

MONTGOMERY COUNTY HISTORIC PRESERVATION COMMISSION
STAFF REPORT

Address:	54 Walnut Avenue, Takoma Park	Meeting Date:	9/20/2023
Resource:	Contributing Resource Takoma Park Historic District	Report Date:	9/13/2023
Applicant:	Steve Shira	Public Notice:	9/6/2023
Review:	HAWP	Tax Credit:	Pending
Permit Number:	1038899	Staff:	John Liebertz

PROPOSAL: Fence installation, hardscape alteration, and front porch alteration; additional after the fact approvals for shed installation, grading, and other yard alterations.

STAFF RECOMMENDATION

Staff recommends that the Historic Preservation Commission (HPC) **approve with four (4) conditions** the HAWP application with final review and approval delegated to staff:

1. The applicant shall submit an updated site plan that shows the location of the proposed fence and gates, and specification for the proposed gates.
2. The applicant shall use wood, tongue-and-groove, porch flooring and submit materials specifications.
3. The applicant shall submit design and material specifications for the in-kind (wood) replacement of the porch stair, balustrade, railings, etc. This shall include the profile of the proposed railings.
4. The applicant shall submit material specifications for the proposed permeable gravel along the asphalt driveway.

ARCHITECTURAL DESCRIPTION

SIGNIFICANCE: Contributing Resource within the Takoma Park Historic District
STYLE: Cottage
DATE: 1919

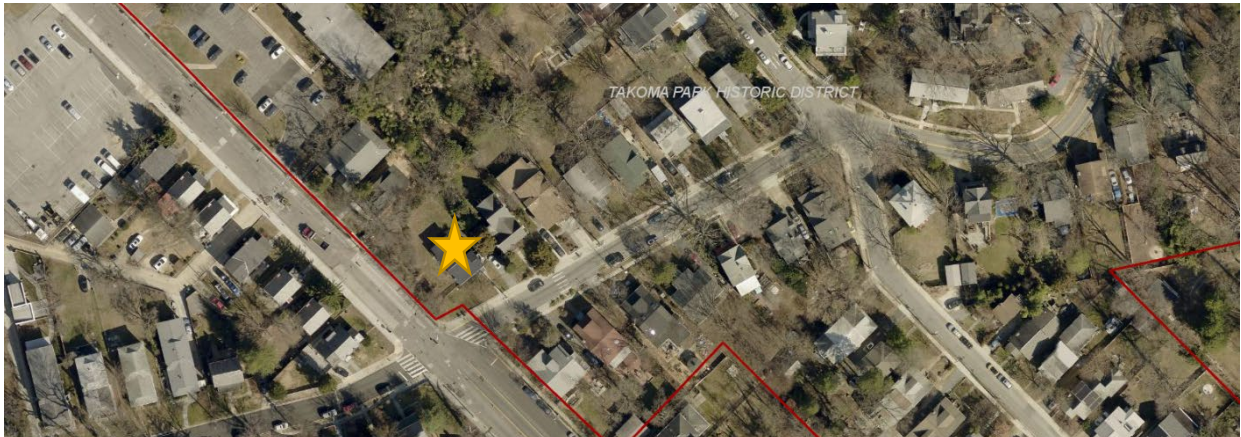


Figure 1: The subject property at 54 Walnut Avenue (noted with the yellow star) is located at the northeastern corner of the intersection of Walnut Avenue and Eastern Avenue in the Takoma Park Master Plan Historic District (outlined in red).

PROPOSAL

The applicant proposes to: 1) remove an existing wire and wood fences and install a 4' tall, picket, wood fence; 2) demolish the ca. 1980 front porch addition (bump-out); 3) replace the existing wood porch flooring with composite decking or wood flooring; 4) demolish the existing concrete walkway from Walnut Avenue to the front porch; 5) install a new stone landing and stair that provides access between the front porch and driveway; and 6) add a permeable gravel border to the western and southern edges of the existing asphalt driveway.

The applicant requests the following after-the-fact approvals: 1) installation of shed; 2) addition of a dry creek bed with cut logs to the south and west of the house as part of a stormwater management plan; 3) installation of a 350 sq. ft. rain garden as part of a stormwater management plan; 4) addition of a natural stone water feature towards the southwest corner of the property; 5) installation of an irregular flagstone pathway from the driveway to the rear of the property; 6) addition of a stone staircase from Eastern Avenue to the rear property.

APPLICABLE GUIDELINES

The Historic Preservation Office and Historic Preservation Commission (HPC) consult several documents when reviewing alterations and new construction within the Takoma Park Historic District. These documents include the historic preservation review guidelines in the approved and adopted amendment for the *Takoma Park Historic District (Guidelines)*, *Montgomery County Code Chapter 24A (Chapter 24A)*, and *the Secretary of the Interior's Standards for Rehabilitation (Standards)*. The pertinent information in these three documents is outlined below.

Takoma Park Historic District Guidelines

There are two broad planning and design concepts which apply to all categories. These are:

- The design review emphasis will be restricted to changes that are all visible from the public right-of-way, irrespective of landscaping or vegetation (it is expected that the majority of new additions will be reviewed for their impact on the overall district), and
- The importance of assuring that additions and other changes to existing structures act to reinforce and continue existing streetscape, landscape, and building patterns rather than to impair the character of the historic district.

A majority of the buildings in the Takoma Park Historic District have been assessed as being "Contributing Resources." While these buildings may not have the same level of architectural or historical significance as Outstanding Resources or may have lost some degree of integrity, collectively, they are the basic building blocks of the Takoma Park district. They are important to the overall character of the district and the streetscape due to their size, scale, and architectural qualities, rather than for their particular architectural features.

Contributing Resources should receive a more lenient level of design review than those structures that have been classified as Outstanding. This design review should emphasize the importance of the resource to the overall streetscape and its compatibility with existing patterns rather than focusing on a close scrutiny of architectural detailing. In general, however, changes to Contributing Resources should respect the predominant architectural style of the resource.

The following guidance which pertains to this project are as follows:

- All exterior alterations, including those to architectural features and details, should be generally consistent with the predominant architectural style and period of the resource and should preserve the predominant architectural features of the resource; exact replication of existing details and features is, however, not required.
- Minor alterations to areas that do not directly front on a public right-of-way -such as vents, metal stovepipes, air conditioners, fences, skylights, etc. should be allowed as a matter of course; alterations to areas that do not directly front on a public right-of-way which involve the replacement of or damage to original ornamental or architectural features are discouraged but may be considered and approved on a case-by-case basis.
- Some non-original building materials may be acceptable on a case-by-case basis; artificial siding on areas visible to the public right-of-way is discouraged where such materials would replace or damage original building materials that are in good condition.
- Alterations to features that are not visible at all from the public right-of-way should be allowed as a matter of course.
- All changes and additions should respect existing environmental settings, landscaping, and patterns of open space.

Montgomery County Code, Chapter 24A-8

The following guidance which pertains to this project are as follows:

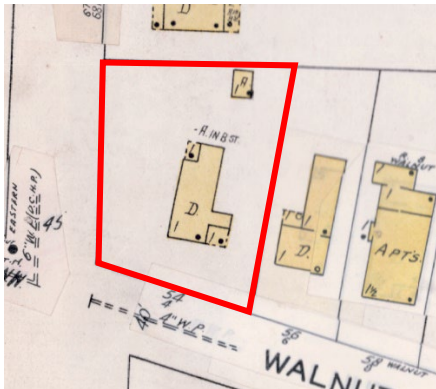
- (b) The commission shall instruct the director to issue a permit, or issue a permit subject to such conditions as are found to be necessary to ensure conformity with the purposes and requirements of this chapter, if it finds that:
 - (1) The proposal will not substantially alter the exterior features of an historic site or historic resource within an historic district; or
 - (2) The proposal is compatible in character and nature with the historical, archeological, architectural or cultural features of the historic site or the historic district in which an historic resource is located and would not be detrimental thereto or to the achievement of the purposes of this chapter;
 - (3) The proposal would enhance or aid in the protection, preservation and public or private utilization of the historic site or historic resource located within an historic district in a manner compatible with the historical, archeological, architectural or cultural value of the historic site or historic district in which an historic resource is located; or
- (d) In the case of an application for work on an historic resource located within an historic district, the commission shall be lenient in its judgment of plans for structures of little historical or design significance or for plans involving new construction, unless such plans would seriously impair the historic or architectural value of surrounding historic resources or would impair the character of the historic district. (Ord. No. 9-4, § 1; Ord. No. 11-59.)

Secretary of the Interior's Standards for Rehabilitation

The Secretary of the Interior defines rehabilitation as “the act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features, which convey its historical, cultural, or architectural values.” The applicable *Standards* are as follows:

2. The historic character of a property will be retained and preserved. The removal of distinctive materials or alterations of features, spaces and spatial relationships that characterize a property will be avoided.
9. 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.
10. New additions and adjacent or related new construction will be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

STAFF DISCUSSION



The subject property is a Contributing Resource to the Takoma Park Historic District and features a one-story, cottage with a side-gable roof. The house is located on a corner lot at the intersection of Walnut Avenue and Eastern Avenue. Staff records suggests that a side porch was added in 1925. The Sanborn Fire Insurance Maps (1927-1963) shows minimal alterations to the overall form of the house and a no longer extant garage in the northwest corner of the property. The Historic Preservation Commission approved HAWP #909007 for the installation of a Tesla solar roof in 2020.¹ Staff approved HAWP #1040295 for the removal of three invasive trees in 2023.



