by Armor Screen Corporation, last revision dated 01/11/2018, signed and sealed by Theodore Berman, P.E., on 01/11/2018.
- В. **TESTS**
 - None. 1.
- C. **CALCULATIONS**
 - None.
- **QUALITY ASSURANCE** D.
 - By Miami-Dade County Department of Regulatory and Economic Resources.
- E. **MATERIAL CERTIFICATIONS**
 - None. 1.
- **NEW EVIDENCE SUBMITTED** 9.
- **DRAWINGS** A.
 - None.
- В. **TESTS**
 - None. 1.
- C. **CALCULATIONS**
 - None. 1.
- D. **QUALITY ASSURANCE**
 - By Miami-Dade County Department of Regulatory and Economic Resources.
- **MATERIAL CERTIFICATIONS** E.
 - None.

O'Helmy A. Makar, P.E., M.S.

Product Control Section Supervisor NOA No. 18-1128.01

> Expiration Date: 01/07/2024 **Approval Date: 12/27/2018**

GENERAL NOTES:

- This Wind Abatement / Impact Hurricane Protection System is designed and tested to comply with the High Velocity Hurricane Zone (HVHZ) of the 2017 Florida Building Code Edition.
- For use with 2010 FBC, the design pressures as determined from Section 1620 and ASCE 7-10 must be multiplied by 0.6.
- Testing meets the current Florida Building Code; TAS 201; TAS 202; TAS 203 and fulfills its requirement for opening protection.
- The unbreached envelope criterion is met when this approved wall component encloses the protected opening all around.
- The open areas in the Armor Screen Fabric are small enough that the surface tension of water causes the barrier screen to become solid in the presence of rain, and in actual hurricane conditions has been shown to prevent damaging voluminous water intrusion. even from torrential rains.
- Has satisfied checklist #0445 for resistance to burning, smoke, ignition, temperature, and weathering and qualifies as a permanently installed building component; ASTM G155, ASTM D638, ASTM C158, ASTM D635 - C1, ASTM D1929 ASTM D2843.
- Product Marking: A permanent label shall be affixed to the screen barrier with the following statement: "Armor Screen Corporation, Current Address, Miami-Dade County Product Control Approved, Patented and Patents Pending, US Patent No. 6176050".

INSTALLATION NOTES:

- Deflection is the minimum glass separation measured at mid span of the screen and subject to interpolation between listed spans. Separation offset may be achieved alone or by any combination thereof, Natural Deflection, Angled Style Screens, Storm Bars and
- Screen may be mounted with opposing primary anchored perimeters (span) in vertical, horizontal, or any alignment appropriate to the structure being protected.
- The screens may be installed at any height on the structure as long as the design pressure rating for the screens is not exceeded.
- Anchors on the non-primary perimeter side (span side) of the screen are optional (e.g. to limit potential sag in the screen or reduce movement on the free side or other site specific reasons).
- The thickness of typical facing materials i.e. stucco, siding, stone, brick, pavers, etc. are not to be considered part of the anchor embedment. Longer fasteners should be used to allow for facing materials.
- Anchor embedment into masonry shall be into the face shell, not mortar joints.
- All fully embedded anchors may be flush with the finished facing provided they have the correct embedment into the structure behind the finish material.
- Anchor installations should follow the manufacturer's recommended methods.
- A caulk or sealant should be used with all wood penetrating anchors.
- All fasteners shall be corrosion resistant as specified in the IRC and IBC or stainless steel.

PRODUCT DATA:

The woven geotextile fabric shall have the following minimum average roll values:

425 x 325 LBS (ASTM D4632) Grab Tensile Strength (ASTM D4833) 130 LBS **Puncture Strength** 675 PSI (ASTM D3786) Mullen Burst (ASTM D4533) 150 x 125 LBS Trapezoidal Tear 225 x 205 LBS/IN Wide Width Tensile Strength (ASTM D4595) 22 x 21% (ASTM D4595) Wide Width Elongation 30 US STD SIEVE. Apparent Opening Size Percentage of Open Area

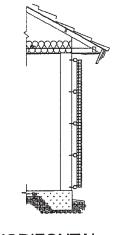
Screen unable to return should extend past protected opening by distance equal to minimum required deflection.

