I of

37/3-UU 7204 Spruce Avenue (Takoma Park Historic District)

Micholi Strum Felder

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France, you changing

My are you replace

Condition

Cell: (443) 8579539





### DEPARTMENT OF PERMITTING SERVICES

Douglas M. Duncan County Executive

Robert C. Hubbard Director

### HISTORIC AREA WORK **PERMIT**

IssueDate:

11/21/2002

Permit No:

290369

Expires: X Ref: Rev. No:

**Approved With Conditions** 

THIS IS TO CERTIFY THAT:

**COLIN NORMAN** 7204 SPRUCE AVE

TAKOMA PARK MD 20912

HAS PERMISSION TO:

**ALTER** 

PERMIT CONDITIONS:

Replace the proposed windows with simulated true divided lites with an exterior wood grill; 2/2 windows will be ont he second story with 6/1 on the first story, except for the 1 lite casement window

located in the kitchen.

PREMISE ADDRESS

7204 SPRUCE AVE

TAKOMA PARK MD 20912-0000

LOT

PERMIT FEE:

**P**1

**BLOCK** 

**ELECTION DISTRICT** 

PARCEL

ZONE R-60

**LIBER FOLIO** 

41

\$0.00

**SUBDIVISION** 

TAX ACCOUNT NO.:

**PLATE** 

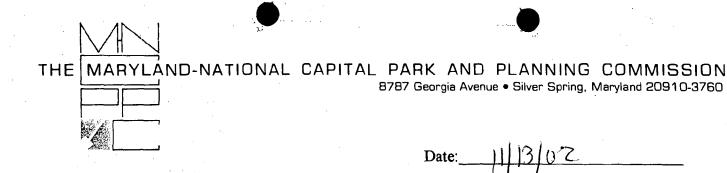
GRID

HISTORIC MASTER:

HISTORIC ATLAS:

HISTORIC APPROVAL ONLY **BUILDING PERMIT REQUIRED** 

Director, Department of Permitting Services



### **MEMORANDUM**

TO:

Historic Area Work Permit Applicants

FROM:

Gwen Wright, Coordinator

Historic Preservation Section

SUBJECT:

Historic Area Work Permit Application - Approval of Application/Release of

HAWP#37/3-02UU DPS 290369

Other Required Permits

Enclosed is a copy of your Historic Area Work Permit application, approved by the Historic Preservation Commission at its recent meeting, and a transmittal memorandum stating conditions (if any) of approval.

You may now apply for a county building permit from the Department of Permitting Services (DPS) at 255 Rockville Pike, second floor, in Rockville. Please note that although your work has been approved by the Historic Preservation Commission, it must also be approved by DPS before work can begin.

When you file for your building permit at DPS, you must take with you the enclosed forms, as well as the Historic Area Work Permit that will be mailed to you directly from DPS. These forms are proof that the Historic Preservation Commission has reviewed your project. For further information about filing procedures or materials for your county building permit review, please call DPS at 240-777-6370.

If your project changes in any way from the approved plans, either before you apply for your building permit or even after the work has begun, please contact the Historic Preservation Commission staff at 301-563-3400.

Please also note that you must arrange for a field inspection for conformance with your approved HAWP plans. Please inform DPS/Field Services at 240-777-6210 or online @ permits.emontgomery.org of your anticipated work schedule.

Thank you very much for your patience and good luck with your project!

C:\hawpapr.wpd

	8787 (	Georgia Avenue ● Silver Spring, Maryland 20910-3
		Date: 11 13/02
MEMORA	NDUM	
TO:	Robert Hubbard, Director Department of Permitting Services	HAWP # 37/3-02U DPS# 290369
FROM:	Gwen Wright, Coordinator Historic Preservation	DPS# 290369
	Historic Area Work Permit	
SUBJECT:		
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The Montgo application for App	mery County Historic Preservation Common an Historic Area Work Permit. This approved  oproved  oproved with Conditions: Replace  d true divided lites with  will be on the second Story	plication was:  The proposed windows with  an exterior wood goill; 3/2  with by on the first story excep
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and subject to the general condition that, after issuance of the Montgomery County Department of Permitting Services (DPS) permit, the applicant arrange for a field inspection by calling the Montgomery County DPS Field Services Office at 240-777-6210 or online @ permits. emontgomery.org prior to commencement of work and not more than two weeks following completion of work.

Address: 7204 Spruce Avenue, Takoma Park





DPS -#0

# HISTORIC PRESERVATION COMMISSION 301/563-3400

# APPLICATION FOR HISTORIC AREA WORK PERMIT

Contact Person: ANNE NORMAN
Doytime Phone Na.: (202) 939 3399

					Daytime Phone No.:	(202) 4	29 25 77		
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Nama	e of Property Ou	wner; Coli	NEANNE	NORMAN	Daytime Phone No.:	(202) 9	39 3399		
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Conin	actor: KE	NEWAI	L BY AND	ERSEN	Phone No.:	301 913	3 0100		
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Agen	t lar Owner: _			·	Daytime Phone No.:	- <u> </u>		• • • • • • • • • • • • • • • • • • • •	
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### THE FOLL AND ITEMS MUST BE COMPLETED AND THE BEQUIRED DOCUMENTS MUST ACCOMPANY THIS APPLICATION.

