FILED BY MARTIN MARIETTA MATERIALS, INC.
PURSUANT TO RULE 425 UNDER THE SECURITIES ACT OF 1933
AND DEEMED FILED PURSUANT TO RULE 14a-12
UNDER THE SECURITIES EXCHANGE ACT OF 1934
SUBJECT COMPANY: VULCAN MATERIALS COMPANY

COMMISSION FILE NO. 001-33841

On December 13, 2011, Martin Marietta Materials, Inc. placed the following advertisement in the Wall Street Journal:

A registration statement relating to the securities proposed to be issued in the Offer (as defined below) has been filed with the Securities and Exchange Commission (the "SEC") but has not yet become effective. Such securities may not be issued nor may offers to receive such securities be accepted prior to the time the registration statement becomes effective. This announcement is neither an offer to exchange nor the solicitation of an offer to exchange such securities nor shall there be any exchange thereof in any state in which such offer, solicitation or exchange would be unlawful prior to registration or qualification under the securities laws of any such state. In those jurisdictions where the securities, "blue sky" or other laws require the Offer to be made by a licensed broker or dealer, the Offer shall be deemed to be made on behalf of Martin Marietta Materials, Inc. by Deutsche Bank Securities Inc. and J.P. Morgan Securities LLC (together, the "Dealer Managers") or by one or more registered brokers or dealers licensed under the laws of such jurisdiction.

Notice of Offer to Exchange

Each Outstanding Share of Common Stock

of

VULCAN MATERIALS COMPANY

for

0.50 Shares of Common Stock of Martin Marietta Materials, Inc. (together with the associated preferred stock purchase rights) by

MARTIN MARIETTA MATERIALS, INC.

Martin Marietta Materials, Inc., a North Carolina corporation ("Martin Marietta"), is offering to exchange for each issued and outstanding share of common stock, par value \$1.00 per share ("Vulcan Common Stock"), of Vulcan Materials Company ("Vulcan"), a New Jersey corporation, validly tendered pursuant to the Offer (as defined below) and not properly withdrawn, 0.50 shares of Martin Marietta common stock (together with the associated preferred stock purchase rights), par value \$0.01 per share ("Martin Marietta Common Stock"), upon the terms and subject to the conditions set forth in the Prospectus/Offer to Exchange, dated December 12, 2011, and the related letter of transmittal (which, each as amended, supplemented or modified from time to time, together constitute the "Offer"). Martin Marietta will not issue certificates representing fractional shares of Martin Marietta Common Stock pursuant to the Offer. Instead, each tendering Vulcan shareholder who would otherwise be entitled to a fractional share of Martin Marietta Common Stock will receive, in lieu thereof, cash in an amount equal to such fraction

(expressed as a decimal and rounded to the nearest 0.01 of a share) multiplied by the closing price of Martin Marietta Common Stock on the Expiration Date (as defined below).

THE OFFER AND THE WITHDRAWAL RIGHTS WILL EXPIRE AT 5:00 P.M., NEW YORK CITY TIME, ON MAY 18, 2012, UNLESS THE OFFER IS EXTENDED (THE "EXPIRATION DATE").

The purpose of the Offer is for Martin Marietta to acquire all of the outstanding shares of Vulcan Common Stock in order to combine the businesses of Martin Marietta and Vulcan. Unless Martin Marietta negotiates and enters into a merger agreement with Vulcan not involving an exchange offer, Martin Marietta intends, promptly after completion of the Offer, to consummate a second-step merger of a wholly-owned subsidiary of Martin Marietta with and into Vulcan (the "Second-Step Merger"). In the Second-Step Merger, each remaining share of Vulcan Common Stock (other than shares of Vulcan Common Stock owned by Martin Marietta or by any wholly-owned subsidiaries of Martin Marietta or Vulcan) will be converted into the right to receive the same number of shares of Martin Marietta Common Stock as are received by Vulcan shareholders pursuant to the Offer, plus cash in lieu of any fractional shares of Martin Marietta Common Stock. No appraisal or dissenters' rights are available in connection with the Offer. Please see the section of the Prospectus/Offer to Exchange entitled "The Exchange Offer—Appraisal/Dissenters' Rights." After the Second-Step Merger, the former Vulcan shareholders will no longer have any ownership interest in Vulcan, but in Martin Marietta.