ALL GEOSYNTHETIC HURRICANE SCREEN ASSEMBLY INSTALLATION DETAILS DEPICTED WITHIN THESE DRAWINGS ARE TYPICAL FOR THE INSTALLATION OF THIS WIND ABATEMENT AND IMPACT PROTECTION SYSTEM ONLY. ALL OTHER BUILDING COMPONENTS SHOWN HEREIN ARE DEPICTED AS EXISTING, AND

- ASTM G155
- ASTM D638 • ASTM C158
- ASTM D635 C1
- ASTM D1929
- ASTM D2843

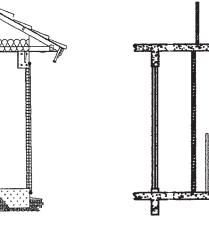
PRODUCT RENEWED as complying with the Florida **Building Code**

Acceptance No 18-1128.0 Expiration Date 01/07



Examples of typical installations

HORIZONTAL

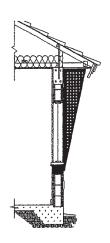


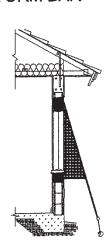


BALCONY VERTICAL

STORM BAR







ANGLED

INVERTED

WINDOW

RENDERING NOT TO SCALE

DWG NO. SHEET NO. AS-001 OF9

Drawn |
SCALE:

by: TG, 10: NO SCALE

10

23

TED BERMAN AND ASSOCIATES LLC, C OF A # 27502 THEODORE BERMAN, P.E., FLORIDA LICENSE NO. 09814 7970 BISCAYNE POINT CIR. MIAMI BEACH, FL 33141

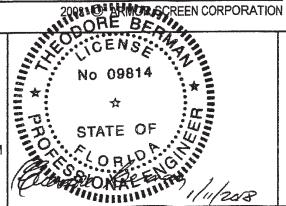
(305)868-4707

NOT CONSTRUCTED BY THE SCREEN COMPANY.

PRODUCT: ARMOR SCREEN SERIES 2000

FLEXIBLE WIND ABATEMENT / IMPACT PROTECTION SYSTEM 2744 HILLSBORO RD, WEST PALM BEACH, FL 33405

PH: (561)841-8890 FAX: (561)841-8892 SALES@ARMORSCREEN.COM



PRODUCT REVISED es complying with the Florida Building Code

REVISIONS OCTOBER 22, 25 , 2001

Table 1

Anchor Spacing

Anchor Choices *

Cnon	D. # # -	Alichor (1*	Anchor Onlices		T 45
Span	Deflection	1' O/C	2' O/C	11	2*	3*	4*
in feet	in inches	Design pressure **		3/8" open eye	¾" bolt	½" open eye	½" bolt
4'	5.5"	130	65	Х	X	X	X
6'	6.7"	130	65		X	X	X
6'	6.7"	92.75	46	Х	Х	X	X
8'	8.5"	130	90				Х
8'	8.5"	130	65			Х	Х
8'	8.5"	115	58		Х	X	Х
8'	8.5"	68.75	34	Х	Х	Х	Х
10'	16"	130	90				X
10'	16"	130	65		X	Х	Х
10'	16"	94.75	47	Х	Х	X	Х
12'	21"	130	90				Х
12'	21"	130	65			X	Х
12'	21"	120	60		X	X	X
12'	21"	69.75	35	Х	Х	Х	Х
14'	30"	130	80				Х
14'	30"	130	65			X	Х
14'	30"	120	60		Х	Х	X
14'	30"	64.75	32	X	Х	Х	Х
16'	39"	130	75		····		X
16'	39"	130	65			Х	Х
16'	39"	110	55		Х	Х	Х
16'	39"	60	34.25	X	X	X	X
20'	40"	58.00	29.00			X	Х
24'	41"	48.00	24.00			X	X

CONCRETE: *Table is intended for drop-in and LDT anchors in concrete.

WOOD: Lag anchoring (incl. LDT) into wood as follows

Column 1*: 3/8" thread, 1.75" penetration into SYP (0.55sg)

Column 2*: 3/8" thread, 3.1" penetration into SYP Column 3*: ½" thread, 3.0" penetration into SYP Column 4*: ½" thread, 3.7" penetration into SYP

HOLLOW BLOCK: Column 1*, approved epoxy anchoring system for %" & ½" thread.

NOTE: **Design pressure may be increased by 5% for negative loads.

TRACK SYSTEM: Table applies to track system, anchored with two $\frac{5}{16}$ " fasteners per cleat, as follows:

- into hollow block, min. 1 1/4" embed can be installed as in column 1*
- into concrete, min. 1 3/4" embed can be installed as in column 3*
- into concrete, min. 2" embed can be installed as in column 4*
- into wood (SYP. sg. 0.55), min. 1" embed can be installed as in column 1*
- into wood (SYP. sg. 0.55), min. 2" embed installed as in column 3*

NOTES:

Anchor Spacing: varies inversely with pressure and is subject to rational analysis.

Span: is measured anchor to anchor and is subject to rational analysis.

