

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

FORM S-3

REGISTRATION STATEMENT
UNDER THE SECURITIES ACT OF 1933

180 LIFE SCIENCES CORP.
(Exact name of registrant in its charter)

Delaware
(State or jurisdiction of incorporation or organization)

90-1890354
(I.R.S. Employer Identification Number)

3000 El Camino Real, Bldg. 4, Suite 200
Palo Alto, California 94306
(650) 285-2387
(Address, including zip code, and telephone number,
including area code, of registrant's principal executive offices)

Blair Jordan
Chief Executive Officer
180 Life Sciences Corp.
3000 El Camino Real, Bldg. 4, Suite 200
Palo Alto, California 94306
(650) 285-2387
(Name, address, including zip code, and telephone number,
including area code, of agent for service)

Copies To:

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Approximate date of commencement of proposed sale to the public: **From time to time after the effective date of this registration statement as determined by market conditions and other factors.**

If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following box ☐

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, other than securities offered only in connection with dividend or interest reinvestment plans, check the following box. ☒

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this Form is a registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box. ☐

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box. ☐

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," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer ☐
Non-accelerated filer ☒

Accelerated filer ☐
Smaller reporting company ☒
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 7(a)(2)(B) of Securities Act. ☐

The registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the registrant shall file a further amendment which specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act or until the Registration Statement shall become effective on such date as the Securities and Exchange Commission acting pursuant to said Section 8(a), may determine.

The information in this prospectus is not complete and may be changed. We may not sell these securities or accept an offer to buy these securities until the registration statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities and it is not soliciting offers to buy these securities in any state or jurisdiction where such offer or sale is not permitted.

SUBJECT TO COMPLETION, DATED JUNE 20, 2025

PROSPECTUS

\$500,000,000



180 Life Sciences Corp.

Common Stock
Preferred Stock
Debt Securities
Warrants
Units

We may from time to time, in one or more offerings at prices and on terms that we will determine at the time of each offering, sell common stock, preferred stock, debt securities, warrants, or a combination of these securities or units (collectively referred to as “securities”) for an aggregate initial offering price of up to \$500 million. The preferred stock may be convertible into shares of our common stock or shares of our preferred stock. The warrants may be exercisable for shares of our common stock or shares of our preferred stock or debt securities. The units may consist of any combination of the other types of securities described in this prospectus. This prospectus describes the general manner in which our securities may be offered using this prospectus. Each time we offer and sell securities, we will provide you with a prospectus supplement that will contain specific information about the terms of that offering. We may also authorize one or more free writing prospectuses to be provided to you in connection with these offerings. The prospectus supplement and any related free writing prospectus may also add, update, or change information contained in this prospectus. You should carefully read this prospectus, the applicable prospectus supplement and any related free writing prospectus as well as the documents incorporated or deemed to be incorporated by reference herein or therein before you purchase any of the securities offered hereby.

This prospectus may not be used to offer or sell our securities unless accompanied by a prospectus supplement relating to the offered securities.

Securities may be sold by us to or through underwriters or dealers, directly to purchasers or through agents designated from time to time. For additional information on the methods of sale, you should refer to the section entitled “Plan of Distribution” in this prospectus. If any underwriters are involved in the sale of any securities with respect to which this prospectus is being delivered, the names of such underwriters and any applicable discounts or commissions and over-allotment options will be set forth in a prospectus supplement. The price to the public of such securities and the net proceeds we expect to receive from such sale will also be set forth in a prospectus supplement.

Our common stock and warrants are listed on the Nasdaq Capital Market (“Nasdaq”) under the symbols “ATNF” and “ATNFW,” respectively. On June 18, 2025, the closing sale price of our common stock was \$0.8801 per share, and the closing sale price of our warrants was \$0.0088 per warrant. Each prospectus supplement will indicate whether the securities offered thereby will be listed on any securities exchange.

As of June 20, 2025, the aggregate market value of our outstanding common stock held by non-affiliates (our “public float”), was \$4,850,227, based on 5,565,487 shares of common stock outstanding, of which 3,646,787 shares are held by non-affiliates, and a per share price of \$1.33, based on the closing sales price of our common stock on the Nasdaq Capital Market on May 1, 2025 (within 60 days prior to the date of filing). Therefore, as of June 20, 2025, the aggregate market value of our common equity held by non-affiliates was less than \$75,000,000, as calculated in accordance with General Instruction I.B.1 of Form S-3. As of the date of this prospectus, we have not offered and sold securities pursuant to General Instruction I.B.6 to Form S-3 during the 12-calendar month period that ends on and includes the date hereof. Pursuant to General Instruction I.B.6 of Form S-3, in no event will we sell securities in a public primary offering with a value exceeding more than one-third of our “public float” (the market value of our common stock held by our non-affiliates) in any 12-month period so long as our public float remains below \$75,000,000.

There is currently no market for the other securities we may offer. The applicable prospectus supplement will contain information, where applicable, as to other listings, if any, on the Nasdaq Capital Market or other securities exchange of the securities covered by the prospectus supplement. We urge you to read carefully this prospectus and the accompanying prospectus supplement, which will describe the specific terms of the securities being offered to you, before you make your investment decision.

This prospectus may not be used to offer or sell our securities unless accompanied by a prospectus supplement. The information contained or incorporated in this prospectus or in the prospectus supplement(s) is accurate only as of the date of this prospectus, or such prospectus supplement, as applicable, regardless of the time of delivery of this prospectus or any sale of our securities.

Investing in our securities involves risks. You should carefully consider the risk factors under, and incorporated by reference in, “Risk Factors” beginning on page 5 of this prospectus and the discussion of risk factors contained in our annual, quarterly and current reports filed with the Securities and Exchange Commission under the Securities Exchange Act of 1934, as amended, which are incorporated by reference into this prospectus, and in the other documents incorporated by reference herein, before making any decision to invest in our securities.

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 this prospectus. Any representation to the contrary is a criminal offense.

The date of this prospectus is , 2025.

IMPORTANT NOTICE ABOUT INFORMATION PRESENTED IN THIS
PROSPECTUS AND THE ACCOMPANYING PROSPECTUS SUPPLEMENT

We may provide information to you about the securities we are offering in three separate documents that progressively provide more detail:

- this prospectus, which provides general information, some of which may not apply to your securities;
- a prospectus supplement or supplements (including any free writing prospectus), which describes the terms of the securities, some of which may not apply to your securities and which may not include information relating to the prices of the securities being offered; and
- if necessary, a pricing supplement, which describes the pricing terms of your securities.

If the terms of your securities vary among the pricing supplement, the prospectus supplement and the prospectus, you should rely on the information in the following order of priority:

- the pricing supplement, if any;
- the prospectus supplement(s) (including any free writing prospectus); and
- this prospectus.

We include cross-references in this prospectus and the prospectus supplement(s) to captions in these materials where you can find further related discussions. The following Table of Contents and the Table of Contents included in the prospectus supplement(s) provide the pages on which these captions are located.

Unless indicated in the applicable prospectus supplement(s) or free writing prospectus, we have not taken any action that would permit us to publicly sell these securities in any jurisdiction outside the United States. If you are an investor outside the United States, you should inform yourself about and comply with any restrictions as to the offering of the securities and the distribution of this prospectus.

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ABOUT THIS PROSPECTUS

This prospectus is a part of a registration statement that we filed with the Securities and Exchange Commission, the SEC or the Commission, utilizing a “shelf” registration process. Under this shelf registration process, we may offer to sell any combination of the securities described in this prospectus, either individually or in units, in one or more offerings up to a total dollar amount of \$500,000,000. This prospectus provides you with a general description of the securities we may offer. Each time we sell securities under this shelf registration, we will provide a prospectus supplement that will contain specific information about the terms of that offering. We may also authorize one or more free writing prospectuses to be provided to you that may contain material information about the terms of that offering. The prospectus supplement and any related free writing prospectus that we may authorize to be provided to you may also add, update or change information contained in this prospectus. To the extent that any statement that we make in a prospectus supplement and any related free writing prospectus that we may authorize to be provided to you is inconsistent with statements made in this prospectus, the statements made in this prospectus will be deemed modified or superseded by those made in the prospectus supplement(s). You should read this prospectus and any prospectus supplement(s) and free writing prospectus, including all documents incorporated herein or therein by reference, together with additional information described under “[Where You Can Find More Information](#)” and “[Incorporation of Certain Documents By Reference](#)” before making an investment decision. We may only use this prospectus to sell the securities if it is accompanied by a prospectus supplement(s).

You should rely only on the information included or incorporated by reference in this prospectus, the accompanying prospectus supplement(s) and any free writing prospectus. We have not authorized any dealer, salesman or other person to provide you with additional or different information. If anyone provides you with different or inconsistent information, you should not rely on it. This prospectus, the accompanying prospectus supplement(s) and any free writing prospectus are not an offer to sell or the solicitation of an offer to buy any securities other than the securities to which they relate and are not an offer to sell or the solicitation of an offer to buy securities in any jurisdiction to any person to whom it is unlawful to make an offer or solicitation in that jurisdiction. You should not assume that the information contained in this prospectus and the accompanying prospectus supplement(s), and any free writing prospectus, is accurate on any date subsequent to the date set forth on the front of the document or that any information we have previously filed with the SEC and incorporated by reference is correct on any date subsequent to the date of the document incorporated by reference, even though this prospectus and any accompanying prospectus supplement(s) and any free writing prospectus is delivered or securities are sold on a later date. Our business, financial condition, results of operations and prospects may have changed since those dates. We will disclose any material changes in our affairs in a post-effective amendment to the registration statement of which this prospectus is a part, a prospectus supplement, free writing prospectus or a future filing with the Securities and Exchange Commission incorporated by reference in this prospectus. We do not imply or represent by delivering this prospectus that 180 Life Sciences Corp., or its business, financial condition or results of operations, are unchanged after the date on the front of this prospectus or that the information in this prospectus is correct at any time after such date.

THIS PROSPECTUS MAY NOT BE USED TO CONSUMMATE A SALE OF SECURITIES UNLESS IT IS ACCOMPANIED BY A PROSPECTUS SUPPLEMENT.

Persons outside the United States who come into possession of this prospectus must inform themselves about, and observe any restrictions relating to, the offering of the securities and the distribution of this prospectus outside of the United States.

Our logo and some of our trademarks and tradenames are used in this prospectus and the applicable prospectus supplement(s) and the documents incorporated by reference herein and therein and any free writing prospectus. This prospectus and the applicable prospectus supplement(s) and the documents incorporated by reference herein and therein and any free writing prospectus also include trademarks, tradenames and service marks that are the property of others. Solely for convenience, trademarks, tradenames and service marks referred to in this prospectus and the applicable prospectus supplement(s) and the documents incorporated by reference herein and therein and any free writing prospectus may appear without the ®, ™ and SM symbols. References to our trademarks, tradenames and service marks are not intended to indicate in any way that we will not assert to the fullest extent under applicable law our rights or the rights of the applicable licensors if any, nor that respective owners to other intellectual property rights will not assert, to the fullest extent under applicable law, their rights thereto. We do not intend the use or display of other companies' trademarks and trade names to imply a relationship with, or endorsement or sponsorship of us by, any other companies.

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You should carefully read the entire prospectus, as well as the documents incorporated by reference in the prospectus, the applicable prospectus supplement(s) and any applicable "free writing prospectus" before making an investment decision.

The market data and certain other statistical information used throughout this prospectus and the applicable prospectus supplement(s) are incorporated by reference herein and therein, are based on independent industry publications, reports by market research firms or other independent sources that we believe to be reliable sources. Industry publications and third-party research, surveys and studies generally indicate that their information has been obtained from sources believed to be reliable, although they do not guarantee the accuracy or completeness of such information. We are responsible for all of the disclosures contained in this prospectus and the applicable prospectus supplement(s) and incorporated herein and therein by reference, and we believe these industry publications and third-party research, surveys and studies are reliable. While we are not aware of any misstatements regarding any third-party information presented in this prospectus and the applicable prospectus supplement(s) or incorporated herein or therein by reference, their estimates, in particular, as they relate to projections, involve numerous assumptions, are subject to risks and uncertainties, and are subject to change based on various factors, including those discussed under, and incorporated by reference in, the section entitled "Risk Factors" of this prospectus and the applicable prospectus supplement(s). These and other factors could cause our future performance to differ materially from our assumptions and estimates. Some market and other data included herein and the applicable prospectus supplement(s), as well as the data of competitors as they relate to 180 Life Sciences Corp., is also based on our good faith estimates.

Unless the context otherwise requires, references in this prospectus and the applicable prospectus supplement(s) and any free writing prospectus to "we," "us," "our," the "Registrant," "180 Life", the "Company," refers to 180 Life Sciences Corp. In addition, unless the context otherwise requires, "Exchange Act" refers to the Securities Exchange Act of 1934, as amended; "SEC" or the "Commission" refers to the United States Securities and Exchange Commission; and "Securities Act" refers to the Securities Act of 1933, as amended. All dollar amounts in this prospectus are in U.S. dollars unless otherwise stated. You should read the entire prospectus before making an investment decision to purchase our securities.

The registration statement containing this prospectus, including the exhibits to the registration statement, provides additional information about us and the securities offered pursuant to this prospectus. For a more complete understanding of the offering of the securities, you should refer to the registration statement, including its exhibits. The registration statement can be read on the SEC's website mentioned under the heading "Where You Can Find More Information", below.

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INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

We file reports, proxy statements, and other information with the SEC. Such reports, proxy statements, and other information concerning us can be read on the Internet at the SEC's website <http://www.sec.gov>.

This prospectus is part of a registration statement filed with the SEC by us. The full registration statement can be obtained from the SEC as indicated above, or from us.

The SEC's rules allow us to "incorporate by reference" information into this prospectus and each prospectus supplement, which means that we can disclose important information to you by referring you to another document filed separately with the SEC. The information incorporated by reference is deemed to be part of this prospectus and each prospectus supplement, and subsequent information that we file with the SEC will automatically update and supersede that information. Any statement contained in this prospectus and each prospectus supplement or a previously filed document incorporated by reference will be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained in this prospectus, each prospectus supplement or a subsequently filed document incorporated by reference modifies or replaces that statement.

We incorporate by reference in this prospectus (i) the documents listed below, (ii) all reports and documents that we file with the SEC under Section 13(a), 13(c), 14 or 15(d) of the Exchange Act after the initial filing of the registration statement that contains this prospectus and prior to the effectiveness of such registration statement, and (iii) and any future filings that we may make with the SEC under Sections 13(a), 13(c), 14, or 15(d) of the Exchange Act on or after the date of this prospectus and prior to the termination of the offering under this prospectus; provided, however, that we are not incorporating, in each case, any documents or information deemed to have been furnished and not filed in accordance with SEC rules (including Items 2.02 and 7.01 of Form 8-K):

(a) The Company's Annual Report on Form 10-K for the year ended December 31, 2024, filed with the SEC on [March 31, 2025](#), as amended by Amendment No. 1 thereto filed with the SEC on [April 25, 2025](#), and Amendment No. 2 thereto filed with the SEC on [May 8, 2025](#) (File No. 001-38105)(the "Annual Report");

(b) The Company's [Quarterly Report on Form 10-Q](#) for the quarter ended March 31, 2025, filed with the SEC on May 15, 2025;

(c) The Company's Current Reports on Form 8-K and 8-K/A (other than information furnished rather than filed) filed with the SEC on [January 2, 2025](#), [February 7, 2025](#), [February 21, 2025](#), [February 25, 2025](#), [April 1, 2025](#), [April 9, 2025](#), [April 30, 2025](#), [May 1, 2025](#) and [June 18, 2025](#) (File No. 001-38105); and

(d) The description of the Company's common stock contained in our Annual Report on [Form 10-K](#) for the year ended December 31, 2022, filed with the SEC on March 31, 2023, as [Exhibit 4.6](#) (File No. 001-38105), including any amendment or report filed for the purpose of updating such description.

Upon request, we will provide, without charge, to each person, including any beneficial owner, to whom a copy of this prospectus is delivered, a copy of the documents incorporated by reference into this prospectus but not delivered with the prospectus. You may make a request for copies of these filings, and any exhibits we have specifically incorporated by reference as an exhibit in this prospectus, at no cost by writing or by telephone. Requests should be directed to: Attention: Corporate Secretary, 3000 El Camino Real, Bldg. 4, Suite 200, Palo Alto, California 94306, telephone (650) 285-2387. The documents incorporated by reference may be accessed on the "[Investors](#)"—"[SEC Filings](#)"—"[All SEC Filings](#)" page of our website at www.180lifesciences.com. We do not incorporate the information on our website into this prospectus or any supplement to this prospectus and you should not consider any information on, or that can be accessed through, our website as part of this prospectus or any supplement to this prospectus (other than those filings with the SEC that we specifically incorporate by reference into this prospectus or any supplement to this prospectus).

Exhibits to the filings will not be sent, however, unless those exhibits have specifically been incorporated by reference in this prospectus and the applicable prospectus supplement and any free writing prospectus.

Any statement contained in a document incorporated by reference into this prospectus shall be deemed to be modified or superseded for the purposes of this prospectus to the extent that a statement contained herein or in any subsequently filed document that is also incorporated by reference in this prospectus modifies or supersedes such statement. Any statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this prospectus or any prospectus supplement.

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PROSPECTUS SUMMARY

The following summary highlights material information found in more detail elsewhere in, or incorporated by reference in, the prospectus. It does not contain all of the information you should consider. As such, before you decide to buy our securities, in addition to the following summary, we urge you to carefully read the entire prospectus and documents incorporated by reference herein, the prospectus supplement, and any free writing prospectus, especially the risks of investing in our securities as discussed under, and incorporated by reference in, the sections entitled "[Risk Factors](#)" herein and therein. The following summary is qualified in its entirety by the detailed information appearing elsewhere in this prospectus.

Our Company

We were formed as a clinical stage biotechnology company, focused on the development of therapeutics for unmet medical needs in chronic pain, inflammation and fibrosis by employing innovative research, and, where appropriate, combination therapy. In September 2024, we completed the acquisition of certain source code and intellectual property relating to the back-end technology platform to operate an online blockchain casino, and moving forward, we plan to focus the majority of our operations on the creation of the online blockchain casino, while looking to monetize certain prior development stage therapeutic product candidates for unmet medical needs.

Planned iGaming Casino Operations

We are planning to strategically enter into the online gaming industry, utilizing certain source code and intellectual property relating to an online blockchain casino we acquired in September 2024, i.e., our "back-end" gaming platform, which incorporates blockchain technology and cryptocurrency operability (the "[Gaming Technology Platform](#)"). The Company plans to use this technology platform to establish a blockchain-based business aimed at the global iGaming market, focusing initially only on the cryptocurrency market and in the future, potentially the traditional fiat currency wagering market. Initially focusing on B2C (business-to-consumer) online casinos, the Company also plans to expand into a B2B (business-to-business) model, offering a seamless blockchain-enabled technology platform for gaming operators worldwide. In addition, management has identified certain global iGaming industry characteristics and trends that they believe make potential acquisition opportunities attractive. Management believes that the combination of the Gaming Technology Platform and the strength of a Nasdaq listing make the Company an attractive consolidation vehicle for the iGaming industry, and plans to work to identify potential acquisitions in the future (although no definitive acquisition agreements have been entered into to date).

Legacy Biotechnology Programs

We currently have two legacy biotechnology programs that are focused on different diseases or medical conditions, and that target different factors, molecules or proteins. Due to restrictions in the Company's resources, the Company has slowed down research and development activities significantly in the SCA platform (discussed below) and the anti-TNF platform (discussed below).

The Company is currently evaluating all options to monetize its existing life science assets, in addition to exploring other strategic alternatives to maximize value for its stockholders. Our legacy biotechnology programs include:

- fibrosis and anti-tumor necrosis factor ("[TNF](#)"); and
- drugs which are derivatives of cannabidiol ("[CBD](#)") or cannabigerol ("[CBG](#)") analogues ("[SCAs](#)").

Additional Information

Additional information about us can be obtained from the documents incorporated by reference herein. See "[Where You Can Find More Information](#)".

Our Contact Information

Our principal executive offices are located at 3000 El Camino Real, Bldg. 4, Suite 200, Palo Alto, California 94306. Our telephone number is (650) 285-2387. We

file annual, quarterly, and current reports, proxy statements and other information with the SEC. Our SEC filings (reports, proxy and information statements, and other information) are available to the public over the Internet at the SEC's website at www.sec.gov and are available for download, free of charge, soon after such reports are filed with or furnished to the SEC, on the "Investors"—"SEC Filings"—"All SEC Filings" page of our website at www.180lifesciences.com. ***The information contained on, or that can be accessed through, our website is not incorporated by reference into this prospectus. We have included our web address as an inactive textual reference only.*** We make our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, and amendments to these reports available free of charge on our website as soon as reasonably practicable after we file these reports with the Securities and Exchange Commission.

**THIS PROSPECTUS MAY NOT BE USED TO OFFER OR SELL ANY SECURITIES
UNLESS ACCOMPANIED BY A PROSPECTUS SUPPLEMENT.**

SECURITIES REGISTERED HEREBY THAT WE MAY OFFER

We may offer any of the following securities, either individually or in combination, with a total value of up to \$500,000,000 from time to time under this prospectus at prices and on terms to be determined by market conditions at the time of the offering:

- common stock;
- preferred stock, in one or more series;
- debt securities;
- warrants to purchase shares of common stock, shares of preferred stock or debt securities; or
- any combination of the foregoing securities, in units.

We refer to our common stock, preferred stock, debt securities, warrants, and units collectively in this prospectus as the "securities." This prospectus provides you with a general description of the securities we may offer. Each time we offer a type or series of securities, we will provide a prospectus supplement and may provide a free writing prospectus that will describe the specific amounts, prices and other important terms of the securities, including, to the extent applicable:

- designation or classification;
- aggregate offering price;
- rates and times of payment of dividends, if any;

- redemption, conversion or sinking fund terms, if any;
- voting or other rights, if any;
- conversion prices, if any; and
- important federal income tax considerations.

We may sell the securities to or through underwriters or dealers, directly to purchasers or through agents designated from time to time. We and our agents, underwriters and dealers reserve the right to accept or reject all or part of any proposed purchase of securities. If we do offer securities to or through agents, underwriters or dealers, we will include in the applicable prospectus supplement:

- the names of those agents, underwriters or dealers;
- applicable fees, discounts and commissions to be paid to them;
- details regarding over-allotment options, if any; and
- the net proceeds to us.

Common Stock. We may offer shares of our common stock. Our common stock currently is listed on the Nasdaq Capital Market under the symbol ATNF". Shares of common stock that may be offered in this offering will, when issued and paid for, be fully paid and non-assessable. We have summarized certain general features of our stock under "[Description of Common Stock](#)." We urge you to read our Second Amended and Restated Certificate of Incorporation, as amended, and our Second Amended and Restated Bylaws, as well as the applicable prospectus supplement, and any related free writing prospectus that we may authorize to be provided to you, related to any offering of our common stock.

Preferred Stock. We may offer shares of our preferred stock, in one or more series. Prior to the issuance of shares of each series, our Board of Directors will determine the rights, preferences, privileges and restrictions of such preferred stock series, and will adopt resolutions and file a certificate of designation with the Secretary of State of the State of Delaware. The certificate of designation fixes for each class or series the designations, powers, preferences, rights, qualifications, limitations and restrictions, including, but not limited to, the following: any dividend rights, conversion rights, voting rights, rights and terms of redemption, liquidation preferences, sinking fund terms and the number of shares constituting any series or the designation of any series. Convertible preferred stock will be convertible into shares of our common stock or preferred stock. Conversion may be mandatory or at your option and would be at prescribed conversion rates. Shares of preferred stock that may be offered in this offering will, when issued and paid for, be fully paid and non-assessable. If we elect to issue preferred stock, we will describe the specific terms of a particular series of preferred stock in the prospectus supplement relating to that series. We will file as an exhibit to the registration statement of which this prospectus is a part, or will incorporate by reference from another report that we file with the SEC, the certificate of designation that describes the terms of any series of preferred stock we offer under this prospectus before the issuance of shares of that series of preferred stock. You should read the prospectus supplement and any free writing prospectus that we may authorize to be provided to you related to the series of preferred stock being offered. We have summarized certain general features of the preferred stock under "[Description of Preferred Stock](#)." We urge you to read the complete certificate of designation containing the terms of the applicable series of preferred stock, as well as the applicable prospectus supplement, and any related free writing prospectus that we may authorize to be provided to you, related to such series.

Debt Securities. We may issue debt securities from time to time, in one or more series, as either senior or subordinated debt or as senior or subordinated convertible debt. The senior debt securities will rank equally with any other unsecured and unsubordinated debt. The subordinated debt securities will be subordinate and junior in right of payment, to the extent and in the manner described in the instrument governing the debt, to all of our senior indebtedness. Convertible debt securities will be convertible into or exchangeable for our common stock or other securities. Conversion may be mandatory or at your option and would be at prescribed conversion rates.

Any debt securities issued under this prospectus will be issued under one or more documents called indentures, which are contracts between us and a national banking association or other eligible party, as trustee. In this prospectus, we have summarized certain general features of the debt securities under “[Description of Debt Securities](#).” We urge you, however, to read the applicable prospectus supplement (and any free writing prospectus that we may authorize to be provided to you) related to the series of debt securities being offered, as well as the complete indentures that contain the terms of the debt securities. We have filed the form of indenture as an exhibit to the registration statement of which this prospectus is a part, and supplemental indentures and forms of debt securities containing the terms of the debt securities being offered will be filed as exhibits to the registration statement of which this prospectus is a part or will be incorporated by reference from reports that we file with the SEC.

Warrants. We may issue warrants for the purchase of shares of common stock, shares of preferred stock in one or more series, and/or debt securities in one or more series. We may issue warrants independently or in combination with common stock, preferred stock, and/or debt securities. In this prospectus, we have summarized certain general features of the warrants under “[Description of Warrants](#).” We urge you, however, to read the applicable prospectus supplement, and any related free writing prospectus that we may authorize to be provided to you, related to the particular series of warrants being offered, as well as the form of warrant and/or the warrant agreement and warrant certificate, as applicable, that contain the terms of the warrants. We will file as exhibits to the registration statement of which this prospectus is a part, or will incorporate by reference from reports that we file with the SEC, the form of warrant and/or the warrant agreement and warrant certificate, as applicable, that describe the terms of the particular series of warrants we are offering, and any supplemental agreements, before the issuance of such warrants.

Any warrants issued under this prospectus may be evidenced by warrant certificates. Warrants also may be issued under an applicable warrant agreement that we enter into with a warrant agent. We will indicate the name and address of the warrant agent, if any, in the applicable prospectus supplement relating to a particular series of warrants.

Units. We may issue units representing any combination of common stock, preferred stock, debt securities and/or warrants from time to time. The units may be issued under one or more unit agreements. In this prospectus, we have summarized certain general features of the units.

We will incorporate by reference into the registration statement, of which this prospectus is a part, the form of unit agreement under which the units are designated, if any, describing the terms of the units we are offering before the issuance of the related units. We have summarized certain general features of the units under “[Description of Units](#).” We urge you to read the prospectus supplements related to any units being offered, as well as the complete unit agreement, if any, designating the units.

RISK FACTORS

An investment in our securities involves a high degree of risk. The prospectus supplement applicable to each offering of our securities will, and any free writing prospectus may, contain a discussion of the risks applicable to an investment in our securities. Prior to making a decision about investing in our securities, you should carefully consider the specific factors discussed under the heading “[Risk Factors](#)” in the applicable prospectus supplement and any information contained in any free writing prospectus, together with all of the other information contained or incorporated by reference in the prospectus supplement or appearing or incorporated by reference in this prospectus. You should also consider the risks, uncertainties and assumptions discussed under Item 1A, “[Risk Factors](#),” in our most recent Annual Report on Form 10-K, and Item 1A, “[Risk Factors](#)” in our most recent Quarterly Report on Form 10-Q, all of which are incorporated herein by reference, as such may be amended, supplemented or superseded from time to time by other reports we file with the Securities and Exchange Commission in the future. For more information, see “[Incorporation of Certain Documents by Reference](#).” The risks and uncertainties we have described are not the only ones we face. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also affect our business and operations. If one or more of the possibilities described as risks actually occurs, our operating results and financial condition would likely suffer and the trading price of our securities could fall, causing you to lose some or all of your investment in the securities we are offering. In addition, please read “[Forward-Looking Statements](#)” in this prospectus, below, where we describe additional uncertainties associated with our business and the forward-looking statements included or incorporated by reference in this prospectus.

FORWARD-LOOKING STATEMENTS

This prospectus contains, and the prospectus supplement will contain, forward-looking statements within the meaning of the federal securities laws, including the Private Securities Litigation Reform Act of 1995. In some cases, you can identify forward-looking statements by the following words: “[anticipate](#),” “[believe](#),” “[continue](#),” “[could](#),” “[estimate](#),” “[expect](#),” “[intend](#),” “[may](#),” “[ongoing](#),” “[plan](#),” “[potential](#),” “[predict](#),” “[project](#),” “[should](#),” or the negative of these terms or other comparable terminology, although not all forward-looking statements contain these words. Forward-looking statements are not a guarantee of future performance or results, and will not necessarily be accurate indications of the times at, or by, which such performance or results will be achieved. Forward-looking statements are based on information available at the time the statements are made and involve known and unknown risks, uncertainties and other factors that may cause our results, levels of activity, performance or achievements to be materially different from the information expressed or implied by the forward-looking statements in this prospectus and the prospectus supplement. These factors include, but are not limited to, the risk factors included under or incorporated by reference in, “[Risk Factors](#)” above and under “[Risk Factors](#)” in any prospectus supplement and filings incorporated by reference herein and therein.

You should read this prospectus and the prospectus supplement, those documents incorporated by reference herein and therein, and those documents which we have filed with the SEC as exhibits to the registration statement, of which this prospectus is a part, completely and with the understanding that our actual future results may be materially different from any future results expressed or implied by these forward-looking statements.

Forward-looking statements speak only as of the date of this prospectus or the date of any document incorporated by reference in this prospectus, and the prospectus supplement(s) and the documents incorporated therein, as applicable and any free writing prospectus, as applicable. Except to the extent required by applicable law or regulation, we do not undertake any obligation to update forward-looking statements to reflect events or circumstances after the date of this prospectus, any prospectus supplement or any free writing prospectus or to reflect the occurrence of unanticipated events.

You should also consider carefully the statements under and incorporated by reference in “[Risk Factors](#)” in this prospectus, any prospectus supplement, and other sections of this prospectus, and the documents we incorporate by reference, and the prospectus supplement(s) and the documents incorporated therein and any free writing prospectus, which address additional facts that could cause our actual results to differ from those set forth in the forward-looking statements. We caution investors not to place significant reliance on the forward-looking statements contained in this prospectus, and the documents we incorporate by reference, the prospectus supplement(s) and the documents incorporated therein and any free writing prospectus. We undertake no obligation to publicly update or review any forward-looking statements, whether as a result of new information, future developments or otherwise, except as otherwise required by law.

You should read this prospectus and the documents that we reference in this prospectus, and the prospectus supplement and the documents incorporated therein and any free writing prospectus, and those documents we have filed as exhibits to the registration statement, of which this prospectus is a part, completely and with the understanding that our actual future results may be materially different from what we expect. We qualify all of our forward-looking statements by these cautionary statements.

USE OF PROCEEDS

Unless otherwise indicated in the applicable prospectus supplement, we intend to use the net proceeds from the sale of the securities offered in the prospectus and the prospectus supplement for working capital and general corporate purposes. We may also use a portion of the net proceeds to acquire or invest in businesses and assets that are complementary to our own, although we have no current plans, commitments or agreements with respect to any acquisitions as of the date of this prospectus. Pending the uses described above, we intend to invest the net proceeds in short-term, interest bearing, investment-grade securities. The intended application of proceeds from the sale of any particular offering of securities using this prospectus will be described in the applicable prospectus supplement(s) and any free writing prospectus relating to such offering. The precise amount and timing of the application of these proceeds will depend on our funding requirements and the availability and costs of other funds.

DESCRIPTION OF COMMON STOCK

As of the date of this prospectus, we have 100,000,000 authorized shares of common stock, \$0.0001 par value per share and 5,000,000 authorized shares of preferred stock, \$0.0001 par value per share. Our currently designated preferred stock is discussed in greater detail under “[Description of Preferred Stock](#)”, below.

The following description of our capital stock is a summary only and is subject to and qualified in its entirety by reference to the applicable provisions of Delaware General Corporation Law, and our Second Amended and Restated Certificate of Incorporation, as amended, and Second Amended and Restated Bylaws, copies of which are incorporated by reference as exhibits to the registration statement of which this prospectus forms a part. Please refer to the “[Where You Can Find More Information](#)” section of this prospectus for directions on obtaining these documents. You should refer to, and read this summary together with, our Second Amended and Restated Certificate of Incorporation, as amended, designation of preferred stock (if any) and Bylaws, each as amended and restated from time to time, to review all of the terms of our capital stock. Our Second Amended and Restated Certificate of Incorporation and amendments thereto are incorporated by reference as exhibits to the registration statement of which this prospectus is a part and other reports incorporated by reference herein.

Common Stock

Voting Rights. Each share of our common stock is entitled to one vote on all stockholder matters. Shares of our common stock do not possess any cumulative voting rights.

Except for the election of directors, if a quorum is present, an action on a matter is approved if it receives the affirmative vote of the holders of a majority of the voting power of the shares of capital stock present in person or represented by proxy at the meeting and entitled to vote on the matter, unless otherwise required by applicable law, Delaware law, our Certificate of Incorporation, as amended or Second Amended and Restated Bylaws. The election of directors will be determined by a plurality of the votes cast in respect of the shares present in person or represented by proxy at the meeting and entitled to vote, meaning that the nominees with the greatest number of votes cast, even if less than a majority, will be elected. The rights, preferences and privileges of holders of common stock are subject to, and may be impacted by, the rights of the holders of shares of any series of preferred stock that we have designated, or may designate and issue in the future.