The Offer is conditioned upon, among other things, the following: (i) Vulcan shall have entered into a definitive merger agreement with Martin Marietta with respect to the proposed transaction that is reasonably satisfactory to Martin Marietta and Vulcan; (ii) any applicable waiting period under the Hart-Scott-Rodino Antitrust Improvements Act of 1976, as amended, shall have expired or been terminated prior to the expiration of the Offer; (iii) Vulcan shareholders shall have validly tendered and not withdrawn prior to the expiration of the Offer at least that number of shares of Vulcan Common Stock that, when added to the shares of Vulcan Common Stock then owned by Martin Marietta or any of its subsidiaries, shall constitute at least 80% of the voting power of Vulcan's outstanding capital stock entitled to vote on transactions covered under Article VIII, Section A of Vulcan's Restated Certificate of Incorporation; (iv) the registration statement of which the Prospectus/Offer to Exchange is a part shall have become effective under the Securities Act of 1933 (the "Securities Act"), no stop order suspending the effectiveness of the registration statement shall have been issued and no proceedings for that purpose shall have been initiated or threatened by the SEC, and Martin Marietta shall have received all necessary state securities law or "blue sky" authorizations; (v) the shareholders of Martin Marietta shall have approved an amendment to Martin Marietta's Restated Articles of Incorporation to increase the number of authorized shares of Martin Marietta Common Stock and implement any change to the name of the combined company, and the issuance of shares of Martin Marietta Common Stock pursuant to the Offer and the Second-Step Merger as required under the rules of the New York Stock Exchange (the "NYSE"); (vi) the shares of Martin Marietta Common Stock to be issued pursuant to the Offer and the Second-Step Merger shall have been approved for listing on the NYSE; and (vii) Martin Marietta shall have completed to its reasonable satisfaction customary confirmatory due diligence of Vulcan's non-public information on Vulcan's business, assets and liabilities and shall have concluded, in its reasonable judgment, that there are no material adverse facts or developments concerning or affecting Vulcan's business, assets and liabilities that have not been publicly disclosed prior to the commencement of the Offer. The Offer is subject to a number of additional conditions referred to in the Prospectus/Offer to Exchange in the section entitled "The Exchange Offer—Conditions of the Offer."

Tenders of shares of Vulcan Common Stock made pursuant to the Offer may be withdrawn at any time until the Expiration Date and thereafter may be withdrawn at any time until Martin Marietta accepts such shares for exchange in the Offer.

For purposes of the Offer (including during any Subsequent Offering Period (as defined below)), Martin Marietta will be deemed to have accepted for exchange, and thereby exchanged, shares of Vulcan Common Stock validly tendered and not properly withdrawn as, if and when Martin Marietta gives oral or written notice to American Stock Transfer & Trust Company, LLC (the "Exchange Agent") of Martin Marietta's acceptance for exchange of such shares of Vulcan Common Stock pursuant to the Offer. Upon the terms and subject to the conditions of the Offer, exchange of shares of Vulcan Common Stock accepted for exchange pursuant to the Offer will be made by deposit of stock consideration being exchanged therefor with the Exchange Agent, which will act as agent for tendering shareholders for the purpose of receiving the offer consideration from Martin Marietta and transmitting such consideration to tendering shareholders whose shares of Vulcan Common Stock have been accepted for exchange. Under no circumstances will Martin Marietta pay interest on the Offer consideration for shares of Vulcan Common Stock, regardless of any extension of the Offer or other delay in making such exchange. In all cases, an exchange of tendered shares of Vulcan Common Stock will be made only after timely receipt by the Exchange Agent of certificates for such shares (or a confirmation of a book-entry transfer of such shares as described in the section of the Prospectus/Offer to Exchange entitled "The Exchange Offer—Procedure for Tendering") and a properly completed and duly executed letter of transmittal and any other required documents for such shares.

Subject to the applicable rules of the SEC and the terms and conditions of the Offer, Martin Marietta expressly reserves the right (but will not be obligated) (1) to extend, for any reason, the period of time during which the Offer is open, (2) to delay acceptance for exchange of, or exchange of, shares of Vulcan Common Stock in order to comply in whole or in part with applicable laws (any such delay shall be effected in compliance with Rule 14e-1(c) under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), which requires Martin Marietta to pay the consideration offered or to return shares of Vulcan Common Stock deposited by or on behalf of shareholders promptly after the termination or withdrawal of the Offer), (3) to amend or terminate the Offer without accepting for exchange of, or exchanging, shares of Vulcan Common Stock if any of the individually subheaded conditions referred to in the section of the Prospectus/Offer to Exchange entitled "The Exchange Offer—Conditions of the Offer" have not been satisfied or if any event specified in the section of the Prospectus/Offer to Exchange entitled "The Exchange Offer—Conditions of the Offer" under the subheading "Other Conditions" has occurred, including if Martin Marietta negotiates and enters into a merger agreement with Vulcan not involving an exchange offer and (4) to amend the Offer or to waive any conditions to the Offer at any time, in each case by giving oral or written notice of such delay, termination, waiver or amendment to the Exchange Agent and by making public announcement thereof. Any such extension, delay, termination, waiver or amendment will be followed as promptly as practicable by public announcement thereof, which, in the case of an extension, will be made no later than 9:00 a.m., New York City time, on the next business day after the previously scheduled Expiration Date.