<u>Deflection</u>: is minimum glass separation measured at mid-span of screen and is subject to rational analysis.

ANCHOR SPECIFICATION:

3/8" Lag Anchor Lag Anchors:

½" Lag Anchor

Tapcon \(\frac{1}{6} \), \(\frac{1}{8} \), or \(\frac{1}{2} \) LDT can anchor in both wood and concrete

Drop-in Anchor: 3/8" Steel Drop-in anchor in 3000 PSI (min.) concrete, 1 5/8" min.

embedment, 3 3/4" min. edge distance (Powers or equal) 1/2" Steel Drop-in anchor in 3000 PSI (min.) concrete, 2" min. embedment, 5" min. edge distance (Powers or equal)

Proprietary System: Stabilized ½" x 30" Shaft with 4" helix Earth Anchor:

Working Load of Earth Anchor is 3150 LBS. Soil Class: 5 (medium dense coarse sand)

Epoxy Anchor: Equal to Red Head umbrella inserts and screens with C7 adhesive. REVISIONS

OCTOBER 22, 2001

August 27, 2003

November 25, 2003

February 17, 2012

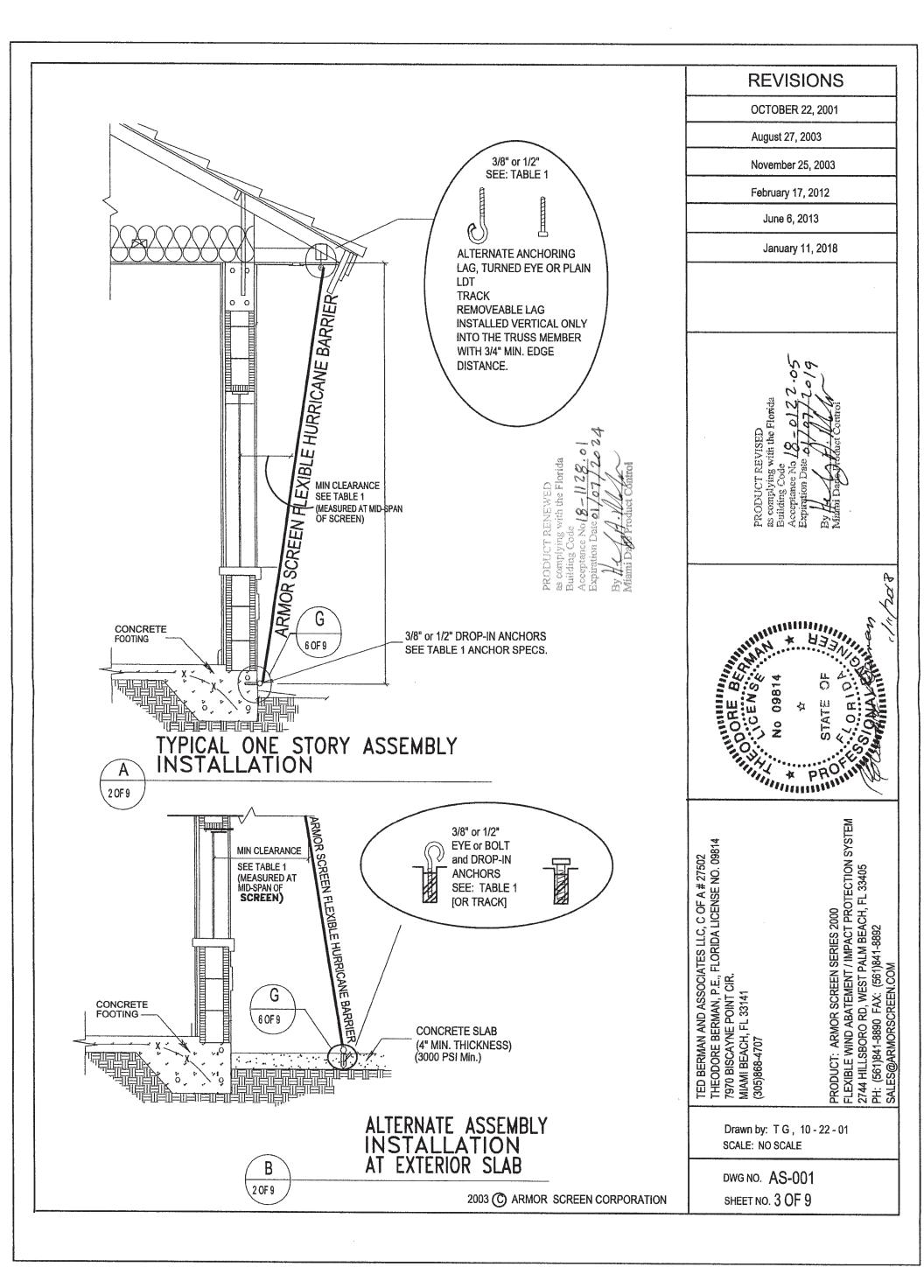
