



ALEDO ISD BOARD MEETING TEMPLATE

MEETING DATE: December 15, 2016

AGENDA ITEM: Consider Approval of Change Order for Elementary School No. 5

PRESENTER: Earl Husfeld

ALIGNS TO BOARD GOAL(S): Financial/Facilities – The District shall exhibit excellence in financial and facility planning, management, and stewardship.

BACKGROUND INFORMATION:

- The Elementary School No. 5 Project was included within the new construction component of the District's successful 2015 Bond Election.

ADMINISTRATIVE CONSIDERATIONS:

- In June 2016, Buford-Thompson Company (BTC) requested bids/proposals from various construction trades for Elementary School No. 5.
- At the time these bids/proposals were received, an alternate proposal was requested pertaining to the type of window glass to be placed in this facility. For various reasons, this alternate proposal was not selected at that time.
- Since that time, additional investigation of the product and refinement of the initial pricing has brought us to the conclusion of recommending this action to you this evening.
- Rather than installing typical window glass in Elementary School No. 5, installation of SageGlass is being recommended to you. The following information explains the many benefits of this product.
- Also following is a Payback Analysis showing the District's return on this investment is less than three (3) years.
- In summary, this dynamic glass will not only provide energy efficiency, it will also enhance the classroom learning environment.

FISCAL NOTE:

The not to exceed cost of \$189,894.00 associated with this change order will be paid from 2015 bond funds allocated for Elementary School No. 5.

ADMINISTRATIVE RECOMMENDATION:

The Administration recommends the Board of Trustees approve a change order to the contract with Buford-Thompson Company for Elementary School No. 5 in an amount not to exceed \$189,894.00 as presented.

The SageGlass logo is a yellow square with the text "SageGlass" in black. The background of the entire page is a low-angle shot of a modern building's glass and steel framework, looking up towards the sky.

SageGlass®

IMPROVING THE HUMAN EXPERIENCE FOR EVERYONE IN THE BUILT ENVIRONMENT

The SageGlass logo is a yellow square with a subtle geometric pattern. The text "SageGlass" is written in a white, sans-serif font, with a registered trademark symbol (®) following the word.

SageGlass®

The background of the entire page is a low-angle, upward-looking shot of a modern building's glass and steel facade. The sun is shining brightly through the glass panels, creating a strong lens flare effect in the upper right corner. The steel beams form a grid pattern across the sky.

SageGlass® tints automatically to control daylight and solar heat, making it easier for architects to design sustainable, visually compelling buildings with exceptional energy efficiency.

SAGEGLASS® — DYNAMIC GLASS FOR A CHANGING WORLD

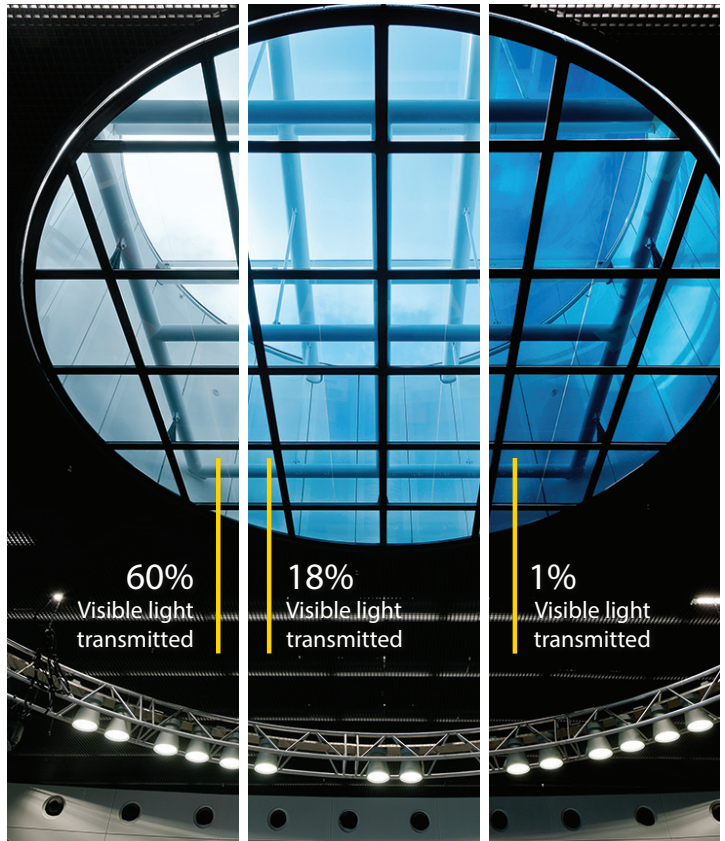
Daylight varies continually.