### 1. WHITTEN DESCRIPTION OF PROJECT

Description of existing structure(s) and environmental setting, including their historical features and signifi-	CANCE

TWO DOUBLE-HUNG ORIGINAL KITCHEN WINDOWS
FACING PATIO AT REAR OF HOUSE
FOUR DOUBLE-HUNG WINDOWS IN UPSTAIRS (2nd STORY)
REAR-FACING ROOM ORIGINALLY SLEEPING PURCH
FNCLOSED CA. 1940s
HOUSE IS CLASSITED AS A CONTRIBUTING RESOURCE

REPACEMENT OF AROUE WITH DOUBLE-HUNG

ANDEREN WITH WOOD FACING. NOT VISIBLE FROM

STREET. ALL REPLACEMENTS ARE SAME DIMENSIONS

AS EXISTING WINDOWS

### 2. SITE PLAN

Site and environmental setting, drawn to scale. You may use your plat, You site plan must include:

- a. the scale, north arrow, and date:
- 5., dimensions of all existing and proposed structures; and
- site features such as walkways, develops, fences, conds, alteams, trash dumpsters, mechanical equipment, and landscaping

### 3. PLANS AND ELEVATIONS

You must submit 2 sopies of plans and elevations in a corner to larger than 11"x 11". Plant on 3 1/2"x 11" pages are preferred.

- a. Schemetic construction plans, with marked dimensions, indicating location, size and general type of walks, window and door openings, and other fixed features of both the existing resources) and the proposed work.
- a. Elevations (Igdades), with marked dimensions, clearly indicating proposed work to relation to existing construction and, when appropriate, context. All materials and factures proposed for the exterior must be noted on the elevations drawings. An existing and a proposed elevation drawing of each feeder offected by the proposed work is required.

### MATERIALS SPECIFICATIONS

General description of materials and maturial trans proposed for incorporation in the work of the project. This information may be included on your design drawings.

### 5. PHOTOGRAPHS

- a. Clearly tabeled photographic pricts of each lacade of existing resource, including details of the affected performs. All labels showed be placed on the from of photographic
- 6 Clearly tabel photographic prints of the resource as viewed from the public right-of-way and of the adjoining properties. All labors should be placed on the front of photographs.

### 5. THEE SURVEY

If you are proposing construction adjacent to or within the dripfine of any tree 5° or larger in diameter (at supplicifmentally 6 feet above the ground), you must like an accurate tree survey identifying the sire, focusion, and species of each tree of at least that dimension.

### 7. ADDRESSES OF ADJACENT AND CONFRONTING PROPERTY OWNERS

For ALL projects, provide an accurate last of adjacement confronting property eveners (not tenants), including names, addresses, and its podes. This list should include the owners of all loca or perceits which adjoin the perceit in question, as well as the owner(s) of locally or perceits) which he directly across the street/inginesy from the perceit in question. You can obtain this information from the Department of Assessments and Taxation, 51 Marrow Street, Rockwille, (301/275-1355).

Please print fin blue or black into gritte this information on the föllowing page.
Please stay within the guides of the template, as this will be photocopied directly onto making labels.

graddresses; noticing table

# HAWP APPLICATION: MAILING ADDRESSES FOR NOTICING [Owner, Owner's Agent, Adjacent and Confronting Property Owners] Owner's mailing address Owner's Agent's mailing address 7204 SPRUCE AVENUE TAKOMA PARK, MD 20912 Adjacent and confronting Property Owners mailing addresses JAMES RETTRERG IRIS GORMAN 408 TULIP AXE 7206 SPRUCE AVENUE TAKOMA PARK, MD20912 TAKOMA PARK, MD 20912

FOLIO

HSE. LOC.: 8-4-76

JOB NO.: 9/17A

BOUNDARY:

PROFESSIONAL LAND SURVEYOR

REGISTERED LAND SURVEYOR MARYLAND #5216

### **HISTORIC PRESERVATION COMMISSION STAFF REPORT**

Address:

7204 Spruce Avenue

**Meeting Date:** 

11/13/02

Applicant:

Colin & Anne Norman

Report Date:

11/06/02

Resource:

Takoma Park Historic District

**Public Notice:** 

10/30/02

Review:

HAWP

Tax Credit:

Yes

Case Number:

37/3-02UU

Staff:

Corri Jimenez

PROPOSAL:

Window Replacement

**RECOMMEND:** 

Approve with conditions

### **CONDITION**

1. Replace the proposed windows with simulated true divided lites with an exterior wood grill; 2/2 windows will be on the second story with 6/1 on the first story, except for the 1-lite casement window located in the kitchen.

### PROJECT DESCRIPTION

SIGNIFICANCE:

Contributing Resource

STYLE:

Colonial Revival

DATE:

1915-25

### **PROPOSAL**

The applicant proposes to:

1. Replacing six true divided lite, double hung windows on the rear and side of an enclosed 2-story sleeping porch. One Andersen 2/2 simulated true divided lite window will be installed on the 2<sup>nd</sup> story on the north side. Three Andersen 2/2 non-simulated true divided lites windows will be added to the rest of the story, which will not be visible from the street. On the first story, one 6/1 Andersen non-simulated true divided lite window, which will not be visible to the public right-of-way, will be installed adjacent to a 1-lite casement window. The building materials of all the windows are a composite wood-vinyl composite called "Fibbrex," which has a wood facing (see Circle 15-20).