June 6, 2013

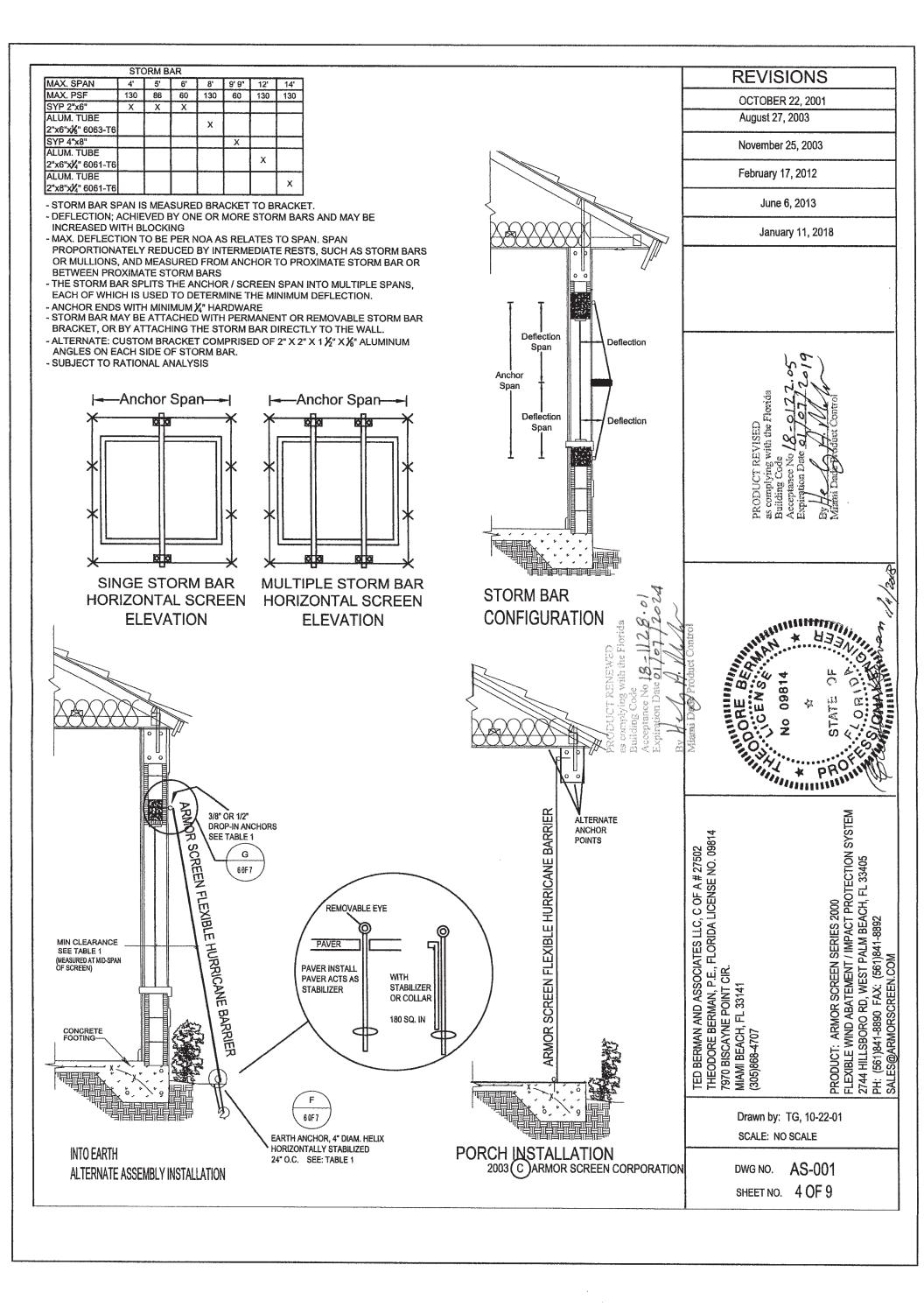
January 11, 2018

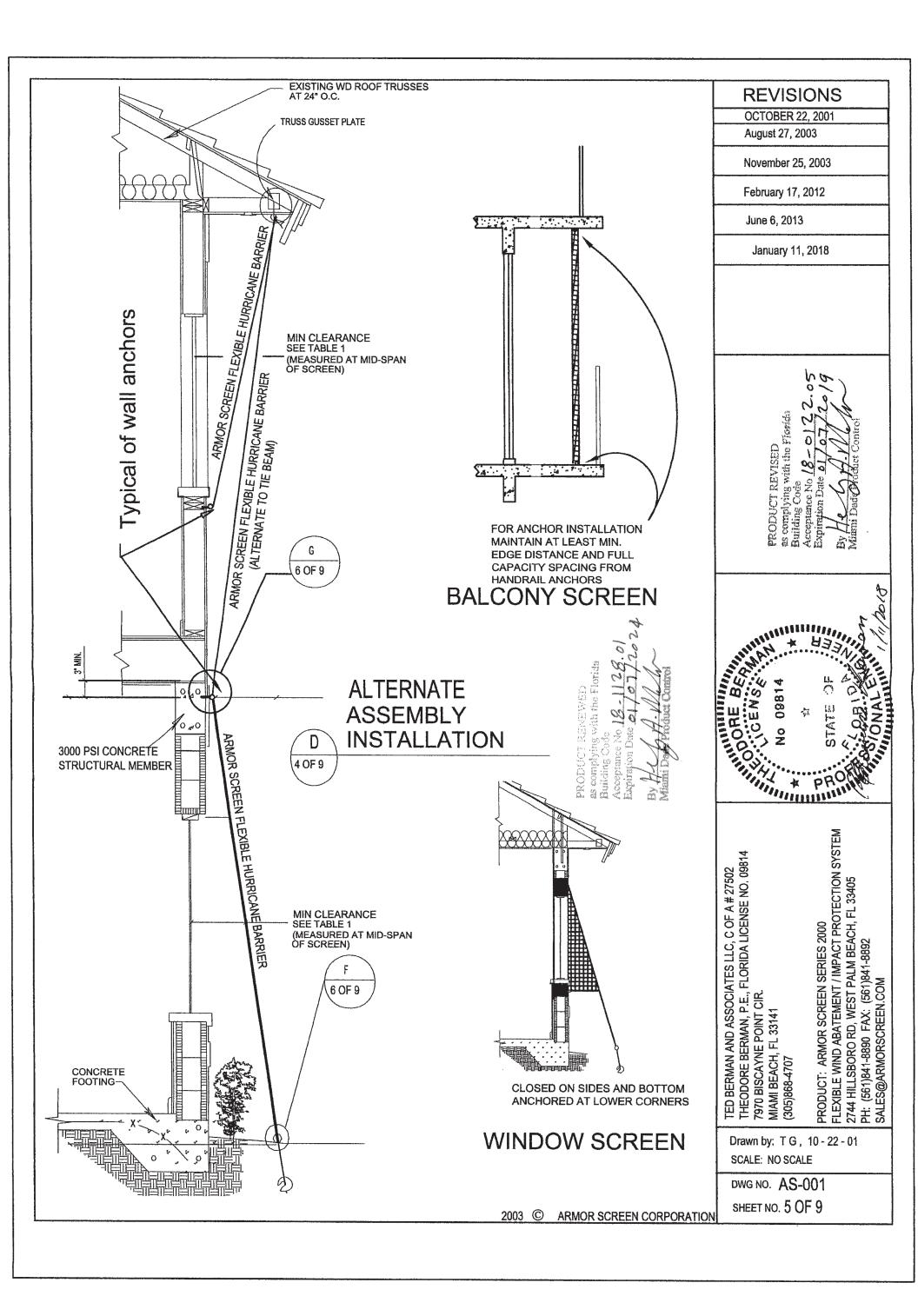
TED BERMAN AND ASSOCIATES LLC, C OF A # 27502
THEODORE BERMAN, P.E., FLORIDA LICENSE NO. 09814
7970 BISCAYNE POINT CIR.
MIAMI BEACH, FL 33141
(305)868-4707
PRODUCT: ARMOR SCREEN SERIES 2000
FLEXIBLE WIND ABATEMENT / IMPACT PROTECTION SYSTEN
2744 HILLSBORO RD, WEST PALM BEACH, FL 33405
PH: (561)841-8890 FAX: (561)841-8892
SALES@ARMORSCREEN.COM

