

**WELLS REAL ESTATE INVESTMENT TRUST, INC.
SUPPLEMENT NO. 2 DATED MAY 20, 2005 TO THE PROSPECTUS
DATED AUGUST 10, 2004**

This document supplements, and should be read in conjunction with, the Prospectus of Wells Real Estate Investment Trust, Inc. dated August 10, 2004, as supplemented and amended by that certain special disclosure to stockholders of Wells Real Estate Investment Trust, Inc. dated February 28, 2005 (Supplement No. 1). When we refer to the "Prospectus" in this supplement, we are also referring to Supplement No. 1 and this Supplement No. 2 to the Prospectus. Unless otherwise defined in this supplement, capitalized terms used in this supplement shall have the same meanings as set forth in the Prospectus.

The purpose of this supplement is to describe the following:

- (1) The change in the price of shares of common stock issued and sold pursuant to our dividend reinvestment plan;
- (2) The status of the offering of common stock in Wells Real Estate Investment Trust, Inc. (Wells REIT) pursuant to our dividend reinvestment plan;
- (3) Amendments to the "Plan of Distribution," "Management Compensation," and "Risk Factors" sections of the Prospectus;
- (4) Participation in our dividend reinvestment plan; and
- (5) The Amended and Restated Wells REIT Dividend Reinvestment Plan.

Change in Share Price Pursuant to Our Dividend Reinvestment Plan

On April 19, 2005, our Board of Directors of Wells REIT approved an amendment to our dividend reinvestment plan to reduce the share price for shares offered and sold pursuant to our dividend reinvestment plan from \$9.55 per share to \$8.00 per share effective for dividends declared and paid beginning in June 2005. The Board of Directors may change the share price at any time in its sole and absolute discretion based upon such factors as it may deem appropriate and, accordingly, the share price is subject to increase or decrease at any time in the future in the Board's discretion. The Amended and Restated Dividend Reinvestment Plan of Wells REIT was amended and restated and has been replaced with the Amended and Restated Dividend Reinvestment Plan attached as Exhibit A to this supplement.

Status of the Offering

Pursuant to the Prospectus, we commenced an offering of our common stock pursuant to our dividend reinvestment plan (DRP) on August 10, 2004. As of May 20, 2005, we had raised a total of \$135,773,276 in gross offering proceeds (14,217,097 shares) pursuant to this offering of our DRP. In addition, as of May 20, 2005, Wells REIT owned interests in 81 properties either directly or through joint ventures comprising approximately 20.5 million square feet of commercial office and industrial space located in 23 states and the District of Columbia.

Amendments to the "Plan of Distribution," "Management Compensation," and "Risk Factors" Sections of the Prospectus

Forward Looking Statements

This supplement contains forward-looking statements, within the meaning of Section 27A of the Securities Act of 1933 and 21E of the Securities Exchange Act of 1934, including discussion and analysis of our financial condition, anticipated capital expenditures required to complete certain projects, amounts of anticipated cash distributions to stockholders in the future and certain other matters. Readers of this supplement should be aware that there are various factors that could cause actual results to differ

materially from any forward-looking statements made in this supplement, which include changes in general economic conditions, changes in real estate conditions, construction costs which may exceed estimates, construction delays, increases in interest rates, lease-up risks, inability to obtain new tenants upon the expiration of existing leases, inability to invest in properties on a timely basis or in properties that will provide targeted rates of return and the potential need to fund tenant improvements or other capital expenditures out of operating cash flow. (See generally the “Risk Factors” section of the Prospectus.) Accordingly, readers are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date of this supplement. We do not make any representations or warranties (expressed or implied) about the accuracy of any such forward-looking statements.

Plan of Distribution

The paragraph entitled “Plan of Distribution” on page 3 of the summary section of the Prospectus is hereby deleted in its entirety and replaced with the following:

“As of May 20, 2005, we have sold 14,217,097 shares of common stock to our current stockholders through our DRP offering pursuant to the Prospectus at the price of \$9.55 per share. We are currently offering a maximum of 85,782,903 shares of common stock to our current stockholders through the DRP at a price of \$8.00 per share. In connection with shares sold pursuant to the DRP, we will pay selling commissions of 5% of proceeds raised pursuant to the DRP (\$0.40 per share).”