Figure 2: Sanborn Fire Insurance map showing the subject property (outlined in red). View of the façade of the house, undated (left) and 2023 (right). Note the presence of an accessibility ramp prior to the construction of the non-historic porch addition (bump-out).

¹ For more information, <https://montgomeryplanning.org/wp-content/uploads/2020/04/II.K-54-Walnut-Avenue-Takoma-Park.pdf>.

Proposed – Removal of Wire Fence and Installation of Picket Fence

Staff finds that the installation of the cedar picket fence with cap board to be consistent with the applicable guidelines and recommends approval with conditions. The HPC regularly approves cedar picket fences of the proposed height (*Figure 3*). The fence is compatible with the streetscape and patterns of open space associated with Takoma Park. Staff requests that the applicant submit elevations and specifications for the proposed gates and note the location of the gate on Eastern Avenue on the landscape plan.



**Figure 3: Example of the proposed fence.
Source: Applicant.**

Proposed — Demolition of the Porch Addition

Staff finds that the demolition of the non-historic porch addition (bump-out) meets the applicable guidelines and recommends approval. As shown on the Sanborn Fire Insurance Maps and earlier photographs of the house, this is not original to the building and likely dates to the 1980s. Photographs depict its use as the landing for a no longer extant accessibility ramp (*Figure 2*). The removal of this element would restore the porch to its original design.



**Figure 4: View of the porch addition to be demolished.
Source: Montgomery Planning.**

Proposed — Porch Floor and Stair Replacement (Millboard)

The applicant proposes to replace the existing tongue-and groove, wood, porch flooring with Millboard (composite) or in-kind with wood. The applicant requested to discuss the substitute material with the HPC. Staff finds the substitute material to be incompatible with the character of the resource and historic district and is not an acceptable substitute for wood. Staff finds the replacement of the porch flooring with wood to be consistent with the applicable guidelines and recommends approval with conditions.



Figure 5: View of the front porch flooring.
Source: Montgomery Planning.

Staff agrees that the condition of the existing porch flooring warrants its replacement (*Figure 5*). The City of Takoma Park has cited the property owner for code violations. The next question is what material or materials are appropriate for this application. The typical requirement for front porch replacements for Contributing Resources in the Takoma Park Historic District is that they be replaced in-kind. This requirement comes from the finding that front porches are character defining features for the resources and Standard 6 states, "...Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture and, where possible, materials." In this instance, wood is the appropriate material. The HPC tends to avoid prescriptive solutions by specifying a species of wood, only that the material be wood and installed with a finish that is as close to the historic finish as possible. This work would also qualify for the County and State historic rehabilitation tax credits of 25% and 20% respectively.

Staff finds that there are steps a property owner can take to extend the life of porch decking. First, while Staff is unaware of the species of the existing porch, a more durable wood species can be selected. The National Park Service compiled a list of wood species that could be utilized in *Preservation Brief #45 – Preserving Historic Wood Porches*.² While the availability of some of the wood species may be out of date, it does provide some background into other options in the marketplace. Second, the wood can be prepped to protect the wood from the elements. Applying primer on all six sides of the porch decking before painting can create a barrier that will help to protect the wood from water and ultraviolet light damage. Finally, the applicant can incorporate an inspection of the porch decking as part of the house's cyclical maintenance. Finding areas of wood rot or worn paint before they have an opportunity to spread will help the material last longer.

Regarding the proposed replacement material, staff finds that Millboard is not a compatible substitute for wood. According to Millboard, the product is: 1) made from wood-free polyurethane resin combined with mineral stone to create a resin mineral board; 2) has a solid-core; 3) hand-molded from wood rather than formed via extrusion; and 4) can be sawn and cut with standard woodworking tools. The boards are 1.25" deep and available with a 5" or 7"-width. The product is finished with Lastane, a proprietary rubberized coating that provides traction. There are presently eight different boards available (Burn Cedar, Coppered Oak, Antique Oak, etc.), but the most relevant sample provided is the Brushed Basalt. Millboard suggests

² For more information, <https://www.nps.gov/orgs/1739/upload/preservation-brief45-wood-porches.pdf>.

that this board best emulates the appearance of painted wood flooring (*Figure 6*). Of note, paints and stains will not adhere to the product.



Figure 6: Example of Brushed Basalt Millboard flooring.
Source: Millboard.

Staff finds that the dimensions and appearance of Millboard are close to but do not replicate historic wood porch flooring. In the early twentieth century, most tongue-and-groove porch flooring consisted of 1" (depth) by 3¼" (width across face), but the width could vary. In comparison, Millboard decking is wider and is not tongue-and-groove. The company recommends a 1/8" space between the side of the boards (*Figure 7*). This yields a different design and appearance than traditional porch flooring. In addition, staff finds the appearance and physical characteristics of the product does not match wood porch flooring. The product's attempt to replicate the appearance of wood creates a finish and texture incompatible with smooth, painted, porch flooring.



Figure 7: Example of Millboard installation.
Source: Millboard (via Youtube).

Evaluating the proposal under Chapter 24A of County Code, staff finds that the change from wood flooring to Millboard is an inappropriate substitute material. Specifically, staff finds that:

- 1) the proposed material would substantially alter the exterior features of a historic resource, contra 24A-8(b)(1);
- 2) the proposed material is an incompatible substitute for wood porch flooring, contra 24A-8(b)(2);
- 3) the proposed work would not provide additional protection for the site in comparison to wood (24A-8(b)(3);
- 4) the property owners would not be deprived of reasonable use or suffer “undue hardship” of their property (24A-8(b)(5)) if the material is not approved;
- 5) that in applying a balancing test, the public is not better served by permitting the substitute material, per 24A-8(b)(6); and
- 6) that the Contributing Resources to the Takoma Park Historic District does not satisfy the requirement of a resource “of little historical or design significance or for plans involving new construction,” there 24A-8(d) does not apply.

For these reasons, staff recommends the replacement of the porch flooring in-kind with wood. Staff request the applicant submit additional specifications for the wood replacement material and information about the porch balustrade, stair, and stair railing.

Proposed — Demolition of Concrete Walkway and New Stone Landing and Stair

Staff finds the removal of the concrete walkway to be consistent with the applicable guidelines and recommends approval (Figure 8). The removal of this feature would not adversely affect the character defining features of the individual resource or the surrounding district.

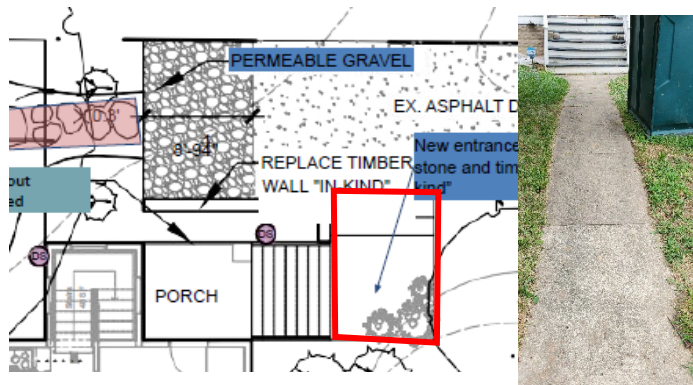


Figure 8: Site plan showing the proposed stone landing and stair (outlined in red), left. View of the concrete walkway to be demolished, right.

Staff finds the proposed 8’x8’ stone landing and stair connecting the front porch to the driveway to be consistent with the applicable guidelines and recommends approval with conditions (Figure 8). The HPC regularly approves the use of stone walkways, landings, and walkways in the historic district, but staff requests additional design and material specifications for the stair and material specifications for the landing.

Proposed — Permeable Gravel Border at Driveway

Staff finds the proposed permeable gravel driveway installed to the south and west of the existing asphalt driveway to be consistent with the applicable guidelines and recommends approval with conditions (Figure 9). The permeable surface would aid with stormwater management issues and would not adversely affect the character defining open space or landscape of the individual site or the surrounding historic district. Staff requests that the applicant submit specifications for the type/size of the gravel.

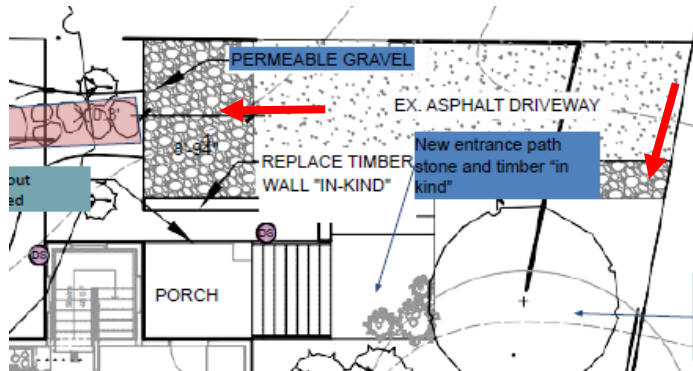


Figure 9: View of the proposed permeable gravel border (red arrows).



