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File No. 017637-1043

August 10, 2010

VIA EDGAR CORRESPONDENCE

Duc Dang
Attorney—Advisor
Division of Corporation Finance
Securities and Exchange Commission
100 F Street, N.E.
Washington, D.C. 20549

Re: CoreSite Realty Corporation
Amendment No. 2 to Registration Statement on Form S-11
Filed July 28, 2010
SEC File No. 333-166810

Dear Mr. Dang:

We are in receipt of the Staff's letter dated August 6, 2010 with respect to the above-referenced Amendment No. 2 to the Registration Statement on Form S-11 (as it may be amended or supplemented, "Amendment No. 2"). We are responding to the Staff's comments on behalf of CoreSite Realty Corporation (the "Company") as set forth below. Simultaneously with the filing of this letter, the Company is submitting (by EDGAR) the third amendment to the Registration Statement on Form S-11/A ("Amendment No. 3"), which reflects changes made to respond to the Staff's comments. Courtesy copies of this letter and Amendment No. 3 (specifically marked to show the changes thereto) are being submitted to the Staff supplementally.

The Company's responses set forth in this letter are numbered to correspond to the numbered comments in the Staff's letter. All terms used but not defined herein have the meanings assigned to such terms in Amendment No. 3. For ease of reference, we have set forth the Staff's comments and the Company's response for each item below. Page numbers referenced in the Company's responses refer to page numbers in the marked copy of Amendment No. 3 furnished supplementally to the Staff.

In preparing this response letter, we and the Company have tried to thoroughly explain both the reasons behind the responses and the revisions made to the Registration Statement. We hope this will facilitate your review of the amended filing.

Cover Page

1. We note that Citi, BofA Merrill Lynch, and RBC Capital Markets are acting as joint book running managers and representatives of the underwriters. We note that you have identified two additional underwriters in this amendment. Please ensure that only the lead or managing underwriter(s) are identified on the prospectus cover page. See Item 501(h)(8) of Regulation S-K. We note that Key Banc Capital Markets and Credit Suisse are not identified as lead managers in your disclosure regarding the underwriters. If these two entities will serve as lead managers, please clarify and explain their role on page 176.

Response:

The Company notes the Staff's comment and advises the Staff that each underwriter set forth on the cover page of the prospectus is a manager of the offering. In response to the Staff's comment, the Company has revised the disclosure on page 177 to clarify the position of each of the underwriters.

Prospectus Summary, page 1

Our Company, page 1

2. We note your response to comment 1 of our letter dated July 22, 2010. We reissue our comment in part. Please revise your disclosure to define the term "high-quality" data center. Please clarify how each of your data centers qualifies as a "high-quality" data center.

Response:

The Company notes the Staff's comment and advises the Staff that it has revised the Registration Statement to include the definition of "high-quality data center" to Appendix A of Amendment No. 3. The Company has also revised the Registration Statement to clarify the qualitative features of its data centers by adding the statement that "Our data centers feature advanced power, cooling and security systems, including twenty-four hours a day, seven days a week security staffing..." which statement corresponds to the definition of a "high-quality data center." Please see pages 1, 74 and A-2 of Amendment No. 3.

Our Structure, page 9

3. In the footnotes to the diagram, please identify the "certain members" of your management that will receive shares and operating partnership units.

Response:

The Company notes the Staff's comment and has revised the Registration Statement to include the requested disclosure. Please see pages 9 and 135 of Amendment No. 3.

Balanced Sheet Positioned to Fund Continued Growth, page 4

4. We note your response to comment 2 of our letter. In response to our comment, you revised your disclosure to state that you may incur additional indebtedness “in amounts limited only by the restrictive covenants under your revolving credit facility.” We note, in your articles of incorporation, there is no specified limit on the amount of leverage you may incur. Please clearly state that, aside from restrictions that may be imposed in the future by agreements, there are no limits on the amount of leverage you may use and make similar revisions to the risk factor on page 26 and your disclosure on page 74.

Response:

The Company notes the Staff’s comment and has revised the Registration Statement to include the requested disclosure. Please see pages 4, 25 to 26 and 76 of Amendment No. 3.

Summary Risk Factors, page 6

5. Please add a summary risk factor to disclose that you may pay distributions from offering proceeds, borrowings, or the sale of assets to the extent distributions exceed earnings or cash flows from operations.

Response:

The Company notes the Staff’s comment and has revised the Registration Statement to include the requested disclosure. Please see pages 6 to 7 and 34 of Amendment No. 3.

The Restructuring Transactions, page 7

6. We note your response to comment 4 of our letter. Please expand your disclosure in this section to include the information contained in your response.

Response:

The Company notes the Staff’s comment and has revised the Registration Statement to include the requested disclosure. Please see page 8 of Amendment No. 3.