Our board of directors is divided into two classes, each of which will generally serve for a term of two years with only one class of directors being elected in each year. There is no cumulative voting with respect to the election of directors, with the result that the holders of more than 50% of the shares voted for the election of directors can elect all of the directors.

Dividend Rights. Each share of our common stock is entitled to equal dividends and distributions per share with respect to the common stock when, as and if declared by our Board of Directors, subject to any preferential or other rights of any outstanding preferred stock.

Liquidation and Dissolution Rights. Upon liquidation, dissolution or winding up, our common stock will be entitled to receive pro rata on a share-for-share basis, the assets available for distribution to the stockholders after payment of liabilities and payment of preferential and other amounts, if any, payable on any outstanding preferred stock.

Fully Paid Status. All outstanding shares of the Company’s common stock are validly issued, fully paid and non-assessable.

Other Matters. No holder of any shares of our common stock has a preemptive right to subscribe for any of our securities, nor are any shares of our common stock subject to redemption or convertible into other securities.

Certain Anti-Takeover Provisions of Delaware Law and our Certificate of Incorporation and Bylaws

We are subject to the provisions of Section 203 of the Delaware General Corporation Law (“[DGCL](#)”) regulating corporate takeovers. This statute prevents certain Delaware corporations, under certain circumstances, from engaging in a “[business combination](#)” with:

- a stockholder who owns 15% or more of our outstanding voting stock (otherwise known as an “[interested stockholder](#)”);
- an affiliate of an interested stockholder; or
- an associate of an interested stockholder, for three years following the date that the stockholder became an interested stockholder.

A “business combination” includes a merger or sale of more than 10% of our assets. However, the above provisions of Section 203 do not apply if:

- our Board of Directors approves the transaction that made the stockholder an “Interested stockholder,” prior to the date of the transaction;
- after the completion of the transaction that resulted in the stockholder becoming an interested stockholder, that stockholder owned at least 85% of our voting stock outstanding at the time the transaction commenced, other than statutorily excluded shares of common stock; or
- on or subsequent to the date of the transaction, the business combination is approved by our Board of Directors and authorized at a meeting of our stockholders, and not by written consent, by an affirmative vote of at least two-thirds of the outstanding voting stock not owned by the interested stockholder.

Our Second Amended and Restated Certificate of Incorporation provides that our Board of Directors be classified into two classes of directors. As a result, in most circumstances, a person can gain control of our Board of Directors only by successfully engaging in a proxy contest at two or more annual meetings.

Our authorized but unissued common stock and preferred stock are available for future issuances without stockholder approval and could be utilized for a variety of corporate purposes, including future offerings to raise additional capital, acquisitions and employee benefit plans. The existence of authorized but unissued and unreserved common stock and preferred stock could render more difficult or discourage an attempt to obtain control of us by means of a proxy contest, tender offer, merger or otherwise.

Anti-Takeover Effects Under our Certificate of Incorporation and Bylaws

Exclusive forum for certain lawsuits

Our Second Amended and Restated Certificate of Incorporation requires, to the fullest extent permitted by law, that derivative actions brought in our name, actions against directors, officers and employees for breach of fiduciary duty and other similar actions may be brought only in the Court of Chancery in the State of Delaware and, if brought outside of Delaware, the stockholder bringing such suit will be deemed to have consented to service of process on such stockholder’s counsel. Although we believe this provision benefits us by providing increased consistency in the application of Delaware law in the types of lawsuits to which it applies, the provision may limit a stockholder’s ability to bring a claim in a judicial forum that it finds favorable for disputes with us or our directors, officers, or other employees, which may have the effect of discouraging lawsuits against our directors and officers.

Notwithstanding the foregoing, in the event the Court of Chancery in the State of Delaware lacks subject matter jurisdiction over any such action or proceeding, the sole and exclusive forum for such action or proceeding will be another court in the State of Delaware, or if no court in the State of Delaware has jurisdiction, the federal district court for the District of Delaware, in each such case, unless the Court of Chancery (or such other state or federal court located within the State of Delaware, as applicable) has dismissed a prior action by the same plaintiff asserting the same claims because such court lacked personal jurisdiction over an indispensable party named as a defendant therein. To the fullest extent permitted by law, the forum selection provision discussed above will apply to derivative actions or proceedings brought on our behalf and arising under the Securities Act or the Exchange Act, although our stockholders cannot waive compliance with the federal securities laws and the rules and regulations thereunder. There is uncertainty as to whether a court would enforce such provision in connection with any such derivative action or proceeding arising under the Securities Act or the Exchange Act, and it is possible that a court could find the forum selection provision to be inapplicable or unenforceable in such a case.

Special meeting of stockholders

Our Second Amended and Restated Bylaws (“Bylaws”) provide that special meetings of our stockholders may be called only by a majority vote of our board of directors, by our Chief Executive Officer or by our Chairman.

Advance notice requirements for stockholder proposals and director nominations

Our Bylaws provide that stockholders seeking to bring business before our annual meeting of stockholders, or to nominate candidates for election as directors at our annual meeting of stockholders, must provide timely notice of their intent in writing. Separately, pursuant to Rule 14a-8 of the Exchange Act, proposals seeking inclusion in our annual proxy statement must comply with the notice periods contained therein. Our Bylaws also specify certain requirements as to the form and content of a stockholders’ meeting. These provisions may preclude our stockholders from bringing matters before our annual meeting of stockholders or from making nominations for directors at our annual meeting of stockholders and may also discourage or deter a potential acquirer from conducting a solicitation of proxies to elect the acquirer’s own slate of directors or otherwise attempting to obtain control of our company.

Director terms and removal of directors

Pursuant to our amended and restated Certificate of Incorporation, our Board of Directors is a classified Board of Directors, as a result of which our Board of Directors is divided into two classes, with each class serving for staggered two-year terms and directors can only be removed for ‘cause’.

Action by written consent

Our Second Amended and Restated Certificate of Incorporation prohibits stockholder action via any written consent to action without meeting, unless otherwise set forth in any designation of preferred stock.

Vacancies on the Board of Directors

Our Second Amended and Restated Certificate of Incorporation and Bylaws provide that, subject to the rights of the holders of any outstanding series of preferred stock and unless otherwise required by law or resolution of our board of directors, vacancies on the board of directors arising through death, resignation, retirement, disqualification or removal, an increase in the number of directors or otherwise may be filled by a majority of the directors then in office, though less than a quorum.

No cumulative voting

Our Second Amended and Restated Certificate of Incorporation and Bylaws do not permit cumulative voting in the election of directors. Cumulative voting allows a stockholder to vote a portion or all of its shares for one or more candidates for seats on the board of directors. Without cumulative voting, a minority stockholder may not be able to gain as many seats on our board of directors as the stockholder would be able to gain if cumulative voting were permitted. The absence of cumulative voting makes it more difficult for a minority stockholder to gain a seat on our board of directors to influence our board’s decision regarding a takeover.

Transfer Agent

Quotation on the Nasdaq Capital Market

Our common stock is listed on the Nasdaq Capital Market under the symbol “ATNF” our warrants are listed on Nasdaq Capital Market under the symbol “ATNEW”.

DESCRIPTION OF PREFERRED STOCK

We are authorized to issue 5,000,000 shares of preferred stock, \$0.0001 par value per share (“Preferred Stock”), of which 1,000,000 shares have been designated as Series A Convertible Preferred Stock of which none are outstanding, of which one share of preferred stock has been designated as a Class C Special Voting Share, of which none are outstanding, one share of preferred stock has been designated as a Class K Special Voting Share, of which none are outstanding, and of which 1,000,000 shares have been designated as Series B Convertible Preferred Stock, of which no shares are outstanding.

General

Our Second Amended and Restated Certificate of Incorporation provides that shares of preferred stock may be issued from time to time in one or more series. Our Board of Directors will be authorized to fix the voting rights, if any, designations, powers, preferences, the relative, participating, optional or other special rights and any qualifications, limitations and restrictions thereof, applicable to the shares of each series. Our Board of Directors will be able to, without stockholder approval, issue preferred stock with voting and other rights that could adversely affect the voting power and other rights of the holders of the common stock and could have anti-takeover effects. The ability of our Board of Directors to issue preferred stock without stockholder approval could have the effect of delaying, deferring or preventing a change of control of the Company or the removal of existing management.

The powers, preferences and relative, participating, optional and other special rights of each class or series of Preferred Stock, and the qualifications, limitations or restrictions thereof, if any, may differ from those of any and all other series at any time outstanding. A prospectus supplement relating to any series of preferred stock being offered will include specific terms relating to the offering. Such prospectus supplement will include:

- the title and stated or par value of the preferred stock;
- the number of shares of the preferred stock offered, the liquidation preference per share and the offering price of the preferred stock;
- the dividend rate(s), period(s) and/or payment date(s) or method(s) of calculation thereof applicable to the preferred stock;

- whether dividends shall be cumulative or non-cumulative and, if cumulative, the date from which dividends on the preferred stock shall accumulate;
- the provisions for a sinking fund, if any, for the preferred stock;
- any voting rights of the preferred stock;
- the provisions for redemption, if applicable, of the preferred stock and any restriction on the repurchase or redemption of shares by the Company while there is any arrearage in the payment of dividends or sinking fund installments;
- any listing of the preferred stock on any securities exchange;
- the terms and conditions, if applicable, upon which the preferred stock will be convertible into our common stock or preferred stock, including the conversion price or the manner of calculating the conversion price and conversion period;
- if appropriate, a discussion of Federal income tax consequences applicable to the preferred stock; and
- any other specific terms, preferences, rights, limitations or restrictions of the preferred stock.

The terms, if any, on which the preferred stock may be convertible into or exchangeable for our common stock or preferred stock will also be stated in the prospectus supplement. The terms will include provisions as to whether conversion or exchange is mandatory, at the option of the holder and/or at our option, and may include provisions pursuant to which the number of shares of our common stock or preferred stock to be received by the holders of preferred stock would be subject to adjustment.

When we issue shares of preferred stock, the shares will be fully paid and non-assessable, which means the full purchase price of the shares will have been paid and holders of the shares will not be assessed any additional monies for the shares. Unless the applicable prospectus supplement indicates otherwise, each series of the preferred stock will rank equally with any outstanding shares of our preferred stock and each other series of the preferred stock. Unless the applicable prospectus supplement states otherwise, the preferred stock will have no preemptive rights to subscribe for any additional securities which are issued by us, meaning, the holders of shares of preferred stock will have no right to buy any portion of the issued securities.

In addition, unless the applicable prospectus indicates otherwise, we will have the right to “reopen” a previous issue of a series of preferred stock by issuing additional preferred stock of such series.

The transfer agent, registrar, dividend disbursing agent and redemption agent for shares of each series of preferred stock will be named in the prospectus supplement relating to such series.

Currently Designated Preferred Stock

Series A Convertible Preferred Stock

Pursuant to the Company’s Second Amended and Restated Certificate of Incorporation filed on November 6, 2020, the Company designated 1,000,000 shares of preferred stock as Series A Convertible Preferred Stock (“Series A Preferred”).

The Series A Preferred is convertible into common stock at an initial conversion price of \$2,006.40 per share, at the election of the holder, at any time following issuance, subject to certain anti-dilution adjustments. Upon a dilutive issuance (as defined) at a price per share lower than the existing conversion price, the conversion price will adjust to the lower of (a) the dilutive issuance price per share; or (b) the lowest volume-weighted-average-price during the five days preceding the dilutive issuance. Upon any conversion, a make-whole amount (as defined in the Certificate of Designation of the Series A Preferred) shall be due with respect to each share of Series A Preferred converted. At any time following the three-month anniversary of the Business Combination, the holder of the Series A Preferred had the right to force the Company to redeem all or any portion of the Series A Preferred then owned by the holder in cash. Series A Preferred stockholders were entitled to 10% dividends. Holders of the Series A Preferred have no voting rights.

No shares of Series A Preferred are currently outstanding.

Series B Convertible Preferred Stock

On September 30, 2024, in contemplation of the closing of the transactions contemplated by an Asset Purchase Agreement (the “Purchase Agreement”) with Elray Resources, Inc. (“Elray”), the Company’s Board of Directors approved the adoption of, and filing of, a Certificate of Designations of 180 Life Sciences Corp. Establishing the Designations, Preferences, Limitations and Relative Rights of Its Series B Convertible Preferred Stock (the “Series B Designation”), which was filed with, and became effective with, the Secretary of State of Delaware on the same date. The Series B Designation designated 1,000,000 shares of Series B Convertible Preferred Stock which were issued to Elray on September 30, 2024.

The below is a summary of the rights and preferences of the Series B Convertible Preferred Stock:

Voting Rights. Until such time, if ever, as the shareholders of the Company had approved the issuance of shares of common stock upon the conversion of the Series B Convertible Preferred Stock (“Stockholder Approval”), the Series B Convertible Preferred Stock only had rights to vote on amendments to the Series B Designation (which are subject to the approval of a simple majority of the holders of Series B Convertible Preferred Stock), and the Protective Provisions, discussed below. Stockholder Approval was received at the Company’s annual meeting of stockholders held on December 27, 2024 (the “Stockholder Approval Date”).

The Series B Preferred Stock requires the consent of the holders of at least a majority of the issued and outstanding shares of Series B Convertible Preferred Stock to (a) increase or decrease (other than by redemption or conversion) the total number of authorized shares of Series B Convertible Preferred Stock of the Company; (b) adopt or authorize any new designation of any Preferred Stock or amend the Certificate of Incorporation of the Company in a manner which (i) provides any holder of common stock or preferred stock any rights upon a liquidation of the Company which are prior and superior to those of the holders of the Series B Convertible Preferred Stock; or (ii) adversely affect the rights, preferences and privileges of the Series B Convertible Preferred Stock; (c) effect an exchange, or create a right of exchange, cancel, or create a right to cancel, of all or any part of the shares of another class of shares into shares of Series B Convertible Preferred Stock; (d) alter or change the rights, preferences or privileges of the shares of Series B Convertible Preferred Stock so as to affect adversely the shares of such series; and (e) issue any shares of Series A Preferred Stock or Series B Convertible Preferred Stock, other than the Preferred Stock issued pursuant to the Purchase Agreement (collectively, the “Protective Provisions”).

After Stockholder Approval (which was received on December 27, 2024, as discussed above), in addition to the above voting rights, each holder of outstanding shares of Series B Convertible Preferred Stock shall be entitled to cast the number of votes in connection with the Series B Convertible Preferred Stock shares held by such holder equal to the number of whole shares of common stock into which the shares of Series B Convertible Preferred Stock held by such holder are convertible as of the record date for determining stockholders entitled to vote on such matter. Fractional votes shall not, however, be permitted and any fractional voting rights available on an as-converted to common stock basis (after aggregating all fractional shares into which shares of Series B Convertible Preferred Stock held by each holder could be converted) shall be rounded down to the nearest whole share. Except as provided by law or by the other provisions of the Certificate of Incorporation or the Series B Designation, holders of Series B Convertible Preferred Stock shall vote together with the holders of common stock as a single class and there shall be no series voting.

Dividend Rights. None, except that if the Company declares a dividend or makes a distribution of cash (or any other distribution treated as a dividend under Section 301 of the Internal Revenue Code) on its common stock, each holder of Shares of Series B Convertible Preferred Stock is entitled to participate in such dividend or distribution in an amount equal to the largest number of whole shares of common stock into which all shares of Series B Convertible Preferred Stock held of record by such holder are convertible as of the record date for such dividend or distribution or, if there is no specified record date, as of the date of such dividend or distribution. Notwithstanding the foregoing, holders shall have no right of participation in connection with dividends or distributions made to the common stock stockholders consisting solely of shares of common stock.

Liquidation Preference. In the event of any liquidation, dissolution or winding up of the Company, either voluntary or involuntary (each a “Liquidation Event”), the holders of Series B Convertible Preferred Stock are entitled to receive prior and in preference to any distribution of any of the assets of the Company to the holders of the common stock or securities junior to the Series B Convertible Preferred Stock (other than the common stock) by reason of their ownership of such stock, but after any required distribution to any holders of Series B Convertible Preferred Stock, an amount in cash per share of Series B Convertible Preferred Stock for each share of Series B Convertible Preferred Stock held by them equal to the greater of (x) one times the Stated Value; and (y) the total amount of consideration that would have been payable on such share upon a Liquidation Event, had such share of Series B Convertible Preferred Stock been converted into common stock, immediately prior to such Liquidation Event (as applicable, the “Liquidation Preference”). The “Stated Value” is \$17.30 per share of Series B Convertible Preferred Stock.

Conversion Rights. None prior to Stockholder Approval. After Stockholder Approval, at the option of the holder(s) thereof, each share of Series B Convertible Preferred Stock is convertible into a number of shares of common stock of the Company as equals the Conversion Rate. The “Conversion Rate” initially was 0.685 (or 685,000 shares in aggregate, which would represent 40% of the Company’s then outstanding shares of common stock), as equitably adjusted, as applicable for stock splits and recapitalizations; provided that if at any time after the original issuance date of the Series B Convertible Preferred Stock and prior to the Stockholder Approval Date, the Company actually issued any additional shares of common stock of the Company (each a “Dilutive Issuance”), the Conversion Rate was to be increased to a value equal to (x)(i) the total outstanding shares of common stock (“Total Outstanding Shares”) on the date immediately following such Dilutive Issuance, divided by (ii) 60%, minus (iii) the Total Outstanding Shares on the date immediately following such Dilutive Issuance, divided by (y) 1,000,000, rounded to the thousands place, as equitably adjusted, as applicable for stock splits and recapitalizations (each a “Dilutive Adjustment”); provided that in no event will the Conversion Rate be greater than ten.

On the Stockholder Approval Date, the Conversion Rate was fixed at 1.318 or 1,318,000 total shares of common stock.

All 1,000 shares of Series B Convertible Preferred Stock were converted into an aggregate of 1,318,000 shares of common stock on March 27, 2025, and as such, no shares of Series B Convertible Preferred Stock are currently outstanding.

Special Voting Shares

We have two classes of preferred stock designated, named our Class C Special Voting Shares and our Class K Special Voting Shares (collectively, the “Special Voting Shares”), with the rights and preferences specified below:

- The right to vote in all circumstances in which our common stock has the right to vote, with the common stock as one class;
- The Special Voting Shares entitle the holder, to an aggregate number of votes equal to the number of shares of common stock that were issuable to the holders of the previously outstanding shares of CannBioRex Purchaseco ULC and/or Katexco Purchaseco ULC, Canadian subsidiaries of the Company (the “Exchangeable Shares”);
- The holder of the Special Voting Shares (and, indirectly, the holders of the Exchangeable Shares) has the same rights as the holders of the common stock as to notices, reports, financial statements and attendance at all stockholder meetings;
- No entitlement to dividends;
- The holder of the Special Voting Shares is not entitled to any portion of any related distribution upon windup, dissolution or liquidation of the Company; and
- We could cancel the Special Voting Shares when there are no Exchangeable Shares outstanding and no option or other commitment of CannBioRex Purchaseco ULC and Katexco Purchaseco ULC which could require either CannBioRex Purchaseco ULC and Katexco Purchaseco ULC to issue more Exchangeable Shares.

There are no outstanding Special Voting Shares.

DESCRIPTION OF DEBT SECURITIES

We may issue debt securities from time to time, in one or more series, as either senior or subordinated debt or as senior or subordinated convertible debt. While the terms we have summarized below will apply generally to any debt securities that we may offer under this prospectus, we will describe the particular terms of any debt securities that we may offer in more detail in the applicable prospectus supplement and any free writing prospectus. The terms of any debt securities offered under a prospectus supplement may differ from the terms described below. Unless the context requires otherwise, whenever we refer to the indenture, we also are referring to any supplemental indentures that specify the terms of a particular series of debt securities.

We will issue the debt securities under the indenture that we will enter into with the trustee named in the indenture. The indenture will be qualified under the Trust Indenture Act of 1939, as amended, or the “Trust Indenture Act.” We have filed the form of indenture as an exhibit to the registration statement of which this prospectus is a part, and supplemental indentures and forms of debt securities containing the terms of the debt securities being offered will be filed as exhibits to the registration statement of which this prospectus is a part or will be incorporated by reference from reports that we file with the SEC.

The following summary of material provisions of the debt securities and the indenture is subject to, and qualified in its entirety by reference to, all of the provisions of the indenture applicable to a particular series of debt securities. We urge you to read the applicable prospectus supplements and any related free writing prospectuses related to the debt securities that we may offer under this prospectus, as well as the complete indenture that contains the terms of the debt securities.

General

The indenture does not limit the amount of debt securities that we may issue. It provides that we may issue debt securities up to the principal amount that we may authorize and may be in any currency or currency unit that we may designate. Except for the limitations on consolidation, merger and sale of all or substantially all of our assets contained in the indenture, the terms of the indenture do not contain any covenants or other provisions designed to give holders of any debt securities protection against changes in our operations, financial condition or transactions involving us.

We may issue the debt securities issued under the indenture as “discount securities,” which means they may be sold at a discount below their stated principal amount. These debt securities, as well as other debt securities that are not issued at a discount, may be issued with “original issue discount,” or “OID,” for U.S. federal income tax purposes because of interest payment and other characteristics or terms of the debt securities. Material U.S. federal income tax considerations applicable to debt securities issued with OID will be described in more detail in any applicable prospectus supplement.

We will describe in the applicable prospectus supplement the terms of the series of debt securities being offered, including:

- the title and form of the debt securities;
- any limit on the aggregate principal amount of the debt securities or the series of which they are a part;
- the person to whom any interest on a debt security of the series will be paid;
- the date or dates on which we must repay the principal;
- the rate or rates at which the debt securities will bear interest;
- the date or dates from which interest will accrue, and the dates on which we must pay interest;
- the place or places where we must pay the principal and any premium or interest on the debt securities;
- the terms and conditions on which we may redeem any debt security, if at all;
- any obligation to redeem or purchase any debt securities, and the terms and conditions on which we must do so;
- the denominations in which we may issue the debt securities;
- the manner in which we will determine the amount of principal of or any premium or interest on the debt securities;
- the currency in which we will pay the principal of and any premium or interest on the debt securities;

- the principal amount of the debt securities that we will pay upon declaration of acceleration of their maturity;

- the amount that will be deemed to be the principal amount for any purpose, including the principal amount that will be due and payable upon any maturity or that will be deemed to be outstanding as of any date;
- if applicable, that the debt securities are defeasible and the terms of such defeasance;
- if applicable, the terms of any right to convert debt securities into, or exchange debt securities for, shares of our debt securities, common stock, or other securities or property;
- whether we will issue the debt securities in the form of one or more global securities and, if so, the respective depositaries for the global securities and the terms of the global securities;
- the subordination provisions that will apply to any subordinated debt securities;
- any addition to or change in the events of default applicable to the debt securities and any change in the right of the trustee or the holders to declare the principal amount of any of the debt securities due and payable;
- any addition to or change in the covenants in the indentures; and
- any other terms of the debt securities not inconsistent with the applicable indentures.

We may sell the debt securities at a substantial discount below their stated principal amount. We will describe U.S. federal income tax considerations, if any, applicable to debt securities sold at an original issue discount in the prospectus supplement. An “original issue discount security” is any debt security sold for less than its face value, and which provides that the holder cannot receive the full face value if maturity is accelerated. The prospectus supplement relating to any original issue discount securities will describe the particular provisions relating to acceleration of the maturity upon the occurrence of an event of default. In addition, we will describe U.S. federal income tax or other considerations applicable to any debt securities that are denominated in a currency or unit other than U.S. dollars in the prospectus supplement.

- the title of the series of debt securities;
- any limit upon the aggregate principal amount that may be issued;
- the maturity date or dates;
- the form of the debt securities of the series;
- the applicability of any guarantees;
- whether or not the debt securities will be secured or unsecured, and the terms of any secured debt;
- whether the debt securities rank as senior debt, senior subordinated debt, subordinated debt or any combination thereof, and the terms of any subordination;
- if the price (expressed as a percentage of the aggregate principal amount thereof) at which such debt securities will be issued is a price other than the principal amount thereof, the portion of the principal amount thereof payable upon declaration of acceleration of the maturity thereof, or if applicable, the portion of the principal amount of such debt securities that is convertible into another security or the method by which any such portion shall be determined;
- the interest rate or rates, which may be fixed or variable, or the method for determining the rate and the date interest will begin to accrue, the dates interest will be payable and the regular record dates for interest payment dates or the method for determining such dates;

- our right, if any, to defer payment of interest and the maximum length of any such deferral period;
- if applicable, the date or dates after which, or the period or periods during which, and the price or prices at which, we may, at our option, redeem the series of debt securities pursuant to any optional or provisional redemption provisions and the terms of those redemption provisions;
- the date or dates, if any, on which, and the price or prices at which we are obligated, pursuant to any mandatory sinking fund or analogous fund provisions or otherwise, to redeem, or at the holder’s option to purchase, the series of debt securities and the currency or currency unit in which the debt securities are payable;
- the denominations in which we will issue the series of debt securities, if other than denominations of \$1,000 and any integral multiple thereof;
- any and all terms, if applicable, relating to any auction or remarketing of the debt securities of that series and any security for our obligations with respect to such debt securities and any other terms which may be advisable in connection with the marketing of debt securities of that series;
- whether the debt securities of the series shall be issued in whole or in part in the form of a global security or securities; the terms and conditions, if any, upon which such global security or securities may be exchanged in whole or in part for other individual securities; and the depositary for such global security or securities;
- if applicable, the provisions relating to conversion or exchange of any debt securities of the series and the terms and conditions upon which such debt securities will be so convertible or exchangeable, including the conversion or exchange price, as applicable, or how it will be calculated and may be adjusted, any mandatory or optional (at our option and/or the holder’s option) conversion or exchange features, the applicable conversion or exchange period and the manner of settlement for any conversion or exchange;
- if other than the full principal amount thereof, the portion of the principal amount of debt securities of the series which shall be payable upon declaration of acceleration of the maturity thereof;
- any changes in or additions to the covenants applicable to the particular debt securities being issued, including, among others, the consolidation, merger or sale covenant;
- additions to or changes in the events of default with respect to the securities and any change in the right of the trustee or the holders to declare the principal, premium, if any, and accrued interest, if any, with respect to such securities to be due and payable;
- additions to or changes in or deletions of the provisions relating to covenant defeasance and legal defeasance;
- additions to or changes in the provisions relating to satisfaction and discharge of the indenture;

- additions to or changes in the provisions relating to the modification of the indenture both with and without the consent of holders of debt securities issued under the indenture;
- the currency of payment of debt securities if other than U.S. dollars and the manner of determining the equivalent amount in U.S. dollars;
- whether interest will be payable in cash or additional debt securities at our or the holder's option and the terms and conditions upon which the election may be made;
- the terms and conditions, if any, upon which we will pay amounts in addition to the stated interest, premium, if any and principal amounts of the debt securities of the series to any holder that is not a "United States person" for federal tax purposes;
- any restrictions on transfer, sale or assignment of the debt securities of the series; and
- any other specific terms, preferences, rights or limitations of, or restrictions on, the debt securities, any other additions or changes in the provisions of the indenture, and any terms that may be required by us or advisable under applicable laws or regulations.

Conversion and Exchange Rights

We will set forth in the prospectus supplement the terms on which a series of debt securities may be convertible into or exchangeable for our common stock or our other securities. We will include provisions as to settlement upon conversion or exchange and whether conversion or exchange is mandatory, at the option of the holder or at our option. We may include provisions pursuant to which the number of shares of our common stock or our other securities that the holders of the series of debt securities receive would be subject to adjustment.

Consolidation, Merger or Sale

Unless we provide otherwise in the prospectus supplement applicable to a particular series of debt securities, the indenture will not contain any covenant that restricts our ability to merge or consolidate, or sell, convey, transfer or otherwise dispose of all or substantially all of our assets. However, any successor to or acquirer of such assets must assume all of our obligations under the indenture or the debt securities, as appropriate. If the debt securities are convertible into or exchangeable for our other securities or securities of other entities, we or the person with whom we consolidate or merge or to whom we sell all of our property must make provisions for the conversion of the debt securities into securities that the holders of the debt securities would have received if they had converted the debt securities before the consolidation, merger or sale.

Events of Default Under the Indenture

Unless we provide otherwise in the prospectus supplement applicable to a particular series of debt securities, the following are events of default under the indenture with respect to any series of debt securities that we may issue:

- if we fail to pay any installment of interest on any series of debt securities, as and when the same shall become due and payable, and such default continues for a period of 90 days; provided, however, that a valid extension of an interest payment period by us in accordance with the terms of any indenture supplemental thereto shall not constitute a default in the payment of interest for this purpose;
- if we fail to pay the principal of, or premium, if any, on any series of debt securities as and when the same shall become due and payable whether at maturity, upon redemption, by declaration or otherwise, or in any payment required by any sinking or analogous fund established with respect to such series; provided, however, that a valid extension of the maturity of such debt securities in accordance with the terms of any indenture supplemental thereto shall not constitute a default in the payment of principal or premium, if any;
- if we fail to observe or perform any other covenant or agreement contained in the debt securities or the indenture, other than a covenant specifically relating to another series of debt securities, and our failure continues for 90 days after we receive written notice of such failure, requiring the same to be remedied and stating that such is a notice of default thereunder, from the trustee or holders of at least 25% in aggregate principal amount of the outstanding debt securities of the applicable series; and
- if specified events of bankruptcy, insolvency or reorganization occur.

If an event of default with respect to debt securities of any series occurs and is continuing, other than an event of default specified in the last bullet point above, the trustee or the holders of at least 25% in aggregate principal amount of the outstanding debt securities of that series, by notice to us in writing, and to the trustee if notice is given by such holders, may declare the unpaid principal of, premium, if any, and accrued interest, if any, due and payable immediately. If an event of default specified in the last bullet point above occurs with respect to us, the principal amount of and accrued interest, if any, of each issue of debt securities then outstanding shall be due and payable without any notice or other action on the part of the trustee or any holder.

The holders of a majority in principal amount of the outstanding debt securities of an affected series may waive any default or event of default with respect to the series and its consequences, except defaults or events of default regarding payment of principal, premium, if any, or interest, unless we have cured the default or event of default in accordance with the indenture. Any waiver shall cure the default or event of default.

Subject to the terms of the indenture, if an event of default under an indenture shall occur and be continuing, the trustee will be under no obligation to exercise any of its rights or powers under such indenture at the request or direction of any of the holders of the applicable series of debt securities, unless such holders have offered the trustee reasonable indemnity. The holders of a majority in principal amount of the outstanding debt securities of any series will have the right to direct the time, method and place of conducting any proceeding for any remedy available to the trustee, or exercising any trust or power conferred on the trustee, with respect to the debt securities of that series, provided that:

- the direction so given by the holder is not in conflict with any law or the applicable indenture; and
- subject to its duties under the Trust Indenture Act, the trustee need not take any action that might involve it in personal liability or might be unduly prejudicial to the holders not involved in the proceeding.

A holder of the debt securities of any series will have the right to institute a proceeding under the indenture or to appoint a receiver or trustee, or to seek other remedies only if:

- the holder has given written notice to the trustee of a continuing event of default with respect to that series;
- the holders of at least 25% in aggregate principal amount of the outstanding debt securities of that series have made written request, and such holders have offered reasonable indemnity to the trustee to institute the proceeding as trustee; and
- the trustee does not institute the proceeding, and does not receive from the holders of a majority in aggregate principal amount of the outstanding debt securities of that series other conflicting directions within 90 days after the notice, request and offer.

These limitations do not apply to a suit instituted by a holder of debt securities if we default in the payment of the principal, premium, if any, or interest on, the debt securities.

We will periodically file statements with the trustee regarding our compliance with specified covenants in the indenture.

Modification of Indenture; Waiver

We and the trustee may change an indenture without the consent of any holders with respect to specific matters:

- to cure any ambiguity, defect or inconsistency in the indenture or in the debt securities of any series;
- to comply with the provisions described above under “Description of Debt Securities—Consolidation, Merger or Sale”;
- to provide for uncertificated debt securities in addition to or in place of certificated debt securities;
- to add to our covenants, restrictions, conditions or provisions such new covenants, restrictions, conditions or provisions for the benefit of the holders of all or any series of debt securities, to make the occurrence, or the occurrence and the continuance, of a default in any such additional covenants, restrictions, conditions or provisions an event of default or to surrender any right or power conferred upon us in the indenture;

- to add to, delete from or revise the conditions, limitations, and restrictions on the authorized amount, terms, or purposes of issue, authentication and delivery of debt securities, as set forth in the indenture;
- to make any change that does not adversely affect the interests of any holder of debt securities of any series in any material respect;
- to provide for the issuance of and establish the form and terms and conditions of the debt securities of any series as provided above under “Description of Debt Securities—General” to establish the form of any certifications required to be furnished pursuant to the terms of the indenture or any series of debt securities, or to add to the rights of the holders of any series of debt securities;
- to evidence and provide for the acceptance of appointment under any indenture by a successor trustee; or
- to comply with any requirements of the SEC in connection with the qualification of any indenture under the Trust Indenture Act.

In addition, under the indenture, the rights of holders of a series of debt securities may be changed by us and the trustee with the written consent of the holders of at least a majority in aggregate principal amount of the outstanding debt securities of each series that is affected. However, unless we provide otherwise in the prospectus supplement applicable to a particular series of debt securities, we and the trustee may make the following changes only with the consent of each holder of any outstanding debt securities affected:

- extending the fixed maturity of any debt securities of any series;
- reducing the principal amount, reducing the rate of or extending the time of payment of interest, or reducing any premium payable upon the redemption of any series of any debt securities; or
- reducing the percentage of debt securities, the holders of which are required to consent to any amendment, supplement, modification or waiver.