Figure 10: View of the installed shed.

After-the-Fact Approval — Installation of a Shed

Staff finds the installed shed (8'x14') to be consistent with the applicable guidelines and recommends approval (*Figure 10*). The property formerly included a no longer extant garage in the northwest corner of the property (*Figure 2*). The new wood-frame, front-gable, shed rests on a wood platform, has orientated strand board walls, and an asphalt shingle roof. The front elevation has a pair of double-leaf doors with a louvered vent in the upper gable end. The side elevation features paired, one-over-one with four-over-four simulated divided light, double-hung, vinyl-sash windows and a single-leaf door. The scale, form, design, and placement of the shed is compatible with the individual resource and the surrounding historic district.

After-the-Fact Approval —Alterations to the Rear Yard

Staff finds the installed 350 sq. ft. rain garden, dry creek bed, stone water feature, flagstone stair and walkway, and regrading the yard away from the house to be consistent with the applicable guidelines and recommends approval (*Figure 11*). The changes in grade, rain garden, and dry creek bed will alleviate stormwater management issues for the property and aid in the long-term preservation of the resource. While the amount of work completed is extensive, all these elements are in the rear of the property where visibility will be partially obscured by the proposed fence. The natural stone water feature is built into the hillside and is not readily visible from the public rights-of-way. In addition, the HPC regularly approves the use of flagstone for walkways and pathways in the historic district. There are no trees proposed for removal that require review by the HPC. Overall, these elements would not adversely affect the character defining open space associated with Takoma Park. It is incumbent on the applicant to ensure that the flagstone stair accessing Eastern Avenue complies with all property and building codes and that no railings are required.



Figure 11: View of the stone water feature (left) and landscape alterations in the rear yard (right). Source: Montgomery Planning and Applicant.

After full and fair consideration of the applicant's submission, staff finds the proposal, as modified by the condition, consistent with the Criteria for Issuance in Chapter 24A-8(b), (1), (2), (3), and (d), having found the proposal is consistent with the *Secretary of the Interior's Standards for Rehabilitation* #2, 9, and 10, and *Takoma Park Historic District Guidelines*.

STAFF RECOMMENDATION

Staff recommends that the Commission **approve with four (4) conditions** the HAWP application:

1. The applicant shall submit an updated site plan that shows the location of the proposed fence and gates, and specification for the proposed gates.
2. The applicant shall use wood, tongue-and-groove, porch flooring and submit materials specifications.
3. The applicant shall submit design and material specifications for the in-kind (wood) replacement of the porch stair, balustrade, railings, etc. This shall include the profile of the proposed railings.
4. The applicant shall submit material specifications for the proposed permeable gravel along the asphalt driveway.

under the Criteria for Issuance in Chapter 24A-8(b), (1), (2), (3) and (d), having found that the proposal, as modified by the condition, is consistent with the *Takoma Park Historic District Guidelines*, and therefore will not substantially alter the exterior features of the historic resource and is compatible in character with the district and the purposes of Chapter 24A;

and with the *Secretary of the Interior's Standards for Rehabilitation #2, 9, and 10*.

and with the general condition that the applicant shall present an electronic set of drawings, if applicable, to Historic Preservation Commission (HPC) staff for review and stamping prior to submission for the Montgomery County Department of Permitting Services (DPS) building permits;

and with the general condition that final project design details, not specifically delineated by the Commission, shall be approved by HPC staff or brought back to the Commission as a revised HAWP application at staff's discretion;

and with the general condition that the applicant shall notify the Historic Preservation Staff if they propose to make any alterations to the approved plans. Once the work is completed the applicant will contact the staff person assigned to this application at 301-563-3400 or john.liebertz@montgomeryplanning.org to schedule a follow-up site visit.



APPLICATION FOR HISTORIC AREA WORK PERMIT
HISTORIC PRESERVATION COMMISSION
301.563.3400

FOR STAFF ONLY:
HAWP#
DATE ASSIGNED

APPLICANT:

Name: E-mail:
Address: City: Zip:
Daytime Phone: Tax Account No.:

AGENT/CONTACT (if applicable):

Name: E-mail:
Address: City: Zip:
Daytime Phone: Contractor Registration No.:

LOCATION OF BUILDING/PREMISE: MIHP # of Historic Property

Is the Property Located within an Historic District? Yes/District Name
No/Individual Site Name

Is there an Historic Preservation/Land Trust/Environmental Easement on the Property? If YES, include a map of the easement, and documentation from the Easement Holder supporting this application.

Are other Planning and/or Hearing Examiner Approvals /Reviews Required as part of this Application? (Conditional Use, Variance, Record Plat, etc.?) If YES, include information on these reviews as supplemental information.

Building Number: Street:

Town/City: Nearest Cross Street:

Lot: Block: Subdivision: Parcel:

TYPE OF WORK PROPOSED: See the checklist on Page 4 to verify that all supporting items for proposed work are submitted with this application. Incomplete Applications will not be accepted for review. Check all that apply:

- New Construction, Addition, Demolition, Grading/Excavation, Deck/Porch, Fence, Hardscape/Landscape, Roof, Shed/Garage/Accessory Structure, Solar, Tree removal/planting, Window/Door, Other:

I hereby certify that I have the authority to make the foregoing application, that the application is correct and accurate and that the construction will comply with plans reviewed and approved by all necessary agencies and hereby acknowledge and accept this to be a condition for the issuance of this permit.

Signature: Steven A Shira

Signature of owner or authorized agent

Date

HAWP APPLICATION: MAILING ADDRESSES FOR NOTIFYING
[Owner, Owner's Agent, Adjacent and Confronting Property Owners]

Owner's mailing address	Owner's Agent's mailing address
Adjacent and confronting Property Owners mailing addresses	

Description of Property: Please describe the building and surrounding environment. Include information on significant structures, landscape features, or other significant features of the property:

Description of Work Proposed: Please give an overview of the work to be undertaken:

Work Item 1: _____	
Description of Current Condition:	Proposed Work:

Work Item 2: _____	
Description of Current Condition:	Proposed Work:

Work Item 3: _____	
Description of Current Condition:	Proposed Work:

**HISTORIC AREA WORK PERMIT
CHECKLIST OF
APPLICATION REQUIREMENTS**

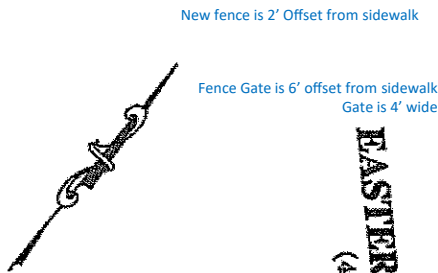
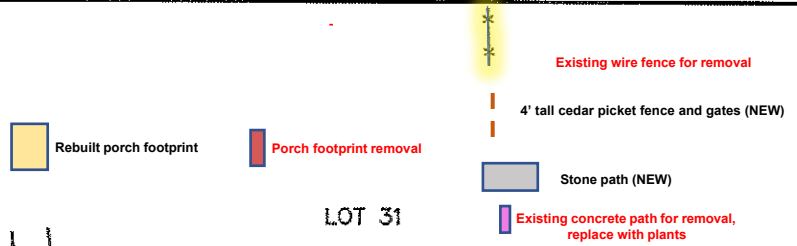
	Required Attachments						
Proposed Work	I. Written Description	2. Site Plan	3. Plans/ Elevations	4. Material Specifications	5. Photographs	6. Tree Survey	7. Property Owner Addresses
New Construction	*	*	*	*	*	*	*
Additions/ Alterations	*	*	*	*	*	*	*
Demolition	*	*	*		*		*
Deck/Porch	*	*	*	*	*	*	*
Fence/Wall	*	*	*	*	*	*	*
Driveway/ Parking Area	*	*		*	*	*	*
Grading/Excavation/ Landscaping	*	*		*	*	*	*
Tree Removal	*	*		*	*	*	*
Siding/ Roof Changes	*	*	*	*	*		*
Window/ Door Changes	*	*	*	*	*		*
Masonry Repair/ Repoint	*	*	*	*	*		*
Signs	*	*	*	*	*		*

CONSUMER INFORMATION NOTES:

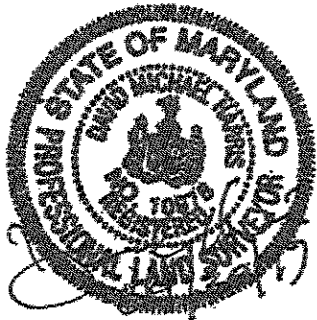
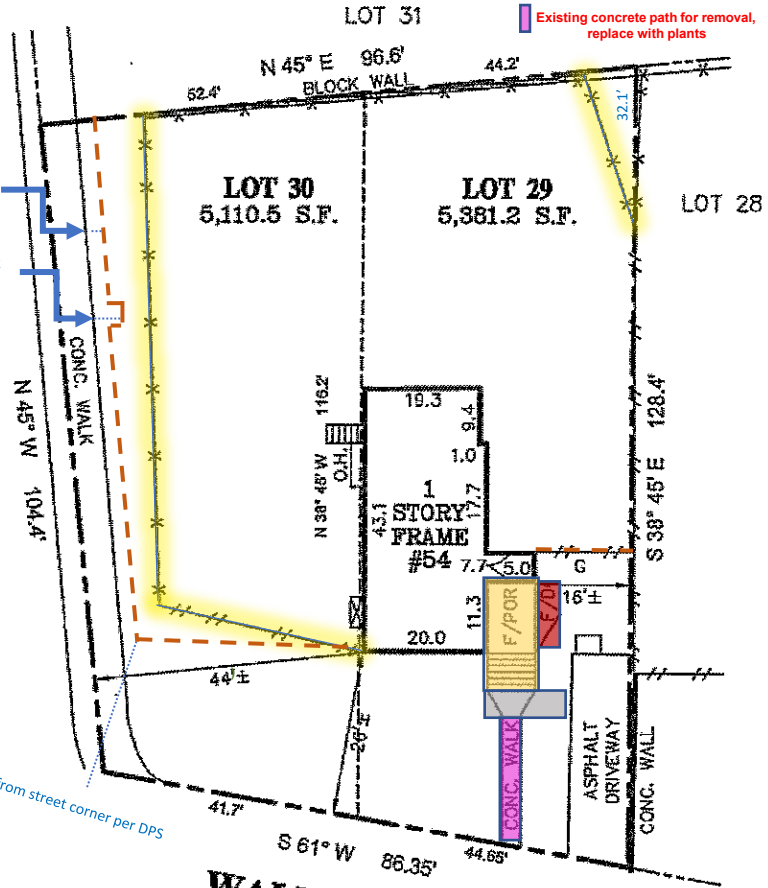
1. This plan is a benefit to a consumer insofar as it is required by a lender or a title insurance company or its agent in connection with contemplated transfer, financing or re-financing.
2. This plan is not to be relied upon for the establishment or location of fences, garages, buildings, or other existing or future improvements.
3. This plan does not provide for the accurate identification of property boundary lines, but such identification may not be required for the transfer of title or securing financing or re-financing.
4. Building line and/or Flood Zone information is taken from available sources and is subject to interpretation of originator.
5. No Title Report furnished.

Notes:

1. Setback distances as shown to the principal structure from property lines are approximate. The level of accuracy for this drawing should be taken to be no greater than plus or minus 3 feet. No Property to all parties concerned.
2. Fences have been located by approximate methods.
3. Total Area = 10,492 S.F. per Tax Records.




EASTERN AVENUE
(40' R/W)



LOCATION DRAWING
LOTS 29 & 30, BLOCK A
THE FIFIELD SUBDIVISION
TAKOMA PARK
MONTGOMERY COUNTY, MARYLAND

David Michael Snider

SURVEYOR'S CERTIFICATE		REFERENCES			SNIDER & ASSOCIATES LAND SURVEYORS 19544 Amaranth Drive Germantown, Maryland 20874 301/948-5100 Fax 301/948-1286 WWW.SNIDERSURVEYS.COM	
"THE INFORMATION SHOWN HEREON HAS BEEN BASED UPON THE RESULTS OF A FIELD INSPECTION PURSUANT TO THE DEED OR PLAT OF RECORD. EXISTING STRUCTURES SHOWN HAVE BEEN FIELD LOCATED BASED UPON MEASUREMENTS FROM PROPERTY MARKERS FOUND OR FROM EVIDENCE OF LINES OF APPARENT OCCUPATION."		PLAT BK.	3			
<i>David Michael Snider</i> MARYLAND PROFESSIONAL LAND SURVEYOR REG. NO. 10678 Expires: 07-26-2020		PLAT NO.	204			
LIBER		DATE OF LOCATIONS		SCALE: 1" = 30'		
FOLIO		WALL CHECK:		DRAWN BY: K.W.L.		
		HSE. LOC.: 9-20-19		JOB NO.: 19-03703		

4' picket fence with capboard

Materials:

2" x 4" x 8' rail

1" x 4" x 8' face board

2" x 4" x 8' cap rail

1" x 6" x 4' (5 1/2" actual) dog ear pickets

4" x 4" x 96" stained and treated posts

1 7/8" aluminum coated nails @ pickets

3" aluminum coated nails @ rails

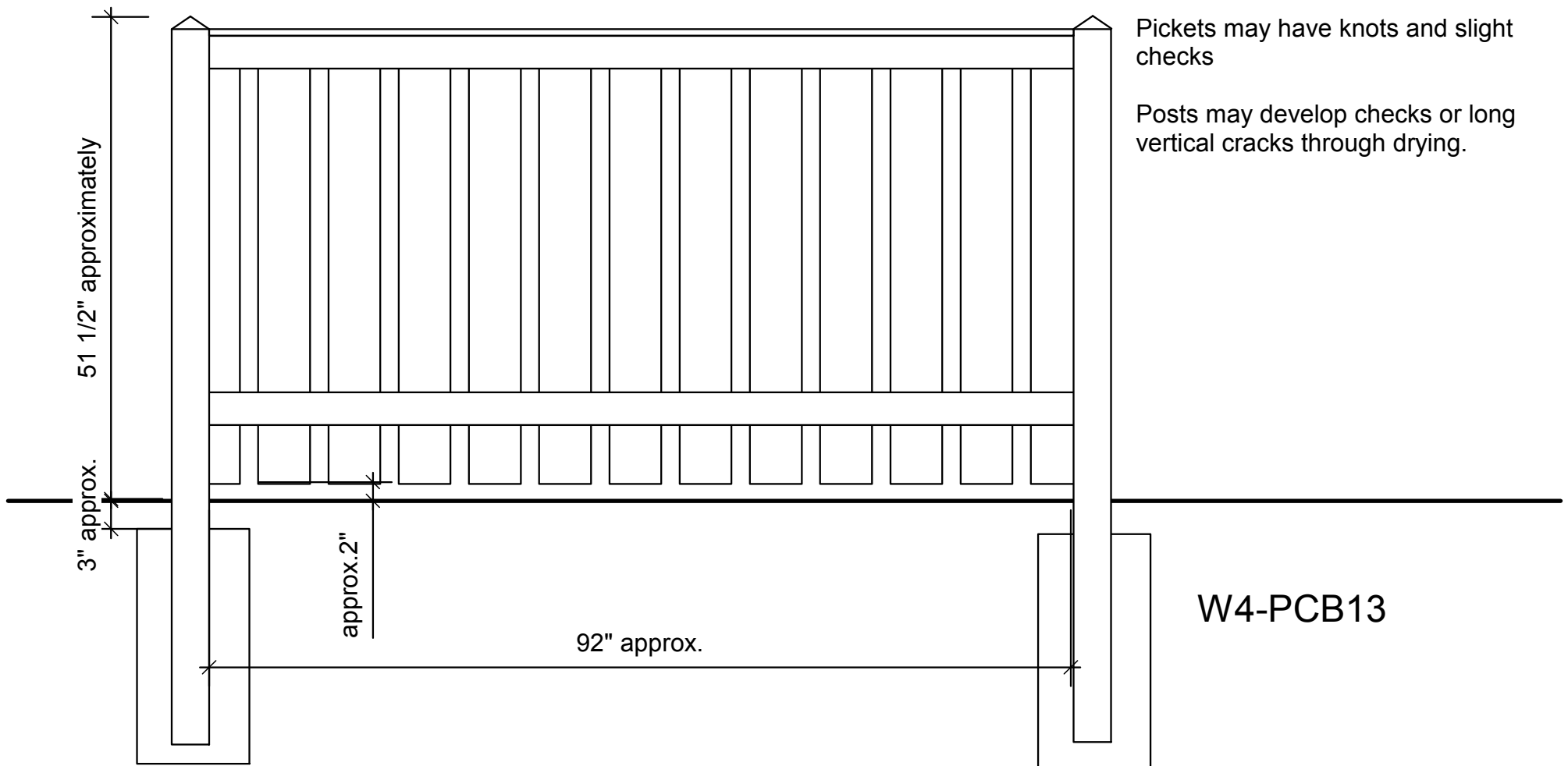
Gaps:

1" approx. @ hinge side of gates

1" approx. @ latch side of gates

2" (+ 4") approx. @ bottom of fence

May be gaps at pickets when dried.



Pickets may have knots and slight checks

Posts may develop checks or long vertical cracks through drying.