Risk Factors

The Risk Factor entitled “We Rely on Certain Tenants” on page 9 of the Prospectus is hereby amended and restated as follows:

“As of May 20, 2005, our most substantial tenants based on rental income were BP Corporation North America Inc. (approximately 6%), Leo Burnett USA, Inc. (approximately 5%), the National Aeronautics and Space Administration (NASA) (approximately 4%), and US Bancorp Piper Jaffray Companies, Inc. (approximately 4%). The revenues generated by the properties these tenants occupy are substantially reliant upon the financial condition of these tenants and, accordingly, any event of bankruptcy, insolvency or a general downturn in the business of any of these tenants may result in the failure or delay of such tenant’s rental payments which may have a substantial adverse effect on our financial performance.”

Dividend Reinvestment Plan

The paragraph entitled “Purchase Price” in the description of the dividend reinvestment plan on page 16 of the Prospectus is hereby deleted in its entirety and replaced with the following:

“There is no established public trading market for our shares. Beginning with dividends declared and paid in June 2005, shares may be purchased under the DRP at a price equal to \$8.00 per share. This share price was determined by our Board of Directors in its business judgment. The Board may change the share price at any time in its sole and absolute discretion based upon such factors as it may deem appropriate and, accordingly, the share price is subject to increase or decrease at any time in the future at the Board’s discretion.”

All other references in the Prospectus to the price of shares purchased under the DRP are hereby amended to reflect the price described in the paragraph above.

Management Compensation

The Management Compensation section of the Prospectus is hereby deleted in its entirety and replaced with the following:

“The following table summarizes and discloses all of the compensation and fees, including reimbursement of expenses, to be paid by Wells REIT to Wells Capital and its affiliates in connection with the proceeds received from the DRP.

<u>Form of Compensation and Entity Receiving</u>	<u>Determination Of Amount</u>	<u>Estimated Maximum Dollar Amount (1)</u>
<i>Selling Commissions – Wells Investment Securities, Inc.</i>	5.0% of DRP proceeds before reallocation of commissions earned by Participating Dealers. Wells Investment Securities, Inc., our Dealer Manager, will reallocate commissions to broker-dealers having Participants in the DRP which have executed a DRP Selling Agreement at the time of the dividend payment date.	\$ 41,101,825
<i>Acquisition and Advisory Fees and Reimbursement of Acquisition Expenses – Wells Capital or its Affiliates (2)</i>	3.5% of DRP proceeds, except to the extent such proceeds are used by the Wells REIT to fund share repurchases under our share redemption program	\$ 28,771,278(3)

(Footnotes to “Management Compensation”)

1. The estimated maximum dollar amounts are based on (i) the prior sale of 14,217,097 shares offered and sold pursuant to this Prospectus at \$9.55 per share (the original share price), and (ii) a maximum of 85,782,903 shares offered pursuant to this Prospectus at \$8.00 per share (the current share price). However, it is possible that the actual purchase price may be higher than the current price of \$8.00 per share if our Board of Directors decides, in its discretion, to change the price based on factors it deems appropriate.
2. Notwithstanding the method by which we calculate the payment of acquisition and advisory fees and acquisition expenses, as described in the table, the total of all such fees and expenses shall not exceed, in the aggregate, an amount equal to 6.0% of the contract price of all of the properties which we will purchase with DRP proceeds, as required by the NASAA Guidelines.
3. While we intend to use some portion of DRP proceeds to fund share repurchases under our share redemption program, for illustration purposes only, we have assumed that no DRP proceeds will be used for the repurchase of shares under our share redemption program, thereby reflecting the maximum amount that could be paid to Wells Capital, as our advisor, from DRP proceeds.

In addition, Wells Capital and its affiliates will be reimbursed for the actual cost of goods, services and materials used for or by Wells REIT. Wells Capital may be reimbursed for the administrative services necessary to the prudent operation of Wells REIT provided that the reimbursement shall not be for services for which it is entitled to compensation by way of a separate fee.

Please see the sections entitled, “Executive Compensation” and “Certain Relationships and Related Transactions” in our Definitive Proxy Statement filed with the SEC on April 25, 2005 for additional information regarding compensation payable to Wells Capital and its affiliates.”