Restrictions on Transfer, page 11

7. We note your response to comment 6 of our letter. Please revise your disclosure in this section to clarify that certain operating partnership units are not subject to the restrictions discussed in this section because they will be sold to you in connection with the restructuring transaction.

Response:

The Company notes the Staff’s comment and has revised the Registration Statement to include the requested disclosure. Please see page 11 of Amendment No. 3.

Dividend Policy, page 39

8. We have read and considered your response to comment 9 and we do not find your argument persuasive. Unless you have entered into a renewal lease by June 30, 2010, it does not appear that you have a reasonable basis to assume the continuation of month-to-month leases for a full year. Please revise your distribution table to reflect the decreases due to lease expirations for month-to-month leases.

Response:

The Company notes the Staff's comment and has revised the Registration Statement to reflect the decreases due to lease expirations for month-to-month leases in the distribution table. Please see page 41 of Amendment No. 3.

9. As previously requested in comment 10, please revise your disclosure in footnote (7) to explain how management expects investors to use information related to the average tenant improvement costs and leasing commissions and how such information will enhance the investor's understanding of your calculation of cash available for distribution.

Response:

The Company notes the Staff's comment and has revised the Registration Statement to include the requested disclosure. Please see pages 41 to 42 of Amendment No. 3.

10. Also, expand your disclosure in footnote (9) to identify the property that the scheduled amortization payment of mortgage loan principal represents.

Response:

The Company notes the Staff's comment and has revised the Registration Statement to include the requested disclosure. Please see page 42 of Amendment No. 3.

Capitalization, page 43

11. We have read and considered your response to comment 15. Consistent with the representations included in your supplemental response to us, please disclose your intentions to enter into a binding agreement or obtain a firm commitment prior to seeking effectiveness as well as the fact that these financing transactions are a pre-condition to the closing of the initial public offering. Similar disclosure should also be made on pages 63 and F-13 in the sections where you discuss the proposed financing transactions.

Response:

The Company notes the Staff's comment and has revised the Registration Statement to include the requested disclosure. Please see pages 43, 64 and F-13 to F-14 of Amendment No. 3.

12. We note that the mortgage payment pro forma as adjusted balance of \$124,919 differs from the mortgage payment balance of \$122,919 that is reflected in your pro forma financial statements on page F-8. Please explain the discrepancy or revise accordingly. In addition on page 4, and throughout your filing, you indicate you have a combined indebtedness,

on a pro forma basis, of \$124.9M. Please also explain why this amount differs from the amount reported within your pro forma financial statements.

Response:

The Company notes the Staff's comment and has revised the mortgages payable line item in the capitalization table to agree to the pro forma financial statements found on page F-8 of Amendment No. 3. Additionally, the Company has revised footnote 1 to the capitalization table on page 43 of Amendment No. 3 to include a discussion of the \$2.0 million fair value of debt adjustment resulting from the Restructuring Transactions. See adjustment (D) to the pro forma financial statements on pages F-11 through F-13 of Amendment No. 3 for further details regarding the \$2.0 million adjustment. The Company has also revised the Registration Statement to clarify the referenced disclosure elsewhere in the prospectus. Please see pages 4, 25, 62, 64, 67 and 76 of Amendment No. 3.

Dilution, page 44

13. In footnote 2, please identify the "certain members" of your management that will receive restricted shares.

Response:

The Company notes the Staff's comment and has revised the Registration Statement to include the requested disclosure. Please see page 46 of Amendment No. 3.

Results of Operations, page 56

14. We note your response to comment 18 of our letter. In response to our comment, you state that management services will be eliminated upon completion of this offering and consummation of the Restructuring Transactions. Please add this disclosure and clarify that you will not receive management fees after the consummation of the Restructuring Transactions.

Response:

The Company notes the Staff's comment and has revised the Registration Statement to include the requested disclosure. Please see page 52 of Amendment No. 3.

Our Portfolio, page 78

15. We note your response to comment 21 of our letter and the additional footnote disclosure about reimbursements. We also note that over 45% of your leased area and 30% of your rents are on a modified gross or net basis. As such, please revise to disclose the rental figures in the table for such leases without the gross up. You may include the gross up amounts in the footnotes.

Response:

The Company notes the Staff's comment and has revised the Registration Statement to include the requested disclosure throughout Amendment No. 3. Please see pages 2 and 80 of Amendment No. 3 for indicative revisions responsive to this comment.

Legal Proceedings, page 102

16. We note your response to comment 22 and the revised disclosure of your belief. It appears that any action that is the basis for Mr. Brumer's allegations would have taken place prior to your formation. As such, please revise to clarify how responsibility would be attributable to you if a suit were initiated.