**Existing porch
with bump out.
Bump out to be
removed.**



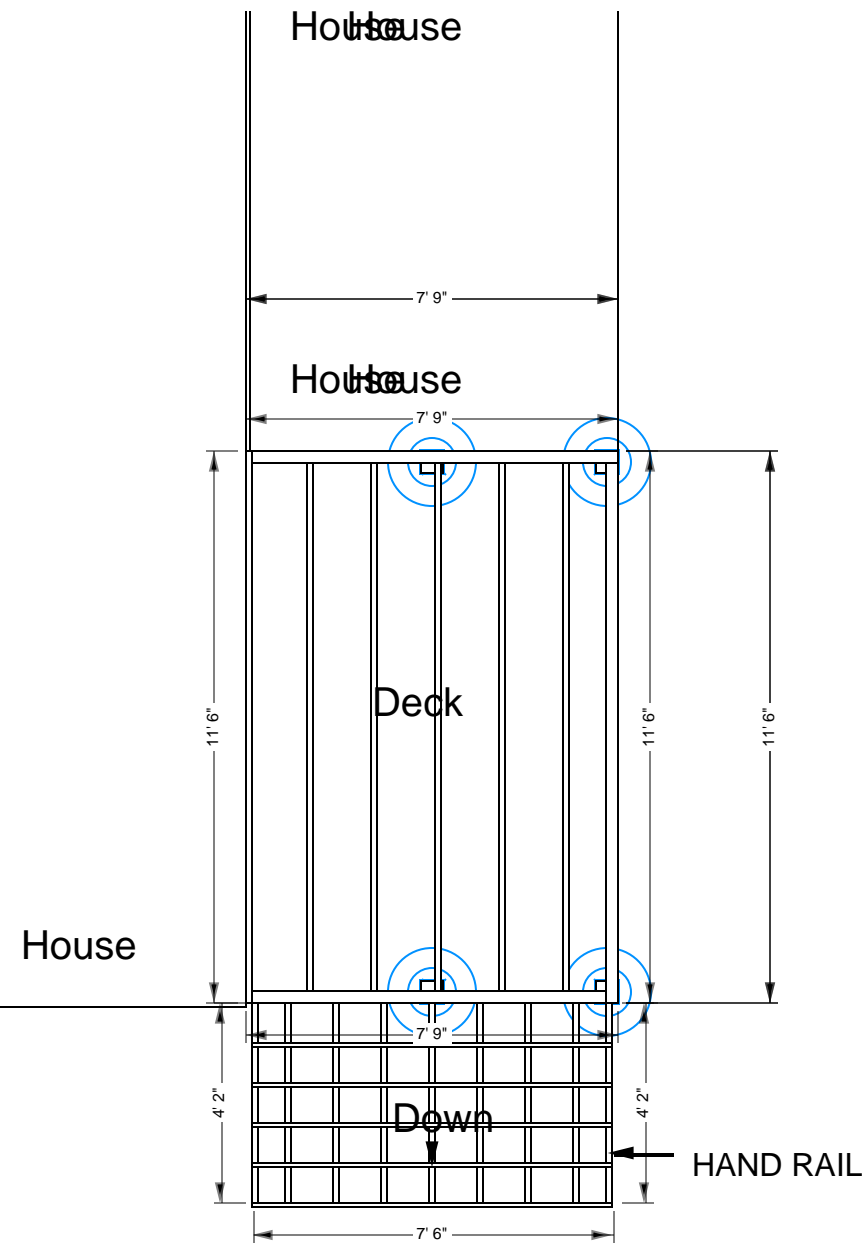
Close up of blue deck color

SCALE: 1/4" = 1' WHEN PRINTED ON 11X17 PAPER

BASED ON THE INTERNATIONAL RESIDENTIAL CODE

STAIRWAY ILLUMINATION: ALL EXTERIOR STAIRWAYS SHALL BE ILLUMINATED AT THE TOP LANDING TO THE STAIRWAY. ILLUMINATION SHALL BE CONTROLLED FROM INSIDE THE DWELLING OR AUTOMATICALLY ACTIVATED.

DISCLAIMER: THIS PLAN IS NOT CONSIDERED COMPLETE UNLESS APPROVED BY YOUR BUILDING INSPECTOR OR STRUCTURAL ENGINEER. BUILDER ACCEPTS ALL RESPONSIBILITY AND LIABILITY. DECKS.COM LLC AND ASSOCIATED SPONSORS ACCEPT NO LIABILITY FOR THE USE OF THIS PLAN.



2x10 Ledger Board to be flashed and bolted (2) 1/2" bolts with washers or equivalent every 16" on center. (See ledger detail in deck construction guide)

Joists to be 2x10 pressure treated southern yellow pine installed 16" on center.

Beams to be 2-2x10 pressure treated southern yellow pine nailed.

Guard Rails to be 36" high with less than 4" openings per IRC code. (See rail detail in deck construction guide)

Stairs to be built max rise 7-3/4" min rise 4" in run 10" per IRC code. (See stair detail in deck construction guide)

Decking to be 5/4x6 Pressure Treated Pine. (Follow manufacturers' installation instructions)

All hardware to be corrosion resistant and installed per manufacturers' instructions.



Total Depth: 48
Base Diameter: 22
Pier Diameter: 12

Footings to be installed to 48" depth as is required by your local building ordinance.
Frost footing sizes based on 55 lbs per square foot tributary loads applied to 1500 psi soil compression capacity (assumed clay soil).
See footing detail in deck construction guide.

DISCLAIMER: ONLY USE #2 OR BETTER PRESSURE TREATED SOUTHERN PINE 2X10 FOR FRAMING MATERIALS. NEVER SUBSTITUTE SOFTWOODS OR COMPOSITE FOR FRAMING MATERIALS.

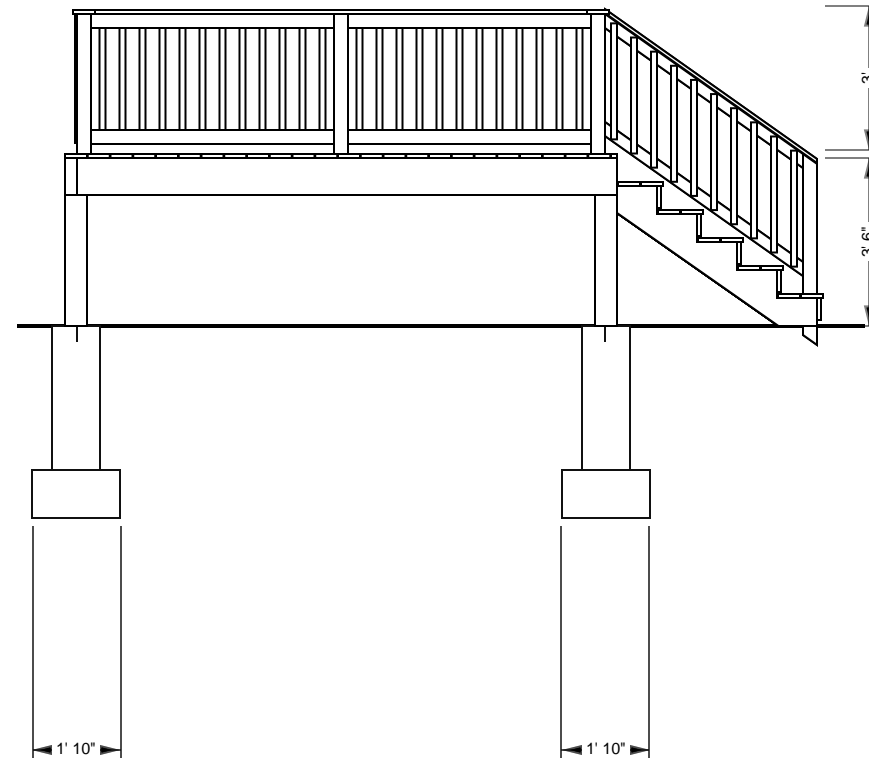


SCALE: 1/4" = 1' WHEN PRINTED ON 11X17 PAPER

BASED ON THE INTERNATIONAL RESIDENTIAL CODE

STAIRWAY ILLUMINATION: ALL EXTERIOR STAIRWAYS SHALL BE ILLUMINATED AT THE TOP LANDING TO THE STAIRWAY. ILLUMINATION SHALL BE CONTROLLED FROM INSIDE THE DWELLING OR AUTOMATICALLY ACTIVATED.

DISCLAIMER: THIS PLAN IS NOT CONSIDERED COMPLETE UNLESS APPROVED BY YOUR BUILDING INSPECTOR OR STRUCTURAL ENGINEER. BUILDER ACCEPTS ALL RESPONSIBILITY AND LIABILITY. DECKS.COM LLC AND ASSOCIATED SPONSORS ACCEPT NO LIABILITY FOR THE USE OF THIS PLAN.



2x10 Ledger Board to be flashed and bolted (2) 1/2" bolts with washers or equivalent every 16" on center. (See ledger detail in deck construction guide)
Joists to be 2x10 pressure treated southern yellow pine installed 16" on center.
Beams to be 2-2x10 pressure treated southern yellow pine nailed.
Guard Rails to be 36" high with less than 4" openings per IRC code. (See rail detail in deck construction guide)
Stairs to be built max rise 7-3/4" min rise 4" in run 10" per IRC code. (See stair detail in deck construction guide)
Decking to be 5/4x6 Pressure Treated Pine. (Follow manufacturers' installation instructions)
All hardware to be corrosion resistant and installed per manufacturers' instructions.