Plan of Distribution

The "Plan of Distribution" section of the Prospectus is hereby deleted in its entirety and amended and restated as follows:

"As of May 20, 2005, we have sold 14,217,097 shares of common stock to our current stockholders through our DRP offering pursuant to the Prospectus at the price of \$9.55 per share. We are currently offering a maximum of 85,782,903 shares of common stock to our current stockholders through the DRP at a price of \$8.00 per share.

Except as set forth below, the Dealer Manager will receive selling commissions of 5.0% of the offering proceeds raised pursuant to the DRP (\$0.40 per share). We will not pay any dealer manager fee for shares issued and sold pursuant to the DRP. The Dealer Manager will reallocate selling commissions in the amount of 5.0% of offering proceeds to broker-dealers having Participants in the DRP which have executed a DRP Selling Agreement with the Dealer Manager (Participating Dealers) at the time of the applicable dividend payment date. In the event that a DRP Selling Agreement provides for no selling commissions to be paid to the Participating Dealer, DRP shares will be issued at \$8.00 per share, and no selling commissions will be paid to the Dealer Manager or the Participating Dealer in connection with the transaction. Unless a DRP Selling Agreement has been entered into with respect to the transaction at the time of the dividend payment date, DRP shares will be issued directly from Wells REIT to the Participant at the price of \$8.00 per share, and no selling commissions will be paid in connection with the transaction.

We have agreed in the DRP Selling Agreements to indemnify the Participating Dealers against certain liabilities arising under the Securities Act of 1933, as amended."

Incorporation of Certain Information by Reference

All documents filed by Wells REIT pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934 from January 1, 2004 to the date of this supplement shall be deemed to be incorporated by reference into the Prospectus, including but not limited to, the following recently filed documents:

- (a) Our Current Report on Form 8-K, filed with the SEC on February 28, 2005;
- (b) Our Annual Report on Form 10-K for the year ended December 31, 2004, filed with the SEC on March 15, 2005, as amended;
- (c) Our Current Report on Form 8-K, filed with the SEC on April 14, 2005;
- (d) Our Current Report on Form 8-K filed with the SEC on April 25, 2005;
- (e) Our Definitive Proxy Statement on Schedule 14A, filed with the SEC on April 25, 2005; and
- (f) Our Quarterly Report on Form 10-Q for the period ending March 31, 2005, filed on May 9, 2005.

In addition, all documents filed by Wells REIT pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934 subsequent to the date of this supplement and prior to the termination of this offering of the securities made pursuant to the Prospectus shall be deemed to be incorporated by reference into the Prospectus.

We hereby undertake to provide without charge to each person, including any beneficial owner, to whom a Prospectus is delivered, upon written or oral request of that person, a copy of any document incorporated herein by reference (or incorporated into the documents that this Prospectus incorporates by reference). Requests for such documents should be directed to our Client Services Department, at Wells Real Estate Funds, 6200 The Corners Parkway, Atlanta, Georgia 30092-3365, telephone (800) 557-4830.

Participation in Amended and Restated Dividend Reinvestment Plan

If you are currently participating in our dividend reinvestment plan and would like to continue to participate in the plan, no action is required and you will remain in our dividend reinvestment plan at the price of \$8.00 per share. If you are currently participating in our dividend reinvestment plan and would like to discontinue your participation, please contact our Client Services Department, at Wells Real Estate Funds, 6200 The Corners Parkway, Atlanta, Georgia 30092-3365, telephone (800) 557-4830.

Experts

Ernst & Young LLP, independent registered public accounting firm, has audited our consolidated financial statements and schedules included in our Annual Report on Form 10-K for the year ended December 31, 2004, as amended, and management's assessment of the effectiveness of our internal control over financial reporting as of December 31, 2004, as set forth in their reports, which are incorporated by reference in this prospectus and elsewhere in the registration statement. Our financial statements and schedules and management's assessment are incorporated by reference in reliance on Ernst & Young LLP's reports, given on their authority as experts in accounting and auditing.