Pursuant to Rule 14d-11 under the Exchange Act, Martin Marietta may, subject to certain conditions, elect to provide a subsequent offering period of at least three business days in length following the expiration of the Offer on the Expiration Date and acceptance for exchange of the shares of Vulcan Common Stock tendered in the Offer (a "Subsequent Offering Period"). If Martin Marietta elects to include a Subsequent Offering Period, it will notify shareholders of Vulcan by making a public announcement on the next business day after the Expiration Date consistent with the requirements of Rule 14d-11 under the Exchange Act. The same consideration will be received by shareholders tendering shares of Vulcan Common Stock in the Offer or in a Subsequent Offering Period, if one is included. Martin Marietta does not currently intend to include a Subsequent Offering Period, although it reserves the right to do so.

If Martin Marietta decides to include a Subsequent Offering Period, shares of Vulcan Common Stock tendered during the Subsequent Offering Period may not be withdrawn. For a withdrawal to be effective, a written or facsimile transmission notice of withdrawal must be timely received by the Exchange Agent at one of its addresses set forth on the back cover page of the Prospectus/Offer to Exchange. Any such notice of withdrawal must specify the name of the person who tendered the shares of Vulcan Common Stock to be withdrawn, the number of shares of Vulcan Common Stock to be withdrawn and the name of the registered holder of such shares of Vulcan Common Stock, if different from that of the person who tendered

such shares of Vulcan Common Stock. If certificates representing shares of Vulcan Common Stock to be withdrawn have been delivered or otherwise identified to the Exchange Agent, then, prior to the physical release of such certificates, the serial numbers shown on such certificates must be submitted to the Exchange Agent and, unless such shares of Vulcan Common Stock have been tendered by or for the account of an Eligible Institution (as defined in the Prospectus/Offer to Exchange), the signature(s) on the notice of withdrawal must be guaranteed by an Eligible Institution. If shares of Vulcan Common Stock have been tendered pursuant to the procedure for book-entry transfer as set forth in the section of the Prospectus/Offer to Exchange entitled "The Exchange Offer—Procedure for Tendering," any notice of withdrawal must specify the name and number of the account at the Book-Entry Transfer Facility (as defined in the Prospectus/Offer to Exchange) to be credited with the withdrawn shares of Vulcan Common Stock. All questions as to the form and validity (including time of receipt) of any notice of withdrawal will be determined by Martin Marietta in its discretion, whose determination will be final and binding to the fullest extent permitted by law.

For a discussion of material federal income tax consequences, see the section of the Prospectus/Offer to Exchange entitled "The Exchange Offer—Material Federal Income Tax Consequences." You are urged to consult with your own tax advisor as to the particular tax consequences to you of the Offer and the merger.

The information required to be disclosed by Rule 14d-6(d)(1) under the Exchange Act is contained in the Prospectus/Offer to Exchange and is incorporated herein by reference.

A request has been made to Vulcan pursuant to Rule 14d-5 under the Exchange Act for the use of Vulcan shareholder lists and security position listings for the purpose of disseminating the Offer to Vulcan shareholders. Upon compliance by Vulcan with this request, the Offer, the letter of transmittal and all other relevant materials will be mailed to record holders of shares of Vulcan Common Stock and will be furnished to brokers, dealers, banks, trust companies and similar persons whose names, or the names of whose nominees, appear on Vulcan shareholders lists or, if applicable, who are listed as participants in a clearing agency's security position listing for subsequent transmittal to beneficial owners of shares of Vulcan Common Stock by Martin Marietta or, if it so elects, the materials will be mailed by Vulcan.

The Prospectus/Offer to Exchange and the related letter of transmittal contain important information and should be read carefully and in their entirety before any decision is made with respect to the Offer. Such documents may be obtained without charge at the web site of the SEC at www.sec.gov.