Discharge

Each indenture provides that we can elect to be discharged from our obligations with respect to one or more series of debt securities, except for specified obligations, including obligations to:

- provide for payment;
- register the transfer or exchange of debt securities of the series;
- replace stolen, lost or mutilated debt securities of the series;
- pay principal of and premium and interest on any debt securities of the series;
- maintain paying agencies;
- hold monies for payment in trust;
- recover excess money held by the trustee;
- compensate and indemnify the trustee; and
- appoint any successor trustee.

any, and interest on, the debt securities of the series on the dates payments are due.

Form, Exchange and Transfer

We will issue the debt securities of each series only in fully registered form without coupons and, unless we provide otherwise in the applicable prospectus supplement, in denominations of \$1,000 and any integral multiple thereof. The indenture provides that we may issue debt securities of a series in temporary or permanent global form and as book-entry securities that will be deposited with, or on behalf of, The Depository Trust Company, or “DTC,” or another depository named by us and identified in a prospectus supplement with respect to that series. To the extent the debt securities of a series are issued in global form and as book-entry, a description of such terms will be set forth in the applicable prospectus supplement.

At the option of the holder, subject to the terms of the indenture and the limitations applicable to global securities described in the applicable prospectus supplement, the holder of the debt securities of any series can exchange the debt securities for other debt securities of the same series, in any authorized denomination and of like tenor and aggregate principal amount.

Subject to the terms of the indenture and the limitations applicable to global securities set forth in the applicable prospectus supplement, holders of the debt securities may present the debt securities for exchange or for registration of transfer, duly endorsed or with the form of transfer endorsed thereon duly executed if so required by us or the security registrar, at the office of the security registrar or at the office of any transfer agent designated by us for this purpose. Unless otherwise provided in the debt securities that the holder presents for transfer or exchange, we will impose no service charge for any registration of transfer or exchange, but we may require payment of any taxes or other governmental charges.

We will name in the applicable prospectus supplement the security registrar, and any transfer agent in addition to the security registrar, that we initially designate for any debt securities. We may at any time designate additional transfer agents or rescind the designation of any transfer agent or approve a change in the office through which any transfer agent acts, except that we will be required to maintain a transfer agent in each place of payment for the debt securities of each series.

If we elect to redeem the debt securities of any series, we will not be required to:

- issue, register the transfer of, or exchange any debt securities of that series during a period beginning at the opening of business 15 days before the day of mailing of a notice of redemption of any debt securities that may be selected for redemption and ending at the close of business on the day of the mailing; or
- register the transfer of or exchange any debt securities so selected for redemption, in whole or in part, except the unredeemed portion of any debt securities we are redeeming in part.

Information Concerning the Trustee

The trustee, other than during the occurrence and continuance of an event of default under an indenture, undertakes to perform only those duties as are specifically set forth in the applicable indenture. Upon an event of default under an indenture, the trustee must use the same degree of care as a prudent person would exercise or use in the conduct of his or her own affairs. Subject to this provision, the trustee is under no obligation to exercise any of the powers given it by the indenture at the request of any holder of debt securities unless it is offered reasonable security and indemnity against the costs, expenses and liabilities that it might incur.

Payment and Paying Agents

Unless we otherwise indicate in the applicable prospectus supplement, we will make payment of the interest on any debt securities on any interest payment date to the person in whose name the debt securities, or one or more predecessor securities, are registered at the close of business on the regular record date for the interest.

We will pay principal of and any premium and interest on the debt securities of a particular series at the office of the paying agents designated by us, except that unless we otherwise indicate in the applicable prospectus supplement, we will make interest payments by check that we will mail to the holder or by wire transfer to certain holders. Unless we otherwise indicate in the applicable prospectus supplement, we will designate the corporate trust office of the trustee as our sole paying agent for payments with respect to debt securities of each series. We will name in the applicable prospectus supplement any other paying agents that we initially designate for the debt securities of a particular series. We will maintain a paying agent in each place of payment for the debt securities of a particular series.

All money we pay to a paying agent or the trustee for the payment of the principal of or any premium or interest on any debt securities that remains unclaimed at the end of two years after such principal, premium or interest has become due and payable will be repaid to us, and the holder of the debt security thereafter may look only to us for payment thereof.

Defeasance

To the extent stated in the prospectus supplement, we may elect to apply the provisions in the indentures relating to defeasance and discharge of indebtedness, or to defeasance of restrictive covenants, to the debt securities of any series. The indentures provide that, upon satisfaction of the requirements described below, we may terminate all of our obligations under the debt securities of any series and the applicable indenture, known as legal defeasance, other than our obligation:

- to maintain a registrar and paying agents and hold monies for payment in trust;
- to register the transfer or exchange of the notes; and
- to replace mutilated, destroyed, lost or stolen notes.

In addition, we may terminate our obligation to comply with any restrictive covenants under the debt securities of any series or the applicable indenture, known as covenant defeasance.

We may exercise our legal defeasance option even if we have previously exercised our covenant defeasance option. If we exercise either defeasance option, payment of the notes may not be accelerated because of the occurrence of events of default.

To exercise either defeasance option as to debt securities of any series, we must irrevocably deposit in trust with the trustee money and/or obligations backed by the full faith and credit of the United States that will provide money in an amount sufficient in the written opinion of a nationally recognized firm of independent public accountants to pay the principal of, premium, if any, and each installment of interest on the debt securities. We may only establish this trust if, among other things:

- no event of default shall have occurred or be continuing;

- in the case of legal defeasance, we have delivered to the trustee an opinion of counsel to the effect that we have received from, or there has been published by, the Internal Revenue Service a ruling or there has been a change in law, which in the opinion of our counsel, provides that holders of the debt securities will not recognize gain or loss for federal income tax purposes as a result of such deposit, defeasance and discharge and will be subject to federal income tax on the same amount, in the same manner and at the same times as would have been the case if such deposit, defeasance and discharge had not occurred;
- in the case of covenant defeasance, we have delivered to the trustee an opinion of counsel to the effect that the holders of the debt securities will not recognize gain or loss for federal income tax purposes as a result of such deposit, defeasance and discharge and will be subject to federal income tax on the same amount, in the same manner and at the same times as would have been the case if such deposit, defeasance and discharge had not occurred; and
- we satisfy other customary conditions precedent described in the applicable indenture.

Notices

We will mail notices to holders of debt securities as indicated in the prospectus supplement.

Title

We may treat the person in whose name a debt security is registered as the absolute owner, whether or not such debt security may be overdue, for the purpose of making payment and for all other purposes.

Governing Law

The indenture and the debt securities will be governed by and construed in accordance with the laws of the State of New York, except to the extent that the Trust Indenture Act is applicable.

DESCRIPTION OF WARRANTS

General

The following description, together with the additional information we may include in any applicable prospectus supplements and free writing prospectuses, summarizes the material terms and provisions of the warrants that we may offer under this prospectus, which may consist of warrants to purchase common stock, preferred stock or debt securities and may be issued in one or more series. Warrants may be offered independently or in combination with common stock, preferred stock or debt securities, or as a part of units, offered by the prospectus supplement. While the terms we have summarized below will apply generally to any warrants that we may offer under this prospectus, we will describe the particular terms of any series of warrants in more detail in the applicable prospectus supplement. The following description of warrants will apply to the warrants offered by this prospectus unless we provide otherwise in the applicable prospectus supplement. The applicable prospectus supplement for a particular series of warrants may specify different or additional terms.

We will file as exhibits to the registration statement of which this prospectus is a part, or will incorporate by reference from reports that we file with the SEC, the form of warrant and/or the warrant agreement and warrant certificate, as applicable, that describe the terms of the particular series of warrants we are offering, and any supplemental agreements, before the issuance of such warrants. The following summaries of material terms and provisions of the warrants are subject to, and qualified in their entirety by reference to, all the provisions of the form of warrant and/or the warrant agreement and warrant certificate, as applicable, and any supplemental agreements applicable to a particular series of warrants that we may offer under this prospectus. We urge you to read the applicable prospectus supplement related to the particular series of warrants that we may offer under this prospectus, as well as any related free writing prospectuses, and the complete form of warrant and/or the warrant agreement and warrant certificate, as applicable, and any supplemental agreements, that contain the terms of the warrants.

The prospectus supplement relating to a particular series of warrants to purchase our common stock or preferred stock will describe the terms of the warrants, including the following:

- the title of the warrants;
- the offering price for the warrants, if any;
- the aggregate number of the warrants;
- the designation and terms of the common stock, preferred stock or debt securities that may be purchased upon exercise of the warrants;
- if applicable, the designation and terms of the securities with which the warrants are issued and the number of warrants issued with each security;
- if applicable, the date from and after which the warrants and any securities issued with the warrants will be separately transferable;
- the number of shares of common stock or preferred stock that may be purchased upon exercise of a warrant and the exercise price for the warrants;
- the dates on which the right to exercise the warrants shall commence and expire;
- if applicable, the minimum or maximum amount of the warrants that may be exercised at any one time;
- the currency or currency units in which the offering price, if any, and the exercise price are payable;
- if applicable, a discussion of material U.S. federal income tax considerations;
- the anti-dilution provisions of the warrants, if any;
- the redemption or call provisions, if any, applicable to the warrants;
- any provisions with respect to a holder's right to require us to repurchase the warrants upon a change in control; and
- any additional material terms of the warrants, including terms, procedures, and limitations relating to the exchange, exercise and settlement of the warrants.

Holders of warrants will not be entitled to:

- vote, consent or receive dividends;
- receive notice as shareholders with respect to any meeting of shareholders for the election of our directors or any other matter; or
- exercise any rights as shareholders of the Company.

Exercise of Warrants

Each warrant will entitle the holder to purchase the securities that we specify in the applicable prospectus supplement or free writing prospectus at the exercise price that we describe in the applicable prospectus supplement. Unless we otherwise specify in the applicable prospectus supplement, holders of the warrants may exercise the warrants at any time up to the specified time on the expiration date that we set forth in the applicable prospectus supplement. After the close of business on the expiration date, unexercised warrants will become void.

Holders of the warrants may exercise the warrants by delivering the warrant or warrant certificate representing the warrants to be exercised together with specified information, and paying the required amount to the warrant agent, if applicable, in immediately available funds, as provided in the applicable prospectus supplement. We will set forth on the reverse side of any warrant certificate and in the applicable prospectus supplement the information that the holder of the warrant will be required to deliver to any warrant agent.

Upon receipt of the required payment and any warrant certificate properly completed and duly executed at the corporate trust office of any warrant agent or any other office indicated in the applicable prospectus supplement, we will issue and deliver the securities purchasable upon such exercise. If fewer than all of the warrants represented by a warrant certificate are exercised, then we will issue a new warrant certificate for the remaining amount of warrants. If we so indicate in the applicable prospectus supplement, holders of the warrants may surrender securities as all or part of the exercise price for warrants.

Enforceability of Rights by Holders of Warrants

Each warrant agent, if any, will act solely as our agent under the applicable warrant agreement and will not assume any obligation or relationship of agency or trust with any holder of any warrant. A single bank or trust company may act as warrant agent for more than one issue of warrants. A warrant agent will have no duty or responsibility in case of any default by us under the applicable warrant agreement or warrant, including any duty or responsibility to initiate any proceedings at law or otherwise, or to make any demand upon us. Any holder of a warrant may, without the consent of the related warrant agent or the holder of any other warrant, enforce by appropriate legal action its right to exercise, and receive the securities purchasable upon exercise of, its warrants.

Amendments and Supplements to Warrant Agreements

We and the relevant warrant agent may, with the consent of the holders of at least a majority in number of the outstanding unexercised warrants affected, modify or amend the warrant agreement and the terms of the warrants. However, the warrant agreements may be amended or supplemented without the consent of the holders of the warrants issued thereunder to effect changes that are not inconsistent with the provisions of the warrants and that do not adversely affect the interests of the holders of the warrants. Notwithstanding the foregoing, no such modification or amendment may, without the consent of the holders of each warrant affected:

- reduce the amount receivable upon exercise, cancellation or expiration;
- shorten the period of time during which the warrants may be exercised;
- otherwise materially and adversely affect the exercise rights of the beneficial owners of the warrants; or
- reduce the percentage of outstanding warrants whose holders must consent to modification or amendment of the applicable warrant agreement or the terms of the warrants.

Anti-dilution and Other Adjustments

Unless otherwise indicated in the applicable prospectus supplement, the exercise price of, and the number of shares of common stock covered by a warrant, are subject to adjustment in certain events, including:

- the issuance of common stock as a dividend or distribution on the common stock;
- subdivisions and combinations of the common stock (or as applicable to warrants to purchase preferred stock and the preferred stock);
- the issuance to all holders of common stock of capital stock rights entitling them to subscribe for or purchase common stock within 45 days after the date fixed for the determination of the stockholders entitled to receive such capital stock rights, at less than the current market price; and
- the distribution to all holders of common stock of evidence of our indebtedness or assets (excluding certain cash dividends and distributions described below) or rights or warrants (excluding those referred to above).

We may, in lieu of making any adjustment in the exercise price of, and the number of shares of common stock covered by, a warrant, make proper provision so that each holder of such warrant who exercises such warrant (or any portion thereof):

- before the record date for such distribution of separate certificates, shall be entitled to receive upon such exercise, shares of common stock issued with capital stock rights; and
- after such record date and prior to the expiration, redemption or termination of such capital stock rights, shall be entitled to receive upon such exercise, in addition to the shares of common stock issuable upon such exercise, the same number of such capital stock rights as would a holder of the number of shares of common stock that such warrants so exercised would have entitled the holder thereof to acquire in accordance with the terms and provisions applicable to the capital stock rights if such warrant was exercised immediately prior to the record date for such distribution.

Common stock owned by or held for our account or for the account of any of our majority owned subsidiaries will not be deemed outstanding for the purpose of any adjustment.

No adjustment in the exercise price of, and the number of shares of common stock covered by, a warrant will be made for regular quarterly or other periodic or recurring cash dividends or distributions of cash dividends or distributions to the extent paid from retained earnings. Except as stated above, the exercise price of, and the number of shares of common stock covered by, a warrant will not be adjusted for the issuance of common stock or any securities convertible into or exchangeable for common stock, or securities carrying the right to purchase any of the foregoing.

In the case of a reclassification or change of the common stock, a consolidation or merger involving us or sale or conveyance to another corporation of our property and assets as an entirety or substantially as an entirety, in each case as a result of which holders of our common stock shall be entitled to receive stock, securities, other property or assets (including cash) with respect to or in exchange for such common stock, the holders of the warrants then outstanding will be entitled thereafter to convert such warrants into the kind and number of shares of stock and amount of other securities or property which they would have received upon such reclassification, change, consolidation, merger, sale or conveyance had such warrants been exercised immediately prior to such reclassification, change, consolidation, merger, sale or conveyance.

Governing Law

Unless we provide otherwise in the applicable prospectus supplement, the warrants and warrant agreements will be governed by and construed in accordance with the laws of the State of New York.

Description of Outstanding Public Warrants

Each warrant entitles the registered holder to purchase one-fortieth of one share of our common stock at a price of \$5.75 per 1/76th of one share, or \$4,370.00 per whole share, subject to adjustment as discussed below, at any time commencing on December 6, 2020 (30 days after our initial business combination) and ending on November 6, 2025 (five years after our initial business combination), at 5:00 p.m., New York City time, or earlier upon redemption or liquidation. If a warrant holder holds 40 warrants, such warrants will be exercisable for one share of our common stock. No fractional shares will be issued upon exercise of the warrants and warrants must be exercised for whole shares only.

We will not be obligated to deliver any shares of common stock pursuant to the exercise of a warrant and will have no obligation to settle such warrant exercise unless a registration statement under the Securities Act with respect to the shares of common stock underlying the warrants is then effective and a prospectus relating thereto is current, subject to our satisfying our obligations described below with respect to registration. No warrant will be exercisable for cash or on a cashless basis, and we will not be obligated to issue any shares to holders seeking to exercise their warrants, unless the issuance of the shares upon such exercise is registered or qualified under the securities laws of the state of the exercising holder, unless an exemption is available. In the event that the conditions in the two immediately preceding sentences are not satisfied with respect to a warrant, the holder of such warrant will not be entitled to exercise such warrant and such warrant may have no value and expire worthless. In no event will we be required to net cash settle any warrant. In the event that a registration statement is not effective for the exercised warrants, the purchaser of a unit containing such warrant will have paid the full purchase price for the unit solely for the share of common stock underlying such unit.

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We agreed that as soon as practicable, but in no event later than thirty (30) days, after the closing of our initial Business Combination (which closing date was November 6, 2020), we would use our best efforts to file with the SEC a registration statement for the registration, under the Securities Act, of the shares of common stock issuable upon exercise of the warrants, which registration statement was filed with the SEC on July 20, 2021, and declared effective by the SEC on July 27, 2021.

Notwithstanding the above, if our common stock is at the time of any exercise of a warrant not listed on a national securities exchange such that it satisfies the definition of a “covered security” under Section 18(b)(1) of the Securities Act, we may, at our option, require holders of public warrants who exercise their warrants to do so on a “cashless basis” in accordance with Section 3(a)(9) of the Securities Act and, in the event we so elect, we will not be required to file or maintain in effect a registration statement or register or qualify the shares under blue sky laws, and in the event we do not so elect, we will use our best efforts to register or qualify the shares under the blue sky laws of the state of residence in those states in which the warrants were initially offered by us in our initial public offering.

Once the warrants become exercisable, we may call the warrants for redemption:

- in whole and not in part;
- at a price of \$0.01 per warrant;
- upon not less than 30 days’ prior written notice of redemption (the “30-day redemption period”) to each warrant holder; and
- if, and only if, the reported last sale price of the common stock equals or exceeds \$6,840.00 per share for any 20 trading days within a 30-trading day period ending on the third trading day prior to the date we send the notice of redemption to the warrant holders.

If and when the warrants become redeemable by us, we may not exercise our redemption right if the issuance of shares of common stock upon exercise of the warrants is not exempt from registration or qualification under applicable state blue sky laws or we are unable to affect such registration or qualification. We will use our best efforts to register or qualify the shares of common stock under the blue-sky laws of the state of residence in those states in which the warrants were initially offered by us in our initial public offering.

We have established the last of the redemption criterion discussed above to prevent a redemption call unless there is at the time of the call a significant premium to the warrant exercise price. If the foregoing conditions are satisfied and we issue a notice of redemption of the warrants, each warrant holder will be entitled to exercise his, her or its warrant prior to the scheduled redemption date. However, the price of the common stock may fall below the \$6,840.00 redemption trigger price as well as the \$4,370 warrant exercise price (for whole shares) after the redemption notice is issued.

If we call the warrants for redemption as described above, our management will have the option to require any holder that wishes to exercise his, her or its warrant to do so on a “cashless basis.” If our management takes advantage of this option, all holders of warrants would pay the exercise price by surrendering their warrants for that number of shares of common stock equal to the quotient obtained by dividing (x) the product of the number of shares of common stock underlying the warrants, multiplied by the difference between the exercise price of the warrants and the “fair market value” by (y) the fair market value. The “fair market value” shall mean the average reported last sale price of the common stock for the 10 trading days ending on the third trading day prior to the date on which the notice of redemption is sent to the holders of warrants. If our management takes advantage of this option, the notice of redemption will contain the information necessary to calculate the number of shares of common stock to be received upon exercise of the warrants, including the “fair market value” in such case. Requiring a cashless exercise in this manner would reduce the number of shares to be issued and thereby lessen the dilutive effect of a warrant redemption.

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If the number of outstanding shares of common stock is increased by a stock dividend payable in shares of common stock, or by a split-up of shares of common stock or other similar event, then, on the effective date of such stock dividend, split-up or similar event, the number of shares of common stock issuable on exercise of each warrant will be increased in proportion to such increase in the outstanding shares of common stock. A rights offering to holders of common stock entitling holders to purchase shares of

common stock at a price less than the fair market value will be deemed a stock dividend of a number of shares of common stock equal to the product of (i) the number of shares of common stock actually sold in such rights offering (or issuable under any other equity securities sold in such rights offering that are convertible into or exercisable for common stock) multiplied by (ii) one (1) minus the quotient of (x) the price per share of common stock paid in such rights offering divided by (y) the fair market value. For these purposes (i) if the rights offering is for securities convertible into or exercisable for common stock, in determining the price payable for common stock, there will be taken into account any consideration received for such rights, as well as any additional amount payable upon exercise or conversion and (ii) fair market value means the volume weighted average price of common stock as reported during the ten (10) trading day period ending on the trading day prior to the first date on which the shares of common stock trade on the applicable exchange or in the applicable market, regular way, without the right to receive such rights.

In addition, if we, at any time while the warrants are outstanding and unexpired, pay a dividend or make a distribution in cash, securities or other assets to the holders of common stock on account of such shares of common stock (or other shares of our capital stock into which the warrants are convertible), other than (a) as described above, (b) certain ordinary cash dividends, (c) to satisfy the redemption rights of the holders of common stock in connection with a proposed initial business combination, (d) as a result of the repurchase of shares of common stock by us if the proposed initial business combination is presented to our stockholders for approval, or (e) in connection with the redemption of our public shares upon our failure to complete our initial business combination, then the warrant exercise price will be decreased, effective immediately after the effective date of such event, by the amount of cash and/or the fair market value of any securities or other assets paid on each share of common stock in respect of such event.

If the number of outstanding shares of our common stock is decreased by a consolidation, combination, reverse stock split or reclassification of shares of common stock or other similar event, then, on the effective date of such consolidation, combination, reverse stock split, reclassification or similar event, the number of shares of common stock issuable on exercise of each warrant will be decreased in proportion to such decrease in outstanding shares of common stock.

Whenever the number of shares of common stock purchasable upon the exercise of the warrants is adjusted, as described above, the warrant exercise price will be adjusted by multiplying the warrant exercise price immediately prior to such adjustment by a fraction (x) the numerator of which will be the number of shares of common stock purchasable upon the exercise of the warrants immediately prior to such adjustment, and (y) the denominator of which will be the number of shares of common stock so purchasable immediately thereafter.

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In case of any reclassification or reorganization of the outstanding shares of common stock (other than those described above or that solely affects the par value of such shares of common stock), or in the case of any merger or consolidation of us with or into another corporation (other than a consolidation or merger in which we are the continuing corporation and that does not result in any reclassification or reorganization of our outstanding shares of common stock), or in the case of any sale or conveyance to another corporation or entity of the assets or other property of us as an entirety or substantially as an entirety in connection with which we are dissolved, the holders of the warrants will thereafter have the right to purchase and receive, upon the basis and upon the terms and conditions specified in the warrants and in lieu of the shares of our common stock immediately theretofore purchasable and receivable upon the exercise of the rights represented thereby, the kind and amount of shares of stock or other securities or property (including cash) receivable upon such reclassification, reorganization, merger or consolidation, or upon a dissolution following any such sale or transfer, that the holder of the warrants would have received if such holder had exercised their warrants immediately prior to such event. However, if such holders were entitled to exercise a right of election as to the kind or amount of securities, cash or other assets receivable upon such consolidation or merger, then the kind and amount of securities, cash or other assets for which each warrant will become exercisable will be deemed to be the weighted average of the kind and amount received per share by such holders in such consolidation or merger that affirmatively make such election, and if a tender, exchange or redemption offer has been made to and accepted by such holders (other than a tender, exchange or redemption offer made by us in connection with redemption rights held by our stockholders as provided for in the our amended and restated Certificate of Incorporation or as a result of the repurchase of shares of common stock by us if a proposed initial business combination is presented to the stockholders of the Company for approval) under circumstances in which, upon completion of such tender or exchange offer, the maker thereof, together with members of any group (within the meaning of Rule 13d-5(b)(1) under the Exchange Act) of which such maker is a part, and together with any affiliate or associate of such maker (within the meaning of Rule 12b-2 under the Exchange Act) and any members of any such group of which any such affiliate or associate is a part, own beneficially (within the meaning of Rule 13d-3 under the Exchange Act) more than 50% of the outstanding shares of common stock, the holder of a warrant will be entitled to receive the highest amount of cash, securities or other property to which such holder would actually have been entitled as a stockholder if such warrant holder had exercised the warrant prior to the expiration of such tender or exchange offer, accepted such offer and all of the common stock held by such holder had been purchased pursuant to such tender or exchange offer, subject to adjustments (from and after the consummation of such tender or exchange offer) as nearly equivalent as possible to the adjustments provided for in the warrant agreement. Additionally, if less than 70% of the consideration receivable by the holders of common stock in such a transaction is payable in the form of common stock in the successor entity that is listed for trading on a national securities exchange or is quoted in an established over-the-counter market, or is to be so listed for trading or quoted immediately following such event, and if the registered holder of the warrant properly exercises the warrant within thirty days following public disclosure of such transaction, the warrant exercise price will be reduced as specified in the warrant agreement based on the per share consideration minus Black-Scholes Warrant Value (as defined in the warrant agreement) of the warrant in order to determine and realize the option value component of the warrant. This formula is to compensate the warrant holder for the loss of the option value portion of the warrant value due to the requirement that the warrant holder exercise the warrant within 30 days of the event. The Black-Scholes model is an accepted pricing model for estimating fair market value where no quoted market price for an instrument is available.

The warrants were issued in registered form under a warrant agreement between Continental Stock Transfer & Trust Company, as warrant agent, and us. The warrant agreement provides that the terms of the warrants may be amended without the consent of any holder to cure any ambiguity or correct any defective provision, but requires the approval by the holders of at least 65% of the then outstanding public warrants to make any change that adversely affects the interests of the registered holders of public warrants.

The warrants may be exercised upon surrender of the warrant certificate on or prior to the expiration date at the offices of the warrant agent, with the exercise form on the reverse side of the warrant certificate completed and executed as indicated, accompanied by full payment of the exercise price (or on a cashless basis, if applicable), by certified or official bank check payable to us, for the number of warrants being exercised. The warrant holders do not have the rights or privileges of holders of common stock and any voting rights until they exercise their warrants and receive shares of common stock. After the issuance of shares of common stock upon exercise of the warrants, each holder will be entitled to one vote for each share held of record on all matters to be voted on by stockholders.

Warrants may be exercised only for a whole number of shares of common stock. No fractional shares will be issued upon exercise of the warrants. If, upon exercise of the warrants, a holder would be entitled to receive a fractional interest in a share, we will, upon exercise, round down to the nearest whole number the number of shares of common stock to be issued to the warrant holder. As a result, warrant holders not holding multiples of 40 warrants must sell any odd number of warrants in order to obtain full value from the fractional interest that will not be issued.

The warrants are listed on The Nasdaq Capital Market under the symbol "ATNFW".

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DESCRIPTION OF UNITS

We may issue, in one more series, units consisting of common stock, preferred stock, debt securities and/or warrants for the purchase of common stock, preferred stock and/or debt securities in any combination in such amounts and in such numerous distinct series as we determine. While the terms we have summarized below will apply generally to any units that we may offer under this prospectus, we will describe the particular terms of any series of units in more detail in the applicable prospectus supplement. The terms of any units offered under a prospectus supplement may differ from the terms described below.

We will file as exhibits to the registration statement of which this prospectus is a part, or will incorporate by reference from reports that we file with the SEC, the form of unit agreement that describes the terms of the series of units we are offering, and any supplemental agreements, before the issuance of the related series of units. The following summaries of material terms and provisions of the units are subject to, and qualified in their entirety by reference to, all the provisions of the unit agreement and any supplemental agreements applicable to a particular series of units. We urge you to read the applicable prospectus supplements related to the particular series of units that we may offer under this prospectus, as well as any related free writing prospectuses and the complete unit agreement and any supplemental agreements that contain the terms of the units.

Each unit will be issued so that the holder of the unit is also the holder of each security included in the unit. Thus, the holder of a unit will have the rights and obligations of a holder of each included security. The unit agreement under which a unit is issued may provide that the securities included in the unit may not be held or transferred separately, at any time or at any time before a specified date.

We will describe in the applicable prospectus supplement the terms of the series of units being offered, including:

- the designation and terms of the units and of the securities comprising the units, including whether and under what circumstances those securities may be held or transferred separately;
- any provisions of the governing unit agreement that differ from those described below; and
- any provisions for the issuance, payment, settlement, transfer or exchange of the units or of the securities comprising the units.

The provisions described in this section, as well as those described under [“Description of Common Stock,”](#) [“Description of Debt Securities,”](#) and [“Description of Warrants,”](#) will apply to each unit and to any common stock, preferred stock, debt security, or warrant included in each unit, respectively.

Each unit agent will act solely as our agent under the applicable unit agreement and will not assume any obligation or relationship of agency or trust with any holder of any unit. A single bank or trust company may act as unit agent for more than one series of units. A unit agent will have no duty or responsibility in case of any default by us under the applicable unit agreement or unit, including any duty or responsibility to initiate any proceedings at law or otherwise, or to make any demand upon us. Any holder of a unit may, without the consent of the related unit agent or the holder of any other unit, enforce by appropriate legal action its rights as holder under any security included in the unit.

We, and any unit agent and any of their agents, may treat the registered holder of any unit certificate as an absolute owner of the units evidenced by that certificate for any purpose and as the person entitled to exercise the rights attaching to the units so requested, despite any notice to the contrary.

Issuance in Series

We may issue units in such amounts and in as many distinct series as we wish. This section summarizes terms of the units that apply generally to all series. Most of the financial and other specific terms of a particular series will be described in the prospectus supplement.

Governing Law

Unless we provide otherwise in the applicable prospectus supplement, the units and unit agreements will be governed by and construed in accordance with the laws of the State of New York.

LEGAL OWNERSHIP OF SECURITIES

We can issue securities in registered form or in the form of one or more global securities. We describe global securities in greater detail below. We refer to those persons who have securities registered in their own names on the books that we or any applicable trustee, depository or warrant agent maintain for this purpose as the “**holders**” of those securities. These persons are the legal holders of the securities. We refer to those persons who, indirectly through others, own beneficial interests in securities that are not registered in their own names, as “**indirect holders**” of those securities. As we discuss below, indirect holders are not legal holders, and investors in securities issued in book-entry form or in street name will be indirect holders.

Book-Entry Holders

We may issue securities in book-entry form only, as we will specify in the applicable prospectus supplement. This means securities may be represented by one or more global securities registered in the name of a financial institution that holds them as depository on behalf of other financial institutions that participate in the depository’s book-entry system. These participating institutions, which are referred to as participants, in turn, hold beneficial interests in the securities on behalf of themselves or their customers.

Only the person in whose name a security is registered is recognized as the holder of that security. Securities issued in global form will be registered in the name of the depository or its participants. Consequently, for securities issued in global form, we will recognize only the depository as the holder of the securities, and we will make all payments on the securities to the depository. The depository passes along the payments it receives to its participants, which in turn pass the payments along to their customers who are the beneficial owners. The depository and its participants do so under agreements they have made with one another or with their customers; they are not obligated to do so under the terms of the securities.

As a result, investors in a book-entry security will not own securities directly. Instead, they will own beneficial interests in a global security, through a bank, broker or other financial institution that participates in the depository’s book-entry system or holds an interest through a participant. As long as the securities are issued in global form, investors will be indirect holders, and not holders, of the securities.

Street Name Holders

We may terminate a global security or issue securities in non-global form. In these cases, investors may choose to hold their securities in their own names or in street name. Securities held by an investor in street name would be registered in the name of a bank, broker or other financial institution that the investor chooses, and the investor would hold only a beneficial interest in those securities through an account he or she maintains at that institution.

For securities held in street name, we will recognize only the intermediary banks, brokers and other financial institutions in whose names the securities are registered as the holders of those securities, and we will make all payments on those securities to them. These institutions pass along the payments they receive to their customers who are the beneficial owners, but only because they agree to do so in their customer agreements or because they are legally required to do so. Investors who hold securities in street name will be indirect holders, not holders, of those securities.

Legal Holders

Our obligations, as well as the obligations of any applicable trustee and of any third parties employed by us or a trustee, run only to the legal holders of the securities. We do not have obligations to investors who hold beneficial interests in global securities, in street name or by any other indirect means. This will be the case whether an investor chooses to be an indirect holder of a security or has no choice because we are issuing the securities only in global form.

For example, once we make a payment or give a notice to the holder, we have no further responsibility for the payment or notice even if that holder is required, under agreements with depositary participants or customers or by law, to pass it along to the indirect holders but does not do so. Similarly, we may want to obtain the approval of the holders to amend an indenture, to relieve us of the consequences of a default or of our obligation to comply with a particular provision of the indenture or for other purposes. In such an event, we would seek approval only from the holders, and not the indirect holders, of the securities. Whether and how the holders contact the indirect holders is up to the holders.

Special Considerations for Indirect Holders

If you hold securities through a bank, broker or other financial institution, either in book-entry form or in street name, you should check with your own institution to find out:

- the performance of third-party service providers;
- how it handles securities payments and notices;
- whether it imposes fees or charges;
- how it would handle a request for the holder's consent, if ever required;
- whether and how you can instruct it to send you securities registered in your own name so you can be a holder, if that is permitted in the future;
- how it would exercise rights under the securities if there were a default or other event triggering the need for holders to act to protect their interests; and
- if the securities are in book-entry form, how the depositary's rules and procedures will affect these matters.

Global Securities

A global security is a security that represents one or any other number of individual securities held by a depositary. Generally, all securities represented by the same global securities will have the same terms.

Each security issued in book-entry form will be represented by a global security that we deposit with and register in the name of a financial institution or its nominee that we select. The financial institution that we select for this purpose is called the depositary. Unless we specify otherwise in the applicable prospectus supplement, DTC will be the depositary for all securities issued in book-entry form.