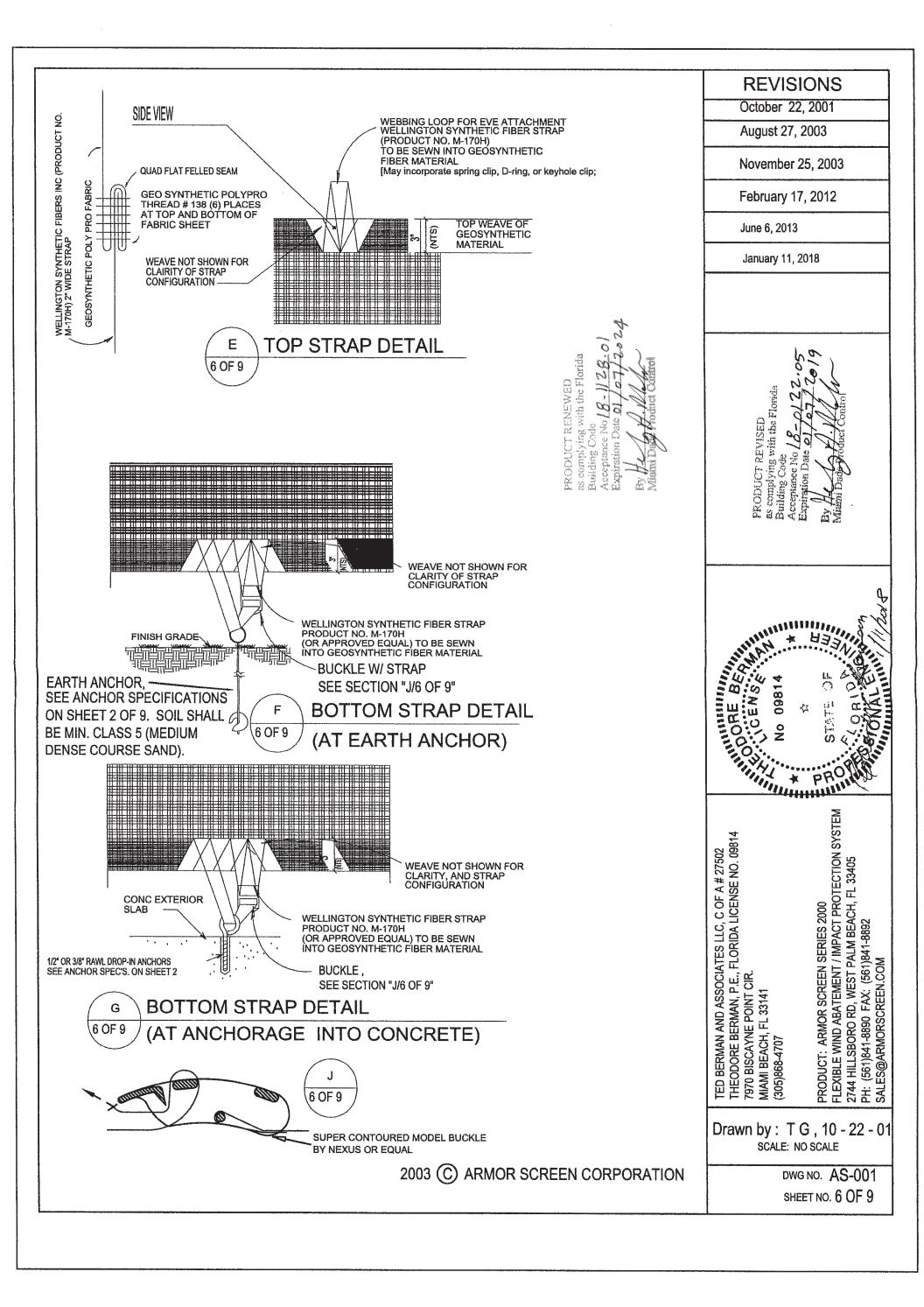
Drawn by: TG, 10-22-01 SCALE: NO SCALE

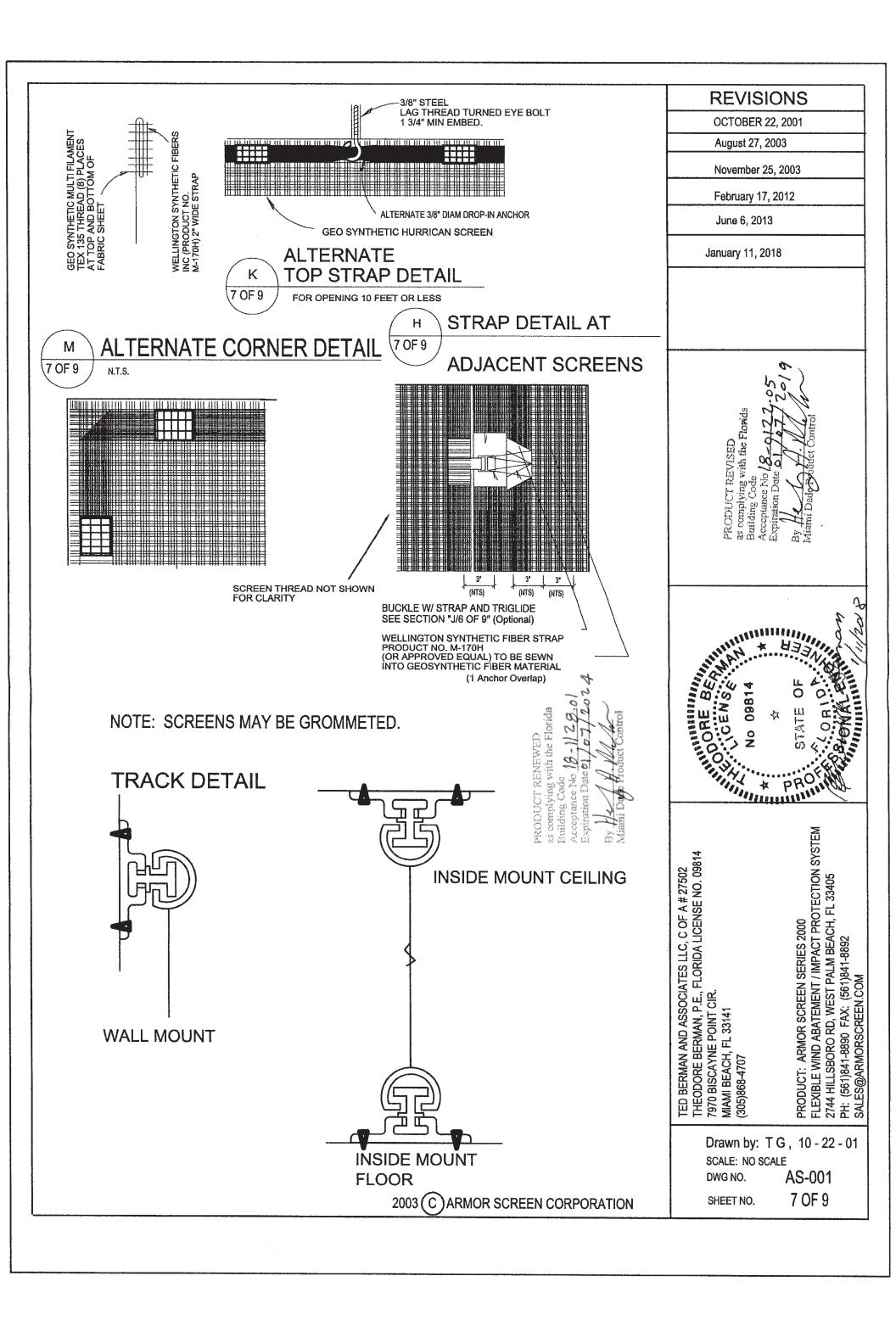
AS-001 DWG NO. SHEET NO. 2 OF 9

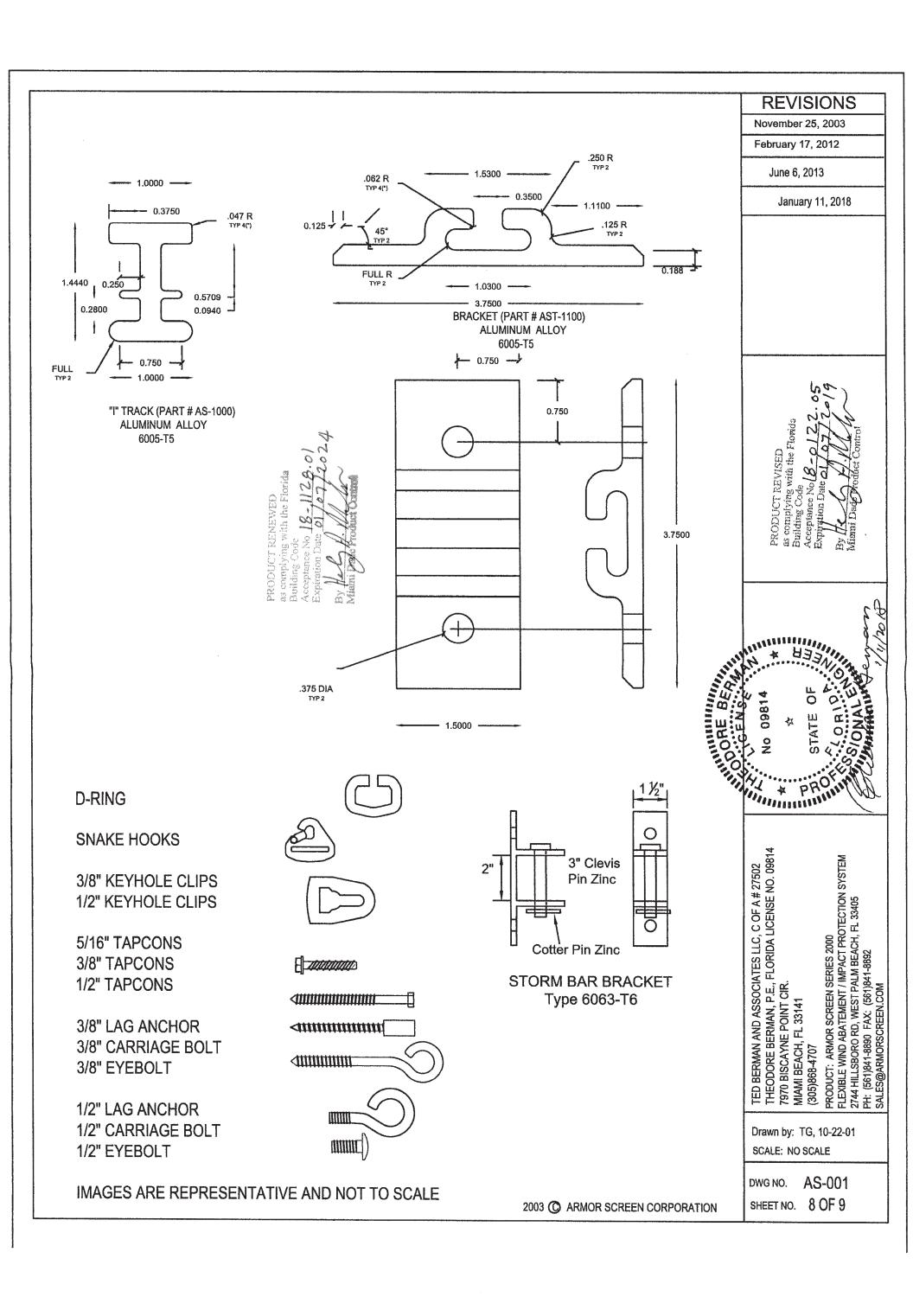












SCREEN LOADING ON STRUCTURE (PER LINEAR FOOT)												
		DESIGN LOAD (PSF)										
		30	40	50	60	70	90	110	130			
	4	180	217	246	276	284	332	358	401			
	5	224	275	312	342	355	416	447	500			
	6	268	327	372	408	426	500	536	599			
	7	311	380	437	480	503	579	625	704			
	8	355	438	497	546	574	663	715	802			
	9	399	491	557	617	644	747	804	901			
	10	447	543	625	683	715	832	893	1013			
SCREEN SPAN (FT.)	11	491	602	683	749	786	910	982	1105			
	12	535	654	743	821	857	994	1072	1203			
	13	579	712	808	887	928	1079	1155	1302			