DISCLAIMER: ONLY USE #2 OR BETTER PRESSURE TREATED SOUTHERN PINE 2X10 FOR FRAMING MATERIALS. NEVER SUBSTITUTE SOFTWOODS OR COMPOSITE FOR FRAMING MATERIALS.

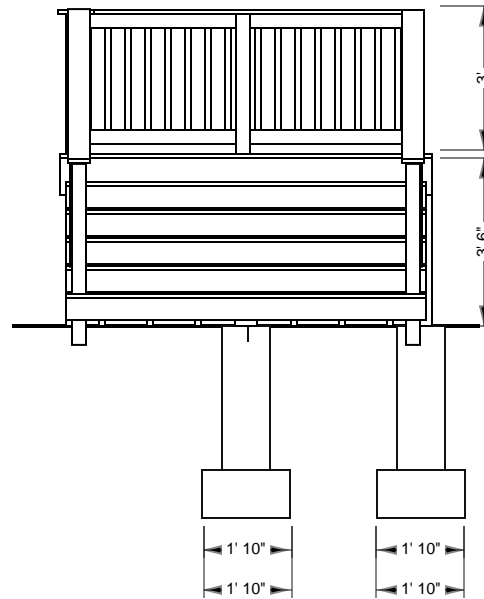


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SCALE: 1/4" = 1' WHEN PRINTED ON 11X17 PAPER

BASED ON THE INTERNATIONAL RESIDENTIAL CODE

STAIR FOOTING REQUIREMENTS
WHERE THE STAIRWAY MEETS GRADE, ATTACH THE STAIR
STRINGERS TO THE STAIR GUARD RAIL POSTS. POSTS SHALL
BEAR ON FOOTINGS



Total Depth: 48
Base Diameter: 22
Pier Diameter: 12

Footings to be installed to 48" depth as is required by your local building ordinance. Frost footing sizes based on 55 lbs per square foot tributary loads applied to 1500 psi soil compression capacity (assumed clay soil). See footing detail in deck construction guide.

DISCLAIMER: USE ONLY 2,500 PSI CONCRETE FOR FROST FOOTING FOUNDATIONS.

Footings to be installed to 48" depth as is required by your local building ordinance. Frost footing sizes based on 55 lbs per square foot tributary loads applied to 1500 psi soil compression capacity (assumed clay soil). See footing detail in deck construction guide.



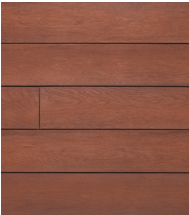
Millboard Enhanced Grain



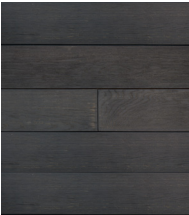
GOLDEN OAK - MDE176G



COPPERED OAK - MDE176C



JARRAH - MDE176J



BURNT CEDAR - MDE176R



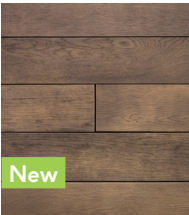
SMOKED OAK - MDE176D



LIMED OAK - MDE176L



BRUSHED BASALT - MDE176B



ANTIQUE OAK - MDE176A

Weights and Measures

Dimensions (W x L x H)	176 x 3600 x 32mm
Weight Per Board	11.4kg
Fixings per board	22
Boards per m ²	1.54
Weight per m ²	17.6kg

The information in this document was correct at the time of going to print, due to our culture of continuous improvement we reserve the right to change the information at any time without prior notice should further tests reveal different results.



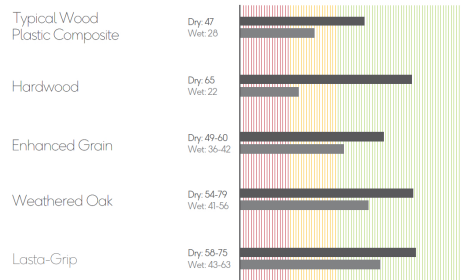
Millboard Product Specification Guide Enhanced Grain



Millboard Polyurethane Profile

Polyurethane Resin & Mineral Board (RMB)

Pendulum Test Values



Splinter-free
No wood content means



Hygienic
It's non porous surface is easy to clean for spills and



Low maintenance
Resists stains from food or drinks spills and algae



Does not warp or rot
No timber content that will rot or be eaten by insects.



UV and weathering stability
Millboard decking has been



'Lost head' fixing
Durafix® fixings are virtually hidden beneath the unique



Low carbon footprint
Independently and UKAS accredited to the ISO 14064-1 Verified
1.31Kg/m



Resistant to algae
Unlike wood, there is no protein content to assist



Slip-resistant
High grip surface much safer



Moulded from real oak
Not extruded like most composites. Millboard



Environmentally friendly
Base materials have low impact on global warming



Lightweight
Easier to handle and install.

Working specification for all decking boards

Polyurethane Resin & Mineral Board (RMB)

Working specification for all decking boards

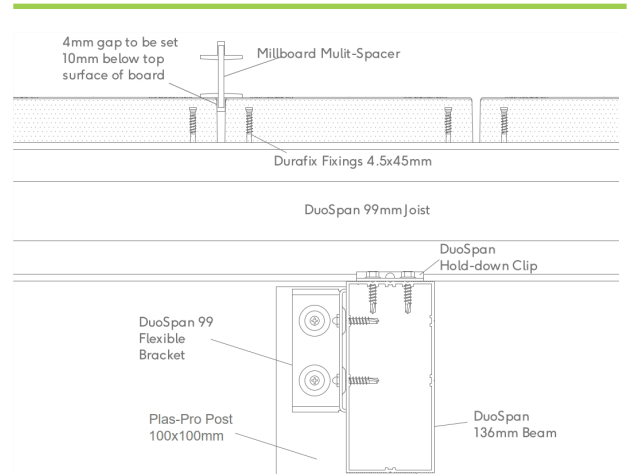
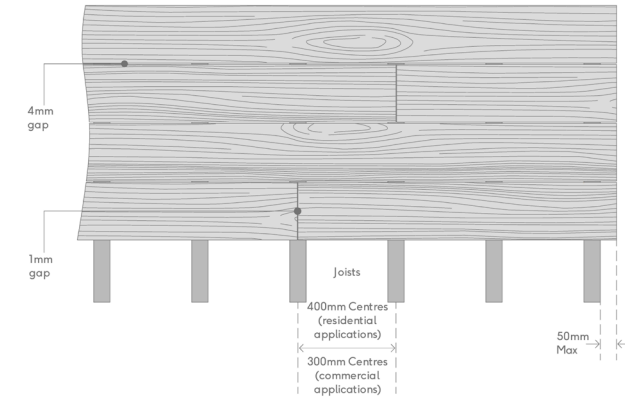
For all applications we recommend our boards are installed with a 4mm gap between the boards and a 1mm gap at butt ends, this is to facilitate drainage. The maximum unsupported overhang for the boards is 50mm, each cut board must be supported by a minimum of three joists. Each board must be screwed down with 2x Durafix fixings where a board crosses a joist, 3x Durafix fixings are recommended at the ends of the boards.

Residential applications (2.5kN/m² uniform distributed load):

Joists must support boards at 400mm centres if boards are at 90° to joists, if boards are at 45° then joists needs to be set at 300mm centres

Commercial applications (5kN/m² uniform distributed load):

Joists must support boards at 300mm centres if boards are at 90° to joists, if boards are at 45° then joists need to be set at 240mm centres.



