UNITED STATES SECURITIES AND EXCHANGE COMMISSION Washington, D.C. 20549

Post-Effective Amendment No. 1

to

FORM S-8 REGISTRATION STATEMENT

UNDER THE SECURITIES ACT OF 1933

DYNEX CAPITAL, INC.

(Exact name of registrant as specified in its charter)

Virginia

(State or other jurisdiction of incorporation or organization) 4991 Lake Brook Drive, Suite 100 Glen Allen, Virginia (Address of Principal Executive Offices) 52-1549373

(I.R.S. Employer Identification No.)

> 23060-9245 (Zip Code)

Emerging growth company

DYNEX CAPITAL, INC. 401(k) PLAN (Full title of the plan)

Robert S. Colligan Michael A. Angelo, Esq. 4991 Lake Brook Drive, Suite 100 Glen Allen, Virginia 23060-9245 (Name and address of agent for service)

(804) 217-5800 (Telephone number, including area code, of agent for service)

> Copies to: Anna T. Pinedo, Esq. Brian D. Hirshberg, Esq. Mayer Brown LLP 1221 Avenue of the Americas New York, NY 10020 (212) 506-2500

> > and

Susan S. Ancarrow, Esq. Troutman Pepper Locke LLP 1001 Haxall Point Richmond, VA 23219 (804) 697-1861

 Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company or an emerging growth company. See the definitions of "large accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Acc.

 Large accelerated filer
 Image: Accelerated filer
 Image: Accelerated filer

 Non-accelerated filer
 Image: Smaller reporting company
 Image: Smaller reporting 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 7(a)(2)(B) of the Securities Act.

Registration No. 333-198796

EXPLANATORY NOTE

DEREGISTRATION OF SECURITIES

On September 17, 2014, Dynex Capital, Inc. (the "Company" or the "Registrant") filed a Registration Statement on Form S-8 (File No. 333-198796) (the "Registration Statement") registering 250,000 shares of the Company's Common Stock, \$0.01 par value per share (the "Common Stock") and an indeterminate amount of plan interests, to be offered and sold under the Dynex Capital, Inc. 401(k) Plan (the "Plan").

Effective August 30, 2024, the Company terminated the Dynex Capital Employer Stock Fund in the Plan and is no longer offering the Company's securities pursuant to the Plan. In accordance with an undertaking made by the Company in the Registration Statement to remove from registration by means of a post-effective amendment any securities registered under the Registration Statement that remain unsold at the termination of the offering, the Company hereby deregisters by means of this Post-Effective Amendment No. 1 any securities registered under the Registration Statement that remain unsold as of the date hereof.

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SIGNATURES

The Registrant: Pursuant to the requirements of the Securities Act of 1933, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this Post-Effective Amendment No. 1 to the Registration Statement on Form S-8 to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Glen Allen, Commonwealth of Virginia, on June 26, 2025.

Dynex Capital, Inc.

(Registrant)

By: /s/ Robert S. Colligan

Robert S. Colligan

Chief Financial Officer and Chief Operating Officer

POWER OF ATTORNEY

Each person whose signature appears below constitutes and appoints Byron L. Boston, Smriti L. Popenoe and Robert S. Colligan, and each of them, with full power to act without the others, such person's true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for him or her and in his or her name, place and stead, in any and all capacities, to sign this Post-Effective Amendment No. 1 to the Registration Statement on Form S-8 and any and all other post-effective amendments and supplements to the Registration Statement filed under the Securities Act of 1933, and to file the same with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorney-in-fact and agent full power and authority to do and perform each act and thing requisite and necessary to be done, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorney-in-fact and agent, or his or her substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

This Power of Attorney may be executed in multiple counterparts, each of which shall be deemed an original, but which taken together shall constitute one instrument.

Pursuant to the requirements of the Securities Act of 1933, this Post-Effective Amendment No. 1 to the Registration Statement on Form S-8 has been signed below by the following persons in the capacities and on the date indicated.

SignatureTitle/s/ Byron L. BostonCo-Chief ExecuByron L. BostonCo-Chief Execu

Co-Chief Executive Officer and Chairman of the Board (*Co-Principal Executive Officer*) Date June 26, 2025

/s/ Smriti L. Popenoe		June 26, 2025
Smriti L. Popenoe	Co-Chief Executive Officer,	
	President and Director	
	(Co-Principal Executive Officer)	
/s/ Robert S. Colligan		June 26, 2025
Robert S. Colligan	Chief Financial Officer and Chief Operating Officer (<i>Principal Financial Officer</i>)	
/s/ Jeffrey L. Childress		June 26, 2025
Jeffrey L. Childress	Senior Vice President and Chief Accounting Officer (<i>Principal Accounting Officer</i>)	
/s/ Julia L. Coronado		June 26, 2025
Julia L. Coronado	Lead Independent Director	
/s/ Marie A. Chandoha		June 26, 2025
Marie A. Chandoha	Director	
/s/ Alec I. Crawford		June 26, 2025
Alec I. Crawford	Director	
/s/ Andrew I. Gray		June 26, 2025
Andrew I. Gray	Director	
/s/ Joy D. Palmer		June 26, 2025
Joy D. Palmer	Director	

The Plan: Pursuant to the requirements of the Securities Act of 1933, the trustee (or other person who administers the Dynex Capital, Inc. 401(k) Plan) has duly caused this Post-Effective Amendment No. 1 to the Registration Statement on Form S-8 to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Glen Allen, Commonwealth of Virginia, on June 26, 2025.

Dynex Capital, Inc. 401(k) Plan

By:

/s/ Jeffrey L. Childress

Jeffrey L. Childress

Senior Vice President and Chief Accounting Officer