### **STAFF DISCUSSION**

7204 Spruce Avenue is a Contributing resource to the Takoma Park Historic District as a 2-story Colonial Revival farmhouse. The house has been altered with the enclosure of a sleeping porch on the west, as well as adding smaller additions on many of the rear and side elevations.

The applicant proposes to replace six windows on the south and west elevations. According to the applicant, these windows are in bad condition, although staff did not get the opportunity to review them. All of the windows in the house appear to have been replaced at a later time, and may have been originally 2/2 double hung wood windows. Older windows are visible on the second story of the house (see Circle 10). It is unclear if the visible 2/2 windows are original or reused, but appear to match the house's architectural style and other properties in the historic district. The rear west elevation of the house was once a 2-story sleeping porch, which was enclosed in the 1940s and it was at that time when these windows were added. 2/2 double hung windows are being proposed for the second story with 6/1 double hung windows on the first story and the window material is known as "Fibbrex," a wood/vinyl composite (see Circle 15-20). One window facing the street is proposed to be a 2/2 simulated true divided lite, which overlooks the driveway on the north side. The rest of the windows are proposed to be non-simulated with encapsulated muntins. A casement 1-lite window will be added over the kitchen on the first floor and is smaller than the other 6/1 double hung windows (see Circle 11).

Staff approves the project overall with the condition that all the windows be simulated true divided lites with an exterior wood grill. Non-simulated true divided lite windows are not approved by the HPC as replacements, and Staff concurs with this because the windows will not be visually compatible with the rest of the elevation. In regards to the use of "Fibbrex" as a chosen window material, Staff does not have an opinion and is unfamiliar with the building material as a whole. The Takoma Park Historic District Guideline accepts new building materials "on a case-by-case basis" for contributing resources, particularly if not visual from the public right-of-way.

### STAFF RECOMMENDATION

Staff recommends that the Commission *approve with conditions* the HAWP application as being consistent with Chapter 25A-8(b) 1:

The proposal will not substantially alter the exterior features of an historic site or historic resource within an historic district.

and with the Secretary of the Interior's Standards #7:

New additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.

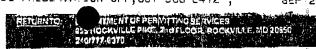
### with conditions:

Replace the proposed windows with simulated true divided lites with an exterior wood grill; 2/2 windows will be on the second story with 6/1 on the first story, except for the 1-lite casement window located in the kitchen.

with the general conditions applicable to all Historic Area Work Permits that the applicant shall also present any permit sets of drawings to HPC staff for review and stamping prior to submission for permits and shall arrange for a field inspection by the Montgomery County Department of Permitting Services (DPS), Field Services Office, five days prior to commencement of work, and within two weeks following completion of work.



Feir 6/71/05





HISTORIC PRESERVATION COMMISSION 301/563-3400

# APPLICATION FOR HISTORIC AREA WORK PERMIT

Contact Person: ANNE NORMAN Name of Property Owner: COLINEANNE NORMAN Daytime Photo Na. (202) 939 3399 7204 SPRUCE AVE. TAKOMA PARK Contractor: RENEWAL BY ANDERSEN Phone No.: 301 913 0100 Contractor Registration No.: Agent for Uwner: Address: LOCATION OF BUILDING/PREMISE SUME SPRUCE AVENUE House Number: 7204 TOWNVEIN TAKOMA PARK NEWERI GIOSS STEEL TULIP AVENUE LOT Pt. 142 Block 8 Subdivision LIPSCOMB AND EARNEST TRUSTEES ADDITION TO TAKOMA PARK PART UNE: TYPE OF PERMIT ACTION AND USE CHECK ALL MODICABLE IA. CHEEK ALL APPLICABLE. Construct | Extend | After/Removate | III A/C [] Slob | [] Brom Addition | [] Paten | [] Brex | [] Shed 🔘 Install 💢 WreciuRate 13 Salar (3) Freplace 13 Wasdburning Stove 6 ☐ \$ingle Family i] Mave The Fence Well (complete Section 4) Other WINDOW REPLACEMENT () Repair C Aevocable 18. Construction cost estimate: \$ 5, 201 1C. If this is a revision of a previously approved active period, see Period # PART TWO: COMPLETE FOR NEW CONSTRUCTION AND EXTEND/ADDITIONS 01 🕽 W\$\$C 02 1.1 Sentic ¿A. Type of sewage disposal: 97 171 Well OI WSSC 20. Type of water supply: PART THREE COMPLETE DNLY FOR FENCE/RETAINING WALL 1B. Indicate whether the lengt or retaining wall is to be constructed on one of the following incutions: (I) Estirely an land of awner I'l On public right of way/assument [7] On party line/groperty line Uncome certify that I have the authority to make the foregoing application, that the application is somet, and that the construction will comply with plans approved by all agencies issed and Thereby acknowledge and accept this to be a condition for the insurance of this permit. Application/Petent No.:

SEE REVERSE SIDE FOR INSTRUCTIONS



# THE FOLLOWING ITEMS MUST BE COMPLETED AND THE REQUIRED DOCUMENTS MUST ACCOMPANY THIS APPLICATION.

### 1. WRITTEN DESCRIPTION OF PROJECT

	a. Description of existing structure(s) and environmental setting, inc	skeling their historical features and significantly	ť
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TWO DOUBLE-HUNG ORIGINAL KITCHEN WINDOWS	
FACING PATIO AT REAR OF HOUSE	
FOUR DOYBLE-HUNG WINDOWS IN UPSTAIRS (2nd STORY)	
REAR-FACING ROOM ORIGINALLY SLEEPING PURCH	
ENCLOSED CA. 1940s	
HOUSE IS CLASSITED AS A CONTRIBUTING RESOURCE	Ξ

DEFINITION OF PROJECT AND ITS Affect on the historic resource(2), the environmental acting, and, where applicable, the historic district

REPACEMENT OF AROUE WITH DOUBLE-HUNG

ANDERED WINDOWS OF SIMILAR DESIGN, CONCTRUCTED

OF FIBREX WITH WOOD FACING. NOT VISIBLE FROM

STREET. ALL REPLACEMENTS ARE SAME DIMENSIONS

AS EXISTING WINDOWS

### 2. SITE PLAN

Sits and environmental setting, drawn to scale. You may use your plat. You sits plan must include:

- a. the scale, north arrow, and date:
- b., dimensions of all existing and proposed survenires; and
- to site features such as walkways, develops, fences, ponds, alteams, trash dumpsters, mechanical equipment, and landscaping.

### 1. PLANS AND FLEVATIONS

You must submit 2 copies of plans and elevations in a former or larger than 11'x 11'. Plant on 3 1/2' x 11' pacer are preferred.

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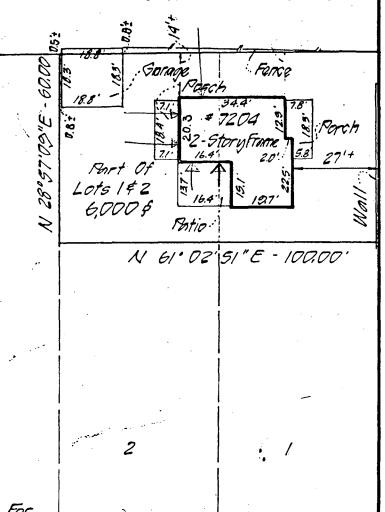
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g addresses, noticing table

HAWP APPLICATION: MAILING ADDRESSES FOR NOTICING [Owner, Owner's Agent, Adjacent and Confronting Property Owners]			
Owner's mailing address	Owner's Agent's mailing address		
7204 SPRUCE AVENUE			
i			
TAKOMA PARK, MD 20912			
Adjacent and confronting Pro	perty Owners mailing addresses		
JAMES RETTRERG	IRIS GORMAN		
408 TULIP AXE	7206 SPRUCE AVENUE		
TAKOMA PARK, MD20912			
,			
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LOCATION OF WINDOWS TO BE REPLACED
MARKED BY ARROWS

9 61° 02'51"E - 100.00



105

House Location For PART OF LOT 142

BLOCK 8

LIPSCOMB & EARNEST,

TRUSTEES

ADDITION TO TAKOMA

PARK

MONTGOMERY CO., MO

TULIP AVENUE

SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT THE POSITION OF ALL THE EXISTING EMPROVEMENTS ON THE ABOVE DESCRIBED PROPERTY HAS BEEN CAREFULLY ESTABLISHED BY A TRANSIT-TAPE SURVEY AND THAT UNLESS OTHER-WISE SHOWN. THERE ARE NO ENCROACHMENTS.