A global security may not be transferred to or registered in the name of anyone other than the depositary, its nominee or a successor depositary, unless special termination situations arise. We describe those situations below under the section entitled "Special Situations When a Global Security Will Be Terminated" in this prospectus. As a result of these arrangements, the depositary, or its nominee, will be the sole registered owner and holder of all securities represented by a global security, and investors will be permitted to own only beneficial interests in a global security. Beneficial interests must be held by means of an account with a broker, bank or other financial institution that in turn has an account with the depositary or with another institution that does. Thus, an investor whose security is represented by a global security will not be a holder of the security, but only an indirect holder of a beneficial interest in the global security.

If the prospectus supplement for a particular security indicates that the security will be issued in global form only, then the security will be represented by a global security at all times unless and until the global security is terminated. If termination occurs, we may issue the securities through another book-entry clearing system or decide that the securities may no longer be held through any book-entry clearing system.

Special Considerations for Global Securities

The rights of an indirect holder relating to a global security will be governed by the account rules of the investor's financial institution and of the depositary, as well as general laws relating to securities transfers. We do not recognize an indirect holder as a holder of securities and instead deal only with the depositary that holds the global security.

If securities are issued only in the form of a global security, an investor should be aware of the following:

- an investor cannot cause the securities to be registered in his or her name, and cannot obtain non-global certificates for his or her interest in the securities, except in the special situations we describe below;
- an investor will be an indirect holder and must look to his or her own bank or broker for payments on the securities and protection of his or her legal rights relating to the securities, as we describe above;
- an investor may not be able to sell interests in the securities to some insurance companies and to other institutions that are required by law to own their securities in non-book-entry form;
- an investor may not be able to pledge his or her interest in a global security in circumstances where certificates representing the securities must be delivered to the lender or other beneficiary of the pledge in order for the pledge to be effective;
- the depositary's policies, which may change from time to time, will govern payments, transfers, exchanges and other matters relating to an investor's interest in a global security;
- we and any applicable trustee have no responsibility for any aspect of the depositary's actions or for its records of ownership interests in a global security, nor do we or any applicable trustee supervise the depositary in any way;
- the depositary may, and we understand that DTC will, require that those who purchase and sell interests in a global security within its book-entry system use immediately available funds, and your broker or bank may require you to do so as well;

- financial institutions that participate in the depositary's book-entry system, and through which an investor holds its interest in a global security, may also have their own policies affecting payments, notices and other matters relating to the securities; and
- There may be more than one financial intermediary in the chain of ownership for an investor. We do not monitor and are not responsible for the actions of any of those intermediaries.

Special Situations when a Global Security will be Terminated

In a few special situations described below, the global security will terminate and interests in it will be exchanged for physical certificates representing those interests. After that exchange, the choice of whether to hold securities directly or in street name will be up to the investor. Investors must consult their own banks or brokers to find out how to have their interests in securities transferred to their own name, so that they will be direct holders. We have described the rights of holders and street name investors above.

Unless we provide otherwise in the applicable prospectus supplement, the global security will terminate when the following special situations occur:

- if the depositary notifies us that it is unwilling, unable or no longer qualified to continue as depositary for that global security and we do not appoint another institution to act as depositary within 90 days;
- if we notify any applicable trustee that we wish to terminate that global security; or
- if an event of default has occurred with regard to securities represented by that global security and has not been cured or waived.

The applicable prospectus supplement may also list additional situations for terminating a global security that would apply only to the particular series of securities covered by the applicable prospectus supplement. When a global security terminates, the depositary, and not we or any applicable trustee, is responsible for deciding the names of the institutions that will be the initial direct holders.

PLAN OF DISTRIBUTION

We may sell the securities offered by this prospectus in any one or more of the following ways from time to time:

- directly to investors, including through a specific bidding, auction or other process or in privately negotiated transactions;
- to investors through agents;
- directly to agents;
- to or through brokers or dealers;
- to the public through underwriting syndicates led by one or more managing underwriters;
- to one or more underwriters acting alone for resale to investors or to the public;
- through a block trade in which the broker or dealer engaged to handle the block trade will attempt to sell the securities as agent, but may position and resell a portion of the block as principal to facilitate the transaction;
- through agents on a best-efforts basis; and
- through a combination of any such methods of sale.

We may also sell the securities offered by this prospectus in "at the market offerings" within the meaning of Rule 415(a)(4) of the Securities Act (including as discussed in greater detail below).

Sales may be affected in transactions:

- on any national securities exchange or quotation service on which the securities may be listed or quoted at the time of sale, including the Nasdaq Capital Market in the case of shares of our common stock;
- in the over-the-counter market;
- in transactions otherwise than on such exchanges or services or in the over-the-counter market;
- through the writing of options; or
- through the settlement of short sales.

We will provide in the applicable prospectus supplement the terms of the offering and the method of distribution and will identify any firms acting as underwriters, dealers or agents in connection with the offering, including:

- the name or names of any underwriters, dealers or agents;
- the amount of securities underwritten;
- the purchase price of the securities and the proceeds to us from the sale;
- any over-allotment options under which underwriters may purchase additional securities from us;
- any underwriting discounts and other items constituting compensation to underwriters, dealers or agents;

- any public offering price;
- any discounts or concessions allowed or reallocated or paid to dealers;
- any material relationships between the underwriters and the Company; and
- any securities exchange or market on which the securities offered in the prospectus supplement may be listed.

In connection with the sale of the securities, we or the purchasers of securities for whom the underwriter may act as agent, may compensate the underwriter in the form of underwriting discounts or commissions.

Any underwritten offering may be on a best-efforts or a firm commitment basis. Underwriters, dealers and agents participating in the securities distribution may be deemed to be underwriters, and any discounts and commissions they receive and any profit they realize on the resale of the securities may be deemed to be underwriting discounts and commissions under the Securities Act. Underwriters and their controlling persons, dealers and agents may be entitled, under agreements entered into with us, to indemnification against and contribution toward specific civil liabilities, including liabilities under the Securities Act.

The distribution of the securities may be affected from time to time in one or more transactions at a fixed price or prices, which may be changed, at varying prices determined at the time of sale, or at prices determined as the applicable prospectus supplement specifies.

In connection with the sale of the securities, underwriters, dealers or agents may be deemed to have received compensation from us in the form of underwriting discounts or commissions and also may receive commissions from securities purchasers for whom they may act as agent. Underwriters may sell the securities to or through dealers, and the dealers may receive compensation in the form of discounts, concessions or commissions from the underwriters or commissions from the purchasers for whom they may act as agent.

Unless otherwise specified in the related prospectus supplement, each series of securities will be a new issue with no established trading market, other than shares of common stock of the Company, which are listed on the Nasdaq Capital Market. Any common stock sold pursuant to a prospectus supplement will be listed on the Nasdaq Capital Market, or listed on the exchange where our common stock is then listed, subject where applicable, to official notice of issuance and where applicable, subject to the requirements of the exchange (which in some cases require stockholder approval for any transactions which would result in the issuance of more than 20% of our then outstanding shares of common stock or voting rights representing over 20% of our then outstanding shares of stock). We may elect to list any series of debt securities or preferred stock, on an exchange, but we are not obligated to do so. It is possible that one or more underwriters may make a market in the securities, but such underwriters will not be obligated to do so and may discontinue any market making at any time without notice. No assurance can be given as to the liquidity of, or the trading market for, any offered securities.

In connection with an offering, the underwriters may purchase and sell securities in the open market. These transactions may include short sales, stabilizing transactions and purchases to cover positions created by short sales. Short sales involve the sale by the underwriters of a greater number of securities than they are required to purchase in an offering. Stabilizing transactions consist of bids or purchases made for the purpose of preventing or retarding a decline in the market price of the securities while an offering is in progress. The underwriters also may impose a penalty bid. This occurs when a particular underwriter repays to the underwriters a portion of the underwriting discount received by it because the underwriters have repurchased securities sold by or for the account of that underwriter in stabilizing or short-covering transactions. These activities by the underwriters may stabilize, maintain or otherwise affect the market price of the securities. As a result, the price of the securities may be higher than the price that otherwise might exist in the open market. If these activities are commenced, they may be discontinued by the underwriters at any time. Underwriters may engage in overallocation. If any underwriters create a short position in the securities in an offering in which they sell more securities than are set forth on the cover page of the applicable prospectus supplement, the underwriters may reduce that short position by purchasing the securities in the open market.

Underwriters, dealers or agents that participate in the offer of securities, or their affiliates or associates, may have engaged or engage in transactions with and perform services for, us or our affiliates in the ordinary course of business for which they may have received or receive customary fees and reimbursement of expenses.

We may enter into derivative transactions with third parties, or sell securities not covered by this prospectus to third parties in privately negotiated transactions. If the applicable prospectus supplement so indicates, in connection with any derivative transaction, the third parties may sell securities covered by this prospectus and the applicable prospectus supplement, including in short sale transactions. If so, the third party may use securities pledged by us or borrowed from us or others to settle those sales or to close out any related open borrowings of stock, and may use securities received from us in settlement of those derivatives to close out any related open borrowings of stock. The third party in such sale transactions will be an underwriter and, if not identified in this prospectus, will be identified in the applicable prospectus supplement or a post-effective amendment to the registration statement of which this prospectus is a part. In addition, we may otherwise loan or pledge securities to a financial institution or other third party that in turn may sell the securities short using this prospectus. Such financial institution or other third party may transfer its economic short position to investors in our securities or in connection with a concurrent offering of other securities.

The specific terms of any lock-up provisions in respect of any given offering will be described in the applicable prospectus supplement.

The underwriters, dealers and agents may engage in transactions with us, or perform services for us, in the ordinary course of business for which they receive compensation.

Any selling stockholders also may resell all or a portion of the securities in open market transactions in reliance upon Rule 144 under the Securities Act, provided that they meet the criteria and conform to the requirements of that rule.

At-the-Market Offerings

Upon written instruction from us, a sales agent party to a distribution agency agreement with us will use its commercially reasonable efforts to sell on our behalf, as our agent, the shares of common stock offered as agreed upon by us and the sales agent. We will designate the maximum amount of shares of common stock to be sold through the sales agent, on a daily basis or otherwise as we and the sales agent agree. Subject to the terms and conditions of the applicable distribution agency agreement, the sales agent will use its commercially reasonable efforts to sell, as our sales agent and on our behalf, all of the designated shares of common stock. We may instruct the sales agent not to sell shares of common stock if the sales cannot be affected at or above the price designated by us in any such instruction. We may suspend the offering of shares of common stock under any distribution agency agreement by notifying the sales agent. Likewise, the sales agent may suspend the offering of shares of common stock under the applicable distribution agency agreement by notifying us of such suspension.

We also may sell shares to the sales agent as principal for its own account at a price agreed upon at the time of sale. If we sell shares to the sales agent as principal, we

will enter into a separate agreement setting forth the terms of such transaction.

The offering of common stock pursuant to a distribution agency agreement will terminate upon the earlier of (1) the sale of all shares of common stock subject to the distribution agency agreement or (2) the termination of the distribution agency agreement by us or by the sales agent.

Sales agents under our distribution agency agreements may make sales in privately negotiated transactions and/or any other method permitted by law, including sales deemed to be an “at-the-market” offering as defined in Rule 415 promulgated under the Securities Act, sales made directly on existing trading market, or sales made to or through a market maker other than on an exchange, each in accordance with Rule 415(a)(4) under the Securities Act. The name of any such underwriter or agent involved in the offer and sale of our common stock, the amounts underwritten, and the nature of its obligations to take our common stock will be described in the applicable prospectus supplement.

PROSPECTUS SUPPLEMENTS

This prospectus provides you with a general description of the proposed offering of our securities. Each time that we sell securities under this prospectus, we will provide a prospectus supplement that will contain specific information about the terms of that offering. The prospectus supplement may add to, update, or change information contained in this prospectus and should be read as superseding this prospectus. You should read both this prospectus, any prospectus supplement and any free writing prospectus, together with additional information described under the heading “Where You Can Find More Information.”

The prospectus supplement will describe the terms of any offering of securities, including the offering price to the public in that offering, the purchase price and net proceeds of that offering, and the other specific terms related to that offering of securities.

LEGAL MATTERS

The validity of the securities offered by this prospectus have been passed upon for us by The Loev Law Firm, PC, Bellaire, Texas. David M. Loev, the Managing Partner, President and sole owner of The Loev Law Firm, PC, beneficially owns less than 1% of the outstanding shares of our common stock. If legal matters in connection with offerings made by this prospectus are passed on by counsel for the underwriters, dealers or agents, if any, that counsel will be named in the applicable prospectus supplement.

EXPERTS

The consolidated financial statements of 180 Life Sciences Corp. and subsidiaries as of December 31, 2024, and the year ended December 31, 2024 and the related notes, are incorporated into this prospectus by reference from 180 Life Science Corp.’s Annual Report on Form 10-K for the year ended December 31, 2024, have been audited by M&K CPA’s, PLLC, an independent registered public accounting firm, as set forth in their report thereon, and have been incorporated in this prospectus and Registration Statement in reliance upon such reports given on the authority of such firm as an expert in accounting and auditing.

The consolidated financial statements of 180 Life Sciences Corp. and subsidiaries as of December 31, 2023, and the year ended December 31, 2023 and the related notes, are incorporated into this prospectus by reference from 180 Life Science Corp.’s Annual Report on Form 10-K for the year ended December 31, 2024, have been audited by Marcum LLP, an independent registered public accounting firm, as set forth in their report thereon, and have been incorporated in this prospectus and Registration Statement in reliance upon such reports given on the authority of such firm as an expert in accounting and auditing.

No expert or counsel named in this prospectus as having prepared or certified any part of this prospectus or having given an opinion upon the validity of the securities being registered or upon other legal matters in connection with the registration or offering of the securities was employed on a contingency basis, or is to receive, any interest, directly or indirectly, in our Company, nor was any such person connected with us, as a promoter, managing or principal underwriter, voting trustee, director, officer, or employee.

WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly and current reports, proxy statements and other information with the SEC. Our SEC filings are available to the public over the Internet at the SEC’s website at <http://www.sec.gov>. Copies of certain information filed by us with the SEC are also available, free of charge, on the “Investors”—“SEC Filings”—“All SEC Filings” page of our website at www.180lifesciences.com. Our website is not a part of this prospectus and is not incorporated by reference in this prospectus. The SEC maintains an Internet site that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC like us. Our SEC filings are also available to the public from the SEC’s website at <https://www.sec.gov>.

This prospectus is part of the registration statement and does not contain all of the information included in the registration statement. Whenever a reference is made in this prospectus to any of our contracts or other documents, the reference may not be complete and, for a copy of the contract or document, you should refer to the exhibits that are a part of the registration statement. You should rely only on the information contained or incorporated by reference in this prospectus and any prospectus supplement. We have not authorized anyone to provide you with information different from that contained in this prospectus and any prospectus supplement. The securities offered under this prospectus and any prospectus supplement are offered only in jurisdictions where offers and sales are permitted. The information contained in this prospectus and any prospectus supplement, is accurate only as of the date of this prospectus and prospectus supplement, respectively, regardless of the time of delivery of this prospectus or any prospectus supplement, or any sale of the securities.

This prospectus omits some information contained in the registration statement in accordance with SEC rules and regulations. You should review the information and exhibits included in the registration statement for further information about us and the securities we are offering. Statements in this prospectus concerning any document we filed as an exhibit to the registration statement or that we otherwise filed with the SEC are not intended to be comprehensive and are qualified by reference to these filings and documents. You should review the complete document to evaluate these statements.



180 LIFE SCIENCES CORP.

Common Stock
Preferred Stock
Debt Securities
Warrants
Units

PROSPECTUS

, 2025

You should rely only on the information contained in this prospectus. No dealer, salesperson or other person is authorized to give information that is not contained in this prospectus. This prospectus is not an offer to sell nor is it seeking an offer to buy these securities in any jurisdiction where the offer or sale is not permitted. The information contained in this prospectus is correct only as of the date of this prospectus, regardless of the time of the delivery of this prospectus or the sale of these securities.

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

ITEM 14. OTHER EXPENSES OF ISSUANCE AND DISTRIBUTION

The following table sets forth the various expenses, all of which will be borne by us, in connection with the sale and distribution of the securities being registered, other than the underwriting discounts and commissions. All amounts shown are estimates except for the Securities and Exchange Commission registration fee.

<i>Description</i>	<i>Amount to be Paid</i>
Filing Fee - Securities and Exchange Commission	\$ 70,111
Attorney's fees and expenses	*
Accountant's fees and expenses	*
FINRA, Stock exchange and listing fees	*
Transfer agent's and registrar fees and expenses	*
Printing and engraving expenses	*
Trustee fees and expenses	*
Miscellaneous expenses	*
Total	\$ *

* Estimated expenses that are not presently known because they depend upon, among other things, the number of offerings that will be made pursuant to this registration statement, the amount and type of securities being offered and the timing of such offerings.

ITEM 15. INDEMNIFICATION OF DIRECTORS AND OFFICERS

Section 145 of Delaware General Corporation Law (DGCL) authorizes a court to award, or a corporation's board of directors to grant, indemnity to directors and officers in terms sufficiently broad to permit such indemnification under certain circumstances for liabilities, including reimbursement for expenses incurred, arising under the Securities Act of 1933, as amended (the "Securities Act").

Our Certificate of Incorporation provides for indemnification of our directors, officers, employees and other agents to the maximum extent permitted by the DGCL, and our Second Amended and Restated Bylaws ("Bylaws") provide for indemnification of our directors, officers, employees and other agents to the maximum extent permitted by the DGCL.

In addition, we have entered into indemnification agreements with directors and officers containing provisions that are in some respects broader than the specific indemnification provisions contained in the DGCL. The indemnification agreements will require us, among other things, to indemnify our directors against certain liabilities that may arise by reason of their status or service as directors and to advance their expenses incurred as a result of any proceeding against them as to which they could be indemnified, to the fullest extent permitted by law. We also intend to enter into indemnification agreements with any new directors and executive officers in the future.

Neither our Bylaws nor our Certificate of Incorporation include any specific indemnification provisions for our officers or directors against liability under the Securities Act. Additionally, insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the Company pursuant to the foregoing provisions, or otherwise, the Company has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable.

We have purchased and intend to maintain insurance on behalf of us and any person who is or was a director or officer against any loss arising from any claim asserted against him or her and incurred by him or her in that capacity, subject to certain exclusions and limits of the amount of coverage.

ITEM 16. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

The following documents are filed as exhibits to this registration statement, including those exhibits incorporated herein by reference to a prior filing under the Securities Act or the Exchange Act, as indicated:

Exhibit No.	Description	Furnished or Filed Herewith	Form	Incorporated By Reference		
				Exhibit No.	Filing Date	File No.
*1.1	Form of underwriting agreement (or other similar agreement)					
3.1	Second Amended and Restated Certificate of Incorporation		8-K	3.1	11/12/2020	001-38105
3.2	Certificate of Amendment of Second Amended and Restated Certificate of Incorporation, filed with the Secretary of State of Delaware on December 15, 2022		8-K	3.1	12/16/2022	001-38105
3.3	Certificate of Amendment of Second Amended and Restated Certificate of Incorporation of 180 Life Sciences Corp., filed with the Secretary of State of Delaware on February 26, 2024		8-K	3.1	2/28/2024	001-38105
3.4	Certificate of Designations of 180 Life Sciences Corp. Establishing the Designations, Preferences, Limitations and Relative Rights of Its Series B Convertible Preferred Stock		8-K	3.1	10/3/2024	001-38105
3.5	Second Amended and Restated Bylaws of 180 Life Sciences Corp., effective as of September 4, 2023		8-K	3.1	9/7/2023	001-38105
*4.1	Form of Warrant Agreement					
*4.2	Form of Warrant Certificate					
**4.3	Form of Debt Indenture	X				
*4.4	Form of Debt Security					
*4.5	Certificate of designations of Preferred Stock					
*4.6	Form of Preferred Stock Certificate					
*4.7	Form of Unit Agreement					
*4.8	Form of Unit Certificate					
**5.1	Opinion and consent of The Loev Law Firm, PC re: the legality of the securities being registered	X				
**23.1	Consent of M&K CPA's, PLLC, independent registered public accounting firm.	X				
**23.2	Consent of Marcum LLP, independent registered public accounting firm.	X				
**23.3	Consent of The Loev Law Firm, PC (included in Exhibit 5.1).	X				
**24.1	Power of Attorney (included on signature page of the Registration Statement)	X				
***25.1	Form T-1 Statement of Eligibility of Trustee for Debt Indenture under the Trust Indenture Act of 1939, as amended					
**107	Filing Fee Table	X				

* If applicable, to be filed by amendment or by a report filed under the Exchange Act and incorporated herein by reference.

** Filed herewith.

*** If applicable, to be filed subsequent to the effectiveness of this Registration Statement pursuant to Section 305(b)(2) of the Trust Indenture Act of 1939, as amended.

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ITEM 17. UNDERTAKINGS.

The undersigned registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement to:

(i) Include any prospectus required by Section 10(a)(3) of the Securities Act;

(ii) Reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20% change in the maximum aggregate offering price set forth in the “[Calculation of Registration Fee](#)” table in the effective registration statement; and

(iii) Include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement;

provided, however, that paragraphs (1)(i), (1)(ii) and (1)(iii) above do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Commission by the registrant pursuant to sections 13 or 15(d) of the Exchange Act that are incorporated by reference in the registration statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) of this chapter that is part of the registration statement.

(2) That, for the purpose of determining any liability under the Securities Act, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(4) That, for the purpose of determining liability under the Securities Act to any purchaser:

(A) Each prospectus filed by the registrant pursuant to Rule 424(b)(3) shall be deemed to be part of the registration statement as of the date the filed prospectus

was deemed part of and included in the registration statement; and

(B) Each prospectus required to be filed pursuant to Rule 424(b)(2), (b)(5), or (b)(7) as part of a registration statement in reliance on Rule 430B relating to an offering made pursuant to Rule 415(a)(1)(i), (vii), or (x) for the purpose of providing the information required by section 10(a) of the Securities Act shall be deemed to be part of and included in the registration statement as of the earlier of the date such form of prospectus is first used after effectiveness or the date of the first contract of sale of securities in the offering described in the prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to be a new effective date of the registration statement relating to the securities in the registration statement to which that prospectus relates, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof. Provided, however, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such effective date, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such effective date.

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(5) That, for the purpose of determining liability of the registrant under the Securities Act to any purchaser in the initial distribution of the securities:

The undersigned registrant undertakes that in a primary offering of securities of the undersigned registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:

(i) Any preliminary prospectus or prospectus of the undersigned registrant relating to the offering required to be filed pursuant to Rule 424;

(ii) Any free writing prospectus relating to the offering prepared by or on behalf of the undersigned registrant or used or referred to by the undersigned registrant;

(iii) The portion of any other free writing prospectus relating to the offering containing material information about the undersigned registrant or its securities provided by or on behalf of the undersigned registrant; and

(iv) Any other communication that is an offer in the offering made by the undersigned registrant to the purchaser.

(6) The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act, each filing of the registrant's annual report pursuant to section 13(a) or section 15(d) of the Exchange Act (and, where applicable, each filing of an employee benefit plan's annual report pursuant to section 15(d) of the Exchange Act) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(7) Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

(8) The undersigned registrant hereby undertakes to file an application for the purpose of determining the eligibility of the trustee to act under subsection (a) of section 310 of the Trust Indenture Act (the "Act") in accordance with the rules and regulations prescribed by the Commission under section 305(b)(2) of the Act.

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SIGNATURES

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-3 and has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of North Vancouver, British Columbia, Canada, on the 20th day of June 2025.

180 LIFE SCIENCES CORP.

By: /s/ Blair Jordan

Name: Blair Jordan

Title: Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Blair Jordan and Eric R. Van Lent, and each of them, as true and lawful attorneys-in-fact and agents, with full powers of substitution and resubstitution, for them and in their name, place and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments) to this registration statement (or any registration statement for the same offering that is to be effective upon filing pursuant to Rule 462(b) under the Securities Act of 1933), and to file the same, with all exhibits thereto, and other documents in connection therewith, with the SEC, and generally to do all such things in their names and behalf in their capacities as officers and directors to enable 180 Life Sciences Corp. to comply with the provisions of the Securities Act of 1933 and all requirements of the SEC, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as he might or could do in person, ratifying and confirming all that said attorneys-in-fact and agents, or any of them, or their or his substitutes or substitute, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this registration statement has been signed by the following persons in the capacities and on the dates indicated:

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Blair Jordan</u> Blair Jordan	Chief Executive Officer and Director (Principal Executive Officer)	June 20, 2025
<u>/s/ Eric R. Van Lent</u> Eric R. Van Lent	Chief Accounting Officer (Principal Financial and Accounting Officer)	June 20, 2025

Lawrence Steinman

June 20, 2025

Ryan L. Smith

June 20, 2025

Stephen Shoemaker

June 20, 2025

180 LIFE SCIENCES CORP.,
Issuer

AND

[•],
Trustee

INDENTURE

Dated as of [•], 20[•]

Debt Securities

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(1) This Table of Contents does not constitute part of the Indenture and shall not have any bearing on the interpretation of any of its terms or provisions.

INDENTURE

INDENTURE, dated as of [●], 20[●], among 180 Life Sciences Corp., a Delaware corporation (the “**Company**”), and [●], as trustee (the “**Trustee**”):

WHEREAS, for its lawful corporate purposes, the Company has duly authorized the execution and delivery of this Indenture to provide for the issuance of debt securities (hereinafter referred to as the “**Securities**”), in an unlimited aggregate principal amount to be issued from time to time in one or more series as in this Indenture provided, as registered Securities without coupons, to be authenticated by the certificate of the Trustee;

WHEREAS, to provide the terms and conditions upon which the Securities are to be authenticated, issued and delivered, the Company has duly authorized the execution of this Indenture; and

WHEREAS, all things necessary to make this Indenture a valid agreement of the Company, in accordance with its terms, have been done.

NOW, THEREFORE, in consideration of the premises and the purchase of the Securities by the holders thereof, it is mutually covenanted and agreed as follows for the equal and ratable benefit of the holders of Securities:

ARTICLE 1 DEFINITIONS

Section 1.01 Definitions of Terms.

The terms defined in this Section (except as in this Indenture or any indenture supplemental hereto otherwise expressly provided or unless the context otherwise requires) for all purposes of this Indenture and of any indenture supplemental hereto shall have the respective meanings specified in this Section and shall include the plural as well as the singular. All other terms used in this Indenture that are defined in the Trust Indenture Act of 1939, as amended, or that are by reference in such Act defined in the Securities Act of 1933, as amended (except as herein or any indenture supplemental hereto otherwise expressly provided or unless the context otherwise requires), shall have the meanings assigned to such terms in said Trust Indenture Act and in said Securities Act as in force at the date of the execution of this instrument.

“**Authenticating Agent**” means the Trustee or an authenticating agent with respect to all or any of the series of Securities appointed by the Trustee pursuant to Section 2.10.

“**Bankruptcy Law**” means Title 11, U.S. Code, or any similar federal or state law for the relief of debtors.

“**Board of Directors**” means the Board of Directors (or the functional equivalent thereof) of the Company or any duly authorized committee of such Board.

“**Board Resolution**” means a copy of a resolution certified by the Secretary or an Assistant Secretary of the Company to have been duly adopted by the Board of Directors (or duly authorized committee thereof) and to be in full force and effect on the date of such certification.

“Business Day” means, with respect to any series of Securities, any day other than a day on which federal or state banking institutions in the Borough of Manhattan, the City of New York, or in the city of the Corporate Trust Office of the Trustee, are authorized or obligated by law, executive order or regulation to close, provided, however, for clarification, commercial banks shall not be deemed to be authorized or required by law to remain closed due to “stay at home”, “shelter-in-place”, “non-essential employee” or any other similar orders or restrictions or the closure of any physical branch locations at the direction of any governmental authority so long as the electronic funds transfer systems (including for wire transfers) of commercial banks in The City of New York generally are open for use by customers on such day.

“Certificate” means a certificate signed by any Officer. The Certificate need not comply with the provisions of Section 13.07.

“Commission” means the Securities and Exchange Commission, as from time to time constituted, created under the Exchange Act, or, if at any time after the execution of this instrument such Commission is not existing and performing the duties now assigned to it under the Trust Indenture Act, then the body performing such duties at such time.

“Company” means 180 Life Sciences Corp., a corporation duly organized and existing under the laws of the State of Delaware, and, subject to the provisions of Article Ten, shall also include its successors and assigns.

“Corporate Trust Office” means the office of the Trustee at which, at any particular time, its corporate trust business shall be principally administered, which office at the date hereof is located at _____.

“Custodian” means any receiver, trustee, assignee, liquidator or similar official under any Bankruptcy Law.

“Defaulted Interest” has the meaning set forth in Section 2.03.

“Depository” means, with respect to Securities of any series for which the Company shall determine that such Securities will be issued as a Global Security, The Depository Trust Company, another clearing agency, or any successor registered as a clearing agency under the Exchange Act, or other applicable statute or regulation, which, in each case, shall be designated by the Company pursuant to either Section 2.01 or 2.11.

“Event of Default” means, with respect to Securities of a particular series, any event specified in Section 6.01, continued for the period of time, if any, therein designated.

“Exchange Act” means the United States Securities and Exchange Act of 1934, as amended, and the rules and regulations promulgated by the Commission thereunder.

“Global Security” means a Security issued to evidence all or a part of any series of Securities which is executed by the Company and authenticated and delivered by the Trustee to the Depository or pursuant to the Depository’s instruction, all in accordance with the Indenture, which shall be registered in the name of the Depository or its nominee.

“Governmental Obligations” means securities that are (a) direct obligations of the United States of America for the payment of which its full faith and credit is pledged or (b) obligations of a Person controlled or supervised by and acting as an agency or instrumentality of the United States of America, the payment of which is unconditionally guaranteed as a full faith and credit obligation by the United States of America that, in either case, are not callable or redeemable at the option of the issuer thereof at any time prior to the stated maturity of the Securities, and shall also include a depository receipt issued by a bank or trust company as custodian with respect to any such Governmental Obligation or a specific payment of principal of or interest on any such Governmental Obligation held by such custodian for the account of the holder of such depository receipt; provided, however, that (except as required by law) such custodian is not authorized to make any deduction from the amount payable to the holder of such depository receipt from any amount received by the custodian in respect of the Governmental Obligation or the specific payment of principal of or interest on the Governmental Obligation evidenced by such depository receipt.

“herein”, **“hereof”** and **“hereunder”**, and other words of similar import, refer to this Indenture as a whole and not to any particular Article, Section or other subdivision.

“Indenture” means this instrument as originally executed or as it may from time to time be supplemented or amended by one or more indentures supplemental hereto entered into in accordance with the terms hereof and shall include the terms of particular series of Securities established as contemplated by Section 2.01.

“Interest Payment Date”, when used with respect to any installment of interest on a Security of a particular series, means the date specified in such Security or in a Board Resolution or in an indenture supplemental hereto with respect to such series as the fixed date on which an installment of interest with respect to Securities of that series is due and payable.

“Officer” means, with respect to the Company, the chairman of the Board of Directors, the chief executive officer, the president, the chief financial officer, the chief operating officer, any executive vice president, any senior vice president, any vice president, the treasurer or any assistant treasurer, the controller or any assistant controller or the secretary or any assistant secretary.

“Officer’s Certificate” means a certificate signed by any Officer. Each such certificate shall include the statements provided for in Section 13.07(b), if and to the extent required by the provisions thereof.

“Opinion of Counsel” means an opinion in writing subject to customary exceptions of legal counsel, who may be an employee of or counsel for the Company, that is delivered to the Trustee in accordance with the terms hereof. Each such opinion shall include the statements provided for in Section 13.07(b), if and to the extent required by the provisions thereof.

“Outstanding”, when used with reference to Securities of any series, means, subject to the provisions of Section 8.04, as of any particular time, all Securities of that series theretofore authenticated and delivered by the Trustee under this Indenture, except (a) Securities theretofore canceled by the Trustee or any paying agent, or delivered to the Trustee or any paying agent for cancellation or that have previously been canceled; (b) Securities or portions thereof for the payment or redemption of which moneys or Governmental Obligations in the necessary amount shall have been deposited in trust with the Trustee or with any paying agent (other than the Company) or shall have been set aside and segregated in trust by the Company (if the Company shall act as its own paying agent); provided, however, that if such Securities or portions of such Securities are to be redeemed prior to the maturity thereof, notice of such redemption shall have been given as provided in Article Three, or provision satisfactory to the Trustee shall have been made for giving such notice; and (c) Securities in lieu of or in substitution for which other Securities shall have been authenticated and delivered pursuant to the terms of Section

“**Person**” means any individual, corporation, partnership, joint venture, joint-stock company, limited liability company, association, trust, unincorporated organization, any other entity or organization, including a government or political subdivision or an agency or instrumentality thereof.

“**Predecessor Security**” of any particular Security means every previous Security evidencing all or a portion of the same debt as that evidenced by such particular Security; and, for the purposes of this definition, any Security authenticated and delivered under Section 2.07 in lieu of a lost, destroyed or stolen Security shall be deemed to evidence the same debt as the lost, destroyed or stolen Security.

“**Responsible Officer**” when used with respect to the Trustee means any officer of the Trustee assigned by the Trustee to administer its corporate trust matters with respect to this Indenture (which, for the avoidance of doubt, includes without limitation any supplemental indenture hereto).

“**Securities**” has the meaning stated in the first recital of this Indenture and more particularly means any Securities authenticated and delivered under this Indenture.

“**Securities Act**” means the Securities Act of 1933, as amended.

“**Securityholder**”, “**holder of Securities**”, “**registered holder**”, or other similar term, means the Person or Persons in whose name or names a particular Security is registered on the Security Register kept for that purpose in accordance with the terms of this Indenture.

“**Security Register**” and “**Security Registrar**” shall have the meanings as set forth in Section 2.05.