Wouldn't it be nice if building glass could do the same?

Static glass is a constant challenge for architects. It adds natural light, opens up interiors and creates connections to the outside world. Static glass also imposes limits, forcing you to compensate for extremes in light and temperature, and clutter designs with blinds and shades.

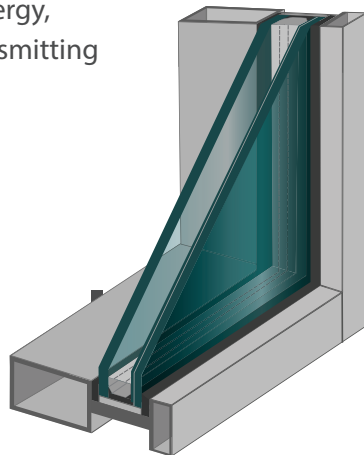
SageGlass changes everything.

Dynamic glass that tints on demand gives architects unprecedented freedom in design. Because SageGlass adapts to changing exterior conditions, it enhances sustainability and energy efficiency without compromising aesthetics.



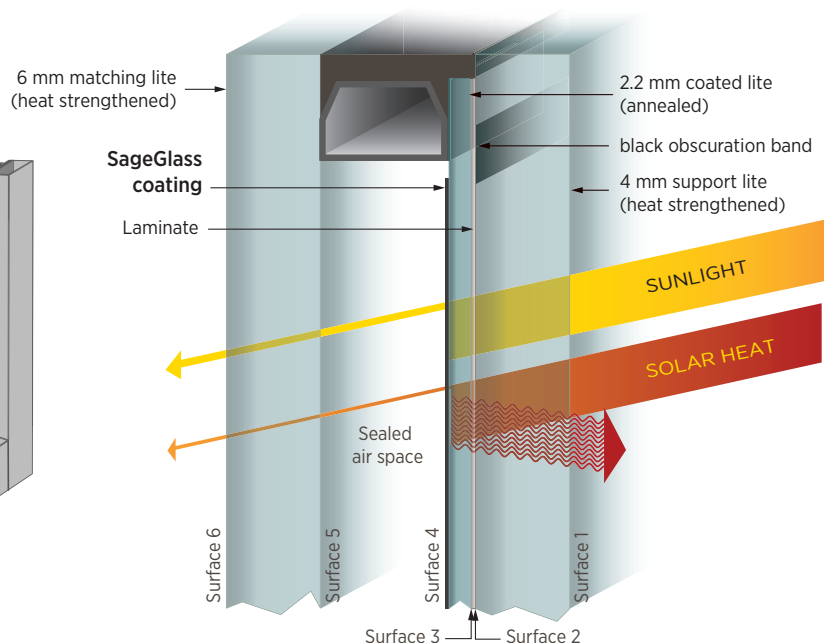
CLEAR INNOVATION

The SageGlass coating is on the inside (air gap facing) surface of the outboard laminated lite where, when tinted, it absorbs and reradiates the sun's energy, preventing it from transmitting through the inner lite.



SageGlass IGU shown in a frame

Cutaway view of SageGlass IGU (tinted state)





Explore Every Angle

Architectural designs must incorporate a complex matrix of requirements. Yet static glass serves only one purpose. SageGlass glazings allow you to use finite window space in multiple ways, maximizing flexibility and creating opportunities to differentiate your skills and your firm.

- Outpace competitors by adopting a new, proven approach to daylighting
- Transform the building envelope into a living, dynamic skin
- Eliminate the need for motorized shades, blinds, louvers and other obstructions
- Bring in sunlight while managing glare and heat effectively and automatically
- Neutralize traditional tradeoffs of light transmission and heat gain
- Innovate without the constraints of static glass



Design Sustainable, Striking Buildings

Leed® certification is becoming a baseline expectation for your clients. SageGlass not only makes it easier to achieve leed certification, it gives you more ways to design elegant yet sustainable buildings that exceed client expectations for energy efficiency.