JEFFERSON D. LAWRENCE
PROFESSIONAL LAND SURVEYOR
REGISTERED LAND SURVEYOR MARYLAND #5216

R	EFE	RENCES
PLAT	BK.	14

plat no. 46

LIBER

FOLIO

### ANDJON ASSOCIATES

PROFESSIONAL LAND SURVEYOR

11748 ASHWORTH COURT (301) 428-0481 GERMANTOWN, MARYLAND 20767

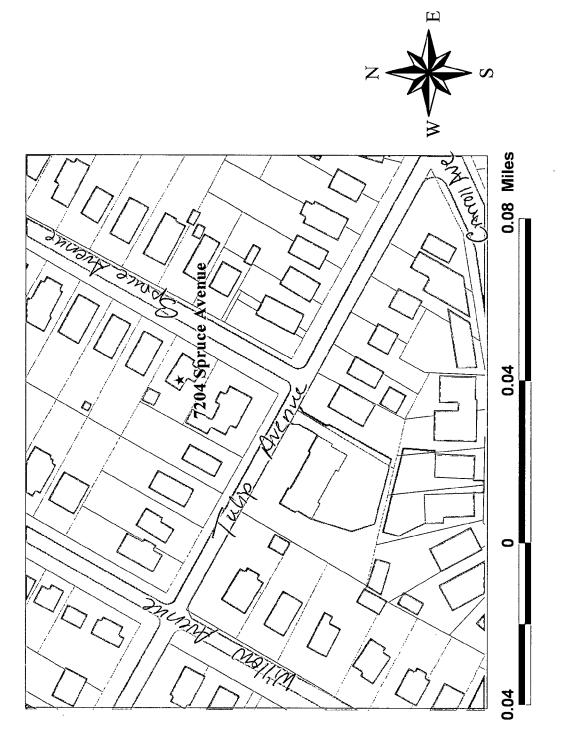
DATE OF SURVEYS SCALE:
WALL CHECK:
HSE. LOC.: 8. 7.76

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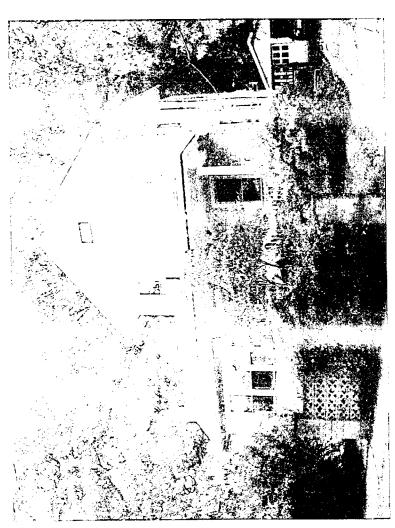
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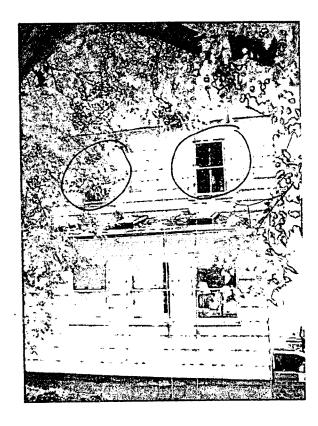
JOB NO. 01176

# Takoma Park Historic District





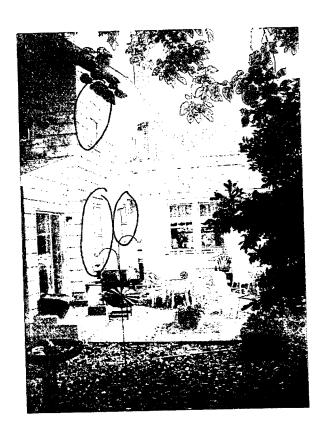




REAR VIEW (WEST)



NORTH SIDE VIEW



SIDE VIEW (SOUTH)

WINDOWS TO BE REPLACED ARE CIRCLED



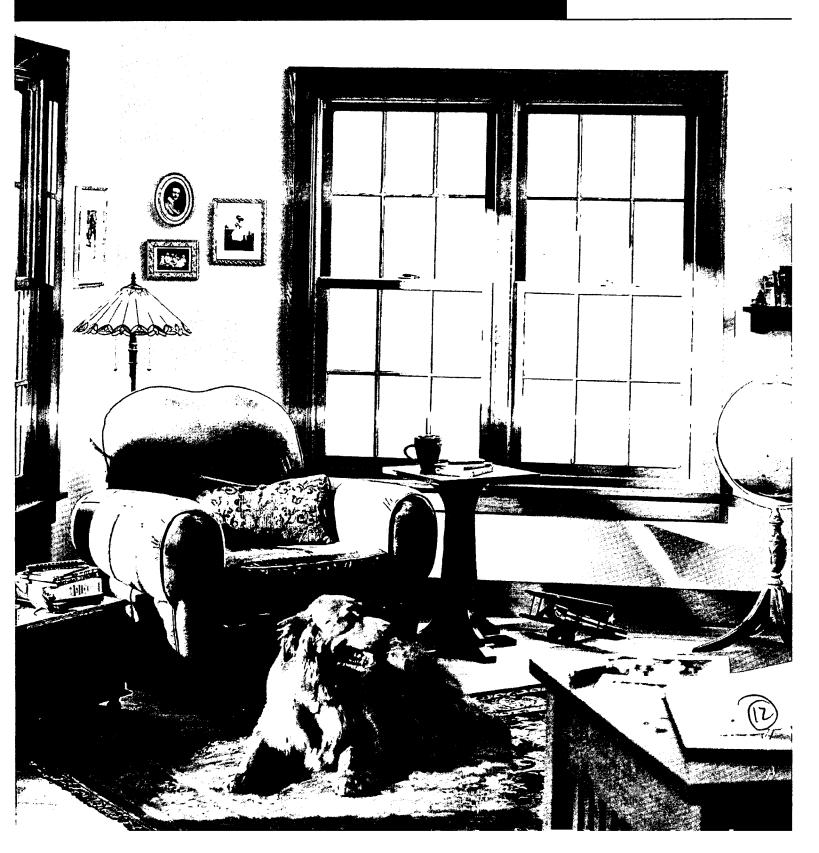
SIDE VIEW (SOUTH)

KITCHEN
WINDOWS
(Both to be
replaced)
1 will be a
(1, gionsimulated
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withasmaller
lite carement
window.