Response:

The Company notes the Staff's comment and respectfully advises the Staff that, while it agrees that it is possible that any action that is the basis for Mr. Brumer's allegations may have taken place prior to the Company's and the Operating Partnership's formation, it believes that the existing disclosure is appropriate. The Company believes that Mr. Brumer may make claims directly against the Company or against one or more of the entities that are being contributed to the operating partnership in the Restructuring Transactions and that will become subsidiaries of the Company, including CoreSite, L.L.C., the entity that formerly employed Mr. Brumer. Because Mr. Brumer has yet to file any claim and because the Company has disclosed that references in the Registration Statement to "we," "our," and "us" refer to the Company, together with its consolidated subsidiaries after giving effect to the Restructuring Transactions, the Company believes that the disclosure effectively conveys the state of affairs to investors, is appropriately responsive to Item 103 of Regulation S-K (which calls for disclosure of legal proceedings relating to "the registrant or any of its subsidiaries"), and is accurate as drafted.

Executive Officer Compensation, page 108

17. We note your response to comment 24 of our letter. Please note that disclosure regarding the long-term incentive units should be presented in conjunction with your discussion of compensation. Please revise your disclosure accordingly. Additionally, please expand your disclosure to discuss whether the incentive units could achieve full parity immediately. Further, please describe the circumstances under which the long-term incentive units will not achieve full parity with the common units.

Response:

The Company notes the Staff's comment and advises the Staff that the 2010 Equity Incentive Plan no longer includes provisions related to long-term incentive units. Accordingly, the Company has removed any reference to long-term incentive units from Amendment No. 3.

2009 Equity Compensation, page 111

18. We note your disclosure that Ms. Beckman, Mr. Rockwood, and Mr. Dunn will receive operating partnership units in exchange for the PIP awards and that the vesting of a percentage of these units will be accelerated. Please disclose when the remaining unvested units will vest.

Response:

The Company notes the Staff's comment and has revised the Registration Statement to include the requested disclosure. Please see page 115 of Amendment No. 3.

Certain Relationships and Related Party Transactions, page 124

19. Please revise to identify the parties that will receive OP units and cash as part of the restructuring transactions. Please refer to Item 404(a) of Regulation S-K.

Response:

The Company notes the Staff's comment and has revised the Registration Statement to include the requested disclosure. Please see page 126 of Amendment No. 3.

Descriptions of Securities, page 143

Underwriting, page 176

20. Please disclose whether the shares that are part of the directed share program will be subject to the lock-up agreement.

Response:

The Company notes the Staff's comment and has revised the Registration Statement to clarify that to the extent a participant in the directed share program has executed a 180-day lock-up agreement, such agreement shall govern any shares purchased under the directed share program. Please see page 178 of Amendment No. 3. The Company advises the Staff that participants in the directed share program not otherwise subject to the 180-day lock-up will be subject to the 25-day restriction described in the first full paragraph on page 178 of Amendment No. 3.

CoreSite Realty Corporation

Pro forma Condensed Consolidated Financial Statements, page F-6

21. We have read and considered your response to comment 28. Please provide your basis for presenting consolidated financial statements for periods in which the other entities were not under control of CRP Fund V Holdco.

Response:

The Company presented consolidated financial statements as the entities were under common control for all periods presented. However, to better distinguish the difference in the basis of presentation before and after the formation of CRP Fund V Holdco, the description of the financial statements has been revised to state they are combined and consolidated. Please see pages 183 and F-1 of Amendment No. 3 for indicative revisions responsive to this comment.

22. *Confirm to us whether CRP Fund V Holdings, LLC owns or consists of any other entities besides those entities listed on page F-22.*

Response:

The Company notes the Staff's comment and has revised the entity table found on page F-22 to include all additional entities, none of which had any assets, liabilities or operations for the periods presented.

Legality Opinion

23. *Please have counsel revise to clarify if the fifth assumption made on page 2 applies to future periods or is as of the date of the opinion. If the assumption is as of the date of the opinion, it is not clear why such information is not ascertainable by counsel. Please advise.*

Response:

The Company notes the Staff's comment and respectfully advises the Staff that the referenced assumption relates to the Company's qualification as a REIT under the Internal Revenue Code and is customary language in Exhibit 5.1 opinions for public offerings by REITs. Neither counsel providing the opinion nor the Company will have any reasonable means of ascertaining to whom the underwriters will issue the shares and consequently no means of determining whether a violation of Article VII of the Charter (relating to compliance with the ownership and transfer restrictions) may occur. Furthermore, because of the look-through application of certain of the REIT restrictions (e.g., the "closely held" rule), the beneficial ownership of a purchaser or transferee of stock is relevant to whether the restrictions have been violated and, even if the Company is able to indentify a stockholder of record, to the extent that a stockholder is an entity, it will not have information on the parties that own such entity.

Please direct any questions or comments regarding the foregoing to the undersigned at (202) 637-1028. Thank you in advance for your cooperation in connection with this matter.

Very truly yours,

/s/ Patrick H. Shannon

Patrick H. Shannon
of LATHAM & WATKINS LLP

Enclosures

cc: Yolanda Crittendon, Securities and Exchange Commission
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