Exhibit "A"

**AMENDED AND RESTATED
DIVIDEND REINVESTMENT PLAN
Effective May 20, 2005**

Wells Real Estate Investment Trust, Inc., a Maryland corporation ("Wells REIT"), pursuant to its Amended and Restated Articles of Incorporation, (the "Articles"), adopted a Dividend Reinvestment Plan (the "DRP"), which was amended and restated in its entirety on March 12, 2004, and March 10, 2005. On April 19, 2005, the Board of Directors of Wells REIT amended and restated the DRP in its entirety as set forth below. Capitalized terms shall have the same meaning as set forth in the Articles unless otherwise defined herein.

1. **Dividend Reinvestment.** As agent for the stockholders ("Stockholders") of Wells REIT who (a) purchased shares of the Wells REIT's common stock (the "Shares") pursuant to Wells REIT's initial public offering (the "Initial Offering"), which commenced on January 30, 1998 and terminated on December 19, 1999; (b) purchased Shares pursuant to the Wells REIT's second public offering (the "Second Offering"), which commenced on December 20, 1999 and terminated on December 19, 2000; (c) purchased Shares pursuant to the Wells REIT's third public offering (the "Third Offering"), which commenced on December 20, 2000 and terminated on July 25, 2002; (d) purchased Shares pursuant to the Wells REIT's fourth public offering (the "Fourth Offering"), which commenced on July 26, 2002 and terminated on July 25, 2004; or (e) purchase Shares pursuant to any future offering of the Wells REIT ("Future Offering"), and who elect to participate in the DRP (the "Participants"), the Wells REIT will apply all dividends declared and paid with respect to the Shares held by each Participant, exclusive of distributions attributable to net sales proceeds (the "Dividends"), including Dividends paid with respect to any full or fractional Shares acquired under the DRP, to the purchase of the Shares for such Participants directly, if permitted under state securities laws and, if not, through the Dealer Manager or Soliciting Dealers registered in the Participant's state of residence.

2. **Effective Date.** This Amended and Restated Dividend Reinvestment Plan (the "DRP") shall be applicable to all Dividends declared and paid beginning in June 2005.

3. **Procedure for Participation.** Stockholders who previously purchased Shares pursuant to the Initial Offering, the Second Offering, the Third Offering, or the Fourth Offering (collectively, the "Prior Offerings") and who have received a Prospectus, as contained in Wells REIT's registration statement filed with the Securities and Exchange Commission ("SEC") for such offering, elected to become a Participant by completing and executing the Subscription Agreement, an enrollment form or any other appropriate authorization form as may have been available from Wells REIT, the Dealer Manager or a broker-dealer participating in the Prior Offerings ("Participating Dealer"). Stockholders who previously purchased Shares pursuant to one of the Prior Offerings but have not previously participated in the DRP may elect to become a Participant by completing and executing an enrollment form or any other appropriate authorization form as may be available from Wells REIT, the Dealer Manager or a Participating Dealer. Participation in the DRP will begin with the next Dividend payable after receipt of a Participant's enrollment or authorization. Shares will be purchased under the DRP on the date that Dividends are paid by Wells REIT. Dividends of Wells REIT are currently paid quarterly. Each Participant agrees that if, at any time prior to the listing of the Shares on a national stock exchange or inclusion of the Shares for quotation on the National Association of Securities Dealers, Inc. Automated Quotation System ("NASDAQ"), he or she fails to meet the suitability requirements for making an investment in Wells REIT or cannot make the other representations or warranties set forth in the Subscription Agreement or the enrollment form, he or she will promptly so notify Wells REIT in writing.

4. Purchase of Shares. The Board may set or change the Share price for the purchase of DRP Shares at any time in its sole and absolute discretion based upon such factors as it deems appropriate. Effective beginning with DRP Shares being acquired from Wells REIT with dividends to be declared and paid in June 2005, the purchase price for DRP Shares shall be \$8.00 per Share. This Share price was determined by the Board in its business judgment. The Board may change the Share price at any time in its sole and absolute discretion based upon such factors as it may deem appropriate and, accordingly, the Share price is subject to increase or decrease at any time in the future in the Board's discretion; provided, however, that in no event shall the Share price for DRP Shares be less than 95% of the estimated fair market value of the Shares, if and when an estimated fair market value for the Shares is determined by the Board of Directors. Participants in the DRP may also purchase fractional Shares so that 100% of the Dividends may be used to acquire Shares; however, a Participant will not be able to acquire DRP Shares to the extent that any such purchase would cause such Participant to exceed the ownership limits set forth in the Articles.