# Renewal by Andersen®

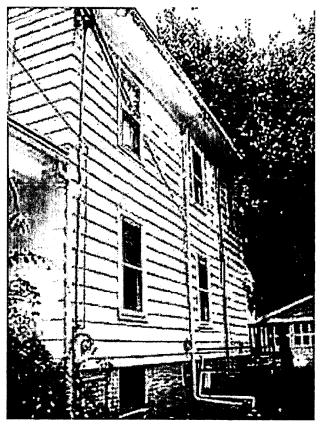
Window and Patio Door Replacement





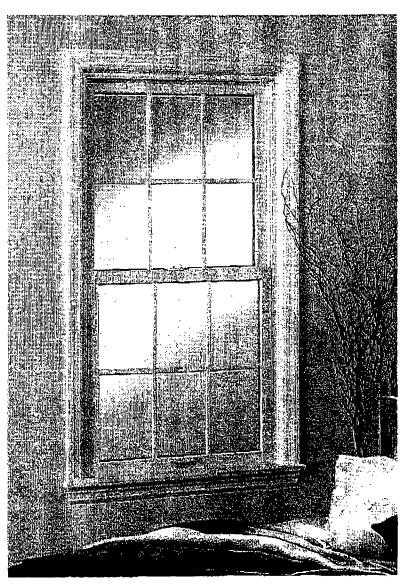
## 7402 Spruce Avenue, Takoma Park (extra photos)





### **Double-Hung Replacement Windows**

A double-hung window consists of two vertically sliding sash in a single frame. Both sash are counterbalanced by a spring-powered bloc t-and-tackle balance concealed behind side jamb covers. Tilt latches for each ash allow inward tilting for easy cleaning. Upper and lower sash are securely clos id by use of a carn-type sash lock. A full insect screen is installed into the outsid track.



### ADVANTAGES

- Both sash can be or !rated for ventilation at top and bottom of indow.
- Both sash can be tilte I inward for easy cleaning.
- Patented Fibrex™ col sposite material is stronger than vinyl, llowing more glass area.
- Fibrex material witl low-maintenance capstock gives a ricl , low-luster finish tosash and frame, sim lar to painted wood.
- Smooth radius surfalles on frame and sash are pleasing to the eye and easier to clean.
- Mortise-and-tenon a pearance on interior sash corners gives a hand prafted traditional look.
- Full-perimeter bulb veatherstrip provides superior weathertig itness while still allowing easy sash operation
- Sash are counterbal inced by a springpowered block-and tackle balance concealed inside the side jamt, and matched to the weight of every sas .

### APPLICATIONS

- Excellent choice for I omes and condominiums where traditional stying is important; appropriate for man restoration projects.
- Suitable in areas foring walkways, decks: and other traffic a pas because sash do not project outward.
- Convenient in area: where the sash need to be cleaned from the interior.
- Visually compatible with other Renewal by Andersen® product.



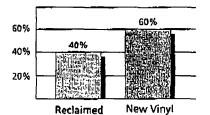
Keep in mind that window manufacturers voluntarily test their products for performance and durability. It's important for customers to look for

3018817054

It's important for customers to look for and ask for specific compliance to established test standards to make sure they are getting accurate, reliable information.

Renewal by Andersen® products are tested thoroughly, and the results are referenced throughout this manual.

### FIBREXT COMPOSITE MATERIAL



Wood Fibers

### How Windows and Window Componen s are Tested

Several professional, nonpartisan national associations have established test standards to accurately and consistently measure the relatio ship of products and materials to performance. They include the following:

AAMA/WDMA—American Architectural Manufacturing association / Window and Door Manufacturing Association

ANSI-American National Standards Institute

ASTM—American Society of Testing Materials

NFRC-National Fenestration Rating Council

CAN / CSA—Canadian Standards Association

### Fibrex™ Composite Material

Renewal by Andersen windows are made of our exclusive 1 brex material.

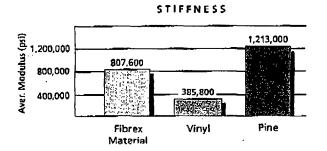
Developed by Andersen, it is a composite blend of reclaim d (not recycled) and new vinyl and wood that provides excellent strength, dural ility and low maintenance.

Window materials are exposed to many atmospheric elements such as wind stress, moisture, and temperature extremes. The following late demonstrates how Fibrex material performs under these elements.

STIFFNESS

Modulus is the scientific term for a material's stiffness. The higher the number, the stiffer the material. The average modulus for Fibrex meterial is twice the average for vinyl, making it a far more stable and rigid material for windows. And though wood's average stiffness is higher, it is far less predictable than Fibrex material since wood possesses natural variations such as grain, knots, pitch pockets, and moisture content. All of which means be can make our window frames and sash narrower than competitive windows gaining more glass area and light from the same size opening.

The graph below demonstrates the superiority of Fibrex mater allover other materials.



Material Strength.
Fibrex material offers excellent long-term stability and durability. The Modulus far surpasses vinyl and approaches that of pine.

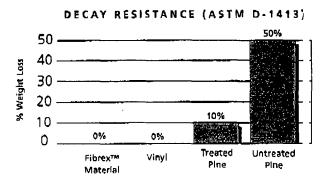
### DECAY RESISTANCE

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Eventually, without maintenance, even treated wood c n be subject to decay. Fortunately, Fibrex<sup>™</sup> composite material is not. Our squital composite formulation surrounds and coats each wood fiber in the manufacturing process, providing resistance to rot. And windows made of Fibrex material are warranted not to flake, rust, blister, peel, crack, pit or corrode.\*

\*See the Limited Warranty for Renewal by Andersen\* Products and Scivices.