Millboard Product Specification Guide Enhanced Grain



Technical Data

Physical & Mechanical Properties	Test Standard	Unit	Value/Results
Line Load Bearing Test - Peak Load (180mm width, 300mm span centres)	BS EN ISO 14125	kN	9.32
Line Load Bearing Test - Peak Load (200mm width, 300mm span centres)	BS EN ISO 14125	kN	8.34
Line Load Bearing Test - Peak Load (180mm width, 400mm span centres)	BS EN ISO 14125	kN	6.56
Line Load Bearing Test - Peak Load (200mm width, 400mm span centres)	BS EN ISO 14125	kN	6.64
Line Load Bearing Test - Peak Deflection (180mm width, 300mm span centres)	BS EN ISO 14125	mm	10.75
Line Load Bearing Test - Peak Deflection (200mm width, 300mm span centres)	BS EN ISO 14125	mm	9.39
Line Load Bearing Test - Peak Deflection (180mm width, 400mm span centres)	BS EN ISO 14125	mm	14.39
Line Load Bearing Test - Peak Deflection (200mm width, 400mm span centres)	BS EN ISO 14125	mm	12.36
Line Load Bearing Test - Peak Stress (180mm width, 300mm span centres)	BS EN ISO 14125	Mpa	22.75
Line Load Bearing Test - Peak Stress (180mm width, 400mm span centres)	BS EN ISO 14125	Mpa	18.32
Line Load Bearing Test - Peak Stress (180mm width, 400mm span centres)	BS EN ISO 14125	Mpa	21.36
Line Load Bearing Test - Peak Stress (200mm width, 400mm span centres)	BS EN ISO 14125	Mpa	19.46
Point Load Bearing Test - Peak Load (180mm width, 300mm span centres)	BS EN ISO 14125	kN	7.14
Point Load Bearing Test - Peak Load (200mm width, 300mm span centres)	BS EN ISO 14125	kN	5.78
Point Load Bearing Test - Peak Load (180mm width, 400mm span centres)	BS EN ISO 14125	kN	5.52
Point Load Bearing Test - Peak Load (200mm width, 400mm span centres)	BS EN ISO 14125	kN	5.65
Point Load Bearing Test - Peak Deflection (180mm width, 300mm span centres)	BS EN ISO 14125	mm	5.65
Point Load Bearing Test - Peak Deflection (200mm width, 300mm span centres)	BS EN ISO 14125	mm	11.4
Point Load Bearing Test - Peak Deflection (180mm width, 400mm span centres)	BS EN ISO 14125	mm	19.33
Point Load Bearing Test - Peak Deflection (200mm width, 400mm span centres)	BS EN ISO 14125	mm	15.37
Bending Strength (Textured surface tested)	BS EN 310 :1993	fmN/mm ²	13.3
Bending Strength (Textured surface tested) after UV aging	BS EN 310 :1993	fm N/mm ²	11.4
Modulus of Elasticity (Textured surface tested)	BS EN 310 :1993	Em N/mm ²	896
Modulus of Elasticity (Textured surface tested) after UV aging	BS EN 310 :1993	Em N/mm ²	758
Resistance To Static Indentation	MOAT 27:1983	mm	0.1

Physical & Mechanical Properties	Test Standard	Unit	Value/Results
Soft Body Impact	MOAT 43 :1987	mm	0 (no visible damage)
Hard Body Impact	MOAT 43 :1987	mm	0 (no visible damage)
Impact Resistance After Aging	BS EN 13245-1 : 2010	-	No cracking or damage to top coat
Fixing Pull Out	BS EN 1382 :1999	Fmax (N)	1610.8
Pull Through Resistance of Fixings	BS EN 1383 :1999	Fmax (N)	1124.9
Density	BBA	kg .m ³	529.75
Reaction To Fire	EN13501-1 : 2007 + A1 : 2009	-	BF1 - s1
Slip Resistance - WET (Weathered Oak)	BS 7976-2	PTV`s	41 - 56
Slip Resistance - DRY (Weathered Oak)	BS 7976-2	PTV`s	54 - 79
Slip Resistance - WET (Enhanced Grain)	BS 7976-2	PTV`s	36 - 42
Slip Resistance - DRY (Enhanced Grain)	BS 7976-2	PTV`s	49 - 60
Slip Resistance - WET (Lasta-Grip)	BS 7976-2	PTV`s	43 - 63
Slip Resistance - DRY (Lasta-Grip)	BS 7976-2	PTV`s	58 - 75
Moisture Content	BS EN 322 :1993	(%)	0.6
Ease of Cleaning	BBA	Bleach, Detergent	Completely removed, with no damage or staining
Resistance to Staining	BS EN 438-2 :2005	Acetone	No visible change
Resistance to Staining	BS EN 438-2 :2005	Coffee	Slight change of colour, only visible at certain angles
Resistance to Staining	BS EN 438-2 :2005	Sodium Hydroxide	No visible change
Resistance to Staining	BS EN 438-2 :2005	Hydrogen Peroxide	No visible change
Resistance to Staining	BS EN 438-2 :2005	Shoe Polish	No visible change
Determination of Swelling in Thickness	BS EN 317 :1993	(Gt)	0.1%
Taber Abrasion	ISO 7784-2	mg	261
Tensile Strength Perpendicular to the Plane	BS EN 319 :1993	N/mm ²	1.53
Tensile Strength Perpendicular to the Plane (After Boiling defined in BS EN 1087-1)	BS EN 319 :1993	N/mm ²	1.31
Dimensional Stability	BS EN 318:2002	65-85rh (mm/m)	0.47
Dimensional Stability	BS EN 318:2002	65,30 mm/m	-0.30
Colour Measurement	BS 3900 Parts D8-D10 (ISO 7724 Parts 1-3)	D65	Less Red/Yellower
Acoustic Testing	AS 1191.2002, AS/NZS ISO 717.1:2004, AS ISO 354 - 2006	Rw	51

Millboard Product Specification Guide Enhanced Grain

252FISHe - 1020

millboard®

Live.Life.Outside.

[← Enhanced Grain](#)[Cladding](#)

Brushed Basalt

Brushed Basalt is the most authentic painted-wood-look decking board available. This distinctive option within the Millboard collection is perfect for seamless transitions between indoor and outdoor spaces.

Consciously styled to work with interiors, Brushed Basalt's glamorous blue-grey hues are mesmerising and interplay beautifully with other cool and contemporary tones.





Wood-free decking:

A sustainable choice

millboard.co.uk

millboard®

Live. Life. Outside.

A FOCUS ON SUSTAINABILITY.

Millboard is the world's only hand-moulded Polyurethane wood-alternative decking. Setting out to replicate the beauty of natural timber without any of its inherent flaws, we created Millboard decking – a premium wood-free outdoor flooring. Its wood look is so authentic that most people never realise that it isn't wood, but its wood-free construction ensures the preservation of natural forestland.

Millboard decking is a low-carbon material that has been rigorously tested to ensure our production has minimal impact on the environment. We are proud to be the first premium outdoor flooring company in the world to have its carbon footprint independently verified and UKAS accredited, to the international standard ISO 14064-1 Verified Carbon Footprint Assurance Mark. Sustainability is a crucial element of the company's ethos, and we are committed to producing decking that enhances the outdoors without damaging the planet.

Statistical information within has been sourced from:

Isopa: www.polyurethanes.org | Huntsman: 'Blowing agent options for insulation foam after HCFC phase out'

Isopa: Polyurethane Sustainable Materials | Procedia: Recycling and disposal methods for polyurethane foam waste



LOW CARBON FOOTPRINT

1.31kg CO₂/M² to ISO 14064.

Our manufactured products were verified to the international standard ISO 14064 by a UKAS accredited testing laboratory, resulting in a low carbon footprint of 1.31kg/CO₂ per m². This proves that Millboard has a limiting effect on our contribution to climate change and our environment.



BIOPOLYMERS

Made using renewable biopolymers.

The Lastane layer on the boards is made partly from renewable raw materials, utilising biopolymers/natural oil polyols as opposed to a petroleum-based material. Natural oil polyols are derived from naturally occurring vegetable oils, therefore represent a fully renewable raw material base.



RECYCLED FILLERS

Made using recycled minerals.

Over a third of the raw materials used for making the structural core of Millboard is recycled. These materials have been diverted from waste streams and reprocessed to create premium ingredients for our boards. This helps to sustain the earth's limited resources and prevents waste unnecessarily going to landfill sites.

THE MILLBOARD SUSTAINABILITY JIGSAW MODEL

We have used this jigsaw model to show the interconnected nature of Millboard's production and processes. From manufacture to delivery, sustainability is a major consideration.





TYPE OF MATERIAL

While most composite decking boards are thermoplastic (melted plastic mixed with wood), the structural core of Millboard is a blend of natural minerals bonded in a polymer resin – such composite materials are designed to provide mechanical strength, chemical resistance and durability.

The Lastane layer on the boards is made partly from renewable raw materials, utilising biobased/natural oil polyols as opposed to a petroleum-based material. Natural oil polyols are derived from naturally occurring vegetable oils, therefore represent a fully renewable raw material base.

Over a third of the raw materials used for making the structural core of Millboard is recycled, these materials have been diverted from waste streams and reprocessed to create premium ingredient for our boards.

Polyurethane is inert, safe and extremely versatile, and its production process uses less than 0.1% of oil consumed worldwide, saving 14.5 million tonnes of CO₂ in Europe each year – that's equivalent to one year's worth of electricity use in two million homes.



METHOD OF MANUFACTURE

Processing Polyurethane is more energy efficient than processing thermoplastics. The production process of Millboard decking also replaces problematic HFCs with water as a blowing agent, reducing the Global Warming Potential and eliminating Ozone Depletion Potential.



TRANSPORT TO SITE

Millboard decking is made in the UK, so transportation of materials and product is kept to a minimum when it is used on UK projects, further reducing negative environmental impact. Millboard decking is a lightweight product, making it cost effective to transport; being almost half the weight per cubic metre of some conventional composite decking materials means more boards can be transported on fewer trips, so reducing CO2 emissions from road traffic.



