



Wheeler Real Estate Investment Trust, Inc.

This is Prospectus Supplement No. 4 (this "Prospectus Supplement") to our Prospectus, dated September 11, 2026 (the "Prospectus"), relating to the offer and sale of up to 710,466 shares of Series B Preferred Stock, without par value (the "Series B Preferred Stock"), of Wheeler Real Estate Investment Trust, Inc. by the selling stockholders identified in the Prospectus. Terms used but not defined in this Prospectus Supplement have the meanings ascribed to them in the Prospectus.

We have attached to this Prospectus Supplement our Current Report on Form 8-K filed on October 6, 2026. The attached information updates and supplements, and should be read together with, the Prospectus, as supplemented from time to time.

Investing in our Series B Preferred Stock involves a high degree of risk. You should review carefully the risks and uncertainties described under the heading "*Risk Factors*" beginning on page 6 of the Prospectus, and under similar headings in any amendments or supplements to the Prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of the Prospectus. Any representation to the contrary is a criminal offense.

The date of this Prospectus Supplement is October 6, 2026.

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549**

FORM 8-K

**CURRENT REPORT
PURSUANT TO SECTION 13 OR 15(d) OF THE
SECURITIES EXCHANGE ACT OF 1934**

Date of report (date of earliest event reported): **October 1, 2026**

WHEELER REAL ESTATE INVESTMENT TRUST, INC.
(Exact name of registrant as specified in its charter)

Maryland (State or other jurisdiction of incorporation or organization)	001-35713 (Commission File Number)	45-2681082 (IRS Employer Identification No.)
2529 Virginia Beach Blvd. Virginia Beach, VA (Address of principal executive offices)		23452 (Zip code)

Registrant's telephone number, including area code: **(757) 627-9088**

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligations of the registrant under any of the following provisions:

- ☐ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
- ☐ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
- ☐ Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
- ☐ Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter).

Emerging growth company ☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, \$0.01 par value per share	WHLR	Nasdaq Capital Market
Series B Preferred Stock	WHLRP	Nasdaq Capital Market
Series D Cumulative Convertible Preferred Stock	WHLRD	Nasdaq Capital Market
7.00% Subordinated Convertible Notes due 2031	WHLRL	Nasdaq Capital Market

Item 5.08 Shareholder Director Nominations.

2026 Annual Meeting of Stockholders

Wheeler Real Estate Investment Trust, Inc. (the “Company”) plans to hold its 2026 annual meeting of stockholders (the “2026 Annual Meeting”) on Friday, December 4, 2026.

The 2026 Annual Meeting will be held in person in San Juan, Puerto Rico.

Stockholders of record at the close of business on October 2, 2026 will be entitled to notice of and to vote at the 2026 Annual Meeting.

Stockholder Proposal and Director Nomination Deadlines

Because the scheduled date of the 2026 Annual Meeting is more than 30 days from the anniversary of the date of the Company’s 2025 annual meeting of stockholders, which was held on August 20, 2025, the deadlines for stockholders to propose actions for consideration or to nominate individuals to serve as directors at the 2026 Annual Meeting previously set forth in the Company’s Definitive Proxy Statement filed with the Securities and Exchange Commission (the “SEC”) on July 11, 2025 no longer apply. Therefore, the Company is providing notice of revised deadlines in connection with the 2026 Annual Meeting as set forth below.

Revised Deadline for Rule 14a-8 Stockholder Proposals - October 14, 2026

Stockholder proposals made pursuant to Rule 14a-8 (“Rule 14a-8”) of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), to be presented at the 2026 Annual Meeting and included in the Company’s proxy statement and form of proxy relating to that meeting must be received by the Company no later than 5:00 p.m., Eastern Time, on October 14, 2026, which the Company determined to be a reasonable time before it expects to begin to print and send its proxy materials. All proposals submitted pursuant to Rule 14a-8 must comply with the rules and regulations promulgated by the SEC.

Revised Deadline Under Advance Notice Bylaw Provision - October 16, 2026

In accordance with the requirements contained in the Company’s bylaws (the “Bylaws”), stockholders of the Company who wish to nominate a person for election as a director or bring business before the 2026 Annual Meeting outside the processes of Rule 14a-8 must ensure that written notice thereof (including all information specified in the Bylaws) is delivered to the Company’s Secretary at the Company’s principal executive office no later than 5:00 p.m., Eastern Time, on October 16, 2026, which is the tenth calendar day following the date of this Current Report on Form 8-K. Any such proposal must meet the requirements set forth in the Bylaws to be brought before the 2026 Annual Meeting.

Revised Deadline Under Universal Proxy Rules - October 16, 2026

In addition to satisfying the foregoing requirements, to comply with the universal proxy rules, in order for stockholders to give timely notice of nominations for directors for inclusion on a universal proxy card in connection with the 2026 Annual Meeting, stockholders must provide notice that sets forth the information required by Rule 14a-19 of the Exchange Act by October 16, 2026, which is the tenth calendar day following the date of this Current Report on Form 8-K.

Requirements Applicable to All Proposals

Proposals and notices must be in writing and received by the Company’s Secretary, Sydney Schlimgen, at 2529 Virginia Beach Boulevard, Virginia Beach, Virginia 23452, and must also comply with the Bylaws and the requirements set forth in the rules and regulations promulgated by the SEC.

Forward-Looking Statements.

This Current Report on Form 8-K includes forward-looking statements. These statements are made under the “safe harbor” provisions of the U.S. Private Securities Litigation Reform Act of 1995. These statements may be identified by words such as “plans”, “expects”, and “will” or the negative of these terms or other words of similar meaning, although not all forward-looking statements contain these identifying words. Forward-looking statements are statements that are not historical facts. Such forward-looking statements are not guarantees of future performance and are subject to risks and uncertainties, which could cause actual results to differ materially from the forward-looking statements contained herein due to many factors. These forward-looking statements and such risks, uncertainties and other factors speak only as of the date of this Current Report on Form 8-K, and the Company expressly disclaims any obligation or undertaking to update or revise any forward-looking

statement contained herein, or to reflect any change in our expectations with regard thereto or any other change in events, conditions or circumstances on which any such statement is based, except to the extent otherwise required by applicable law.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

WHEELER REAL ESTATE INVESTMENT TRUST, INC.

By: /s/ M. Andrew Franklin
Name: M. Andrew Franklin
Title: Chief Executive Officer and President

Dated: October 6, 2026