Any questions or requests for assistance may be directed to the Information Agent or the Dealer Managers at their respective addresses or telephone numbers set forth below. Additional copies of the Prospectus/Offer to Exchange, the letter of transmittal and the other Offer materials may be obtained from the Information Agent at its address and telephone numbers set forth below, and copies will be furnished promptly at Martin Marietta's expense.

The Information Agent for the Offer is:

MORROW & CO.,LLC

470 West Avenue, Stamford, CT 06902 Shareholders May Call Toll Free: (877) 757-5404 Banks and Brokerage Firms May Call: (203) 658-9400 Email: exchangeofferinfo@morrowco.com

The Dealer Managers for the Offer are:



Deutsche Bank Securities Inc. 60 Wall Street New York, NY 10005 Toll Free: (877) 492-8974

J.P.Morgan

J.P. Morgan Securities LLC 383 Madison Avenue New York, NY 10179 Toll Free: (877) 371-5947

December 13, 2011

This advertisement may include "forward-looking statements." Statements that include words such as "anticipate," "expect," "should be," "believe," "will," and other words of similar meaning in connection with future events or future operating or financial performance are often used to identify forward-looking statements. All statements in this advertisement, other than those relating to historical information or current conditions, are forward-looking statements. These forward-looking statements are subject to a number of risks and uncertainties, many of which are beyond Martin Marietta's control, which could cause actual results to differ materially from such statements. Risks and uncertainties relating to the proposed transaction with Vulcan include, but are not limited to: Vulcan's willingness to accept Martin Marietta's proposal and enter into a definitive transaction agreement reasonably satisfactory to the parties; Martin Marietta's ability to obtain shareholder, antitrust and other approvals on the proposed terms and schedule; uncertainty as to the actual premium that will be realized by Vulcan shareholders in connection with the proposed transaction; uncertainty of the expected financial performance of the combined company following completion of the proposed transaction; Martin Marietta's ability to achieve the cost-savings and synergies contemplated by the proposed transaction within the expected time frame; Martin Marietta's ability to promptly and effectively integrate the businesses of Vulcan and Martin Marietta; a downgrade of the credit rating of Vulcan's indebtedness, which could give rise to an obligation to redeem Vulcan's existing indebtedness; the potential implications of alternative transaction structures with respect to Vulcan, Martin Marietta and/or the combined company, including potentially requiring an offer to repurchase certain of Martin Marietta's existing debt; the implications of the proposed transaction on certain of Martin Marietta's and Vulcan's employee benefit plans; and disruption from the proposed transaction making it more difficult to maintain relationships with customers, employees or suppliers. Additional risks and uncertainties include, but are not limited to: the performance of the United States economy; decline in aggregates pricing; the inability of the U.S. Congress to pass a successor federal highway bill; the discontinuance of the federal gasoline tax or other revenue related to infrastructure construction; the level and timing of federal and state transportation funding, including federal stimulus projects; the ability of states and/or other entities to finance approved projects either with tax revenues or alternative financing structures; levels of construction spending in the markets that Martin Marietta and Vulcan serve; a decline in the commercial component of the nonresidential construction market, notably office and retail space; a slowdown in residential construction recovery; unfavorable weather conditions, particularly Atlantic Ocean hurricane activity, the late start to spring or the early onset of winter and the

impact of a drought or excessive rainfall in the markets served by Martin Marietta and Vulcan; the volatility of fuel costs, particularly diesel fuel, and the impact on the cost of other consumables, namely steel, explosives, tires and conveyor belts; continued increases in the cost of other repair and supply parts; transportation availability, notably barge availability on the Mississippi River system and the availability of railcars and locomotive power to move trains to supply Martin Marietta's and Vulcan's long haul distribution markets; increased transportation costs, including increases from higher passed-through energy and other costs to comply with tightening regulations as well as higher volumes of rail and water shipments; availability and cost of construction equipment in the United States; weakening in the steel industry markets served by Martin Marietta's dolomitic lime products; inflation and its effect on both production and interest costs; Martin Marietta's ability to successfully integrate acquisitions and business combinations quickly and in a cost-effective manner and achieve anticipated profitability to maintain compliance with Martin Marietta's leverage ratio debt covenants; changes in tax laws, the interpretation of such laws and/or administrative practices that would increase Martin Marietta's and/or Vulcan's tax rate; violation of Martin Marietta's debt covenant if price and/or volumes return to previous levels of instability; a potential downgrade in the rating of Martin Marietta's or Vulcan's indebtedness; downward pressure on Martin Marietta's or Vulcan's common stock price and its impact on goodwill impairment evaluations; the highly competitive nature of the construction materials industry; the impact of future regulatory or legislative actions; the outcome of pending legal proceedings; healthcare costs; the amount of long-term debt and interest expense incurred; changes in interest rates; volatility in pension plan asset values which may require cash contributions to pension plans; the impact of environmental clean-up costs and liabilities relating to previously divested businesses; the ability to secure and permit aggregates reserves in strategically located areas; exposure to residential construction markets; and the impact on the combined company (after giving effect to the proposed transaction with Vulcan) of any of the foregoing risks, as well as other risk factors listed from time to time in Martin Marietta's and Vulcan's filings with the SEC.