Shares to be distributed by Wells REIT in connection with the DRP may (but are not required to) be supplied from: (a) the 100,000,000 DRP Shares registered with the SEC pursuant to its Form S-3 Registration Statement filed in March 2004 (the "DRP Registration"); (b) Shares to be registered with the SEC in a Future Offering for use in the DRP (a "Future Registration"); or (c) Shares of Wells REIT's common stock purchased by Wells REIT for the DRP in a secondary market (if available) or on a stock exchange or NASDAQ (if listed) (collectively, the "Secondary Market").

Shares purchased on the Secondary Market as set forth in (c) above will be purchased at the then-prevailing market price, which price will be utilized for purposes of purchases of Shares in the DRP. Shares acquired by Wells REIT on the Secondary Market or registered in a Future Registration for use in the DRP may be at prices lower or higher than the per Share price, which will be paid for the DRP Shares pursuant to the DRP Registration.

If Wells REIT acquires Shares in the Secondary Market for use in the DRP, Wells REIT shall use reasonable efforts to acquire Shares for use in the DRP at the lowest price then reasonably available. However, Wells REIT does not in any respect guarantee or warrant that the Shares so acquired and purchased by the Participant in the DRP will be at the lowest possible price. Further, irrespective of Wells REIT's ability to acquire Shares in the Secondary Market or to complete a Future Registration for shares to be used in the DRP, Wells REIT is in no way obligated to do either, in its sole discretion.

5. Share Certificates. The ownership of the Shares purchased through the DRP will be in book-entry form only until Wells REIT begins to issue certificates for its outstanding common stock.

6. Reports. Within 90 days after the end of Wells REIT's fiscal year, Wells REIT shall provide each Stockholder with an individualized report on his or her investment, including the purchase date(s), purchase price and number of Shares owned, as well as the dates of Dividend distributions and amounts of Dividends paid during the prior fiscal year. In addition, Wells REIT shall provide to each Participant an individualized quarterly report at the time of each Dividend payment showing the number of Shares owned prior to the current Dividend, the amount of the current Dividend, and the number of Shares owned after the current Dividend.

7. Commissions and Other Charges. Wells REIT will pay: selling commissions of 5% of DRP proceeds to Wells Investment Securities, Inc., the Dealer Manager, which will reallow commissions to Participating Dealers which have Participants in the DRP at the time of each dividend payment date and which have executed a DRP Dealer Agreement with the Dealer Manager; and acquisition and advisory fees and expenses of 3.5% of DRP proceeds to Wells Capital and its affiliates, except to the extent such proceeds are used by Wells REIT to fund Share repurchases under its share redemption

program. No dealer manager fee will be paid with respect to DRP Shares issued pursuant to the DRP Registration.

8. Termination by Participant. A Participant may terminate participation in the DRP at any time, without penalty, by delivering to Wells REIT a written notice. Prior to listing of the Shares on a national stock exchange or NASDAQ, any transfer of Shares by a Participant to a non-Participant will terminate participation in the DRP with respect to the transferred Shares. If a Participant terminates DRP participation, Wells REIT will ensure that the terminating Participant's account will reflect the whole number of shares in his or her account and provide a check for the cash value of any fractional share in such account. Upon termination of DRP participation, Dividends will be distributed to the Stockholder in cash.

9. Taxation of Distributions. The reinvestment of Dividends in the DRP does not relieve DRP Participants of any income tax liability which may be payable as a result of those Dividends.

10. Amendment or Termination of DRP by the Wells REIT. The Board of Directors of Wells REIT may by majority vote (including a majority of the Independent Directors) amend or terminate the DRP for any reason upon 10 days' written notice to the Participants.

11. Liability of Wells REIT. Wells REIT shall not be liable for any act done in good faith, or for any good faith omission to act, including, without limitation, any claims or liability; (a) arising out of failure to terminate a Participant's account upon such Participant's death prior to receipt of notice in writing of such death; and (b) with respect to the time and the prices at which Shares are purchased or sold for a Participant's account. To the extent that indemnification may apply to liabilities arising under the Securities Act of 1933, as amended, or the securities act of a state, Wells REIT has been advised that, in the opinion of the SEC and certain state securities commissioners, such indemnification is contrary to public policy and, therefore, unenforceable.