“**Subsidiary**” means, with respect to any Person:

(1) any corporation or company a majority of whose capital stock with voting power, under ordinary circumstances, to elect directors is, at the date of determination, directly or indirectly, owned by such Person (a “**subsidiary**”), by one or more subsidiaries of such Person or by such Person and one or more subsidiaries of such Person;

(2) a partnership in which such Person or a subsidiary of such Person is, at the date of determination, a general partner of such partnership; or

(3) any partnership, limited liability company or other Person in which such Person, a subsidiary of such Person or such Person and one or more subsidiaries of such Person, directly or indirectly, at the date of determination, have (x) at least a majority ownership interest or (y) the power to elect or appoint or direct the election or appointment of the managing partner or member of such Person or, if applicable, a majority of the directors or other governing body of such Person.

“**Trustee**” means _____, and, subject to the provisions of Article Seven, shall also include its successors and assigns, and, if at any time there is more than one Person acting in such capacity hereunder, “**Trustee**” shall mean each such Person. The term “**Trustee**” as used with respect to a particular series of the Securities shall mean the trustee with respect to that series.

“**Trust Indenture Act**” means the Trust Indenture Act of 1939, as amended.

“**U.S.A. Patriot Act**” means the Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism Act of 2001, Pub. L. 107-56, as amended and signed into law October 26, 2001.

ARTICLE 2

ISSUE, DESCRIPTION, TERMS, EXECUTION, REGISTRATION AND EXCHANGE OF SECURITIES

Section 2.01 Designation and Terms of Securities.

(a) The aggregate principal amount of Securities that may be authenticated and delivered under this Indenture is unlimited. The Securities may be issued in one or more series up to the aggregate principal amount of Securities of that series from time to time authorized by or pursuant to a Board Resolution or pursuant to one or more indentures supplemental hereto. Prior to the initial issuance of Securities of any series, there shall be established in or pursuant to a Board Resolution, and set forth in an Officer’s Certificate, or established in one or more indentures supplemental hereto:

(1) the title of the Securities of the series (which shall distinguish the Securities of that series from all other Securities);

(2) any limit upon the aggregate principal amount of the Securities of that series that may be authenticated and delivered under this Indenture (except for Securities authenticated and delivered upon registration of transfer of, or in exchange for, or in lieu of, other Securities of that series);

(3) the maturity date or dates on which the principal of the Securities of the series is payable;

(4) the form of the Securities of the series including the form of the certificate of authentication for such series;

(5) the applicability of any guarantees;

(6) whether or not the Securities will be secured or unsecured, and the terms of any secured debt;

(7) whether the Securities rank as senior debt, senior subordinated debt, subordinated debt or any combination thereof, and the terms of any subordination;

(8) if the price (expressed as a percentage of the aggregate principal amount thereof) at which such Securities will be issued is a price other than the principal amount thereof, the portion of the principal amount thereof payable upon declaration of acceleration of the maturity thereof, or if applicable, the portion of the principal amount of such Securities that is convertible into another security or the method by which any such portion shall be determined;

(9) the interest rate or rates, which may be fixed or variable, or the method for determining the rate and the date interest will begin to accrue, the dates interest will be payable and the regular record dates for interest payment dates or the method for determining such dates;

(10) the Company's right, if any, to defer the payment of interest and the maximum length of any such deferral period;

(11) if applicable, the date or dates after which, or the period or periods during which, and the price or prices at which, the Company may at its option, redeem the series of Securities pursuant to any optional or provisional redemption provisions and the terms of those redemption provisions;

(12) the date or dates, if any, on which, and the price or prices at which the Company is obligated, pursuant to any mandatory sinking fund or analogous fund provisions or otherwise, to redeem, or at the Securityholder's option to purchase, the series of Securities and the currency or currency unit in which the Securities are payable;

(13) the denominations in which the Securities of the series shall be issuable, if other than denominations of one thousand U.S. dollars (\$1,000) or any integral multiple thereof;

(14) any and all terms, if applicable, relating to any auction or remarketing of the Securities of that series and any security for the obligations of the Company with respect to such Securities and any other terms which may be advisable in connection with the marketing of Securities of that series;

(15) whether the Securities of the series shall be issued in whole or in part in the form of a Global Security or Securities; the terms and conditions, if any, upon which such Global Security or Securities may be exchanged in whole or in part for other individual Securities; and the Depositary for such Global Security or Securities;

(16) if applicable, the provisions relating to conversion or exchange of any Securities of the series and the terms and conditions upon which such Securities will be so convertible or exchangeable, including the conversion or exchange price, as applicable, or how it will be calculated and may be adjusted, any mandatory or optional (at the Company's option or the holders' option) conversion or exchange features, the applicable conversion or exchange period and the manner of settlement for any conversion or exchange, which may, without limitation, include the payment of cash as well as the delivery of securities;

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(17) if other than the full principal amount thereof, the portion of the principal amount of Securities of the series which shall be payable upon declaration of acceleration of the maturity thereof pursuant to Section 6.01;

(18) any changes in or additions to the covenants applicable to the series of Securities being issued, including, among others, the consolidation, merger or sale covenant;

(19) only additions to or changes in the Events of Default with respect to the Securities and any change in the right of the Trustee or the Securityholders to declare the principal, premium, if any, and interest, if any, with respect to such Securities to be due and payable;

(20) additions to or changes in or deletions of the provisions relating to covenant defeasance and legal defeasance;

(21) additions to or changes in the provisions relating to satisfaction and discharge of this Indenture;

(22) additions to or changes in the provisions relating to the modification of this Indenture both with and without the consent of Securityholders of Securities issued under this Indenture;

(23) the currency of payment of Securities if other than U.S. dollars and the manner of determining the equivalent amount in U.S. dollars;

(24) whether interest will be payable in cash or additional Securities at the Company's or the Securityholders' option, the terms and conditions upon which the election may be made;

(25) the terms and conditions, if any, upon which the Company shall pay amounts in addition to the stated interest, premium, if any and principal amounts of the Securities of the series to any Securityholder that is not a "United States person" for federal tax purposes;

(26) any restrictions on transfer, sale or assignment of the Securities of the series; and

(27) any other specific terms, preferences, rights or limitations of, or restrictions on, the Securities, any other additions or changes in the provisions of this Indenture, and any terms that may be required by us or advisable under applicable laws or regulations.

(b) All Securities of any one series shall be substantially identical except as may otherwise be provided in or pursuant to any such Board Resolution or in any indentures supplemental hereto.

If any of the terms of the series are established by action taken pursuant to a Board Resolution of the Company, a copy of an appropriate record of such action shall be certified by the secretary or an assistant secretary of the Company and delivered to the Trustee at or prior to the delivery of the Officer's Certificate of the Company setting forth the terms of the series.

Securities of any particular series may be issued at various times, with different dates on which the principal or any installment of principal is payable, with different rates of interest, if any, or different methods by which rates of interest may be determined, with different dates on which such interest may be payable and with different redemption dates.

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Section 2.02 Form of Securities and Trustee's Certificate.

The Securities of any series and the Trustee's certificate of authentication to be borne by such Securities shall be substantially of the tenor and purport as set forth in one or more indentures supplemental hereto or as provided in a Board Resolution, and set forth in an Officer's Certificate, and they may have such letters, numbers or other marks of identification or designation and such legends or endorsements printed, lithographed or engraved thereon as the Company may deem appropriate and as are not inconsistent with the provisions of this Indenture, or as may be required to comply with any law or with any rule or regulation made pursuant thereto or with any rule or regulation of any securities exchange on which Securities of that series may be listed, or to conform to usage.

Section 2.03 Denominations: Provisions for Payment.

The Securities shall be issuable as registered Securities and in the denominations of one thousand U.S. dollars (\$1,000) or any integral multiple thereof, subject to Section 2.01(a)(13). The Securities of a particular series shall bear interest payable on the dates and at the rate specified with respect to that series. Subject to Section 2.01(a)(23), the principal of and the interest on the Securities of any series, as well as any premium thereon in the case of a redemption or repurchase thereof prior to maturity, and any cash amount due upon the conversion or exchange thereof, shall be payable in the coin or currency of the United States of America that at the time is legal tender for public and private debt, at the office or agency of the Company in the continental United States of America maintained for that purpose. Each Security shall be dated the date of its authentication. Interest on the Securities shall be computed on the basis of a 360-day year composed of twelve 30-day months.

The interest installment on any Security that is payable, and is punctually paid or duly provided for, on any Interest Payment Date for Securities of that series shall be paid to the Person in whose name said Security (or one or more Predecessor Securities) is registered at the close of business on the regular record date for such interest installment. In the event that any Security of a particular series or portion thereof is called for redemption and the redemption date is subsequent to a regular record date with respect to any Interest Payment Date and prior to such Interest Payment Date, interest on such Security will be paid upon presentation and surrender of such Security as provided in Section 3.03.

Any interest on any Security that is payable, but is not punctually paid or duly provided for, on any Interest Payment Date for Securities of the same series (herein called “**Defaulted Interest**”) shall forthwith cease to be payable to the registered holder on the relevant regular record date by virtue of having been such holder; and such Defaulted Interest shall be paid by the Company, at its election, as provided in clause (1) or clause (2) below:

(1) The Company may make payment of any Defaulted Interest on Securities to the Persons in whose names such Securities (or their respective Predecessor Securities) are registered at the close of business on a special record date for the payment of such Defaulted Interest, which shall be fixed in the following manner: the Company shall notify the Trustee in writing of the amount of Defaulted Interest proposed to be paid on each such Security and the date of the proposed payment, and at the same time the Company shall deposit with the Trustee an amount of money equal to the aggregate amount proposed to be paid in respect of such Defaulted Interest or shall make arrangements satisfactory to the Trustee for such deposit prior to the date of the proposed payment, such money when deposited to be held in trust for the benefit of the Persons entitled to such Defaulted Interest as in this clause provided. Thereupon the Trustee shall fix a special record date for the payment of such Defaulted Interest which shall not be more than 15 nor less than 10 days prior to the date of the proposed payment and not less than 10 days after the receipt by the Trustee of the notice of the proposed payment. The Trustee shall promptly notify the Company of such special record date and, in the name and at the expense of the Company, shall cause notice of the proposed payment of such Defaulted Interest and the special record date therefor to be mailed, first class postage prepaid, to each Securityholder at his or her address as it appears in the Security Register (as hereinafter defined), not less than 10 days prior to such special record date. Notice of the proposed payment of such Defaulted Interest and the special record date therefor having been mailed as aforesaid, such Defaulted Interest shall be paid to the Persons in whose names such Securities (or their respective Predecessor Securities) are registered on such special record date.

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(2) The Company may make payment of any Defaulted Interest on any Securities in any other lawful manner not inconsistent with the requirements of any securities exchange on which such Securities may be listed, and upon such notice as may be required by such exchange, if, after notice given by the Company to the Trustee of the proposed payment pursuant to this clause, such manner of payment shall be deemed practicable by the Trustee.

Unless otherwise set forth in a Board Resolution or one or more indentures supplemental hereto establishing the terms of any series of Securities pursuant to Section 2.01 hereof, the term “**regular record date**” as used in this Section with respect to a series of Securities and any Interest Payment Date for such series shall mean either the fifteenth day of the month immediately preceding the month in which an Interest Payment Date established for such series pursuant to Section 2.01 hereof shall occur, if such Interest Payment Date is the first day of a month, or the first day of the month in which an Interest Payment Date established for such series pursuant to Section 2.01 hereof shall occur, if such Interest Payment Date is the fifteenth day of a month, whether or not such date is a Business Day.

Subject to the foregoing provisions of this Section, each Security of a series delivered under this Indenture upon transfer of or in exchange for or in lieu of any other Security of such series shall carry the rights to interest accrued and unpaid, and to accrue, that were carried by such other Security.

Section 2.04 Execution and Authentications.

The Securities shall be signed on behalf of the Company by one of its Officers. Signatures may be in the form of a manual or facsimile signature.

The Company may use the facsimile signature of any Person who shall have been an Officer (at the time of execution), notwithstanding the fact that at the time the Securities shall be authenticated and delivered or disposed of such Person shall have ceased to be such an officer of the Company. The Securities may contain such notations, legends or endorsements required by law, stock exchange rule or usage. Each Security shall be dated the date of its authentication by the Trustee.

A Security shall not be valid until authenticated manually by an authorized signatory of the Trustee, or by an Authenticating Agent. Such signature shall be conclusive evidence that the Security so authenticated has been duly authenticated and delivered hereunder and that the holder is entitled to the benefits of this Indenture. At any time and from time to time after the execution and delivery of this Indenture, the Company may deliver Securities of any series executed by the Company to the Trustee for authentication, together with a written order of the Company for the authentication and delivery of such Securities, signed by an Officer, and the Trustee in accordance with such written order shall authenticate and deliver such Securities.

Upon the Company's delivery of any such authentication order to the Trustee at any time after the initial issuance of Securities under this Indenture, the Trustee shall be provided with, and (subject to Sections 315(a) through 315(d) of the Trust Indenture Act) shall be fully protected in relying upon, (1) an Opinion of Counsel or reliance letter and (2) an Officer's Certificate stating that all conditions precedent to the execution, authentication and delivery of such Securities are in conformity with the provisions of this Indenture.

The Trustee shall not be required to authenticate such Securities if the issue of such Securities pursuant to this Indenture will affect the Trustee's own rights, duties or immunities under the Securities and this Indenture or otherwise in a manner that is not reasonably acceptable to the Trustee.

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Section 2.05 Registration of Transfer and Exchange.

(a) Securities of any series may be exchanged upon presentation thereof at the office or agency of the Company in the continental United States of America designated for such purpose, for other Securities of such series of authorized denominations, and for a like aggregate principal amount, upon payment of a sum sufficient to cover any tax or other governmental charge in relation thereto, all as provided in this Section. In respect of any Securities so surrendered for exchange, the

Company shall execute, the Trustee shall authenticate and such office or agency shall deliver in exchange therefor the Security or Securities of the same series that the Securityholder making the exchange shall be entitled to receive, bearing numbers not contemporaneously outstanding.

(b) The Company shall keep, or cause to be kept at its office or agency in the continental United States of America designated for such purpose a register or registers (herein referred to as the “**Security Register**”) in which, subject to such reasonable regulations as it may prescribe, the Company shall register the Securities and the transfers of Securities as in this Article provided and which at all reasonable times shall be open for inspection by the Trustee. The registrar for the purpose of registering Securities and transfer of Securities as herein provided shall be appointed as authorized by Board Resolution (the “**Security Registrar**”).

Upon surrender for transfer of any Security at the office or agency of the Company designated for such purpose, the Company shall execute, the Trustee shall authenticate and such office or agency shall deliver in the name of the transferee or transferees a new Security or Securities of the same series as the Security presented for a like aggregate principal amount.

All Securities presented or surrendered for exchange or registration of transfer, as provided in this Section, shall be accompanied (if so required by the Company or the Security Registrar) by a written instrument or instruments of transfer, in form satisfactory to the Company or the Security Registrar, duly executed by the registered holder or by such holder’s duly authorized attorney in writing.

(c) Except as provided pursuant to Section 2.01 pursuant to a Board Resolution, and set forth in an Officer’s Certificate, or established in one or more indentures supplemental to this Indenture, no service charge shall be made for any exchange or registration of transfer of Securities, or issue of new Securities in case of partial redemption of any series or repurchase, conversion or exchange of less than the entire principal amount of a Security, but the Company may require payment of a sum sufficient to cover any tax or other governmental charge in relation thereto, other than exchanges pursuant to Section 2.06, Section 3.03(b) and Section 9.04 not involving any transfer.

(d) The Company shall not be required (i) to issue, exchange or register the transfer of any Securities during a period beginning at the opening of business 15 days before the day of the mailing of a notice of redemption of less than all the Outstanding Securities of the same series and ending at the close of business on the day of such mailing, nor (ii) to register the transfer of or exchange any Securities of any series or portions thereof called for redemption or surrendered for repurchase, but not validly withdrawn, other than the unredeemed portion of any such Securities being redeemed in part or not surrendered for repurchase, as the case may be. The provisions of this Section 2.05 are, with respect to any Global Security, subject to Section 2.11 hereof.

The Trustee shall have no obligation or duty to monitor, determine or inquire as to compliance with any restrictions on transfer imposed under this Indenture or under applicable law with respect to any transfer of any interest in any Security (including any transfers between or among depositary participants or beneficial owners of interests in any Global Security) other than to require delivery of such certificates and other documentation or evidence as are expressly required by, and to do so if and when expressly required by the terms of, this Indenture, and to examine the same to determine substantial compliance as to form with the express requirements hereof.

Section 2.06 Temporary Securities.

Pending the preparation of definitive Securities of any series, the Company may execute, and the Trustee shall authenticate and deliver, temporary Securities (printed, lithographed or typewritten) of any authorized denomination. Such temporary Securities shall be substantially in the form of the definitive Securities in lieu of which they are issued, but with such omissions, insertions and variations as may be appropriate for temporary Securities, all as may be determined by the Company. Every temporary Security of any series shall be executed by the Company and be authenticated by the Trustee upon the same conditions and in substantially the same manner, and with like effect, as the definitive Securities of such series. Without unnecessary delay the Company will execute and will furnish definitive Securities of such series and thereupon any or all temporary Securities of such series may be surrendered in exchange therefor (without charge to the holders), at the office or agency of the Company in the continental United States of America designated for the purpose, and the Trustee shall authenticate and such office or agency shall deliver in exchange for such temporary Securities an equal aggregate principal amount of definitive Securities of such series, unless the Company advises the Trustee to the effect that definitive Securities need not be executed and furnished until further notice from the Company. Until so exchanged, the temporary Securities of such series shall be entitled to the same benefits under this Indenture as definitive Securities of such series authenticated and delivered hereunder.

Section 2.07 Mutilated, Destroyed, Lost or Stolen Securities.

In case any temporary or definitive Security shall become mutilated or be destroyed, lost or stolen, the Company (subject to the next succeeding sentence) shall execute, and upon the Company’s request the Trustee (subject as aforesaid) shall authenticate and deliver, a new Security of the same series, bearing a number not contemporaneously outstanding, in exchange and substitution for the mutilated Security, or in lieu of and in substitution for the Security so destroyed, lost or stolen. In every case the applicant for a substituted Security shall furnish to the Company and the Trustee such security or indemnity as may be required by them to save each of them harmless, and, in every case of destruction, loss or theft, the applicant shall also furnish to the Company and the Trustee evidence to their satisfaction of the destruction, loss or theft of the applicant’s Security and of the ownership thereof. The Trustee may authenticate any such substituted Security and deliver the same upon the written request or authorization of any officer of the Company. Upon the issuance of any substituted Security, the Company may require the payment of a sum sufficient to cover any tax or other governmental charge that may be imposed in relation thereto and any other expenses (including the fees and expenses of the Trustee) connected therewith.

In case any Security that has matured or is about to mature shall become mutilated or be destroyed, lost or stolen, the Company may, instead of issuing a substitute Security, pay or authorize the payment of the same (without surrender thereof except in the case of a mutilated Security) if the applicant for such payment shall furnish to the Company and the Trustee such security or indemnity as they may require to save them harmless, and, in case of destruction, loss or theft, evidence to the satisfaction of the Company and the Trustee of the destruction, loss or theft of such Security and of the ownership thereof.

Every replacement Security issued pursuant to the provisions of this Section shall constitute an additional contractual obligation of the Company whether or not the mutilated, destroyed, lost or stolen Security shall be found at any time, or be enforceable by anyone, and shall be entitled to all the benefits of this Indenture equally and proportionately with any and all other Securities of the same series duly issued hereunder. All Securities shall be held and owned upon the express condition that the foregoing provisions are exclusive with respect to the replacement or payment of mutilated, destroyed, lost or stolen Securities, and shall preclude (to the extent lawful) any and all other rights or remedies, notwithstanding any law or statute existing or hereafter enacted to the contrary with respect to the replacement or payment of negotiable instruments or other securities without their surrender.

Section 2.08 Cancellation.

All Securities surrendered for the purpose of payment, redemption, repurchase, exchange, registration of transfer or conversion or exchange shall, if surrendered to the Company or any paying agent (or any other applicable agent), be delivered to the Trustee for cancellation, or, if surrendered to the Trustee, shall be cancelled by it, and no Securities shall be issued in lieu thereof except as expressly required or permitted by any of the provisions of this Indenture. On request of the Company at the time of such

surrender, the Trustee shall deliver to the Company canceled Securities held by the Trustee. In the absence of such request the Trustee may dispose of canceled Securities in accordance with its standard procedures and deliver a certificate of disposition to the Company. If the Company shall otherwise acquire any of the Securities, however, such acquisition shall not operate as a redemption or satisfaction of the indebtedness represented by such Securities unless and until the same are delivered to the Trustee for cancellation.

Section 2.09 Benefits of Indenture.

Nothing in this Indenture or in the Securities, express or implied, shall give or be construed to give to any Person, other than the parties hereto and the holders of the Securities, any legal or equitable right, remedy or claim under or in respect of this Indenture, or under any covenant, condition or provision herein contained; all such covenants, conditions and provisions being for the sole benefit of the parties hereto and of the holders of the Securities.

Section 2.10 Authenticating Agent.

So long as any of the Securities of any series remain Outstanding there may be an Authenticating Agent for any or all such series of Securities which the Trustee shall have the right to appoint. Said Authenticating Agent shall be authorized to act on behalf of the Trustee to authenticate Securities of such series issued upon exchange, transfer or partial redemption, repurchase or conversion thereof, and Securities so authenticated shall be entitled to the benefits of this Indenture and shall be valid and obligatory for all purposes as if authenticated by the Trustee hereunder. All references in this Indenture to the authentication of Securities by the Trustee shall be deemed to include authentication by an Authenticating Agent for such series. Each Authenticating Agent shall be acceptable to the Company and shall be a corporation that has a combined capital and surplus, as most recently reported or determined by it, sufficient under the laws of any jurisdiction under which it is organized or in which it is doing business to conduct a trust business, and that is otherwise authorized under such laws to conduct such business and is subject to supervision or examination by federal or state authorities. If at any time any Authenticating Agent shall cease to be eligible in accordance with these provisions, it shall resign immediately.

Any Authenticating Agent may at any time resign by giving written notice of resignation to the Trustee and to the Company. The Trustee may at any time (and upon request by the Company shall) terminate the agency of any Authenticating Agent by giving written notice of termination to such Authenticating Agent and to the Company. Upon resignation, termination or cessation of eligibility of any Authenticating Agent, the Trustee may appoint an eligible successor Authenticating Agent acceptable to the Company. Any successor Authenticating Agent, upon acceptance of its appointment hereunder, shall become vested with all the rights, powers and duties of its predecessor hereunder as if originally named as an Authenticating Agent pursuant hereto.

Section 2.11 Global Securities.

(a) If the Company shall establish pursuant to Section 2.01 that the Securities of a particular series are to be issued as a Global Security, then the Company shall execute and the Trustee shall, in accordance with Section 2.04, authenticate and deliver, a Global Security that (i) shall represent, and shall be denominated in an amount equal to the aggregate principal amount of, all of the Outstanding Securities of such series, (ii) shall be registered in the name of the Depository or its nominee, (iii) shall be delivered by the Trustee to the Depository or pursuant to the Depository's instruction (or if the Depository names the Trustee as its custodian, retained by the Trustee) and (iv) shall bear a legend substantially to the following effect: **"Except as otherwise provided in Section 2.11 of the Indenture, this Security may be transferred, in whole but not in part, only to another nominee of the Depository or to a successor Depository or to a nominee of such successor Depository."**

(b) Notwithstanding the provisions of Section 2.05, the Global Security of a series may be transferred, in whole but not in part and in the manner provided in Section 2.05, only to another nominee of the Depository for such series, or to a successor Depository for such series selected or approved by the Company or to a nominee of such successor Depository.

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(c) If at any time the Depository for a series of the Securities notifies the Company that it is unwilling or unable to continue as Depository for such series or if at any time the Depository for such series shall no longer be registered or in good standing under the Exchange Act, or other applicable statute or regulation, and a successor Depository for such series is not appointed by the Company within 90 days after the Company receives such notice or becomes aware of such condition, as the case may be, or if an Event of Default has occurred and is continuing and the Company has received a request from the Depository or from the Trustee, this Section 2.11 shall no longer be applicable to the Securities of such series and the Company will execute, and subject to Section 2.04, the Trustee will authenticate and deliver the Securities of such series in definitive registered form without coupons, in authorized denominations, and in an aggregate principal amount equal to the principal amount of the Global Security of such series in exchange for such Global Security. In addition, the Company may at any time determine that the Securities of any series shall no longer be represented by a Global Security and that the provisions of this Section 2.11 shall no longer apply to the Securities of such series. In such event the Company will execute and, subject to Section 2.04, the Trustee, upon receipt of an Officer's Certificate evidencing such determination by the Company, will authenticate and deliver the Securities of such series in definitive registered form without coupons, in authorized denominations, and in an aggregate principal amount equal to the principal amount of the Global Security of such series in exchange for such Global Security. Upon the exchange of the Global Security for such Securities in definitive registered form without coupons, in authorized denominations, the Global Security shall be canceled by the Trustee. Such Securities in definitive registered form issued in exchange for the Global Security pursuant to this Section 2.11(c) shall be registered in such names and in such authorized denominations as the Depository, pursuant to instructions from its direct or indirect participants or otherwise, shall instruct the Trustee. The Trustee shall deliver such Securities to the Depository for delivery to the Persons in whose names such Securities are so registered.

ARTICLE 3 REDEMPTION OF SECURITIES AND SINKING FUND PROVISIONS

Section 3.01 Redemption.

The Company may redeem the Securities of any series issued hereunder on and after the dates and in accordance with the terms established for such series pursuant to Section 2.01 hereof.

Section 3.02 Notice of Redemption.

(a) In case the Company shall desire to exercise such right to redeem all or, as the case may be, a portion of the Securities of any series in accordance with any right the Company reserved for itself to do so pursuant to Section 2.01 hereof, the Company shall, or shall cause the Trustee to, give notice of such redemption to holders of the Securities of such series to be redeemed by mailing, first class postage prepaid (or with regard to any Global Security held in book entry form, by electronic mail), a notice of such redemption not less than 30 days and not more than 60 days before the date fixed for redemption of that series to such holders at their last addresses as they shall appear upon the Security Register, unless a shorter period is specified in the Securities to be redeemed. Any notice that is mailed in the manner herein provided shall be conclusively presumed to have been duly given, whether or not the registered holder receives the notice. In any case, failure duly to give such notice to the holder of any Security of any series designated for redemption in whole or in part, or any defect in the notice, shall not affect the validity of the proceedings for the redemption of any other Securities of such series or any other series. In the case of any redemption of Securities prior to the expiration of any restriction on such redemption provided in the terms of such Securities or elsewhere in this Indenture, the Company shall furnish the Trustee with an Officer's Certificate evidencing compliance with any such restriction.

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Each such notice of redemption shall specify the date fixed for redemption and the redemption price at which Securities of that series are to be redeemed, and shall state that payment of the redemption price of such Securities to be redeemed will be made at the office or agency of the Company in the continental United States of America, upon presentation and surrender of such Securities, that interest accrued to the date fixed for redemption will be paid as specified in said notice, that from and after said date interest will cease to accrue and that the redemption is from a sinking fund, if such is the case. If less than all the Securities of a series are to be redeemed, the notice to the holders of Securities of that series to be redeemed in part shall specify the particular Securities to be so redeemed.

In case any Security is to be redeemed in part only, the notice that relates to such Security shall state the portion of the principal amount thereof to be redeemed, and shall state that on and after the redemption date, upon surrender of such Security, a new Security or Securities of such series in principal amount equal to the unredeemed portion thereof will be issued.

(b) If less than all the Securities of a series are to be redeemed, the Company shall give the Trustee at least 45 days' notice (unless a shorter notice shall be satisfactory to the Trustee) in advance of the date fixed for redemption as to the aggregate principal amount of Securities of the series to be redeemed, and thereupon the Trustee shall select, by lot or in such other manner as it shall deem appropriate and fair in its discretion and that may provide for the selection of a portion or portions (equal to one thousand U.S. dollars (\$1,000) or any integral multiple thereof) of the principal amount of such Securities of a denomination larger than \$1,000, the Securities to be redeemed and shall thereafter promptly notify the Company in writing of the numbers of the Securities to be redeemed, in whole or in part. The Company may, if and whenever it shall so elect, by delivery of instructions signed on its behalf by an Officer, instruct the Trustee or any paying agent to call all or any part of the Securities of a particular series for redemption and to give notice of redemption in the manner set forth in this Section, such notice to be in the name of the Company or its own name as the Trustee or such paying agent may deem advisable. In any case in which notice of redemption is to be given by the Trustee or any such paying agent, the Company shall deliver or cause to be delivered to, or permit to remain with, the Trustee or such paying agent, as the case may be, such Security Register, transfer books or other records, or suitable copies or extracts therefrom, sufficient to enable the Trustee or such paying agent to give any notice by mail that may be required under the provisions of this Section.

Section 3.03 Payment Upon Redemption.

(a) If the giving of notice of redemption shall have been completed as above provided, the Securities or portions of Securities of the series to be redeemed specified in such notice shall become due and payable on the date and at the place stated in such notice at the applicable redemption price, together with interest accrued to the date fixed for redemption and interest on such Securities or portions of Securities shall cease to accrue on and after the date fixed for redemption, unless the Company shall default in the payment of such redemption price and accrued interest with respect to any such Security or portion thereof. On presentation and surrender of such Securities on or after the date fixed for redemption at the place of payment specified in the notice, said Securities shall be paid and redeemed at the applicable redemption price for such series, together with interest accrued thereon to the date fixed for redemption (but if the date fixed for redemption is an Interest Payment Date, the interest installment payable on such date shall be payable to the registered holder at the close of business on the applicable record date pursuant to Section 2.03).

(b) Upon presentation of any Security of such series that is to be redeemed in part only, the Company shall execute and the Trustee shall authenticate and the office or agency where the Security is presented shall deliver to the holder thereof, at the expense of the Company, a new Security of the same series of authorized denominations in principal amount equal to the unredeemed portion of the Security so presented.

Section 3.04 Sinking Fund.

The provisions of Sections 3.04, 3.05 and 3.06 shall be applicable to any sinking fund for the retirement of Securities of a series, except as otherwise specified as contemplated by Section 2.01 for Securities of such series.

The minimum amount of any sinking fund payment provided for by the terms of Securities of any series is herein referred to as a **"mandatory sinking fund payment,"** and any payment in excess of such minimum amount provided for by the terms of Securities of any series is herein referred to as an **"optional sinking fund payment"**. If provided for by the terms of Securities of any series, the cash amount of any sinking fund payment may be subject to reduction as provided in Section 3.05. Each sinking fund payment shall be applied to the redemption of Securities of any series as provided for by the terms of Securities of such series.

Section 3.05 Satisfaction of Sinking Fund Payments with Securities.

The Company (i) may deliver Outstanding Securities of a series and (ii) may apply as a credit Securities of a series that have been redeemed either at the election of the Company pursuant to the terms of such Securities or through the application of permitted optional sinking fund payments pursuant to the terms of such Securities, in each case in satisfaction of all or any part of any sinking fund payment with respect to the Securities of such series required to be made pursuant to the terms of such Securities as provided for by the terms of such series, provided that such Securities have not been previously so credited. Such Securities shall be received and credited for such purpose by the Trustee at the redemption price specified in such Securities for redemption through operation of the sinking fund and the amount of such sinking fund payment shall be reduced accordingly.

Section 3.06 Redemption of Securities for Sinking Fund.

Not less than 45 days prior to each sinking fund payment date for any series of Securities (unless a shorter period shall be satisfactory to the Trustee), the Company will deliver to the Trustee an Officer's Certificate specifying the amount of the next ensuing sinking fund payment for that series pursuant to the terms of the series, the portion thereof, if any, that is to be satisfied by delivering and crediting Securities of that series pursuant to Section 3.05 and the basis for such credit and will, together with such Officer's Certificate, deliver to the Trustee any Securities to be so delivered. Not less than 30 days before each such sinking fund payment date the Trustee shall select the Securities to be redeemed upon such sinking fund payment date in the manner specified in Section 3.02 and cause notice of the redemption thereof to be given in the name of and at the expense of the Company in the manner provided in Section 3.02. Such notice having been duly given, the redemption of such Securities shall be made upon the terms and in the manner stated in Section 3.03.

ARTICLE 4 COVENANTS

Section 4.01 Payment of Principal, Premium and Interest

The Company will duly and punctually pay or cause to be paid the principal of (and premium, if any), interest on, and any redemption price or repurchase price for the Securities of that series at the time and place and in the manner provided herein and established with respect to such Securities. Payments of the principal of, redemption price for or repurchase price for, the Securities may be made at the time provided herein and established with respect to such Securities by U.S. dollar check drawn on and mailed to the address of the Securityholder entitled thereto as such address shall appear in the Security Register, or U.S. dollar wire transfer to, a U.S. dollar account if such Securityholder shall have furnished wire instructions to the Trustee no later than 15 days prior to the relevant payment date. Payments of interest on the Securities may be made at the time provided herein and established with respect to such Securities by U.S. dollar check mailed to the address of the Securityholder entitled thereto as such address shall appear in the Security Register, or U.S. dollar wire transfer to, a U.S. dollar account if such Securityholder shall have furnished wire instructions in writing to the Security

Section 4.02 Maintenance of Office or Agency.

So long as any series of the Securities remain Outstanding, the Company agrees to maintain an office or agency in the continental United States of America with respect to each such series and at such other location or locations as may be designated as provided in this Section 4.02, where (i) Securities of that series may be presented for payment, (ii) Securities of that series may be presented as herein above authorized for registration of transfer and exchange, and (iii) notices and demands to or upon the Company in respect of the Securities of that series and this Indenture may be given or served, such designation to continue with respect to such office or agency until the Company shall, by written notice signed by any officer authorized to sign an Officer's Certificate and delivered to the Trustee, designate some other office or agency for such purposes or any of them. If at any time the Company shall fail to maintain any such required office or agency or shall fail to furnish the Trustee with the address thereof, such presentations, notices and demands may be made or served at the Corporate Trust Office of the Trustee, and the Company hereby appoints the Trustee as its agent to receive all such presentations, notices and demands. The Company initially appoints the Trustee as its paying agent with respect to the Securities.