The change in the mass of material is measured according to ASTM D-1413, which demonstrates that Fibrex material is comparable to viryl a resistance to decay.

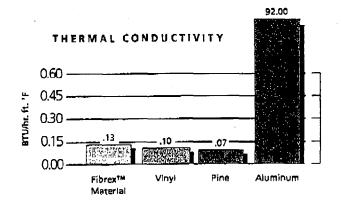


Decay Resistance. Our special polymer formulation surrounds and coats each wood fiber in our Fibrex manufacturing process providing long term resistance to rotting, chipping, peeling, or bilistering.

### THERMAL CONDUCTIVITY

Fibrex composite material has a very low thermal cone activity ratio—or in other words, excellent insulating properties—that put it on a par with pine or vinyl. Unlike aluminum, windows made of Fibrex material vill resist the effects of cold and heat.

Insulating efficiency is measured by the amount of he t transferred or conducted through a material. A lower value means le s transfer and greater insulating efficiency.



Thermal Conductivity. Fibrex material has a very low thermal conductivity ratio - or in other words excellent insulating properties - that put it on par with pine or vinyl.





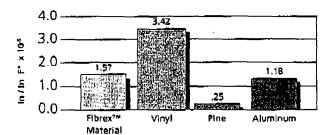
THERMAL EXPANSION

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Thermal expansion is the degree to which a given material expands and contracts with changes in temperature. Pine has a very low hermal expansion rate. With a rate of 1.57, Fibrex<sup>TM</sup> material, like aluminum expands and contracts very little. Vinyl, however, with a thermal expansion rate of 3.42, may expand and contract markedly, resulting over time in bowing, cracks and, possibly, leakage of air and water. Darkening the color of a naterial can also increase its surface temperature and make the material mor likely to expand. This color change greatly affects vinyl, but does not affect I ibrex material.

In testing expansion rates, the smaller value indicates the least clange to the material.

### COEFFICIENT OF THERMAL EXPANSION (CTE)



Thermal Expansion. Fibrex material has a very low rate of expansion due to temperature (1.57 x 10<sup>4</sup> In/in F°) similar to that of aluminum (1.18 x 105 In/In F"). Hollow vinyl, however, (3.42 x 105 In/In F°) expands and contracts markedly, which, over time can result in bowing, cracks, and eventually, leakage of air and water.

# Fibrex™ Material

# A better alternative, a better window



### Reinventing the window

It used to be that all windows were made of wood. Beautiful, durable, and a great insulator, wood was the material of choice for homeowners. But over the decades, changes in consumer needs led Andersen Corporation to search for new materials with which to make windows. Andersen pioneered the use of vinyl in windows in the 1960s when we introduced our low-maintenance Perma-Shield® cladding for wood windows. Andersen's experience in working with vinyl and in designing windows has led us to recognize the limitations of vinyl.

### Introducing Fibrex™ material

After years of intensive research and development that include over two dozen patents, Andersen introduces Fibrex™ material— a revolutionary composite that combines the strength and stability of wood with the low-maintenance features of vinyl. Revolutionary in every sense of the word, Fibrex material not only consistently performs to exacting specifications, but saves raw materials by utilizing reclaimed wood fiber from our 65-acre Andersen Corporation manufacturing operations in Bayport, Minnesota.

What is Fibrex material?

Fibrex material is a blend of wood fiber and a specially formulated thermoplastic polymer.

Over seven

years in development, Fibrex material is a whole family of materials—each formulation customized to meet the unique needs of many window products and components. For Renewal by Andersen windows, we incorporate over 40% reclaimed materials from our other window manufacturing operations into the formulation.

The first Fibrex material part used in an Andersen product was the sill support for our Frenchwood® hinged patio door. This part, shown in the photo at right, makes use of 100% reclaimed materials. Incorporated into the patio door in 1993, the Fibrex material sill support has performed exceptionally well in this demanding role.

Andersen\* Frenchwood\*
Hinged Patio Door cross section
with a Fibrex material sill support.

### The "material" difference

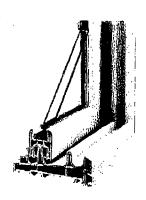
Renewal by Andersen® replacement windows made of Fibrex material offer several clear advantages.

Strength - Because Fibrex material is strong we can make our sash and frames narrower and allow up to 20% more glass atca than many competitor's windows.

Insulation - Fibrex material has superior thermal insulating properties which, combine I with Andersen High Performance™ glass, help keep your home warmer in winter and cooler in summer.

Low Maintenance - Since Fibrex material never needs scraping or painting, your windows will continue to look beautiful for years to come.

This "material" difference makes Renewal by Andersen windows the best replacement windows you can buy. "Fibrex" material
is revolutionary
in every sense of
the word"



Renewal by Andersen Fibrex material Gliding Window corner section.