The foregoing review of important factors should not be construed as exhaustive and should be read in conjunction with the other cautionary statements that are included elsewhere, including the Risk Factors section of the Registration Statement and our most recent reports on Form 10-K and Form 10-Q, and any other documents of Martin Marietta and Vulcan filed with the SEC. Any forward-looking statements made in this advertisement is qualified in their entirety by these cautionary statements, and there can be no assurance that the actual results or developments anticipated by us will be realized or, even if substantially realized, that they will have the expected consequences to, or effects on, us or our business or operations. Except to the extent required by applicable law, we undertake no obligation to update publicly or revise any forward-looking statement, whether as a result of new information, future developments or otherwise.

Important Additional Information

This advertisement elates to the Exchange Offer by Martin Marietta to exchange each issued and outstanding share of common stock of Vulcan for 0.50 shares of Martin Marietta common stock. This is for informational purposes only and does not constitute an offer to exchange, or a solicitation of an offer to exchange, shares of Vulcan common stock, nor is it a substitute for the Tender Offer Statement on Schedule TO or the preliminary prospectus/offer to exchange included in the Registration Statement on Form S-4 (the "Registration Statement") (including the letter of transmittal and related documents and as amended and supplemented from time to time, the "Exchange Offer Documents") filed by Martin Marietta on December 12, 2011 with the SEC.

The Registration Statement has not yet become effective. The Exchange Offer will be made only through the Exchange Offer Documents. Investors and security holders are urged to read the Exchange Offer Documents and all other relevant documents that Martin Marietta has filed or may file with the SEC if and when they become available because they contain or will contain important information.

Martin Marietta may file a proxy statement on Schedule 14A and other relevant documents with the SEC in connection with the solicitation of proxies (the "Vulcan Meeting Proxy Statement") for the 2012 annual meeting of Vulcan shareholders (the "Vulcan Meeting"). Martin Marietta may also file a proxy statement on Schedule 14A and other relevant documents with the SEC in connection with its solicitation of proxies for a meeting of Martin Marietta shareholders (the "Martin Marietta Meeting") to approve, among other things, the issuance of shares of Martin Marietta common stock pursuant to the Exchange Offer (the "Martin Marietta Meeting Proxy Statement"). Investors and security holders are urged to read the Vulcan Meeting Proxy Statement and the Martin Marietta Meeting Proxy Statement and other relevant materials if and when they become available because they will contain important information.

All documents referred to above, if filed, will be available free of charge at the SEC's website (www.sec.gov) or by directing a request to Morrow & Co., LLC at (877) 757-5404 (banks and brokers may call (800) 662-5200).

Martin Marietta, certain of its directors and officers and the individuals expected to be nominated by Martin Marietta for election to Vulcan's Board of Directors may be deemed participants in any solicitation of proxies from Vulcan shareholders for the Vulcan Meeting or any adjournment or postponement thereof. Martin Marietta and certain of its directors and officers may be deemed participants in any solicitation of proxies from Martin Marietta shareholders for the Martin Marietta Meeting or any adjournment or postponement thereof. Information about Martin Marietta and Martin Marietta's directors and officers, including a description of their direct and indirect interests, by security holdings or otherwise, is available in the proxy statement for Martin Marietta's 2011 annual meeting of shareholders, filed with the SEC on April 8, 2011, and the Registration Statement. Information about any other participants, including a description of their direct and indirect interests, by security holdings or otherwise, will be included in the Vulcan Meeting Proxy Statement, the Martin Marietta Meeting Proxy Statement or other relevant solicitation materials that Martin Marietta may file with the SEC in connection the foregoing matters, as applicable.