Section 4.03 Paying Agents.

(a) If the Company shall appoint one or more paying agents for all or any series of the Securities, other than the Trustee, the Company will cause each such paying agent to execute and deliver to the Trustee an instrument in which such agent shall agree with the Trustee, subject to the provisions of this Section:

(1) that it will hold all sums held by it as such agent for the payment of the principal of (and premium, if any) or interest on the Securities of that series (whether such sums have been paid to it by the Company or by any other obligor of such Securities) in trust for the benefit of the Persons entitled thereto;

(2) that it will give the Trustee notice of any failure by the Company (or by any other obligor of such Securities) to make any payment of the principal of (and premium, if any) or interest on the Securities of that series when the same shall be due and payable;

(3) that it will, at any time during the continuance of any failure referred to in the preceding paragraph (a)(2) above, upon the written request of the Trustee, forthwith pay to the Trustee all sums so held in trust by such paying agent; and

(4) that it will perform all other duties of paying agent as set forth in this Indenture.

(b) If the Company shall act as its own paying agent with respect to any series of the Securities, it will on or before each due date of the principal of (and premium, if any) or interest on Securities of that series, set aside, segregate and hold in trust for the benefit of the Persons entitled thereto a sum sufficient to pay such principal (and premium, if any) or interest so becoming due on Securities of that series until such sums shall be paid to such Persons or otherwise disposed of as herein provided and will promptly notify the Trustee of such action, or any failure (by it or any other obligor on such Securities) to take such action. Whenever the Company shall have one or more paying agents for any series of Securities, it will, prior to each due date of the principal of (and premium, if any) or interest on any Securities of that series, deposit with the paying agent a sum sufficient to pay the principal (and premium, if any) or interest so becoming due, such sum to be held in trust for the benefit of the Persons entitled to such principal, premium or interest, and (unless such paying agent is the Trustee) the Company will promptly notify the Trustee of this action or failure so to act.

(c) Notwithstanding anything in this Section to the contrary, (i) the agreement to hold sums in trust as provided in this Section is subject to the provisions of Section 11.05, and (ii) the Company may at any time, for the purpose of obtaining the satisfaction and discharge of this Indenture or for any other purpose, pay, or direct any paying agent to pay, to the Trustee all sums held in trust by the Company or such paying agent, such sums to be held by the Trustee upon the same terms and conditions as those upon which such sums were held by the Company or such paying agent; and, upon such payment by the Company or any paying agent to the Trustee, the Company or such paying agent shall be released from all further liability with respect to such money.

Section 4.04 Appointment to Fill Vacancy in Office of Trustee.

The Company, whenever necessary to avoid or fill a vacancy in the office of Trustee, will appoint, in the manner provided in Section 7.10, a Trustee, so that there shall at all times be a Trustee hereunder.

Section 4.05 Compliance with Consolidation Provisions.

The Company will not, while any of the Securities remain Outstanding, consolidate with or merge into any other Person, in either case where the Company is not the survivor of such transaction, or sell or convey all or substantially all of its property to any other Person unless the provisions of Article Ten hereof are complied with.

ARTICLE 5 SECURITYHOLDERS' LISTS AND REPORTS BY THE COMPANY AND THE TRUSTEE

Section 5.01 Company to Furnish Trustee Names and Addresses of Securityholders.

The Company will furnish or cause to be furnished to the Trustee (a) within 15 days after each regular record date (as defined in Section 2.03) a list, in such form as the Trustee may reasonably require, of the names and addresses of the holders of each series of Securities as of such regular record date, provided that the Company shall not be obligated to furnish or cause to furnish such list at any time that the list shall not differ in any respect from the most recent list furnished to the Trustee by the Company and (b) at such other times as the Trustee may request in writing within 30 days after the receipt by the Company of any such request, a list of similar form and content as of a date not more than 15 days prior to the time such list is furnished; provided, however, that, in either case, no such list need be furnished for any series for which the Trustee shall be the Security Registrar.

Section 5.02 Preservation Of Information; Communications With Securityholders

(a) The Trustee shall preserve, in as current a form as is reasonably practicable, all information as to the names and addresses of the holders of Securities contained in the most recent list furnished to it as provided in Section 5.01 and as to the names and addresses of holders of Securities received by the Trustee in its capacity as Security Registrar (if acting in such capacity).

(b) The Trustee may destroy any list furnished to it as provided in Section 5.01 upon receipt of a new list so furnished.

(c) Securityholders may communicate as provided in Section 312(b) of the Trust Indenture Act with other Securityholders with respect to their rights under this Indenture or under the Securities, and, in connection with any such communications, the Trustee shall satisfy its obligations under Section 312(b) of the Trust Indenture Act in accordance with the provisions of Section 312(b) of the Trust Indenture Act.

Section 5.03 Reports by the Company.

(a) The Company covenants and agrees to provide (which delivery may be via electronic mail) to the Trustee within 30 days, after the Company files the same with the Commission, copies of the annual reports and of the information, documents and other reports (or copies of such portions of any of the foregoing as the Commission may from time to time by rules and regulations prescribe) that the Company is required to file with the Commission pursuant to Section 13 or Section 15(d) of the Exchange Act; provided, however, the Company shall not be required to deliver to the Trustee any correspondence filed with the Commission or any materials for which the Company has sought and received confidential treatment by the Commission; and provided further, that so long as such filings by the Company are available on the Commission's Electronic Data Gathering, Analysis and Retrieval System (EDGAR), or any successor system, such filings shall be deemed to have been filed with the Trustee for purposes hereof without any further action required by the Company. For the avoidance of doubt, a failure by the Company to file annual reports, information and other reports with the SEC within the time period prescribed thereof by the Commission shall not be deemed a breach of this Section 5.03.

(b) Delivery of reports, information and documents to the Trustee under Section 5.03 is for informational purposes only and the information and the Trustee's receipt of the foregoing shall not constitute constructive notice of any information contained therein, or determinable from information contained therein including the Company's compliance with any of their covenants thereunder (as to which the Trustee is entitled to rely exclusively on an Officer's Certificate).

Section 5.04 Reports by the Trustee.

(a) If required by Section 313(a) of the Trust Indenture Act, the Trustee, within sixty (60) days after each _____, commencing _____, 20____, shall transmit by mail, first class postage prepaid, to the Securityholders, as their names and addresses appear upon the Security Register, a brief report dated as of such _____, which complies with Section 313(a) of the Trust Indenture Act.

(b) The Trustee shall comply with Section 313(b) and 313(c) of the Trust Indenture Act.

(c) A copy of each such report shall, at the time of such transmission to Securityholders, be filed by the Trustee with the Company, with each securities exchange upon which any Securities are listed (if so listed) and also with the Commission. The Company agrees to notify the Trustee when any Securities become listed on any securities exchange.

ARTICLE 6 REMEDIES OF THE TRUSTEE AND SECURITYHOLDERS ON EVENT OF DEFAULT

Section 6.01 Events of Default.

(a) Whenever used herein with respect to Securities of a particular series, "**Event of Default**" means any one or more of the following events that has occurred and is continuing:

(1) the Company defaults in the payment of any installment of interest upon any of the Securities of that series, as and when the same shall become due and payable, and such default continues for a period of 90 days; provided, however, that a valid extension of an interest payment period by the Company in accordance with the terms of any indenture supplemental hereto shall not constitute a default in the payment of interest for this purpose;

(2) the Company defaults in the payment of the principal of (or premium, if any, on) any of the Securities of that series as and when the same shall become due and payable whether at maturity, upon redemption, by declaration or otherwise, or in any payment required by any sinking or analogous fund established with respect to that series; provided, however, that a valid extension of the maturity of such Securities in accordance with the terms of any indenture supplemental hereto shall not constitute a default in the payment of principal or premium, if any;

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(3) the Company fails to observe or perform any other of its covenants or agreements with respect to that series contained in this Indenture or otherwise established with respect to that series of Securities pursuant to Section 2.01 hereof (other than a covenant or agreement that has been expressly included in this Indenture solely for the benefit of one or more series of Securities other than such series) for a period of 90 days after the date on which written notice of such failure, requiring the same to be remedied and stating that such notice is a "**Notice of Default**" hereunder, shall have been given to the Company by the Trustee, by registered or certified mail, or to the Company and the Trustee by the holders of at least 25% in principal amount of the Securities of that series at the time Outstanding;

(4) the Company pursuant to or within the meaning of any Bankruptcy Law (i) commences a voluntary case, (ii) consents to the entry of an order for relief against it in an involuntary case, (iii) consents to the appointment of a Custodian of it or for all or substantially all of its property or (iv) makes a general assignment for the benefit of its creditors; or

(5) a court of competent jurisdiction enters an order under any Bankruptcy Law that (i) is for relief against the Company in an involuntary case, (ii) appoints a Custodian of the Company for all or substantially all of its property, or (iii) orders the liquidation of the Company, and the order or decree remains unstayed and in effect for 90 days.

(b) In each and every such case (other than an Event of Default specified in clause (4) or clause (5) above), unless the principal of all the Securities of that series shall have already become due and payable, either the Trustee or the holders of not less than 25% in aggregate principal amount of the Securities of that series then Outstanding hereunder, by notice in writing to the Company (and to the Trustee if given by such Securityholders), may declare the principal of (and premium, if any, on) and accrued and unpaid interest on all the Securities of that series to be due and payable immediately, and upon any such declaration the same shall become and shall be immediately due and payable. If an Event of Default specified in clause (4) or clause (5) above occurs, the principal of and accrued and unpaid interest on all the Securities of that series shall automatically be immediately due and payable without any declaration or other act on the part of the Trustee or the holders of the Securities.

(c) At any time after the principal of (and premium, if any, on) and accrued and unpaid interest on the Securities of that series shall have been so declared due and payable, and before any judgment or decree for the payment of the moneys due shall have been obtained or entered as hereinafter provided, the holders of a majority in aggregate principal amount of the Securities of that series then Outstanding hereunder, by written notice to the Company and the Trustee, may rescind and annul such declaration and its consequences if: (i) the Company has paid or deposited with the Trustee a sum sufficient to pay all matured installments of interest upon all the Securities of

that series and the principal of (and premium, if any, on) any and all Securities of that series that shall have become due otherwise than by acceleration (with interest upon such principal and premium, if any, and, to the extent that such payment is enforceable under applicable law, upon overdue installments of interest, at the rate per annum expressed in the Securities of that series to the date of such payment or deposit) and the amount payable to the Trustee under Section 7.06, and (ii) any and all Events of Default under the Indenture with respect to such series, other than the nonpayment of principal on (and premium, if any, on) and accrued and unpaid interest on Securities of that series that shall not have become due by their terms, shall have been remedied or waived as provided in Section 6.06.

No such rescission and annulment shall extend to or shall affect any subsequent default or impair any right consequent thereon.

(d) In case the Trustee shall have proceeded to enforce any right with respect to Securities of that series under this Indenture and such proceedings shall have been discontinued or abandoned because of such rescission or annulment or for any other reason or shall have been determined adversely to the Trustee, then and in every such case, subject to any determination in such proceedings, the Company and the Trustee shall be restored respectively to their former positions and rights hereunder, and all rights, remedies and powers of the Company and the Trustee shall continue as though no such proceedings had been taken.

Section 6.02 Collection of Indebtedness and Suits for Enforcement by Trustee

(a) The Company covenants that (i) in case it shall default in the payment of any installment of interest on any of the Securities of a series, or in any payment required by any sinking or analogous fund established with respect to that series as and when the same shall have become due and payable, and such default shall have continued for a period of 90 days, or (ii) in case it shall default in the payment of the principal of (or premium, if any, on) any of the Securities of a series when the same shall have become due and payable, whether upon maturity of the Securities of a series or upon redemption or upon declaration or otherwise then, upon demand of the Trustee, the Company will pay to the Trustee, for the benefit of the holders of the Securities of that series, the whole amount that then shall have been become due and payable on all such Securities for principal (and premium, if any) or interest, or both, as the case may be, with interest upon the overdue principal (and premium, if any) and (to the extent that payment of such interest is enforceable under applicable law) upon overdue installments of interest at the rate per annum expressed in the Securities of that series; and, in addition thereto, such further amount as shall be sufficient to cover the costs and expenses of collection, and the amount payable to the Trustee under Section 7.06.

(b) If the Company shall fail to pay such amounts forthwith upon such demand, the Trustee, in its own name and as trustee of an express trust, shall be entitled and empowered to institute any action or proceedings at law or in equity for the collection of the sums so due and unpaid, and may prosecute any such action or proceeding to judgment or final decree, and may enforce any such judgment or final decree against the Company or other obligor upon the Securities of that series and collect the moneys adjudged or decreed to be payable in the manner provided by law or equity out of the property of the Company or other obligor upon the Securities of that series, wherever situated.

(c) In case of any receivership, insolvency, liquidation, bankruptcy, reorganization, readjustment, arrangement, composition or judicial proceedings affecting the Company, or its creditors or property, the Trustee shall have power to intervene in such proceedings and take any action therein that may be permitted by the court and shall (except as may be otherwise provided by law) be entitled to file such proofs of claim and other papers and documents as may be necessary or advisable in order to have the claims of the Trustee and of the holders of Securities of such series allowed for the entire amount due and payable by the Company under the Indenture at the date of institution of such proceedings and for any additional amount that may become due and payable by the Company after such date, and to collect and receive any moneys or other property payable or deliverable on any such claim, and to distribute the same after the deduction of the amount payable to the Trustee under Section 7.06; and any receiver, assignee or trustee in bankruptcy or reorganization is hereby authorized by each of the holders of Securities of such series to make such payments to the Trustee, and, in the event that the Trustee shall consent to the making of such payments directly to such Securityholders, to pay to the Trustee any amount due it under Section 7.06.

(d) All rights of action and of asserting claims under this Indenture, or under any of the terms established with respect to Securities of that series, may be enforced by the Trustee without the possession of any of such Securities, or the production thereof at any trial or other proceeding relative thereto, and any such suit or proceeding instituted by the Trustee shall be brought in its own name as trustee of an express trust, and any recovery of judgment shall, after provision for payment to the Trustee of any amounts due under Section 7.06, be for the ratable benefit of the holders of the Securities of such series.

In case of an Event of Default hereunder, the Trustee may in its discretion proceed to protect and enforce the rights vested in it by this Indenture by such appropriate judicial proceedings as the Trustee shall deem most effectual to protect and enforce any of such rights, either at law or in equity or in bankruptcy or otherwise, whether for the specific enforcement of any covenant or agreement contained in the Indenture or in aid of the exercise of any power granted in this Indenture, or to enforce any other legal or equitable right vested in the Trustee by this Indenture or by law.

Nothing contained herein shall be deemed to authorize the Trustee to authorize or consent to or accept or adopt on behalf of any Securityholder any plan of reorganization, arrangement, adjustment or composition affecting the Securities of that series or the rights of any holder thereof or to authorize the Trustee to vote in respect of the claim of any Securityholder in any such proceeding.

Section 6.03 Application of Moneys Collected

Any moneys collected by the Trustee pursuant to this Article with respect to a particular series of Securities shall be applied in the following order, at the date or dates fixed by the Trustee and, in case of the distribution of such moneys on account of principal (or premium, if any) or interest, upon presentation of the Securities of that series, and notation thereon of the payment, if only partially paid, and upon surrender thereof if fully paid:

FIRST: To the payment of reasonable costs and expenses of collection and of all amounts payable to the Trustee under Section 7.06;

SECOND: To the payment of the amounts then due and unpaid upon Securities of such series for principal (and premium, if any) and interest, in respect of which or for the benefit of which such money has been collected, ratably, without preference or priority of any kind, according to the amounts due and payable on such Securities for principal (and premium, if any) and interest, respectively; and

THIRD: To the payment of the remainder, if any, to the Company or any other Person lawfully entitled thereto.

Section 6.04 Limitation on Suits.

No holder of any Security of any series shall have any right by virtue or by availing of any provision of this Indenture to institute any suit, action or proceeding in equity or at law upon or under or with respect to this Indenture or for the appointment of a receiver or trustee, or for any other remedy hereunder, unless (i) such holder previously shall have given to the Trustee written notice of an Event of Default and of the continuance thereof with respect to the Securities of such series specifying such Event of Default, as hereinbefore provided; (ii) the holders of not less than 25% in aggregate principal amount of the Securities of such series then Outstanding shall have made

written request upon the Trustee to institute such action, suit or proceeding in its own name as Trustee hereunder; (iii) such holder or holders shall have offered to the Trustee such reasonable indemnity as it may require against the costs, expenses and liabilities to be incurred therein or thereby; (iv) the Trustee for 90 days after its receipt of such notice, request and offer of indemnity, shall have failed to institute any such action, suit or proceeding and (v) during such 90 day period, the holders of a majority in principal amount of the Securities of that series do not give the Trustee a direction inconsistent with the request.

Notwithstanding anything contained herein to the contrary or any other provisions of this Indenture, the right of any holder of any Security to receive payment of the principal of (and premium, if any) and interest on such Security, as therein provided, on or after the respective due dates expressed in such Security (or in the case of redemption, on the redemption date), or to institute suit for the enforcement of any such payment on or after such respective dates or redemption date, shall not be impaired or affected without the consent of such holder and by accepting a Security hereunder it is expressly understood, intended and covenanted by the taker and holder of every Security of such series with every other such taker and holder and the Trustee, that no one or more holders of Securities of such series shall have any right in any manner whatsoever by virtue or by availing of any provision of this Indenture to affect, disturb or prejudice the rights of the holders of any other of such Securities, or to obtain or seek to obtain priority over or preference to any other such holder, or to enforce any right under this Indenture, except in the manner herein provided and for the equal, ratable and common benefit of all holders of Securities of such series. For the protection and enforcement of the provisions of this Section, each and every Securityholder and the Trustee shall be entitled to such relief as can be given either at law or in equity.

Section 6.05 Rights and Remedies Cumulative; Delay or Omission Not Waiver

(a) Except as otherwise provided in Section 2.07, all powers and remedies given by this Article to the Trustee or to the Securityholders shall, to the extent permitted by law, be deemed cumulative and not exclusive of any other powers and remedies available to the Trustee or the holders of the Securities, by judicial proceedings or otherwise, to enforce the performance or observance of the covenants and agreements contained in this Indenture or otherwise established with respect to such Securities.

(b) No delay or omission of the Trustee or of any holder of any of the Securities to exercise any right or power accruing upon any Event of Default occurring and continuing as aforesaid shall impair any such right or power, or shall be construed to be a waiver of any such default or an acquiescence therein; and, subject to the provisions of Section 6.04, every power and remedy given by this Article or by law to the Trustee or the Securityholders may be exercised from time to time, and as often as shall be deemed expedient, by the Trustee or by the Securityholders.

Section 6.06 Control by Securityholders

The holders of a majority in aggregate principal amount of the Securities of any series at the time Outstanding, determined in accordance with Section 8.04, shall have the right to direct the time, method and place of conducting any proceeding for any remedy available to the Trustee, or exercising any trust or power conferred on the Trustee with respect to such series; provided, however, that such direction shall not be in conflict with any rule of law or with this Indenture or subject the Trustee in its sole discretion to personal liability. Subject to the provisions of Section 7.01, the Trustee shall have the right to decline to follow any such direction if the Trustee in good faith shall, by a Responsible Officer or officers of the Trustee, determine that the proceeding so directed, subject to the Trustee's duties under the Trust Indenture Act, would involve the Trustee in personal liability or might be unduly prejudicial to the Securityholders not involved in the proceeding. The holders of a majority in aggregate principal amount of the Securities of any series at the time Outstanding affected thereby, determined in accordance with Section 8.04, may on behalf of the holders of all of the Securities of such series waive any past default in the performance of any of the covenants contained herein or established pursuant to Section 2.01 with respect to such series and its consequences, except a default in the payment of the principal of, or premium, if any, or interest on, any of the Securities of that series as and when the same shall become due by the terms of such Securities otherwise than by acceleration (unless such default has been cured and a sum sufficient to pay all matured installments of interest and principal and any premium has been deposited with the Trustee (in accordance with Section 6.01(c))). Upon any such waiver, the default covered thereby shall be deemed to be cured for all purposes of this Indenture and the Company, the Trustee and the holders of the Securities of such series shall be restored to their former positions and rights hereunder, respectively; but no such waiver shall extend to any subsequent or other default or impair any right consequent thereon.

Section 6.07 Undertaking to Pay Costs.

All parties to this Indenture agree, and each holder of any Securities by such holder's acceptance thereof shall be deemed to have agreed, that any court may in its discretion require, in any suit for the enforcement of any right or remedy under this Indenture, or in any suit against the Trustee for any action taken or omitted by it as Trustee, the filing by any party litigant in such suit of an undertaking to pay the costs of such suit, and that such court may in its discretion assess reasonable costs, including reasonable attorneys' fees, against any party litigant in such suit, having due regard to the merits and good faith of the claims or defenses made by such party litigant; but the provisions of this Section shall not apply to any suit instituted by the Trustee, to any suit instituted by any Securityholder, or group of Securityholders, holding more than 10% in aggregate principal amount of the Outstanding Securities of any series, or to any suit instituted by any Securityholder for the enforcement of the payment of the principal of (or premium, if any) or interest on any Security of such series, on or after the respective due dates expressed in such Security or established pursuant to this Indenture.

ARTICLE 7 CONCERNING THE TRUSTEE

Section 7.01 Certain Duties and Responsibilities of Trustee.

(a) The Trustee, prior to the occurrence of an Event of Default with respect to the Securities of a series and after the curing of all Events of Default with respect to the Securities of that series that may have occurred, shall undertake to perform with respect to the Securities of such series such duties and only such duties as are specifically set forth in this Indenture, and no implied covenants shall be read into this Indenture against the Trustee. In case an Event of Default with respect to the Securities of a series has occurred (that has not been cured or waived), the Trustee shall exercise with respect to Securities of that series such of the rights and powers vested in it by this Indenture, and use the same degree of care and skill in their exercise, as a prudent person would exercise or use under the circumstances in the conduct of his or her own affairs.

(b) No provision of this Indenture shall be construed to relieve the Trustee from liability for its own negligent action, its own negligent failure to act, or its own willful misconduct, except that:

(i) prior to the occurrence of an Event of Default with respect to the Securities of a series and after the curing or waiving of all such Events of Default with respect to that series that may have occurred:

(A) the duties and obligations of the Trustee shall with respect to the Securities of such series be determined solely by the express provisions of this Indenture, and the Trustee shall not be liable with respect to the Securities of such series except for the performance of such duties and obligations as are specifically set forth in this Indenture, and no implied covenants or obligations shall be read into this Indenture against the Trustee; and

(B) in the absence of bad faith on the part of the Trustee, the Trustee may with respect to the Securities of such series conclusively rely, as to the truth of the statements and the correctness of the opinions expressed therein, upon any certificates or opinions furnished to the Trustee and conforming to the requirements of this Indenture; but in the case of any such certificates or opinions that by any provision hereof are specifically required to be furnished to the Trustee, the Trustee shall be under a duty to examine the same to determine whether or not they conform to the requirements of this Indenture;

(ii) the Trustee shall not be liable for any error of judgment made in good faith by a Responsible Officer or Responsible Officers of the Trustee, unless it shall be proved that the Trustee was negligent in ascertaining the pertinent facts;

(iii) the Trustee shall not be liable with respect to any action taken or omitted to be taken by it in good faith in accordance with the direction of the holders of not less than a majority in principal amount of the Securities of any series at the time Outstanding relating to the time, method and place of conducting any proceeding for any remedy available to the Trustee, or exercising any trust or power conferred upon the Trustee under this Indenture with respect to the Securities of that series; and

(iv) none of the provisions contained in this Indenture shall require the Trustee to expend or risk its own funds or otherwise incur personal financial liability in the performance of any of its duties or in the exercise of any of its rights or powers if there is reasonable ground for believing that the repayment of such funds or liability is not reasonably assured to it under the terms of this Indenture or adequate indemnity against such risk is not reasonably assured to it.

Section 7.02 Certain Rights of Trustee.

Except as otherwise provided in Section 7.01:

(a) The Trustee may rely and shall be protected in acting or refraining from acting upon any resolution, certificate, statement, instrument, opinion, report, notice, request, consent, order, approval, bond, security or other paper or document believed by it to be genuine and to have been signed or presented by the proper party or parties;

(b) Any request, direction, order or demand of the Company mentioned herein shall be sufficiently evidenced by a Board Resolution or an instrument signed in the name of the Company by any authorized officer of the Company (unless other evidence in respect thereof is specifically prescribed herein);

(c) The Trustee may consult with counsel and the written advice of such counsel or, if requested, any Opinion of Counsel shall be full and complete authorization and protection in respect of any action taken or suffered or omitted hereunder in good faith and in reliance thereon;

(d) The Trustee shall be under no obligation to exercise any of the rights or powers vested in it by this Indenture at the request, order or direction of any of the Securityholders pursuant to the provisions of this Indenture, unless such Securityholders shall have offered to the Trustee reasonable security or indemnity against the costs, expenses and liabilities that may be incurred therein or thereby; nothing contained herein shall, however, relieve the Trustee of the obligation, upon the occurrence of an Event of Default with respect to a series of the Securities (that has not been cured or waived), to exercise with respect to Securities of that series such of the rights and powers vested in it by this Indenture, and to use the same degree of care and skill in their exercise, as a prudent person would exercise or use under the circumstances in the conduct of his or her own affairs;

(e) The Trustee shall not be liable for any action taken or omitted to be taken by it in good faith and believed by it to be authorized or within the discretion or rights or powers conferred upon it by this Indenture;

(f) The Trustee shall not be bound to make any investigation into the facts or matters stated in any resolution, certificate, statement, instrument, opinion, report, notice, request, consent, order, approval, bond, security, or other papers or documents, unless requested in writing so to do by the holders of not less than a majority in principal amount of the Outstanding Securities of the particular series affected thereby (determined as provided in Section 8.04); provided, however, that if the payment within a reasonable time to the Trustee of the costs, expenses or liabilities likely to be incurred by it in the making of such investigation is, in the opinion of the Trustee, not reasonably assured to the Trustee by the security afforded to it by the terms of this Indenture, the Trustee may require reasonable indemnity against such costs, expenses or liabilities as a condition to so proceeding. The reasonable expense of every such examination shall be paid by the Company or, if paid by the Trustee, shall be repaid by the Company upon demand;

(g) The Trustee may execute any of the trusts or powers hereunder or perform any duties hereunder either directly or by or through agents or attorneys and the Trustee shall not be responsible for any misconduct or negligence on the part of any agent or attorney appointed with due care by it hereunder;

(h) In no event shall the Trustee be responsible or liable for any failure or delay in the performance of its obligations hereunder arising out of or caused by, directly or indirectly, forces beyond its control, including, without limitation, strikes, work stoppages, accidents, acts of war or terrorism, civil or military disturbances, nuclear or natural catastrophes or acts of God, and interruptions, loss or malfunctions of utilities, communications or computer (software and hardware) services; it being understood that the Trustee shall use reasonable efforts which are consistent with accepted practices in the banking industry to resume performance as soon as practicable under the circumstances;

(i) In no event shall the Trustee be responsible or liable for special, indirect, or consequential loss or damage of any kind whatsoever (including, but not limited to, loss of profit) irrespective of whether the Trustee has been advised of the likelihood of such loss or damage and regardless of the form of action; and

(j) The Trustee agrees to accept and act upon instructions or directions pursuant to this Indenture sent by unsecured e-mail, facsimile transmission or other similar unsecured electronic methods; provided, however, that (a) the party providing such written instructions, subsequent to such transmission of written instructions, shall provide the originally executed instructions or directions to the Trustee in a timely manner, and (b) such originally executed instructions or directions shall be signed by an authorized representative of the party providing such instructions or directions. If the party elects to give the Trustee e-mail or facsimile instructions (or instructions by a similar electronic method) and the Trustee in its sole discretion elects to act upon such instructions, the Trustee's understanding of such instructions shall be deemed controlling. The Trustee shall not be liable for any losses, costs or expenses arising directly or indirectly from the Trustee's reliance upon and compliance with such instructions notwithstanding such instructions conflict or are inconsistent with a subsequent written instruction. The party providing electronic instructions agrees to assume all risks arising out of the use of such electronic methods to submit instructions and directions to the Trustee, including without limitation the risk of the Trustee acting on unauthorized instructions, and the risk of interception and misuse by third parties.

(k) Before the Trustee acts or refrains from acting, it may require an Officers' Certificate and an Opinion of Counsel. The Trustee shall not be liable for any action it takes or omits to take in good faith in reliance on such certificate or opinion.

In addition, the Trustee shall not be deemed to have knowledge of an Event of Default other than an Event of Default relating to the failure to pay the interest on, or the principal of, the Securities, until the Trustee shall have received written notification in the manner set forth in this Indenture or a Responsible Officer of the Trustee shall have obtained actual knowledge.

Section 7.03 Trustee Not Responsible for Recitals or Issuance or Securities

(a) The recitals contained herein and in the Securities shall be taken as the statements of the Company, and the Trustee assumes no responsibility for the correctness of the same.

(b) The Trustee makes no representations as to the validity or sufficiency of this Indenture or of the Securities.

(c) The Trustee shall not be accountable for the use or application by the Company of any of the Securities or of the proceeds of such Securities, or for the use or application of any moneys paid over by the Trustee in accordance with any provision of this Indenture or established pursuant to Section 2.01, or for the use or application of any moneys received by any paying agent other than the Trustee.

Section 7.04 May Hold Securities

The Trustee or any paying agent or Security Registrar, in its individual or any other capacity, may become the owner or pledgee of Securities with the same rights it would have if it were not Trustee, paying agent or Security Registrar.

Section 7.05 Moneys Held in Trust

Subject to the provisions of Section 11.05, all moneys received by the Trustee shall, until used or applied as herein provided, be held in trust for the purposes for which they were received, but need not be segregated from other funds except to the extent required by law. The Trustee shall be under no liability for interest on any moneys received by it hereunder except such as it may agree to in writing with the Company to pay thereon.

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Section 7.06 Compensation and Reimbursement.

(a) The Company covenants and agrees to pay to the Trustee, and the Trustee shall be entitled to, such reasonable compensation (which shall not be limited by any provision of law in regard to the compensation of a trustee of an express trust) as the Company and the Trustee may from time to time agree in writing, for all services rendered by it in the execution of the trusts hereby created and in the exercise and performance of any of the powers and duties hereunder of the Trustee, and, except as otherwise expressly provided herein, the Company will pay or reimburse the Trustee upon its request for all reasonable expenses, disbursements and advances incurred or made by the Trustee in accordance with any of the provisions of this Indenture (including the reasonable compensation and the expenses and disbursements of its counsel and of all Persons not regularly in its employ), except any such expense, disbursement or advance as may arise from its negligence or bad faith and except as the Company and Trustee may from time to time agree in writing. The Company also covenants to indemnify the Trustee (and its officers, agents, directors and employees) for, and to hold it harmless against, any loss, liability or expense incurred without negligence or bad faith on the part of the Trustee and arising out of or in connection with the acceptance or administration of this trust, including the reasonable costs and expenses of defending itself against any claim of liability in the premises.

(b) The obligations of the Company under this Section to compensate and indemnify the Trustee and to pay or reimburse the Trustee for reasonable expenses, disbursements and advances shall constitute additional indebtedness hereunder. Such additional indebtedness shall be secured by a lien prior to that of the Securities upon all property and funds held or collected by the Trustee as such, except funds held in trust for the benefit of the holders of particular Securities.

(c) To ensure the Company's payment obligations in this Section, the Trustee shall have a lien prior to the Securities on all funds or property held or collected by the Trustee, except that held in trust to pay principal of or interest on particular Securities. When the Trustee incurs expenses or renders services in connection with an Event of Default specified in Section 6.01(4) or (5), the expenses (including the reasonable fees and expenses of its counsel) and the compensation for services in connection therewith are to constitute expenses of administration under any bankruptcy law. The provisions of this Section 7.06 shall survive the termination of this Indenture and the resignation or removal of the Trustee.

Section 7.07 Reliance on Officer's Certificate.

Except as otherwise provided in Section 7.01, whenever in the administration of the provisions of this Indenture the Trustee shall deem it reasonably necessary or desirable that a matter be proved or established prior to taking or suffering or omitting to take any action hereunder, such matter (unless other evidence in respect thereof be herein specifically prescribed) may, in the absence of negligence or bad faith on the part of the Trustee, be deemed to be conclusively proved and established by an Officer's Certificate delivered to the Trustee and such certificate, in the absence of negligence or bad faith on the part of the Trustee, shall be fully warranted to the Trustee for any action taken, suffered or omitted to be taken by it under the provisions of this Indenture upon the faith thereof.

Section 7.08 Disqualification; Conflicting Interests.

If the Trustee has or shall acquire any "**conflicting interest**" within the meaning of Section 310(b) of the Trust Indenture Act, the Trustee and the Company shall in all respects comply with the provisions of Section 310(b) of the Trust Indenture Act.

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Section 7.09 Corporate Trustee Required; Eligibility.

There shall at all times be a Trustee with respect to the Securities issued hereunder which shall at all times be a corporation organized and doing business under the laws of the United States of America or any state or territory thereof or of the District of Columbia, or a corporation or other Person permitted to act as trustee by the Commission, authorized under such laws to exercise corporate trust powers, having a combined capital and surplus of at least fifty million U.S. dollars (\$50,000,000), and subject to supervision or examination by federal, state, territorial, or District of Columbia authority.

If such corporation or other Person publishes reports of condition at least annually, pursuant to law or to the requirements of the aforesaid supervising or examining authority, then for the purposes of this Section, the combined capital and surplus of such corporation or other Person shall be deemed to be its combined capital and surplus as set forth in its most recent report of condition so published. The Company may not, nor may any Person directly or indirectly controlling, controlled by, or under common control with the Company, serve as Trustee. In case at any time the Trustee shall cease to be eligible in accordance with the provisions of this Section, the Trustee shall resign immediately in the manner and with the effect specified in Section 7.10.

Section 7.10 Resignation and Removal; Appointment of Successor.

(a) The Trustee or any successor hereafter appointed may at any time resign with respect to the Securities of one or more series by giving written notice thereof to the Company and by transmitting notice of resignation by mail, first class postage prepaid, to the Securityholders of such series, as their names and addresses appear upon the Security Register. Upon receiving such notice of resignation, the Company shall promptly appoint a successor trustee with respect to Securities of such series by written instrument, in duplicate, executed by order of the Board of Directors, one copy of which instrument shall be delivered to the resigning Trustee and one copy to the successor trustee. If no successor trustee shall have been so appointed and have accepted appointment within 30 days after the mailing of such notice of resignation, the resigning Trustee may petition any court of competent jurisdiction for the appointment of a successor trustee with respect to Securities of such series, or any Securityholder of that series who has been a bona fide holder of a Security or Securities for at least six months may on behalf of himself and all others similarly situated, petition any such court for the appointment of a successor trustee. Such court may thereupon after such notice, if any, as it may deem proper and prescribe, appoint a successor trustee.

(b) In case at any time any one of the following shall occur:

(i) the Trustee shall fail to comply with the provisions of Section 7.08 after written request therefor by the Company or by any Securityholder who has been a bona fide holder of a Security or Securities for at least six months; or

(ii) the Trustee shall cease to be eligible in accordance with the provisions of Section 7.09 and shall fail to resign after written request therefor by the Company or by any such Securityholder; or

(iii) the Trustee shall become incapable of acting, or shall be adjudged a bankrupt or insolvent, or commence a voluntary bankruptcy proceeding, or a receiver of the Trustee or of its property shall be appointed or consented to, or any public officer shall take charge or control of the Trustee or of its property or affairs for the purpose of rehabilitation, conservation or liquidation;

then, in any such case, the Company may remove the Trustee with respect to all Securities and appoint a successor trustee by written instrument, in duplicate, executed by order of the Board of Directors, one copy of which instrument shall be delivered to the Trustee so removed and one copy to the successor trustee, or any Securityholder who has been a bona fide holder of a Security or Securities for at least six months may, on behalf of that holder and all others similarly situated, petition any court of competent jurisdiction for the removal of the Trustee and the appointment of a successor trustee. Such court may thereupon after such notice, if any, as it may deem proper and prescribe, remove the Trustee and appoint a successor trustee.

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(c) The holders of a majority in aggregate principal amount of the Securities of any series at the time Outstanding may at any time remove the Trustee with respect to such series by so notifying the Trustee and the Company and may appoint a successor Trustee for such series with the consent of the Company.

(d) Any resignation or removal of the Trustee and appointment of a successor trustee with respect to the Securities of a series pursuant to any of the provisions of this Section shall become effective upon acceptance of appointment by the successor trustee as provided in Section 7.11.

(e) Any successor trustee appointed pursuant to this Section may be appointed with respect to the Securities of one or more series or all of such series, and at any time there shall be only one Trustee with respect to the Securities of any particular series.

Section 7.11 Acceptance of Appointment By Successor.

(a) In case of the appointment hereunder of a successor trustee with respect to all Securities, every such successor trustee so appointed shall execute, acknowledge and deliver to the Company and to the retiring Trustee an instrument accepting such appointment, and thereupon the resignation or removal of the retiring Trustee shall become effective and such successor trustee, without any further act, deed or conveyance, shall become vested with all the rights, powers, trusts and duties of the retiring Trustee; but, on the request of the Company or the successor trustee, such retiring Trustee shall, upon payment of its charges, execute and deliver an instrument transferring to such successor trustee all the rights, powers, and trusts of the retiring Trustee and shall duly assign, transfer and deliver to such successor trustee all property and money held by such retiring Trustee hereunder.

(b) In case of the appointment hereunder of a successor trustee with respect to the Securities of one or more (but not all) series, the Company, the retiring Trustee and each successor trustee with respect to the Securities of one or more series shall execute and deliver an indenture supplemental hereto wherein each successor trustee shall accept such appointment and which (i) shall contain such provisions as shall be necessary or desirable to transfer and confirm to, and to vest in, each successor trustee all the rights, powers, trusts and duties of the retiring Trustee with respect to the Securities of that or those series to which the appointment of such successor trustee relates, (ii) shall contain such provisions as shall be deemed necessary or desirable to confirm that all the rights, powers, trusts and duties of the retiring Trustee with respect to the Securities of that or those series as to which the retiring Trustee is not retiring shall continue to be vested in the retiring Trustee, and (iii) shall add to or change any of the provisions of this Indenture as shall be necessary to provide for or facilitate the administration of the trusts hereunder by more than one Trustee, it being understood that nothing herein or in such supplemental indenture shall constitute such Trustees co-trustees of the same trust, that each such Trustee shall be trustee of a trust or trusts hereunder separate and apart from any trust or trusts hereunder administered by any other such Trustee and that no Trustee shall be responsible for any act or failure to act on the part of any other Trustee hereunder; and upon the execution and delivery of such supplemental indenture the resignation or removal of the retiring Trustee shall become effective to the extent provided therein, such retiring Trustee shall with respect to the Securities of that or those series to which the appointment of such successor trustee relates have no further responsibility for the exercise of rights and powers or for the performance of the duties and obligations vested in the Trustee under this Indenture, and each such successor trustee, without any further act, deed or conveyance, shall become vested with all the rights, powers, trusts and duties of the retiring Trustee with respect to the Securities of that or those series to which the appointment of such successor trustee relates; but, on request of the Company or any successor trustee, such retiring Trustee shall duly assign, transfer and deliver to such successor trustee, to the extent contemplated by such supplemental indenture, the property and money held by such retiring Trustee hereunder with respect to the Securities of that or those series to which the appointment of such successor trustee relates.

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(c) Upon request of any such successor trustee, the Company shall execute any and all instruments for more fully and certainly vesting in and confirming to such successor trustee all such rights, powers and trusts referred to in paragraph (a) or (b) of this Section, as the case may be.

(d) No successor trustee shall accept its appointment unless at the time of such acceptance such successor trustee shall be qualified and eligible under this Article.

(e) Upon acceptance of appointment by a successor trustee as provided in this Section, the Company shall transmit notice of the succession of such trustee hereunder by mail, first class postage prepaid, to the Securityholders, as their names and addresses appear upon the Security Register. If the Company fails to transmit

such notice within ten days after acceptance of appointment by the successor trustee, the successor trustee shall cause such notice to be transmitted at the expense of the Company.

Section 7.12 Merger, Conversion, Consolidation or Succession to Business

Any corporation into which the Trustee may be merged or converted or with which it may be consolidated, or any corporation resulting from any merger, conversion or consolidation to which the Trustee shall be a party, or any corporation succeeding to all or substantially all of the corporate trust business of the Trustee, including the administration of the trust created by this Indenture, shall be the successor of the Trustee hereunder, provided that such corporation shall be qualified under the provisions of Section 7.08 and eligible under the provisions of Section 7.09, without the execution or filing of any paper or any further act on the part of any of the parties hereto, anything herein to the contrary notwithstanding. In case any Securities shall have been authenticated, but not delivered, by the Trustee then in office, any successor by merger, conversion or consolidation to such authenticating Trustee may adopt such authentication and deliver the Securities so authenticated with the same effect as if such successor Trustee had itself authenticated such Securities.

Section 7.13 Preferential Collection of Claims Against the Company.

The Trustee shall comply with Section 311(a) of the Trust Indenture Act, excluding any creditor relationship described in Section 311(b) of the Trust Indenture Act. A Trustee who has resigned or been removed shall be subject to Section 311(a) of the Trust Indenture Act to the extent included therein.

Section 7.14 Notice of Default

If any Event of Default occurs and is continuing and if such Event of Default is actually known to a Responsible Officer of the Trustee, the Trustee shall mail to each Securityholder in the manner and to the extent provided in Section 313(c) of the Trust Indenture Act notice of the Event of Default within the earlier of 90 days after it occurs and 30 days after it is known to a Responsible Officer of the Trustee or written notice of it is received by the Trustee, unless such Event of Default has been cured; *provided, however*, that, except in the case of a default in the payment of the principal of (or premium, if any) or interest on any Security, the Trustee shall be protected in withholding such notice if and so long as the board of directors, the executive committee or a trust committee of directors and/or Responsible Officers of the Trustee in good faith determine that the withholding of such notice is in the interest of the Securityholders.

ARTICLE 8 CONCERNING THE SECURITYHOLDERS

Section 8.01 Evidence of Action by Securityholders.

Whenever in this Indenture it is provided that the holders of a majority or specified percentage in aggregate principal amount of the Securities of a particular series may take any action (including the making of any demand or request, the giving of any notice, consent or waiver or the taking of any other action), the fact that at the time of taking any such action the holders of such majority or specified percentage of that series have joined therein may be evidenced by any instrument or any number of instruments of similar tenor executed by such holders of Securities of that series in person or by agent or proxy appointed in writing.

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If the Company shall solicit from the Securityholders of any series any request, demand, authorization, direction, notice, consent, waiver or other action, the Company may, at its option, as evidenced by an Officer's Certificate, fix in advance a record date for such series for the determination of Securityholders entitled to give such request, demand, authorization, direction, notice, consent, waiver or other action, but the Company shall have no obligation to do so. If such a record date is fixed, such request, demand, authorization, direction, notice, consent, waiver or other action may be given before or after the record date, but only the Securityholders of record at the close of business on the record date shall be deemed to be Securityholders for the purposes of determining whether Securityholders of the requisite proportion of Outstanding Securities of that series have authorized or agreed or consented to such request, demand, authorization, direction, notice, consent, waiver or other action, and for that purpose the Outstanding Securities of that series shall be computed as of the record date; provided, however, that no such authorization, agreement or consent by such Securityholders on the record date shall be deemed effective unless it shall become effective pursuant to the provisions of this Indenture not later than six months after the record date.

Section 8.02 Proof of Execution by Securityholders.

Subject to the provisions of Section 7.01, proof of the execution of any instrument by a Securityholder (such proof will not require notarization) or his agent or proxy and proof of the holding by any Person of any of the Securities shall be sufficient if made in the following manner:

- (a) The fact and date of the execution by any such Person of any instrument may be proved in any reasonable manner acceptable to the Trustee.
- (b) The ownership of Securities shall be proved by the Security Register of such Securities or by a certificate of the Security Registrar thereof.

The Trustee may require such additional proof of any matter referred to in this Section as it shall deem necessary.

Section 8.03 Who May be Deemed Owners

Prior to the due presentment for registration of transfer of any Security, the Company, the Trustee, any paying agent and any Security Registrar may deem and treat the Person in whose name such Security shall be registered upon the books of the Security Registrar as the absolute owner of such Security (whether or not such Security shall be overdue and notwithstanding any notice of ownership or writing thereon made by anyone other than the Security Registrar) for the purpose of receiving payment of or on account of the principal of, premium, if any, and (subject to Section 2.03) interest on such Security and for all other purposes; and neither the Company nor the Trustee nor any paying agent nor any Security Registrar shall be affected by any notice to the contrary.

Section 8.04 Certain Securities Owned by Company Disregarded.

In determining whether the holders of the requisite aggregate principal amount of Securities of a particular series have concurred in any direction, consent or waiver under this Indenture, the Securities of that series that are owned by the Company or any other obligor on the Securities of that series or by any Person directly or indirectly controlling or controlled by or under common control with the Company or any other obligor on the Securities of that series shall be disregarded and deemed not to be Outstanding for the purpose of any such determination, except that for the purpose of determining whether the Trustee shall be protected in relying on any such direction, consent or waiver, only Securities of such series that the Trustee actually knows are so owned shall be so disregarded. The Securities so owned that have been pledged in good faith may be regarded as Outstanding for the purposes of this Section, if the pledgee shall establish to the satisfaction of the Trustee the pledgee's right so to act with respect to such Securities and that the pledgee is not a Person directly or indirectly controlling or controlled by or under direct or indirect common control with the Company or any such other obligor. In case of a dispute as to such right, any decision by the Trustee taken upon the advice of counsel shall be full protection to the Trustee.

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Section 8.05 Actions Binding on Future Securityholders.

At any time prior to (but not after) the evidencing to the Trustee, as provided in Section 8.01, of the taking of any action by the holders of the majority or percentage in aggregate principal amount of the Securities of a particular series specified in this Indenture in connection with such action, any holder of a Security of that series that is shown by the evidence to be included in the Securities the holders of which have consented to such action may, by filing written notice with the Trustee, and upon proof of holding as provided in Section 8.02, revoke such action so far as concerns such Security. Except as aforesaid any such action taken by the holder of any Security shall be conclusive and binding upon such holder and upon all future holders and owners of such Security, and of any Security issued in exchange therefor, on registration of transfer thereof or in place thereof, irrespective of whether or not any notation in regard thereto is made upon such Security. Any action taken by the holders of the majority or percentage in aggregate principal amount of the Securities of a particular series specified in this Indenture in connection with such action shall be conclusively binding upon the Company, the Trustee and the holders of all the Securities of that series.

ARTICLE 9 SUPPLEMENTAL INDENTURES

Section 9.01 Supplemental Indentures Without the Consent of Securityholders

In addition to any supplemental indenture otherwise authorized by this Indenture, the Company and the Trustee may from time to time and at any time enter into an indenture or indentures supplemental hereto (which shall conform to the provisions of the Trust Indenture Act as then in effect), without the consent of any Securityholders, for one or more of the following purposes:

- (a) to cure any ambiguity, defect, or inconsistency in this Indenture or in the Securities of any series;
- (b) to comply with Article Ten;
- (c) to provide for uncertificated Securities in addition to or in place of certificated Securities;
- (d) to add to the covenants, restrictions, conditions or provisions such new covenants, restrictions, conditions or provisions for the benefit of the Securityholders, to make the occurrence, or the occurrence and the continuance, of a default in any such additional covenants, restrictions, conditions or provisions an Event of Default, or to surrender any right or power conferred upon the Company in this Indenture;
- (e) to add to, delete from, or revise the conditions, limitations, and restrictions on the authorized amount, terms, or purposes of issue, authentication, and delivery of Securities, as set forth in this Indenture;
- (f) to make any change that does not adversely affect the rights of any Securityholder in any material respect;
- (g) to provide for the issuance of and establish the form and terms and conditions of the Securities of any series as provided in Section 2.01, to establish the form of any certifications required to be furnished pursuant to the terms of this Indenture or any series of Securities, or to add to the rights of the holders of any series of Securities;

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- (h) to evidence and provide for the acceptance of appointment under this Indenture by a successor trustee; or
- (i) to comply with any requirements of the Commission with the qualification of this Indenture under the Trust Indenture Act.

The Trustee is hereby authorized to join with the Company in the execution of any such supplemental indenture, and to make any further appropriate agreements and stipulations that may be therein contained, but the Trustee shall not be obligated to enter into any such supplemental indenture that affects the Trustee's own rights, duties or immunities under this Indenture or otherwise.

Any supplemental indenture authorized by the provisions of this Section may be executed by the Company and the Trustee without the consent of the holders of any of the Securities at the time Outstanding, notwithstanding any of the provisions of Section 9.02.

Section 9.02 Supplemental Indentures With Consent of Securityholders.

With the written consent of the holders of at least a majority in aggregate principal amount of the Securities of each series affected by such supplemental indenture or indentures at the time Outstanding, the Company, when authorized by a Board Resolution, and the Trustee may from time to time and at any time enter into an indenture or indentures supplemental hereto (which shall conform to the provisions of the Trust Indenture Act as then in effect) for the purpose of adding any provisions to or changing in any manner or eliminating any of the provisions of this Indenture or of any supplemental indenture or of modifying in any manner not covered by Section 9.01 the rights of the holders of the Securities of such series under this Indenture; provided, however, that no such supplemental indenture shall, without the consent of the holders of each Security then Outstanding and affected thereby, (a) extend the fixed maturity of any Securities of any series, (b) reduce the principal amount, reduce the rate of or extend the time of payment of interest, or reduce any premium payable upon the redemption of any series of Securities or (b) reduce the percentage of Securities, the holders of which are required to consent to any amendment, supplement, modification or waiver.

It shall not be necessary for the consent of the Securityholders of any series affected thereby under this Section to approve the particular form of any proposed supplemental indenture, but it shall be sufficient if such consent shall approve the substance thereof.

Section 9.03 Effect of Supplemental Indentures.

Upon the execution of any supplemental indenture pursuant to the provisions of this Article or of Section 10.01, this Indenture shall, with respect to such series, be and be deemed to be modified and amended in accordance therewith and the respective rights, limitations of rights, obligations, duties and immunities under this Indenture of the Trustee, the Company and the holders of Securities of the series affected thereby shall thereafter be determined, exercised and enforced hereunder subject in all respects to such modifications and amendments, and all the terms and conditions of any such supplemental indenture shall be and be deemed to be part of the terms and conditions of this Indenture for any and all purposes.

Section 9.04 Securities Affected by Supplemental Indentures.

Securities of any series affected by a supplemental indenture, authenticated and delivered after the execution of such supplemental indenture pursuant to the provisions of this Article or of Section 10.01, may bear a notation in form approved by the Company, provided such form meets the requirements of any securities exchange upon which

such series may be listed, as to any matter provided for in such supplemental indenture. If the Company shall so determine, new Securities of that series so modified as to conform, in the opinion of the Board of Directors, to any modification of this Indenture contained in any such supplemental indenture may be prepared by the Company, authenticated by the Trustee and delivered in exchange for the Securities of that series then Outstanding.

Section 9.05 Execution of Supplemental Indentures.

Upon the request of the Company, accompanied by its Board Resolutions authorizing the execution of any such supplemental indenture, and upon the filing with the Trustee of evidence of the consent of Securityholders required to consent thereto as aforesaid, the Trustee shall join with the Company in the execution of such supplemental indenture unless such supplemental indenture affects the Trustee's own rights, duties or immunities under this Indenture or otherwise, in which case the Trustee may in its discretion but shall not be obligated to enter into such supplemental indenture. The Trustee, subject to the provisions of Sections 7.01 and 7.02, shall receive an Officer's Certificate upon request and an Opinion of Counsel as conclusive evidence that any supplemental indenture executed pursuant to this Article is authorized or permitted by the terms of this Article, that all conditions precedent to the execution of the supplemental indenture have been complied with and the Supplemental Indenture is a valid and legally binding instrument enforceable against the Company.

Promptly after the execution by the Company and the Trustee of any supplemental indenture pursuant to the provisions of this Section, the Company shall (or shall direct the Trustee to) transmit by mail, first class postage prepaid, a notice, setting forth in general terms the substance of such supplemental indenture, to the Securityholders of all series affected thereby as their names and addresses appear upon the Security Register. Any failure of the Company to mail, or cause the mailing of, such notice, or any defect therein, shall not, however, in any way impair or affect the validity of any such supplemental indenture.

ARTICLE 10 SUCCESSOR ENTITY

Section 10.01 Company May Consolidate, Etc.

Nothing contained in this Indenture shall prevent any consolidation or merger of the Company with or into any other Person (whether or not affiliated with the Company) or successive consolidations or mergers in which the Company or its successor or successors shall be a party or parties, or shall prevent any sale, conveyance, transfer or other disposition of the property of the Company or its successor or successors as an entirety, or substantially as an entirety, to any other corporation (whether or not affiliated with the Company or its successor or successors) authorized to acquire and operate the same; provided, however, (a) the Company hereby covenants and agrees that, upon any such consolidation or merger (in each case, if the Company is not the survivor of such transaction), sale, conveyance, transfer or other disposition, the due and punctual payment of the principal of (premium, if any) and interest on all of the Securities of all series in accordance with the terms of each series, according to their tenor, and the due and punctual performance and observance of all the covenants and conditions of this Indenture with respect to each series or established with respect to such series pursuant to Section 2.01 to be kept or performed by the Company shall be expressly assumed, by supplemental indenture (which shall conform to the provisions of the Trust Indenture Act, as then in effect) reasonably satisfactory in form to the Trustee executed and delivered to the Trustee by the entity formed by such consolidation, or into which the Company shall have been merged, or by the entity which shall have acquired such property and (b) in the event that the Securities of any series then Outstanding are convertible into or exchangeable for shares of common stock or other securities of the Company, such entity shall, by such supplemental indenture, make provision so that the Securityholders of Securities of that series shall thereafter be entitled to receive upon conversion or exchange of such Securities the number of securities or property to which a holder of the number of shares of common stock or other securities of the Company deliverable upon conversion or exchange of those Securities would have been entitled had such conversion or exchange occurred immediately prior to such consolidation, merger, sale, conveyance, transfer or other disposition.

Section 10.02 Successor Entity Substituted.

(a) In case of any such consolidation, merger, sale, conveyance, transfer or other disposition and upon the assumption by the successor entity by supplemental indenture, executed and delivered to the Trustee and satisfactory in form to the Trustee, of the obligations set forth under Section 10.01 on all of the Securities of all series Outstanding, such successor entity shall succeed to and be substituted for the Company with the same effect as if it had been named as the Company herein, and thereupon the predecessor corporation shall be relieved of all obligations and covenants under this Indenture and the Securities.

(b) In case of any such consolidation, merger, sale, conveyance, transfer or other disposition, such changes in phraseology and form (but not in substance) may be made in the Securities thereafter to be issued as may be appropriate.

(c) Nothing contained in this Article shall require any action by the Company in the case of a consolidation or merger of any Person into the Company where the Company is the survivor of such transaction, or the acquisition by the Company, by purchase or otherwise, of all or any part of the property of any other Person (whether or not affiliated with the Company).

ARTICLE 11 SATISFACTION AND DISCHARGE

Section 11.01 Satisfaction and Discharge of Indenture.

If at any time: (a) the Company shall have delivered to the Trustee for cancellation all Securities of a series theretofore authenticated and not delivered to the Trustee for cancellation (other than any Securities that shall have been destroyed, lost or stolen and that shall have been replaced or paid as provided in Section 2.07 and Securities for whose payment money or Governmental Obligations have theretofore been deposited in trust or segregated and held in trust by the Company and thereupon repaid to the Company or discharged from such trust, as provided in Section 11.05); or (b) all such Securities of a particular series not theretofore delivered to the Trustee for cancellation shall have become due and payable, or are by their terms to become due and payable within one year or are to be called for redemption within one year under arrangements satisfactory to the Trustee for the giving of notice of redemption, and the Company shall deposit or cause to be deposited with the Trustee as trust funds the entire amount in moneys or Governmental Obligations or a combination thereof, sufficient in the opinion of a nationally recognized firm of independent public accountants expressed in a written certification thereof delivered to the Trustee, to pay at maturity or upon redemption all Securities of that series not theretofore delivered to the Trustee for cancellation, including principal (and premium, if any) and interest due or to become due to such date of maturity or date fixed for redemption, as the case may be, and if the Company shall also pay or cause to be paid all other sums payable hereunder with respect to such series by the Company then this Indenture shall thereupon cease to be of further effect with respect to such series except for the provisions of Sections 2.03, 2.05, 2.07, 4.01, 4.02, 4.03 and 7.10, that shall survive until the date of maturity or redemption date, as the case may be, and Sections 7.06 and 11.05, that shall survive to such date and thereafter, and the Trustee, on demand of the Company and at the cost and expense of the Company shall execute proper instruments acknowledging satisfaction of and discharging this Indenture with respect to such series.

Section 11.02 Discharge of Obligations.

If at any time all such Securities of a particular series not heretofore delivered to the Trustee for cancellation or that have not become due and payable as described in Section 11.01 shall have been paid by the Company by depositing irrevocably with the Trustee as trust funds moneys or an amount of Governmental Obligations sufficient to pay at maturity or upon redemption all such Securities of that series not theretofore delivered to the Trustee for cancellation, including principal (and premium, if any) and interest due or to become due to such date of maturity or date fixed for redemption, as the case may be, and if the Company shall also pay or cause to be paid all other sums payable hereunder by the Company with respect to such series, then after the date such moneys or Governmental Obligations, as the case may be, are deposited with the Trustee the obligations of the Company under this Indenture with respect to such series shall cease to be of further effect except for the provisions of Sections 2.03, 2.05, 2.07, 4.01, 4.02, 4.03, 7.06, 7.10 and 11.05 hereof that shall survive until such Securities shall mature and be paid.

Thereafter, Sections 7.06 and 11.05 shall survive.

Section 11.03 Deposited Moneys to be Held in Trust.

All moneys or Governmental Obligations deposited with the Trustee pursuant to Sections 11.01 or 11.02 shall be held in trust and shall be available for payment as due, either directly or through any paying agent (including the Company acting as its own paying agent), to the holders of the particular series of Securities for the payment or redemption of which such moneys or Governmental Obligations have been deposited with the Trustee.

Section 11.04 Payment of Moneys Held by Paying Agents.

In connection with the satisfaction and discharge of this Indenture all moneys or Governmental Obligations then held by any paying agent under the provisions of this Indenture shall, upon demand of the Company, be paid to the Trustee and thereupon such paying agent shall be released from all further liability with respect to such moneys or Governmental Obligations.

Section 11.05 Repayment to Company.

Any moneys or Governmental Obligations deposited with any paying agent or the Trustee, or then held by the Company, in trust for payment of principal of or premium, if any, or interest on the Securities of a particular series that are not applied but remain unclaimed by the holders of such Securities for at least two years after the date upon which the principal of (and premium, if any) or interest on such Securities shall have respectively become due and payable, or such other shorter period set forth in applicable escheat or abandoned or unclaimed property law, shall be repaid to the Company on May 31 of each year or upon the Company's request or (if then held by the Company) shall be discharged from such trust; and thereupon the paying agent and the Trustee shall be released from all further liability with respect to such moneys or Governmental Obligations, and the holder of any of the Securities entitled to receive such payment shall thereafter, as a general creditor, look only to the Company for the payment thereof.

ARTICLE 12 IMMUNITY OF INCORPORATORS, STOCKHOLDERS, OFFICERS AND DIRECTORS

Section 12.01 No Recourse.

No recourse under or upon any obligation, covenant or agreement of this Indenture, or of any Security, or for any claim based thereon or otherwise in respect thereof, shall be had against any incorporator, stockholder, officer or director, past, present or future as such, of the Company or of any predecessor or successor corporation, either directly or through the Company or any such predecessor or successor corporation, whether by virtue of any constitution, statute or rule of law, or by the enforcement of any assessment or penalty or otherwise; it being expressly understood that this Indenture and the obligations issued hereunder are solely corporate obligations, and that no such personal liability whatever shall attach to, or is or shall be incurred by, the incorporators, stockholders, officers or directors as such, of the Company or of any predecessor or successor corporation, or any of them, because of the creation of the indebtedness hereby authorized, or under or by reason of the obligations, covenants or agreements contained in this Indenture or in any of the Securities or implied therefrom; and that any and all such personal liability of every name and nature, either at common law or in equity or by constitution or statute, of, and any and all such rights and claims against, every such incorporator, stockholder, officer or director as such, because of the creation of the indebtedness hereby authorized, or under or by reason of the obligations, covenants or agreements contained in this Indenture or in any of the Securities or implied therefrom, are hereby expressly waived and released as a condition of, and as a consideration for, the execution of this Indenture and the issuance of such Securities.

ARTICLE 13 MISCELLANEOUS PROVISIONS

Section 13.01 Effect on Successors and Assigns.

All the covenants, stipulations, promises and agreements in this Indenture made by or on behalf of the Company shall bind its successors and assigns, whether so expressed or not.

Section 13.02 Actions by Successor.

Any act or proceeding by any provision of this Indenture authorized or required to be done or performed by any board, committee or officer of the Company shall and may be done and performed with like force and effect by the corresponding board, committee or officer of any corporation that shall at the time be the lawful successor of the Company.

Section 13.03 Surrender of Company Powers

The Company by instrument in writing executed by authority of its Board of Directors and delivered to the Trustee may surrender any of the powers reserved to the Company, and thereupon such power so surrendered shall terminate both as to the Company and as to any successor corporation.

Section 13.04 Notices.

Except as otherwise expressly provided herein, any notice, request or demand that by any provision of this Indenture is required or permitted to be given, made or served by the Trustee, the Security Registrar, any paying or other agent under this Indenture, the holders of Securities or any other Person pursuant to this Indenture to or on the Company, may be given or served by being in writing and sent by electronic transmission or deposited in first class mail, postage prepaid, addressed (until another address is

filed in writing by the Company with the Trustee), to the Company as follows: 180 Life Sciences Corp., 3000 El Camino Real, Bldg. 4, Suite 200, Palo Alto, CA 94306, Attention: [●]. Any notice, election, request or demand by the Company or any Securityholder or by any other Person pursuant to this Indenture to or upon the Trustee shall be deemed to have been sufficiently given or made, for all purposes, if given or made in writing at the Corporate Trust Office of the Trustee.

Section 13.05 Governing Law.

This Indenture and each Security shall be deemed to be a contract made under the internal laws of the State of New York, and for all purposes shall be construed in accordance with the laws of said State, except to the extent that the Trust Indenture Act is applicable.

In addition, the Company: (a) agrees that any suit, action or proceeding against it arising out of or relating to this Indenture or any Securities, as the case may be, may be instituted in any U.S. federal court with applicable subject matter jurisdiction sitting in The City of New York; (b) waives, to the fullest extent permitted by applicable law, any objection which it may now or hereafter have to the laying of venue of any such suit, action or proceeding, and any claim that any suit, action or proceeding in such a court has been brought in an inconvenient forum; and (c) submits to the non-exclusive jurisdiction of such courts in any suit, action or proceeding.

Section 13.06 Treatment of Securities as Debt

It is intended that the Securities will be treated as indebtedness and not as equity for federal income tax purposes. The provisions of this Indenture shall be interpreted to further this intention.

Section 13.07 Certificates as to Conditions Precedent.

(a) Upon any application or demand by the Company to the Trustee to take any action under any of the provisions of this Indenture (except with respect to the initial issuance of Securities), the Company shall furnish to the Trustee an Officer's Certificate and an Opinion of Counsel or reliance letter, upon request, stating that all conditions precedent provided for in this Indenture (other than the certificate to be delivered pursuant to Section 13.12 or Section 314(a)(4) of the Trust Indenture Act) relating to the proposed action have been complied with, except that in the case of any such application or demand as to which the furnishing of such documents is specifically required by any provision of this Indenture relating to such particular application or demand, no additional certificate need be furnished; provided, however, that no Opinion of Counsel or reliance letter shall be required in connection with the issuance of Securities on the date on which the Securities are originally issued or deemed issued as set forth on the face of such Securities.

(b) Each certificate or opinion provided for in this Indenture and delivered to the Trustee with respect to compliance with a condition or covenant in this Indenture (other than the certificate to be delivered pursuant to Section 13.12 or Section 314(a)(4) of the Trust Indenture Act) shall include (i) a statement that the Person making such certificate or opinion has read such covenant or condition; (ii) a brief statement as to the nature and scope of the examination or investigation upon which the statements contained in such certificate or opinion are based; (iii) a statement that, in the opinion of such Person, he has made such examination or investigation as is reasonably necessary to enable him to express an informed opinion as to whether or not such covenant or condition has been complied with; and (iv) a statement as to whether or not, in the opinion of such Person, such condition or covenant has been complied with.

Section 13.08 Payments on Business Days

Except as provided pursuant to Section 2.01 pursuant to a Board Resolution, and set forth in an Officer's Certificate, established in one or more indentures supplemental to this Indenture, or otherwise explicitly stated, in any case where the date of maturity of interest or principal of any Security, or the date for the repurchase of any Security or for the redemption of any Security shall not be a Business Day, then payment of interest, principal (and premium, if any), redemption price or repurchase price due on such date may be made on the next succeeding Business Day with the same force and effect as if made on the nominal date of maturity, repurchase or redemption, and no interest shall accrue for the period after such nominal date as a result of such delay.

Section 13.09 Conflict with Trust Indenture Act.

If and to the extent that any provision of this Indenture limits, qualifies or conflicts with the duties imposed by Sections 310 to 317, inclusive, of the Trust Indenture Act, such imposed duties shall control.

Section 13.10 Counterparts.

This Indenture may be executed in any number of counterparts, each of which shall be an original, but such counterparts shall together constitute but one and the same instrument.

Section 13.11 Separability.

In case any one or more of the provisions contained in this Indenture or in the Securities of any series shall for any reason be held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect any other provisions of this Indenture or of such Securities, but this Indenture and such Securities shall be construed as if such invalid or illegal or unenforceable provision had never been contained herein or therein.

Section 13.12 Compliance Certificates.

The Company shall deliver to the Trustee, within 120 days after the end of each fiscal year during which any Securities of any series were outstanding, an officer's certificate stating whether or not the signers know of any Event of Default that occurred during such fiscal year. Such certificate shall contain a certification from the principal executive officer, principal financial officer or principal accounting officer of the Company that a review has been conducted of the activities of the Company and the Company's performance under this Indenture and that the Company has complied with all conditions and covenants under this Indenture. For purposes of this Section 13.12, such compliance shall be determined without regard to any period of grace or requirement of notice provided under this Indenture. If the officer of the Company signing such certificate has knowledge of such an Event of Default, the certificate shall describe any such Event of Default and its status.

Section 13.13 U.S.A Patriot Act

The parties hereto acknowledge that in accordance with Section 326 of the U.S.A. Patriot Act, the Trustee, like all financial institutions and in order to help fight the funding of terrorism and money laundering, is required to obtain, verify, and record information that identifies each person or legal entity that establishes a relationship or

opens an account with the Trustee. The parties to this Indenture agree that they will provide the Trustee with such information as it may request in order for the Trustee to satisfy the requirements of the U.S.A. Patriot Act.

Section 13.14 Force Majeure.

In no event shall the Trustee, the Security Registrar, any paying agent or any other agent under this Indenture be responsible or liable for any failure or delay in the performance of its obligations hereunder arising out of or caused by, directly or indirectly, forces beyond its control, including without limitation, strikes, work stoppages, accidents, acts of war or terrorism, civil or military disturbances, nuclear or natural catastrophes or acts of God, and interruptions, loss or malfunctions or utilities, communications or computer (software and hardware) services; it being understood that the Trustee, the Security Registrar, any paying agent or any other agent under this Indenture shall use reasonable efforts which are consistent with accepted practices in the banking industry to resume performance as soon as practicable under the circumstances.

Section 13.15 Table of Contents; Headings

The table of contents and headings of the articles and sections of this Indenture have been inserted for convenience of reference only, are not intended to be considered a part hereof, and will not modify or restrict any of the terms or provisions hereof.

IN WITNESS WHEREOF, the parties hereto have caused this Indenture to be duly executed all as of the day and year first above written.

180 LIFE SCIENCES CORP.

By: _____
Name: _____
Title: _____

[●], as Trustee

By: _____
Name: _____
Title: _____

CROSS-REFERENCE TABLE (1)

Section of Trust Indenture Act of 1939, as Amended	Section of Indenture
310(a)	7.09
310(b)	7.08
	7.10
310(c)	Inapplicable
311(a)	7.13
311(b)	7.13
311(c)	Inapplicable
312(a)	5.01
	5.02(a)
312(b)	5.02(c)
312(c)	5.02(c)
313(a)	5.04(a)
313(b)	5.04(b)
313(c)	5.04(a)
	5.04(b)
313(d)	5.04(c)
314(a)	5.03
	13.12
314(b)	Inapplicable
314(c)	13.07(a)
314(d)	Inapplicable
314(e)	13.07(b)
314(f)	Inapplicable
315(a)	7.01(a)
	7.01(b)
315(b)	7.14
315(c)	7.01
315(d)	7.01(b)
315(e)	6.07
316(a)	6.06
	8.04
316(b)	6.04
316(c)	8.01
317(a)	6.02
317(b)	4.03
318(a)	13.09

(1) This Cross-Reference Table does not constitute part of the Indenture and shall not have any bearing on the interpretation of any of its terms or provisions.

The Loev Law Firm, PC

CORPORATE, SECURITIES, PUBLIC/PRIVATE OFFERINGS, CONTRACTS, MERGERS & ACQUISITIONS, LITIGATION

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June 20, 2025

**Re: 180 Life Sciences Corp.
Form S-3 Registration Statement**

Ladies and Gentlemen:

We have acted as counsel for 180 Life Sciences Corp., a Delaware corporation (the "Company"), in connection with the filing, with the Securities and Exchange Commission (the "Commission" or "SEC"), by the Company, of a Registration Statement on Form S-3 (such registration statement, as amended or supplemented, is hereinafter referred to as the "Registration Statement") filed on the date hereof under the Securities Act of 1933, as amended (the "Securities Act").

The Registration Statement relates to the proposed issuance and sale, from time to time pursuant to the Securities Act, as set forth in the Registration Statement, the prospectus contained therein (the "Base Prospectus") and one or more supplements to the Base Prospectus (each, a "Prospectus Supplement") and any free-writing prospectus(es) of the following securities of the Company (collectively, the "Securities"): (i) shares of common stock, par value \$0.0001 per share ("Common Stock"), of the Company, (ii) shares of preferred stock, par value \$0.0001 per share, of the Company (the "Preferred Stock"), (iii) debt securities of the Company, which may be either senior or subordinated and may be issued in one or more series, consisting of notes, debentures or other evidences of indebtedness (the "Debt Securities"); (iv) warrants to purchase Common Stock, Preferred Stock or Debt Securities, in each case as may be designated by the Company at the time of an offering (the "Warrants"); and (v) units (the "Units") consisting of shares of Common Stock, Preferred Stock, Debt Securities, Warrants, or any combination of the foregoing. The Securities are being registered for offering and sale from time to time pursuant to Rule 415 under the Securities Act. The aggregate public offering price of the Securities being registered is \$500,000,000. We are delivering this opinion pursuant to the requirements of Item 601(b)(5) of Regulation S-K under the Securities Act.

The Securities are to be sold pursuant to a purchase, underwriting or similar agreement, in substantially the form to be filed under a Current Report on Form 8-K, the Warrants will be issued in one or more series pursuant to one or more warrant agreements (each, a "Warrant Agreement") between the Company and the warrant agent party thereto, if any, in substantially the form to be filed under a Current Report on Form 8-K, if applicable, the Debt Securities will be issued pursuant to a Debt Indenture (the "Indenture"), which has been filed as an exhibit to the Registration Statement and is to be entered into between the Company and a trustee to be named in a Prospectus Supplement to the Registration Statement (the "Trustee"), and the Units will be issued pursuant to one or more unit purchase agreements (each, a "Unit Agreement") between the Company and the agent party thereto, if any, in substantially the form to be filed under a Current Report on Form 8-K, if applicable (collectively the purchase, underwriting or similar agreement, the Indenture, the Warrant Agreements and Unit Agreements, the "Securities Documents"). The Indenture may be supplemented, in connection with the issuance of each such series of Debt Securities, by a supplemental indenture or other appropriate action of the Company creating such series of Debt Securities.

We have examined originals or copies, certified or otherwise identified to our satisfaction, of (i) the Second Amended and Restated Certificate of Incorporation of the Company, as amended (the "Certificate of Incorporation"), (ii) the Second Amended and Restated Bylaws of the Company (the "Bylaws"), (iii) the Registration Statement and all exhibits thereto and the Base Prospectus, (iv) the minutes and records of the corporate proceedings of the Company with respect to the filing of the Registration Statement and the Securities, and (v) such other certificates, statutes and other instruments and documents as we considered appropriate for purposes of the opinions hereafter expressed.

As to various questions of fact material to the opinions expressed below, we have, without independent third party verification of their accuracy, relied in part, and to the extent we deemed reasonably necessary or appropriate, upon the representations and warranties of the Company contained in such documents, records, certificates, instruments or representations furnished or made available to us by the Company, including the Registration Statement and Base Prospectus.

In connection with rendering the opinions set forth below, we have assumed that:

- (i) all information contained in all documents reviewed by us is true and correct;
- (ii) all signatures on all documents examined by us are genuine and all natural persons signing such documents have the legal capacity to do so;
- (iii) all documents submitted to us as originals are authentic and all documents submitted to us as copies conform to the originals of those documents;
- (iv) the Registration Statement and Base Prospectus to be filed by the Company with the Commission will be identical to the form of the document that we have reviewed;
- (v) the Registration Statement and any subsequent amendments (including additional post-effective amendments), will have become effective, shall not have been terminated or rescinded and will comply with all applicable laws (including, but not limited to Section 10(a)(3) of the Securities Act) and the Base Prospectus, any and all Prospectus Supplement(s) required by applicable laws and any and all free-writing prospectus(es) related to the offer and sale of the Securities have been delivered and filed as required by such laws;
- (vi) that the issuance and sale of the Securities do not violate any applicable law, are in conformity with the Company's then operative Certificate of Incorporation and Bylaws, do not result in a default under or breach of any agreement or instrument binding upon the Company and comply with any applicable requirement or restriction imposed by any court or governmental body having jurisdiction over the Company or its properties or assets;
- (vii) all Securities will be issued and sold in compliance with applicable federal and state securities laws (including, but not limited to, applicable state securities or "blue sky" laws) and in the manner specified in the Registration Statement, Base Prospectus and the applicable Prospectus Supplement;
- (viii) the applicable Indenture will have been duly qualified under the Trust Indenture Act of 1939, as amended;
- (ix) one or more Prospectus Supplements to the Base Prospectus contained in the Registration Statement will have been prepared and filed with the Commission describing the Securities offered thereby;

(x) with respect to the Debt Securities, when the terms and conditions of such Debt Securities have been duly established by supplemental indenture or officer's certificate in accordance with the terms and conditions of the relevant base indenture, any such supplemental indenture has been duly executed and delivered by the Company and the relevant trustee, and such Debt Securities have been executed (in the case of certificated Debt Securities), delivered and authenticated in accordance with the terms of the applicable Indenture and issued and sold for the consideration set forth in the applicable definitive purchase, underwriting or similar agreement and that the Trustee under the Indenture shall have been qualified pursuant to the Trust Indenture Act of 1939 at the time the Debt Securities are offered, issued, or sold (or such later time as may be permitted pursuant to the rules, regulations, interpretations or positions of the Commission);

(xi) the Trustee or any future trustee under a supplemental indenture will be validly existing and will have the requisite corporate power and authority to enter into and perform its obligations under such supplemental indenture and will be duly qualified under the Trust Indenture Act of 1939, and, in the case of a future trustee, a Statement of Eligibility of the Trustee on a Form T-1 will be filed with the Commission, in each case, at or prior to the time Debt Securities are issued; with respect to Securities being issued upon conversion of any convertible Preferred Stock,

(xii) the applicable convertible Preferred Stock will be duly authorized, validly issued, fully paid and nonassessable;

(xiii) with respect to any Securities being issued upon conversion of any convertible Debt Securities or upon exercise of any Warrants or relating to any Units, the applicable convertible Debt Securities or Warrants, or Units will be valid and legally binding obligations of the Company, enforceable against the Company in accordance with their terms, except as enforcement may be limited by applicable bankruptcy, insolvency, reorganization, arrangement, moratorium or other similar laws affecting creditors' rights, and subject to general equity principles and to limitations on availability of equitable relief, including specific performance;

(xiv) with respect to the Warrants offered under the Registration Statement, that (a) such Warrants will be issued pursuant to a Warrant Agreement, (b) the Warrant Agreement will be filed either as an exhibit to an amendment to the Registration Statement to be filed after the date of this opinion or as an exhibit to a Current Report on Form 8-K to be filed after the Registration Statement has become effective, and (c) the particular terms of any series of Warrants will be set forth in a supplement to the prospectus forming a part of the Registration Statement;

(xv) with respect to the Units offered under the Registration Statement, that (a) such Units will be issued pursuant to a Unit Agreement, (b) the Unit Agreement will be filed either as an exhibit to an amendment to the Registration Statement to be filed after the date of this opinion or as an exhibit to a Current Report on Form 8-K to be filed after the Registration Statement has become effective, and (c) the particular terms of any series of Units will be set forth in a supplement to the prospectus forming a part of the Registration Statement;

(xvi) if the holders of the Debt Securities are granted rights to inspect corporate books and records and to vote in the election of directors or any matters on which stockholders of the Company may vote, such rights will be set forth in the Certificate of Incorporation or the Certificate of Incorporation will grant to the Company's Board of Directors the power to confer such voting or inspection rights and the Company's Board of Directors will have conferred such rights;

(xvii) that, at the time of each issuance and sale of Securities, the Company will continue to be validly existing and in good standing under the laws of its jurisdiction of organization with the requisite corporate power and authority to issue and sell such Securities;

(xviii) with respect to our opinion as to the Common Stock or other Securities convertible into, exercisable for, or including Common Stock, we have been advised by the Company and for purposes of this opinion we have assumed that, at the time of issuance and sale, a sufficient number of shares of Common Stock will be authorized and available for issuance and that the consideration for the issuance and sale of the Common Stock (or for Preferred Stock or Debt Securities convertible into Common Stock, or for Warrants exercisable for Common Stock or Units consisting of or including Common Stock) will be in an amount that is not less than the par value of the Common Stock;

(xix) with respect to our opinion as to the Preferred Stock or other Securities convertible into, exercisable for, or including Preferred Stock, we have assumed that, (a) at the time of issuance and sale, a sufficient number of shares of Preferred Stock are authorized, designated and available for issuance and that the consideration for the issuance and sale of the Preferred Stock (or for Debt Securities convertible into Preferred Stock, or for Warrants exercisable for Preferred Stock or for Units consisting of or including Preferred Stock) will be in an amount that is not less than the par value of the Preferred Stock, and (b) the rights, preferences, privileges and restrictions, including voting rights, dividend rights, conversion rights, redemption privileges and liquidation privileges of each series of Preferred Stock will be set forth in a certificate of designation to be approved by the Company's Board of Directors, or in an amendment to the Certificate of Incorporation, to be approved by the Company's Board of Directors and stockholders, and that one or both of these documents will be filed either as an exhibit to an amendment to the Registration Statement to be filed after the date of this opinion or as an exhibit to a Current Report on Form 8-K to be filed after the Registration Statement has become effective;

(xx) a definitive Security Document, purchase, underwriting or similar agreement with respect to any Securities offered will have been duly authorized and validly executed and delivered by the Company and the other parties thereto and forms of such agreement will have been included as an exhibit to the Registration Statement or, as appropriate, a Current Report on Form 8-K incorporated in the Registration Statement by reference; and

(xxi) any securities issuable upon conversion, exchange or exercise of any Warrants, Preferred Stock, Debt Securities or Units being offered will have been duly authorized, created and, if appropriate, reserved for issuance upon such conversion, exchange or exercise.

We also have assumed that the execution, delivery and performance by the Company of the Securities Documents will be duly authorized by all necessary action (corporate or otherwise) and will not (a) contravene the Certificate of Incorporation or Bylaws of the Company, (b) violate any law, rule or regulation applicable to the Company, or (c) result in any conflict with or breach of any agreement or document binding on the Company, and that no authorization, approval or other action by, and no notice to or filing with, any governmental authority or regulatory body or any other third party is required for the due execution, delivery or performance by the Company of any Securities Agreement, or, if any such authorization, approval, consent, action, notice or filing is required, it has been or will be duly obtained, taken, given or made and is or will be in full force and effect.

Based on the foregoing, and subject to the assumptions, qualifications, limitations, and exceptions set forth herein and having due regard for such legal considerations we deem relevant, we are of the opinion that:

1. With respect to shares of Common Stock, when both (a) the board of directors (the "Board") of the Company has taken all necessary corporate action to approve the issuance of and the terms of the offering of the shares of Common Stock and related matters and (b) certificates representing the shares of Common Stock have been duly executed, countersigned, registered, and delivered (or such Common Stock has been registered by book entry registration in the name of such purchaser, if uncertificated) either (i) in accordance with the applicable Securities Document, definitive purchase, underwriting, or similar agreement approved by the Board or such officers upon payment of the consideration therefor (not less than the par value of the Common Stock) provided for therein or (ii) upon conversion or exercise of any other Security, in accordance with the

terms of such Security or the instrument governing such Security providing for such conversion or exercise as approved by the Board, for the consideration approved by the Board (not less than the par value of the Common Stock), the Common Stock, when issued and sold as contemplated in the Registration Statement, the Base Prospectus and the related Prospectus Supplement(s) and any related free-writing prospectus(es), and in accordance with any applicable duly authorized, executed and delivered Securities Documents or purchase, underwriting or similar agreement, or upon conversion of any convertible Preferred Stock or convertible Debt Securities in accordance with their terms, or upon exercise of any Warrants in accordance with their terms, will be duly authorized, validly issued, fully paid and non-assessable;

2. With respect to the Preferred Stock, (a) when the Board has taken all necessary corporate action to approve the issuance and terms of the Preferred Stock, the terms of the offering thereof and related matters, including the adoption of a Certificate of Designation relating to the Preferred Stock and the filing of the Certificate of Designation with the Secretary of State of the State of Delaware, and (b) certificates representing the shares of Preferred Stock have been duly executed, countersigned, registered, and delivered (or such Preferred Stock has been registered by book entry registration in the name of such purchaser, if uncertificated) either (i) in accordance with the applicable Securities Document, definitive purchase, underwriting, or similar agreement approved by the Board or such officers upon payment of the consideration therefor (not less than the par value of the Preferred Stock) provided for therein or (ii) upon conversion or exercise of any other Security, in accordance with the terms of such Security or the instrument governing such Security providing for such conversion or exercise as approved by the Board, for the consideration approved by the Board (not less than the par value of the Preferred Stock), and when issued and sold as contemplated in the Registration Statement, the Base Prospectus and the related Prospectus Supplement(s) and any related free-writing prospectus(es) and in accordance with any applicable duly authorized, executed and delivered Securities Documents or purchase, underwriting or similar agreement, or upon conversion of any convertible Debt Securities in accordance with their terms, or upon exercise of any Warrants in accordance with their terms, will be duly authorized, validly issued, fully paid and nonassessable;

3. The Indenture, when (i) duly executed and delivered by the Company and (ii) qualified under the Trust Indenture Act of 1939, as amended (the "Trust Indenture Act"), will constitute the legal, valid and binding obligation of the Company, enforceable against the Company in accordance with its terms;

4. With respect to any series of the Debt Securities issued under an Indenture and offered under the Registration Statement, provided that (i) such Indenture has been duly authorized by the Company and the Trustee by all necessary corporate action; (ii) such Indenture, in substantially the form filed as an exhibit to the Registration Statement, has been duly executed and delivered by the Company and the Trustee; (iii) the terms of the Debt Securities and of their issuance and sale have been duly authorized by the Company by all necessary corporate action; (iv) the terms of the Debt Securities and of their issuance and sale have been duly established in conformity with the applicable Indenture; and (v) the Debt Securities have been duly executed and delivered by the Company and authenticated by the Trustee pursuant to the applicable Indenture and delivered against the requisite payment therefor, which the Company has received, then the Debt Securities, when issued and sold in accordance with the applicable Indenture and as contemplated by the Registration Statement, the Base Prospectus and the related Prospectus Supplement(s), and a duly authorized, executed and delivered Securities Documents or purchase, underwriting or similar agreement, will be valid and legally binding obligations of the Company, enforceable against the Company in accordance with their terms, or upon exercise of any Warrants in accordance with their terms, in each case except as enforcement thereof may be limited by applicable bankruptcy, insolvency, reorganization, arrangement, moratorium or other similar laws affecting creditors' rights, and subject to general equity principles and to limitations on availability of equitable relief, including specific performance;

5. With respect to the Warrants, when (a) the Board has taken all necessary corporate action to approve the creation of and the issuance and terms of the Warrants (including a form of certificate evidencing the Warrants), the terms of the offering thereof, and related matters, (b) the Securities Documents, relating to the Warrants (forms of which have been filed with the SEC) have been duly authorized and validly executed and delivered by the Company and the Warrant Agent appointed by the Company (if applicable), (c) any shares of Common Stock, Preferred Stock or Debt Securities purchasable upon the exercise of the Warrants, as applicable, have been duly and validly issued and reserved for sale, and (d) the Warrants or certificates representing the Warrants have been duly executed, countersigned (by the warrant agent and/or Company as applicable), registered, and delivered in accordance with the appropriate Securities Document, relating to the Warrants and the applicable Securities Document, definitive purchase, underwriting, or similar agreement approved by the Board or such officers upon payment of the consideration therefor provided for therein, and assuming that the Warrants are then issued and sold as contemplated in the Registration Statement, the Base Prospectus and the Prospectus Supplement(s), then the Warrants, when issued and sold in accordance with the Warrant Agreement and a duly authorized, executed and delivered Securities Document or purchase, underwriting or similar agreement, will be valid and legally binding obligations of the Company, enforceable against the Company in accordance with their terms, except as enforcement thereof may be limited by applicable bankruptcy, insolvency, reorganization, arrangement, moratorium or other similar laws affecting creditors' rights, and subject to general equity principles and to limitations on availability of equitable relief, including specific performance; and

6. With respect to the Units, when (a) the Board has taken all necessary corporate action to authorize and approve (1) the creation of and the issuance and terms of the Units (including a form of certificate evidencing the Units), the terms of the offering thereof, and related matters, (2) if applicable, the issuance and terms of the Debt Securities that are a component of the Units, (3) if applicable, the issuance of the Common Stock that is a component of the Units, (4) if applicable, the issuance and terms of the Preferred Stock that is a component of the Units, and (5) if applicable, the execution and delivery of the Warrant Agreement with respect to the Warrants that are a component of the Units, (b) if applicable, a Certificate of Designation relating to the Preferred Stock has been adopted and approved and such Certificate of Designation has been filed with the Secretary of State of the State of Delaware, (c) the Securities Document relating to the Units (forms of which have been filed with the SEC) have been duly authorized and validly executed and delivered by the Company and any agent appointed by the Company (if applicable), and (d) the Units or certificates representing the Units have been duly executed, countersigned (by the unit agent and/or Company as applicable), registered, reserved for issuance and delivered in accordance with the appropriate agreements relating to the Units and the applicable Securities Document, definitive purchase, underwriting, or similar agreement approved by the Board or such officers, including the applicable Indenture, in the case of such Debt Securities, and the Warrant Agreement, in the case of the Warrants, upon payment of the consideration therefor provided for therein, and assuming that the Units are then issued and sold as contemplated in the Registration Statement, the Base Prospectus and the Prospectus Supplement(s), then the Units, when issued and sold in accordance with the Unit Agreement and a duly authorized, executed and delivered Securities Document or purchase, underwriting or similar agreement, will constitute valid and legally binding obligations of the Company, enforceable against the Company in accordance with their terms, except as enforcement thereof may be limited by applicable bankruptcy, insolvency, reorganization, arrangement, moratorium or other similar laws affecting creditors' rights, and subject to general equity principles and to limitations on availability of equitable relief, including specific performance.

We express no opinion as to the laws of any state or jurisdiction other than the laws governing corporations of the State of Delaware, the State of New York as to the enforceability of the Debt Securities, the Warrants, Warrant Agreements, Unit Agreements and Units and Indenture, and the federal laws of the United States of America. No opinion is expressed herein with respect to the qualification of the Shares under the securities or blue sky laws of any state or any foreign jurisdiction. We have made such examination of Delaware law and New York law, as we have deemed relevant for purposes of this opinion. We express no opinion as to any county, municipal, city, town or village ordinance, rule, regulation or administrative decision.

We express no opinion as to whether the laws of any jurisdiction are applicable to the subject matter hereof. We are not rendering any opinion as to compliance with any federal or state law, rule or regulation relating to securities, or to the sale or issuance thereof. We express no opinions concerning (i) the validity or enforceability of any provisions contained in indentures that purport to waive or not give effect to rights to notices, defenses, subrogation or other rights or benefits that cannot be effectively waived under applicable law; or (ii) the validity or enforceability of any provisions contained in Warrant Agreements or Unit Agreements that purport to waive or not give effect to rights to notices, defenses, subrogation or other rights or benefits that cannot be effectively waived under applicable law.

This opinion (i) is rendered in connection with the filing of the Registration Statement and Base Prospectus, (ii) is rendered as of the date hereof, and we undertake no, and hereby disclaim any kind of, obligation to advise you of any change or any new developments that might affect any matters or opinions set forth herein, and (iii) is limited to the matters stated herein and no opinions may be inferred or implied beyond the matters expressly stated herein.

Our opinions expressed above are specifically subject to the following additional limitations, exceptions, qualifications and assumptions:

(A) The legality, validity, binding nature and enforceability of the Company's obligations under the Securities may be subject to or limited by (1) bankruptcy, insolvency, reorganization, arrangement, fraudulent transfer or conveyance, equitable subordination, moratorium and other similar laws affecting the rights of creditors generally; (2) general principles of equity (whether relief is sought in a proceeding at law or in equity), including, without limitation, concepts of materiality, reasonableness, good faith, fair dealing, commercial practice, estoppel, diligence, unconscionability, right to cure, election of remedies, and the discretion of any court of competent jurisdiction or of any arbiter in awarding specific performance or injunctive relief and other equitable remedies different from that provided in the Securities; (3) the limitations or restrictions on a party's ability to enforce contractual rights or bring a cause of action under state law or within the courts of such state if such party has failed to comply with applicable qualification, authorization, registration, notice or similar filing requirements of such state; and (4) without limiting the generality of the foregoing, (a) principles requiring the consideration of the impracticability or impossibility of performance of the Company's obligations at the time of the attempted enforcement of such obligations, (b) the effect of court decisions and statutes that indicate that any provisions of the Securities that permit a party to take action or make determinations may be subject to a requirement that such action be taken or such determinations be made on a reasonable basis in good faith or that it be shown that such action is reasonably necessary for the party's protection, and (c) public policy considerations.

(B) We express no opinion as to the enforceability of provisions (i) to the effect that rights or remedies may be exercised without notice and failure or delay to exercise is not a waiver of rights or remedies, that every right or remedy is cumulative, not exclusive, and may be exercised in addition to or with any other right or remedy, or that election of a particular remedy or remedies does not preclude recourse to one or more remedies, (ii) prohibiting waivers of any terms of the Securities other than in writing, or prohibiting oral modifications thereof or modification by course of dealing, or (iii) that may be unenforceable under certain circumstances but the inclusion of which does not affect the validity of the Security taken as a whole. In addition, our opinions are subject to the effect of judicial decisions that may permit the introduction of extrinsic evidence to interpret the terms of written contracts such as the Securities.

We express no opinion (a) concerning the enforceability of any waiver of rights or defenses with respect to stay, extension or usury laws or (b) with respect to whether acceleration of Debt Securities may affect the collectability of any portion of the stated principal amount thereof that might be determined to constitute unearned interest thereon. In rendering this opinion, we are opining only as to the specific legal issues expressly set forth therein, and no opinion shall be inferred as to any other matter or matters. This opinion is intended solely for use in connection with the issuance and sale of the Securities subject to the Registration Statement and is not to be relied upon for any other purpose.

We express no opinion with respect to the enforceability of: (i) consents to, or restrictions upon, judicial relief or, except to the extent that such waivers or consents are made enforceable by New York General Obligations Law Section 5-1402 (applied by a New York State court), jurisdiction or venue; (ii) advance waivers of claims, defenses, rights granted by law, or notice, opportunity for hearing, evidentiary requirements, statutes of limitation, trial by jury or at law, or other procedural rights; (iii) waivers of broadly or vaguely stated rights; and (iv) provisions for liquidated damages, default interest, late charges, monetary penalties, make-whole premiums or other economic remedies to the extent such provisions are deemed to constitute a penalty or a forfeiture. We express no opinion as to any provision of the Debt Securities that: (a) relates to the subject matter jurisdiction of any federal court of the United States of America or any federal appellate court to adjudicate any controversy related to the Debt Securities or (b) contains a waiver of an inconvenient forum.

The foregoing opinion assumes that all requisite steps will be taken to comply with the requirements of the Securities Act and applicable requirements of state laws regulating the offer and sale of the Securities.

We hereby consent to the filing of this opinion with the Securities and Exchange Commission as an exhibit to the Registration Statement and further consent to statements made therein regarding our firm and use of our name under the heading "Legal Matters" in the Prospectus constituting a part of such Registration Statement. In giving this consent, we do not thereby admit that we are within the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations of the Commission promulgated thereunder.

Sincerely,

/s/ The Loev Law Firm, PC
The Loev Law Firm, PC

Independent Registered Public Accounting Firm's Consent

We consent to the incorporation by reference in this Registration Statement on Form S-3 of 180 Life Sciences Corp. (the "Company") of our report dated March 31, 2025, with respect to our audit of the consolidated financial statements of the Company as of December 31, 2024 and for the year then ended, which report is included in the Company's Annual Report on Form 10-K of the Company for the year ended December 31, 2024. We also consent to the reference to us under the heading "Experts" in such Registration Statement.

/s/ M&K CPA's, PLLC

The Woodlands, Texas
June 20, 2025

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in this Registration Statement on Form S-3 of our report dated March 22, 2024, with respect to the consolidated financial statements of 180 Life Sciences Corp. as of December 31, 2023, and for the year then ended included in the Annual Report on Form 10-K. We also consent to the reference to us under the heading “Experts” in such Registration Statement.

/s/ Marcum LLP

San Francisco, CA
June 20, 2025

Calculation of Filing Fee Tables

Form S-3
(Form Type)180 Life Sciences Corp.
(Exact Name of Registrant as Specified in its Charter)**Table 1: Newly Registered and Carry Forward Securities**

												Filing Fee Previously Paid In Connection with Unsold Securities to be Carried Forward
	Security Type	Security Class Title	Fee Calculation or Carry Forward Rule	Amount Registered	Proposed Maximum Offering Price Per Unit	Maximum Aggregate Offering Price	Fee Rate	Amount of Registration Fee	Carry Forward Form Type	Carry Forward File Number	Carry Forward Initial effective date	
Fees to Be Paid	Equity	Common Stock, par value \$0.0001 per share	Rule 457(o)	(2)	(3)	(3)		0				
	Equity	Preferred Stock, par value \$0.0001 per share	Rule 457(o)	(2)	(3)	(3)		0				
	Debt	Debt Securities	Rule 457(o)	(2)	(3)	(3)		0				
	Other	Warrants	Rule 457(o)	(2)	(3)	(3)		0				
	Other	Units	Rule 457(o)	(2)	(3)	(3)		0				
	Total	Unallocated (Universal) Shelf	Rule 457(o)	n/a ⁽⁴⁾	Unallocated (Universal) Shelf	\$393,391,470.15 ⁽⁴⁾	0.0001531	\$ 60,228.23				
	Carry Forward Securities											
Carry Forward Securities	Equity	Common Stock, par value \$0.0001 per share	Rule 415(a)(6)	n/a ⁽⁴⁾	n/a	\$106,608,529.85 ⁽⁴⁾	0.0000927	n/a	S-3	333-265416	June 24, 2022	\$ 9,882.61 ⁽⁴⁾
Total Offering Amount/Registration Fee								\$ 60,228.23 ⁽⁴⁾				
Total Fees Previously Paid								n/a				
Total Fee Offsets								—				
Net Fee Due								\$ 60,228.23				

(1) Calculated pursuant to Rule 457(o) under the Securities Act of 1933, as amended, or the Securities Act, based on the proposed maximum aggregate offering price.

(2) There are being registered hereunder such indeterminate number of shares of common stock, preferred stock, debt securities and warrants to purchase common stock, preferred stock and debt securities as shall have an aggregate initial offering price not to exceed \$500,000,000. The securities registered also include such indeterminate amounts and numbers of common stock, preferred stock and debt securities as may be issued upon conversion of or exchange for preferred stock, that provide for conversion or exchange, upon exercise of warrants, or pursuant to the anti-dilution provisions of any such securities. If any debt securities are issued at an original issue discount, then the offering price of such debt securities shall be in such greater principal amount at maturity as shall result in an aggregate offering price not to exceed \$500,000,000, less the aggregate dollar amount of all securities previously issued hereunder. Any securities registered hereunder may be sold separately or as units with other securities registered hereunder. No separate consideration will be received for any shares of common stock, preferred stock, or principal amounts of debt securities so issued upon conversion or exchange. The securities registered also include such indeterminate number of shares of common stock and preferred stock and amount of debt securities as may be issued upon conversion of or exchange for preferred stock or debt securities that provide for conversion or exchange, upon exercise of warrants or pursuant to the antidilution provisions of any such securities. In addition, pursuant to Rule 416 under the Securities Act, the shares being registered hereunder include such indeterminate number of shares of common stock, preferred stock, debt securities, warrants, and units as may be issuable with respect to the shares being registered hereunder as a result of stock splits, stock dividends or similar transactions.

(3) The proposed maximum aggregate offering price per class of security will be determined from time to time by the registrant in connection with the issuance by the registrant of the securities registered hereunder and is not specified as to each class of security pursuant to General Instruction II.D. of Form S-3 under the Securities Act. The aggregate amount of the registrant's common stock, preferred stock, debt securities and/or warrants registered hereunder that may be sold in "at the market" offerings for the account of the registrant is limited to that which is permissible under Rule 415(a)(4) under the Securities Act.

- (4) Pursuant to Rule 415(a)(6) under the Securities Act, securities with a maximum aggregate price of \$106,608,529.85 registered hereunder are unsold securities (the “Unsold Securities”) previously covered by the registrant’s registration statement on Form S-3 (File No. 333-265416) which was initially filed with the Securities and Exchange Commission on June 3, 2022, and declared effective on June 24, 2022 (the “Prior Registration Statement”), and are included in this registration statement. The registrant paid a filing fee of \$11,587.50 (calculated at the filing fee rate in effect at the time of the filing of the Prior Registration Statement) relating to the Unsold Securities under the Prior Registration Statement. The Registrant is not required to pay any additional fee with respect to the Unsold Securities being included in this Registration Statement in reliance on Rule 415(a)(6), because such Unsold Securities (and associated fees) are being moved from the Prior Registration Statement to this Registration Statement. During the grace period afforded by Rule 415(a)(5) under the Securities Act, the registrant may continue to offer and sell under the Prior Registration Statement, the Unsold Securities being registered hereunder. The registrant is also registering new securities on this registration statement with an aggregate initial offering price of \$393,391,470.15 (the “New Securities”), which aggregate offering price is not specified as to each class of securities. A filing fee of \$60,228.23 with respect to the New Securities is being paid in connection with the filing of this registration statement. The registration fee previously paid by the Registrant relating to the Unsold Securities included on this Registration Statement will continue to be applied to such Unsold Securities. During the grace period afforded by Rule 415(a)(5) under the Securities Act, the Registrant may continue to offer and sell under the Prior Registration Statement the Unsold Securities being registered hereunder. To the extent that, after the filing date hereof and prior to the effectiveness of this Registration Statement, the Registrant sells any such Unsold Securities pursuant to the Prior Registration Statement, the Registrant will identify in a pre-effective amendment to this Registration Statement the updated amount of Unsold Securities from the Prior Registration Statement to be included in this Registration Statement pursuant to Rule 415(a)(6). Pursuant to Rule 415(a)(6), the offering of the Unsold Securities under the Prior Registration Statement will be deemed terminated as of the date of effectiveness of this Registration Statement.
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