> COMPONENTS

# Engineered Wood

# **Seeing Increased Industry Demand**

Advances in adhesives technology, manufacturing processes, and wood science have led to some significant performance enhancements

By E.L. (Pete) Walker, J.M. Huber Engineered Woods

dvances in materials, designs, and manufacturing have produced a generation of fenestration products that substantially outperform those that were produced as little as 10 years ago. Products are more energy efficient, more durable, more weathertight, more secure, and easier to operate than ever. And, they deliver all of this while requiring less maintenance from the consumer than ever before.

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Substantial advances in the materials used in nearly every component of a window, door, or skylight have provided manufacturers the ability to produce this generation of better performing products. Material advances have been made in glass, metals, and plastics. Perhaps nowhere have the changes been more pronounced than in one of the oldest materials used in the industry-wood.

Manufacturers have expanded into a wide variety of species utilized in the production of wood windows and doors. This has been driven by a variety of factors, including the need to maintain quality of supply in the face of greater reliance on new-growth timber, the need to control escalating wood costs, and the desire to produce better-performing, more durable wood window and door products.

Better growing and harvesting methods, combined with improved milling, drying, and treating techniques, have produced some improvements in solid lumber components. Improvements in finger-jointing and adhesives technology have helped improve yields in wood component usage. But perhaps the greatest advances in wood components have been made in the area of engineered wood products.

The idea of somehow improving on wood has been around a long time, perhaps as long as wood itself. Coatings, treatments, and other methods have been employed in a variety of unique ways over the years to accomplish that objective. What is new are the advances made in the last few years in engineered wood products technology.

The concept is simple. Take a piece of wood and "reconfigure" it to deliver a specific set of properties that enhance its performance in one, or several, designated areas. Over the years, a variety of methods have be in employed to accomplish this. Everything from simply gluing two pieces of wood together to enhance strength or achieve a larger dimensional piece to more sophisticate d, multi-layered laminating (plywood, laminated lumber, et !.) to increase strength and stiffness, achieve greater: ze, support greater loads, or achieve other specific objectives.

Today's engineered wood products i enefit from significant advances in adhesives technology, wood forming, content utilization and control, advances is manufacturing techniques and capabilities, and an eve "greater understanding in wood science that have pre-luced some remarkable performance enhancements. Sign ficant research and development within the industry has c lminated in a wide variety of new products being available not only to window and door manufacturers, but to the fur liture, cabinet, transportation, and construction industries s well.

### WHAT ARE ENGINEERED WOOD PRODU :TS?

The term "engineered wood produc s" refers to woodbased products that are combined with various resins,

> An engineered wood product can be manufactured to provide the specific properties you are looking for.

> glues, and adhesives to produce solid ood substitutes. "Engineered" implies being designed to meet a specific task. The product is engineered within specific strength and durability parameters to achieve optim 1m efficiency for a specific end use.

Engineered wood products are composites. They combine a variety of different materials with wood fiber to produce a product that is as strong or stronger than the traditional material being replaced. Just as different species of wood are recognized as more desirable than others for given jobs, different engineered wood products are designed for specific types of applications.

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Engineered wood products encompass a number of product types. One of the larger and better known categories is laminated veneer lumber (LVL). This type of product is used for everything from headers and long laminated wood beams in construction to window jamb parts, door stiles, and other fenestration components. Other engineered wood categories include laminated-strand lumber and oriented-strand lumber, which encompass everything from oriented-strand board (OSB) building panels to structural composite lumber (SCL) products utilized throughout the millwork industry.

This last category of product is finding ever-increasing use in the residential construction industry and industrial markets (including millwork applications), where it has become the product of choice, largely replacing plywood in many applications.

What distinguishes an engineered wood product from other manufactured wood products such as MDF (medium density fiberboard) and particle board is that engineered wood products are designed/engineered/produced to provide certain structural properties, while the basic manufactured wood products have little or no true structural characteristics. The merely woo fibers pressed together with resins to form a board or ther shaped product. While these types of manufactured wood products have applications in the fenestration industry, their lack of strength limits their utility as a solid wood splacement.

### BENEFITS FOR MANUFACTURE IS

Why would a manufacturer se an engineered wood product? What benefits do the provide? An engineered wood product can be produce I (engineered) to deliver a specific set of properties. Say ou wanted greater stiffness, enhanced screw-holding capal ilities, greater water resistance, enhanced dimensional sability, more flexibility, or other specific properties. An engineered wood product can be manufactured to provide the specific properties you are looking for in your componen and finished product.

Because engineered wood; roducts are a manufactured product, they can be made to pecific sizes, densities, etc. They also can provide consistent product quality and uniformity with no low-density pock its, core voids, or defects common to conventional lum er and plywood products. This provides the manufacture r with improved yields and greatly reduced waste, as virtuilly 100 percent of the product is usable.

Depending on the product and the manufacturer, engineered wood can deliver the lest of wood's qualities, such as easy machining, strength, 2 id screw-holding capability.

FRONT VIEW (NO replacements plan.





SIDE VIEW (SONTH)

WINDOWS TO BE REPLACED ARE CIRCLED



SIDE VIEW (SOUTH) KITCHEN WINDOWS (both to be replaced)



REAR VIEW (WEST)



NORTH SIDE VIEW