	14	622	760	868	959	999	1165	1244	1401			
	15	666	818	928	1025	1070	1241	1333	1506			
	16	715	870	994	1091	1141	1325	1423	1604			
	17	758	923	1054	1162	1212	1410	1512	1703			
	18	802	981	1114	1228	1283	1494	1601	1802			
	19	846	1034	1180	1300	1359	1572	1690	1907			
	20	890	1086	1240	1366	1430	1657	1780	2005			
	21	933	1144	1305	1432	1501	1741	1869	2104			
	22	977	1197	1365	1504	1572	1825	1958	2203			
	23	1026	1250	1425	1570	1643	1903	2047	2308			
	24	1069	1308	1491	1642	1714	1988	2137	2406			

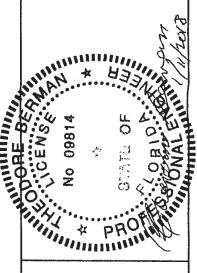
Notes:

- 1. Span is measured anchor to anchor and may be reduced by intermediate storm bars, rigid or pneumatic, or mullions.
- 2. Max. deflection to be per NOA as relates to span. Span proportionately reduced by intermediate rests such as storm bars or mullions and measured from anchor to proximate storm bar or between proximate storm bars.
- 3. Max. PSF to be the absolute value of the greatest pressure.
- 4. Calculations are applicable to any Armor Screen System.

REVISIONS

June 6, 2013

January 11, 2018



THEODORE BERMAN, P.E., FLORIDA LICENSE NO. 09814
7970 BISCAYNE POINT CIR.
MIAMI BEACH, FL 33141
(305)868_1777

2744 HILLSBORO RD, WEST P. PH: (561)841-8890 FAX: (561) SALES@ARMORSCREEN.COM PRODUCT: ARMOR SCREEN FLEXIBLE WIND ABATEMENT (305)868-4707

/ IMPACT PROTECTION SYSTEM ALM BEACH, FL 33405 841-8892

Drawn by: TG, 10-22-01 SCALE: NO SCALE

AS-001 DWG NO. 9 OF 9 SHEET NO.