- Specify sun control solutions with the smallest possible carbon footprint
- Reduce cooling loads up to 20%, peak power demand up to 30%, lighting costs up to 60%
- Lower HVAC equipment requirements up to 25%, minimizing capital costs
- Open up interior spaces while keeping the building energy efficient
- Maintain clear exterior views, allowing occupants to connect to the outdoors



Reduce Total Cost of Ownership

SageGlass offers a simpler, more versatile and remarkably cost-effective solution compared to other glass options. When you factor in all the costs of traditional sun controls, SageGlass clearly offers a better value —so you can recommend it to your clients with confidence.

- Remove the cost of installing, operating and maintaining shades, blinds and exterior awnings
- Minimize hidden costs of static glass, such as increased lighting and cooling
- Downsize the capacity of HVAC systems
- Conserve energy and help your clients realize significant long-term cost savings
- Reduce peak demand charges



Automate Tint Control

One of the biggest drawbacks to conventional sun control systems is their reliance on human intervention. SageGlass improves occupants’ quality of life without requiring them to open or close shades. Instead, tint levels can be managed automatically with our unique control system.

- Achieve tint levels across the full performance range of the glass with proprietary algorithms
- Integrate SageGlass with building controls to coordinate with HVAC, power and lighting
- Manage daylighting and glare based on occupancy or ambient light levels
- Override the glass manually at any time for maximum flexibility
- Choose from centralized, distributed or hybrid control architectures

SageGlass Performance Specifications

SageGlass® Clear w/SR2.0	%Tvis	%Rf Ext.	%Rb Int.	%Tsol	SHGC	U-factor	%Tuv	%Tdw-K
Clear State	60	16	14	33	0.41	0.28	0	15
Intermediate State 1	18	10	9	7	0.15	0.28	0	5
Intermediate State 2	6	10	9	2	0.10	0.28	0	2
Fully Tinted	1	11	9	0.4	0.09	0.28	0	0.6



CONTINUOUS MANAGEMENT OF LIGHT AND HEAT

HOUR TO HOUR

MORNING: SageGlass tints automatically, precisely balancing natural light and shade

AFTERNOON: SageGlass reacts to changing light levels, tinting or clearing zones as needed

EVENING: SageGlass tints to prevent exterior light pollution

DAY TO DAY

CLOUDY DAYS: SageGlass clears to allow maximum natural light

SUNNY DAYS: SageGlass tints to provide adequate cooling and shade

SEASON TO SEASON

SUMMER: SageGlass rejects excess solar heat and prevents glare, reducing demand for cooling

WINTER: SageGlass maximizes solar heat and light, reducing demand for heating and lighting

ALL YEAR LONG

EDUCATION: SageGlass adds natural light, aiding student performance

GOVERNMENT: SageGlass provides critical support for LEED® certification

COMMERCIAL: SageGlass creates pleasant interiors for visitors, customers and clients

HEALTHCARE: SageGlass brings the natural world indoors to improve patient outcomes

sageglass.com

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SageGlass®, a product of Saint-Gobain, is advanced dynamic glass that tints or clears on demand to optimize daylight in buildings. With SageGlass you can control sunlight and glare without blinds or shades while maintaining the view and connection to the outdoors. SageGlass is manufactured in Faribault, MN, in the heart of "the Silicon Valley of the window industry." The company is a wholly owned subsidiary of Saint-Gobain of Paris, the world's largest building materials company.