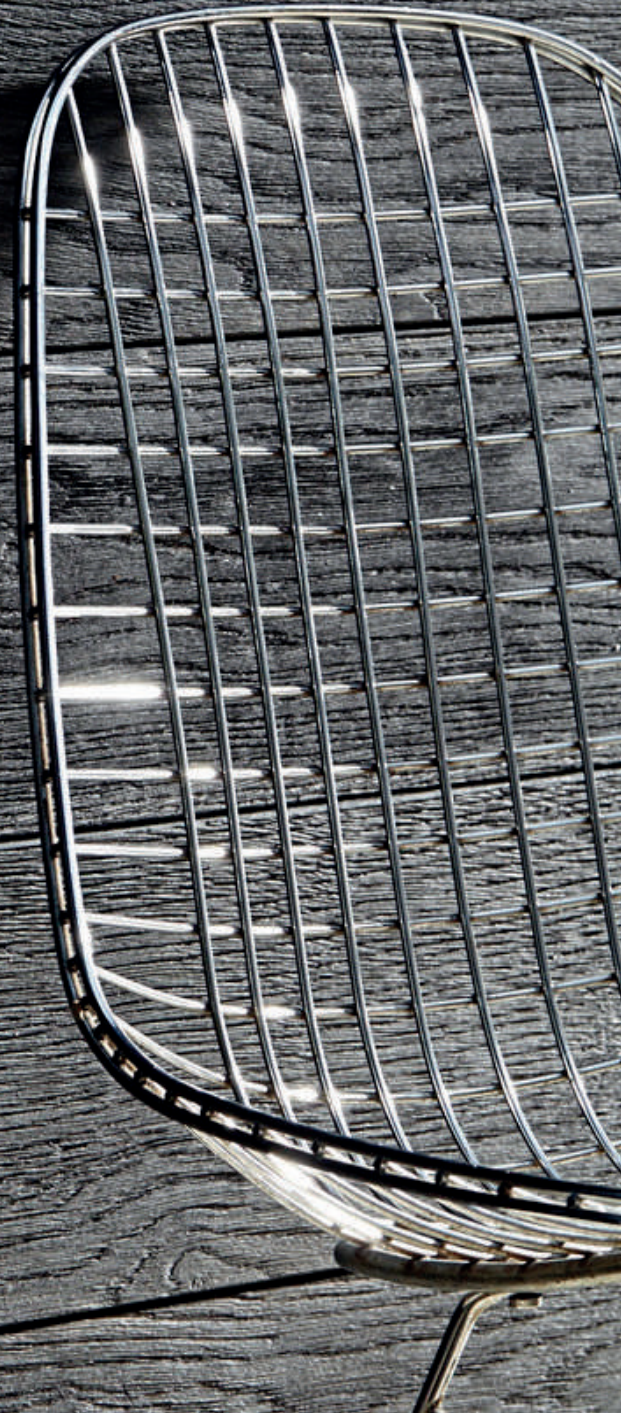
PACKAGING

The packaging we use to cover the pallets for transport safety is fully recyclable, as its lighter than other packaging, this adds to transport economy. Due to the stability and non-porous character of Millboard decking this enables it to be stored outdoors with zero covering, further reducing the requirement for plastic-based packaging materials.



EFFICIENCY IN USE

As a building material, Polyurethane has a lifespan of 50 years or more, which means demand on global resources decreases. Our boards require minimal maintenance, therefore reducing the need to use potentially harmful cleaners or preservatives.





PRODUCT WASTAGE

The Millboard manufacturing process creates minimal wastage because boards are moulded to specific sizes and any wastage can be recycled. During installation, 100% of the board can be utilised – that's a much greater percentage than using timber, which can generate up to 15% wastage due to natural defects.



ABILITY TO RECYCLE

Millboard decking can be recycled or reused in a variety of ways. It can be reground and recycled as a Polyurethane filler and used within building materials, such as concrete. It can also be reworked in its existing form and put to alternative uses such as path edging or creation of planters. Incineration provides effective energy recovery, releasing the same amount of energy as the Polyurethane contained at the beginning – 1kg of Polyurethane can produce energy equivalent to 1kg of coal.

At Millboard, we are exploring the use of reground filler from our own decking material within the manufacture of new products, to create a complete sustainability loop.



Complementing and
conserving natural beauty.

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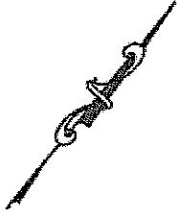
Live. Life. Outside.

CONSUMER INFORMATION NOTES:

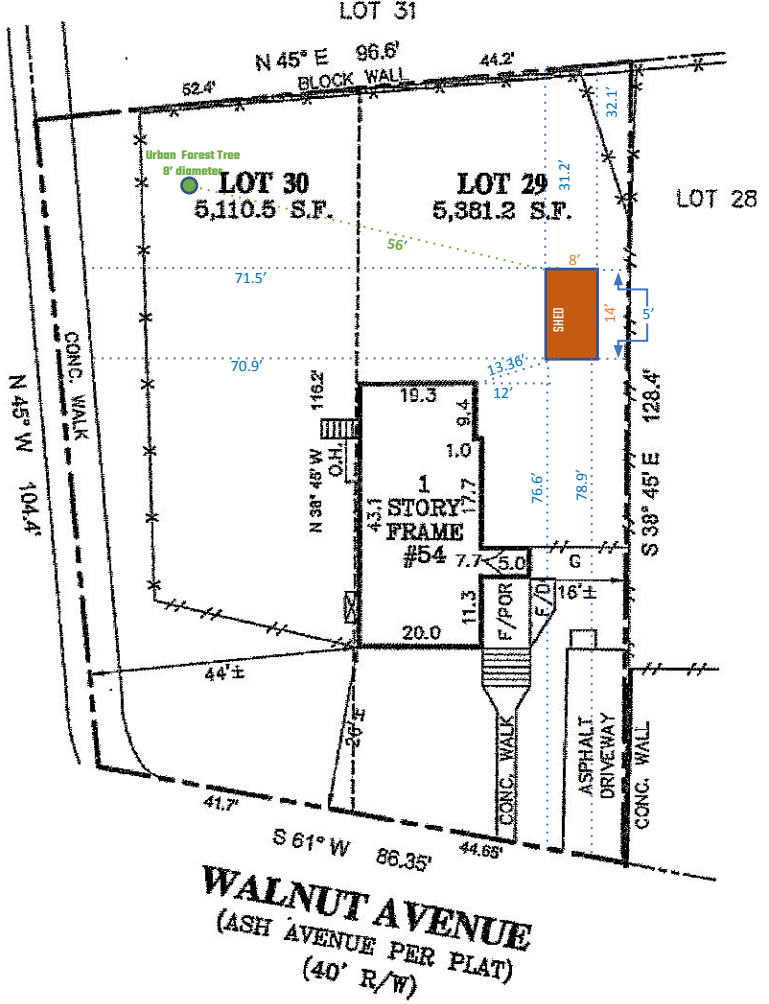
1. This plan is a benefit to a consumer insofar as it is required by a lender or a title insurance company or its agent in connection with contemplated transfer, financing or re-financing.
2. This plan is not to be relied upon for the establishment or location of fences, garages, buildings, or other existing or future improvements.
3. This plan does not provide for the accurate identification of property boundary lines, but such identification may not be required for the transfer of title or securing financing or re-financing.
4. Building line and/or Flood Zone information is taken from available sources and is subject to interpretation of originator.
5. No Title Report furnished.

Notes:

1. Setback distances as shown to the principal structure from property lines are approximate. The level of accuracy for this drawing should be taken to be no greater than plus or minus 3 feet. No Property to all parties concerned.
2. Fences have been located by approximate methods.
3. Total Area = 10,492 S.F. per Tax Records.



EASTERN AVENUE
(40' R/W)



LOCATION DRAWING
LOTS 29 & 30, BLOCK A
THE FIFIELD SUBDIVISION
TAKOMA PARK
MONTGOMERY COUNTY, MARYLAND

X *[Signature]*

SURVEYOR'S CERTIFICATE		REFERENCES		SNIDER & ASSOCIATES LAND SURVEYORS 19544 Ameranth Drive Germantown, Maryland 20874 301/948-5100 Fax 301/948-1286 WWW.SNIDERSURVEYS.COM	
"THE INFORMATION SHOWN HEREON HAS BEEN BASED UPON THE RESULTS OF A FIELD INSPECTION PURSUANT TO THE DEED OR PLAT OF RECORD. EXISTING STRUCTURES SHOWN HAVE BEEN FIELD LOCATED BASED UPON MEASUREMENTS FROM PROPERTY MARKERS FOUND OR FROM EVIDENCE OF LINES OF APPARENT OCCUPATION."		PLAT BK. 3 PLAT NO. 204		DATE OF LOCATIONS WALL CHECK: HSE. LOC.: 9-20-19	SCALE: 1" = 30' DRAWN BY: K.W.L. JOB NO.: 19-03703
<i>[Signature]</i> 09/30/19 MARYLAND PROFESSIONAL LAND SURVEYOR REG. NO. 10978 Expires: 07-28-2020		LIBER FOLIO			