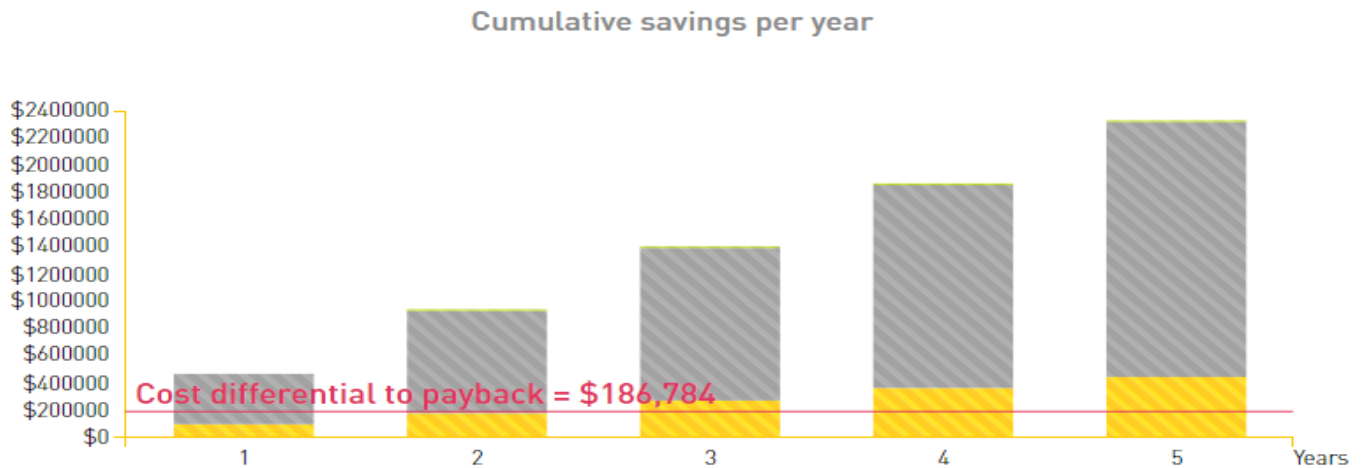
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Revised Payback Analysis *Aledo ISD Elementary School #5*

The following assumptions were used in performing the payback analysis for the Aledo ISD Elementary School #5 project.

- 6,550 +/- sf of active SageGlass exterior glazing
- 650 +/- sf of inactive SageGlass exterior glazing
- 40% window to wall ratio on North façade
- 15% window to wall ratio on East façade
- 30% window to wall ratio on South façade
- 30% window to wall ratio on West façade
- Compared to standard, tinted, double silver low-e glazing similar to a Solarban60 Gray
- Compared to standard, manual interior blinds
- Climate zone 3
- \$3.00/sf/kWh of electrical usage for building
- Estimated 20% annual energy use savings through use of SageGlass
- Estimated \$186,784.00 add for the use of SageGlass



Provided the assumptions made are relatively accurate, the payback analysis shows an estimated payback period on the \$186,784.00 delta of **right at two years.**

This tool can be further utilized/presented in person if necessary to fully illustrate the steps and methods taken to obtain these results.

Buford-Thompson Company, LLC

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Fort Worth, TX 76108
Ph : (817)467-4981

Change Request

To: Ross Rivers
VLK Architects
2821 W 7th St 300
Fort Worth, TX 76107
Ph: 817-633-1600 Fax: 817-633-9600

Number: PR-06
Date: 11/17/16
Job: 16-357 Aledo New EMS
Phone:

Description: Special Function Glazing & Aluminum Storefront Revisions

Source: Owner Directive # 6

We are pleased to offer the following specifications and pricing to make the following changes:

1. Provide Special Function Glazing in lieu of glazing type "TT" (Tinted Tempered Glass - 1" Thick) at the following revised aluminum storefront elevations: B, D, G, H, J, K, L, M, N, P, Q, R, S, T, U, V, W, Z, AA, AB, AC, AD, AE, AF, AG, AH, AJ, AK, AL, AM, AN, AP, AQ and AS as shown on attached sheets A7.04 and A7.05, dated 10.26.2016 and as specified in Section 08 88 00 - SPECIAL FUNCTION GLAZING and 26 09 00 - INSTRUMENTATION AND CONTROL FOR ELECTRICAL SYSTEM.
2. Delete horizontal blinds and roller window shades for the storefront elevations listed in item 1.

Description	Price
DFW Glazing - Special Function Glazing	\$251,696.00
DFW Glazing - Glazing Revisions	\$-48,887.00
Kites - Mecho Shade Credit	\$-51,320.00
Trico - Install of Low Voltage Wiring	\$24,905.00
Misc Cost Estimate - Electrical Power Transfers for Doors	\$8,500.00
BTC - Cost of Work Allowance for Wire Pathways	\$5,000.00
Total:	\$189,894.00

If you have any questions, please contact me at (817)467-4981.

Submitted by: Derek Herschberger
Buford-Thompson Company

Approved by: _____
Date: _____

Cc: