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

FORM S-3
REGISTRATION STATEMENT UNDER
THE SECURITIES ACT OF 1933

SHAPEWAYS HOLDINGS, INC.
(Exact name of registrant as specified in its charter)

Delaware
(State or Other Jurisdiction of Incorporation or
Organization)

6770
(Primary Standard Industrial Classification Code
Number)

87-2876494
(I.R.S. Employer Identification No.)

30-02 48th Avenue
Long Island City, NY 11101
(646) 979-9885
(Address, including zip code and telephone number, including area code, of registrant's principal executive offices)

Greg Kress
Chief Executive Officer
30-02 48th Avenue
Long Island City, NY 11101
(646) 979-9885
(Name, address, including zip code and telephone number, including area code, of agent for service)

Copies to:

Greg Kress
Chief Executive Officer
30-02 48th Avenue
Long Island City, NY 11101

Hozefa M. Botee, Esq.
Jeffrey R. Vetter, Esq.
Gunderson Dettmer Stough Villeneuve
Franklin & Hachigian, LLP
1250 Broadway, 23rd Floor
New York, New York 10001
Telephone: (212)-730-8133
Fax: (877) 881-3007

Approximate date of commencement of proposed sale to the public: From time to time after this Registration Statement becomes effective.

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	<input type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input checked="" type="checkbox"/>	Smaller reporting company	<input checked="" type="checkbox"/>
		Emerging growth company	<input checked="" type="checkbox"/>

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act.

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 of 1933, as amended, or until this registration statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.

EXPLANATORY NOTE

This registration statement contains two prospectuses:

- a base prospectus which covers the offering, issuance and sale by us of up to \$50,000,000 in the aggregate of the securities identified herein from time to time in one or more offerings; and
- a prospectus supplement covering the offering, issuance and sale by us of up to a maximum aggregate offering price of \$13,250,000 of our common stock that may be issued and sold under a sales agreement (the "Sales Agreement") with Craig-Hallum Capital Group LLC (the "Sales Agent").

The base prospectus immediately follows this explanatory note. The specific terms of any securities to be offered pursuant to the base prospectus will be specified in a prospectus supplement to the base prospectus.

The prospectus supplement immediately follows the base prospectus. The \$13,250,000 of common stock that may be offered, issued and sold by the Registrant under the prospectus supplement is included in the \$50,000,000 of securities that may be offered, issued and sold by the Registrant under the base prospectus. Upon termination of the Sales Agreement, any portion of the \$13,250,000 included in the prospectus supplement that is not sold pursuant to the Sales Agreement may be available for sale in other offerings pursuant to the base prospectus and a corresponding prospectus supplement, and if no shares are sold under the Sales Agreement, the full \$50,000,000 of securities may be sold in other offerings by us pursuant to the base prospectus and a corresponding prospectus supplement.

SUBJECT TO COMPLETION, DATED OCTOBER 6, 2022

PRELIMINARY PROSPECTUS

SHAPEWAYS

SHAPEWAYS HOLDINGS, INC.

\$50,000,000

COMMON STOCK
PREFERRED STOCK
DEBT SECURITIES
WARRANTS
RIGHTS
UNITS

We may offer and sell from time to time, in one or more offerings, in amounts, at prices and on terms determined at the time of any such offering, (1) shares of our common stock, (2) shares of our preferred stock, which we may issue in one or more series, (3) debt securities, which may be senior debt securities or subordinated debt securities, (4) warrants, (5) rights, or (6) units. The aggregate initial offering price of all securities sold by us under this prospectus will not exceed \$50,000,000.

We may offer and sell the securities separately or together in any combination for sale directly to investors or through underwriters, dealers or agents. If any underwriters, dealers or agents are involved in the sale of these securities we will set forth their names and describe their compensation in the applicable prospectus supplement.

As of October 4, 2022 the aggregate market value of our outstanding common stock held by non-affiliates, or public float, was approximately \$39.8 million, based on 49,217,351 shares of outstanding common stock, of which approximately 8.2 million shares were held by affiliates, and a price of \$0.97 per share, which was the price at which our common stock was last sold on the New York Stock Exchange (the “NYSE”) on August 11, 2022. We have not offered any securities pursuant to General Instruction I.B.6 of Form S-3 during the prior 12-calendar-month period that ends on and includes the date of this prospectus. Pursuant to General Instruction I.B.6 of Form S-3, in no event will we sell securities registered on this registration statement in a public primary offering with a value exceeding more than one-third of our public float in any 12-month period so long as our public float remains below \$75,000,000 (the “Baby Shelf Limitation”).

Our common stock and Public Warrants are currently listed on the NYSE under the symbols “SHPW” and “SHPW WS,” respectively. On October 4, 2022, the closing price of our common stock was \$0.65 and the closing price for our Public Warrants was \$0.05.

We are an “emerging growth company” under applicable federal securities laws and are subject to reduced public company reporting requirements.

INVESTING IN OUR SECURITIES INVOLVES RISKS THAT ARE DESCRIBED IN THE “RISK FACTORS” SECTION BEGINNING ON PAGE 9 OF THIS PROSPECTUS.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of the securities to be issued under this prospectus or determined if this prospectus is accurate or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus is , 2022.

The information in this preliminary prospectus is not complete and may be changed. We may not sell the securities pursuant to this preliminary prospectus 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 an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

TABLE OF CONTENTS

Prospectus

	Page
ABOUT THIS PROSPECTUS	1
MARKET AND INDUSTRY DATA	2
CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS	3
WHERE YOU CAN FIND MORE INFORMATION; INCORPORATION BY REFERENCE	5
PROSPECTUS SUMMARY	7
RISK FACTORS	9
USE OF PROCEEDS	10
DESCRIPTION OF CAPITAL STOCK AND OUTSTANDING WARRANTS	11
DESCRIPTION OF DEBT SECURITIES	15
DESCRIPTION OF WARRANTS	24
DESCRIPTION OF RIGHTS	25
DESCRIPTION OF UNITS	26
PLAN OF DISTRIBUTION	27
LEGAL MATTERS	30
EXPERTS	30

You should rely only on the information provided in this prospectus and the information incorporated by reference into this prospectus and any applicable prospectus supplement. We have not authorized anyone to provide you with different information. We are not making an offer of these securities in any jurisdiction where the offer is not permitted. You should not assume that the information in this prospectus, any applicable prospectus supplement or any documents incorporated by reference is accurate as of any date other than the date of the applicable document. Since the date of this prospectus and the documents incorporated by reference into this prospectus, our business, financial condition, results of operations and prospects may have changed.

For investors outside the United States: We have not done anything that would permit this offering or possession or distribution of this prospectus in any jurisdiction where action for that purpose is required, other than in the United States. You are required to inform yourselves about and to observe any restrictions relating to this offering and the distribution of this prospectus.

ABOUT THIS PROSPECTUS

This prospectus is part of a “shelf” registration statement that we filed with the Securities and Exchange Commission (the “Commission” or “SEC”). By using a shelf registration statement, we may sell, from time to time, in one or more offerings, any combination of the securities described in this prospectus, up to a maximum aggregate offering price of \$50,000,000, subject to the Baby Shelf Limitation.

This prospectus provides you with a general description of the securities we may offer. Each time we sell securities, we will provide a prospectus supplement that will contain specific information about the terms of that offering. The accompanying prospectus supplement may also add, update or change information contained in this prospectus. References to the “applicable prospectus supplement” are to the prospectus supplement to this prospectus that describes the specific terms and conditions of the applicable security. You should read both this prospectus and the accompanying prospectus supplement together with additional information described under the heading “Where You Can Find More Information; Incorporation by Reference.”

We may include agreements as exhibits to the registration statement of which this prospectus forms a part. In reviewing such agreements, please remember that they are included to provide you with information regarding their terms and are not intended to provide any other factual or disclosure information about us or the other parties to the agreements. The agreements may contain representations and warranties by each of the parties to the applicable agreement. These representations and warranties have been made solely for the benefit of the other parties to the applicable agreement and:

- should not in any instance be treated as categorical statements of fact, but rather as a way of allocating the risk to one of the parties if those statements prove to be inaccurate;
- may have been qualified by disclosures that were made to the other party in connection with the negotiation of the applicable agreement, which disclosures would not necessarily be reflected in the agreement;
- may apply standards of materiality in ways that are different from what may be viewed as material to you or other investors; and
- were made only as of the date of the applicable agreement or such other date or dates as may be specified in the agreement and are subject to more recent developments.

Accordingly, these representations and warranties may not describe the actual state of affairs as of the date they were made or at any other time. Additional information about us may be found elsewhere in the registration statement of which this prospectus forms a part and our other public filings, which are available without charge through the SEC’s website at www.sec.gov.

We have not authorized any other person, including any dealer, salesperson or other individual, to provide you with any information or to make any representations other than those contained or incorporated by reference in this prospectus or the applicable prospectus supplement. We do not take any responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. We are not making an offer to sell these securities in any jurisdiction where the offer or sale is not permitted. You should assume that the information in this prospectus, the applicable prospectus supplement and the documents incorporated by reference is accurate only as of their respective dates.

TRADEMARKS

This prospectus and the documents incorporated by reference herein contain trademarks, service marks, copyrights and trade names of other companies, which are the property of their respective owners. We do not intend our use or display of other companies’ trademarks, copyrights or trade names to imply a relationship with, or endorsement or sponsorship of us by any other companies. Solely for convenience, our trademarks and trade names referred to in this prospectus and the documents incorporated by reference herein may appear without the ® or ™ symbols, but such references are not intended to indicate, in any way, that we will not assert, to the fullest extent under applicable law, our rights or the right of the applicable licensor to these trademarks and trade names.

MARKET AND INDUSTRY DATA

This prospectus and the documents incorporated by reference herein include industry position and industry data and forecasts that we obtained or derived from internal company reports, independent third party publications and other industry data. Some data are also based on good faith estimates, which are derived from internal company analyses or review of internal company reports as well as the independent sources referred to above.

Although we believe that the information on which we have based these estimates of industry position and industry data are generally reliable, the accuracy and completeness of this information is not guaranteed and we have not independently verified any of the data from third-party sources nor have we ascertained the underlying economic assumptions relied upon therein. Statements as to industry position are based on market data currently available. While we are not aware of any misstatements regarding the industry data presented herein, these estimates involve risks and uncertainties and are subject to change based on various factors, including those discussed under the heading "Risk Factors" in this prospectus. These and other factors could cause results to differ materially from those expressed in these publications and reports.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and the documents incorporated by reference herein contain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, (the “Securities Act”) and Section 21E of the Securities Exchange Act of 1934, as amended, (the “Exchange Act”). All statements contained in this prospectus, the documents incorporated by reference herein and any applicable prospectus supplement other than statements of historical fact, including statements regarding our future results of operations, financial position, market size and opportunity, our business strategy and plans, the factors affecting our performance and our objectives for future operations, are forward-looking statements. In addition, any statements that refer to projections, forecasts or other characterizations of future events or circumstances, including any underlying assumptions, are forward-looking statements. Forward-looking statements are typically identified by words such as “plan,” “believe,” “expect,” “anticipate,” “intend,” “outlook,” “estimate,” “forecast,” “project,” “continue,” “could,” “may,” “might,” “possible,” “potential,” “predict,” “should,” “would,” “will,” “seek,” “target,” and other similar words and expressions, but the absence of these words does not mean that a statement is not forward-looking.

The forward-looking statements are based on the current expectations, forecasts and assumptions of the management of Shapeways, involve a number of judgments, risks and uncertainties and are inherently subject to changes in circumstances and their potential effects and speak only as of the date of such statements. There can be no assurance that future developments will be those that have been anticipated. These forward-looking statements involve a number of risks, uncertainties or other assumptions that may cause actual results or performance to be materially different from those expressed, contemplated or implied by these forward-looking statements. These risks and uncertainties include, but are not limited to, those factors described in “*Risk Factors*,” and the following:

- Actual results may vary from expectations regarding (and the Company's ability to meet expectations regarding) the Company's strategies and future performance, including Shapeways' future business plans or objectives and its ability to invest in growth initiatives.
- The Company has a history of losses and may not achieve or maintain profitability in the future.
- The Company faces significant competition and expects to face increasing competition in many aspects of its business, which could cause its operating results to suffer.
- The digital manufacturing industry is a relatively new and emerging market and it is uncertain whether it will gain widespread acceptance.
- If the Company fails to grow its business as anticipated, revenues and gross margin will be adversely affected.
- The Company's attempts to expand its business into new markets and geographies may not be successful.
- The Company's stock price may be volatile or may decline regardless of its operating performance.
- The Company's operating results and financial condition may fluctuate on a quarterly and annual basis.
- Failure to attract, integrate and retain additional personnel in the future could harm the Company's business and negatively affect the Company's ability to grow its business.
- Interruptions to or other problems with the Company's website user interface, information technology systems, manufacturing processes, or other operations could damage the Company's reputation and brand and substantially harm its business and results of operations.
- As part of the Company's growth strategy, it may continue to acquire or make investments in other businesses, patents, technologies, products, or services. Shapeways may not realize the anticipated benefits of such investments and integration of these investments may disrupt its business and divert management attention.
- The loss of one or more key members of the Company's management team or personnel could harm its business.
- Shapeways may not timely and effectively scale and adapt its platform, processes, and infrastructure across materials, technologies, markets and software to expand its business.

- The Company's actual results may be significantly different from projections, estimates, targets, or forecasts.
- Other risks and uncertainties set forth under the section entitled "Risk Factors" beginning on page 9 of this prospectus.

Should one or more of these risks or uncertainties materialize, or should any of the assumptions made by the management of Shapeways prove incorrect, actual results may vary in material respects from those projected in or contemplated by these forward-looking statements.

Except to the extent required by applicable law or regulation, Shapeways undertakes no obligation to update these forward-looking statements to reflect events or circumstances after the date of this Registration Statement or to reflect the occurrence of unanticipated events.

WHERE YOU CAN FIND MORE INFORMATION; INCORPORATION BY REFERENCE

We have filed with the SEC a registration statement under the Securities Act with respect to the securities offered hereby. This prospectus, which constitutes part of the registration statement, does not contain all of the information set forth in the registration statement and the exhibits and schedules thereto. For further information with respect to the Company and its securities, reference is made to the registration statement and the exhibits and any schedules filed therewith. Statements contained in this prospectus as to the contents of any contract or any other document referred to are not necessarily complete, and in each instance, we refer you to the copy of the contract or other document filed as an exhibit to the registration statement. Each of these statements is qualified in all respects by this reference. You can read our SEC filings, including the registration statement, over the internet at the SEC's website at <http://www.sec.gov>.

We are subject to the information reporting requirements of the Exchange Act, and we are required to file reports, proxy statements and other information with the SEC. These reports, proxy statements, and other information are available for inspection and copying at the SEC's website referred to above. We also maintain a website at <https://investors.shapeways.com>, at which you may access these materials free of charge as soon as reasonably practicable after they are electronically filed with, or furnished to, the SEC. Information contained on or accessible through our website is not a part of this prospectus, and the inclusion of our website address in this prospectus is an inactive textual reference only.

Incorporation by Reference

The SEC rules allow us to "incorporate by reference" information into this prospectus, 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 subsequent information that we file with the SEC will automatically update and supersede that information. Any statement contained in this prospectus 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 or a subsequently filed document incorporated by reference modifies or replaces that statement.

This prospectus and any accompanying prospectus supplement incorporate by reference the documents set forth below that have previously been filed with the SEC:

- our [Annual Report on Form 10-K for the year ended December 31, 2021, filed with the SEC on March 31, 2022](#) as amended by [Amendment No. 1 on Form 10-K/A, filed with the SEC on April 1, 2022](#);
- our Quarterly Reports on [Form 10-Q for the quarter ended March 30, 2022, filed with the SEC on May 16, 2022](#) and the [quarter ended June 30, 2022, filed with the SEC on August 12, 2022](#);
- our Current Reports on Form 8-K filed with the SEC on [May 16, 2022](#), [June 10, 2022](#), [June 13, 2022](#), [July 6, 2022](#), [August 19, 2022](#), and [September 16, 2022](#); and
- the description of our capital stock contained in [Exhibit 4.3](#) of our Annual Report on 10-K for the year ended December 31, 2021, filed with the SEC on March 31, 2022, as amended by Amendment No.1 on Form 10-K/A, filed with the SEC on April 1, 2022, and any amendment or report filed with the SEC for the purpose of updating such description.

All reports and other documents we subsequently file pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act prior to the termination of this offering, including all such documents we may file with the SEC after the date of the initial registration statement and prior to the effectiveness of the registration statement, but excluding any information furnished to, rather than filed with, the SEC, will also be incorporated by reference into this prospectus and deemed to be part of this prospectus from the date of the filing of such reports and documents.

You may request a free copy of any documents incorporated by reference in this prospectus by writing or telephoning us at the following address:

Shapeways Holdings, Inc.
30-02 48th Avenue
Long Island City, New York 11101
Attention: Corporate Secretary
Tel. (646) 979-9885

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

PROSPECTUS SUMMARY

This summary highlights selected information appearing elsewhere in this prospectus or the documents incorporated by reference and does not contain all of the information that you should consider before buying our securities. Because it is a summary, it may not contain all of the information that may be important to you. You should read this entire prospectus carefully, including the section entitled "Risk Factors" and the documents we have incorporated by reference in this prospectus, along with our consolidated financial statements and related notes incorporated by reference in this prospectus.

Unless otherwise indicated or the context otherwise requires, references in this prospectus to "we," "our," "us," "Company," or "Shapeways" refers to Shapeways Holdings, Inc.

Shapeways

Shapeways is a leading digital manufacturer combining high-quality, flexible on-demand manufacturing with purpose-built proprietary software to offer customers an end-to-end digital manufacturing platform on which they can rapidly transform digital designs into physical products. Shapeways' manufacturing platform offers customers access to high-quality manufacturing from start to finish through automation, innovation and digitization. Shapeways' proprietary software, wide selection of materials and technologies, and global supply chain aim to lower manufacturing barriers and accelerate delivery of items customers need manufactured from prototypes to finished parts. Shapeways combines deep digital manufacturing know-how and software expertise to deliver high-quality, flexible on-demand digital manufacturing to a range of customers, from project-focused engineers to large enterprises.

Corporate Information

Galileo Acquisition Corp., our predecessor company ("Galileo") was a Cayman Islands exempted company formed on July 30, 2019, as a special purpose acquisition company for the purpose of effecting an initial business combination. On October 22, 2019, Galileo completed its initial public offering. On September 29, 2021, Galileo consummated a business combination with Shapeways, Inc. In connection with the closing of the business combination, Galileo was domesticated and continued as a Delaware corporation, changing its name to "Shapeways Holdings, Inc."

Shapeways is located at 30-02 48th Avenue, Long Island City, NY 11101 and its phone number is (646) 979-9885.

Emerging Growth Company

Shapeways is an "emerging growth company," as defined under the JOBS Act. As an emerging growth company, Shapeways is eligible to take advantage of certain exemptions from various reporting requirements that are applicable to other public companies that are not emerging growth companies. These include, but are not limited to, not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act of 2002, reduced disclosure obligations regarding executive compensation in its periodic reports and proxy statements, and exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and the requirement to obtain stockholder approval of any golden parachute payments not previously approved.

In addition, Section 107 of the JOBS Act provides that an emerging growth company can take advantage of an extended transition period provided in Section 7(a)(2)(B) of the Securities Act for complying with new or revised accounting standards. Shapeways has elected to take advantage of such extended transition period. Shapeways will remain an emerging growth company until the earlier of (1) December 31, 2025 (the last day of the fiscal year following the fifth anniversary of the consummation of Galileo's initial public offering), (2) the last day of the fiscal year in which Shapeways has total annual gross revenue of at least \$1.235 billion, (3) the last day of the fiscal year in which Shapeways is deemed to be a "large accelerated filer," as defined in the Exchange Act, and (4) the date on which Shapeways has issued more than \$1.0 billion in nonconvertible debt during the prior three-year period.

Securities We May Offer

This prospectus contains a summary of our common stock and outstanding warrants, and the preferred stock, debt securities, warrants, rights and units that may be issued in the future. These summaries are not meant to be a complete description of each security. The particular terms of any security to be issued pursuant hereto will be set forth in a related prospectus supplement. This prospectus and the accompanying prospectus supplement will contain the material terms and conditions for each security.

RISK FACTORS

An investment in our securities involves a high degree of risk. You should carefully consider the risk factors incorporated by reference to our most recent Annual Report on Form 10-K, as amended by Amendment No. 1 on Form 10-K/A, any subsequent Quarterly Reports on Form 10-Q or Current Reports on Form 8-K, and all other information contained or incorporated by reference into this prospectus as updated by our subsequent filings under the Exchange Act, and the risk factors and other information contained in any applicable prospectus supplement and any applicable free writing prospectus before acquiring any such securities. The occurrence of any of these risks might cause you to lose all or part of your investment in the offered securities. See “Where You Can Find More Information; Incorporation by Reference” in this prospectus.

USE OF PROCEEDS

Unless otherwise set forth in a prospectus supplement with respect to the proceeds from the sale of the particular securities to which such prospectus supplement relates, we intend to use the net proceeds from the sale of the offered securities for general corporate purposes, including working capital. In addition, we may use a portion of such net proceeds for acquisitions of complementary businesses, technologies or other assets, or to fund the repayment, refinancing or redemption of outstanding debt. However, we have no current understandings, agreements or commitments for any material acquisitions at this time, and we have not allocated specific amounts of the net proceeds to be received by us from any offering for any of these purposes. If we decide to use the net proceeds from a particular offering of securities for a particular purpose, we will describe that purpose, as well as any other required disclosures, in the related prospectus supplement.

DESCRIPTION OF CAPITAL STOCK AND OUTSTANDING WARRANTS

The following description of our common stock, par value \$0.0001 per share and Public Warrants, which are the only securities of the Company registered under Section 12 of the Exchange Act, summarizes certain information regarding the common stock and the Public Warrants in our amended and restated certificate of incorporation (the “Charter”), our amended and restated bylaws (the “Bylaws”) and applicable provisions of Delaware general corporate law (the “DGCL”), and is qualified by reference to our Charter and our Bylaws, which are incorporated by reference as Exhibit 3.1 and 3.2, respectively, to the Annual Report on Form 10-K for the fiscal year ending December 31, 2021 (as amended by Amendment No. 1 on Form 10-K/A, our “Annual Report”).

Authorized and Outstanding Stock

Our Charter authorizes the issuance of 130,000,000 shares, consisting of 120,000,000 shares of common stock, par value \$0.0001 per share, and 10,000,000 shares of preferred stock, par value \$0.0001 per share.

Common Stock

Voting

The holders of common stock are entitled to one vote per share on all matters submitted to the stockholders for their vote or approval. Directors of the Company are elected by a plurality of the votes present in person or represented by proxy and entitled to vote.

Dividends

The holders of common stock are entitled to receive dividends, as and if declared by the board of directors of the Company (the “Board”) out of legally available funds.

Liquidation Rights

Upon the liquidation or dissolution of Shapeways, the holders of common stock are entitled to share ratably in those of Shapeways’ assets that are legally available for distribution to stockholders after payment of liabilities and subject to the prior rights of any holders of preferred stock then outstanding.

Pre-Emptive or other Subscription Rights

The holders of common stock do not have any pre-emptive or other subscription rights.

Preferred Stock

Shapeways is authorized to issue up to 10,000,000 shares of preferred stock, par value \$0.0001 per share. The Board is authorized, subject to limitations prescribed by DGCL and the Charter, to determine the terms and conditions of the preferred stock, including whether the shares of preferred stock will be issued in one or more series, the number of shares to be included in each series and the powers (including the voting power), designations, preferences and rights of the shares. The Board also is authorized to designate any qualifications, limitations or restrictions on the shares without any further vote or action by the stockholders.

Public Warrants

Shapeways has the ability to redeem outstanding Public Warrants at any time after they become exercisable and prior to their expiration, at a price of \$0.01 per Public Warrant, provided that the last reported sales price of the common stock equals or exceeds \$18.00 per share (as adjusted for share subdivisions, share dividends, rights issuances, subdivisions, reorganizations, recapitalizations, and the like) for any 20 trading days within a 30-trading-day period ending on the third trading day prior to the date Shapeways sends the notice of redemption to the holders. If and when the Public Warrants become redeemable by Shapeways, Shapeways may exercise its redemption right even if Shapeways is unable to register or qualify the underlying securities for sale under all applicable state securities laws.

In addition, Shapeways may redeem the Public Warrants at any time after they become exercisable and prior to their expiration at a price of \$0.01 per Public Warrant upon a minimum of 30 days' prior written notice of redemption provided that holders will be able to exercise their Public Warrants prior to redemption for a number of common shares determined based on the redemption date and the fair market value of Shapeways common stock.

Private Warrants

Simultaneously with the closing of Galileo's initial public offering, Galileo Founders Holdings, L.P. (the "Sponsor") and EarlyBirdCapital, Inc. and its designees ("EBC") purchased an aggregate of 4,110,000 private warrants at \$1.00 per private warrant, for an aggregate purchase price of \$4,110,000 (the "Private Warrants"). The Sponsor purchased an aggregate of 3,562,000 Private Warrants and EBC purchased an aggregate of 548,000 Private Warrants. Each Private Warrant is exercisable for one share of common stock of Shapeways at a price of \$11.50 per share. The Private Warrants are not redeemable by Shapeways so long as they are held by the Sponsor, EBC or their respective permitted transferees (collectively, the "initial purchasers"). Following the transfer of any Private Warrant from an initial purchaser to a third party, the Private Warrants shall be redeemable in the same manner as the Public Warrants.

Sponsor Warrants

On December 14, 2020, Galileo entered into a convertible promissory note with the Sponsor, pursuant to which the Sponsor agreed to loan Galileo up to an aggregate principal amount of \$500,000. The note was non-interest bearing and payable upon the closing of the merger of Galileo Acquisition Holdings, Inc. with and into Shapeways, Inc., with Shapeways, Inc. surviving as a wholly-owned subsidiary of Galileo, and Galileo changing its name to Shapeways Holdings, Inc. (the "Closing"). At the Closing, the Sponsor exercised its right to convert \$500,000 in aggregate outstanding principal amount of the convertible promissory note issued by Galileo into an aggregate of 500,000 sponsor warrants (the "Sponsor Warrants"), exercisable for common stock at a purchase price of \$1.00 per warrant. Each Sponsor Warrant is exercisable for one share of common stock of Shapeways at a price of \$11.50 per share. The Sponsor Warrants are not redeemable by Shapeways so long as they are held by the initial purchaser. Following the transfer of any Sponsor Warrant from an initial purchaser to a third party, the Sponsor Warrants shall be redeemable in the same manner as the Public Warrants.

Exclusive Forum

Our Charter provides that, to the fullest extent permitted by law, and unless the Company consents in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware will be the sole and exclusive forum for (i) any derivative action or proceeding brought on behalf of the Company, (ii) any action asserting a claim of breach of a fiduciary duty owed by any director, officer or other employee of the Company to the Company or the Company's stockholders, (iii) any action asserting a claim against the Company, its directors, officers or employees arising pursuant to any provision of the DGCL or our Charter or our Bylaws, or (iv) any action asserting a claim governed by the internal affairs doctrine. In addition, if an action is brought outside of Delaware, the stockholder bringing the suit will be deemed to have consented to service of process on such stockholder's counsel.

Our Charter provides that any person or entity purchasing or otherwise acquiring or holding any interest in shares of the Company's capital stock shall be deemed to have notice of and consented to the foregoing choice of forum provision.

Our Charter provides further that unless the Company consents in writing to the selection of an alternative forum, the federal district courts of the United States shall, to the fullest extent permitted by law, be the sole and exclusive forum for the resolution of any complaint asserting a cause of action arising under the Securities Act of 1933. The clauses described above will not apply to suits brought to enforce a duty or liability created by the Exchange Act or any other claim for which the federal courts have exclusive jurisdiction.

Anti-Takeover Effects of Provisions of our Charter and Bylaws

Our Charter and Bylaws contain certain provisions that are intended to enhance the likelihood of continuity and stability in the composition of the Board and that may have the effect of delaying, deferring or preventing a future takeover or change in control of the Company unless such takeover or change in control is approved by the Board.

These provisions include:

Action by Written Consent; Meetings of Stockholders. Our Charter provides that stockholder action can be taken only at an annual meeting of stockholders and cannot be taken by written consent in lieu of a meeting. Our Charter and Bylaws also provide that, subject to any special rights of the holders of any series of preferred stock and except as otherwise required by applicable law, meetings of the stockholders can only be called by the Chairman of the Board, the Company's Chief Executive Officer or by the majority of the Board. Except as described above, stockholders are not permitted to call a special meeting or to require the Board to call a special meeting.

Advance Notice Procedures. Our Bylaws establish an advance notice procedure for stockholder proposals to be brought before an annual meeting of stockholders, and for stockholder nominations of persons for election to the Board to be brought before an annual or meeting of stockholders. Stockholders at an annual meeting will only be able to consider proposals or nominations specified in the notice of meeting or brought before the meeting by or at the direction of the Board or by a stockholder who was a stockholder of record on the record date for the meeting, who is entitled to vote at the meeting and who has given the Company's secretary timely written notice, in proper form, of the stockholder's intention to bring that business or nomination before the meeting. Although the Bylaws do not give the Board the power to approve or disapprove stockholder nominations of candidates or proposals regarding other business to be conducted at a special or annual meeting, as applicable, the Bylaws may have the effect of precluding the conduct of certain business at a meeting if the proper procedures are not followed or may discourage or deter a potential acquirer from conducting a solicitation of proxies to elect its own slate of directors or otherwise attempting to obtain control of the Company.

Authorized but Unissued Shares. The Company's authorized but unissued shares of common stock and preferred stock are available for future issuance without stockholder approval, subject to rules of the securities exchange on which the common stock is listed. These additional shares may be utilized for a variety of corporate purposes, including future public offerings to raise additional capital, corporate acquisitions, in connection with the redemption or exchange of the Company's warrants and employee benefit plans. The existence of authorized but unissued shares of common stock and preferred stock could render more difficult or discourage an attempt to obtain control of a majority of Company's common stock by means of a proxy contest, tender offer, merger or otherwise.

Business Combinations. The Company is subject to the provisions of Section 203 of the DGCL. In general, Section 203 prohibits a publicly held Delaware corporation from engaging in a “business combination” with an “interested stockholder” for a period of three years after the date of the transaction in which the person became an interested stockholder, unless the business combination is approved in the following prescribed manner:

- prior to the time of the transaction, the board of directors of the corporation approved either the business combination or the transaction which resulted in the stockholder becoming an interested stockholder;
- upon completion of the transaction that resulted in the stockholder becoming an interested stockholder, the stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, excluding for purposes of determining the number of shares outstanding (1) shares owned by persons who are directors and also officers and (2) shares owned by employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; and
- on or subsequent to the time of the transaction, the business combination is approved by the board and authorized at an annual meeting stockholders, and not by written consent, by the affirmative vote of at least 66 2/3% of the outstanding voting stock which is not owned by the interested stockholder.

Generally, for purposes of Section 203, a “business combination” includes a merger, asset or stock sale, or other transaction resulting in a financial benefit to the interested stockholder. An “interested stockholder” is a person who, together with affiliates and associates, owns or, within three years prior to the determination of interested stockholder status, owned 15% or more of a corporation’s outstanding voting securities.

Such provisions may encourage companies interested in acquiring Company to negotiate in advance with the Board because the stockholder approval requirement would be avoided if the Board approves either the business combination or the transaction that results in the stockholder becoming an interested stockholder. However, such provisions also could discourage attempts that might result in a premium over the market price for the shares held by stockholders. These provisions also may make it more difficult to accomplish transactions that stockholders may otherwise deem to be in their best interests.

Staggered Board of Directors. Our Charter provides that the Board be classified into three classes of directors of approximately equal size. As a result, in most circumstances, a person can gain control of the Board only by successfully engaging in a proxy contest at two or more annual meetings.

Limitations on Liability and Indemnification of Officers and Directors

Our Bylaws limit the liability of the Company’s directors and officers to the fullest extent permitted by the DGCL and provides that the Company will provide them with customary indemnification and advancement and prepayment of expenses. The Company has entered into, and expects to continue to enter into, customary indemnification agreements with each of its executive officers and directors that provide them, in general, with customary indemnification in connection with their service to the Company or on its behalf.

Transfer Agent and Warrant Agent

The transfer agent for our common stock and warrant agent for our warrants is Continental Stock Transfer & Trust Company, 1 State Street, 30th Floor, New York, New York 10004.

Listing of Shapeways’ Securities

Our common stock and the Public Warrants are listed on the NYSE under the symbols “SHPW” and “SHPW WS.”

DESCRIPTION OF DEBT SECURITIES

We have summarized below general terms and conditions of the debt securities that we will offer and sell pursuant to this prospectus. When we offer to sell a particular series of debt securities, we will describe the specific terms and conditions of the series in a prospectus supplement to this prospectus. We will also indicate in the applicable prospectus supplement whether the general terms and conditions described in this prospectus apply to the series of debt securities. The terms and conditions of the debt securities of a series may be different in one or more respects from the terms and conditions described below. If so, those differences will be described in the applicable prospectus supplement.

We will issue the debt securities in one or more series under an indenture between us and a trustee to be selected by us. The following description of provisions of the indenture does not purport to be complete and is subject to, and qualified in its entirety by reference to, the indenture, which has been filed with the SEC as an exhibit to the registration statement of which this prospectus forms a part. A form of each debt security, any future supplemental indenture or similar document also will be so filed. You should read the indenture and any supplemental indenture or similar document because they, and not this description, define your rights as holder of our debt securities. All capitalized terms have the meanings specified in the indenture.

For purposes of this section of this prospectus, references to “we,” “us” and “our” are to Shapeways Holdings, Inc. and not to any of its subsidiaries.

General

We may issue, from time to time, debt securities, in one or more series, that will consist of either senior debt (“Senior Debt Securities”), senior subordinated debt (“Senior Subordinated Debt Securities”), subordinated debt (“Subordinated Debt Securities”) or junior subordinated debt (“Junior Subordinated Debt Securities” and, together with the Senior Subordinated Debt Securities and the Subordinated Debt Securities, the “Subordinated Securities”). Debt securities, whether senior, senior subordinated, subordinated or junior subordinated, may be issued as convertible debt securities or exchangeable debt securities.

The indenture does not limit the amount of debt securities that we may issue. We may, without the consent of the holders of the debt securities of any series, issue additional debt securities ranking equally with, and otherwise similar in all respects to, the debt securities of the series (except for any differences in the issue price and, if applicable, the initial interest accrual date and interest payment date) so that those additional debt securities will be consolidated and form a single series with the debt securities of the series previously offered and sold; provided that if the additional debt securities are not fungible with the debt securities of the series previously offered or sold for U.S. federal income tax purposes, the additional debt securities will have a separate CUSIP or other identifying number.

The indenture 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 designated by us. 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 afford holders of any debt securities protection with respect to 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, for U.S. federal income tax purposes, be treated as if they were issued with “original issue discount,” because of interest payment and other characteristics. Special U.S. federal income tax considerations applicable to debt securities issued with original issue discount will be described in more detail in any applicable prospectus supplement.

Provisions of the Indenture

The applicable prospectus supplement for a series of debt securities that we issue will describe, among other things, the following terms of the offered debt securities:

- the title;
- the price or prices at which the debt securities will be issued;
- any limit on the aggregate principal amount of debt securities of such series;
- the currency or currencies of payment of principal or interest;
- the date or dates on which principal is payable;
- interest rates, and the date or dates from which interest, if any, will accrue, and the date or dates when interest is payable;
- the right, if any, to extend the interest payment periods and the duration of the extensions;
- the record date or record dates for determining to whom interest is payable;
- the place or places where and the manner in which principal, premium or interest will be payable and the place or places where the debt securities may be presented for transfer and, if applicable, conversion or exchange;
- our rights or obligations to redeem or purchase the debt securities, including sinking fund or partial redemption payments;
- the terms, if any, pursuant to which any debt securities will be subordinate to any of our other debt;
- the denominations in which the debt securities will be issued;
- if other than the entire principal amount of the debt securities when issued, the portion of the principal amount payable upon acceleration of maturity as a result of an Event of Default (as defined herein);
- if the amount of payments of principal or interest is to be determined by reference to an index or formula, or based on a coin or currency other than that in which the debt securities are stated to be payable, the manner in which these amounts are determined and the calculation agent, if any, with respect thereto;
- the terms applicable to any debt securities issued at a discount from their stated principal amount;
- any provisions for the remarketing of the debt securities;
- any additional Events of Default applicable to any debt securities;
- if applicable, covenants affording holders of debt protection with respect to our operations, financial condition or transactions involving us;
- conversion or exchange provisions, if any, including conversion or exchange prices or rates and adjustments thereto; and
- any other specific terms of any debt securities.

The applicable prospectus supplement will set forth certain U.S. federal income tax considerations for holders of any debt securities and the securities exchange or quotation system on which any debt securities are listed or quoted, if any.

Debt securities issued by us will be structurally subordinated to all indebtedness and other liabilities of our subsidiaries, except to the extent any such subsidiary guarantees or is otherwise obligated to make payment on such debt securities.

Senior Debt Securities

Payment of the principal of, and premium, if any, and interest on, Senior Debt Securities will rank on a parity with all of our other unsecured and unsubordinated debt.

Senior Subordinated Debt Securities

Payment of the principal of, and premium, if any, and interest on, Senior Subordinated Debt Securities will be junior in right of payment to the prior payment in full of all of our unsubordinated debt. We will set forth in the applicable prospectus supplement relating to any Senior Subordinated Debt Securities the subordination terms of such securities as well as the aggregate amount of outstanding debt, as of the most recent practicable date, that by its terms would be senior to the Senior Subordinated Debt Securities. We will also set forth in such applicable prospectus supplement limitations, if any, on issuance of additional debt ranking senior to the Senior Subordinated Debt Securities.

Subordinated Debt Securities

Payment of the principal of, and premium, if any, and interest on, Subordinated Debt Securities will be subordinated and junior in right of payment to the prior payment in full of all of our unsubordinated and senior subordinated debt. We will set forth in the applicable prospectus supplement relating to any Subordinated Debt Securities the subordination terms of such securities as well as the aggregate amount of outstanding indebtedness, as of the most recent practicable date, that by its terms would be senior to the Subordinated Debt Securities. We will also set forth in such prospectus supplement limitations, if any, on issuance of additional debt ranking senior to the Subordinated Debt Securities.

Junior Subordinated Debt Securities

Payment of the principal of, and premium, if any, and interest on, Junior Subordinated Debt Securities will be subordinated and junior in right of payment to the prior payment in full of all of our unsubordinated, senior subordinated and subordinated debt. We will set forth in the applicable prospectus supplement relating to any Junior Subordinated Debt Securities the subordination terms of such securities as well as the aggregate amount of outstanding debt, as of the most recent practicable date, that by its terms would be senior to the Junior Subordinated Debt Securities. We will also set forth in such prospectus supplement limitations, if any, on issuance of additional debt ranking senior to the Junior Subordinated Debt Securities.

Conversion or Exchange Rights

Debt securities may be convertible into or exchangeable for other securities or property of us. The terms and conditions of conversion or exchange will be set forth in the applicable prospectus supplement. The terms will include, among others, the following:

- the conversion or exchange price;
- the conversion or exchange period;
- provisions regarding the ability of us or the holder to convert or exchange the debt securities;
- events requiring adjustment to the conversion or exchange price; and
- provisions affecting conversion or exchange in the event of our redemption of the debt securities.

Consolidation, Merger or Sale

We cannot consolidate or merge with or into, or transfer or lease our properties and assets substantially as an entirety to, any person, and we shall not permit any other person to consolidate with or merge into us, unless:

- (a) we will be the continuing corporation or (b) the successor corporation or person formed by such consolidation or into which we are merged or to which our properties and assets substantially as an entirety are transferred or leased is a person organized or formed under the laws of the United States, any state of the United States or the District of Columbia and, if such entity is not a corporation, a co-obligor of the debt securities is a corporation organized or existing under any such laws, and such successor corporation or person, including such co-obligor, if any, expressly assumes our obligations under the debt securities and the indenture; and

- immediately after giving effect to such transaction, no Event of Default or event, which after notice or lapse of time or both would become an Event of Default, shall have occurred and be continuing.

Subject to certain exceptions, when the person to whom our assets are transferred or leased has assumed our obligations under the debt securities and the indenture, we shall be discharged from all our obligations under the debt securities and the indenture.

This covenant would not apply to any recapitalization transaction, a change of control of us or a highly leveraged transaction, unless the transaction or change of control were structured to include a merger or consolidation or transfer or lease of our properties and assets substantially as an entirety.

Events of Default

Unless otherwise indicated, the term “Event of Default,” when used in the indenture with respect to the debt securities of any series, means any of the following:

- failure to pay interest for 30 days after the date payment on any debt security of such series is due and payable; provided that an extension of an interest payment period by us in accordance with the terms of the debt securities shall not constitute a failure to pay interest;
- failure to pay principal or premium, if any, on any debt security of such series when due, either at maturity, upon any redemption, by declaration or otherwise;
- failure to perform any other covenant in the indenture or the debt securities of such series for a specified period of time after written notice that performance was required, which notice must be sent by either the trustee or holders of not less than a specified percentage of the principal amount of the outstanding debt securities of such series;
- certain events of bankruptcy, insolvency or reorganization of us; or
- any other Event of Default provided in the applicable resolution of the Board or the officers’ certificate or supplemental indenture under which we issue such series of debt securities.

An Event of Default for a particular series of debt securities does not necessarily constitute an Event of Default for any other series of debt securities issued under the indenture.

If an Event of Default (other than an Event of Default relating to events of bankruptcy, insolvency or reorganization of us) involving any series of debt securities has occurred and is continuing, the trustee or the holders of a specified aggregate principal amount of the debt securities of each affected series may declare the entire principal amount of all the debt securities of such affected series, and the interest accrued thereon, if any, to be due and payable immediately. The holders of not less than a majority in aggregate principal amount of the debt securities of an affected series may, after satisfying conditions, rescind and annul any of the above-described declarations and consequences involving such series.

If an Event of Default relating to events of bankruptcy, insolvency or reorganization of us occurs and is continuing, then the entire principal amount of all of the debt securities outstanding, and the interest accrued thereon, if any, will automatically become due and payable immediately, without any declaration or other act by the trustee or any holder.

The indenture imposes limitations on suits brought by holders of debt securities against us with respect to an Event of Default. Except as provided below, no holder of debt securities of any series may institute any action against us under the indenture unless:

- an Event of Default has occurred and is continuing and such holder has previously given to the trustee written notice of such continuing Event of Default;
- the holders of a specified percentage in principal amount of the outstanding debt securities of the affected series have requested that the trustee institute the action in respect of such Event of Default;

- the requesting holders have offered the trustee security or indemnity reasonably satisfactory to it for expenses and liabilities that may be incurred by bringing the action;
- the trustee has not instituted the action within a specified number of days of the request; and
- the trustee has not received inconsistent direction by the holders of a majority in principal amount of the outstanding debt securities of the affected series.

Notwithstanding the foregoing, each holder of debt securities of any series has the right, which is absolute and unconditional, to receive payment of the principal of, and premium and interest, if any, on, such debt securities when due and to institute suit for the enforcement of any such payment, and such rights may not be impaired without the consent of that holder of debt securities.

We will be required to file annually with the trustee a certificate, signed by one of our officers, stating whether or not the officer knows of any default by us in the performance, observance or fulfillment of any condition or covenant of the indenture.

Registered Global Securities

We may issue the debt securities of a series in whole or in part in the form of one or more fully registered global securities that we will deposit with a depository or with a nominee for a depository identified in the applicable prospectus supplement and registered in the name of such depository or nominee. In such case, we will issue one or more registered global securities denominated in an amount equal to the aggregate principal amount of all of the debt securities of the series to be issued and represented by such registered global security or securities.

Unless and until it is exchanged in whole or in part for debt securities in definitive registered form, a registered global security may not be transferred except as a whole:

- by the depository for such registered global security to its nominee;
- by a nominee of the depository to the depository or another nominee of the depository; or
- by the depository or its nominee to a successor of the depository or a nominee of the successor.

The applicable prospectus supplement relating to a series of debt securities will describe the specific terms of the depository arrangement with respect to any portion of such series represented by a registered global security. We anticipate that the following provisions will apply to all depository arrangements for debt securities:

- ownership of beneficial interests in a registered global security will be limited to persons that have accounts with the depository for the registered global security, those persons being referred to as “participants,” or persons that may hold interests through participants;
- upon the issuance of a registered global security, the depository for the registered global security will credit, on its book-entry registration and transfer system, the participants’ accounts with the respective principal amounts of the debt securities represented by the registered global security beneficially owned by the participants;
- any dealers, underwriters, or agents participating in the distribution of the debt securities will designate the accounts to be credited; and
- ownership of any beneficial interest in the registered global security will be shown on, and the transfer of any ownership interest will be effected only through, records maintained by the depository for the registered global security (with respect to interests of participants) and on the records of participants (with respect to interests of persons holding through participants).

The laws of some states may require that certain purchasers of securities take physical delivery of the securities in definitive form. These laws may limit the ability of those persons to own, transfer or pledge beneficial interests in registered global securities.

So long as the depository for a registered global security, or its nominee, is the registered owner of the registered global security, the depository or the nominee, as the case may be, will be considered the sole owner or holder of the debt securities represented by the registered global security for all purposes under the indenture. Except as set forth below, owners of beneficial interests in a registered global security:

- will not be entitled to have the debt securities represented by a registered global security registered in their names;
- will not receive or be entitled to receive physical delivery of the debt securities in the definitive form; and
- will not be considered the owners or holders of the debt securities under the indenture.

Accordingly, each person owning a beneficial interest in a registered global security must rely on the procedures of the depository for the registered global security and, if the person is not a participant, on the procedures of a participant through which the person owns its interest, to exercise any rights of a holder under the indenture.

We understand that under existing industry practices, if we request any action of holders or if an owner of a beneficial interest in a registered global security desires to give or take any action that a holder is entitled to give or take under the indenture, the depository for the registered global security would authorize the participants holding the relevant beneficial interests to give or take the action, and those participants would authorize beneficial owners owning through those participants to give or take the action or would otherwise act upon the instructions of beneficial owners holding through them.

We will make payments of principal and premium, if any, and interest, if any, on debt securities represented by a registered global security registered in the name of a depository or its nominee to the depository or its nominee, as the case may be, as the registered owners of the registered global security. None of us, the trustee or any other agent of us or the trustee will be responsible or liable for any aspect of the records relating to, or payments made on account of, beneficial ownership interests in the registered global security or for maintaining, supervising or reviewing any records relating to the beneficial ownership interests.

We expect that the depository for any debt securities represented by a registered global security, upon receipt of any payments of principal and premium, if any, and interest, if any, in respect of the registered global security, will immediately credit participants' accounts with payments in amounts proportionate to their respective beneficial interests in the registered global security as shown on the records of the depository. We also expect that standing customer instructions and customary practices will govern payments by participants to owners of beneficial interests in the registered global security held through the participants, as is now the case with the securities held for the accounts of customers in bearer form or registered in "street name." We also expect that any of these payments will be the responsibility of the participants.

If the depository for any debt securities represented by a registered global security is at any time unwilling or unable to continue as depository or ceases to be a clearing agency registered under the Exchange Act, we will appoint an eligible successor depository. If we fail to appoint an eligible successor depository within 90 days, we will issue the debt securities in definitive form in exchange for the registered global security. In addition, we may at any time and in our sole discretion decide not to have any of the debt securities of a series represented by one or more registered global securities. In such event, we will issue debt securities of that series in a definitive form in exchange for all of the registered global securities representing the debt securities. The trustee will register any debt securities issued in definitive form in exchange for a registered global security in such name or names as the depository, based upon instructions from its participants, shall instruct the trustee.

Discharge, Defeasance and Covenant Defeasance

We can discharge or defease our obligations under the indenture as set forth below. Unless otherwise set forth in the applicable prospectus supplement, the subordination provisions applicable to any Subordinated Securities will be expressly made subject to the discharge and defeasance provisions of the indenture.

We may discharge our obligations to holders of any series of debt securities that have not already been delivered to the trustee for cancellation and that have either become due and payable or are by their terms to become due and payable within one year (or to be called for redemption within one year). We may effect a discharge by irrevocably depositing with the trustee cash or U.S. government obligations, as trust funds, in an amount certified to be sufficient to pay when due, whether at maturity, upon redemption or otherwise, the principal of, and premium, if any, and interest on, the debt securities and any mandatory sinking fund payments.

Unless otherwise provided in the applicable prospectus supplement, we may also discharge any and all of our obligations to holders of any series of debt securities at any time (“legal defeasance”). We also may be released from the obligations imposed by any covenants of any outstanding series of debt securities and provisions of the indenture, and we may omit to comply with those covenants without creating an Event of Default (“covenant defeasance”). We may effect legal defeasance and covenant defeasance only if, among other things:

- we irrevocably deposit with the trustee cash or U.S. government obligations, as trust funds, in an amount certified to be sufficient to pay when due (whether at maturity, upon redemption, or otherwise) the principal of, and premium, if any, and interest on all outstanding debt securities of the series; and
- we deliver to the trustee an opinion of counsel from a nationally recognized law firm to the effect that the beneficial owners of the series of debt securities will not recognize income, gain or loss for U.S. federal income tax purposes as a result of the legal defeasance or covenant defeasance, as applicable, and that legal defeasance or covenant defeasance, as applicable, will not otherwise alter the beneficial owners’ U.S. federal income tax treatment of principal, premium, if any, and interest payments on the series of debt securities, which opinion, in the case of legal defeasance, must be based on a ruling of the Internal Revenue Service, or a change in U.S. federal income tax law.

Although we may discharge or defease our obligations under the indenture as described in the two preceding paragraphs, we may not avoid, among other things, our duty to register the transfer or exchange of any series of debt securities, to replace any temporary, mutilated, destroyed, lost or stolen series of debt securities or to maintain an office or agency in respect of any series of debt securities.

We may exercise our legal defeasance option notwithstanding our prior exercise of our covenant defeasance option.

Modifications of the Indenture

The indenture provides that we and the trustee may enter into supplemental indentures without the consent of the holders of debt securities to:

- secure any debt securities;
- evidence the assumption by another person of our obligations, as permitted by the indenture;
- add covenants for the protection of the holders of debt securities of all or any series or to surrender any right or power conferred upon us;
- add any additional events of default for the benefit of holders of the debt securities of all or any series;
- add one or more guarantees for the benefit of holders of the debt securities;
- provide for the issuance of additional debt securities of any series;
- comply with the rules of any applicable securities depository;
- provide for uncertificated debt securities in addition to or in place of certificated debt securities;
- add to, change or eliminate any of the provisions of the indenture in respect of one or more series of debt securities; provided that any such addition, change or elimination (a) shall neither (1) apply to any debt security of any series created prior to the execution of such supplemental indenture and entitled to the benefit of such provision nor (2) modify the rights of the holder of any such debt security with respect to such provision or (b) shall become effective only when there is no debt security described in clause (a)(1) outstanding;

- supplement any of the provisions of the indenture to such extent as shall be necessary to permit or facilitate the defeasance and discharge of any series of debt securities pursuant to the indenture; provided that any such action shall not adversely affect the interests of the holders of debt securities of such series or any other series of debt securities in any material respect;
- comply with the rules or regulations of any securities exchange or automated quotation system on which any of the debt securities may be listed or traded;
- add to, change or eliminate any of the provisions of the indenture as shall be necessary or desirable in accordance with any amendments to the Trust Indenture Act of 1939, as amended (the "Trust Indenture Act"), provided that such action does not adversely affect the rights or interests of any holder of debt securities in any material respect;
- cure or correct any ambiguity, defect, omission or inconsistency in the indenture; provided that such action does not adversely affect the interests of the holders of debt securities of any series in any material respect;
- establish the forms or terms of debt securities of any series;
- evidence and provide for the acceptance of appointment by a successor trustee; and
- add to, change or eliminate any other provision of the indenture; provided that such addition, change or elimination does not adversely affect the interests of the holders of debt securities of any series in any material respect.

The indenture also provides that we and the trustee may, with the consent of the holders of not less than a majority in aggregate principal amount of the outstanding debt securities of all series of Senior Debt Securities or Subordinated Securities, as the case may be, then outstanding and affected thereby (voting as one class), add any provisions to, or change in any manner, eliminate or modify in any way the provisions of, the indenture or modify in any manner the rights of the holders of the debt securities. We and the trustee may not, however, without the consent of the holder of each outstanding debt security affected thereby:

- extend the final maturity of any debt security;
- reduce the principal amount of, or premium, if any, on any debt security;
- reduce the rate or extend the time of payment of interest on any debt security;
- reduce any amount payable on redemption of any debt security;
- change the currency in which the principal (other than as may be provided otherwise with respect to a series), premium, if any, or interest is payable on any debt security;
- reduce the amount of the principal of any debt security issued with an original issue discount that is payable upon acceleration or provable in bankruptcy;
- modify any of the subordination provisions or the definition of senior indebtedness applicable to any Subordinated Securities in a manner adverse to the holders of those securities;
- alter provisions of the indenture relating to the debt securities not denominated in U.S. dollars;
- impair the right to institute suit for the enforcement of any payment on any debt security when due; or
- reduce the percentage of holders of debt securities of any series whose consent is required for any modification of the indenture.

Concerning the Trustee

The indenture provides that there may be more than one trustee under the indenture, each with respect to one or more series of debt securities. If there are different trustees for different series of debt securities, each trustee will be a trustee of a trust under the indenture separate and apart from the trust administered by any other trustee under the indenture. Except as otherwise indicated in this prospectus or any accompanying prospectus supplement, any action permitted to be taken by a trustee may be taken by such trustee only with respect to the one or more series of debt securities for which it is the trustee under the indenture. Any trustee under the indenture may resign or be removed with respect to one or more series of debt securities. All payments of principal of, and premium, if any, and interest on, and all registration, transfer, exchange, authentication and

delivery (including authentication and delivery on original issuance of the debt securities) of, the debt securities of a series will be effected by the trustee with respect to such series at an office designated by the trustee.

The indenture contains limitations on the right of the trustee, should it become a creditor of us, to obtain payment of claims in some cases or to realize on certain property received in respect of any such claim as security or otherwise. The trustee may engage in other transactions. If it acquires any conflicting interest relating to any duties with respect to the debt securities, however, it must eliminate the conflict or resign as trustee.

The holders of a majority in aggregate principal amount of any series of debt securities then outstanding will have the right to direct the time, method and place of conducting any proceeding for exercising any remedy available to the trustee with respect to such series of debt securities, provided that the direction would not conflict with any rule of law or with the indenture, would not be unduly prejudicial to the rights of another holder of the debt securities, and would not involve any trustee in personal liability. The indenture provides that in case an Event of Default shall occur and be known to any trustee and not be cured, the trustee must use the same degree of care as a prudent person would use in the conduct of his or her own affairs in the exercise of the trustee's power. Subject to these provisions, the trustee will be under no obligation to exercise any of its rights or powers under the indenture at the request of any of the holders of the debt securities, unless they shall have offered to the trustee security and indemnity satisfactory to the trustee.

No Individual Liability of Incorporators, Stockholders, Officers or Directors

The indenture provides that no incorporator and no past, present or future stockholder, officer or director of us or any successor corporation in their capacity as such shall have any individual liability for any of our obligations, covenants or agreements under the debt securities or the indenture.

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.

DESCRIPTION OF WARRANTS

We may issue debt warrants for the purchase of debt securities or stock warrants for the purchase of preferred stock or common stock.

The warrants will be issued under warrant agreements to be entered into between us and the purchasers or between us and a bank or trust company, as warrant agent, all to be set forth in the applicable prospectus supplement relating to any or all warrants in respect of which this prospectus is being delivered. We will file a copy of the warrant and warrant agreement with the SEC each time we issue a series of warrants, and these warrants and warrant agreements will be incorporated by reference into the registration statement of which this prospectus forms a part.

The following description sets forth certain general terms and provisions of the warrants to which any applicable prospectus supplement may relate. The particular terms of the warrants to which any applicable prospectus supplement may relate and the extent, if any, to which such general provisions may apply to the warrants so offered will be described in the applicable prospectus supplement. The following summary of certain provisions of the warrants, warrant agreements and warrant certificates does not purport to be complete and is subject to, and is qualified in its entirety by express reference to, all the provisions of the warrant agreements and warrant certificates, including the definitions therein of certain terms.

Debt Warrants

General. Reference is made to the applicable prospectus supplement for the terms of debt warrants in respect of which this prospectus is being delivered, the debt securities warrant agreement relating to such debt warrants and the debt warrant certificates representing such debt warrants, including the following:

- the designation, aggregate principal amount and terms of the debt securities purchasable upon exercise of such debt warrants and the procedures and conditions relating to the exercise of such debt warrants;
- the designation and terms of any related debt securities with which such debt warrants are issued and the number of such debt warrants issued with each such debt security;
- the date, if any, on and after which such debt warrants and any related offered securities will be separately transferable;
- the principal amount of debt securities purchasable upon exercise of each debt warrant and the price at which such principal amount of debt securities may be purchased upon such exercise;
- the principal amount of debt securities purchasable upon exercise of each debt warrant and the price at which such principal amount of debt securities may be purchased upon such exercise;
- the date on which the right to exercise such debt warrants shall commence and the date on which such right shall expire;
- a discussion of the material U.S. federal income tax considerations applicable to the ownership or exercise of debt warrants;
- whether the debt warrants represented by the debt warrant certificates will be issued in registered or bearer form, and, if registered, where they may be transferred and registered;
- call provisions of such debt warrants, if any; and
- any other terms of the debt warrants.

The debt warrant certificates will be exchangeable for new debt warrant certificates of different denominations and debt warrants may be exercised at the corporate trust office of the warrant agent or any other office indicated in the applicable prospectus supplement. Prior to the exercise of their debt warrants, holders of debt warrants will not have any of the rights of holders of the debt securities purchasable upon such exercise and will not be entitled to any payments of principal and premium, if any, and interest, if any, on the debt securities purchasable upon such exercise.

Exercise of Debt Warrants. Each debt warrant will entitle the holder to purchase for cash such principal amount of debt securities at such exercise price as shall in each case be set forth in, or be determinable

as set forth in, the applicable prospectus supplement relating to the debt warrants offered thereby. Unless otherwise specified in the applicable prospectus supplement, debt warrants may be exercised at any time up to 5:00 p.m., New York City time, on the expiration date set forth in the applicable prospectus supplement. After 5:00 p.m., New York City time, on the expiration date, unexercised debt warrants will become void.

Debt warrants may be exercised as set forth in the applicable prospectus supplement relating to the debt warrants. Upon receipt of payment and the debt warrant certificate properly completed and duly executed at the corporate trust office of the warrant agent or any other office indicated in the applicable prospectus supplement, we will, as soon as practicable, forward the debt securities purchasable upon such exercise. If less than all of the debt warrants represented by such debt warrant certificate are exercised, a new debt warrant certificate will be issued for the remaining amount of debt warrants.

Stock Warrants

General. Reference is made to the applicable prospectus supplement for the terms of stock warrants in respect of which this prospectus is being delivered, the stock warrant agreement relating to such stock warrants and the stock warrant certificates representing such stock warrants, including the following:

- the type and number of shares of preferred stock or common stock purchasable upon exercise of such stock warrants and the procedures and conditions relating to the exercise of such stock warrants;
- the date, if any, on and after which such stock warrants and related offered securities will be separately tradeable;
- the offering price of such stock warrants, if any;
- the initial price at which such shares may be purchased upon exercise of stock warrants and any provision with respect to the adjustment thereof;
- the date on which the right to exercise such stock warrants shall commence and the date on which such right shall expire;
- a discussion of the material U.S. federal income tax considerations applicable to the ownership or exercise of stock warrants;
- call provisions of such stock warrants, if any;
- anti-dilution provisions of the stock warrants, if any;
- any other terms of the stock warrants; and
- information relating to any preferred stock purchasable upon exercise of such stock warrants.

The stock warrant certificates will be exchangeable for new stock warrant certificates of different denominations and stock warrants may be exercised at the corporate trust office of the warrant agent or any other office indicated in the applicable prospectus supplement. Prior to the exercise of their stock warrants, holders of stock warrants will not have any of the rights of holders of shares of capital stock purchasable upon such exercise, and will not be entitled to any dividend payments on such capital stock purchasable upon such exercise.

Exercise of Stock Warrants. Each stock warrant will entitle the holder to purchase for cash such number of shares of preferred stock or common stock, as the case may be, at such exercise price as shall in each case be set forth in, or be determinable as set forth in, the applicable prospectus supplement relating to the stock warrants offered thereby. Unless otherwise specified in the applicable prospectus supplement, stock warrants may be exercised at any time up to 5:00 p.m., New York City time, on the expiration date set forth in the applicable prospectus supplement. After 5:00 p.m., New York City time, on the expiration date, unexercised stock warrants will become void.

Stock warrants may be exercised as set forth in the applicable prospectus supplement relating thereto. Upon receipt of payment and the stock warrant certificates properly completed and duly executed at the corporate trust office of the warrant agent or any other office indicated in the applicable prospectus supplement, we will, as soon as practicable, forward a certificate representing the number of shares of capital stock purchasable upon such exercise. If less than all of the stock warrants represented by such stock warrant

certificate are exercised, a new stock warrant certificate will be issued for the remaining amount of stock warrants.

DESCRIPTION OF RIGHTS

We may issue rights to purchase common stock or preferred stock. This prospectus and any accompanying prospectus supplement will contain the material terms and conditions for each right. The accompanying prospectus supplement may add, update or change the terms and conditions of the rights as described in this prospectus.

We will describe in the applicable prospectus supplement the terms and conditions of the issue of rights being offered, the rights agreement relating to the rights and the rights certificates representing the rights, including, as applicable:

- the title of the rights;
- the date of determining the stockholders entitled to the rights distribution;
- the title, aggregate number of shares of common stock or preferred stock purchasable upon exercise of the rights;
- the exercise price;
- the aggregate number of rights issued;
- the date, if any, on and after which the rights will be separately transferable;
- the date on which the right to exercise the rights will commence and the date on which the right will expire; and
- any other terms of the rights, including terms, procedures and limitations relating to the distribution, exchange and exercise of the rights.

Each right will entitle the holder of rights to purchase for cash the principal amount of shares of common stock or preferred stock at the exercise price provided in the applicable prospectus supplement. Rights may be exercised at any time up to the close of business on the expiration date for the rights provided in the applicable prospectus supplement. After the close of business on the expiration date, all unexercised rights will be void.

Holders may exercise rights as described in the applicable prospectus supplement. Upon receipt of payment and the rights certificate properly completed and duly executed at the corporate trust office of the rights agent or any other office indicated in the applicable prospectus supplement, we will, as soon as practicable, forward the shares of common stock or preferred stock purchasable upon exercise of the rights. If less than all of the rights issued in any rights offering are exercised, we may offer any unsubscribed securities directly to persons other than stockholders, to or through agents, underwriters or dealers or through a combination of such methods, including pursuant to standby underwriting arrangements, as described in the applicable prospectus supplement.

DESCRIPTION OF UNITS

We may issue units consisting of any combination of the other types of securities offered under this prospectus in one or more series. We may evidence each series of units by unit certificates that we will issue under a separate agreement. We may enter into unit agreements with a unit agent. Each unit agent will be a bank or trust company that we select. We will indicate the name and address of the unit agent in the applicable prospectus supplement relating to a particular series of units.

The following description, together with the additional information included in any applicable prospectus supplement, summarizes the general features of the units that we may offer under this prospectus. You should read the applicable prospectus supplement that we may authorize to be provided to you related to the series of units being offered, as well as the complete unit agreements that contain the terms of the units. Specific unit agreements will contain additional important terms and provisions and we will file as an exhibit to the registration statement of which this prospectus forms a part, or will incorporate by reference from another report that we file with the SEC, the form of each unit agreement relating to units offered under this prospectus.

If we offer any units, certain terms of that series of units will be described in the applicable prospectus supplement, including, without limitation, the following, as applicable:

- the title of the series of units;
- identification and description of the separate constituent securities comprising the units;
- the price or prices at which the units will be issued;
- the date, if any, on and after which the constituent securities comprising the units will be separately transferable;
- a discussion of certain U.S. federal income tax considerations applicable to the units; and
- any other terms of the units and their constituent securities.

PLAN OF DISTRIBUTION

We may sell the securities offered through this prospectus in primary offerings (1) to or through underwriters or dealers, (2) directly to purchasers, including our affiliates, (3) through agents, or (4) through a combination of any these methods. The securities may be distributed at a fixed price or prices, which may be changed, market prices prevailing at the time of sale, prices related to the prevailing market prices, or negotiated prices. The applicable prospectus supplement will include the following information:

- the terms of the offering;
- the names of any underwriters or agents;
- the name or names of any managing underwriter or underwriters;
- the purchase price of the securities;
- the net proceeds from the sale of the securities;
- any delayed delivery arrangements;
- any underwriting discounts, commissions and other items constituting underwriters' compensation;
- any initial public offering price;
- any discounts or concessions allowed or reallocated or paid to dealers; and
- any commissions paid to agents.

Sale through underwriters or dealers

If underwriters are used in the sale, the underwriters will acquire the securities for their own account, including through underwriting, purchase, security lending or repurchase agreements with us. The underwriters may resell the securities from time to time in one or more transactions, including negotiated transactions. Underwriters may sell the securities in order to facilitate transactions in any of our other securities (described in this prospectus or otherwise), including other public or private transactions and short sales. Underwriters may offer securities to the public either through underwriting syndicates represented by one or more managing underwriters or directly by one or more firms acting as underwriters. Unless otherwise indicated in the applicable prospectus supplement, the obligations of the underwriters to purchase the securities will be subject to certain conditions, and the underwriters will be obligated to purchase all the offered securities if they purchase any of them. The underwriters may change from time to time any initial public offering price and any discounts or concessions allowed or reallocated or paid to dealers. The applicable prospectus supplement will include the names of the principal underwriters, the respective amount of securities underwritten, the nature of the obligation of the underwriters to take the securities and the nature of any material relationship between an underwriter and us.

If dealers are used in the sale of securities offered through this prospectus, we will sell the securities to them as principals. They may then resell those securities to the public at varying prices determined by the dealers at the time of resale. The applicable prospectus supplement will include the names of the dealers and the terms of the transaction.

Direct sales and sales through agents

We may sell the securities offered through this prospectus directly. In this case, no underwriters or agents would be involved. Such securities may also be sold through agents designated from time to time. The applicable prospectus supplement will name any agent involved in the offer or sale of the offered securities and will describe any commissions payable to the agent by us. Unless otherwise indicated in the applicable prospectus supplement, any agent will agree to use its reasonable best efforts to solicit purchases for the period of its appointment.

We may sell the securities directly to institutional investors or others who may be deemed to be underwriters within the meaning of the Securities Act with respect to any sale of those securities. The terms of any such sales will be described in the applicable prospectus supplement.

Delayed delivery contracts

If the applicable prospectus supplement indicates, we may authorize agents, underwriters or dealers to solicit offers from certain types of institutions to purchase securities at the public offering price under delayed delivery contracts. These contracts would provide for payment and delivery on a specified date in the future. The contracts would be subject only to those conditions described in the applicable prospectus supplement. The applicable prospectus supplement will describe the commission payable for solicitation of those contracts.

Market making, stabilization and other transactions

Unless the applicable prospectus supplement states otherwise, each series of offered securities will be a new issue and will have no established trading market. We may elect to list any series of offered securities on an exchange. Any underwriters that we use in the sale of offered securities may make a market in such securities, but may discontinue such market making at any time without notice. Therefore, we cannot assure you that the securities will have a liquid trading market.

Any underwriter may also engage in stabilizing transactions, syndicate covering transactions and penalty bids in accordance with Rule 104 under the Exchange Act. Stabilizing transactions involve bids to purchase the underlying security in the open market for the purpose of pegging, fixing or maintaining the price of the securities. Syndicate covering transactions involve purchases of the securities in the open market after the distribution has been completed in order to cover syndicate short positions.

Penalty bids permit the underwriters to reclaim a selling concession from a syndicate member when the securities originally sold by the syndicate member are purchased in a syndicate covering transaction to cover syndicate short positions. Stabilizing transactions, syndicate covering transactions and penalty bids may cause the price of the securities to be higher than it would be in the absence of the transactions. The underwriters may, if they commence these transactions, discontinue them at any time.

Derivative transactions and hedging

We, the underwriters or other agents may engage in derivative transactions involving the securities. These derivatives may consist of short sale transactions and other hedging activities. The underwriters or agents may acquire a long or short position in the securities, hold or resell securities acquired and purchase options or futures on the securities and other derivative instruments with returns linked to or related to changes in the price of the securities. In order to facilitate these derivative transactions, we may enter into security lending or repurchase agreements with the underwriters or agents. The underwriters or agents may effect the derivative transactions through sales of the securities to the public, including short sales, or by lending the securities in order to facilitate short sale transactions by others. The underwriters or agents may also use the securities purchased or borrowed from us or others (or, in the case of derivatives, securities received from us in settlement of those derivatives) to directly or indirectly settle sales of the securities or close out any related open borrowings of the securities.

Electronic auctions

We may also make sales through the Internet or through other electronic means. Since we may from time to time elect to offer securities directly to the public, with or without the involvement of agents, underwriters or dealers, utilizing the Internet or other forms of electronic bidding or ordering systems for the pricing and allocation of such securities, you should pay particular attention to the description of that system we will provide in a prospectus supplement.

Such electronic system may allow bidders to directly participate, through electronic access to an auction site, by submitting conditional offers to buy that are subject to acceptance by us, and which may directly affect the price or other terms and conditions at which such securities are sold. These bidding or ordering systems may present to each bidder, on a so-called "real-time" basis, relevant information to assist in making a bid, such as the clearing spread at which the offering would be sold, based on the bids submitted, and whether a bidder's individual bids would be accepted, prorated or rejected.

Upon completion of such an electronic auction process, securities will be allocated based on prices bid, terms of bid or other factors. The final offering price at which securities would be sold and the allocation of securities among bidders would be based in whole or in part on the results of the Internet or other electronic bidding process or auction.

General information

Agents, underwriters, and dealers may be entitled, under agreements entered into with us, to indemnification by us against certain liabilities, including liabilities under the Securities Act.

LEGAL MATTERS

The validity of the securities offered hereby has been passed upon for us by Gunderson Dettmer Stough Villeneuve Franklin & Hachigian LLP, New York, New York. Any underwriters or agents will be advised about other issues relating to the offering by counsel to be named in the applicable prospectus supplement.

EXPERTS

The financial statements of Shapeways as of and for the years ended December 31, 2021 and 2020, incorporated by reference herein, have been audited by Withum Smith+Brown, PC, an independent registered public accounting firm, as stated in their report incorporated by reference herein, and are so incorporated upon the report of such firm given upon their authority as experts in accounting and auditing.



SHAPEWAYS HOLDINGS, INC.

\$50,000,000

**COMMON STOCK
PREFERRED STOCK
DEBT SECURITIES
WARRANTS
RIGHTS
UNITS**

PROSPECTUS

SHAPEWAYS

SHAPEWAYS HOLDINGS, INC.

\$13,250,000

COMMON STOCK

We have entered into an at the market offering agreement (the “Sales Agreement”) with Craig-Hallum Capital Group LLC (the “Sales Agent”) relating to the sale of shares of our common stock, par value \$0.0001 per share (“common stock”), offered by this prospectus supplement and the accompanying prospectus. In accordance with the terms of the Sales Agreement, we may offer and sell shares of our common stock having an aggregate offering price of up to \$13,250,000 from time to time through the Sales Agent, acting as our agent.

Sales of our common stock, if any, under this prospectus supplement and the accompanying prospectus will be made in sales deemed to be an “at the market offering” as defined in Rule 415(a)(4) promulgated under the Securities Act of 1933, as amended (the “Securities Act”), in ordinary brokers’ transactions, to or through a market maker, on or through the NYSE or any other market venue where common stock may be traded, in the over-the-counter market, in privately negotiated transactions, or through a combination of any such methods of sale. If we and the Sales Agent agree on any method of distribution other than sales of shares of common stock on or through the New York Stock Exchange (the “NYSE”) or another existing trading market in the United States at market prices, we will file a further prospectus supplement providing all information about such offering as required by Rule 424(b) under the Securities Act. The Sales Agent is not required to sell any specific number or dollar amount of securities, but will act as our sales agent using commercially reasonable efforts consistent with their normal trading and sales practices, on mutually agreed terms between the Sales Agent and us. There is no arrangement for funds to be received in any escrow, trust or similar arrangement.

Under the Sales Agreement, we may also sell shares of common stock to the Sales Agent as principal for its own account, at a price to be agreed upon at the time of sale. If we sell shares to the Sales Agent as principal, we will enter into a separate terms agreement with the Sales Agent and we will describe the agreement in a separate prospectus supplement or pricing supplement.

The compensation to the Sales Agent for the sales of common stock pursuant to the Sales Agreement will be an amount equal to 3.0% of the aggregate gross proceeds of any shares of common stock sold under the Sales Agreement. In connection with the sale of our common stock on our behalf, the Sales Agent may be deemed to be an “underwriter” within the meaning of the Securities Act and the compensation paid to the Sales Agent may be deemed to be underwriting commissions or discounts. We have also agreed to provide indemnification and contribution to the Sales Agent with respect to certain liabilities, including liabilities under the Securities Act or the Securities Exchange Act of 1934, as amended (the “Exchange Act”). See “Plan of Distribution” beginning on page S-14 for additional information regarding the compensation to be paid to the Sales Agent.

Our common stock is listed on the NYSE under the symbol “SHPW.” On October 4, 2022 the closing price of our common stock, as reported on the NYSE, was \$0.65 per share. As of October 4, 2022 the aggregate market value of our outstanding common stock held by non-affiliates, or public float, was approximately \$39.8 million, based on 49,217,351 shares of outstanding common stock, of which approximately 8.2 million shares were held by affiliates, and a price of \$0.97 per share, which was the price at which our common stock was last sold on the NYSE on August 11, 2022. Pursuant to General Instruction I.B.6 of Form S-3, in no event will we sell the securities covered hereby in a public primary offering with a value exceeding more than one-third of our public float in any twelve-month period so long as our public float remains below \$75.0 million. We have not offered any securities pursuant to General Instruction I.B.6 of Form S-3 during the prior twelve calendar month period that ends on and includes the date of this prospectus supplement.

We are an “emerging growth company” under applicable federal securities laws and are subject to reduced public company reporting requirements.

INVESTING IN OUR SECURITIES INVOLVES RISKS THAT ARE DESCRIBED IN THE “RISK FACTORS” SECTION BEGINNING ON PAGE S-10 OF THIS PROSPECTUS SUPPLEMENT AS WELL AS THE RISK FACTORS THAT ARE INCORPORATED BY REFERENCE INTO THIS PROSPECTUS SUPPLEMENT FROM OUR FILINGS WITH THE SECURITIES AND EXCHANGE COMMISSION, BEFORE INVESTING IN ANY OF OUR COMMON STOCK.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of the securities to be issued under this prospectus supplement or determined if this prospectus supplement is accurate or complete. Any representation to the contrary is a criminal offense.

The information in this preliminary prospectus supplement is not complete and may be changed. We may not sell these securities pursuant to this preliminary prospectus supplement until the registration statement filed with the Securities and Exchange Commission is effective. This preliminary prospectus supplement is not an offer to sell nor does it seek an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

Craig-Hallum

The date of this prospectus supplement is , 2022.

TABLE OF CONTENTS

Prospectus Supplement

	Page
ABOUT THIS PROSPECTUS SUPPLEMENT	S-1
MARKET AND INDUSTRY DATA	S-1
CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS	S-3
WHERE YOU CAN FIND MORE INFORMATION; INCORPORATION BY REFERENCE	S-5
PROSPECTUS SUPPLEMENT SUMMARY	S-7
THE OFFERING	S-9
RISK FACTORS	S-10
USE OF PROCEEDS	S-13
DILUTION	S-13
PLAN OF DISTRIBUTION	S-16
LEGAL MATTERS	S-18
EXPERTS	S-18

You should rely only on the information provided in this prospectus supplement and the information incorporated by reference into this prospectus supplement. We have not authorized anyone to provide you with different information. We are not making an offer of these securities in any jurisdiction where the offer is not permitted. You should not assume that the information in this prospectus supplement or any documents incorporated by reference is accurate as of any date other than the date of the applicable document. Since the date of this prospectus supplement and the documents incorporated by reference into this prospectus supplement, our business, financial condition, results of operations and prospects may have changed.

For investors outside the United States: We have not done anything that would permit this offering or possession or distribution of this prospectus in any jurisdiction where action for that purpose is required, other than in the United States. You are required to inform yourselves about and to observe any restrictions relating to this offering and the distribution of this prospectus.

ABOUT THIS PROSPECTUS SUPPLEMENT

This prospectus supplement and the accompanying prospectus are part of a registration statement on Form S-3 that we have filed with the Securities and Exchange Commission (the “SEC”), utilizing a “shelf” registration process. By using a shelf registration statement, we may offer shares of our common stock having an aggregate offering price of up to \$13,250,000 from time to time under this prospectus supplement at prices and on terms to be determined by market conditions at the time of offering.

This prospectus supplement relates to the offering of our common stock. Before buying any of the common stock that we are offering, we urge you to carefully read this prospectus supplement, together with the information incorporated by reference as described under the heading “Where You Can Find More Information; Incorporation by Reference” in this prospectus supplement. These documents contain important information that you should consider when making your investment decision.

We provide information to you about this offering of our common stock in two separate documents that are bound together: (1) this prospectus supplement, which describes the specific details regarding this offering; and (2) the accompanying prospectus, which provides general information, some of which may not apply to this offering. Generally, when we refer to this “prospectus,” we are referring to both documents combined. If information in this prospectus supplement is inconsistent with the accompanying prospectus, you should rely on this prospectus supplement. To the extent there is a conflict between the information contained in this prospectus supplement, on the one hand, and the information contained in any document incorporated by reference in this prospectus supplement, on the other hand, you should rely on the information in this prospectus supplement. If any statement in one of these documents is inconsistent with a statement in another document having a later date—for example, a document incorporated by reference in this prospectus supplement—the statement in the document having the later date modifies or supersedes the earlier statement.

You should rely only on the information contained in or incorporated by reference in this prospectus supplement. Neither we nor the Sales Agent have authorized anyone to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it. We are not, and the Sales Agent is not, making an offer to sell these securities in any jurisdiction where the offer or sale is not permitted. You should assume that the information appearing in this prospectus supplement, the documents incorporated by reference in this prospectus supplement and is accurate only as of the date of those respective documents. Our business, financial condition, results of operations and prospects may have changed since those dates. You should read this prospectus supplement and the documents incorporated by reference in this prospectus supplement in their entirety before making an investment decision.

This prospectus supplement, the accompanying prospectus and the information incorporated herein or therein by reference contains market data, industry statistics and other data that have been obtained or compiled from information made available by independent third parties. We have not independently verified the accuracy and completeness of such data.

TRADEMARKS

This prospectus supplement and the documents incorporated by reference herein contain trademarks, service marks, copyrights and trade names of other companies, which are the property of their respective owners. We do not intend our use or display of other companies’ trademarks, copyrights or trade names to imply a relationship with, or endorsement or sponsorship of us by any other companies. Solely for convenience, our trademarks and trade names referred to in this prospectus supplement and the documents incorporated by reference herein may appear without the ® or ™ symbols, but such references are not intended to indicate, in any way, that we will not assert, to the fullest extent under applicable law, our rights or the right of the applicable licensor to these trademarks and trade names.

MARKET AND INDUSTRY DATA

This prospectus supplement and the documents incorporated by reference herein include industry position and industry data and forecasts that we obtained or derived from internal company reports, independent

third party publications and other industry data. Some data are also based on good faith estimates, which are derived from internal company analyses or review of internal company reports as well as the independent sources referred to above.

Although we believe that the information on which we have based these estimates of industry position and industry data are generally reliable, the accuracy and completeness of this information is not guaranteed and we have not independently verified any of the data from third-party sources nor have we ascertained the underlying economic assumptions relied upon therein. Statements as to industry position are based on market data currently available. While we are is not aware of any misstatements regarding the industry data presented herein, these estimates involve risks and uncertainties and are subject to change based on various factors, including those discussed under the heading "Risk Factors" in this prospectus supplement. These and other factors could cause results to differ materially from those expressed in these publications and reports.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus supplement and the documents incorporated by reference herein contain forward-looking statements within the meaning of Section 27A of the Securities Act and Section 21E of the Exchange Act. All statements contained in this prospectus supplement, the accompanying prospectus, and the documents incorporated by reference herein other than statements of historical fact, including statements regarding our future results of operations, financial position, market size and opportunity, our business strategy and plans, the factors affecting our performance and our objectives for future operations, are forward-looking statements. In addition, any statements that refer to projections, forecasts or other characterizations of future events or circumstances, including any underlying assumptions, are forward-looking statements. Forward-looking statements are typically identified by words such as “plan,” “believe,” “expect,” “anticipate,” “intend,” “outlook,” “estimate,” “forecast,” “project,” “continue,” “could,” “may,” “might,” “possible,” “potential,” “predict,” “should,” “would,” “will,” “seek,” “target,” and other similar words and expressions, but the absence of these words does not mean that a statement is not forward-looking.

The forward-looking statements are based on the current expectations, forecasts and assumptions of the management of Shapeways, involve a number of judgments, risks and uncertainties and are inherently subject to changes in circumstances and their potential effects and speak only as of the date of such statements. There can be no assurance that future developments will be those that have been anticipated. These forward-looking statements involve a number of risks, uncertainties or other assumptions that may cause actual results or performance to be materially different from those expressed, contemplated or implied by these forward-looking statements. These risks and uncertainties include, but are not limited to, those factors described in “Risk Factors,” and the following:

- Actual results may vary from expectations regarding (and the Company’s ability to meet expectations regarding) the Company’s strategies and future performance, including Shapeways’ future business plans or objectives and its ability to invest in growth initiatives.
- The Company has a history of losses and may not achieve or maintain profitability in the future.
- The Company faces significant competition and expects to face increasing competition in many aspects of its business, which could cause its operating results to suffer.
- The digital manufacturing industry is a relatively new and emerging market and it is uncertain whether it will gain widespread acceptance.
- If the Company fails to grow its business as anticipated, revenues and gross margin will be adversely affected.
- The Company’s attempts to expand its business into new markets and geographies may not be successful.
- The Company’s stock price may be volatile or may decline regardless of its operating performance.
- The Company’s operating results and financial condition may fluctuate on a quarterly and annual basis.
- Failure to attract, integrate and retain additional personnel in the future could harm the Company’s business and negatively affect the Company’s ability to grow its business.
- Interruptions to or other problems with the Company’s website user interface, information technology systems, manufacturing processes, or other operations could damage the Company’s reputation and brand and substantially harm its business and results of operations.
- As part of the Company’s growth strategy, it may continue to acquire or make investments in other businesses, patents, technologies, products, or services Shapeways may not realize the anticipated benefits of such investments and integration of these investments may disrupt its business and divert management attention.
- The loss of one or more key members of the Company’s management team or personnel could harm its business.
- Shapeways may not timely and effectively scale and adapt its platform, processes, and infrastructure across materials, technologies, markets and software to expand its business.
- The Company’s actual results may be significantly different from projections, estimates, targets, or forecasts.

- Other risks and uncertainties set forth under the section entitled “Risk Factors” beginning on page S-10 of this prospectus supplement.

Should one or more of these risks or uncertainties materialize, or should any of the assumptions made by the management of Shapeways prove incorrect, actual results may vary in material respects from those projected in or contemplated by these forward-looking statements.

Except to the extent required by applicable law or regulation, Shapeways undertakes no obligation to update these forward-looking statements to reflect events or circumstances after the date of this Registration Statement or to reflect the occurrence of unanticipated events.

WHERE YOU CAN FIND MORE INFORMATION; INCORPORATION BY REFERENCE

We have filed with the SEC a registration statement under the Securities Act with respect to the securities offered hereby. This prospectus supplement, which constitutes part of the registration statement, does not contain all of the information set forth in the registration statement and the exhibits and schedules thereto. For further information with respect to the Company and its securities, reference is made to the registration statement and the exhibits and any schedules filed therewith. Statements contained in this prospectus as to the contents of any contract or any other document referred to are not necessarily complete, and in each instance, we refer you to the copy of the contract or other document filed as an exhibit to the registration statement. Each of these statements is qualified in all respects by this reference. You can read our SEC filings, including the registration statement, over the internet at the SEC's website at <http://www.sec.gov>.

We are subject to the information reporting requirements of the Exchange Act, and we are required to file reports, proxy statements and other information with the SEC. These reports, proxy statements, and other information are available for inspection and copying at the SEC's website referred to above. We also maintain a website at <https://investors.shapeways.com>, at which you may access these materials free of charge as soon as reasonably practicable after they are electronically filed with, or furnished to, the SEC. Information contained on or accessible through our website is not a part of this prospectus, and the inclusion of our website address in this prospectus is an inactive textual reference only.

Incorporation by Reference

The SEC rules allow us to "incorporate by reference" information into this 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 supplement and the accompanying prospectus, and subsequent information that we file with the SEC will automatically update and supersede that information. Any statement contained in this prospectus supplement or a previously filed document incorporated by reference will be deemed to be modified or superseded for purposes of this prospectus supplement and the accompanying prospectus to the extent that a statement contained in this prospectus or a subsequently filed document incorporated by reference modifies or replaces that statement.

This prospectus supplement and the accompanying prospectus incorporate by reference the documents set forth below that have previously been filed with the SEC:

- our [Annual Report on Form 10-K for the year ended December 31, 2021, filed with the SEC on March 31, 2022](#) as amended by [Amendment No. 1 on Form 10-K/A, filed with the SEC on April 1, 2022](#);
- our Quarterly Reports on [Form 10-Q for the quarter ended March 30, 2022, filed with the SEC on May 16, 2022](#) and the [quarter ended June 30, 2022, filed with the SEC on August 12, 2022](#);
- our Current Reports on Form 8-K filed with the SEC on [May 16, 2022](#), [June 10, 2022](#), [June 13, 2022](#), [July 6, 2022](#), [August 19, 2022](#), and [September 16, 2022](#); and
- the description of our capital stock contained in [Exhibit 4.3](#) of our Annual Report on 10-K for the year ended December 31, 2021, filed with the SEC on March 31, 2022, as amended by Amendment No.1 on Form 10-K/A, filed with the SEC on April 1, 2022, and any amendment or report filed with the SEC for the purpose of updating such description.

All reports and other documents we subsequently file pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act prior to the termination of this offering, including all such documents we may file with the SEC after the date of the initial registration statement and prior to the effectiveness of the registration statement, but excluding any information furnished to, rather than filed with, the SEC, will also be incorporated by reference into this prospectus supplement and the accompanying prospectus and deemed to be a part thereof from the date of the filing of such reports and documents.

You may request a free copy of any documents incorporated by reference in this prospectus supplement and the accompanying prospectus by writing or telephoning us at the following address:

Shapeways Holdings, Inc.
30-02 48th Avenue
Long Island City, New York 11101
Attention: Corporate Secretary
Tel. (646) 979-9885

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

PROSPECTUS SUPPLEMENT SUMMARY

This summary highlights selected information appearing elsewhere in this prospectus or the documents incorporated by reference and does not contain all of the information that you should consider before buying our securities. Because it is a summary, it may not contain all of the information that may be important to you. You should read this entire prospectus carefully, including the section entitled “Risk Factors” and the documents we have incorporated by reference in this prospectus, along with our consolidated financial statements and related notes incorporated by reference in this prospectus.

Unless otherwise indicated or the context otherwise requires, references in this prospectus to “we,” “our,” “us,” “Company,” or “Shapeways” refers to Shapeways Holdings, Inc.

Shapeways

Shapeways is a leading digital manufacturer combining high-quality, flexible on-demand manufacturing with purpose-built proprietary software to offer customers an end-to-end digital manufacturing platform on which they can rapidly transform digital designs into physical products. Shapeways’ manufacturing platform offers customers access to high-quality manufacturing from start to finish through automation, innovation and digitization. Shapeways’ proprietary software, wide selection of materials and technologies, and global supply chain aim to lower manufacturing barriers and accelerate delivery of items customers need manufactured from prototypes to finished parts. Shapeways combines deep digital manufacturing know-how and software expertise to deliver high-quality, flexible on-demand digital manufacturing to a range of customers, from project-focused engineers to large enterprises.

Recent Developments

On August 17, 2022, as previously disclosed, the Company received a written notice from the New York Stock Exchange (the “NYSE”) that it was not in compliance with the continued listing standard set forth in Section 802.01C of the NYSE’s Listed Company Manual, as the average closing price of the Company’s common stock was less than \$1.00 per share over a consecutive 30 trading-day period. The notice has no immediate impact on the listing of the Company’s common stock on the NYSE, subject to the Company’s compliance with the NYSE’s other continued listing requirements.

The Company has notified the NYSE with respect to its intent to cure the deficiency. The Company intends to consider available alternatives, including, but not limited to, a reverse stock split, subject to shareholder approval no later than at the Company’s next annual meeting of shareholders, if necessary, to regain compliance. Pursuant to Section 802.01C, the Company has a period of six months following the receipt of the notice from the NYSE to regain compliance with the minimum share price requirement. The Company may regain compliance at any time during the six-month cure period if on the last trading day of any calendar month during the six-month cure period its common stock has a closing share price of at least \$1.00 and an average closing share price of at least \$1.00 over the 30 trading-day period ending on the last trading day of that month. If the Company is unable to regain compliance with the \$1.00 share price rule within this period, the NYSE may initiate procedures to suspend and delist the common stock.

Corporate Information

Galileo Acquisition Corp., our predecessor company (“Galileo”), was a Cayman Islands exempted company formed on July 30, 2019, as a special purpose acquisition company for the purpose of effecting an initial business combination. On October 22, 2019, Galileo completed its initial public offering. On September 29, 2021, Galileo consummated a business combination with Shapeways, Inc. In connection with the closing of the business combination, Galileo was domesticated and continued as a Delaware corporation, changing its name to “Shapeways Holdings, Inc.”

Shapeways is located at 30-02 48th Avenue, Long Island City, NY 11101 and its phone number is (646) 979-9885.

Emerging Growth Company

Shapeways is an “emerging growth company,” as defined under the JOBS Act. As an emerging growth company, Shapeways is eligible to take advantage of certain exemptions from various reporting requirements that are applicable to other public companies that are not emerging growth companies. These include, but are not limited to, not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act of 2002, reduced disclosure obligations regarding executive compensation in its periodic reports and proxy statements, and exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and the requirement to obtain stockholder approval of any golden parachute payments not previously approved.

In addition, Section 107 of the JOBS Act provides that an emerging growth company can take advantage of an extended transition period provided in Section 7(a)(2)(B) of the Securities Act for complying with new or revised accounting standards. Shapeways has elected to take advantage of such extended transition period. Shapeways will remain an emerging growth company until the earlier of (1) December 31, 2025 (the last day of the fiscal year following the fifth anniversary of the consummation of Galileo’s initial public offering), (2) the last day of the fiscal year in which Shapeways has total annual gross revenue of at least \$1.235 billion, (3) the last day of the fiscal year in which Shapeways is deemed to be a “large accelerated filer,” as defined in the Exchange Act, and (4) the date on which Shapeways has issued more than \$1.0 billion in nonconvertible debt during the prior three-year period.

THE OFFERING

Issuer	Shapeways Holdings, Inc.
Shares of Common Stock Offered by Us	Shares of our common stock having an aggregate offering price of up to \$13,250,000. In no event will we sell securities in public primary offerings on Form S-3 with a value exceeding more than one-third of our “public float” (the market value of our common stock and any other equity securities that we may issue in the future that are held by non-affiliates) in any twelve calendar month period so long as our public float remains below \$75.0 million.
Shares of Common Stock Outstanding After this Offering	Up to 69,598,053 shares, assuming the sale of 20,384,615 shares of common stock at an assumed offering price of \$0.65 per share, which was the last reported sale price of our common stock on the NYSE on October 4, 2022. The actual number of shares issued will vary depending on the sales price under this offering.
Manner of Offering	An “at the market offering” as defined in Rule 415(a)(4) promulgated under the Securities Act, in ordinary brokers’ transactions, to or through a market maker, on or through the NYSE or any other market venue where common stock may be traded, in the over-the-counter market, in privately negotiated transactions, or through a combination of any such methods of sale that may be made from time to time through our Sales Agent, Craig-Hallum. See “Plan of Distribution” on page S-14 of this prospectus supplement.
Use of Proceeds	We intend to use the net proceeds from this offering for general corporate and working capital purposes. See “Use of Proceeds” on page S-12 of this prospectus supplement.
Market for our Shares of Common Stock	Our common stock is listed on the NYSE under the symbol “SHPW.”
Risk Factors	Any investment in the securities offered hereby is speculative and involves a high degree of risk. You should carefully consider the information set forth under “Risk Factors” and elsewhere in this prospectus supplement.

All information in this prospectus supplement related to the number of shares of our common stock to be outstanding immediately after this offering is based on 49,213,438 shares of our common stock outstanding as of June 30, 2022, and unless otherwise indicated, excludes:

- 18,410,000 shares of common stock issuable upon the exercise of warrants outstanding as of June 30, 2022, with an exercise price of \$11.50;
- 3,993,277 shares of common stock issuable upon the exercise of options outstanding as of June 30, 2022, with a weighted-average exercise price of \$0.65 per share;
- 4,137,195 shares of common stock issuable upon the vesting and settlement of restricted stock units outstanding as of June 30, 2022;
- 5,434,079 shares of common stock reserved for future issuance under our 2021 Equity Incentive Plan (the “2021 Plan”) as of June 30, 2022, as well as any automatic increases in the number of shares of common stock reserved for future issuance under this benefit plan;
- 5,000,000 shares of common stock reserved for future issuance under our 2022 New Employee Equity Incentive Plan (the “2022 Plan”) as of June 30, 2022; and
- 1,381,998 shares of common stock available for purchase under our 2021 Employee Stock Purchase Plan (the “2021 ESPP”) as of June 30, 2022, as well as any automatic increases in the number of shares of common stock reserved for future issuance under this benefit plan.

In addition, unless otherwise stated, all information contained in this prospectus supplement assumes no exercise of stock options after June 30, 2022.

RISK FACTORS

An investment in our securities involves a high degree of risk. You should carefully consider the risk factors incorporated by reference to our most recent Annual Report on Form 10-K, as amended by Amendment No. 1 on Form 10-K/A, any subsequent Quarterly Reports on Form 10-Q or Current Reports on Form 8-K, and all other information contained or incorporated by reference into this prospectus supplement and the accompanying prospectus, as updated by our subsequent filings under the Exchange Act, and any applicable free writing prospectus that we have authorized for use in connection with this offering before acquiring any such securities. Our business, prospects, financial condition, or operating results could be harmed by any of these risks, as well as other risks not known to us or that we consider immaterial as of the date of this prospectus supplement. The trading price of our common stock could decline due to any of these risks, and as a result, you may lose all or part of your investment. This prospectus supplement also contains forward-looking statements that involve risks and uncertainties. Our actual results could differ materially from those anticipated in the forward-looking statements as a result of a number of factors, including the risks described below. See “Cautionary Note Regarding Forward-Looking Statements.”

Risks Related To This Offering and Our Common Stock

We have broad discretion in the use of the net proceeds from this offering and may invest or spend the proceeds in ways with which you do not agree and in ways that may not yield a return on your investment.

Our management will have broad discretion in the application of the net proceeds from this offering, including for any of the purposes described in the section titled “Use of Proceeds,” as well as our existing cash, and you will be relying on the judgment of our management regarding such application. You will not have the opportunity, as part of your investment decision, to assess whether the proceeds are being used effectively. Our management might not apply the net proceeds or our existing cash in ways that ultimately increase the value of your investment. If we do not invest or apply the net proceeds from this offering or our existing cash in ways that enhance stockholder value, we may fail to achieve expected results, which could cause our stock price to decline. Pending their use, we may invest the net proceeds from this offering in short-term U.S. Treasury securities with low rates of return. These investments may not yield a favorable return to our stockholders.

If you purchase our common stock in this offering, you may incur immediate and substantial dilution in the net tangible book value of your shares.

The offering price per share in this offering may exceed the net tangible book value per share of our common stock outstanding at the time of sale. As of June 30, 2022, assuming that an aggregate of 20,384,615 shares of our common stock are sold at a price of \$0.65 per share, the last reported sale price of our common stock on the NYSE on October 4, 2022, for aggregate gross proceeds of approximately \$13.25 million, after deducting commissions and estimated offering expenses payable by us, investors in this offering would experience immediate accretion of \$(0.44) per share, representing the difference between our as adjusted net tangible book value per share of \$1.09, after giving effect to this offering, and the assumed offering price. For a further description of the dilution that you may experience immediately after this offering, see the section titled “Dilution.”

Future sales or issuances of our common stock in the public markets, or the perception of such sales, could depress the trading price of our common stock.

The sale of a substantial number of shares of our common stock or other equity-related securities in the public markets, or the perception that such sales could occur, could depress the market price of our common stock and impair our ability to raise capital through the sale of additional equity securities. We may sell large quantities of our common stock at any time pursuant to this prospectus supplement and/or in one or more separate offerings. We cannot predict the effect that future sales of common stock or other equity-related securities would have on the market price of our common stock.

The actual number of shares we will issue under the Sales Agreement, at any one time or in total, is uncertain.

Subject to certain limitations in the Sales Agreement entered into by us with the Sales Agent and compliance with applicable law, we have the discretion to deliver a placement notice to the Sales Agent at any time throughout the term of the Sales Agreement. The number of shares that are sold by the Sales Agent after delivering a placement notice will fluctuate based on the market price of our common stock during the sales period and limits we set with the Sales Agent. Because the price per share of each share sold will fluctuate based on the market price of our common stock during the sales period, it is not possible at this stage to predict the number of shares that will be ultimately issued or the resulting gross proceeds.

The common stock offered hereby will be sold in “at the market offerings,” and investors who buy shares at different times will likely pay different prices.

Investors who purchase shares in this offering at different times will likely pay different prices, and accordingly may experience different levels of dilution and different outcomes in their investment results. We will have discretion, subject to market demand, to vary the timing, prices, and numbers of shares sold, and there is no minimum or maximum sales price. In addition, subject to the final determination by our board of directors or any restrictions we may place in any applicable placement notice, there is no minimum or maximum sales price for shares to be sold in this offering. Investors may experience a decline in the value of their shares as a result of share sales made at prices lower than the prices they paid.

Even if we sell all of the shares offered hereby, we may continue to seek external sources of financing to fund operations in the future.

Our revenue generating activities have not yet produced sufficient funds for profitable operations. Accordingly, while we may raise gross proceeds of up to a maximum of \$13.25 million through the issuance of shares under the Sales Agreement, we may need to raise additional capital in the future to further scale our business and expand to additional markets. We may raise additional funds through the issuance of equity, equity-related or debt securities, or through obtaining credit from financial institutions. We cannot be certain that additional funds will be available on favorable terms when required, or at all. If we cannot raise additional funds when needed, our financial condition, results of operations, business and prospects could be materially and adversely affected. If we raise funds through the issuance of debt securities or through loan arrangements, the terms of such financings could require significant interest payments, contain covenants that restrict our business, or otherwise include unfavorable terms. In addition, to the extent we raise funds through the sale of additional equity securities, our stockholders would experience additional dilution.

Our ability to raise capital is limited by the Securities Act and SEC rules and regulations.

Under current SEC rules and regulations, because the current aggregate market value of our common stock held by non-affiliates, or public float, is less than \$75.0 million, the amount we can raise through primary offerings of our securities in any 12-month period using a registration statement on Form S-3 will be limited to one-third of our public float until such time that our public float equals or exceeds \$75.0 million. As of October 4, 2022, our public float was approximately \$39.8 million, which means we are limited to raising a total of approximately \$13.25 million using our registration statement on Form S-3. The amounts raised in this offering will reduce our capacity to raise capital using our registration statement on Form S-3 under these SEC rules until such time that our public float equals or exceeds \$75.0 million. Alternative means of raising capital through sales of our securities, including through the use of a registration statement on Form S-1 or in private placements of equity or debt securities, may be more costly and time-consuming and more difficult to market to potential investors, which may have a material adverse effect on our ability to raise capital, our liquidity position and strategy.

We have never paid cash dividends on our capital stock, and we do not anticipate paying dividends in the foreseeable future.

We have never paid cash dividends on any of our capital stock and we currently intend to retain any future earnings to fund the growth of our business. Any determination to pay dividends in the future will be at the discretion of our board of directors and will depend on our financial condition, operating results, capital requirements, general business conditions and other factors that the board may deem relevant. As a result, capital appreciation, if any, of our common stock will be the sole source of gain for the foreseeable future.

Our failure to meet the continued listing requirements of the NYSE could result in a delisting of our common stock.

Our common stock is listed on the NYSE, which imposes, among other requirements, a minimum share price requirement. On August 17, 2022, we received a written notice from the NYSE that we were not in compliance with the continued listing standard set forth in Section 802.01C of the NYSE's Listed Company Manual, as the average closing price of our common stock was less than \$1.00 per share over a consecutive 30 trading-day period. There was no immediate impact on the listing of our common stock on the NYSE, subject to our compliance with the NYSE's other continued listing requirements.

We timely responded to the NYSE with respect to our intent to cure the deficiency. We intend to consider available alternatives, including, but not limited to, a reverse stock split, subject to shareholder approval no later than at our next annual meeting of shareholders, if necessary, to regain compliance. Pursuant to Section 802.01C, we have a period of six months following the receipt of the written notice from the NYSE to regain compliance with the minimum share price requirement. We may regain compliance at any time during the six-month cure period if on the last trading day of any calendar month during the six-month cure period our common stock has a closing share price of at least \$1.00 and an average closing share price of at least \$1.00 over the 30 trading-day period ending on the last trading day of that month. If we are unable to regain compliance with the \$1.00 share price rule within this period, the NYSE may initiate procedures to suspend and delist our common stock.

We are diligently working to evidence compliance with the minimum share price requirement for continued listing on the NYSE; however, there can be no assurance that we will be able to regain compliance with the minimum share price or other continued listing requirements.

If we fail to satisfy the NYSE's continued listing standards, our common stock will be subject to delisting. Delisting from the NYSE would likely have a negative effect on the liquidity and market price of our common stock, reduce the number of investors willing to hold or acquire our common stock, limit or reduce the amount of analyst coverage we receive, and impair your ability to sell or purchase our common stock when you wish to do so. In addition, a delisting from the NYSE might negatively impact our reputation and, as a consequence, our business. Additionally, if we are delisted from the NYSE and we are not able to list our common stock on another national exchange we will not be eligible to use Form S-3 registration statements, which would delay our ability to raise funds in the future, limit the type of offerings of common stock we could undertake, and increase the expenses of any offering.

In the event of a delisting of our common stock, we can provide no assurance that any action taken by us to restore compliance with listing requirements would allow our securities to become listed again, stabilize the market price or improve the liquidity of our common stock, prevent our common stock from dropping below the NYSE minimum share price requirement or prevent future non-compliance with the NYSE's listing standards. Additionally, if our common stock is not listed on, or becomes delisted from, the NYSE for any reason, and is quoted on the OTC Bulletin Board, an inter-dealer automated quotation system for equity securities that is not a national securities exchange, the liquidity and price of our common stock may be more limited than if we were quoted or listed on the NYSE or another national securities exchange. You may be unable to sell your common stock unless a market can be established or sustained.

USE OF PROCEEDS

We may issue and sell shares of our common stock having aggregate gross proceeds of up to \$13.25 million from time to time under this prospectus supplement and the accompanying prospectus. In no event will we sell securities in public primary offerings on Form S-3 with a value exceeding more than one-third of our “public float” (the market value of our common stock and any other equity securities that we may issue in the future that are held by non-affiliates) in any twelve calendar month period so long as our public float remains below \$75.0 million. Because there is no minimum offering amount required as a condition of this offering, the actual total public offering amount, commissions and proceeds to us, if any, are not determinable at this time. There can be no assurance that we will sell any shares under or fully utilize the Sales Agreement as a source of financing.

We currently intend to use the net proceeds from this offering for general corporate purposes, including working capital. In addition, we may use a portion of such net proceeds for acquisitions of complementary businesses, technologies or other assets, or to fund the repayment, refinancing or redemption of outstanding debt. However, we have no current understandings, agreements or commitments for any material acquisitions at this time, and we have not allocated specific amounts of the net proceeds to be received by us from this offering for any of these purposes. As a result, management will retain broad discretion over the allocation of the net proceeds from this offering for its business use. Pending the use of the net proceeds, we may invest the proceeds in interest-bearing, investment-grade securities, certificates of deposit or government securities.

DILUTION

Our historical net tangible book value as of June 30, 2022 was \$63.3 million, or \$1.29 per share. Net tangible book value per share is determined by dividing our total tangible assets, less total liabilities, divided by the number shares of our common stock outstanding.

After giving effect to the sale of 20,384,615 shares of our common stock in this offering at an assumed offering price of \$0.65 per share, the last reported sale price of our common stock on the NYSE on October 4, 2022, and after deducting commissions and estimated offering expenses payable by us, our as adjusted net tangible book value as of June 30, 2022 would have been \$76.0 million, or \$1.09 per share. This represents an immediate decrease in net tangible book value of \$0.20 per share to existing stockholders and immediate accretion of \$(0.44) per share to investors purchasing our common stock in this offering at the assumed public offering price. The following table illustrates this accretion on a per share basis:

Assumed offering price per share		\$0.65
Historical net tangible book value per share as of June 30, 2022		\$1.29
(Decrease) increase in net tangible book value per share attributable to new investors purchasing shares of common stock in this offering		\$(0.20)
As adjusted net tangible book value per share as of June 30, 2022, after giving effect to this offering		\$1.09
(Accretion) dilution per share to investors purchasing our common stock in this offering		\$(0.44)

The number of shares of common stock outstanding is based on an aggregate of 49,213,438 shares of common stock outstanding as of June 30, 2022, and excludes:

- 18,410,000 shares of common stock issuable upon the exercise of warrants outstanding as of June 30, 2022, with an exercise price of \$11.50;
- 3,993,277 shares of common stock issuable upon the exercise of options outstanding as of June 30, 2022, with a weighted-average exercise price of \$0.65 per share;
- 4,137,195 shares of common stock issuable upon the vesting and settlement of restricted stock units outstanding as of June 30, 2022;
- 5,434,079 shares of common stock reserved for future issuance under the 2021 Plan as of June 30, 2022, as well as any automatic increases in the number of shares of common stock reserved for future issuance under this benefit plan;
- 5,000,000 shares of common stock reserved for future issuance under the 2022 Plan as of June 30, 2022;
- 1,381,998 shares of common stock available for purchase under the 2021 ESPP as of June 30, 2022, as well as any automatic increases in the number of shares of common stock reserved for future issuance under this benefit plan.

The table above assumes for illustrative purposes that an aggregate of 20,384,615 shares of our common stock are sold during the term of the Sales Agreement at a price of \$0.65 per share, the last reported sale price of our common stock on the NYSE on October 4, 2022, for aggregate gross proceeds of \$13.25 million. The shares subject to the Sales Agreement, if sold, may be sold from time to time at various prices. An increase of \$0.50 per share in the price at which the shares are sold from the assumed offering price of \$0.65 per share shown in the table above, assuming all of our common stock sold at that price during the term of the Sales Agreement to achieve the aggregate amount of \$13.25 million in gross proceeds, would increase our as adjusted net tangible book value per share to \$1.25 per share and would decrease the accretion in net tangible book value per share to new investors in this offering to \$(0.10) per share, after deducting commissions and estimated offering expenses payable by us. A decrease of \$0.50 per share in the price at which the shares are sold from the assumed offering price of \$0.65 per share shown in the table above, assuming all of our common stock sold at that price during the term of the Sales Agreement to achieve the aggregate amount of \$13.25 million in gross proceeds, would decrease our as adjusted net tangible book value per share to \$0.55 per share and would decrease the accretion in net tangible book value per share to new investors in this offering to \$(0.40) per share,

after deducting commissions and estimated offering expenses payable by us. This information is supplied for illustrative purposes only and assumes no exercise or conversion, as applicable, of options or warrants outstanding as of June 30, 2022. For more information, see “Description of Capital Stock and Outstanding Warrants” in the accompanying prospectus.

To the extent that outstanding options or warrants are exercised, restricted stock units are settled, new options, restricted stock units or restricted stock awards are issued under our equity incentive plans and subsequently exercised or settled or we issue additional shares of common stock or securities that are convertible into or exchangeable for, or that represent the right to receive, common stock or substantially similar securities in the future, there will be further dilution to investors participating in this offering. . In addition, we may choose to raise additional capital due to market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans. To the extent that additional capital is raised through the sale of equity or convertible debt securities, the issuance of these securities could result in further dilution to our stockholders.

PLAN OF DISTRIBUTION

We have entered into a Sales Agreement, under which we may issue and sell from time to time up to \$3.25 million of our common stock through the Sales Agent, pursuant to this prospectus supplement and the accompanying prospectus. Sales of our common stock, if any, will be made at market prices by any method that is deemed to be an “at the market offering” as defined in Rule 415(a)(4) under the Securities Act, in ordinary brokers’ transactions, to or through a market maker, on or through the NYSE or any other market venue where common stock may be traded, in the over-the-counter market, in privately negotiated transactions or through a combination of any such methods. If we and the Sales Agent agree on any method of distribution other than sales of shares of common stock on or through the NYSE or another existing trading market in the United States at market prices, we will file a further prospectus supplement providing all information about such offering as required by Rule 424(b) under the Securities Act. If agreed between us and the Sales Agent, the Sales Agent may purchase shares of our common stock as principal.

Each time we wish to issue and sell shares of our common stock under the Sales Agreement, we will notify the Sales Agent of the number of shares to be issued and other sales parameters as we deem appropriate. Subject to the terms and conditions of the Sales Agreement, the Sales Agent will use its commercially reasonable efforts to sell on our behalf all of the shares of common stock requested to be sold by us. We may instruct the Sales Agent not to sell common stock if the sales cannot be effected at or above the price designated by us in any such instruction. We or the Sales Agent may suspend the offering of our common stock being made through the Sales Agent under the Sales Agreement upon notice to the other party. We and the Sales Agent have the right, by giving written notice as specified in the Sales Agreement, to terminate the Sales Agreement in each party’s sole discretion at any time.

The settlement of sales of shares between us and the Sales Agent is generally anticipated to occur on the second trading day following the date on which the sale was made. Sales of our shares of common stock as contemplated in this prospectus supplement will be settled through the facilities of The Depository Trust Company or by such other means as we and the Sales Agent may agree upon. There is no arrangement for funds to be received in an escrow, trust or similar arrangement.

The aggregate compensation payable to the Sales Agent is equal to 3.0% of the gross sales price of the shares sold through the Sales Agent pursuant to the Sales Agreement. We have agreed to reimburse the Sales Agent for certain actual legal expenses incurred by the Sales Agent in connection with this offering up to \$55,000. We estimate that the total expenses of the offering payable by us, excluding commissions payable to the Sales Agent under the Sales Agreement, will be approximately \$150,000.

The remaining sales proceeds, after deducting any expenses payable by us and any transaction fees imposed by any governmental, regulatory, or self-regulatory organization in connection with the sales, will equal our net proceeds for the sale of such common stock.

If acting as a sales agent, the Sales Agent will provide written confirmation to us following the close of trading on the NYSE on each day in which common stock is sold through it under the Sales Agreement. Each confirmation will include the number of shares of common stock sold through it as sales agent on that day, the sales price and the net proceeds to us.

We will report at least quarterly the number of shares of common stock sold through the Sales Agent under the Sales Agreement, the net proceeds to us and the compensation paid by us to the Sales Agent in connection with the sales of common stock.

Under the Sales Agreement, we may also sell shares of common stock to the Sales Agent as principal for its own account, at a price to be agreed upon at the time of sale. If we sell shares to the Sales Agent as principal, we will enter into a separate terms agreement with the Sales Agent and we will describe the agreement in a separate prospectus supplement or pricing supplement.

In connection with the sales of our common stock on our behalf, the Sales Agent may be deemed to be an “underwriter” within the meaning of the Securities Act, and the compensation paid to the Sales Agent may

be deemed to be underwriting commissions or discounts. We have agreed in the Sales Agreement to provide indemnification and contribution to the Sales Agent against certain liabilities, including liabilities under the Securities Act. To the extent required by Regulation M promulgated under the Exchange Act, the Sales Agent will not engage in any market making activities involving our common stock while the offering pursuant to this prospectus supplement and the accompanying prospectus is ongoing.

Our common stock is listed on the NYSE and trades under the symbol "SHPW." The transfer agent of our common stock is Continental Stock Transfer & Trust Company.

The Sales Agent and/or its affiliates has provided, and may in the future provide, various investment banking and other financial services for us for which services they have received and, may in the future receive, customary fees. In the course of its business, the Sales Agent may trade our securities for its own account or for the accounts of customers, and, accordingly, the Sales Agent may at any time hold long or short positions in such securities.

This prospectus supplement and the accompanying prospectus in electronic format may be made available on a website maintained by the Sales Agent, and the Sales Agent may distribute this prospectus supplement and the accompanying prospectus electronically.

LEGAL MATTERS

The validity of the securities offered hereby has been passed upon for us by Gunderson Dettmer Stough Villeneuve Franklin & Hachigian LLP, New York, New York. Certain legal matters in connection with this offering will be passed upon for Craig-Hallum Capital Group LLC by Ellenoff Grossman & Schole LLP.

EXPERTS

The financial statements of Shapeways as of and for the years ended December 31, 2021 and 2020, incorporated by reference herein, have been audited by Withum Smith+Brown, PC, an independent registered public accounting firm, as stated in their report incorporated by reference herein, and are so incorporated upon the report of such firm given upon their authority as experts in accounting and auditing.

\$13,250,000

SHAPEWAYS

SHAPEWAYS HOLDINGS, INC.

COMMON STOCK

PROSPECTUS SUPPLEMENT

Craig-Hallum

, 2022.

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 14. Other Expenses of Issuance and Distribution.

The following table sets forth the estimated expenses (other than the actual registration fee and FINRA filing fee) to be borne by the registrant in connection with the issuance and distribution of the securities being registered hereby. All amounts are estimates except for the registration fee.

Expense	Estimated Amount
Securities and Exchange Commission Registration Fee	\$5,510
FINRA Filing Fee	\$8,000
Transfer Agent and Registrar Fees and Expenses	*
Printing Expenses	*
Legal Fees and Expenses	*
Accounting Fees and Expenses	*
Miscellaneous	*
Total	*

* These fees cannot be estimated at this time as they are calculated based on the securities offered and the number of issuances. An estimate of the aggregate expenses in connection with the sale and distribution of the securities being offered will be included in the applicable prospectus supplement.

Item 15. Indemnification of Directors and Officers.

Section 145 of the DGCL permits a corporation to indemnify its directors and officers against expenses, including attorneys' fees, judgments, fines and amounts paid in settlements actually and reasonably incurred by them in connection with any action, suit or proceeding brought by third parties. The directors or officers must have acted in good faith and in a manner they reasonably believed to be in or not opposed to the best interests of the corporation and, with respect to any criminal action or proceeding, had no reason to believe their conduct was unlawful. In a derivative action, an action only by or in the right of the corporation, indemnification may be made only for expenses actually and reasonably incurred by directors and officers in connection with the defense or settlement of an action or suit, and only with respect to a matter as to which they must have acted in good faith and in a manner they reasonably believed to be in or not opposed to the best interests of the corporation. No indemnification may be made if such person must have been adjudged liable to the corporation, unless and only to the extent that the court in which the action or suit was brought must determine upon application that the defendant officers or directors are fairly and reasonably entitled to indemnity for such expenses despite such adjudication of liability. Our Charter and our Bylaws provide for indemnification by Shapeways of its directors, senior officers and employees to the fullest extent permitted by applicable law.

Section 102(b)(7) of the DGCL permits a corporation to provide in its charter that a director of the corporation must not be personally liable to the corporation or its stockholders for monetary damages for breach of fiduciary duty as a director, except for liability (1) for any breach of the director's duty of loyalty to the corporation or its stockholders, (2) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (3) for payments of unlawful dividends or unlawful stock purchases or redemptions or (4) for any transaction from which the director derived an improper personal benefit. Our Charter provides for such limitation of liability.

We have entered into indemnification agreements with each of our directors and officers in which we have agreed to indemnify, defend and hold harmless, and also advance expenses as incurred, to the fullest extent

permitted under applicable law, from damage arising from the fact that such person is or was an officer or director of our company or our subsidiaries.

The indemnification rights set forth above shall not be exclusive of any other right which an indemnified person may have or hereafter acquire under any statute, our Charter, our Bylaws, any agreement, any vote of stockholders or disinterested directors or otherwise.

We maintain standard policies of insurance that provide coverage (1) to our directors and officers against loss arising from claims made by reason of breach of duty or other wrongful act and (2) to us with respect to indemnification payments that we may make to such directors and officers.

We have purchased and intend to maintain insurance on behalf of the registrant 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 Statements.

(a) *Exhibits.*

Exhibit No.	Description	Included	Form	Filing Date
1.1*	Form of Underwriting Agreement.			
1.2	At the Market Offering Agreement dated October 6, 2022, by and between Shapeways Holdings, Inc. and Craig-Hallum Capital Group LLC.	Filed Herewith		
2.1+	Agreement and Plan of Merger and Reorganization, dated as of April 28, 2021, by and among Galileo, Galileo Founders Holdings, L.P., in the capacity as the Purchaser Representative thereunder, Shapeways, Inc., and Fortis Advisors LLC, in the capacity as the Seller Representative thereunder (incorporated by reference to Exhibit 2.1 to the Company's Current Report on Form 8-K (File No. 001-39092), filed with the SEC on October 5, 2021).	By Reference	10-K/A	April 1, 2022
3.1	Certificate of Incorporation of Shapeways Holdings, Inc. (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K (File No. 001-39092), filed with the SEC on October 5, 2021).	By Reference	10-K/A	April 1, 2022
3.2	Bylaws of Shapeways Holdings, Inc. (incorporated by reference to Exhibit 3.2 to the Company's Current Report on Form 8-K (File No. 001-39092), filed with the SEC on October 5, 2021).	By Reference	10-K/A	April 1, 2022
4.1	Warrant Agreement, dated as of October 17, 2019, between Galileo and Continental Stock Transfer & Trust Company, as Warrant Agent (incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K (File No. 001-39092), filed with the SEC on October 5, 2021).	By Reference	10-K/A	April 1, 2022
4.2	Certificate of Corporate Domestication of Galileo Acquisition Corp. (incorporated by reference to Exhibit 3.3 to the Company's Registration Statement on Form S-1 (File No. 333-260387), filed with the SEC on October 20, 2021).	By Reference	10-K/A	April 1, 2022
4.3*	Certificate of designation, preferences and rights with respect to any preferred stock issued hereunder.			
4.4	Form of Indenture with respect to Debt Securities.	Filed Herewith		
4.5*	Form of Debt Security.			
4.6*	Form of Warrant Agreement (Stock) (including form of Warrant Certificate).			
4.7*	Form of Warrant Agreement (Debt) (including form of Warrant Certificate).			
4.8*	Form of Rights Agreement.			
4.9*	Form of Unit Agreement.			
5.1	Opinion of Gunderson Dettmer Stough Villeneuve Franklin & Hachigian, LLP.	Filed Herewith		

5.2	Opinion of Gunderson Dettmer Stough Villeneuve Franklin & Hachigian, LLP.	Filed Herewith
23.1	Consent of Withum Smith+Brown, PC, independent registered public accounting firm.	Filed Herewith
23.2	Consent of Gunderson Dettmer Stough Villeneuve Franklin & Hachigian, LLP (included in Exhibits 5.1 and 5.2).	Filed Herewith
24.1	Power of Attorney (included on signature page).	Filed Herewith
25.1**	Statement of Eligibility on Form T-1 under the Trust Indenture Act of 1939, as amended, of the Trustee under the Indenture.	
107	Filing Fee Table	Filed Herewith

* To be filed by amendment or incorporated by reference prior to the offering of securities.

** To be filed in accordance with the requirements of Section 305(b)(2) of the Trust Indenture Act of 1939, as amended.

+ Certain exhibits and schedules to this exhibit have been omitted pursuant to Item 601(a)(5) of Regulation S-K. The registrant agrees to furnish a copy of the omitted exhibits and schedules to the SEC on a supplemental basis upon its request.

(b)

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:
 - i. To include any prospectus required by Section 10(a)(3) of the Securities Act;
 - ii. To 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 SEC 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. To 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.
- (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, each prospectus filed pursuant to Rule 424(b) as part of a registration statement relating to an offering, other than registration statements relying on Rule 430B or other than prospectuses filed in reliance on Rule 430A, shall be deemed to be part of and included in the registration statement as of the date it is first used after effectiveness. *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 first use, 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 date of first use.
- (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) 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.

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 SEC such indemnification is against public policy as expressed in the Securities 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 Securities Act and will be governed by the final adjudication of such issue.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, 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 New York, State of New York, on October 6, 2022.

Shapeways Holdings, Inc.

Dated: October 6, 2022

By: /s/ Greg Kress

Greg Kress

Chief Executive Officer

POWER OF ATTORNEY

Each person whose signature appears below constitutes and appoints Greg Kress and Alberto Recchi as his or her true and lawful attorney-in-fact and agent, with full power of substitution and resubstitution, for such person and in his or her name, place and stead, in any and all capacities, to sign any or all further amendments (including post-effective amendments) to this registration statement (and any additional registration statement related hereto permitted by Rule 462(b) promulgated under the Securities Act (and all further amendments, including post-effective amendments, thereto)), and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, 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 and about the premises, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorney-in-fact and agent, or his or her substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, as amended, this report has been signed below by the following persons on behalf of the registrant in the capacities and on the dates indicated.

Name	Title	Date
<u>/s/ Greg Kress</u> Greg Kress	Chief Executive Officer and Director <i>(Principal Executive Officer)</i>	October 6, 2022
<u>/s/ Alberto Recchi</u> Alberto Recchi	Chief Financial Officer and Director <i>(Principal Financial and Accounting Officer)</i>	October 6, 2022
<u>/s/ Leslie C.G. Campbell</u> Leslie C.G. Campbell	Chairman and Director	October 6, 2022
<u>/s/ Rajeev Batra</u> Rajeev Batra	Director	October 6, 2022
<u>/s/ Robert Jan Galema</u> Robert Jan Galema	Director	October 6, 2022
<u>/s/ Patrick S. Jones</u> Patrick S. Jones	Director	October 6, 2022
<u>/s/ Ryan Kearny</u> Ryan Kearny	Director	October 6, 2022
<u>/s/ Josh Wolfe</u> Josh Wolfe	Director	October 6, 2022

Calculation of Filing Fee Tables

Form S-3
(Form Type)**Shapeways Holdings, Inc.**
(Exact Name of Registrant as Specified in its Charter)

Table 1: Newly Registered Securities

Security Type	Security Class Title	Fee Calculation Rule	Amount Registered(2)	Proposed Maximum Offering Price Per Share(2)	Maximum Aggregate Offering Price(2)	Fee Rate	Amount of Registration Fee	
Equity(1)	Common Stock, \$0.0001 par value per share	—	—	—	—	—	—	
Equity(1)	Preferred Stock, \$0.0001 par value per share	—	—	—	—	—	—	
Other(1)	Debt Securities	—	—	—	—	—	—	
Other(1)	Warrants	—	—	—	—	—	—	
Other(1)	Rights	—	—	—	—	—	—	
Other(1)	Units	—	—	—	—	—	—	
Unallocated (Universal) Shelf(1)	—	457(o)	—	(3)	\$50,000,000	0.0001102	\$5,510	
Total Offering Amounts								\$5,510
Total Fee Offsets								—
Net Fee Due								\$5,510

(1) Represents securities that may be offered and sold from time to time in one or more offerings by Shapeways Holdings, Inc.

(2) Such indeterminate number or amount of common stock, preferred stock, debt securities, warrants to purchase any combination of the foregoing securities, rights, as may from time to time be issued at indeterminate prices, and units composed of one or more of the foregoing securities, with an aggregate initial offering price not to exceed \$50,000,000. Securities registered hereunder may be sold separately or together in any combination with other securities registered hereunder. The securities registered hereunder 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 securities that provide for conversion or exchange, upon exercise of securities or pursuant to the antidilution provisions of any other securities. Pursuant to Rule 416 under the Securities Act, this registration statement shall also cover an indeterminate number of additional securities that become issuable by reason of any stock dividend, stock split, recapitalization or other similar transaction.

(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.

AT THE MARKET OFFERING AGREEMENT

October 6, 2022

Craig-Hallum Capital Group LLC
222 South 9th Street, Suite 350
Minneapolis, MN 55402

Ladies and Gentlemen:

Shapeways Holdings, Inc., a corporation organized under the laws of Delaware (the “Company”), confirms its agreement (this “Agreement”) with Craig-Hallum Capital Group LLC (the “Manager”) as follows:

1. Definitions. The terms that follow, when used in this Agreement and any Terms Agreement, shall have the meanings indicated.

“Accountants” shall have the meaning ascribed to such term in Section 4(m).

“Act” shall mean the Securities Act of 1933, as amended, and the rules and regulations of the Commission promulgated thereunder.

“Action” shall have the meaning ascribed to such term in Section 3(p).

“Affiliate” shall have the meaning ascribed to such term in Section 3(o).

“Applicable Time” shall mean, with respect to any Shares, the time of sale of such Shares pursuant to this Agreement or any relevant Terms Agreement.

“Base Prospectus” shall mean the base prospectus contained in the Registration Statement at the Effective Time.

“Board” shall have the meaning ascribed to such term in Section 2(b)(iii).

“Broker Fee” shall have the meaning ascribed to such term in Section 2(b)(v).

“Business Day” shall mean any day other than Saturday, Sunday or other day on which commercial banks in The City of New York are authorized or required by law to remain closed; provided, however, that, for purposes of clarity, 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.

“Commission” shall mean the United States Securities and Exchange Commission.

“Common Stock” shall have the meaning ascribed to such term in Section 2.

“Common Stock Equivalents” shall have the meaning ascribed to such term in Section 3(g).

“Company Counsel” shall have the meaning ascribed to such term in Section 4(l).

“DTC” shall have the meaning ascribed to such term in Section 2(b)(vii).

“Effective Date” shall mean each date and time that the Registration Statement and any post-effective amendment or amendments thereto becomes effective.

“Effective Time” shall mean the first date and time that the Registration Statement becomes effective.

“Exchange Act” shall mean the Securities Exchange Act of 1934, as amended, and the rules and regulations of the Commission promulgated thereunder.

“Execution Time” shall mean the date and time that this Agreement is executed and delivered by the parties hereto.

“Free Writing Prospectus” shall mean a free writing prospectus, as defined in Rule 405.

“GAAP” shall have the meaning ascribed to such term in Section 3(m).

“Incorporated Documents” shall mean the documents or portions thereof filed with the Commission on or prior to the Effective Date that are incorporated by reference in the Registration Statement or the Prospectus and any documents or portions thereof filed with the Commission after the Effective Date that are deemed to be incorporated by reference in the Registration Statement or the Prospectus.

“Intellectual Property Rights” shall have the meaning ascribed to such term in Section 3(v).

“Issuer Free Writing Prospectus” shall mean an issuer free writing prospectus, as defined in Rule 433.

“Losses” shall have the meaning ascribed to such term in Section 7(d).

“Material Adverse Effect” shall have the meaning ascribed to such term in Section 3(b).

“Material Permits” shall have the meaning ascribed to such term in Section 3(t).

“Net Proceeds” shall have the meaning ascribed to such term in Section 2(b)(v).

“Permitted Free Writing Prospectus” shall have the meaning ascribed to such term in Section 4(g).

“Placement” shall have the meaning ascribed to such term in Section 2(c).

“Proceeding” shall have the meaning ascribed to such term in Section 3(b).

“Prospectus” shall mean the Base Prospectus, as supplemented by the Prospectus Supplement in the Registration Statement at the Effective Time and any subsequently filed Prospectus Supplement.

“Prospectus Supplement” shall mean the prospectus supplement relating to the Shares contained in the Registration Statement at the Effective Time and any other prospectus supplement relating to the Shares prepared and filed pursuant to Rule 424(b) from time to time.

“Registration Statement” shall mean the shelf registration statement on Form S-3 registering \$50,000,000 of securities of the Company to be filed on or immediately following the Execution Time, including exhibits and financial statements and any prospectus supplement relating to the Shares that is filed with the Commission pursuant to Rule 424(b) and deemed part of such registration statement pursuant to Rule 430B, as amended on each Effective Date and, in the event any post-effective amendment thereto becomes effective, shall also mean such registration statement as so amended.

“Representation Date” shall have the meaning ascribed to such term in Section 4(k).

“Required Approvals” shall have the meaning ascribed to such term in Section 3(e).

“Rule 158”, “Rule 164”, “Rule 172”, “Rule 173”, “Rule 405”, “Rule 415”, “Rule 424”, “Rule 430B” and “Rule 433” refer to such rules under the Act.

“Sales Notice” shall have the meaning ascribed to such term in Section 2(b)(i).

“SEC Reports” shall have the meaning ascribed to such term in Section 3(m).

“Settlement Date” shall have the meaning ascribed to such term in Section 2(b)(vii).

“Subsidiary” shall have the meaning ascribed to such term in Section 3(a).

“Terms Agreement” shall have the meaning ascribed to such term in Section 2(a).

“Time of Delivery” shall have the meaning ascribed to such term in Section 2(c).

“Trading Day” means a day on which the Trading Market is open for trading.

“Trading Market” means the New York Stock Exchange.

2. Sale and Delivery of Shares. The Company proposes to issue and sell through or to the Manager, as sales agent and/or principal, from time to time during the term of this Agreement and on the terms set forth herein, such number of shares (the “Shares”) of the Company’s common stock, \$0.0001 par value per share (“Common Stock”), having an aggregate offering price of up to \$13,250,000, provided, however, that in no event shall the Company issue or sell through the Manager a number of Shares that exceeds the lesser of (a) the number or dollar amount of shares of Common Stock registered on the Registration Statement, pursuant to which the offering is being made, (b) the number of authorized but unissued shares of Common Stock (less the number of shares of Common Stock issuable upon exercise, settlement, conversion or exchange of any outstanding securities of the Company or otherwise reserved from the Company’s authorized capital stock), or (c) the number or dollar amount of shares of Common Stock that would cause the Company or the offering of the Shares to not satisfy the eligibility and transaction requirements for use of Form S-3, including, if applicable, General Instruction I.B.6 of Registration Statement on Form S-3 (the lesser of (a), (b) and (c), the “Maximum Amount”). Notwithstanding anything to the contrary contained herein, the parties hereto agree that compliance with the limitations set forth in this Section 2 on the number and aggregate sales price of Shares issued and sold under this Agreement shall be the sole responsibility of the Company and that the Manager shall have no obligation in connection with such compliance.

(a) Appointment of Manager as Selling Agent; Terms Agreement. For purposes of selling the Shares through the Manager, the Company hereby appoints the Manager as exclusive agent of the Company for the purpose of selling the Shares of the Company pursuant to this Agreement and the Manager agrees to use its commercially reasonable efforts to sell the Shares on the terms and subject to the conditions stated herein. The Company agrees that, whenever it determines to sell the Shares directly to the Manager as principal, it will enter into a separate agreement (each, a “Terms Agreement”) in substantially the form of Annex I hereto, relating to such sale in accordance with Section 2 of this Agreement.

(b) Agent Sales. Subject to the terms and conditions and in reliance upon the representations and warranties herein set forth, following the Effective Time, the Company will issue and agrees to sell Shares from time to time through the Manager, acting as sales agent, and the Manager agrees to use its commercially reasonable efforts to sell, as sales agent for the Company, on the following terms:

(i) The Shares are to be sold on a daily basis or otherwise as shall be agreed to by the Company and the Manager on any day that (A) is a Trading Day, (B) the Company has instructed the Manager by telephone (confirmed promptly by electronic mail) to make such sales (“Sales Notice”) and (C) the Company has satisfied its obligations under Section 6 of this Agreement. The Company will designate the maximum amount of the Shares to be sold by the Manager daily (subject to the limitations set forth in Section 2(d)) and the minimum price per Share at which such Shares may be sold. Subject to the terms and conditions hereof, the Manager shall use its commercially reasonable efforts to sell on a particular day all of the Shares designated for the sale by the Company on such day. The gross sales price of the Shares sold under this Section 2(b) shall be the market price for the shares of Common Stock sold by the

Manager under this Section 2(b) on the Trading Market at the time of sale of such Shares.

(ii) The Company acknowledges and agrees that (A) there can be no assurance that the Manager will be successful in selling the Shares, (B) the Manager will incur no liability or obligation to the Company or any other person or entity if it does not sell the Shares for any reason other than a failure by the Manager to use its commercially reasonable efforts consistent with its normal trading and sales practices and applicable law and regulations to sell such Shares as required under this Agreement, and (C) the Manager shall be under no obligation to purchase Shares on a principal basis pursuant to this Agreement, except as otherwise specifically agreed by the Manager and the Company pursuant to a Terms Agreement.

(iii) The Company shall not authorize the issuance and sale of, and the Manager shall not be obligated to use its commercially reasonable efforts to sell, any Shares at a price lower than the minimum price therefor designated from time to time by the Company's Board of Directors (the "Board"), or a duly authorized committee thereof, or duly authorized officers of the Company, and notified to the Manager in writing. The Company or the Manager may, upon notice to the other party hereto by telephone (confirmed promptly by electronic mail), suspend the offering of the Shares for any reason and at any time; provided, however, that such suspension or termination shall not affect or impair the parties' respective obligations with respect to the Shares sold hereunder prior to the giving of such notice.

(iv) The Manager may sell Shares by any method permitted by law deemed to be an "at the market offering" as defined in Rule 415 under the Act, including without limitation sales made directly on the Trading Market, on any other existing trading market for the Common Stock or to or through a market maker. The Manager may also sell Shares in privately negotiated transactions, provided that the Manager receives the Company's prior written approval for any sales in privately negotiated transactions and if so provided in the "Plan of Distribution" section of the Prospectus Supplement or a supplement to the Prospectus Supplement or a new Prospectus Supplement disclosing the terms of such privately negotiated transaction.

(v) The compensation to the Manager for sales of the Shares under this Section 2(b) shall be a placement fee of 3.0% of the gross sales price of the Shares sold pursuant to this Section 2(b) ("Broker Fee"). The foregoing rate of compensation shall not apply when the Manager acts as principal, in which case the Company may sell Shares to the Manager as principal at a price agreed upon at the relevant Applicable Time pursuant to a Terms Agreement. The remaining proceeds, after deduction of the Broker Fee and deduction of any transaction fees imposed by any clearing firm, execution broker, or governmental or self-regulatory organization in respect of such sales, shall constitute the net proceeds to the Company for such Shares (the "Net Proceeds").

(vi) The Manager shall provide written confirmation (which may be by facsimile or electronic mail) to the Company following the

close of trading on the Trading Market each day in which the Shares are sold under this Section 2(b) setting forth the number of the Shares sold on such day, the aggregate gross sales proceeds and the Net Proceeds to the Company, and the compensation payable by the Company to the Manager with respect to such sales.

(vii) Unless otherwise agreed between the Company and the Manager, settlement for sales of the Shares will occur at 10:00 a.m. (New York City time) on the second (2nd) Trading Day (or such earlier day as is industry practice for regular-way trading) following the date on which such sales are made (each, a “Settlement Date”). On or before the Trading Day prior to each Settlement Date, the Company will, or will cause its transfer agent to, electronically transfer the Shares being sold by crediting the Manager’s or its designee’s account (provided that the Manager shall have given the Company written notice of such designee at least one Trading Day prior to the Settlement Date) at The Depository Trust Company (“DTC”) through its Deposit and Withdrawal at Custodian System or by such other means of delivery as may be mutually agreed upon by the parties hereto which Shares in all cases shall be freely tradable, transferable, registered shares in good deliverable form. On each Settlement Date, the Manager will deliver the related Net Proceeds in same day funds to an account designated by the Company. The Company agrees that, if the Company, or its transfer agent (if applicable), defaults in its obligation to deliver duly authorized Shares on a Settlement Date, in addition to and in no way limiting the rights and obligations set forth in Section 7 hereto, the Company will (i) hold the Manager harmless against any loss, claim, damage, or reasonable, documented expense (including reasonable and documented legal fees and expenses), as incurred, arising out of or in connection with such default by the Company, and (ii) pay to the Manager any commission, discount or other compensation to which the Manager would otherwise have been entitled absent such default.

(viii) At each Applicable Time, Settlement Date, and Representation Date, the Company shall be deemed to have affirmed each representation and warranty contained in this Agreement as if such representation and warranty were made as of such date, modified as necessary to relate to the Registration Statement and the Prospectus as amended as of such date. Any obligation of the Manager to use its commercially reasonable efforts to sell the Shares on behalf of the Company shall be subject to the continuing accuracy of the representations and warranties of the Company herein, to the performance by the Company of its obligations hereunder and to the continuing satisfaction of the additional conditions specified in Section 6 of this Agreement.

(ix) If the Company shall declare or make any dividend or other distribution of its assets (or rights to acquire its assets) to holders of shares of Common Stock, by way of return of capital or otherwise (including, without limitation, any distribution of cash, stock or other securities, property or options by way of a dividend, spin off, reclassification, corporate rearrangement, scheme of arrangement or other similar transaction) (a “Distribution” and the record date for the determination of stockholders entitled to receive the Distribution, the “Record Date”), the Company hereby covenants and agrees that, in connection with any sales of Shares pursuant to a Sales Notice on the Record Date, the Company

shall issue and deliver such Shares to the Manager on the Record Date and the Record Date shall be the Settlement Date and the Company shall cover any additional costs of the Manager in connection with the delivery of Shares on the Record Date.

(c) Term Sales. If the Company wishes to sell the Shares pursuant to this Agreement but other than as set forth in Section 2(b) of this Agreement (each, a “Placement”), the Company will notify the Manager of the proposed terms of such Placement. If the Manager, acting as principal, wishes to accept such proposed terms (which it may decline to do for any reason in its sole discretion) or, following discussions with the Company wishes to accept amended terms, the Manager and the Company will enter into a Terms Agreement setting forth the terms of such Placement. The terms set forth in a Terms Agreement will not be binding on the Company or the Manager unless and until the Company and the Manager have each executed such Terms Agreement accepting all of the terms of such Terms Agreement. In the event of a conflict between the terms of this Agreement and the terms of a Terms Agreement, the terms of such Terms Agreement will control. A Terms Agreement may also specify certain provisions relating to the reoffering of such Shares by the Manager. The commitment of the Manager to purchase the Shares pursuant to any Terms Agreement shall be deemed to have been made on the basis of the representations and warranties of the Company herein contained and shall be subject to the terms and conditions herein set forth. Each Terms Agreement shall specify the number of the Shares to be purchased by the Manager pursuant thereto, the price to be paid to the Company for such Shares, any provisions relating to rights of, and default by, underwriters acting together with the Manager in the reoffering of the Shares, and the time and date (each such time and date being referred to herein as a “Time of Delivery”) and place of delivery of and payment for such Shares. Such Terms Agreement shall also specify any requirements for opinions of counsel, accountants’ letters and officers’ certificates pursuant to Section 6 of this Agreement and any other information or documents required by the Manager.

(d) Maximum Number of Shares. Under no circumstances shall the Company cause or request the offer or sale of any Shares if, after giving effect to the sale of such Shares, the aggregate amount of Shares sold pursuant to this Agreement would exceed the lesser of (A) together with all sales of Shares under this Agreement, the Maximum Amount, (B) the amount available for offer and sale under the currently effective Registration Statement and (C) the amount authorized from time to time to be issued and sold under this Agreement by the Board, a duly authorized committee thereof or duly authorized officers of the Company, and notified to the Manager in writing. Under no circumstances shall the Company cause or request the offer or sale of any Shares pursuant to this Agreement at a price lower than the minimum price authorized from time to time by the Board, a duly authorized committee thereof or duly authorized officers of the Company, and notified to the Manager in writing. Further, under no circumstances shall the Company cause or permit the aggregate offering amount of Shares sold pursuant to this Agreement to exceed the Maximum Amount.

(e) Regulation M Notice. Unless the exceptive provisions set forth in Rule 101(c)(1) of Regulation M under the Exchange Act are satisfied with respect to the Shares, the Company shall give the Manager at least one Business Day’s prior notice of its intent to sell any Shares in order to allow the Manager time to comply with Regulation M.

3 . Representations and Warranties. Except as set forth in the SEC Reports, the Registration Statement, the Prospectus or the Incorporated Documents, the Company represents and warrants to, and agrees with, the Manager at the Execution Time and on each such time the following representations and warranties are repeated or deemed to be made pursuant to this Agreement, as set forth below.

(a) Subsidiaries. The Company operates through its direct and indirect subsidiaries (individually, a “Subsidiary” and, collectively, the “Subsidiaries”) as described in the SEC Reports. The Company owns, directly or indirectly, all of the capital stock or other equity interests of each of its Subsidiaries free and clear of any “Liens” (which for purposes of this Agreement shall mean a lien, charge, security interest, encumbrance, right of first refusal, preemptive right or other restriction), and all of the issued and outstanding shares of capital stock of each Subsidiary are validly issued and are fully paid, non-assessable and free of preemptive and similar rights to subscribe for or purchase securities.

(b) Organization and Qualification. The Company and each of the Subsidiaries is an entity duly incorporated or otherwise organized, validly existing and in good standing under the laws of the jurisdiction of its incorporation or organization, with the requisite power and authority to own and use its properties and assets and to carry on its business as currently conducted. Neither the Company nor any Subsidiary is in violation nor default of any of the provisions of its respective certificate or articles of incorporation, bylaws or other organizational or charter documents. Each of the Company and the Subsidiaries is duly qualified to conduct business and is in good standing as a foreign corporation or other entity in each jurisdiction in which the nature of the business conducted or property owned by it makes such qualification necessary, except where the failure to be so qualified or in good standing, as the case may be, would not have or reasonably be expected to result in: (i) a material adverse effect on the legality, validity or enforceability of this Agreement, (ii) a material adverse effect on the results of operations, assets, business, prospects or condition (financial or otherwise) of the Company and the Subsidiaries, taken as a whole, from that set forth in the Registration Statement, the Base Prospectus, any Prospectus Supplement, the Prospectus or the Incorporated Documents, or (iii) a material adverse effect on the Company’s ability to perform in any material respect on a timely basis its obligations under this Agreement (any of (i), (ii) or (iii), a “Material Adverse Effect”) and no “Proceeding” (which for purposes of this Agreement shall mean any action, claim, suit, investigation or proceeding (including, without limitation, an informal investigation or partial proceeding, such as a deposition), whether commenced or threatened) has been instituted in any such jurisdiction revoking, limiting or curtailing or seeking to revoke, limit or curtail such power and authority or qualification.

(c) Authorization and Enforcement. The Company has the requisite corporate power and authority to enter into and to consummate the transactions contemplated by this Agreement and otherwise to carry out its obligations hereunder. The execution and delivery of this Agreement by the Company and the consummation by it of the transactions contemplated hereby have been duly authorized by all necessary action on the part of the Company and no further action is required by the Company, the Board or the Company’s stockholders in connection herewith other than in connection with the Required Approvals. This Agreement has been duly executed and delivered by the Company and, when delivered in accordance with the terms hereof, will constitute the valid and binding obligation of the Company enforceable against the Company in

accordance with its terms, except (i) as limited by general equitable principles and applicable bankruptcy, insolvency, reorganization, moratorium and other laws of general application affecting enforcement of creditors' rights generally, (ii) as limited by laws relating to the availability of specific performance, injunctive relief or other equitable remedies and (iii) insofar as indemnification and contribution provisions may be limited by applicable law.

(d) No Conflicts. The execution, delivery and performance by the Company of this Agreement, the issuance and sale of the Shares and the consummation by it of the transactions contemplated hereby do not and will not (i) conflict with or violate any provision of the Company's or any Subsidiary's certificate or articles of incorporation, bylaws or other organizational or charter documents, or (ii) conflict with, or constitute a default (or an event that with notice or lapse of time or both would become a default) under, result in the creation of any Lien upon any of the properties or assets of the Company or any Subsidiary, or give to others any rights of termination, amendment, anti-dilution or similar adjustments, acceleration or cancellation (with or without notice, lapse of time or both) of, any agreement, credit facility, debt or other instrument (evidencing a Company or Subsidiary debt or otherwise) or other understanding to which the Company or any Subsidiary is a party or by which any property or asset of the Company or any Subsidiary is bound or affected, or (iii) subject to the Required Approvals, conflict with or result in a violation of any law, rule, regulation, order, judgment, injunction, decree or other restriction of any court or governmental authority to which the Company or a Subsidiary is subject (including federal and state securities laws and regulations), or by which any property or asset of the Company or a Subsidiary is bound or affected; except in the case of each of clauses (ii) and (iii), such as would not have or reasonably be expected to result in a Material Adverse Effect.

(e) Filings, Consents and Approvals. The Company is not required to obtain any consent, waiver, authorization or order of, give any notice to, or make any filing or registration with, any court or other federal, state, local or other governmental authority or other "Person" (defined as an individual or corporation, partnership, trust, incorporated or unincorporated association, joint venture, limited liability company, joint stock company, government (or an agency or subdivision thereof) or other entity of any kind, including the Trading Market) in connection with the execution, delivery and performance by the Company of this Agreement, other than (i) the filings required by this Agreement, (ii) the filing with the Commission of the Registration Statement, the Base Prospectus and the Prospectus Supplement, (iii) the filing of application(s) to and approval by the Trading Market for the listing of the Shares for trading thereon in the time and manner required thereby, and (iv) such filings as are required to be made under applicable state securities laws and the rules and regulations of the Financial Industry Regulatory Authority, Inc. ("FINRA") (collectively, the "Required Approvals").

(f) Issuance of Shares. The Shares are duly authorized and, when issued and paid for in accordance with this Agreement, will be duly and validly issued, fully paid and nonassessable, free and clear of all Liens imposed by the Company. The Company has reserved from its duly authorized capital stock the maximum number of shares of Common Stock issuable pursuant to this Agreement. All of the Shares are freely transferable and tradable by the purchasers thereof without restriction (other than any restrictions arising solely from an act or omission of such a purchaser). The Shares are being issued

pursuant to the Registration Statement, to be filed on or immediately following the Execution Time, and at each Applicable Time and Settlement Date the issuance of the Shares will be registered by the Company under the Act. The “Plan of Distribution” section within the Registration Statement permits the issuance and sale of the Shares as contemplated by this Agreement. Upon receipt of the Shares, the purchasers of such Shares will have good and marketable title to such Shares and the Shares will be freely tradable on the Trading Market.

(g) Capitalization. The capitalization of the Company is as set forth in the SEC Reports. The Company has not issued any capital stock since its most recently filed periodic report under the Exchange Act, other than pursuant to the exercise of employee stock options and the grant of awards under the Company’s equity incentive plans, the issuance of shares of Common Stock to employees pursuant to the Company’s employee stock purchase plan and pursuant to the conversion, settlement and/or exercise of securities exercisable, exchangeable or convertible into Common Stock (“Common Stock Equivalents”) outstanding as of the date of the most recently filed periodic report under the Exchange Act. No Person has any right of first refusal, preemptive right, right of participation, or any similar right to participate in the transactions contemplated by this Agreement. Except as set forth in the SEC Reports, there are no outstanding options, warrants, scrip rights to subscribe to, calls or commitments of any character whatsoever relating to, or securities, rights or obligations convertible into or exercisable or exchangeable for, or giving any Person any right to subscribe for or acquire, any shares of Common Stock or the capital stock of any Subsidiary, or contracts, commitments, understandings or arrangements by which the Company or any Subsidiary is or may become bound to issue additional shares of Common Stock or Common Stock Equivalents or capital stock of any Subsidiary. The issuance and sale of the Shares will not obligate the Company or any Subsidiary to issue shares of Common Stock or other securities to any Person. There are no outstanding securities or instruments of the Company or any Subsidiary with any provision that adjusts the exercise, conversion, exchange or reset price of such security or instrument upon an issuance of securities by the Company or any Subsidiary. There are no outstanding securities or instruments of the Company or any Subsidiary that contain any mandatory redemption or similar provisions, and there are no contracts, commitments, understandings or arrangements by which the Company or any Subsidiary is or may become bound to redeem a security of the Company or such Subsidiary. The Company has not issued any stock appreciation rights and does not have any “phantom stock” plans or agreements or any similar plan or agreement. All of the outstanding shares of capital stock of the Company are duly authorized, validly issued, fully paid and nonassessable, have been issued in compliance with all federal and state securities laws, and none of such outstanding shares was issued in violation of any preemptive rights or similar rights to subscribe for or purchase securities. No further approval or authorization of any stockholder, the Board or others is required for the issuance and sale of the Shares. There are no stockholders agreements, voting agreements or other similar agreements with respect to the Company’s capital stock to which the Company is a party or, to the knowledge of the Company, between or among any of the Company’s stockholders.

(h) Registration Statement. The Company meets the requirements for use of Form S-3 under the Act and has prepared, and will file on or immediately following the Execution Time with the Commission, the Registration Statement, including a related Base Prospectus, for registration under the Act of the offering and sale of the Shares. Such Registration Statement will be effective and

available for the offer and sale of the Shares prior to the delivery of any Sales Notice by the Company. As filed on or immediately following the Execution Time, the Base Prospectus contains all information required by the Act and the rules thereunder, and, except to the extent the Manager shall agree in writing to a modification, shall be in all substantive respects in the form furnished to the Manager prior to the Execution Time or prior to any such time this representation is repeated or deemed to be made. The Registration Statement, when filed on or immediately following the Execution Time, each such time this representation is repeated or deemed to be made, and at all times during which a prospectus is required by the Act to be delivered (whether physically or through compliance with Rule 172, 173 or any similar rule) in connection with any offer or sale of the Shares, meets the requirements set forth in Rule 415(a)(1)(x). The Company meets the transaction requirements as set forth in General Instruction I.B.6 of Form S-3 with respect to the aggregate market value of securities being sold pursuant to this offering and during the twelve (12) months prior to this offering.

(i) Accuracy of Incorporated Documents. The Incorporated Documents, when they were filed with the Commission, conformed in all material respects to the requirements of the Exchange Act and the rules thereunder, and none of the Incorporated Documents, when they were filed with the Commission, contained any untrue statement of a material fact or omitted to state a material fact necessary to make the statements therein, in light of the circumstances under which they were made not misleading; and any further documents so filed and incorporated by reference in the Registration Statement, the Base Prospectus, the Prospectus Supplement or the Prospectus, when such documents are filed with the Commission, will conform in all material respects to the requirements of the Exchange Act and the rules thereunder, as applicable, and will not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements therein, in light of the circumstances under which they were made, not misleading.

(j) [RESERVED]

(k) Free Writing Prospectus. The Company will not prepare, use or refer to, any Issuer Free Writing Prospectuses.

(l) Proceedings Related to Registration Statement. The Registration Statement is not the subject of a pending proceeding or examination under Section 8(d) or 8(e) of the Act, and the Company is not the subject of a pending proceeding under Section 8A of the Act in connection with the offering of the Shares. The Company has not received any notice that the Commission has issued or intends to issue a stop-order with respect to the Registration Statement or that the Commission otherwise has suspended or withdrawn the effectiveness of the Registration Statement, either temporarily or permanently, or intends or has threatened in writing to do so.

(m) SEC Reports. The Company has filed all reports, schedules, forms, statements and other documents required to be filed by the Company under the Act and the Exchange Act, including pursuant to Section 13(a) or 15(d) thereof, for the twelve (12) months preceding the date hereof (the foregoing materials, including the exhibits thereto and documents incorporated by reference therein, together with the Prospectus and the Prospectus Supplement, being collectively referred to herein as the “SEC Reports”) on a timely basis or has received a valid extension of such time of filing and has filed any such SEC

Reports prior to the expiration of any such extension. As of their respective dates, the SEC Reports complied in all material respects with the requirements of the Act and the Exchange Act, as applicable, and none of the SEC Reports, when filed, contained any untrue statement of a material fact or omitted to state a material fact required to be stated therein or necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading. The financial statements of the Company included in the SEC Reports comply in all material respects with applicable accounting requirements and the rules and regulations of the Commission with respect thereto as in effect at the time of filing. Such financial statements have been prepared in accordance with United States generally accepted accounting principles applied on a consistent basis during the periods involved (“GAAP”), except as may be otherwise specified in such financial statements or the notes thereto and except that unaudited financial statements may not contain all footnotes required by GAAP, and fairly present in all material respects the financial position of the Company and its consolidated Subsidiaries as of and for the dates thereof and the results of operations and cash flows for the periods then ended, subject, in the case of unaudited statements, to normal, immaterial, year-end audit adjustments.

(n) [RESERVED]

(o) Material Changes; Undisclosed Events, Liabilities or Developments. Since the date of the latest audited financial statements included within the SEC Reports, except as disclosed in the SEC Reports, (i) there has been no event, occurrence or development that has had or that would reasonably be expected to result in a Material Adverse Effect, (ii) the Company has not incurred any liabilities (contingent or otherwise) other than (A) trade payables and accrued expenses incurred in the ordinary course of business consistent with past practice and (B) liabilities not required to be reflected in the Company’s financial statements pursuant to GAAP or disclosed in filings made with the Commission, (iii) the Company has not altered its method of accounting, (iv) the Company has not declared or made any dividend or distribution of cash or other property to its stockholders or purchased, redeemed or made any agreements to purchase or redeem any shares of its capital stock and (v) the Company has not issued any equity securities to any officer, director or “Affiliate” (defined as any Person that, directly or indirectly through one or more intermediaries, controls or is controlled by or is under common control with a Person, as such terms are used in and construed under Rule 144 under the Act), except pursuant to existing Company equity incentive plans. The Company does not have pending before the Commission any request for confidential treatment of information. Except for the issuance of the Shares contemplated by this Agreement, no event, liability, fact, circumstance, occurrence or development has occurred or exists or is reasonably expected to occur or exist with respect to the Company or its Subsidiaries or their respective businesses, prospects, properties, operations, assets or financial condition that would be required to be disclosed by the Company under applicable securities laws at the time this representation is made or deemed made that has not been publicly disclosed at least 1 Trading Day prior to the date that this representation is made.

(p) Litigation. Except as set forth in the SEC Reports, there is no action, suit, inquiry, notice of violation, proceeding or investigation pending or, to the knowledge of the Company, threatened against or affecting the Company, any Subsidiary or any of their respective properties before or by any court, arbitrator, governmental or administrative agency or regulatory authority (federal, state,

county, local or foreign) (collectively, an “Action”), except where such pending or threatened action, suit, inquiry notice of violation, proceeding or investigation would not, individually or in the aggregate, have or reasonably be expected to result in a Material Adverse Effect. None of the Actions, if any, set forth in the SEC Reports (i) adversely affects or challenges the legality, validity or enforceability of this Agreement or the Shares or (ii) would, if there were an unfavorable decision, have or reasonably be expected to result in a Material Adverse Effect. Neither the Company nor any Subsidiary, nor any director or officer thereof, is or has been the subject of any Action involving a claim of violation of or liability under federal or state securities laws or a claim of breach of fiduciary duty, except where such Action would not, individually or in the aggregate, have or reasonably be expected to result in a Material Adverse Effect. There has not been, and to the knowledge of the Company, there is not pending or contemplated, any investigation by the Commission involving the Company or any current or former director or officer of the Company. The Commission has not issued any stop order or other order suspending the effectiveness of any registration statement filed by the Company or any Subsidiary under the Exchange Act or the Act.

(q) Labor Relations. No labor dispute exists or, to the knowledge of the Company, is imminent with respect to any of the employees of the Company, which would reasonably be expected to result in a Material Adverse Effect. None of the Company’s or its Subsidiaries’ employees is a member of a union that relates to such employee’s relationship with the Company or such Subsidiary, and neither the Company nor any of its Subsidiaries is a party to a collective bargaining agreement, and the Company and its Subsidiaries believe that their relationships with their employees are good. To the knowledge of the Company, no executive officer of the Company or any Subsidiary, is, or is now expected to be, in violation of any material term of any employment contract, confidentiality, disclosure or proprietary information agreement or non-competition agreement, or any other contract or agreement or any restrictive covenant in favor of any third party, and the continued employment of each such executive officer does not subject the Company or any of its Subsidiaries to any liability with respect to any of the foregoing matters. The Company and its Subsidiaries are in compliance with all U.S. federal, state, local and foreign laws and regulations relating to employment and employment practices, terms and conditions of employment and wages and hours, except where the failure to be in compliance would not, individually or in the aggregate, have or reasonably be expected to result in a Material Adverse Effect.

(r) Compliance. Neither the Company nor any Subsidiary (i) is in default under or in violation of (and no event has occurred that has not been waived that, with notice or lapse of time or both, would result in a default by the Company or any Subsidiary under), nor has the Company or any Subsidiary received notice of a claim that it is in default under or that it is in violation of, any indenture, loan or credit agreement or any other agreement or instrument to which it is a party or by which it or any of its properties is bound (whether or not such default or violation has been waived), (ii) is in violation of any judgment, decree or order of any court, arbitrator or other governmental authority or (iii) is or has been during the last twelve (12) months in violation of any statute, rule, ordinance or regulation of any governmental authority, including without limitation all foreign, federal, state and local laws relating to taxes, environmental protection, occupational health and safety, product quality and safety and employment and

labor matters, except in each clause (i), (ii) and (iii), as would not have or reasonably be expected to result in a Material Adverse Effect.

(s) Environmental Laws. The Company and its Subsidiaries (i) are in compliance with all applicable federal, state, local and foreign laws relating to pollution or protection of human health or the environment (including ambient air, surface water, groundwater, land surface or subsurface strata), including laws relating to emissions, discharges, releases or threatened releases of chemicals, pollutants, contaminants, or toxic or hazardous substances or wastes (collectively, "Hazardous Materials") into the environment, or otherwise relating to the manufacture, processing, distribution, use, treatment, storage, disposal, transport or handling of Hazardous Materials, as well as all authorizations, codes, decrees, demands, or demand letters, injunctions, judgments, licenses, notices or notice letters, orders, permits, plans or regulations, issued, entered, promulgated or approved thereunder ("Environmental Laws"); (ii) have received all permits licenses or other approvals required of them under applicable Environmental Laws to conduct their respective businesses; and (iii) are in compliance with all terms and conditions of any such permit, license or approval, except where in each clause (i), (ii) and (iii), the failure to so comply would not, individually or in the aggregate, have or reasonably be expected to result in a Material Adverse Effect.

(t) Regulatory Permits. The Company and the Subsidiaries possess all certificates, authorizations and permits issued by the appropriate federal, state, local or foreign regulatory authorities necessary to conduct their respective businesses as described in the SEC Reports, except where the failure to possess such permits would not, individually or in the aggregate, have or reasonably be expected to result in a Material Adverse Effect ("Material Permits"), and neither the Company nor any Subsidiary has received any notice of proceedings relating to the revocation or modification of any Material Permit.

(u) Title to Assets. The Company and the Subsidiaries have good and marketable title in fee simple to all real property owned by them and good and marketable title in all personal property owned by them that is material to the business of the Company and the Subsidiaries, in each case free and clear of all Liens, except for (i) Liens that do not materially affect the value of such property and do not materially interfere with the use made and proposed to be made of such property by the Company and the Subsidiaries, (ii) Liens for the payment of federal, state or other taxes, for which appropriate reserves have been made therefor in accordance with GAAP and the payment of which is neither delinquent nor subject to penalties, and (iii) Liens that, if any such Lien would be subject to a foreclosure or similar action by the Lien holder, would not, individually or in the aggregate, have or reasonably be expected to result in a Material Adverse Effect. Any real property and facilities held under lease by the Company and the Subsidiaries are held by them under valid, subsisting and enforceable leases with which the Company and the Subsidiaries are in compliance in all material respects.

(v) Intellectual Property. The Company and the Subsidiaries have, or have rights to use, all patents, patent applications, trademarks, trademark applications, service marks, trade names, trade secrets, inventions, copyrights, licenses and other intellectual property rights and similar rights necessary or required for use in connection with their respective businesses as described in the SEC Reports, except where the failure to so have would not, individually or in the

aggregate, have or reasonably be expected to result in a Material Adverse Effect (collectively, the “Intellectual Property Rights”). None of, and neither the Company nor any Subsidiary has received a notice (written or otherwise) that any of, the Intellectual Property Rights has expired, terminated or been abandoned, or is expected to expire or terminate or be abandoned, within two (2) years from the date of this Agreement. Neither the Company nor any Subsidiary has received, since the date of the latest audited financial statements included within the SEC Reports, a written notice of a claim or otherwise has any knowledge that the Intellectual Property Rights violate or infringe upon the rights of any Person, except as would not have or reasonably be expected to result in a Material Adverse Effect. To the knowledge of the Company, all such Intellectual Property Rights are enforceable and there is no existing infringement by another Person of any of the Intellectual Property Rights. The Company and its Subsidiaries have taken reasonable security measures to protect the secrecy, confidentiality and value of all of their Intellectual Property Rights, except where failure to do so would not, individually or in the aggregate, have or reasonably be expected to result in a Material Adverse Effect.

(w) Insurance. The Company and the Subsidiaries are insured by insurers of recognized financial responsibility against such losses and risks and in such amounts as are prudent and customary in the businesses in which the Company and the Subsidiaries are engaged, including, but not limited to, directors and officers insurance coverage. Neither the Company nor any Subsidiary has any reason to believe that it will not be able to renew its existing insurance coverage as and when such coverage expires or to obtain similar coverage from similar insurers as may be necessary to continue its business at a cost that would not have a Material Adverse Effect.

(x) Related Party Transactions. No transaction has occurred between or among the Company or the Subsidiaries and any of the Company’s officers, directors, five percent stockholders or any affiliate or affiliates thereof that is required to be described in and is not described in the Registration Statement and the Prospectus.

(y) Sarbanes Oxley Compliance. The Company and the Subsidiaries are in material compliance with any and all applicable requirements of the Sarbanes-Oxley Act of 2002 that are effective as of the date hereof, and any and all applicable rules and regulations promulgated by the Commission thereunder that are effective as of the date hereof. The Company and the Subsidiaries maintain a system of internal accounting controls designed to provide reasonable assurance that: (i) transactions are executed in accordance with management’s general or specific authorizations, (ii) transactions are recorded as necessary to permit preparation of financial statements in conformity with GAAP and to maintain asset accountability, (iii) access to assets is permitted only in accordance with management’s general or specific authorization, and (iv) the recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action is taken with respect to any differences. The Company has established disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and designed such disclosure controls and procedures to ensure that information required to be disclosed by the Company in the reports it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the Commission’s rules and forms. The Company’s certifying officers have evaluated the effectiveness of the disclosure controls and procedures of the

Company and the Subsidiaries as of the end of the period covered by the most recently filed periodic report under the Exchange Act (such date, the “Evaluation Date”). The Company presented in its most recently filed periodic report under the Exchange Act the conclusions of the certifying officers about the effectiveness of the disclosure controls and procedures based on their evaluations as of the Evaluation Date. Since the Evaluation Date, there have been no changes in the internal control over financial reporting (as such term is defined in the Exchange Act) of the Company that have materially affected, or is reasonably likely to materially affect, the internal control over financial reporting of the Company and its Subsidiaries.

(z) Certain Fees. Other than payments to be made to the Manager, no brokerage or finder’s fees or commissions are or will be payable by the Company or any Subsidiary to any broker, financial advisor or consultant, finder, placement agent, investment banker, bank or other Person with respect to the transactions contemplated by this Agreement. The Manager shall have no obligation with respect to any fees or with respect to any claims made by or on behalf of other Persons for fees of a type contemplated in this Section that may be due in connection with the transactions contemplated by this Agreement.

(aa) No Other Sales Agency Agreement. The Company has not entered into any other sales agency agreements or other similar arrangements with any agent or any other representative in respect of at the market offerings of the Shares.

(bb) [RESERVED]

(cc) Listing and Maintenance Requirements. The Common Stock is listed on the Trading Market and the issuance of the Shares as contemplated by this Agreement does not contravene the rules and regulations of the Trading Market. The Common Stock is registered pursuant to Section 12(b) or 12(g) of the Exchange Act, and the Company has taken no action designed to, or which to its knowledge is likely to have the effect of, terminating the registration of the Common Stock under the Exchange Act nor has the Company received any notification that the Commission is contemplating terminating such registration. Except as disclosed in the SEC Reports, the Company has not, in the twelve (12) months preceding the date hereof, received notice from any Trading Market on which the Common Stock is or has been listed or quoted to the effect that the Company is not in compliance with the listing or maintenance requirements of such Trading Market. Except as disclosed in the SEC Reports, the Company is in compliance with all such listing and maintenance requirements. The Common Stock is currently eligible for electronic transfer through the Depository Trust Company or another established clearing corporation and the Company is current in payment of the fees to the Depository Trust Company (or such other established clearing corporation) in connection with such electronic transfer.

(dd) [RESERVED]

(ee) Solvency. Based on the consolidated financial condition of the Company as of the date hereof, (i) the fair saleable value of the Company’s assets exceeds the amount that will be required to be paid on or in respect of the Company’s existing debts and other liabilities (including known contingent liabilities) as they mature, (ii) the Company’s assets do not constitute unreasonably small capital to carry on its business as now conducted and as

proposed to be conducted including its capital needs taking into account the particular capital requirements of the business conducted by the Company, consolidated and projected capital requirements and capital availability thereof, and (iii) the current cash flow of the Company, together with the proceeds the Company would receive, were it to liquidate all of its assets, after taking into account all anticipated uses of the cash, would be sufficient to pay all amounts on or in respect of its liabilities when such amounts are required to be paid. The Company does not intend to incur debts beyond its ability to pay such debts as they mature (taking into account the timing and amounts of cash to be payable on or in respect of its debt). The Company has no knowledge of any facts or circumstances which lead it to believe that it will file for reorganization or liquidation under the bankruptcy or reorganization laws of any jurisdiction within one year from the date hereof. The SEC Reports set forth as of the date hereof all outstanding secured and unsecured Indebtedness of the Company or any Subsidiary, or for which the Company or any Subsidiary has commitments. For the purposes of this Agreement, "Indebtedness" means (x) any liabilities for borrowed money or amounts owed in excess of \$50,000 (other than trade accounts payable incurred in the ordinary course of business), (y) all guaranties, endorsements and other contingent obligations in respect of indebtedness of others, whether or not the same are or should be reflected in the Company's consolidated balance sheet (or the notes thereto), except guaranties by endorsement of negotiable instruments for deposit or collection or similar transactions in the ordinary course of business; and (z) the present value of any lease payments in excess of \$50,000 due under leases required to be capitalized in accordance with GAAP. Neither the Company nor any Subsidiary is in default with respect to any Indebtedness.

(ff) Tax Status. Except for matters that would not, individually or in the aggregate, have or reasonably be expected to result in a Material Adverse Effect, the Company and its Subsidiaries each (i) has made or filed all United States federal, state and local income and all foreign income and franchise tax returns, reports and declarations required by any jurisdiction to which it is subject, (ii) has paid all taxes and other governmental assessments and charges that are material in amount, shown or determined to be due on such returns, reports and declarations and (iii) has set aside on its books provision reasonably adequate for the payment of all material taxes for periods subsequent to the periods to which such returns, reports or declarations apply. There are no unpaid taxes in any material amount claimed to be due by the taxing authority of any jurisdiction, and the officers of the Company or of any Subsidiary know of no basis for any such claim.

(gg) Foreign Corrupt Practices. Neither the Company nor any Subsidiary, nor to the knowledge of the Company, any agent or other person acting on behalf of the Company or any Subsidiary, has, during the last twelve (12) months, (i) directly or indirectly, used any funds for unlawful contributions, gifts, entertainment or other unlawful expenses related to foreign or domestic political activity, (ii) made any unlawful payment to foreign or domestic government officials or employees or to any foreign or domestic political parties or campaigns from corporate funds, (iii) failed to disclose fully any contribution made by the Company or any Subsidiary (or made by any person acting on its behalf of which the Company is aware) which is in violation of law, or (iv) violated in any material respect any provision of the Foreign Corrupt Practices Act of 1977, as amended.

(h h) Accountants. The Company's accounting firm is set forth in the SEC Reports. To the knowledge and belief of the Company, such accounting firm (i) is a registered public accounting firm as required by the Exchange Act and (ii) shall express its opinion with respect to the financial statements to be included in the Company's Annual Report for the fiscal year ending December 31, 2022.

(ii) Regulation M Compliance. The Company has not, and to its knowledge no one acting on its behalf has, (i) taken, directly or indirectly, any action designed to cause or to result in the stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of any of the Shares, (ii) sold, bid for, purchased, or paid any compensation for soliciting purchases of, any of the Shares, or (iii) paid or agreed to pay to any Person any compensation for soliciting another to purchase any other securities of the Company, other than, in the case of clauses (ii) and (iii), compensation paid to the Manager in connection with the Shares.

(jj) [RESERVED]

(kk) Equity Incentive Plans. Each stock option granted by the Company under its equity incentive plans was granted (i) in accordance with the terms of such plans and (ii) with an exercise price at least equal to the fair market value of the Common Stock on the date such stock option would be considered granted under GAAP and applicable law. No stock option granted under the Company's equity incentive plans has been backdated. The Company has not knowingly granted, and there is no and has been no Company policy or practice to knowingly grant, stock options prior to, or otherwise knowingly coordinate the grant of stock options with, the release or other public announcement of material information regarding the Company or its Subsidiaries or their financial results or prospects.

(ll) Cybersecurity. Except for matters that would not individually or in the aggregate, have or reasonably be expected to result in a Material Adverse Effect, (i)(x) there has been no security breach or other compromise of or relating to any of the Company's or any Subsidiary's information technology and computer systems, networks, hardware, software, data (including the data of its respective customers, employees, suppliers, vendors and any third party data maintained by or on behalf of it), equipment or technology (collectively, "IT Systems and Data") and (y) the Company and the Subsidiaries have not been notified of, and the Company has no knowledge of any event or condition that would reasonably be expected to result in, any security breach or other compromise to the Company's or any Subsidiary's IT Systems and Data; (ii) the Company and the Subsidiaries are presently in compliance with all applicable laws or statutes and all judgments, orders, rules and regulations of any court or arbitrator or governmental or regulatory authority, internal policies and contractual obligations relating to the privacy and security of IT Systems and Data and to the protection of such IT Systems and Data from unauthorized use, access, misappropriation or modification; (iii) the Company and the Subsidiaries have implemented and maintained commercially reasonable safeguards to maintain and protect its material confidential information and the integrity, continuous operation, redundancy and security of all IT Systems and Data; and (iv) the Company and the Subsidiaries have implemented backup and disaster recovery technology consistent with industry standards and practices.

(m m) Office of Foreign Assets Control. Neither the Company nor any Subsidiary nor, to the Company's knowledge, any director, officer, agent, employee or affiliate of the Company or any Subsidiary is currently subject to any U.S. sanctions administered by the Office of Foreign Assets Control of the U.S. Treasury Department ("OFAC").

(nn) U.S. Real Property Holding Corporation. The Company is not and has never been a U.S. real property holding corporation within the meaning of Section 897 of the Internal Revenue Code of 1986, as amended, and the Company shall so certify upon the Manager's request.

(oo) Bank Holding Company Act. Neither the Company nor any of its Subsidiaries is subject to the Bank Holding Company Act of 1956, as amended (the "BHCA") and to regulation by the Board of Governors of the Federal Reserve System (the "Federal Reserve"). Neither the Company nor any of its Subsidiaries owns or controls, directly or indirectly, five percent (5%) or more of the outstanding shares of any class of voting securities or twenty-five percent or more of the total equity of a bank or any entity that is subject to the BHCA and to regulation by the Federal Reserve. Neither the Company nor any of its Subsidiaries exercises a controlling influence over the management or policies of a bank or any entity that is subject to the BHCA and to regulation by the Federal Reserve.

(pp) Money Laundering. The operations of the Company and its Subsidiaries are and have been conducted at all times in material compliance with applicable financial record-keeping and reporting requirements of the Currency and Foreign Transactions Reporting Act of 1970, as amended, applicable money laundering statutes and applicable rules and regulations thereunder (collectively, the "Money Laundering Laws"), and no Action or Proceeding by or before any court or governmental agency, authority or body or any arbitrator involving the Company or any Subsidiary with respect to the Money Laundering Laws is pending or, to the knowledge of the Company or any Subsidiary, threatened.

(qq) FINRA Member Shareholders. There are no affiliations with any FINRA member firm among the Company's officers, directors or, to the knowledge of the Company, any five percent (5%) or greater stockholder of the Company, except as set forth in the Registration Statement, the Base Prospectus, any Prospectus Supplement or the Prospectus.

4. Agreements. The Company agrees with the Manager that:

(a) Right to Review Amendments and Supplements to Registration Statement and Prospectus. During any period when the delivery of a prospectus relating to the Shares is required (including in circumstances where such requirement may be satisfied pursuant to Rule 172, 173 or any similar rule) to be delivered under the Act in connection with the offering or the sale of Shares, the Company will not file any amendment to the Registration Statement relating to the Shares or supplement relating to the Shares (including any Prospectus Supplement) to the Base Prospectus unless the Company has furnished to the Manager a copy for its review prior to filing and will not file any such proposed amendment or supplement to which the Manager reasonably objects. The Company will cause any supplement to the Prospectus relating to the Shares filed after the Effective Time to be properly completed, in a form approved by the Manager, and will file such supplement with the Commission pursuant to the

applicable paragraph of Rule 424(b) within the time period prescribed thereby and will provide evidence reasonably satisfactory to the Manager of such timely filing. The Company will promptly advise the Manager (i) when the Prospectus, and any supplement thereto, relating to the Shares shall have been filed (if required) with the Commission pursuant to Rule 424(b), (ii) when, during any period when the delivery of a prospectus (whether physically or through compliance with Rule 172, 173 or any similar rule) is required under the Act in connection with the offering or sale of the Shares, any amendment to the Registration Statement relating to the Shares shall have been filed or become effective (other than any annual report of the Company filed pursuant to Section 13(a) or 15(d) of the Exchange Act), (iii) of any request by the Commission or its staff for any amendment of the Registration Statement, or for any supplement to the Prospectus or for any additional information, relating to the Shares (iv) of the issuance by the Commission of any stop order suspending the effectiveness of the Registration Statement or of any notice objecting to its use or the institution or threatening of any proceeding for that purpose and (v) of the receipt by the Company of any notification with respect to the suspension of the qualification of the Shares for sale in any jurisdiction or the institution or threatening of any proceeding for such purpose. The Company will use its best efforts to prevent the issuance of any such stop order or the occurrence of any such suspension or objection to the use of the Registration Statement and, upon such issuance, occurrence or notice of objection, to obtain as soon as possible the withdrawal of such stop order or relief from such occurrence or objection, including, if necessary, by filing an amendment to the Registration Statement or a new registration statement and using its best efforts to have such amendment or new registration statement declared effective as soon as practicable.

(b) Subsequent Events. If, at any time on or after an Applicable Time but prior to the related Settlement Date, any event occurs as a result of which the Registration Statement or Prospectus would include any untrue statement of a material fact or omit to state any material fact necessary to make the statements therein in the light of the circumstances under which they were made or the circumstances then prevailing not misleading, the Company will (i) notify promptly the Manager so that any use of the Registration Statement or Prospectus may cease until such are amended or supplemented; (ii) amend or supplement the Registration Statement or Prospectus to correct such statement or omission; and (iii) supply any amendment or supplement to the Manager in such quantities as the Manager may reasonably request.

(c) Notification of Subsequent Filings. During any period when the delivery of a prospectus relating to the Shares is required (including in circumstances where such requirement may be satisfied pursuant to Rule 172, 173 or any similar rule) to be delivered under the Act, any event occurs as a result of which the Prospectus as then supplemented would include any untrue statement of a material fact or omit to state any material fact necessary to make the statements therein in the light of the circumstances under which they were made not misleading, or if it shall be necessary to amend the Registration Statement, file a new registration statement or supplement the Prospectus to comply with the Act or the Exchange Act or the respective rules thereunder, including in connection with use or delivery of the Prospectus, the Company promptly will (i) notify the Manager of any such event, (ii) subject to Section 4(a), prepare and file with the Commission an amendment or supplement or new registration statement which will correct such statement or omission or effect such compliance, (iii) use its best efforts to have any amendment to the Registration Statement or new registration

statement declared effective as soon as practicable in order to avoid any disruption in use of the Prospectus and (iv) supply any supplemented Prospectus to the Manager in such quantities as the Manager may reasonably request.

(d) Earnings Statements. As soon as practicable, the Company will make generally available to its security holders and to the Manager an earnings statement or statements of the Company and its Subsidiaries which will satisfy the provisions of Section 11(a) of the Act and Rule 158. For the avoidance of doubt, the Company's compliance with the reporting requirements of the Exchange Act shall be deemed to satisfy the requirements of this Section 4(d).

(e) Delivery of Registration Statement. Upon the request of the Manager, the Company will furnish to the Manager and counsel for the Manager, without charge, signed copies of the Registration Statement (including exhibits thereto) and, so long as delivery of a prospectus by the Manager or dealer may be required by the Act (including in circumstances where such requirement may be satisfied pursuant to Rule 172, 173 or any similar rule), as many copies of the Prospectus and any supplement thereto as the Manager may reasonably request. The Company will pay the expenses of printing or other production of all documents relating to the offering.

(f) Qualification of Shares. The Company will arrange, if necessary, for the qualification of the Shares for sale under the laws of such jurisdictions as the Manager may designate and will maintain such qualifications in effect so long as required for the distribution of the Shares; provided that in no event shall the Company be obligated to qualify to do business in any jurisdiction where it is not now so qualified or to take any action that would subject it to service of process in suits, other than those arising out of the offering or sale of the Shares, in any jurisdiction where it is not now so subject.

(g) Free Writing Prospectus. The Company agrees that, and the Manager agrees with the Company that, it has not made and will not make any offer relating to the Shares that would constitute an Issuer Free Writing Prospectus or that would otherwise constitute a "free writing prospectus" (as defined in Rule 405) required to be filed by the Company with the Commission or retained by the Company under Rule 433.

(h) Subsequent Equity Issuances. The Company shall not deliver any Sales Notice hereunder for at least three (3) Business Days prior to any date (and any Sales Notice previously delivered shall not apply during such three Business Days) on which the Company or any Subsidiary offers, sells, issues, contracts to sell, contracts to issue or otherwise disposes of, directly or indirectly, any other shares of Common Stock or any Common Stock Equivalents (other than the Shares), subject to Manager's right to waive this obligation, provided that, without compliance with the foregoing obligation, the Company may issue and sell Common Stock pursuant to any equity incentive plan, stock ownership plan or dividend reinvestment plan of the Company or pursuant to the operating agreement of any Subsidiary in effect at the Execution Time and the Company may issue Common Stock issuable upon the conversion or exercise of Common Stock Equivalents outstanding at the Execution Time.

(i) Market Manipulation. Until the termination of this Agreement, the Company will not take, directly or indirectly, any action designed to or that would constitute or that might reasonably be expected to cause or result in, under the

Exchange Act or otherwise, stabilization or manipulation in violation of the Act, Exchange Act or the rules and regulations thereunder of the price of any security of the Company to facilitate the sale or resale of the Shares or otherwise violate any provision of Regulation M under the Exchange Act.

(j) Notification of Incorrect Certificate. The Company will, at any time during the term of this Agreement, as supplemented from time to time, advise the Manager immediately after it shall have received notice or obtained knowledge thereof, of any information or fact that would alter or affect any opinion, certificate, letter and other document provided to the Manager pursuant to Section 6 herein.

(k) Certification of Accuracy of Disclosure. Upon commencement of the offering of the Shares under this Agreement (and upon the recommencement of the offering of the Shares under this Agreement following the termination of a suspension of sales hereunder lasting more than 30 Trading Days), and each time that (i) the Registration Statement or Prospectus relating to the Shares shall be amended or supplemented, other than by means of Incorporated Documents and, for the avoidance of doubt, other than for an offering of securities by the Company other than the Shares, (ii) the Company files its Annual Report on Form 10-K under the Exchange Act, (iii) the Company files its quarterly reports on Form 10-Q under the Exchange Act, (iv) the Company files a Current Report on Form 8-K containing amended financial information (other than information that is furnished and not filed), if the Manager reasonably determines that the information in such Form 8-K is material, or (v) the Shares are delivered to the Manager as principal at the Time of Delivery pursuant to a Terms Agreement (such commencement or recommencement date and each such date referred to in (i), (ii), (iii), (iv) and (v) above, a “Representation Date”), unless waived by the Manager, the Company shall furnish or cause to be furnished to the Manager forthwith a certificate dated and delivered on the Representation Date, in form reasonably satisfactory to the Manager to the effect that the statements contained in the certificate referred to in Section 6 of this Agreement which were last furnished to the Manager are true and correct at the Representation Date, as though made at and as of such date (except that such statements shall be deemed to relate to the Registration Statement and the Prospectus as amended and supplemented to such date) or, in lieu of such certificate, a certificate of the same tenor as the certificate referred to in said Section 6, modified as necessary to relate to the Registration Statement and the Prospectus as amended and supplemented to the date of delivery of such certificate. Notwithstanding the foregoing, the requirement to deliver the certificate is hereby deemed waived for any Representation Date occurring at a time at which no Sales Notice is pending. If the Company subsequently decides to sell Shares following a Representation Date when the Company relied on such deemed waiver and did not provide the Manager with the certificate required by this section, then before the Company delivers the Sales Notice or the Manager sells any Shares, the Company shall deliver the certificate required by this section. In such event, the date of such Sales Notice shall be deemed a Representation Date.

(l) Bring Down Opinions; Negative Assurance. On each Representation Date, unless waived by the Manager, the Company shall furnish or cause to be furnished forthwith to the Manager and to counsel to the Manager a written opinion and negative assurance letter of counsel to the Company (“Company Counsel”) addressed to the Manager and dated and delivered within five (5) Trading Days of such Representation Date, in form and substance

reasonably satisfactory to the Manager. The requirement to furnish or cause to be furnished an opinion (but not with respect to a negative assurance letter) under this Section 4(l) shall be waived for any Representation Date other than a Representation Date on which a material amendment to the Registration Statement or Prospectus is made or the Company files its Annual Report on Form 10-K or a material amendment thereto under the Exchange Act, unless the Manager reasonably requests such deliverable required by this Section 4(l) in connection with a Representation Date, upon which request such deliverable shall be deliverable hereunder. In addition, the requirement to furnish the negative assurance letter and, as applicable, the opinion is hereby deemed waived for any Representation Date occurring at a time at which no Sales Notice is pending. If the Company subsequently decides to sell Shares following a Representation Date when the Company relied on such deemed waiver and did not provide the Manager with the negative assurance letter and, as applicable, the opinion required by this section, then before the Company delivers the Sales Notice or the Manager sells any Shares, the Company shall deliver the negative assurance letter and, as applicable, the opinion required by this section. In such event, the date of such Sales Notice shall be deemed a Representation Date.

(m) Auditor Bring Down “Comfort” Letter. On each Representation Date, unless waived by the Manager, the Company shall cause (1) the Company’s auditors (the “Accountants”), or other independent accountants satisfactory to the Manager forthwith to furnish the Manager a “comfort” letter, and (2) the Chief Financial Officer of the Company forthwith to furnish the Manager a certificate (the “CFO Certificate”), in each case dated within five (5) Trading Days of such Representation Date, in form satisfactory to the Manager, of the same tenor as the letters and certificate referred to in Section 6 of this Agreement but modified to relate to the Registration Statement and the Prospectus, as amended and supplemented to the date of such letters and certificate. The requirement to furnish or cause to be furnished a “comfort” letter and CFO Certificate under this Section 4(m) shall be waived for any Representation Date other than a Representation Date on which a material amendment to the Registration Statement or Prospectus is made or the Company files its Annual Report on Form 10-K or a material amendment thereto under the Exchange Act, unless the Manager reasonably requests the deliverables required by this Section 4(m) in connection with a Representation Date, upon which request such deliverable shall be deliverable hereunder. In addition, the requirement to furnish a “comfort” letter and CFO Certificate is hereby deemed waived for any Representation Date occurring at a time at which no Sales Notice is pending. If the Company subsequently decides to sell Shares following a Representation Date when the Company relied on such deemed waiver and did not provide the Manager with the “comfort” letter and CFO Certificate required by this section, then before the Company delivers the Sales Notice or the Manager sells any Shares, the Company shall deliver the “comfort” letter and CFO Certificate required by this section. In such event, the date of such Sales Notice shall be deemed a Representation Date.

(n) Due Diligence Session. Upon commencement of the offering of the Shares under this Agreement (and upon the recommencement of the offering of the Shares under this Agreement following the termination of a suspension of sales hereunder lasting more than 30 Trading Days), and at each Representation Date, the Company will conduct a due diligence session, in form and substance reasonably satisfactory to the Manager, which shall include representatives of management and the Accountants. The Company shall cooperate timely with any reasonable due diligence request from or review conducted by the Manager or its

agents from time to time in connection with the transactions contemplated by this Agreement, including, without limitation, providing information and available documents and access to appropriate corporate officers and the Company's agents during regular business hours, and timely furnishing or causing to be furnished such certificates, letters and opinions from the Company, its officers and its agents, as the Manager may reasonably request. In addition, the requirement to conduct a due diligence session is hereby deemed waived for any Representation Date occurring at a time at which no Sales Notice is pending. If the Company subsequently decides to sell Shares following a Representation Date when the Company relied on such deemed waiver and did not conduct a due diligence session required by this section, then before the Company delivers the Sales Notice or the Manager sells any Shares, the Company shall conduct a due diligence session required by this section. In such event, the date of such Sales Notice shall be deemed a Representation Date.

(o) Acknowledgment of Trading. The Company consents to the Manager trading in the Common Stock for the Manager's own account and for the account of its clients at the same time as sales of the Shares occur pursuant to this Agreement or pursuant to a Terms Agreement.

(p) Disclosure of Shares Sold. The Company will disclose in its Annual Reports on Form 10-K and Quarterly Reports on Form 10-Q, as applicable, the number of Shares sold through the Manager under this Agreement, the Net Proceeds to the Company and the compensation paid by the Company with respect to sales of Shares pursuant to this Agreement during the relevant quarter; and, if required by any subsequent change in Commission policy or request, more frequently by means of a Current Report on Form 8-K or a further Prospectus Supplement.

(q) Rescission Right. If to the knowledge of the Company, the conditions set forth in Section 6 shall not have been satisfied as of the applicable Settlement Date, the Company will offer to any person who has agreed to purchase Shares from the Company as the result of an offer to purchase solicited by the Manager the right to refuse to purchase and pay for such Shares.

(r) Bring Down of Representations and Warranties. Each delivery of a Sales Notice by the Company to purchase the Shares hereunder, and each execution and delivery by the Company of a Terms Agreement, shall be deemed to be an affirmation to the Manager that the representations and warranties of the Company contained in or made pursuant to this Agreement are true and correct as of the date of such Sales Notice or of such Terms Agreement as though made at and as of such date, and an undertaking that such representations and warranties will be true and correct as of the Settlement Date for the Shares relating to such Sales Notice or as of the Time of Delivery relating to such sale, as the case may be, as though made at and as of such date (except that such representations and warranties shall be deemed to relate to the Registration Statement and the Prospectus as amended and supplemented relating to such Shares).

(s) Reservation of Shares. The Company shall ensure that there are at all times sufficient shares of Common Stock to provide for the issuance, free of any preemptive rights, out of its authorized but unissued shares of Common Stock or shares of Common Stock held in treasury, of the maximum aggregate number of Shares authorized for issuance by the Board pursuant to the terms of this Agreement. The Company will use its commercially reasonable efforts to cause

the Shares to be listed for trading on the Trading Market and to maintain such listing.

(t) Obligation Under Exchange Act. During any period when the delivery of a prospectus relating to the Shares is required (including in circumstances where such requirement may be satisfied pursuant to Rule 172, 173 or any similar rule) to be delivered under the Act, the Company will file all documents required to be filed with the Commission pursuant to the Exchange Act within the time periods required by the Exchange Act and the regulations thereunder.

(u) DTC Facility. The Company shall cooperate with Manager and use its reasonable efforts to permit the Shares to be eligible for clearance and settlement through the facilities of DTC.

(v) Use of Proceeds. The Company will apply the Net Proceeds from the sale of the Shares in the manner set forth in the Prospectus.

(w) Filing of Prospectus Supplement. If any sales are made pursuant to this Agreement which are not made in “at the market” offerings as defined in Rule 415, including, without limitation, any Placement pursuant to a Terms Agreement, the Company shall file a Prospectus Supplement describing the terms of such transaction, the amount of Shares sold, the price thereof, the Manager’s compensation, and such other information as may be required pursuant to Rule 424 and Rule 430B, as applicable, within the time required by Rule 424.

(x) Additional Registration Statement. To the extent that the Registration Statement is not available for the sales of the Shares as contemplated by this Agreement, the Company shall file a new registration statement with respect to any additional shares of Common Stock necessary to complete such sales of the Shares and shall cause such registration statement to become effective as promptly as practicable. After the effectiveness of any such registration statement, all references to “Registration Statement” included in this Agreement shall be deemed to include such new registration statement, including all documents incorporated by reference therein pursuant to Item 12 of Form S-3, and all references to “Base Prospectus” included in this Agreement shall be deemed to include the final form of prospectus, including all documents incorporated therein by reference, included in any such registration statement at the time such registration statement became effective.

5. Payment of Expenses. The Company agrees to pay the costs and expenses incident to the performance of its obligations under this Agreement, whether or not the transactions contemplated hereby are consummated, including without limitation: (i) the preparation, printing or reproduction and filing with the Commission of the Registration Statement (including financial statements and exhibits thereto), the Prospectus, and each amendment or supplement to any of them; (ii) the printing (or reproduction) and delivery (including postage, air freight charges and charges for counting and packaging) of such copies of the Registration Statement, the Prospectus, and all amendments or supplements to any of them, as may, in each case, be reasonably requested for use in connection with the offering and sale of the Shares; (iii) the preparation, issuance and delivery of the Shares, including any stamp or transfer taxes in connection with the original issuance and sale of the Shares; (iv) the printing (or reproduction) and delivery of this Agreement, any blue sky memorandum and all other agreements or documents printed (or reproduced) and delivered in connection with the offering of the Shares; (v) the listing of the Shares

on the Trading Market; (vi) any registration or qualification of the Shares for offer and sale under the securities or blue sky laws of the several states (including filing fees and the reasonable fees and expenses of counsel for the Manager relating to such registration and qualification); (vii) the fees and expenses of the Company's accountants and the fees and expenses of counsel (including local and special counsel) for the Company; (viii) filing fees and expenses, if any, of the Commission and the filing fee under FINRA Rule 5110; (ix) the reasonable and documented fees and expenses of the Manager's counsel, not to exceed \$55,000; and (x) all other costs and expenses incident to the performance by the Company of its obligations hereunder.

6. Conditions to the Obligations of the Manager. The obligations of the Manager under this Agreement and any Terms Agreement shall be subject to (i) the accuracy of the representations and warranties on the part of the Company contained herein as of the Execution Time, each Representation Date, and as of each Applicable Time, Settlement Date and Time of Delivery, (ii) the performance by the Company of its obligations hereunder and (iii) the following additional conditions:

(a) Effectiveness of the Registration Statement; Filing of Prospectus Supplement. The Registration Statement shall have been declared effective by the Commission and the Prospectus, and any supplement thereto, required by Rule 424 to be filed with the Commission have been filed in the manner and within the time period required by Rule 424(b) with respect to any sale of Shares; each Prospectus Supplement relating to the Shares filed after the Effective Time shall have been filed in the manner required by Rule 424(b) within the time period required hereunder and under the Act; any other material required to be filed by the Company pursuant to Rule 433(d) under the Act, shall have been filed with the Commission within the applicable time periods prescribed for such filings by Rule 433; and no stop order suspending the effectiveness of the Registration Statement or any notice objecting to its use shall have been issued and no proceedings for that purpose shall have been instituted or threatened.

(b) Delivery of Opinion. The Company shall have caused the Company Counsel to furnish to the Manager its opinion and negative assurance statement, dated as of the Applicable Time and addressed to the Manager in form and substance acceptable to the Manager.

(c) Delivery of Officer's Certificate. The Company shall have furnished or caused to be furnished to the Manager a certificate of the Company signed by the Chief Executive Officer or the President and the principal financial or accounting officer of the Company, dated as of the Applicable Time, to the effect that the signers of such certificate have carefully examined the Registration Statement, the Prospectus, any Prospectus Supplement and any documents incorporated by reference therein and any supplements or amendments thereto and this Agreement and that:

(i) the representations and warranties of the Company in this Agreement are true and correct on and as of such date with the same effect as if made on such date and the Company has complied with all the agreements and satisfied all the conditions on its part to be performed or satisfied at or prior to such date;

(ii) no stop order suspending the effectiveness of the Registration Statement or any notice objecting to its use has been issued

and no proceedings for that purpose have been instituted or, to the Company's knowledge, threatened; and

(iii) since the date of the most recent financial statements included in the Registration Statement, the Prospectus and the Incorporated Documents, there has been no Material Adverse Effect on the condition (financial or otherwise), earnings, business or properties of the Company and the Subsidiaries, taken as a whole, whether or not arising from transactions in the ordinary course of business, except as set forth in or contemplated in the Registration Statement and the Prospectus.

(d) Delivery of Accountants' "Comfort" Letter. The Company shall have requested and caused the Accountants to have furnished to the Manager letters (which may refer to letters previously delivered to the Manager), dated as of the Applicable Time, in form and substance satisfactory to the Manager, confirming that they are independent accountants within the meaning of the Act and the Exchange Act and the respective applicable rules and regulations adopted by the Commission thereunder and that they have performed a review of any unaudited interim financial information of the Company included or incorporated by reference in the Registration Statement and the Prospectus and provide customary "comfort" as to such review in form and substance satisfactory to the Manager.

(e) No Material Adverse Event. Since the respective dates as of which information is disclosed in the Registration Statement, the Prospectus and the Incorporated Documents, except as otherwise stated therein, there shall not have been a Material Adverse Effect, whether or not arising from transactions in the ordinary course of business, except as set forth in or contemplated in the Registration Statement, the Prospectus and the Incorporated Documents (exclusive of any amendment or supplement thereto) the effect of which is, in the reasonable judgment of the Manager, so material and adverse as to make it impractical or inadvisable to proceed with the offering or delivery of the Shares as contemplated by the Registration Statement (exclusive of any amendment thereof), the Incorporated Documents and the Prospectus (exclusive of any amendment or supplement thereto).

(f) Payment of All Fees. The Company shall have paid the required Commission filing fees relating to the Shares.

(g) No FINRA Objections. FINRA shall not have raised any objection with respect to the fairness and reasonableness of the terms and arrangements under this Agreement.

(h) Shares Listed on Trading Market. The Shares shall have been listed and admitted and authorized for trading on the Trading Market, and satisfactory evidence of such actions shall have been provided to the Manager.

(i) Other Assurances. Prior to each Settlement Date and Time of Delivery, as applicable, the Company shall have furnished to the Manager such further information, certificates and documents as the Manager may reasonably request.

If any of the conditions specified in this Section 6 shall not have been fulfilled when and as provided in this Agreement, or if any of the opinions and certificates

mentioned above or elsewhere in this Agreement shall not be reasonably satisfactory in form and substance to the Manager and counsel for the Manager, this Agreement and all obligations of the Manager hereunder may be canceled at, or at any time prior to, any Settlement Date or Time of Delivery, as applicable, by the Manager. Notice of such cancellation shall be given to the Company in writing or by telephone and confirmed in writing by electronic mail.

The documents required to be delivered by this Section 6 shall be delivered to the office of Ellenoff Grossman & Schole LLP, counsel for the Manager, at 1345 Avenue of the Americas, New York, New York 10105, email: capmkt@egsllp.com, on each such date as provided in this Agreement.

7. Indemnification and Contribution.

(a) Indemnification by Company. The Company agrees to indemnify and hold harmless the Manager, the directors, officers, employees and agents of the Manager and each person who controls the Manager within the meaning of either the Act or the Exchange Act against any and all losses, claims, damages or liabilities, joint or several, to which they or any of them may become subject under the Act, the Exchange Act or other Federal or state statutory law or regulation, at common law or otherwise, insofar as such losses, claims, damages or liabilities (or actions in respect thereof) arise out of or are based upon any untrue statement or alleged untrue statement of a material fact contained in the Registration Statement for the registration of the Shares as originally filed or in any amendment thereof, or in the Base Prospectus, any Prospectus Supplement, the Prospectus, or in any amendment thereof or supplement thereto, or arise out of or are based upon the omission or alleged omission to state therein a material fact required to be stated therein or necessary to make the statements therein not misleading or result from or relate to any breach of any of the representations, warranties, covenants or agreements made by the Company in this Agreement, and agrees to reimburse each such indemnified party for any legal or other expenses reasonably incurred by them in connection with investigating or defending any such loss, claim, damage, liability or action; provided, however, that the Company will not be liable in any such case to the extent that any such loss, claim, damage or liability arises out of or is based upon any such untrue statement or alleged untrue statement or omission or alleged omission made therein in reliance upon and in conformity with written information furnished to the Company by the Manager specifically for inclusion therein. This indemnity agreement will be in addition to any liability that the Company may otherwise have.

(b) Indemnification by Manager. The Manager agrees to indemnify and hold harmless the Company, each of its directors, each of its officers who signs the Registration Statement, and each person who controls the Company within the meaning of either the Act or the Exchange Act, to the same extent as the foregoing indemnity from the Company to the Manager, but only with reference to written information relating to the Manager furnished to the Company by the Manager specifically for inclusion in the documents referred to in the foregoing indemnity; provided, however, that in no case shall the Manager be responsible for any amount in excess of the Broker Fee applicable to the Shares and paid hereunder. This indemnity agreement will be in addition to any liability which the Manager may otherwise have.

(c) Indemnification Procedures. Promptly after receipt by an indemnified party under this Section 7 of notice of the commencement of any action, such indemnified party will, if a claim in respect thereof is to be made against the indemnifying party under this Section 7, notify the indemnifying party in writing of the commencement thereof; but the failure so to notify the indemnifying party (i) will not relieve it from liability under paragraph (a) or (b) above unless and to the extent it did not otherwise learn of such action and such failure results in the forfeiture by the indemnifying party of substantial rights and defenses and (ii) will not, in any event, relieve the indemnifying party from any obligations to any indemnified party other than the indemnification obligation provided in paragraph (a) or (b) above. The indemnifying party shall be entitled to appoint counsel of the indemnifying party's choice at the indemnifying party's expense to represent the indemnified party in any action for which indemnification is sought (in which case the indemnifying party shall not thereafter be responsible for the fees and expenses of any separate counsel retained by the indemnified party or parties except as set forth below); provided, however, that such counsel shall be reasonably satisfactory to the indemnified party. Notwithstanding the indemnifying party's election to appoint counsel to represent the indemnified party in an action, the indemnified party shall have the right to employ separate counsel (including local counsel), and the indemnifying party shall bear the reasonable fees, costs and expenses of such separate counsel if (i) the use of counsel chosen by the indemnifying party to represent the indemnified party would present such counsel with a conflict of interest (based on the advice of counsel to the indemnified party), (ii) the actual or potential defendants in, or targets of, any such action include both the indemnified party and the indemnifying party and the indemnified party shall have reasonably concluded (based on the advice of counsel to the indemnified party) that there may be legal defenses available to it and/or other indemnified parties which are different from or additional to those available to the indemnifying party, (iii) the indemnifying party shall not have employed counsel reasonably satisfactory to the indemnified party to represent the indemnified party within a reasonable time after notice of the institution of such action or (iv) the indemnifying party shall authorize the indemnified party to employ separate counsel at the expense of the indemnifying party. An indemnifying party will not, without the prior written consent of the indemnified parties, settle or compromise or consent to the entry of any judgment with respect to any pending or threatened claim, action, suit or proceeding in respect of which indemnification or contribution may be sought hereunder (whether or not the indemnified parties are actual or potential parties to such claim or action) unless such settlement, compromise or consent includes an unconditional release of each indemnified party from all liability arising out of such claim, action, suit or proceeding. No indemnifying party shall be liable for any settlement of any action or claim affected without its written consent, which consent shall not be unreasonably withheld, conditioned or delayed.

(d) Contribution. In the event that the indemnity provided in paragraph (a), (b) or (c) of this Section 7 is unavailable to or insufficient to hold harmless an indemnified party for any reason, the Company and the Manager agree to contribute to the aggregate losses, claims, damages and liabilities (including legal or other expenses reasonably incurred in connection with investigating or defending the same) (collectively "Losses") to which the Company and the Manager may be subject in such proportion as is appropriate to reflect the relative benefits received by the Company on the one hand and by the Manager on the other from the offering of the Shares; provided, however, that in no case shall the Manager be responsible for any amount in excess of the Broker

Fee applicable to the Shares and paid hereunder. If the allocation provided by the immediately preceding sentence is unavailable for any reason, the Company and the Manager severally shall contribute in such proportion as is appropriate to reflect not only such relative benefits but also the relative fault of the Company on the one hand and of the Manager on the other in connection with the statements or omissions which resulted in such Losses as well as any other relevant equitable considerations. Benefits received by the Company shall be deemed to be equal to the total net proceeds from the offering (before deducting expenses) received by it, and benefits received by the Manager shall be deemed to be equal to the Broker Fee applicable to the Shares and paid hereunder as determined by this Agreement. Relative fault shall be determined by reference to, among other things, whether any untrue or any alleged untrue statement of a material fact or the omission or alleged omission to state a material fact relates to information provided by the Company on the one hand or the Manager on the other, the intent of the parties and their relative knowledge, access to information and opportunity to correct or prevent such untrue statement or omission. The Company and the Manager agree that it would not be just and equitable if contribution were determined by pro rata allocation or any other method of allocation which does not take account of the equitable considerations referred to above. Notwithstanding the provisions of this paragraph (d), no person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation. For purposes of this Section 7, each person who controls the Manager within the meaning of either the Act or the Exchange Act and each director, officer, employee and agent of the Manager shall have the same rights to contribution as the Manager, and each person who controls the Company within the meaning of either the Act or the Exchange Act, each officer of the Company who shall have signed the Registration Statement and each director of the Company shall have the same rights to contribution as the Company, subject in each case to the applicable terms and conditions of this paragraph (d).

8. Termination.

(a) The Company shall have the right, by giving written notice as hereinafter specified, to terminate the provisions of this Agreement relating to the solicitation of offers to purchase the Shares in its sole discretion at any time upon five (5) Business Days' prior written notice. Any such termination shall be without liability of any party to any other party except that (i) with respect to any pending sale, through the Manager for the Company, the obligations of the Company, including in respect of compensation of the Manager, shall remain in full force and effect notwithstanding the termination and (ii) the provisions of Sections 5, 6, 7, 8, 9, 10, 12, the second sentence of 13, 14 and 15 of this Agreement shall remain in full force and effect notwithstanding such termination.

(b) The Manager shall have the right, by giving written notice as hereinafter specified, to terminate the provisions of this Agreement relating to the solicitation of offers to purchase the Shares in its sole discretion at any time. Any such termination shall be without liability of any party to any other party except that the provisions of Sections 5, 6, 7, 8, 9, 10, 12, the second sentence of 13, 14 and 15 of this Agreement shall remain in full force and effect notwithstanding such termination.

(c) This Agreement shall remain in full force and effect until such date that this Agreement is terminated pursuant to Sections 8(a) or (b) above or

otherwise by mutual agreement of the parties, provided that any such termination by mutual agreement shall in all cases be deemed to provide that Sections 5, 6, 7, 8, 9, 10, 12, the second sentence of 13, 14 and 15 shall remain in full force and effect.

(d) Any termination of this Agreement shall be effective on the date specified in such notice of termination, provided that such termination shall not be effective until the close of business on the date of receipt of such notice by the Manager or the Company, as the case may be. If such termination shall occur prior to the Settlement Date or Time of Delivery for any sale of the Shares, such sale of the Shares shall settle in accordance with the provisions of Section 2(b) of this Agreement.

(e) In the case of any purchase of Shares by the Manager pursuant to a Terms Agreement, the obligations of the Manager pursuant to such Terms Agreement shall be subject to termination, in the absolute discretion of the Manager, by prompt oral notice given to the Company prior to the Time of Delivery relating to such Shares, if any, and confirmed promptly by electronic mail, if since the time of execution of the Terms Agreement and prior to such delivery and payment, (i) trading in the Common Stock shall have been suspended by the Commission or the Trading Market or trading in securities generally on the Trading Market shall have been suspended or limited or minimum prices shall have been established on such exchange, (ii) a banking moratorium shall have been declared either by Federal or New York State authorities or (iii) there shall have occurred any outbreak or escalation of hostilities, declaration by the United States of a national emergency or war, or other calamity or crisis the effect of which on financial markets is such as to make it, in the sole judgment of the Manager, impractical or inadvisable to proceed with the offering or delivery of the Shares as contemplated by the Prospectus (exclusive of any amendment or supplement thereto).

9 . Representations and Indemnities to Survive. The respective agreements, representations, warranties, indemnities and other statements of the Company or its officers and of the Manager set forth in or made pursuant to this Agreement will remain in full force and effect, regardless of any investigation made by the Manager or the Company or any of the officers, directors, employees, agents or controlling persons referred to in Section 7, and will survive delivery of and payment for the Shares.

10. Notices. All communications hereunder will be in writing and effective only on receipt, and will be mailed, delivered, or e-mailed to the addresses of the Company and the Manager, respectively, set forth on the signature page hereto.

11. Successors. This Agreement will inure to the benefit of and be binding upon the parties hereto and their respective successors and the officers, directors, employees, agents and controlling persons referred to in Section 7, and no other person will have any right or obligation hereunder.

12. No Fiduciary Duty. The Company hereby acknowledges that (a) the purchase and sale of the Shares pursuant to this Agreement is an arm's-length commercial transaction between the Company, on the one hand, and the Manager and any affiliate through which it may be acting, on the other, (b) the Manager is acting solely as sales agent and/or principal in connection with the purchase and sale of the Company's securities and not as a fiduciary of the Company and (c) the Company's engagement of the Manager in connection with the offering and the process leading up to the offering is

as independent contractors and not in any other capacity. Furthermore, the Company agrees that it is solely responsible for making its own judgments in connection with the offering (irrespective of whether the Manager has advised or is currently advising the Company on related or other matters). The Company agrees that it will not claim that the Manager has rendered advisory services of any nature or respect, or owe an agency, fiduciary or similar duty to the Company, in connection with such transaction or the process leading thereto.

13. Integration. This Agreement and any Terms Agreement supersede all prior agreements and understandings (whether written or oral) between the Company and the Manager with respect to the subject matter hereof. Notwithstanding anything herein to the contrary, the letter agreement, dated September 27, 2022, by and between the Company and the Manager shall continue to be effective and the terms therein shall continue to survive and be enforceable by the Manager in accordance with its terms, provided that, in the event of a conflict between the terms of the letter agreement and this Agreement, the terms of the Agreement shall prevail.

14. Amendments; Waivers. No provision of this Agreement may be waived, modified, supplemented or amended except in a written instrument signed, in the case of an amendment, by the Company and the Manager. No waiver of any default with respect to any provision, condition or requirement of this Agreement shall be deemed to be a continuing waiver in the future or a waiver of any subsequent default or a waiver of any other provision, condition or requirement hereof, nor shall any delay or omission of any party to exercise any right hereunder in any manner impair the exercise of any such right.

15. Applicable Law. This Agreement and any Terms Agreement will be governed by and construed in accordance with the laws of the State of New York applicable to contracts made and to be performed within the State of New York. Each of the Company and the Manager: (i) agrees that any legal suit, action or proceeding arising out of or relating to this Agreement shall be instituted exclusively in New York Supreme Court, County of New York, or in the United States District Court for the Southern District of New York, (ii) waives any objection which it may have or hereafter to the venue of any such suit, action or proceeding, and (iii) irrevocably consents to the jurisdiction of the New York Supreme Court, County of New York, and the United States District Court for the Southern District of New York in any such suit, action or proceeding. Each of the Company and the Manager further agrees to accept and acknowledge service of any and all process which may be served in any such suit, action or proceeding in the New York Supreme Court, County of New York, or in the United States District Court for the Southern District of New York and agrees that service of process upon the Company mailed by certified mail to the Company's address shall be deemed in every respect effective service of process upon the Company, in any such suit, action or proceeding, and service of process upon the Manager mailed by certified mail to the Manager's address shall be deemed in every respect effective service process upon the Manager, in any such suit, action or proceeding. If either party shall commence an action or proceeding to enforce any provision of this Agreement, then the prevailing party in such action or proceeding shall be reimbursed by the other party for its reasonable attorney's fees and other costs and expenses incurred with the investigation, preparation and prosecution of such action or proceeding.

16. WAIVER OF JURY TRIAL. THE COMPANY HEREBY IRREVOCABLY WAIVES, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, ANY AND ALL RIGHT TO TRIAL BY JURY IN ANY LEGAL PROCEEDING ARISING OUT OF OR RELATING TO THIS

AGREEMENT, ANY TERMS AGREEMENT OR THE TRANSACTIONS CONTEMPLATED HEREBY OR THEREBY.

17. Counterparts. This Agreement and any Terms Agreement may be signed in one or more counterparts, each of which shall constitute an original and all of which together shall constitute one and the same agreement, which may be delivered in .pdf file via e-mail.

18. Headings. The section headings used in this Agreement and any Terms Agreement are for convenience only and shall not affect the construction hereof.

If the foregoing is in accordance with your understanding of our agreement, please sign and return to us the enclosed duplicate hereof, whereupon this letter and your acceptance shall represent a binding agreement among the Company and the Manager.

Very truly yours,

SHAPEWAYS HOLDINGS, INC.

By: /s/ Greg Kress
Name: Greg Kress
Title: Chief Executive Officer

Address for Notice:
30-02 48th Avenue
Long Island City, New York 11101
Attention: Greg Kress
Email:

The foregoing Agreement is hereby confirmed and accepted as of the date first written above.

CRAIG-HALLUM CAPITAL GROUP LLC

By: /s/ Rick Hartfiel
Name: Rick Hartfiel
Title: Head of Investment Banking

Address for Notice:
222 South 9th Street, Suite 350
Minneapolis, Minnesota 55402
Attention: Rick Hartfiel
Email:

Form of Terms Agreement
ANNEX I
SHAPEWAYS HOLDINGS, INC.
TERMS AGREEMENT

Dear Sirs:

Shapeways Holdings, Inc. (the “Company”) proposes, subject to the terms and conditions stated herein and in the At The Market Offering Agreement, dated October 6, 2022 (the “At The Market Offering Agreement”), between the Company and Craig-Hallum Capital Group, LLC (“Manager”), to issue and sell to Manager the securities specified in the Schedule I hereto (the “Purchased Shares”).

Each of the provisions of the At The Market Offering Agreement not specifically related to the solicitation by the Manager, as agent of the Company, of offers to purchase securities is incorporated herein by reference in its entirety, and shall be deemed to be part of this Terms Agreement to the same extent as if such provisions had been set forth in full herein. Each of the representations and warranties set forth therein shall be deemed to have been made at and as of the date of this Terms Agreement and the Time of Delivery, except that each representation and warranty in Section 3 of the At The Market Offering Agreement which makes reference to the Prospectus (as therein defined) shall be deemed to be a representation and warranty as of the date of the At The Market Offering Agreement in relation to the Prospectus, and also a representation and warranty as of the date of this Terms Agreement and the Time of Delivery in relation to the Prospectus as amended and supplemented to relate to the Purchased Shares.

An amendment to the Registration Statement (as defined in the At The Market Offering Agreement), or a supplement to the Prospectus, as the case may be, relating to the Purchased Shares, in the form heretofore delivered to the Manager is now proposed to be filed with the Securities and Exchange Commission.

Subject to the terms and conditions set forth herein and in the At The Market Offering Agreement which are incorporated herein by reference, the Company agrees to issue and sell to the Manager and the latter agrees to purchase from the Company the number of shares of the Purchased Shares at the time and place and at the purchase price set forth in the Schedule I hereto.

If the foregoing is in accordance with your understanding, please sign and return to us a counterpart hereof, whereupon this Terms Agreement, including those provisions of the At The Market Offering Agreement incorporated herein by reference, shall constitute a binding agreement between the Manager and the Company.

SHAPEWAYS HOLDINGS, INC.

By:

ACCEPTED as of the date first written above.

CRAIG-HALLUM CAPITAL GROUP LLC

By:

SHAPEWAYS HOLDINGS, INC.

and

[], as Trustee

Indenture

Dated as of []

Debt Securities

CROSS REFERENCE SHEET*

Between

Provisions of Trust Indenture Act (as defined herein) and Indenture, dated as of [_____], between SHAPEWAYS HOLDINGS, INC. and [_____], as Trustee:

SECTION OF THE ACT	SECTION OF INDENTURE
310(a)(1) and (2)	6.9
310(a)(3) and (4)	Inapplicable
310(b)	6.8 and 6.10(a), (b) and (d)
310(c)	Inapplicable
311(a)	6.14
311(b)	6.14
311(c)	Inapplicable
312(a)	4.1 and 4.2
312(b)	4.2
312(c)	4.2
313(a)	4.3
313(b)(1)	Inapplicable
313(b)(2)	4.3
313(c)	4.3, 5.11, 6.10, 6.11, 8.2 and 12.2
313(d)	4.3
314(a)	3.5 and 4.2
314(b)	Inapplicable
314(c)(1) and (2)	11.5
314(c)(3)	Inapplicable
314(d)	Inapplicable
314(e)	11.5
314(f)	Inapplicable
315(a), (c) and (d)	6.1
315(b)	5.11
315(e)	5.12
316(a)(1)	5.9 and 5.10
316(a)(2)	Not required
316(a) (last sentence)	7.4
316(b)	5.7
317(a)	5.2
317(b)	3.4(a) and (b)
318(a)	11.7

*This Cross Reference Sheet is not part of the Indenture.

TABLE OF CONTENTS

	<u>PAGE</u>
ARTICLE I DEFINITIONS	1
SECTION 1.1 CERTAIN TERMS DEFINED	1
ARTICLE II SECURITIES	6
SECTION 2.1 FORMS GENERALLY	6
SECTION 2.2 FORM OF TRUSTEE'S CERTIFICATE OF AUTHENTICATION	6
SECTION 2.3 AMOUNT UNLIMITED; ISSUABLE IN SERIES	7
SECTION 2.4 AUTHENTICATION AND DELIVERY OF SECURITIES	9
SECTION 2.5 EXECUTION OF SECURITIES	11
SECTION 2.6 CERTIFICATE OF AUTHENTICATION	11
SECTION 2.7 DENOMINATION AND DATE OF SECURITIES; PAYMENT OF INTEREST	12
SECTION 2.8 REGISTRATION, TRANSFER AND EXCHANGE	12
SECTION 2.9 MUTILATED, DEFACED, DESTROYED, LOST AND STOLEN SECURITIES	15
SECTION 2.10 CANCELLATION OF SECURITIES; DISPOSAL THEREOF	15
SECTION 2.11 TEMPORARY SECURITIES	16
SECTION 2.12 CUSIP NUMBERS	16
ARTICLE III COVENANTS OF THE ISSUER	16
SECTION 3.1 PAYMENT OF PRINCIPAL AND INTEREST	16
SECTION 3.2 OFFICES FOR PAYMENTS, ETC	17
SECTION 3.3 APPOINTMENT TO FILL A VACANCY IN OFFICE OF TRUSTEE	17
SECTION 3.4 PAYING AGENTS	17
SECTION 3.5 COMPLIANCE CERTIFICATES	18
SECTION 3.6 CORPORATE EXISTENCE	18
SECTION 3.7 CALCULATION OF ORIGINAL ISSUE DISCOUNT	18
ARTICLE IV SECURITYHOLDER LISTS AND REPORTS BY THE ISSUER AND THE TRUSTEE	19
SECTION 4.1 ISSUER TO FURNISH TRUSTEE INFORMATION AS TO NAMES AND ADDRESSES OF SECURITYHOLDERS	19
SECTION 4.2 REPORTS BY THE ISSUER	19
SECTION 4.3 REPORTS BY THE TRUSTEE	19
ARTICLE V REMEDIES OF THE TRUSTEE AND SECURITYHOLDERS ON EVENT OF DEFAULT	20
SECTION 5.1 EVENT OF DEFAULT DEFINED, ACCELERATION OF MATURITY; WAIVER OF DEFAULT	20
SECTION 5.2 COLLECTION OF INDEBTEDNESS BY TRUSTEE; TRUSTEE MAY PROVE DEBT	22
SECTION 5.3 APPLICATION OF PROCEEDS	23
SECTION 5.4 SUITS FOR ENFORCEMENT	24

SECTION 5.5 RESTORATION OF RIGHTS ON ABANDONMENT OF PROCEEDINGS	24
SECTION 5.6 LIMITATIONS ON SUITS BY SECURITY HOLDERS	24
SECTION 5.7 UNCONDITIONAL RIGHT OF SECURITYHOLDERS TO INSTITUTE CERTAIN SUITS	25
SECTION 5.8 POWERS AND REMEDIES CUMULATIVE; DELAY OR OMISSION NOT WAIVER OF DEFAULT	25
SECTION 5.9 CONTROL BY HOLDERS OF SECURITIES	25
SECTION 5.10 WAIVER OF PAST DEFAULTS	26
SECTION 5.11 TRUSTEE TO GIVE NOTICE OF DEFAULT, BUT MAY WITHHOLD IN CERTAIN CIRCUMSTANCES	26
SECTION 5.12 RIGHT OF COURT TO REQUIRE FILING OF UNDERTAKING TO PAY COSTS	26
ARTICLE VI CONCERNING THE TRUSTEE	27
SECTION 6.1 DUTIES AND RESPONSIBILITIES OF THE TRUSTEE; DURING DEFAULT; PRIOR TO DEFAULT	27
SECTION 6.2 CERTAIN RIGHTS OF THE TRUSTEE	28
SECTION 6.3 TRUSTEE NOT RESPONSIBLE FOR RECITALS, DISPOSITION OF SECURITIES OR APPLICATION OF PROCEEDS THEREOF	29
SECTION 6.4 TRUSTEE AND AGENTS MAY HOLD SECURITIES; COLLECTIONS, ETC.	29
SECTION 6.5 MONEYS HELD BY TRUSTEE	30
SECTION 6.6 COMPENSATION AND INDEMNIFICATION OF TRUSTEE AND ITS PRIOR CLAIM	30
SECTION 6.7 RIGHT OF TRUSTEE TO RELY ON OFFICERS' CERTIFICATE, ETC.	30
SECTION 6.8 INDENTURES NOT CREATING POTENTIAL CONFLICTING INTERESTS FOR THE TRUSTEE	31
SECTION 6.9 QUALIFICATION OF TRUSTEE: CONFLICTING INTERESTS	31
SECTION 6.10 PERSONS ELIGIBLE FOR APPOINTMENT AS TRUSTEE	31
SECTION 6.11 RESIGNATION AND REMOVAL; APPOINTMENT OF SUCCESSOR TRUSTEE	31
SECTION 6.12 ACCEPTANCE OF APPOINTMENT BY SUCCESSOR TRUSTEE	32
SECTION 6.13 MERGER, CONVERSION, CONSOLIDATION OR SUCCESSION TO BUSINESS OF TRUSTEE	33
SECTION 6.14 PREFERENTIAL COLLECTION OF CLAIMS AGAINST THE ISSUER	34
SECTION 6.15 APPOINTMENT OF AUTHENTICATING AGENT	34
ARTICLE VII CONCERNING THE SECURITYHOLDERS	35
SECTION 7.1 EVIDENCE OF ACTION TAKEN BY SECURITYHOLDERS	35
SECTION 7.2 PROOF OF EXECUTION OF INSTRUMENTS AND OF HOLDING OF SECURITIES	35
SECTION 7.3 HOLDERS TO BE TREATED AS OWNERS	35
SECTION 7.4 SECURITIES OWNED BY ISSUER DEEMED NOT OUTSTANDING	35
SECTION 7.5 RIGHT OF REVOCATION OF ACTION TAKEN	36

ARTICLE VIII SUPPLEMENTAL INDENTURES	36
SECTION 8.1 SUPPLEMENTAL INDENTURES WITHOUT CONSENT OF SECURITYHOLDERS	36
SECTION 8.2 SUPPLEMENTAL INDENTURES WITH CONSENT OF SECURITYHOLDERS	38
SECTION 8.3 EFFECT OF SUPPLEMENTAL INDENTURE	39
SECTION 8.4 DOCUMENTS TO BE GIVEN TO TRUSTEE	39
SECTION 8.5 NOTATION ON SECURITIES IN RESPECT OF SUPPLEMENTAL INDENTURES	40
ARTICLE IX CONSOLIDATION, MERGER, SALE OR CONVEYANCE	40
SECTION 9.1 ISSUER MAY CONSOLIDATE, ETC., ONLY ON CERTAIN TERMS	40
SECTION 9.2 SUCCESSOR PERSON SUBSTITUTED	40
SECTION 9.3 OPINION OF COUNSEL TO BE GIVEN TO TRUSTEE	41
ARTICLE X SATISFACTION AND DISCHARGE OF INDENTURE; UNCLAIMED MONEYS	41
SECTION 10.1 SATISFACTION AND DISCHARGE OF INDENTURE	41
SECTION 10.2 APPLICATION BY TRUSTEE OF FUNDS DEPOSITED FOR PAYMENT OF SECURITIES	44
SECTION 10.3 REPAYMENT OF MONEYS HELD BY PAYING AGENT	44
SECTION 10.4 RETURN OF MONEYS HELD BY TRUSTEE AND PAYING AGENT UNCLAIMED FOR TWO YEARS	44
SECTION 10.5 INDEMNITY FOR U.S. GOVERNMENT OBLIGATIONS	45
SECTION 10.6 EFFECT ON SUBORDINATION PROVISIONS	45
ARTICLE XI MISCELLANEOUS PROVISIONS	45
SECTION 11.1 INCORPORATORS, STOCKHOLDERS, OFFICERS AND DIRECTORS OF ISSUER EXEMPT FROM INDIVIDUAL LIABILITY	45
SECTION 11.2 PROVISIONS OF INDENTURE FOR THE SOLE BENEFIT OF PARTIES AND HOLDERS OF SECURITIES	46
SECTION 11.3 SUCCESSORS AND ASSIGNS OF ISSUER BOUND BY INDENTURE	46
SECTION 11.4 NOTICES AND DEMANDS ON ISSUER, TRUSTEE AND HOLDERS OF SECURITIES	46
SECTION 11.5 OFFICERS' CERTIFICATES AND OPINIONS OF COUNSEL; STATEMENTS TO BE CONTAINED THEREIN	47
SECTION 11.6 PAYMENTS DUE ON SATURDAYS, SUNDAYS AND HOLIDAYS	48
SECTION 11.7 CONFLICT OF ANY PROVISION OF INDENTURE WITH TRUST INDENTURE ACT	48
SECTION 11.8 NEW YORK LAW TO GOVERN; WAIVER OF JURY TRIAL	48
SECTION 11.9 COUNTERPARTS	48
SECTION 11.10 EFFECT OF HEADINGS	49
SECTION 11.11 SECURITIES IN A FOREIGN CURRENCY	49
SECTION 11.12 JUDGMENT CURRENCY	49
SECTION 11.13 AGREEMENT TO SUBORDINATE	50
SECTION 11.14 FORCE MAJEURE	50

SECTION 11.15 U.S.A. PATRIOT ACT	50
ARTICLE XII REDEMPTION OF SECURITIES AND SINKING FUNDS	50
SECTION 12.1 APPLICABILITY OF ARTICLE	50
SECTION 12.2 NOTICE OF REDEMPTION; PARTIAL REDEMPTIONS	50
SECTION 12.3 PAYMENT OF SECURITIES CALLED FOR REDEMPTION	52
SECTION 12.4 EXCLUSION OF CERTAIN SECURITIES FROM ELIGIBILITY FOR SELECTION FOR REDEMPTION	52
SECTION 12.5 MANDATORY AND OPTIONAL SINKING FUNDS	52

THIS INDENTURE, dated as of [], by and between SHAPEWAYS HOLDINGS, INC., a Delaware corporation (the “Issuer”), and [], as trustee (the “Trustee”).

WITNESSETH:

WHEREAS, the Issuer has duly authorized the issue from time to time of its unsecured debentures, notes or other evidences of indebtedness to be issued in one or more series (the “Securities”) up to such principal amount or amounts as may from time to time be authorized in accordance with the terms of this Indenture;

WHEREAS, the Issuer has duly authorized the execution and delivery of this Indenture to provide, among other things, for the authentication, delivery and administration of the Securities; and

WHEREAS, all things necessary to make this Indenture a valid and legally binding indenture and agreement according to its terms have been done;

NOW, THEREFORE:

In consideration of the premises and the purchases of the Securities by the holders thereof, the Issuer and the Trustee mutually covenant and agree for the equal and proportionate benefit of the holders from time to time of the Securities as follows:

**ARTICLE I
DEFINITIONS**

SECTION 1.1 CERTAIN TERMS DEFINED

The following terms (except as otherwise expressly provided or unless the context otherwise clearly requires) for all purposes of this Indenture and of any indenture supplemental hereto shall have the respective meanings specified in this Section. All other terms used in this Indenture that are defined in the Trust Indenture Act of 1939, as amended (the “Trust Indenture Act”), or the definitions of which in the Securities Act of 1933, as amended (the “Securities Act”), are referred to in the Trust Indenture Act, including terms defined therein by reference to the Securities Act (except as herein otherwise expressly provided or unless the context otherwise requires), shall have the meaning assigned to such terms in the Trust Indenture Act and in the Securities Act as in effect from time to time. All accounting terms used herein and not expressly defined shall have the meanings assigned to such terms in accordance with generally accepted accounting principles, and the term “generally accepted accounting principles” means such accounting principles as are generally accepted at the time of any computation unless a different time shall be specified with respect to such series of Securities as provided for in Section 2.3. The words “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. The terms defined in this Article have the meanings assigned to them in this Article and include the plural as well as the singular.

“Affiliate” has the same meaning as given to that term in Rule 405 of the Securities Act or any successor provision.

“Applicable Procedures” means, with respect to any matter at any time, the policies and procedures of a Depository, if any, that are applicable to such matter at such time.

“Authenticating Agent” shall have the meaning set forth in Section 6.15.

“Board of Directors” means either the Board of Directors of the Issuer or any committee of such Board duly authorized to act on its behalf.

“Board Resolution” means a copy of one or more resolutions, certified by the secretary or an assistant secretary of the Issuer to have been duly adopted or consented to by the Board of Directors and to be in full force and effect, and delivered to the Trustee.

“Business Day” means, with respect to any Security, a day that is not a day on which banking institutions in the city (or in any of the cities, if more than one) in which amounts are payable, as specified in the form of such Security, are authorized or required by any applicable law or regulation to be closed.

“Capital Stock” means, with respect to any corporation, any and all shares, interests, rights to purchase (other than convertible or exchangeable indebtedness that is not itself otherwise capital stock), warrants, options, participations or other equivalents of or interests (however designated) in stock issued by that corporation.

“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 and delivery of this Indenture such Commission is not existing and performing the duties now assigned to it under the Trust Indenture Act, then the body performing such duties on such date.

“Corporate Trust Office” means the office of the Trustee at which the corporate trust business of the Trustee shall, at any particular time, be principally administered, which office is, as of the date of this Indenture, located at [].

“covenant defeasance” shall have the meaning set forth in Section 10.1(C).

“Depository” means, with respect to the Securities of any series issuable or issued in the form of one or more Registered Global Securities, the Person designated as Depository by the Issuer pursuant to Section 2.3 until a successor Depository shall have become such pursuant to the applicable provisions of this Indenture, and thereafter “Depository” shall mean or include each Person who is then a Depository hereunder, and if at any time there is more than one such Person, “Depository” as used with respect to the Securities of any such series shall mean the Depository with respect to the Registered Global Securities of that series.

“Dollar” or “\$” means the coin or currency of the United States of America as at the time of payment is legal tender for the payment of public and private debts.

“Equity Interests” means Capital Stock or partnership, participation or membership interests and all warrants, options or other rights to acquire Capital Stock or partnership, participation or membership interests (but excluding any debt security that is convertible into, or exchangeable for, Capital Stock or partnership, participation or membership interests).

“Event of Default” means any event or condition specified as such in Section 5.1.

“Exchange Act” means the Securities Exchange Act of 1934, as amended.

“Fair Value” when used with respect to any Voting Equity Interests of the Issuer means the fair value as determined in good faith by the Board of Directors of the Issuer.

“Foreign Currency” means any coin, currency, currency unit or composite currency, including, without limitation, the euro, issued by the government of one or more countries, other

than the United States of America or by any internationally recognized union, confederation or association of such governments.

“Holder,” “Holder of Securities,” “Securityholder” or any other similar terms mean the person in whose name a Security is registered in the security register kept by the Issuer for that purpose in accordance with the terms hereof.

“Indenture” means this instrument as originally executed and delivered or, if amended or supplemented as herein provided, as so amended or supplemented or both, and shall include the forms and terms of particular series of Securities established as contemplated hereunder, *provided*, that, if at any time more than one Person is acting as Trustee under this instrument, “Indenture” shall mean, with respect to one or more series of Securities for which such person is trustee, this instrument as originally executed and delivered or, if amended or supplemented as herein provided, as so amended or supplemented or both, and shall include the forms and terms of those particular series of Securities for which such Person is Trustee established as contemplated hereunder, exclusive, however, of any provisions or terms which relate solely to other series of Securities for which such person is not Trustee, regardless of when such terms or provisions were adopted.

“IRS” means the Internal Revenue Service of the United States Department of the Treasury, or any successor entity.

“Issuer” means (except as otherwise provided in Article IX) Shapeways Holdings, Inc., a Delaware corporation, and, subject to Article IX, its successors and assigns.

“Issuer Order” means a written statement, request or order of the Issuer signed in its name by the president, any vice president or the treasurer of the Issuer.

“Judgment Currency” has the meaning set forth in Section 11.12.

“Non-U.S. Person” means any person that is not a “U.S. person” as such term is defined in Rule 902 of the Securities Act.

“Officers’ Certificate” means a certificate signed by the chief executive officer and the chief financial officer of the Issuer and delivered to the Trustee.

“Opinion of Counsel” means an opinion in writing signed by legal counsel who is reasonably acceptable to the Trustee and who may be an employee of or counsel to the Issuer.

“Original Issue Date” of any Security (or portion thereof) means the earlier of (a) the date of such Security or (b) the date of any Security (or portion thereof) for which such Security was issued (directly or indirectly) on registration of transfer, exchange or substitution.

“Original Issue Discount Security” means any Security that provides for an amount less than the principal amount thereof to be due and payable upon a declaration of acceleration of the maturity thereof pursuant to Section 5.1.

“Outstanding” (except as otherwise provided in Section 7.4), when used with reference to Securities, means, subject to the provisions of Section 7.4, as of any particular time, all Securities authenticated and delivered by the Trustee under this Indenture, except:

- (a) Securities theretofore cancelled by the Trustee or delivered to the Trustee for cancellation;

(b) Securities, or portions thereof, for the payment or redemption of which moneys or U.S. Government Obligations (as provided for in Section 10.1) in the necessary amount shall have been deposited in trust with the Trustee or with any paying agent (other than the Issuer) or shall have been set aside, segregated and held in trust by the Issuer for the Holders of such Securities (if the Issuer shall act as its own paying agent), provided, that if such Securities, or portions thereof, are to be redeemed prior to the maturity thereof, notice of such redemption shall have been given as herein provided, or provisions reasonably satisfactory to the Trustee shall have been made for giving such notice; and

(c) Securities which shall have been paid or in substitution for which other Securities shall have been authenticated and delivered pursuant to the terms of Section 2.9 (except with respect to any such Security as to which proof reasonably satisfactory to the Trustee is presented that such Security is held by a person in whose hands such Security is a legal, valid and binding obligation of the Issuer).

In determining whether the Holders of the requisite principal amount of Outstanding Securities of any or all series have given any request, demand, authorization, direction, notice, consent or waiver hereunder, the principal amount of an Original Issue Discount Security that shall be deemed to be Outstanding for such purposes shall be the amount of the principal thereof that would be due and payable as of the date of such determination upon a declaration of acceleration of the maturity thereof pursuant to Section 5.1.

“Periodic Offering” means an offering of Securities of a series from time to time, the specific terms of which Securities, including, without limitation, the rate or rates of interest, if any, thereon, the stated maturity or maturities thereof and the redemption provisions, if any, with respect thereto, are to be determined by the Issuer or its agents upon the issuance of such Securities.

“Person” means any individual, corporation, business trust, partnership, limited liability company, joint venture, association, joint stock company, trust, unincorporated organization or government or any agency or political subdivision thereof.

“principal,” whenever used with reference to the Securities or any Security or any portion thereof, shall be deemed to include “and premium, if any,” provided, however, that such inclusion of premium, if any, shall under no circumstances result in the double counting of such premium for the purpose of any calculation required hereunder.

“record date” shall have the meaning set forth in Section 2.7.

“Registered Global Security” means a Security evidencing all or a part of a series of Registered Securities, issued to the Depository or a nominee thereof for such series in accordance with Section 2.4, and bearing the legend prescribed in Section 2.4 and any other legend required by the Depository for such series.

“Registered Security” means any Security registered on the books of the Registrar.

“Registrar” means the Person designated by the Issuer as “Registrar” for the purpose of registering Securities and transfers of Securities as herein provided, who shall initially be the Trustee. “Registrar” shall also mean or include each Person who is then a registrar hereunder, and, if at any time there is more than one such Person, “Registrar” as used with respect to the Securities of any series shall mean the registrar with respect to the Securities of such series.

“Required Currency” shall have the meaning set forth in Section 11.12.

“Responsible Officer” when used with respect to the Trustee means any vice president (whether or not designated by numbers or words added before or after the title “Vice President”), any assistant vice president, any trust officer, or assistant trust officer, or any other officer of the Trustee customarily performing functions similar to those performed by the persons who at the time shall be such officers, respectively, or to whom any corporate trust matter is referred because of his or her knowledge of and familiarity with the particular subject and, in each case, who shall have direct responsibility for the administration of this Indenture.

“Security” or “Securities” (except as otherwise provided in Section 7.4) has the meaning stated in the first recital of this Indenture, or, as the case may be, Securities that have been authenticated and delivered under this Indenture.

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

“Senior Indebtedness,” when used with respect to the Subordinated Securities of any series, shall have the meaning established pursuant to Subsection 2.3(9) with respect to the Subordinated Securities of such series.

“Senior Securities” means Securities other than Subordinated Securities.

“Subordinated Securities” means Securities that by the terms established pursuant to Subsection 2.3(9) are subordinated in right of payment to Senior Indebtedness of the Issuer.

“Subordination Provisions,” when used with respect to the Subordinated Securities of any series, shall have the meaning established pursuant to Subsection 2.3(9) with respect to the Subordinated Securities of such series.

“Subsidiary,” with respect to any Person, means (i) a corporation a majority of whose Voting Equity Interests is at the time, directly or indirectly, owned by such Person, by such Person and one or more Subsidiaries of such Person or by one or more Subsidiaries of such Person, (ii) any other Person (other than a corporation) in which such Person, one or more Subsidiaries of such Person, or such Person and one or more Subsidiaries of such Person, directly or indirectly, at the date of determination thereof has at least majority ownership interest, or (iii) a partnership in which such Person or a Subsidiary of such Person is, at the time, a general partner.

“Trustee” means the Person identified as “Trustee” in the first paragraph hereof and, subject to the provisions of Article VI, shall also include any successor trustee. “Trustee” shall also mean or include each Person who is then a trustee hereunder, and, if at any time there is more than one such Person, “Trustee” as used with respect to the Securities of any series shall mean the trustee with respect to the Securities of such series.

“U.S. Government Obligations” shall have the meaning set forth in Section 10.1(A).

“Voting Equity Interests” means Equity Interests which at the time are entitled to vote in the election of, as applicable, directors, members or partners generally; provided, that, for the purposes hereof, Equity Interests that carry only the right to vote conditionally on the happening of an event shall not be considered Voting Equity Interests whether or not such event shall have happened.

“Yield to Maturity” means the yield to maturity on a series of securities, calculated at the time of issuance of such series, or, if applicable, at the most recent redetermination of interest on such series, and calculated in accordance with accepted financial practice.

ARTICLE II SECURITIES

SECTION 2.1 FORMS GENERALLY

The Securities of each series shall be substantially in such form (not inconsistent with this Indenture) as shall be established by or pursuant to one or more Board Resolutions (as set forth in a Board Resolution or, to the extent established pursuant to but not set forth in a Board Resolution, an Officers' Certificate detailing such establishment) or in one or more indentures supplemental hereto, in each case with such appropriate insertions, omissions, substitutions and other variations as are required or permitted by this Indenture and may have imprinted or otherwise reproduced thereon such legend or legends or endorsements, not inconsistent with the provisions of this Indenture, as may be required to comply with any law or with any rules or regulations pursuant thereto, or with any rules of any securities exchange or to conform to general usage, all as may be determined by the officers executing such Securities, as evidenced by their execution of such Securities.

The definitive Securities shall be printed or produced in any other manner, all as determined by the officers executing such Securities, as evidenced by their execution of such Securities.

SECTION 2.2 FORM OF TRUSTEE'S CERTIFICATE OF AUTHENTICATION

The Trustee's certificate of authentication on all Securities shall be in substantially the following form:

"This is one of the Securities referred to in the within-mentioned Indenture.

[], as Trustee

By _____
Authorized Signatory

Dated: __ "

If at any time there shall be an Authenticating Agent appointed with respect to any series of Securities, then the Trustee's Certificate of Authentication to be borne by the Securities of each such series shall be substantially as follows:

"This is one of the Securities referred to in the within-mentioned Indenture.

as Authenticating Agent

By: _____
Authorized Signatory

Dated: _____ "

SECTION 2.3 AMOUNT UNLIMITED; ISSUABLE IN SERIES

The aggregate principal amount of Securities which may be authenticated and delivered under this Indenture is unlimited.

The Securities may be issued in one or more series. There shall be established in or pursuant to one or more Board Resolutions (and to the extent established pursuant to but not set forth in a Board Resolution, in an Officers' Certificate detailing such establishment) or established in one or more indentures supplemental hereto, prior to the initial issuance of Securities of any series,

- (1) the designation of the Securities of the series, including CUSIP numbers, which shall distinguish the Securities of the series from the Securities of all other series, and which may be part of a series of Securities previously issued;
- (2) any limit upon the aggregate principal amount of the Securities of the 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 the series pursuant to Section 2.8, 2.9, 2.11, 8.5 or 12.3);
- (3) if other than Dollars, the Foreign Currency or Foreign Currencies in which the Securities of the series are denominated;
- (4) the date or dates on which the principal of the Securities of the series is payable or the method of determination thereof;
- (5) the rate or rates at which the Securities of the series shall bear interest, if any, the date or dates from which such interest shall accrue, on which such interest shall be payable, the terms and conditions of any deferral of interest and the additional interest, if any, thereon, the right, if any, of the Issuer to extend the interest payment periods and the duration of the extensions and the date or dates on which a record shall be taken for the determination of Holders to whom interest is payable and/or the method by which such rate or rates or date or dates shall be determined;
- (6) the place or places where and the manner in which, the principal of and any interest on Securities of the series shall be payable, if other than as provided in Section 3.2;
- (7) the right, if any, of the Issuer to redeem Securities, in whole or in part, at its option and the period or periods within which, or the date or dates on which, the price or prices at which and any terms and conditions upon which Securities of the series may be so redeemed, pursuant to any sinking fund or otherwise;
- (8) the obligation, if any, of the Issuer to redeem, purchase or repay Securities of the series pursuant to any mandatory redemption, sinking fund or analogous provisions or at the option of a Holder thereof and the price or prices at which and the period or periods within which or the date or dates on which, and any terms and conditions upon which Securities of the series shall be redeemed, purchased or repaid, in whole or in part, pursuant to such obligation;
- (9) if the Securities of such series are Subordinated Securities, the terms pursuant to which the Securities of such series will be made subordinate in right of payment to Senior Indebtedness and the definition of such Senior Indebtedness with respect to such series (in the absence of an express statement to the effect that the Securities of such series are subordinate in right of payment to all such Senior Indebtedness, the Securities of such series shall not be subordinate to Senior Indebtedness and shall not constitute Subordinated Securities); and, in the

event that the Securities of such series are Subordinated Securities, such Board Resolution, Officers' Certificate or supplemental indenture, as the case may be, establishing the terms of such series shall expressly state which articles, sections or other provisions thereof constitute the "Subordination Provisions" with respect to the Securities of such series;

(10) if other than denominations of \$2,000 and any integral multiple of \$1,000 in excess thereof, the denominations in which Securities of the series shall be issuable;

(11) the percentage of the principal amount at which the Securities will be issued, and, if other than the 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 and the terms and conditions of any acceleration;

(12) if other than the coin, currency or currencies in which the Securities of the series are denominated, the coin, currency or currencies in which payment of the principal of or interest on the Securities of such series shall be payable, including composite currencies or currency units;

(13) if the principal of or interest on the Securities of the series are to be payable, at the election of the Issuer or a Holder thereof, in a coin or currency other than that in which the Securities are denominated, the period or periods within which, and the terms and conditions upon which, such election may be made;

(14) if the amount of payments of principal of and interest on the Securities of the series may be determined with reference to an index or formula based on a coin, currency, composite currency or currency unit other than that in which the Securities of the series are denominated, the manner in which such amounts shall be determined;

(15) whether and under what circumstances the Issuer will pay additional amounts on the Securities of the series held by a person who is not a U.S. person in respect of any tax, assessment or governmental charge withheld or deducted and, if so, whether the Issuer will have the option to redeem the Securities of the series rather than pay such additional amounts;

(16) if the Securities of the series are to be issuable in definitive form (whether upon original issue or upon exchange of a temporary Security of such series) only upon receipt of certain certificates or other documents or satisfaction of other conditions, the form and terms of such certificates, documents or conditions;

(17) any trustees, depositaries, authenticating or paying agents, transfer agents or registrars of any other agents with respect to the Securities of such series;

(18) any deletion from, modification of or addition to the Events of Default or covenants with respect to the Securities of such series;

(19) if the Securities of the series are to be convertible into or exchangeable for any other security or property of the Issuer, including, without limitation, securities of another Person held by the Issuer or its Affiliates and, if so, the terms thereof; and

(20) any other terms of the series.

All Securities of any one series shall be substantially identical, except as to denomination and except as may otherwise be provided by or pursuant to the Board Resolution or Officers' Certificate referred to above or as set forth in any indenture supplemental hereto. The Issuer may, without the consent of the Holders, issue additional Securities of the same series in the

future ranking equally with, and otherwise similar in all respects to, the Securities of such series, except for any differences in the issue price and, if applicable, the initial interest accrual date and interest payment date; provided that if the additional debt Securities are not fungible with the debt securities of the series previously offered or sold for U.S. federal income tax purposes, the additional debt securities will have a separate CUSIP or other identifying number as the Securities of the applicable series.

All Securities of any one series need not be issued at the same time and may be issued from time to time without consent of any Holder, consistent with the terms of this Indenture, if so provided by or pursuant to such Board Resolution, such Officers' Certificate or in any indenture supplemental hereto.

Under the Indenture, the Securities of any series and any additional Securities of such series the Issuer may issue in the future will be treated as a single series for all purposes under the Indenture, including for purposes of determining whether the required percentage of the Holders of record of the Securities of such series has given approval or consent to an amendment or waiver or joined in directing the Trustee to take certain actions on behalf of all Holders of the Securities of such series.

SECTION 2.4 AUTHENTICATION AND DELIVERY OF SECURITIES

The Issuer may deliver Securities of any series executed by the Issuer to the Trustee for authentication together with the applicable documents referred to below in this Section 2.4, and the Trustee shall thereupon authenticate and deliver such Securities to or upon the written order of the Issuer (contained in the Issuer Order referred to below in this Section) or deliver pursuant to such procedures acceptable to the Trustee and to such recipients as may be specified from time to time by an Issuer Order. The maturity date, original issue date, interest rate and any other terms of the Securities of such series shall be determined by or pursuant to such Issuer Order and Sections 2.1, 2.3 and this Section 2.4. In authenticating such Securities and accepting the additional responsibilities under this Indenture in relation to such Securities, the Trustee shall be provided with (in the case of subparagraphs (2), (3) and (4) below only at or before the time of the first request of the Issuer to the Trustee to authenticate Securities of such series) and (subject to Section 6.1) shall be fully protected in conclusively relying upon, the following enumerated documents unless and until such documents have been superseded or revoked:

(1) an Issuer Order requesting such authentication and setting forth delivery instructions if the Securities are not to be delivered to the Issuer, provided that, with respect to Securities of a series subject to a Periodic Offering, (a) such Issuer Order may be delivered by the Issuer to the Trustee prior to the delivery to the Trustee of such Securities for authentication and delivery, (b) the Trustee shall authenticate and deliver Securities of such series for original issue from time to time, in an aggregate principal amount not exceeding the aggregate principal amount established for such series, pursuant to an Issuer Order or pursuant to procedures acceptable to the Trustee as may be specified from time to time by an Issuer Order and (c) the maturity date or dates, original issue date or dates, interest rate or rates and any other terms of Securities of such series shall be determined by an Issuer Order or pursuant to such procedures;

(2) any Board Resolution, Officers' Certificate and/or executed supplemental indenture referred to in Sections 2.1 and 2.3 by or pursuant to which the forms and terms of the Securities were established;

(3) an Officers' Certificate setting forth the form or forms and terms of the Securities, stating that the form or forms and terms of the Securities have been established pursuant to Sections 2.1 and 2.3 and comply with this Indenture, and covering such other matters as the Trustee may reasonably request; and

(4) Either one or more Opinions of Counsel, or, at the option of the Issuer, a letter addressed to the Trustee permitting it to rely on one or more Opinions of Counsel, substantially to the effect that:

(a) the form or forms of the Securities have been duly authorized and established in conformity with the provisions of this Indenture;

(b) in the case of an underwritten offering, the terms of the Securities have been duly authorized and established in conformity with the provisions of this Indenture, and, in the case of an offering that is not underwritten, certain terms of the Securities have been established pursuant to a Board Resolution, an Officers' Certificate or a supplemental indenture in accordance with this Indenture, and when such other terms as are to be established pursuant to procedures set forth in an Issuer Order shall have been established, all such terms will have been duly authorized by the Issuer and will have been established in conformity with the provisions of this Indenture;

(c) if the terms of the Securities have been established pursuant to a supplemental indenture, such supplemental indenture, when executed by the Issuer and the Trustee in accordance with the provisions of this Indenture, and subject to any exemptions, assumptions and qualifications specified in such Opinion of Counsel, will be a valid and binding obligation of the Issuer, enforceable in accordance with its terms except as the enforceability thereof may be limited by (i) bankruptcy, insolvency, reorganization, liquidation, moratorium, fraudulent transfer or similar laws affecting creditors' rights generally, (ii) rights of acceleration, if any, and (iii) the availability of equitable remedies may be limited by equitable principles of general applicability, and such counsel need express no opinion with regard to the enforceability of Section 6.6 or of a judgment denominated in a currency other than Dollars;

(d) such Securities, when executed by the Issuer and authenticated by the Trustee in accordance with the provisions of this Indenture and delivered to and duly paid for by the purchasers thereof, and subject to any exemptions, assumptions and qualifications specified in such Opinion of Counsel, will be entitled to the benefits of this Indenture, and will be valid and binding obligations of the Issuer, enforceable in accordance with their respective terms except as the enforceability thereof may be limited by (i) bankruptcy, insolvency, reorganization, liquidation, moratorium, fraudulent transfer or similar laws affecting creditors' rights generally, (ii) rights of acceleration, if any, and (iii) the availability of equitable remedies may be limited by equitable principles of general applicability, and such counsel need express no opinion with regard to the enforceability of Section 6.6 or of a judgment denominated in a currency other than Dollars; and

(e) all conditions precedent to the issuance and authorization of the Securities have been complied with.

Any counsel may state that such opinions are limited to matters arising under the laws of the State of New York and the General Corporation Law of the State of Delaware. Such counsel may rely upon opinions of other counsel (copies of which shall be delivered to the Trustee) reasonably satisfactory to the Trustee, in which case the opinion shall state that such counsel believes it and the Trustee are entitled so to rely. Such counsel may also state that, insofar as such opinion involves factual matters, it has relied, to the extent he deems proper, upon certificates of officers of the Issuer and its subsidiaries and certificates of public officials.

The Trustee shall have the right to decline to authenticate and deliver any Securities under this section if the Trustee, being advised by counsel, determines that such action may not lawfully be taken by the Issuer or if the Trustee in good faith shall determine that such action

would expose the Trustee to personal liability to existing Holders or would affect the Trustee's own rights, duties or immunities under the Securities, this Indenture or otherwise.

If the Issuer shall establish pursuant to Section 2.3 that the Securities of a series are to be issued in the form of one or more Registered Global Securities, then the Issuer shall execute and the Trustee shall, in accordance with this Section and the Issuer Order with respect to such series, authenticate and deliver one or more Registered Global Securities that (i) shall represent and shall be denominated in an amount equal to the aggregate principal amount of all of the Securities of such series issued and not yet cancelled, (ii) shall be registered in the name of the Depository for such Registered Global Security or Securities or the nominee of such Depository, (iii) shall be delivered by the Trustee to such Depository or delivered or held pursuant to such Depository's instructions and (iv) shall bear a legend substantially to the following effect: **"UNLESS AND UNTIL IT IS EXCHANGED IN WHOLE OR IN PART FOR SECURITIES IN DEFINITIVE REGISTERED FORM, THIS SECURITY MAY NOT BE TRANSFERRED EXCEPT AS A WHOLE BY THE DEPOSITARY TO THE NOMINEE OF THE DEPOSITARY OR BY A NOMINEE OF THE DEPOSITARY TO THE DEPOSITARY OR ANOTHER NOMINEE OF THE DEPOSITARY OR BY THE DEPOSITARY OR ANY SUCH NOMINEE TO A SUCCESSOR DEPOSITARY OR A NOMINEE OF SUCH SUCCESSOR DEPOSITARY."**

Each Depository designated pursuant to Section 2.3 must, at the time of its designation and at all times while it serves as Depository, be a clearing agency registered under the Exchange Act and any other applicable statute or regulation.

SECTION 2.5 EXECUTION OF SECURITIES

The Securities shall be signed on behalf of the Issuer by the chief executive officer or the chief financial officer of the Issuer, which may, but need not, be attested. Such signatures may be the manual or facsimile signatures of the present or any future such officers. Typographical and other minor errors or defects in any such signature shall not affect the validity or enforceability of any Security that has been duly authenticated and delivered by the Trustee.

In case any officer of the Issuer who shall have signed any of the Securities shall cease to be such officer before the Security so signed shall be authenticated and delivered by the Trustee or disposed of by the Issuer, such Security nevertheless may be authenticated and delivered or disposed of as though the person who signed such Security had not ceased to be such officer of the Issuer; and any Security may be signed on behalf of the Issuer by such persons as, at the actual date of the execution of such Security, shall be the proper officers of the Issuer, although at the date of the execution and delivery of this Indenture any such person was not such an officer.

SECTION 2.6 CERTIFICATE OF AUTHENTICATION

Only such Securities as shall bear thereon a certificate of authentication substantially in the form hereinbefore recited, executed by the Trustee by the manual signature of one of its authorized signatories, shall be entitled to the benefits of this Indenture or be valid or obligatory for any purpose. The execution of such certificate by the Trustee upon any Security executed by the Issuer 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.

SECTION 2.7 DENOMINATION AND DATE OF SECURITIES; PAYMENT OF INTEREST

The Securities of each series shall be issuable as Registered Securities in denominations established as contemplated by Section 2.3 or, with respect to the Registered Securities of any series, if not so established, in denominations of \$2,000 and any integral multiple of \$1,000 in excess thereof. The Securities of each series shall be numbered, lettered or otherwise distinguished in such manner or in accordance with such plan as the officers of the Issuer executing the same may determine with the approval of the Trustee, as evidenced by the execution and authentication thereof.

Each Security shall be dated the date of its authentication. The Securities of each series shall bear interest, if any, from the date, and such interest shall be payable on the dates, established as contemplated by Section 2.3.

The person in whose name any Registered Security of any series is registered at the close of business on any record date applicable to a particular series with respect to any interest payment date for such series shall be entitled to receive the interest, if any, payable on such interest payment date notwithstanding any transfer or exchange of such Registered Security subsequent to the record date and prior to such interest payment date, except if and to the extent the Issuer shall default in the payment of the interest due on such interest payment date for such series, in which case such defaulted interest shall be paid to the persons in whose names Outstanding Registered Securities for such series are registered at the close of business on a subsequent record date (which shall be not less than five Business Days prior to the date of payment of such defaulted interest) established by notice sent by or on behalf of the Issuer to the Holders of Registered Securities not less than 15 days preceding such subsequent record date. The term "record date" as used with respect to any interest payment date (except a date for payment of defaulted interest) for the Securities of any series shall mean the date specified as such in the terms of the Registered Securities of such series established as contemplated by Section 2.3, or, if no such date is so established, if such interest payment date is the first day of a calendar month, the fifteenth day of the preceding calendar month or, if such interest payment date is the fifteenth day of a calendar month, the first day of such calendar month, whether or not such record date is a Business Day.

SECTION 2.8 REGISTRATION, TRANSFER AND EXCHANGE

The Issuer will keep at each office or agency to be maintained for the purpose as provided in Section 3.2 for each series of Securities a register or registers in which, subject to such reasonable regulations as the Issuer may prescribe, it will provide for the registration of Registered Securities of such series and the registration of transfer of Registered Securities of such series. Such register shall be in written form in the English language or in any other form capable of being converted into such form within a reasonable time. At all reasonable times such register or registers shall be open for inspection by the Trustee.

Upon due presentation for registration of transfer of any Registered Security of any series at any such office or agency to be maintained for the purpose as provided in Section 3.2, the Issuer shall execute and the Trustee shall authenticate and deliver in the name of the transferee or transferees a new Registered Security or Registered Securities of the same series, maturity date, interest rate and original issue date in authorized denominations for a like aggregate principal amount.

At the option of the Holder thereof, Registered Securities of any series (other than a Registered Global Security, except as set forth below) may be exchanged for a Registered Security or Registered Securities of such series having authorized denominations and an equal

aggregate principal amount, upon surrender of such Registered Securities to be exchanged at the agency of the Issuer that shall be maintained for such purpose in accordance with Section 3.2 and upon payment, if the Issuer shall so require, of the charges hereinafter provided. Whenever any Securities are so surrendered for exchange, the Issuer shall execute, and the Trustee shall authenticate and deliver, the Securities which the Holder making the exchange is entitled to receive. All Securities surrendered upon any exchange or transfer provided for in this Indenture shall be promptly cancelled and disposed of by the Trustee in accordance with its regular procedures, and, upon the written request of any officer of the Issuer, the Trustee shall deliver a certificate of cancellation and disposition thereof to the Issuer.

All Registered Securities presented for registration of transfer, exchange, redemption or payment shall (if so required by the Issuer or the Trustee) be duly endorsed, or be accompanied by a written instrument or instruments of transfer in form reasonably satisfactory to the Issuer and the Trustee duly executed, by the Holder or his attorney duly authorized in writing.

The Issuer or the Registrar may require payment of a sum sufficient to cover any tax or other governmental charge that may be imposed in connection with any exchange or registration of transfer of Securities. No service charge shall be made for any such transaction.

Neither the Issuer nor the Registrar shall be required to exchange or register a transfer of (a) any Securities of any series for a period of 15 days preceding the first sending of notice of redemption of Securities of such series to be redeemed and ending at the close of business on the day such notice of redemption is sent or (b) any Securities selected, called or being called for redemption, in whole or in part, except, in the case of any Security to be redeemed in part, the portion thereof not so to be redeemed.

Notwithstanding any other provision of this Section 2.8, except for exchanges in whole or in part for Securities in definitive registered form, a Registered Global Security representing all or a portion of the Securities of a series may not be transferred except as a whole by the Depository for such series to a nominee of such Depository or by a nominee of such Depository to such Depository or another nominee of such Depository or by such Depository or any such nominee to a successor Depository for such series or a nominee of such successor Depository.

If at any time the Depository for any Registered Securities of a series represented by one or more Registered Global Securities notifies the Issuer that it is unwilling or unable to continue as Depository for such Registered Securities or if at any time the Depository for such Registered Securities shall no longer be eligible under Section 2.4, the Issuer shall appoint a successor Depository eligible under Section 2.4 with respect to such Registered Securities. If a successor Depository eligible under Section 2.4 for such Registered Securities is not appointed by the Issuer within 90 days after the Issuer receives such notice or becomes aware of such ineligibility, the Issuer's election pursuant to Section 2.3 that such Registered Securities be represented by one or more Registered Global Securities shall no longer be effective and the Issuer will execute, and the Trustee, upon receipt of an Officers' Certificate for the authentication and delivery of definitive Securities of such series, will authenticate and deliver, Securities of such series in definitive registered form without coupons, in any authorized denominations, in an aggregate principal amount equal to the principal amount of the Registered Global Security or Securities representing such Registered Securities in exchange for such Registered Global Security or Securities.

The Issuer may at any time and in its sole discretion determine that the Registered Securities of any series issued in the form of one or more Registered Global Securities shall no longer be represented by a Registered Global Security or Securities. In such event the Issuer will execute, and the Trustee, upon receipt of any Officers' Certificate for the authentication and delivery of definitive Securities of such series, will authenticate and deliver, Securities of such

series in definitive registered form without coupons, in any authorized denominations, in an aggregate principal amount equal to the principal amount of the Registered Global Security or Securities representing such Registered Securities, in exchange for such Registered Global Security or Securities.

If specified by the Issuer pursuant to Section 2.3 with respect to Securities represented by a Registered Global Security, the Depositary for such Registered Global Security may surrender such Registered Global Security in exchange in whole or in part for Securities of the same series in definitive registered form on such terms as are acceptable to the Issuer and such Depositary. Thereupon, the Issuer shall execute, and the Trustee shall authenticate and deliver, without service charge,

(i) to the Person specified by such Depositary a new Registered Security or Securities of the same series, of any authorized denominations as requested by such Person, in an aggregate principal amount equal to and in exchange for such Person's beneficial interest in the Registered Global Security; and

(ii) to such Depositary a new Registered Global Security in a denomination equal to the difference, if any, between the principal amount of the surrendered Registered Global Security and the aggregate principal amount of Registered Securities authenticated and delivered pursuant to clause (i) above.

Upon the exchange of a Registered Global Security for Securities in definitive registered form without coupons, in authorized denominations, such Registered Global Security shall be cancelled by the Trustee or an agent of the Issuer or the Trustee. Securities in definitive registered form without coupons issued in exchange for a Registered Global Security pursuant to this Section 2.8 shall be registered in such names and in such authorized denominations as the Depositary for such Registered Global Security, pursuant to instructions from its direct or indirect participants or otherwise, shall instruct the Trustee or an agent of the Issuer or the Trustee. The Trustee or such agent shall deliver such Securities to or as directed by the Persons in whose names such Securities are so registered.

All Securities issued upon any transfer or exchange of Securities shall be valid obligations of the Issuer, evidencing the same debt, and entitled to the same benefits under this Indenture, as the Securities surrendered upon such transfer or exchange.

Neither the Issuer nor the Trustee shall have any responsibility for any actions taken or not taken by the Depositary. All Securities issued in definitive registered form, as described herein, shall be in "registered form" for purposes of Section 163(f) of the Internal Revenue Code of 1986, as amended.

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 Registered 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.

Neither the Trustee nor any Agent shall have any responsibility for any actions taken or not taken by the Depositary.

SECTION 2.9 MUTILATED, DEFACED, DESTROYED, LOST AND STOLEN SECURITIES

In case any temporary or definitive Security shall be mutilated, defaced, destroyed, lost or stolen, the Issuer in its discretion may execute and, upon the written request of any officer of the Issuer, the Trustee shall authenticate and deliver, a new Security of the same series, maturity date, interest rate and original issue date, bearing a number or other distinguishing symbol not contemporaneously outstanding, in exchange and substitution for the mutilated or defaced Security, or in lieu of and in substitution for the Security so destroyed, lost or stolen. In every case, the applicant for a substitute Security shall furnish to the Issuer and to the Trustee and any agent of the Issuer or the Trustee such security or indemnity as required by them to indemnify and defend and to save each of them harmless and, in every case of destruction, loss or theft, evidence to their reasonable satisfaction of the destruction, loss or theft of such Security and of the ownership thereof, and in the case of mutilation or defacement shall surrender the Security to the Trustee or such agent.

Upon the issuance of any substitute Security, the Issuer or the Registrar 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) or its agent connected therewith. In case any Security which has matured or is about to mature or has been called for redemption in full shall become mutilated or defaced or be destroyed, lost or stolen, the Issuer 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 or defaced Security), if the applicant for such payment shall furnish to the Issuer and to the Trustee and any agent of the Issuer or the Trustee such security or indemnity as any of them may require to save each of them harmless, and, in every case of destruction, loss or theft, the applicant shall also furnish to the Issuer and the Trustee and any agent of the Issuer or the Trustee evidence to their reasonable satisfaction of the destruction, loss or theft of such Security and of the ownership thereof.

Every substitute Security of any series issued pursuant to the provisions of this Section by virtue of the fact that any such Security is destroyed, lost or stolen shall constitute an additional contractual obligation of the Issuer, whether or not the destroyed, lost or stolen Security shall be at any time enforceable by anyone and shall be entitled to all the benefits of (but shall be subject to all the limitations of rights set forth in) this Indenture equally and proportionately with any and all other Securities of such series duly authenticated and delivered hereunder. All Securities shall be held and owned upon the express condition that, to the extent permitted by law, the foregoing provisions are exclusive with respect to the replacement or payment of mutilated, defaced or destroyed, lost or stolen Securities and shall preclude 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 2.10 CANCELLATION OF SECURITIES; DISPOSAL THEREOF

All Securities surrendered for payment, redemption, registration of transfer or exchange, or for credit against any payment in respect of a sinking or analogous fund, if any, if surrendered to the Issuer or any agent of the Issuer or the Trustee or any agent of the Trustee, shall be delivered to the Trustee or its agent 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 permitted by any of the provisions of this Indenture. The Trustee or its agent shall dispose of cancelled Securities held by it in accordance with its regular procedures and deliver a certificate of disposition to the Issuer upon the Issuer's request in writing. If the Issuer or its agent shall acquire any of the Securities, 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 or its agent for cancellation.

SECTION 2.11 TEMPORARY SECURITIES

Pending the preparation of definitive Securities for any series, the Issuer may execute and the Trustee shall authenticate and deliver temporary Securities for such series (printed, lithographed, typewritten or otherwise reproduced, in each case in form reasonably satisfactory to the Trustee). Temporary Securities of any series shall be issuable as Registered Securities without coupons of any authorized denomination, and substantially in the form of the definitive Securities of such series but with such omissions, insertions and variations as may be appropriate for temporary Securities, all as may be determined by the Issuer with the concurrence of the Trustee as evidenced by the execution and authentication thereof. Temporary Securities may contain such references to any provisions of this Indenture as may be appropriate. Every temporary Security shall be executed by the Issuer and be authenticated by the Trustee upon the same conditions and in substantially the same manner, and with like effect, as the definitive Securities. Without unreasonable delay the Issuer shall execute and shall furnish definitive Securities of such series and thereupon temporary Registered Securities of such series may be surrendered in exchange therefor without charge at each office or agency to be maintained by the Issuer for that purpose pursuant to Section 3.2 and the Trustee shall authenticate and deliver in exchange for such temporary Securities of such series an equal aggregate principal amount of definitive Securities of the same series having authorized denominations. Until so exchanged, the temporary Securities of any series shall be entitled to the same benefits under this Indenture as definitive Securities of such series, unless otherwise established pursuant to Section 2.3.

SECTION 2.12 CUSIP NUMBERS

The Issuer in issuing the Securities may use "CUSIP" numbers (if then generally in use), and, if so, the Trustee shall use "CUSIP" numbers in notices of redemption as a convenience to Holders; provided that any such notice may state that no representation is made as to the correctness of such numbers either as printed on the Securities or as contained in any notice of a redemption and that reliance may be placed only on the other identification numbers printed on the Securities, and any such redemption shall not be affected by any defect in or omission of such numbers. The Issuer will promptly notify the Trustee in writing of any change in the "CUSIP" numbers.

ARTICLE III COVENANTS OF THE ISSUER

SECTION 3.1 PAYMENT OF PRINCIPAL AND INTEREST

The Issuer covenants and agrees for the benefit of each series of Securities that it will duly and punctually pay or cause to be paid the principal of, and interest on, if any, each of the Securities of such series (together with any additional amounts payable pursuant to the terms of such Securities) at the place or places, at the respective time or times and in the manner provided in such Securities and in this Indenture. The interest, if any, on Registered Securities (together with any additional amounts payable pursuant to the terms of such Securities) shall be payable only to or upon the written order of the Holders thereof and, at the option of the Issuer, may be paid by wire transfer or by mailing checks for such interest payable to or upon the written order of such Holders at their last addresses as they appear on the Securities register of the Issuer.

SECTION 3.2 OFFICES FOR PAYMENTS, ETC

So long as any Registered Securities are authorized for issuance pursuant to this Indenture or are outstanding hereunder, the Issuer will maintain in [] an office or agency where the Registered Securities of each series may be presented for payment, where the Securities of each series may be presented for exchange as is provided in this Indenture and, if applicable, pursuant to Section 2.3 and where the Registered Securities of each series may be presented for registration of transfer as in this Indenture provided.

The Issuer will give to the Trustee written notice of the location of each such office or agency and of any change of location thereof. In case the Issuer shall fail to maintain any agency required by this Section to be located in [], or shall fail to give such notice of the location or for any change in the location of any of the above agencies, presentations and demands may be made and notices may be served at the designated office of the Trustee.

The Issuer may from time to time designate one or more additional offices or agencies in the continental United States where the Securities of a series may be presented for payment, where the Securities of that series may be presented for exchange as provided in this Indenture and pursuant to Section 2.3 and where the Registered Securities of that series may be presented for registration of transfer as in this Indenture provided, and the Issuer may from time to time rescind any such designation, as the Issuer may deem desirable or expedient; provided, that no such designation or rescission shall in any manner relieve the Issuer of its obligations to maintain the agencies provided for in this Section. The Issuer shall give to the Trustee prompt written notice of any such designation or rescission thereof.

SECTION 3.3 APPOINTMENT TO FILL A VACANCY IN OFFICE OF TRUSTEE

The Issuer, whenever necessary to avoid or fill a vacancy in the office of Trustee, will appoint, in the manner provided in Section 6.10, a Trustee, so that there shall at all times be a Trustee with respect to each series of Securities hereunder.

SECTION 3.4 PAYING AGENTS

Whenever the Issuer shall appoint a paying agent other than the Trustee with respect to the Securities of any series, it will cause 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,

- (a) that it will hold all sums received by it as such agent for the payment of the principal of or interest on the Securities of such series (whether such sums have been paid to it by the Issuer or by any other obligor on the Securities of such series) in trust for the benefit of the Holders of the Securities of such series or of the Trustee;
- (b) that it will give the Trustee written notice of any failure by the Issuer (or by any other obligor on the Securities of such series) to make any payment of the principal of or interest on the Securities of such series when the same shall be due and payable; and
- (c) that it will pay any such sums so held in trust by it to the Trustee upon the Trustee's written request at any time during the continuance of the failure referred to in the foregoing clause (b).

The Issuer will, on or prior to each due date of the principal of or interest on the Securities of such series, deposit with the paying agent a sum sufficient to pay such principal or

interest so becoming due, and (unless such paying agent is the Trustee) the Issuer will promptly notify the Trustee of any failure to take such action.

If the Issuer shall act as its own paying agent with respect to the Securities of any series, it will, on or before each due date of the principal of or interest on the Securities of such series, set aside, segregate and hold in trust for the benefit of the Holders of the Securities of such series a sum sufficient to pay such principal or interest so becoming due. The Issuer will promptly notify the Trustee in writing of any failure to take such action.

Anything in this Section to the contrary notwithstanding, but subject to Section 10.1, the Issuer may at any time, for the purpose of obtaining a satisfaction and discharge with respect to one or more or all series of Securities hereunder, or for any other reason, pay or cause to be paid to the Trustee all sums held in trust for any such series by the Issuer or any paying agent hereunder, as required by this Section, such sums to be held by the Trustee upon the trusts herein contained.

Anything in this Section to the contrary notwithstanding, the agreement to hold sums in trust as provided in this Section is subject to the provisions of Sections 10.3 and 10.4.

SECTION 3.5 COMPLIANCE CERTIFICATES

The Issuer will furnish to the Trustee on or before the date that is 120 days following the end of each fiscal year (beginning with the fiscal year ended []) an officer's certificate (which need not comply with Section 11.5) from the principal executive, financial or accounting officer of the Issuer stating that in the course of the performance by the signer of his or her duties as an officer of the Issuer he or she would normally have knowledge of any default or non-compliance by the Issuer in the performance of any covenants or conditions contained in this Indenture, stating whether or not he or she has knowledge of any such default or non-compliance (without regard to notice requirements or grace periods) and, if so, describing each such default or non-compliance of which the signer has knowledge and the nature thereof.

The Issuer shall deliver to the Trustee, as soon as possible and in any event within five days after the Issuer becomes aware of the occurrence of any Event of Default or an event which, with notice or the lapse of time or both, would constitute an Event of Default, an Officers' Certificate setting forth the details of such Event of Default or default and the action which the Issuer proposes to take with respect thereto.

SECTION 3.6 CORPORATE EXISTENCE

Subject to Article IX, the Issuer will do or cause to be done all things necessary to preserve and keep in full force and effect its corporate existence and the rights (charter and statutory), licenses and franchises of the Issuer and its Subsidiaries; provided, that the Issuer shall not be required to preserve any such right, license or franchise, if, in the judgment of the Issuer, the preservation thereof is no longer desirable in the conduct of the business of the Issuer and its Subsidiaries taken as a whole and the loss thereof is not disadvantageous in any material respect to the Securityholders.

SECTION 3.7 CALCULATION OF ORIGINAL ISSUE DISCOUNT

The Issuer shall file with the Trustee promptly at the end of each calendar year (i) a written notice specifying the amount of original issue discount (including daily rates and accrual periods) accrued on Outstanding Securities as of the end of such year and (ii) such other specific information relating to such original issue discount as may then be relevant under the Internal Revenue Code of 1986, as amended from time to time.

**ARTICLE IV
SECURITYHOLDER LISTS AND REPORTS BY THE
ISSUER AND THE TRUSTEE**

**SECTION 4.1 ISSUER TO FURNISH TRUSTEE INFORMATION AS TO NAMES AND ADDRESSES OF
SECURITYHOLDERS**

If and so long as the Trustee shall not be the Registrar for the Securities of any series, the Issuer and any other obligor on the Securities will furnish or cause to be furnished to the Trustee a list in such form as the Trustee may reasonably require of the names and addresses of the Holders of the Registered Securities of such series pursuant to Section 312 of the Trust Indenture Act:

(a) semi-annually not more than 5 days after each record date for the payment of interest on such Registered Securities, as hereinabove specified, as of such record date and on dates to be determined pursuant to Section 2.3 for non-interest bearing Registered Securities in each year; and

(b) at such other times as the Trustee may reasonably request in writing, within 30 days after receipt by the Issuer of any such request as of a date not more than 15 days prior to the time such information is furnished.

SECTION 4.2 REPORTS BY THE ISSUER

The Issuer covenants to file with the Trustee, within 15 days after the Issuer is required to file the same with the Commission, copies of the annual reports and of the information, documents, and other reports that the Issuer may be required to file with the Commission pursuant to Section 13 or Section 15(d) of the Exchange Act or pursuant to Section 314 of the Trust Indenture Act.

Delivery of such reports, information and documents to the Trustee is for informational purposes only and the Trustee's receipt of such shall not constitute constructive notice of any information contained therein or determinable from information contained therein, including the Issuer's compliance with any covenants hereunder (as to which the Trustee is entitled to rely exclusively on Officers' Certificates).

SECTION 4.3 REPORTS BY THE TRUSTEE

(a) The Trustee shall transmit to Holders such reports concerning the Trustee and its actions under this Indenture as may be required pursuant to the Trust Indenture Act at the times and in the manner provided pursuant thereto. If required by Section 313(a) of the Trust Indenture Act, the Trustee shall, within 60 days after each May 15 following the date of the initial issuance of Securities under this Indenture deliver to Holders a brief report, dated as of such May 15, which complies with the provisions of such Section 313(a).

(b) A copy of each such report shall, at the time of such transmission to Holders, be filed by the Trustee with each stock exchange, if any, upon which the Securities are listed, with the Commission and with the Issuer. The Issuer will promptly notify the Trustee in writing when the Securities are listed on any stock exchange and of any delisting thereof.

**ARTICLE V
REMEDIES OF THE TRUSTEE AND SECURITYHOLDERS ON EVENT OF DEFAULT**

SECTION 5.1 EVENT OF DEFAULT DEFINED, ACCELERATION OF MATURITY; WAIVER OF DEFAULT

“Event of Default” with respect to Securities of any series, wherever used herein, means any one of the following events which shall have occurred and be continuing (whatever the reason for such Event of Default and whether it shall be voluntary or involuntary or be effected by operation of law or pursuant to any judgment, decree or order of any court or any order, rule or regulation of any administrative or governmental body):

(a) default in the payment of any installment of interest upon any of the Securities of such series as and when the same shall become due and payable, and continuance of such default for a period of 30 days; provided that, a valid extension of an interest payment period by the Issuer in accordance with the terms of such Securities shall not constitute a failure to pay interest;

(b) default in the payment of all or any part of the principal or premium (if any) on any of the Securities of such series as and when the same shall become due and payable either at maturity, upon any redemption, by declaration or otherwise;

(c) failure on the part of the Issuer duly to observe or perform any other of the covenants or agreements on the part of the Issuer in the Securities of such series or contained in this Indenture (other than a covenant or agreement included in this Indenture solely for the benefit of a series of Securities other than such series) for a period of [] days after the date on which written notice specifying such failure, stating that such notice is a “Notice of Default” hereunder and demanding that the Issuer remedy the same, shall have been given by registered or certified mail, return receipt requested, to the Issuer by the Trustee, or to the Issuer and the Trustee by the holders of at least []% in aggregate principal amount of the Outstanding Securities of the series to which such covenant or agreement relates;

(d) a court having jurisdiction in the premises shall enter a decree or order for relief in respect of the Issuer in an involuntary case under any applicable bankruptcy, insolvency or other similar law now or hereafter in effect, or appointing a receiver, liquidator, assignee, custodian, trustee, sequestrator (or similar official) of the Issuer for any substantial part of its property or ordering the winding up or liquidation of its affairs, and such decree or order shall remain unstayed and in effect for a period of 60 consecutive days;

(e) the Issuer shall commence a voluntary case under any applicable bankruptcy, insolvency or other similar law now or hereafter in effect, or consent to the entry of an order for relief in an involuntary case under any such law, or consent to the appointment or taking possession by a receiver, liquidator, assignee, custodian, trustee, sequestrator (or similar official) of the Issuer or for any substantial part of its or their property, or make any general assignment for the benefit of creditors; or

(f) any other Event of Default provided in the supplemental indenture, Board Resolution or Officers’ Certificate under which such series of Securities is established.

If an Event of Default described in clause (a), (b), (c) or (f) occurs with respect to a series of Securities and is continuing, then, and in each and every such case, except for any series of Securities the principal of which shall have already become due and payable, either the Trustee or the Holders of not less than []% in aggregate principal amount of the Securities of each

such affected series then Outstanding hereunder (each such series voting as a separate class) by notice in writing to the Issuer (and to the Trustee if given by Securityholders), may declare the entire principal (or, if the Securities of such series are Original Issue Discount Securities, such portion of the principal amount as may be specified in the terms of such series) of all Securities of such series, and the interest accrued thereon, if any, to be due and payable immediately, and upon any such declaration, the same shall become immediately due and payable.

If an Event of Default described in clause (d) or (e) above occurs and is continuing, then the principal amount of all the Securities then Outstanding, and the interest accrued thereon, if any, shall become and be immediately due and payable without any declaration or other act on the part of the Trustee or any Holder.

The foregoing provisions are subject to the condition that if, at any time after the principal (or, if the Securities are Original Issue Discount Securities, such portion of the principal as may be specified in the terms thereof) of the Securities of any series (or of all the Securities, as the case may be) 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,

(A) the Issuer shall pay or shall deposit with the Trustee a sum sufficient to pay

(i) all matured installments of interest upon all the Securities of such series (or all the Securities, as the case may be);

(ii) the principal of any and all Securities of such series (or of all the Securities, as the case may be) which shall have become due otherwise than by acceleration;

(iii) interest upon such principal and, to the extent that payment of such interest is enforceable under applicable law, on overdue installments of interest, at the same rate as the rate of interest or Yield to Maturity (in the case of Original Issue Discount Securities) specified in the Securities of such series (or at the respective rates of interest or Yields to Maturity of all the Securities, as the case may be) to the date of such payment or deposit;

(iv) all amounts payable to the Trustee pursuant to Section 6.6; and

(B) all Events of Default under the Indenture, other than the non-payment of the principal of Securities which shall have become due by acceleration, shall have been cured, waived or otherwise remedied as provided herein, then and in every such case the Holders of a majority in aggregate principal amount of all the Securities of such series voting as a separate class (or of all the Securities, as the case may be, voting as a single class), then Outstanding, by written notice to the Issuer and to the Trustee, may waive all defaults with respect to such series (or with respect to all the Securities, as the case may be) and rescind and annul such declaration and its consequences, but no such waiver or rescission and annulment shall extend to or shall affect any subsequent default or shall impair any right consequent thereon.

For all purposes under this Indenture, if a portion of the principal of any Original Issue Discount Securities shall have been accelerated and declared due and payable pursuant to the provisions hereof, then, from and after such declaration, unless such declaration has been rescinded and annulled, the principal amount of such Original Issue Discount Securities shall be deemed, for all purposes hereunder, to be such portion of the principal thereof as shall be due and payable as a result of such acceleration, and payment of such portion of the principal thereof as shall be due and payable as a result of such acceleration, together with interest, if any, thereon and all other amounts owing thereunder, shall constitute payment in full of such Original Issue Discount Securities.

SECTION 5.2 COLLECTION OF INDEBTEDNESS BY TRUSTEE; TRUSTEE MAY PROVE DEBT

The Issuer covenants that (a) in case default shall be made in the payment of any installment of interest on any of the Securities of any series when such interest shall have become due and payable, and such default shall have continued for a period of 30 days, or (b) in case default shall be made in the payment of all or any part of the principal of any of the Securities of any series when the same shall have become due and payable, whether upon maturity of the Securities of such series or upon any redemption or by declaration or otherwise, then upon demand of the Trustee, the Issuer will pay to the Trustee for the benefit of the Holders of the Securities of such series the whole amount that then shall have become due and payable on all Securities of such series, for principal and interest, as the case may be (with interest to the date of such payment upon the overdue principal and, to the extent that payment of such interest is enforceable under applicable law, on overdue installments of interest at the same rate as the rate of interest or Yield to Maturity (in the case of Original Issue Discount Securities) specified in the Securities of such series); and in addition thereto, such further amount as shall be sufficient to cover the costs and expenses of collection, and such other amount due the Trustee under Section 6.6 in respect of Securities of such series.

Until such demand is made by the Trustee, the Issuer may pay the principal of and interest on the Securities of any series to the registered Holders, whether or not the Securities of such series be overdue.

In case the Issuer shall fail forthwith to pay such amounts upon such demand, the Trustee, in its own name 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 proceedings to judgment or final decree, and may enforce any such judgment or final decree against the Issuer or other obligor upon the Securities and collect in the manner provided by law out of the property of the Issuer or other obligor upon the Securities, wherever situated, all the moneys adjudged or decreed to be payable.

In case there shall be pending proceedings relative to the Issuer or any other obligor upon the Securities under Title 11 of the United States Code or any other applicable Federal or state bankruptcy, insolvency or other similar law, or in case a receiver, assignee or trustee in bankruptcy or reorganization, liquidator, sequestrator or similar official shall have been appointed for or taken possession of the Issuer or its property or such other obligor, or in case of any other comparable judicial proceedings relative to the Issuer or other obligor upon the Securities, or to the creditors or property of the Issuer or such other obligor, the Trustee, irrespective of whether the principal of the Securities shall then be due and payable as therein expressed or by declaration or otherwise and irrespective of whether the Trustee shall have made any demand pursuant to the provisions of this Section, shall be entitled and empowered, by intervention in such proceedings or otherwise:

(a) to file and prove a claim or claims for the whole amount of principal and interest (or, if the Securities of any series are Original Issue Discount Securities, such portion of the principal amount as may be specified in the terms of such series) owing and unpaid in respect of the Securities of any series, and to file such other papers or documents as may be necessary or advisable in order to have the claims of the Trustee (including any claim for amounts payable to the Trustee under Section 6.6) and of the Securityholders allowed in any judicial proceedings relative to the Issuer or other obligor upon the Securities, or to the creditors or property of the Issuer or such other obligor; and

(b) unless prohibited by applicable law and regulations, to vote on behalf of the holders of the Securities of any series in any election of a receiver, assignee, trustee or a standby

trustee in arrangement, reorganization, liquidation or other bankruptcy or insolvency proceedings, custodian or other person performing similar functions in respect of any such proceedings; and

(c) to collect and receive any moneys or other property payable or deliverable on any such claims, and to distribute all amounts received with respect to the claims of the Securityholders and of the Trustee on their behalf; and any trustee, receiver, or liquidator, custodian or other similar official performing similar functions in respect of any such proceedings is hereby authorized by each of the Securityholders to make payments to the Trustee, and, in the event that the Trustee shall consent to the making of payments directly to the Securityholders, to pay to the Trustee its costs and expenses of collection and all other amounts due to it pursuant to Section 6.6.

Nothing herein contained shall be deemed to authorize the Trustee to authorize or consent to or vote for or accept or adopt on behalf of any Securityholder any plan of reorganization, arrangement, adjustment or composition affecting the Securities of any 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, except as aforesaid in clause (b).

All rights of action and of asserting claims under this Indenture, or under any of the Securities of any series, may be enforced by the Trustee without the possession of any of the Securities of such series or the production thereof in any trial or other proceedings relative thereto, and any such action or proceedings instituted by the Trustee shall be brought in its own name as trustee of an express trust, and any recovery of judgment shall be awarded to the Trustee for ratable distribution to the Holders of the Securities in respect of which such action was taken, after payment of all sums due to the Trustee under Section 6.6 in respect of such Securities.

In any proceedings brought by the Trustee (and also any proceedings involving the interpretation of any provision of this Indenture to which the Trustee shall be a party) the Trustee shall be held to represent all the Holders of the Securities in respect to which such action was taken, and it shall not be necessary to make any Holders of such Securities parties to any such proceedings.

SECTION 5.3 APPLICATION OF PROCEEDS

Any moneys collected by the Trustee pursuant to this Article in respect of any series 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 interest, upon presentation of the several Securities in respect of which monies have been collected and stamping (or otherwise noting) thereon the payment, or issuing Securities of such series in reduced principal amounts in exchange for the presented Securities of like series if only partially paid, or upon surrender thereof if fully paid:

FIRST: To the payment of costs and expenses applicable to such series of Securities in respect of which monies have been collected, including all amounts due to the Trustee and each predecessor Trustee pursuant to this Indenture in respect to such series of Securities;

SECOND: If the Securities of such series are Subordinated Securities, to the payment of amounts then due and unpaid to the holders of Senior Indebtedness with respect to such series, to the extent required pursuant to the Subordination Provisions established with respect to the Securities of such series pursuant to Section 2.3(9).

THIRD: In case the principal of the Securities of such series in respect of which moneys have been collected shall not have become and be then due and payable, to the payment

of interest on the Securities of such series in default in the order of the maturity of the installments on such interest, with interest (to the extent that such interest has been collected by the Trustee and is permitted by applicable law) upon the overdue installments of interest at the same rate as the rate of interest or Yield to Maturity (in the case of Original Issue Discount Securities) specified in such Securities, such payments to be made ratably to the persons entitled thereto, without discrimination or preference;

FOURTH: In case the principal of the Securities of such series in respect of which moneys have been collected shall have become and shall be then due and payable, to the payment of the whole amount then owing and unpaid upon all the Securities of such series for principal and interest, with interest upon the overdue principal, and (to the extent that such interest has been collected by the Trustee and is permitted by applicable law) upon the overdue installments of interest at the same rate as the rate of interest or Yield to Maturity (in the case of Original Issue Discount Securities) specified in the Securities of such series; and in case such moneys shall be insufficient to pay in full the whole amount so due and unpaid upon the Securities of such series, then to the payment of such principal and interest or Yield to Maturity, without preference or priority of principal over interest or Yield to Maturity, or of interest or Yield to Maturity over principal, or of any installment of interest over any other installment of interest or of any Security of such series over any other Security of such series, ratably to the aggregate of such principal and accrued and unpaid interest or Yield to Maturity; and

FIFTH: To the payment of the remainder, if any, to the Issuer or to such party as a court of competent jurisdiction shall direct.

SECTION 5.4 SUITS FOR ENFORCEMENT

In case an Event of Default has occurred, has not been waived and is continuing, 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 this 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.

SECTION 5.5 RESTORATION OF RIGHTS ON ABANDONMENT OF PROCEEDINGS

In case the Trustee shall have proceeded to enforce any right under this Indenture and such proceedings shall have been discontinued or abandoned for any reason, or shall have been determined adversely to the Trustee, then and in every such case the Issuer and the Trustee shall be restored respectively to their former positions and rights hereunder, and all rights, remedies and powers of the Issuer, the Trustee and the Securityholders shall continue as though no such proceedings had been taken.

SECTION 5.6 LIMITATIONS ON SUITS BY SECURITY HOLDERS

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 action or proceeding at law or in equity or in bankruptcy or otherwise upon or under or with respect to this Indenture or such Security, or for the appointment of a trustee, receiver, liquidator, custodian or other similar official or for any other remedy hereunder or thereunder, unless (a) an Event of Default has occurred and is continuing and such Holder previously shall have given to a Responsible Officer of the Trustee written notice of an Event of Default with respect to Securities of such series and of the continuance thereof, as hereinbefore provided, (b) the Holders of not less than []% in aggregate principal amount of the Securities of such affected series then Outstanding (treated as

a single class) shall have made written request upon the Trustee to institute such action or proceedings in its own name as Trustee hereunder and shall have offered to the Trustee security or indemnity reasonably satisfactory to it against the costs, expenses and liabilities to be incurred therein or thereby, (c) the Trustee for [] days after its receipt of such notice, request and offer of indemnity shall have failed to institute any such action or proceeding, and (d) no direction inconsistent with such written request shall have been given to the Trustee pursuant to Section 5.9; it being understood and intended, and being expressly covenanted by the taker and Holder of every Security with every other taker and Holder and the Trustee, that no one or more Holders of Securities of any series shall have any right in any manner whatever by virtue or by availing of any provision of this Indenture or any Security to affect, disturb or prejudice the rights of any other such taker or Holder of Securities, or to obtain or seek to obtain priority over or preference to any other such taker or Holder or to enforce any right under this Indenture or any Security, except in the manner herein provided and for the equal, ratable and common benefit of all Holders of Securities of the applicable 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 5.7 UNCONDITIONAL RIGHT OF SECURITYHOLDERS TO INSTITUTE CERTAIN SUITS

Notwithstanding any other provision in this Indenture and any provision of any Security, the right of any Holder of any Security to receive payment of the principal of and interest on such Security on or after the respective due dates expressed in such Security or the applicable redemption dates provided for in such Security, or to institute suit for the enforcement of any such payment on or after such respective dates, shall not be impaired or affected without the consent of such Holder.

SECTION 5.8 POWERS AND REMEDIES CUMULATIVE; DELAY OR OMISSION NOT WAIVER OF DEFAULT

Except as provided in Section 5.6, no right or remedy herein conferred upon or reserved to the Trustee or to the Holders of Securities is intended to be exclusive of any other right or remedy, and every right and remedy shall, to the extent permitted by law, be cumulative and in addition to every other right and remedy given hereunder or now or hereafter existing at law or in equity or otherwise. The assertion or employment of any right or remedy hereunder, or otherwise, shall not prevent the concurrent assertion or employment of any other appropriate right or remedy.

No delay or omission of the Trustee or of any Holder of 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 Event of Default or an acquiescence therein. Every power and remedy given by this Indenture, any Security or law to the Trustee or to the Holders of Securities may be exercised from time to time, and as often as shall be deemed expedient, by the Trustee or, subject to Section 5.6, by the Holders of Securities.

SECTION 5.9 CONTROL BY HOLDERS OF SECURITIES

The Holders of a majority in aggregate principal amount of the Securities of each series affected (with each such series voting as a separate class) at the time Outstanding 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 the Securities of such series by this Indenture; provided, that such direction shall not be otherwise than in accordance with law and the provisions of this Indenture; and provided, further, that (subject to the provisions of Section 6.1) the Trustee shall have the right to decline to follow any

such direction if (a) the Trustee, being advised by counsel, shall determine that the action or proceeding so directed may not lawfully be taken; (b) if the Trustee shall determine in good faith that the action or proceedings so directed would involve the Trustee in personal liability; or (c) if the Trustee in good faith shall so determine that the actions or forbearances specified in or pursuant to such direction would be unduly prejudicial to the interests of Holders of the Securities of all affected series not joining in the giving of said direction, it being understood that (subject to Section 6.1) the Trustee shall have no duty to ascertain whether or not such actions or forbearances are unduly prejudicial to such Holders.

Nothing in this Indenture shall impair the right of the Trustee in its discretion to take any action deemed proper by the Trustee and which is not inconsistent with such direction or directions by Securityholders.

SECTION 5.10 WAIVER OF PAST DEFAULTS

Prior to the declaration of acceleration of the maturity of the Securities of any series as provided in Section 5.1, the Holders of a majority in aggregate principal amount of the Securities of such series at the time Outstanding (voting as a single class) may on behalf of the Holders of all such Securities waive any past default or Event of Default described in Section 5.1 and its consequences, except a default in respect of a covenant or provision hereof which cannot be modified or amended without the consent of the Holder of each Security affected. In the case of any such waiver, the Issuer, the Trustee and the Holders of all such Securities shall be restored to their former positions and rights hereunder, respectively, and such default shall cease to exist, and any Event of Default arising therefrom shall be deemed to have been cured for every purpose of this Indenture; but no such waiver shall extend to any subsequent or other default or impair any right consequent thereon.

SECTION 5.11 TRUSTEE TO GIVE NOTICE OF DEFAULT, BUT MAY WITHHOLD IN CERTAIN CIRCUMSTANCES

The Trustee shall, within ninety (90) days after the occurrence of a default with respect to the Securities of any series, give written notice of all defaults with respect to that series known to a Responsible Officer to all Holders of Securities of such series in the manner and to the extent provided in Section 313(c) of the Trust Indenture Act, unless such defaults shall have been cured before the sending of such notice (the term "default" for the purpose of this Section being hereby defined to mean any event or condition which is, or with notice or lapse of time or both would become, an Event of Default); provided, that, except in the case of default in the payment of the principal of or interest on any of the Securities of such series the Trustee shall be protected in withholding such notice if and so long as it in good faith determines that the withholding of such notice is in the interests of the Securityholders of such series.

SECTION 5.12 RIGHT OF COURT TO REQUIRE FILING OF UNDERTAKING TO PAY COSTS

All parties to this Indenture agree, and each Holder of any Security by his 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, suffered 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 and expenses, 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 of any series holding in the aggregate more than 10% in aggregate principal amount of the

Securities of such series, or, in the case of any suit relating to or arising under clause (c) or (f) of Section 5.1 (if the suit relates to Securities of more than one but less than all series), 10% in aggregate principal amount of Securities then Outstanding and affected thereby, or in the case of any suit relating to or arising under clause (c) or (f) (if the suit under clause (c) or (f) relates to all the Securities then Outstanding), or (d) or (e) of Section 5.1, 10% in aggregate principal amount of all Securities then Outstanding, or to any suit instituted by any Securityholder for the enforcement of the payment of the principal of or interest on any Security on or after the due date expressed in such Security or any date fixed for redemption.

ARTICLE VI CONCERNING THE TRUSTEE

SECTION 6.1 DUTIES AND RESPONSIBILITIES OF THE TRUSTEE; DURING DEFAULT; PRIOR TO DEFAULT

Prior to the occurrence of an Event of Default with respect to the Securities of a particular series and after the curing or waiving of all Events of Default which may have occurred with respect to such series, the Trustee undertakes to perform such duties and only such duties as are specifically set forth in this Indenture with respect to such series of Securities. In case an Event of Default with respect to the Securities of a series has occurred and has not been cured or waived and is known to a Responsible Officer, the Trustee shall exercise with respect to such series of Securities such of the rights and powers vested in it by this Indenture with respect to such series of Securities, 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.

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

(a) prior to the occurrence of an Event of Default known to a Responsible Officer with respect to the Securities of any series and after the curing or waiving of all such Events of Default with respect to such series which may have occurred:

(i) the duties and obligations of the Trustee with respect to the Securities of any series shall be determined solely by the express provisions of this Indenture, and the Trustee shall not be liable 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

(ii) in the absence of negligence and willful misconduct on the part of the Trustee, the Trustee may conclusively rely, as to the truth of the statements and the correctness of the opinions expressed therein, upon any statements, certificates or opinions furnished to the Trustee and conforming to the requirements of this Indenture; but in the case of any such statements, certificates or opinions which 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 (but need not confirm or investigate the accuracy of mathematical calculations or other facts stated therein);

(b) 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; and

(c) 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 pursuant to Section 5.9

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.

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 shall be reasonable ground for believing that the repayment of such funds or adequate indemnity against such liability is not reasonably assured to it.

The provisions of this Section 6.1 are in furtherance of and subject to Section 315 of the Trust Indenture Act.

SECTION 6.2 CERTAIN RIGHTS OF THE TRUSTEE

In furtherance of and subject to the Trust Indenture Act, and subject to Section 6.1:

(a) the Trustee may conclusively rely and shall be fully protected in acting or refraining from acting upon any resolution, Officers' Certificate or any other certificate, statement, instrument, opinion, report, notice, request, consent, order, bond, debenture, note, coupon, 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 Issuer mentioned herein shall be sufficiently evidenced by an Officers' Certificate or Issuer Order (unless other evidence in respect thereof is specifically prescribed herein or in the terms established in respect of any series); and any resolution of the Board of Directors may be evidenced to the Trustee by a copy thereof certified by the secretary or an assistant secretary of the Issuer;

(c) the Trustee may consult with counsel of its selection, and any advice or any Opinion of Counsel shall be full and complete authorization and protection in respect of any action taken, suffered or omitted to be taken by it hereunder in good faith and in reliance thereon in accordance with such advice or Opinion of Counsel;

(d) the Trustee shall be under no obligation to exercise any of the trusts 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 security or indemnity reasonably satisfactory to it against the costs, expenses and liabilities which might be incurred therein or thereby;

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

(f) prior to the occurrence of an Event of Default hereunder and after the curing or waiving of all Events of Default, 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, appraisal, bond, debenture, note, coupon, security, or other paper or document unless (i) requested in writing so to do by the Holders of not less than a majority in aggregate principal amount of the Securities of all series affected then Outstanding (treated as one class) or (ii) otherwise provided in the terms of any series of Securities pursuant to Section 2.3; provided, 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 security or indemnity reasonably satisfactory to

it against such expenses or liabilities as a condition to proceeding; the reasonable expenses of every such investigation shall be paid by the Issuer or, if paid by the Trustee or any predecessor trustee, shall be repaid by the Issuer 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 not regularly in its employ and the Trustee shall not be responsible for any negligence or willful misconduct on the part of any such agent or attorney appointed with due care by it hereunder;

(h) the Trustee shall not be deemed to have notice of any Event of Default unless a Responsible Officer of the Trustee has actual knowledge thereof or unless written notice of any event which is in fact an Event of Default is received by the Trustee at the Corporate Trust Office and such notice references the Securities, the Issuer or this Indenture;

(i) the rights, privileges, protections, immunities and benefits given to the Trustee, including, without limitation, its right to be indemnified, are extended to, and shall be enforceable by, the Trustee in each of its capacities hereunder, and each agent, custodian and other Person employed to act hereunder;

(j) the Trustee may request that the Issuer deliver a certificate setting forth the names of individuals and/or titles of officers authorized at such time to take specified actions pursuant to this Indenture, which certificate may be signed by any person authorized to sign an Officers' Certificate, including any person specified as so authorized in any such certificate previously delivered and not superseded;

(k) in no event shall the Trustee be responsible or liable for special, indirect, punitive 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;

(l) the Trustee shall not be required to give any bond or surety in respect of the performance of its powers and duties hereunder;

(m) the Trustee shall not have any duty to calculate or verify any calculations; and

(n) the permissive rights or powers of the Trustee to take or refrain from taking any actions enumerated in this Indenture shall not be construed as a duty of the Trustee.

SECTION 6.3 TRUSTEE NOT RESPONSIBLE FOR RECITALS, DISPOSITION OF SECURITIES OR APPLICATION OF PROCEEDS THEREOF

The recitals contained herein and in the Securities, except the Trustee's certificates of authentication, shall be taken as the statements of the Issuer, and the Trustee assumes no responsibility for the correctness of the same. The Trustee makes no representation as to the validity or sufficiency of this Indenture or of the Securities. The Trustee shall not be accountable for the use or application by the Issuer of any of the Securities or of the proceeds thereof.

SECTION 6.4 TRUSTEE AND AGENTS MAY HOLD SECURITIES; COLLECTIONS, ETC.

The Trustee or any agent of the Issuer or of the Trustee, 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 the Trustee or such agent and may otherwise deal with the Issuer and receive, collect,

hold and retain collections from the Issuer with the same rights it would have if it were not the Trustee or such agent.

SECTION 6.5 MONEYS HELD BY TRUSTEE

Subject to the provisions of Section 10.4 hereof, 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 mandatory provisions of law. Neither the Trustee nor any agent of the Issuer or the Trustee shall be under any liability for interest on any moneys received by it hereunder.

SECTION 6.6 COMPENSATION AND INDEMNIFICATION OF TRUSTEE AND ITS PRIOR CLAIM

The Issuer covenants and agrees to pay to the Trustee from time to time, and the Trustee shall be entitled to, such compensation as the Issuer and the Trustee shall agree in writing (which shall not be limited by any provision of law in regard to the compensation of a trustee of an express trust), and the Issuer covenants and agrees to pay or reimburse the Trustee and each predecessor trustee upon its request for all reasonable expenses, disbursements and advances incurred or made by or on behalf of it 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 agents and other persons not regularly in its employ) except any such expense, disbursement or advance as may arise from its own negligence or willful misconduct. The Issuer also covenants to indemnify each of the Trustee or any predecessor Trustee and their agents for, and to hold them harmless against, any and all loss, damage, claims, liability or expense, including taxes (other than taxes based upon, measured by or determined by the income of the Trustee), arising out of or in connection with the acceptance or administration of the trust or trusts hereunder, including the costs and expenses of defending itself against any claim (whether asserted by the Issuer, or any Holder or any other Person) or liability in connection with the exercise or performance of any of its powers or duties hereunder, or in connection with enforcing the provisions of this Section, except to the extent that such loss, damage, claim, liability or expense is determined to have been caused by its own negligence or willful misconduct. When the Trustee incurs expenses or renders services in connection with an Event of Default specified in Section 5.1(d) or Section 5.1(e), the expenses (including the reasonable charges and expenses of its counsel) and the compensation for the services are intended to constitute expenses of administration under any applicable bankruptcy, insolvency or other similar law. The obligations of the Issuer under this Section to compensate and indemnify the Trustee and each predecessor trustee and to pay or reimburse the Trustee and each predecessor trustee for expenses, disbursements and advances shall constitute additional indebtedness hereunder and shall survive the satisfaction and discharge of this Indenture and the resignation or removal of the Trustee. Such additional indebtedness shall be a senior claim 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, and the Securities are hereby subordinated to such senior claim.

SECTION 6.7 RIGHT OF TRUSTEE TO RELY ON OFFICERS' CERTIFICATE, ETC.

Subject to Sections 6.1 and 6.2, whenever in the administration of the trusts of this Indenture the Trustee shall deem it necessary or desirable that a matter be proved or established prior to taking or suffering or omitting any action hereunder, such matter (unless other evidence in respect thereof be herein specifically prescribed) may, in the absence of negligence or willful misconduct on the part of the Trustee, be deemed to be conclusively proved and established by an Officers' Certificate delivered to the Trustee, and such certificate, in the absence of negligence or willful misconduct on the part of the Trustee, shall be full warrant to the Trustee

for any action taken, suffered or omitted by it under the provisions of this Indenture upon the faith thereof.

SECTION 6.8 INDENTURES NOT CREATING POTENTIAL CONFLICTING INTERESTS FOR THE TRUSTEE

The following indentures are hereby specifically described for the purposes of Section 310(b)(1) of the Trust Indenture Act: this Indenture with respect to series of Securities that are of an equal priority.

SECTION 6.9 QUALIFICATION OF TRUSTEE: CONFLICTING INTERESTS

The Trustee shall comply with Section 310(b) of the Trust Indenture Act.

SECTION 6.10 PERSONS ELIGIBLE FOR APPOINTMENT AS TRUSTEE

The Trustee for each series of Securities hereunder shall at all times be a corporation or banking association organized and doing business under the laws of the United States of America, any State thereof or the District of Columbia, having a combined capital and surplus of at least \$50,000,000, and which is authorized under such laws to exercise corporate trust powers and is subject to supervision or examination by Federal, state or District of Columbia authority. If such corporation 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 shall be deemed to be its combined capital and surplus as set forth in its most recent report of condition so published. 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 6.11.

The provisions of this Section 6.10 are in furtherance of and subject to Section 310(a) of the Trust Indenture Act.

SECTION 6.11 RESIGNATION AND REMOVAL; APPOINTMENT OF SUCCESSOR TRUSTEE

(a) The Trustee, or any trustee or trustees hereafter appointed, may at any time resign with respect to one or more or all series of Securities by giving written notice of resignation to the Issuer and by sending notice of such resignation to the Holders of then Outstanding Registered Securities of each series affected in accordance with Applicable Procedures. Upon receiving such notice of resignation, the Issuer shall promptly appoint a successor trustee or trustees with respect to the applicable series by written instrument in duplicate, executed by authority of the Board of Directors, one copy of which instrument shall be delivered to the resigning Trustee and one copy to the successor trustee or trustees. If no successor trustee shall have been so appointed with respect to any series and have accepted appointment within 30 days after the sending of such notice of resignation, the resigning trustee may petition any court of competent jurisdiction at the expense of the Issuer for the appointment of a successor trustee, or any Securityholder who has been a bona fide Holder of a Security or Securities of the applicable series for at least six months may, subject to the provisions of Section 5.12, 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 of the following shall occur:

ARTICLE V the Trustee shall fail to comply with the provisions of Section 310(b) of the Trust Indenture Act with respect to any series of Securities after written request therefor by the Issuer or by any Securityholder;

(i) the Trustee shall cease to be eligible in accordance with the provisions of Section 6.10 and Section 310(a) of the Trust Indenture Act and shall fail to resign after written request therefor by the Issuer or by any Securityholder who has been a bona fide Holder of a Security or Securities of such series for at least six months; or

(ii) the Trustee shall become incapable of acting with respect to any series of Securities, or shall be adjudged bankrupt or insolvent, or a receiver or liquidator of the Trustee or of its property shall be appointed, 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 Issuer may remove the Trustee with respect to the applicable series of Securities and appoint a successor trustee for such series by written instrument, in duplicate, executed by order of the Board of Directors of the Issuer, one copy of which instrument shall be delivered to the Trustee so removed and one copy to the successor trustee, or, subject to the provisions of Section 315(e) of the Trust Indenture Act, any Securityholder who has been a bona fide Holder of a Security or Securities of such series for at least six months may on behalf of himself and all others similarly situated, petition any court of competent jurisdiction for the removal of the Trustee and the appointment of a successor trustee with respect to such series. Such court may thereupon, after such notice, if any, as it may deem proper and so prescribe, remove the Trustee and appoint a successor trustee.

(c) The Holders of a majority in aggregate principal amount of the Securities of each series at the time outstanding may at any time remove the Trustee with respect to Securities of such series and appoint a successor trustee with respect to the Securities of such series by delivering to the Trustee so removed, to the successor trustee so appointed and to the Issuer the evidence provided for in Section 7.1 of the action in that regard taken by the Securityholders by notice in writing not less than 30 days prior to the effective date of such removal.

(d) Any resignation or removal of the Trustee with respect to any series and any appointment of a successor trustee with respect to such series pursuant to any of the provisions of this Section 6.11 shall become effective upon acceptance of appointment by the successor trustee as provided in Section 6.12.

SECTION 6.12 ACCEPTANCE OF APPOINTMENT BY SUCCESSOR TRUSTEE

Any successor trustee appointed as provided in Section 6.11 shall execute and deliver to the Issuer and to its predecessor trustee an instrument accepting such appointment hereunder, and thereupon the resignation or removal of the predecessor trustee with respect to all or any applicable series shall become effective and such successor trustee, without any further act, deed or conveyance, shall become vested with all rights, powers, duties and obligations with respect to such series of its predecessor hereunder, with like effect as if originally named as trustee for such series hereunder; but, nevertheless, on the written request of the Issuer or of the successor trustee, upon payment of its charges then unpaid, the trustee ceasing to act shall, subject to Section 10.4, pay over to the successor trustee all moneys at the time held by it hereunder and shall execute and deliver an instrument transferring to such successor trustee all such rights, powers, duties and obligations. Upon request of any such successor trustee, the Issuer shall execute any and all instruments in writing for more fully and certainly vesting in and confirming to such successor trustee all such rights and powers. Any trustee ceasing to act shall,

nevertheless, retain a prior claim upon all property or funds held or collected by such trustee to secure any amounts then due it pursuant to the provisions of Section 6.6.

If a successor trustee is appointed with respect to the Securities of one or more (but not all) series, the Issuer, the predecessor trustee and each successor trustee with respect to the Securities of any applicable series shall execute and deliver an indenture supplemental hereto which shall contain such provisions as shall be deemed necessary or desirable to confirm that all the rights, powers, trusts and duties of the predecessor trustee with respect to the Securities of any series as to which the predecessor trustee is not retiring shall continue to be vested in the predecessor trustee, and 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 and that each such trustee shall be trustee of a trust or trusts under separate indentures.

No successor trustee with respect to any series of Securities shall accept appointment as provided in this Section 6.12 unless at the time of such acceptance such successor trustee shall be qualified under Section 310(b) of the Trust Indenture Act and eligible under the provisions of Section 6.10.

Upon acceptance of appointment by any successor trustee as provided in this Section 6.12, the Issuer shall give notice thereof to the Holders by sending such notice to such Holders in accordance with Applicable Procedures. If the acceptance of appointment is substantially contemporaneous with the resignation, then the notice called for by the preceding sentence may be combined with the notice called for by Section 6.11. If the Issuer fails to give such notice within ten days after acceptance of appointment by the successor trustee, the successor trustee shall cause such notice to be given at the expense of the Issuer. The resigning Trustee shall have no responsibility or liability for any action or inaction of a successor Trustee.

SECTION 6.13 MERGER, CONVERSION, CONSOLIDATION OR SUCCESSION TO BUSINESS OF TRUSTEE

Any corporation or banking association into which the Trustee may be merged or converted or with which it may be consolidated, or any corporation or banking association resulting from any merger, conversion or consolidation to which the Trustee shall be a party, or any corporation or banking association succeeding to all or substantially all of the corporate trust business of the Trustee, shall be the successor of the Trustee hereunder, provided, that such corporation or banking association shall be qualified under Section 310(b) of the Trust Indenture Act and eligible under the provisions of Section 6.10, 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 at the time such successor to the Trustee shall succeed to the trusts created by this Indenture any of the Securities of any series shall have been authenticated but not delivered, any such successor to the Trustee may adopt the certificate of authentication of any predecessor trustee and deliver such Securities so authenticated; and, in case at that time any of the Securities of any series shall not have been authenticated, any such successor to the Trustee may authenticate such Securities either in the name of any predecessor hereunder or in the name of the successor Trustee; and in all such cases such certificate of authentication shall have the full force which under this Indenture or the Securities of such series it is provided that the certificate of authentication of the Trustee shall have; provided, that the right to adopt the certificate of authentication of any predecessor trustee or to authenticate Securities of any series in the name of any predecessor trustee shall apply only to its successor or successors by merger, conversion or consolidation.

SECTION 6.14 PREFERENTIAL COLLECTION OF CLAIMS AGAINST THE ISSUER

The Trustee shall comply with Section 311(a) of the Trust Indenture Act, excluding any creditor relationship listed 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 indicated.

SECTION 6.15 APPOINTMENT OF AUTHENTICATING AGENT

As long as any Securities of a series remain Outstanding, the Trustee may, by an instrument in writing, appoint with the approval of the Issuer an authenticating agent (the "Authenticating Agent") which shall be authorized to act on behalf of the Trustee to authenticate Securities, including Securities issued upon exchange, registration of transfer, partial redemption or pursuant to Section 2.9. Securities of each such series authenticated by such Authenticating Agent shall be entitled to the benefits of this Indenture and shall be valid and obligatory for all purposes as if authenticated by the Trustee. Whenever reference is made in this Indenture to the authentication and delivery of Securities of any series by the Trustee or to the Trustee's Certificate of Authentication, such reference shall be deemed to include authentication and delivery on behalf of the Trustee by an Authenticating Agent for such series and a Certificate of Authentication executed on behalf of the Trustee by such Authenticating Agent. Such Authenticating Agent shall at all times be a corporation organized and doing business under the laws of the United States of America or of any State, authorized under such laws to exercise corporate trust powers, having a combined capital and surplus of at least \$45,000,000 (determined as provided in Section 6.10 with respect to the Trustee) and subject to supervision or examination by Federal or state authority.

Any corporation into which any Authenticating Agent may be merged or converted, or with which it may be consolidated, or any corporation resulting from any merger, conversion or consolidation to which any Authenticating Agent shall be a party, or any corporation succeeding to the corporate agency business of any Authenticating Agent, shall continue to be the Authenticating Agent with respect to all series of Securities for which it served as Authenticating Agent without the execution or filing of any paper or any further act on the part of the Trustee or such Authenticating Agent. Any Authenticating Agent may at any time, and if it shall cease to be eligible shall, resign by giving written notice of resignation to the Trustee and to the Issuer.

Upon receiving such a notice of resignation or upon such a termination, or in case at any time any Authenticating Agent shall cease to be eligible in accordance with the provisions of this Section 6.15 with respect to one or more series of Securities, the Trustee shall upon receipt of an Issuer Order appoint a successor Authenticating Agent, and the Issuer shall provide notice of such appointment to all Holders of Securities of such series in the manner and to the extent provided in Section 11.4. Any successor Authenticating Agent upon acceptance of its appointment hereunder shall become vested with all rights, powers, duties and responsibilities of its predecessor hereunder, with like effect as if originally named as Authenticating Agent. The Issuer agrees to pay to the Authenticating Agent for such series from time to time reasonable compensation. The Authenticating Agent for the Securities of any series shall have no responsibility or liability for any action taken by it as such at the direction of the Trustee.

Sections 6.2, 6.3, 6.4, 6.6 and 7.3 shall be applicable to any Authenticating Agent.

**ARTICLE VII
CONCERNING THE SECURITYHOLDERS**

SECTION 7.1 EVIDENCE OF ACTION TAKEN BY SECURITYHOLDERS

Any request, demand, authorization, direction, notice, consent, waiver or other action provided by this Indenture to be given or taken by a specified percentage in principal amount of the Securityholders of any or all series may be embodied in and evidenced by one or more instruments of substantially similar tenor signed by such specified percentage of Securityholders in person or by agent duly appointed in writing; and, except as herein otherwise expressly provided, such action shall become effective when such instrument or instruments are delivered to the Trustee. Proof of execution of any instrument or of a writing appointing any such agent shall be sufficient for any purpose of this Indenture and (subject to Sections 6.1 and 6.2) conclusive in favor of the Trustee and the Issuer, if made in the manner provided in this Article.

SECTION 7.2 PROOF OF EXECUTION OF INSTRUMENTS AND OF HOLDING OF SECURITIES

Subject to Sections 6.1 and 6.2, the execution of any instrument by a Securityholder or his agent or proxy may be proved in accordance with such reasonable rules and regulations as may be prescribed by the Trustee or in such manner as shall be reasonably satisfactory to the Trustee. The holding of Registered Securities shall be proved by the Security register or by a certificate of the Registrar thereof.

SECTION 7.3 HOLDERS TO BE TREATED AS OWNERS

The Issuer, the Trustee and any agent of the Issuer or the Trustee shall deem and treat the person in whose name any Security shall be registered upon the Security register and books of the Registrar for such series as the absolute owner of such Security (whether or not such Security shall be overdue and notwithstanding any notation of ownership or other writing thereon) for the purpose of receiving payment of or on account of the principal of and, subject to the provisions of this Indenture, interest on such Security and for all other purposes; and neither the Issuer nor the Trustee nor any agent of the Issuer or the Trustee shall be affected by any notice to the contrary.

SECTION 7.4 SECURITIES OWNED BY ISSUER DEEMED NOT OUTSTANDING

In determining whether the Holders of the requisite aggregate principal amount of Outstanding Securities of any or all series have concurred in any request, demand, authorization, direction, notice, consent, waiver or other action by Securityholders under this Indenture, Securities which are owned by the Issuer or any other obligor on the Securities with respect to which such determination is being made or by any person directly or indirectly controlling or controlled by or under direct or indirect common control with the Issuer or any other obligor on the Securities with respect to which such determination is being made 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 action only Securities which a Responsible Officer of the Trustee actually knows are so owned shall be so disregarded. Securities so owned which have been pledged in good faith may be regarded as Outstanding if the pledgee establishes to the reasonable satisfaction of the Trustee the pledgee's right so to act with respect to such Securities and that the pledgee is not the Issuer or any other obligor upon the Securities or any person directly or indirectly controlling or controlled by or under direct or indirect common control with the Issuer or any other obligor on the Securities. In case of a dispute as to such right, the advice of counsel shall be full protection in respect of any decision made by the Trustee in accordance with such advice. Upon request of the Trustee, the

Issuer shall furnish to the Trustee promptly an Officers' Certificate listing and identifying all Securities, if any, known by the Issuer to be owned or held by or for the account of any of the above-described persons; and, subject to Sections 6.1 and 6.2, the Trustee shall be entitled to accept such Officers' Certificate as conclusive evidence of the facts therein set forth and of the fact that all Securities not listed therein are Outstanding for the purpose of any such determination.

SECTION 7.5 RIGHT OF REVOCATION OF ACTION TAKEN

At any time prior to (but not after) the evidencing to the Trustee, as provided in Section 7.1, of the taking of any action by the Holders of the percentage in aggregate principal amount of the Securities of any or all series, as the case may be, specified in this Indenture in connection with such action, any Holder of a Security the serial number of which is shown by the evidence to be included among the serial numbers of the Securities the Holders of which have consented to such action may, by filing written notice at the Corporate Trust Office and upon proof of holding as provided in this Article, 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 Securities issued in exchange or substitution therefor or on registration of transfer thereof, irrespective of whether or not any notation in regard thereto is made upon any such Security. Any action taken by the Holders of the percentage in aggregate principal amount of the Securities of any or all series, as the case may be, specified in this Indenture in connection with such action shall be conclusively binding upon the Issuer, the Trustee and the Holders of all the Securities affected by such action.

ARTICLE VIII SUPPLEMENTAL INDENTURES

SECTION 8.1 SUPPLEMENTAL INDENTURES WITHOUT CONSENT OF SECURITYHOLDERS

The Issuer, when authorized by a Board Resolution (which resolution may provide general terms or parameters for such action and may provide that the specific terms of such action may be determined in accordance with or pursuant to an Issuer Order), and the Trustee may from time to time and at any time enter into an indenture or indentures supplemental hereto for one or more of the following purposes:

- (a) to convey, transfer, assign, mortgage or pledge to the Trustee as security for the Securities of one or more series any property or assets;
- (b) to evidence the succession of another corporation to the Issuer, or successive successions, and the assumption by the successor corporation of the covenants, agreements and obligations of the Issuer pursuant to Article IX;
- (c) to add to the covenants of the Issuer such further covenants, restrictions, conditions or provisions as the Issuer and the Trustee shall consider to be for the protection of the Holders of Securities, and to make the occurrence, or the occurrence and continuance, of a default in any such additional covenants, restrictions, conditions or provisions an Event of Default permitting the enforcement of all or any of the several remedies provided in this Indenture as herein set forth; provided, that in respect of any such additional covenant, restriction, condition or provision such supplemental indenture may provide for a particular period of grace after default (which period may be shorter or longer than that allowed in the case of other defaults) or may provide for an immediate enforcement upon such an Event of Default or may limit the remedies available to the Trustee upon such an Event of Default or may limit the

right of the Holders of a majority in aggregate principal amount of the Securities of such series to waive such an Event of Default;

(d) to add any additional Events of Default for the benefit of the Holders of all or any series of Securities (and if such additional Events of Default are to be for the benefit of less than all series of Securities, stating that such additional Events of Default are expressly being included solely for the benefit of such series);

(e) to add one or more guarantees for the benefit of Holders of the Securities;

(f) subject to any limitations established pursuant to Section 2.3, to provide for the issuance of additional Securities of any series;

(g) to comply with the rules of any applicable Depositary;

(h) to add to or change any of the provisions of this Indenture to such extent as shall be necessary to permit or facilitate the issuance of Securities in uncertificated form;

(i) to add to, change or eliminate any of the provisions of this Indenture in respect of one or more series of Securities; provided that any such addition, change or elimination (A) shall neither (i) apply to any Security of any series created prior to the execution of such supplemental indenture and entitled to the benefit of such provision nor (ii) modify the rights of the Holder of any such Security with respect to such provision or (B) shall become effective only when there is no Security described in clause (A)(i) Outstanding;

(j) to supplement any of the provisions of this Indenture to such extent as shall be necessary to permit or facilitate the defeasance and discharge of any series of Securities pursuant to Section 10.1; provided that any such action shall not adversely affect the interests of the Holders of Securities of such series or any other series of Securities in any material respect;

(k) to comply with the rules or regulations of any securities exchange or automated quotation system on which any of the Securities may be listed or traded;

(l) to add to, change or eliminate any of the provisions of this Indenture as shall be necessary or desirable in accordance with any amendments to the Trust Indenture Act, provided that such action does not adversely affect the rights or interests of the Holders of Securities of any series in any material respect;

(m) to cure any ambiguity, defect, omission or inconsistency or to correct or supplement any provision contained herein or in any supplemental indenture which may be ambiguous, defective or inconsistent with any other provision contained herein or in any supplemental indenture, or to make any other provisions as the Issuer may deem necessary or desirable, provided, that no such action shall adversely affect the interests of the Holders of Securities of any series in any material respect;

(n) to establish the forms or terms of Securities of any series as permitted by Sections 2.1 and 2.3;

(o) to evidence and provide for the acceptance of appointment hereunder by a successor trustee with respect to the Securities of one or more series and to 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, pursuant to the requirements of Section 6.12; and

(p) to add to, change or eliminate any other provision under this Indenture; provided that such addition, change or elimination pursuant to this clause (p) shall not adversely affect the interests of the Holders of Securities of any series in any material respect.

The Trustee is hereby authorized to join with the Issuer in the execution of any such supplemental indenture, to make any further appropriate agreements and stipulations which may be therein contained and to accept the conveyance, transfer, assignment, mortgage or pledge of any property thereunder, but the Trustee shall not be obligated to enter into any such supplemental indenture which adversely 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 without the consent of the Holders of any of the Securities at the time Outstanding, notwithstanding any of the provisions of Section 8.2.

SECTION 8.2 SUPPLEMENTAL INDENTURES WITH CONSENT OF SECURITYHOLDERS

(A) Except as set forth in paragraph (C) below, with the consent (evidenced as provided in Article VII) of the Holders of not less than a majority in aggregate principal amount of the Securities at the time Outstanding of all series of Senior Securities affected by such supplemental indenture (voting as one class), the Issuer, when authorized by a Board Resolution (which resolution may provide general terms or parameters for such action and may provide that the specific terms of such action may be determined in accordance with or pursuant to an Issuer Order), 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 in force and effect at the date of execution thereof) 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 the rights of the Holders of the Securities of each such series.

(B) Except as set forth in paragraph (C) below, with the consent (evidenced as provided in Article VII) of the Holders of not less than a majority in aggregate principal amount of the Securities at the time Outstanding of all series of Subordinated Securities affected by such supplemental indenture (voting as one class), the Issuer, when authorized by a Board Resolution (which resolution may provide general terms or parameters for such action and may provide that the specific terms of such action may be determined in accordance with or pursuant to an Issuer Order), 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 in force and effect at the date of execution thereof) 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 the rights of the Holders of the Securities of each such series.

(C) No such supplemental indenture shall (i) extend the final maturity of any Security, or reduce the principal amount thereof, or premium thereon, if any, or reduce the rate or extend the time of payment of interest thereon, or reduce any amount payable on redemption thereof, or make the principal thereof (including any amount in respect of original issue discount), or premium thereon, if any, or interest thereon payable in any coin or currency other than that provided in the Securities or in accordance with the terms thereof, or reduce the amount of the principal of an Original Issue Discount Security that would be due and payable upon an acceleration of the maturity thereof pursuant to Section 5.1 or the amount thereof provable in bankruptcy pursuant to Section 5.2, or in the case of Subordinated Securities of any series, modify any of the Subordination Provisions or the definition of "Senior Indebtedness" relating to

such series in a manner adverse to the holders of such Subordinated Securities, or alter the provisions of Section 11.11 or 11.12 or impair or affect the right of any Securityholder to institute suit for the payment thereof when due or, if the Securities provide therefor, any right of repayment at the option of the Securityholder, or modify any provision of this Section 8.2(C), except to provide that certain provisions of this Indenture cannot be modified or waived, in each case without the consent of the Holder of each Security so affected, or (ii) reduce the aforesaid percentage of Securities of any series, the consent of the Holders of which is required for any such supplemental indenture, without the consent of the Holders of each Security so affected.

(D) A supplemental indenture which changes or eliminates any covenant or other provision of this Indenture which has expressly been included solely for the benefit of one or more particular series of Securities, or which modifies the rights of Holders of Securities of such series with respect to such covenant or provision, shall be deemed not to affect the rights under this Indenture of the Holders of Securities of any other series.

Upon the request of the Issuer, accompanied by a copy of a resolution of the Board of Directors (which resolution may provide general terms or parameters for such action and may provide that the specific terms of such action may be determined in accordance with or pursuant to an Issuer Order) certified by the secretary or an assistant secretary of the Issuer authorizing the execution of any such supplemental indenture, and upon the filing with the Trustee of evidence of the consent of the Holders of the Securities as aforesaid and other documents, if any, required by Section 8.4, the Trustee shall join with the Issuer 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.

It shall not be necessary for the consent of the Securityholders 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.

Promptly after the execution by the Issuer and the Trustee of any supplemental indenture pursuant to the provisions of this Section, the Issuer or, at the Issuer's written request and expense, the Trustee shall send the Issuer's notice thereof to the Holders of then Outstanding Registered Securities in accordance with Applicable Procedures. Any failure of the Issuer to give such notice or cause such notice to be given, or any defect therein, shall not, however, in any way impair or affect the validity of any such supplemental indenture.

SECTION 8.3 EFFECT OF SUPPLEMENTAL INDENTURE

Upon the execution of any supplemental indenture pursuant to the provisions hereof, this Indenture shall 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 Issuer and the Holders of Securities of each 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 8.4 DOCUMENTS TO BE GIVEN TO TRUSTEE

The Trustee, subject to the provisions of Sections 6.1 and 6.2, shall be provided with an Officers' Certificate and an Opinion of Counsel as conclusive evidence that any supplemental indenture executed pursuant to this Article VIII complies with the applicable provisions of this

Indenture and is the valid and binding obligation of the Issuer, enforceable against the Issuer in accordance with its terms, subject to customary exceptions.

SECTION 8.5 NOTATION ON SECURITIES IN RESPECT OF SUPPLEMENTAL INDENTURES

Securities of any series authenticated and delivered after the execution of any supplemental indenture pursuant to the provisions of this Article may bear a notation in form approved by the Trustee for such series as to any matter provided for by such supplemental indenture or as to any action taken by Securityholders. If the Issuer shall so determine, subject to compliance with Section 2.4, new Securities of any series so modified as to conform to any modification of this Indenture contained in any such supplemental indenture may be prepared by the Issuer, authenticated by the Trustee and delivered in exchange for the Securities of such series then Outstanding. Failure to make the appropriate notation or issue such new Securities shall not affect the validity and effect of such supplemental indenture.

ARTICLE IX CONSOLIDATION, MERGER, SALE OR CONVEYANCE

SECTION 9.1 ISSUER MAY CONSOLIDATE, ETC., ONLY ON CERTAIN TERMS

The Issuer shall not consolidate with or merge into any other Person or transfer or lease its properties and assets substantially as an entirety to any Person, and the Issuer shall not permit any other Person to consolidate with or merge into the Issuer, unless:

(a) either the Issuer shall be the continuing corporation, or the successor corporation or Person (if other than the Issuer) formed by such consolidation or into which the Issuer is merged or to which the properties and assets of the Issuer substantially as an entirety are transferred or leased is a Person organized or formed under the laws of the United States, any state of the United States or the District of Columbia, and if such entity is not a corporation, a co-obligor of the Securities is a corporation organized or existing under any such laws, and such successor corporation or Person, including such co-obligor, if any, shall expressly assume, by an indenture supplemental hereto, executed and delivered to the Trustee, in form reasonably satisfactory to the Trustee, all the obligations of the Issuer under the Securities and this Indenture; and

(b) immediately after giving effect to such transaction and treating any indebtedness which becomes an obligation of the Issuer or a Subsidiary as a result of such transaction as having been incurred by the Issuer or such Subsidiary at the time of such transaction, no Event of Default, and no event which, after notice or lapse of time or both, would become an Event of Default, shall have happened and be continuing.

SECTION 9.2 SUCCESSOR PERSON SUBSTITUTED

The successor Person formed by such consolidation or into which the Issuer is merged or to which such transfer or lease is made shall succeed to and be substituted for, and may exercise every right and power of, the Issuer under this Indenture with the same effect as if such successor Person had been named as the Issuer herein, and thereafter (except in the case of a lease or transfer to another Person) the predecessor shall be relieved of all obligations and covenants under the Indenture and the Securities and, in the event of such lease or transfer, any such predecessor may be dissolved and liquidated.

SECTION 9.3 OPINION OF COUNSEL TO BE GIVEN TO TRUSTEE

The Trustee, subject to the provisions of Sections 6.1 and 6.2, shall be provided with an Opinion of Counsel as conclusive evidence that any such consolidation, merger, lease or transfer, and any such assumption, complies with the provisions of this Article IX.

ARTICLE X SATISFACTION AND DISCHARGE OF INDENTURE; UNCLAIMED MONEYS

SECTION 10.1 SATISFACTION AND DISCHARGE OF INDENTURE

(A) If at any time (i) the Issuer shall have paid or caused to be paid the principal of and interest on all the Securities of any series Outstanding hereunder (other than Securities of such series which have been destroyed, lost or stolen and which have been replaced or paid as provided in Section 2.9) as and when the same shall have become due and payable, or (ii) the Issuer shall have delivered to the Trustee for cancellation all Securities of any series theretofore authenticated (other than any Securities of such series which shall have been destroyed, lost or stolen and which shall have been replaced or paid as provided in Section 2.9) or (iii) in the case of any series of Securities where the exact amount (including the currency of payment) of principal of and interest due on which can be determined at the time of making the deposit referred to in clause (b) below, (a) all the Securities of such 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 reasonably satisfactory to the Trustee for the giving of notice of redemption, and (b) the Issuer shall have irrevocably deposited or caused to be deposited with the Trustee as trust funds in trust the entire amount in (i) cash (other than moneys repaid by the Trustee or any paying agent to the Issuer in accordance with Section 10.4), (ii) in the case of any series of Securities the payments on which may only be made in Dollars, direct obligations of the United States of America, backed by its full faith and credit ("U.S. Government Obligations"), maturing as to principal and interest at such times and in such amounts as will insure the availability of cash sufficient in the opinion or based on the report of a nationally recognized firm of independent public accountants, investment bank or appraisal firm to pay at such maturity or upon such redemption, as the case may be, or (iii) a combination thereof, sufficient, in the opinion or based on the report of a nationally recognized firm of independent public accountants, investment bank or appraisal firm expressed in a written certification thereof delivered to the Trustee, to pay (x) the principal and interest on all Securities of such series on each date that such principal or interest is due and payable and (y) any mandatory sinking fund payments on the dates on which such payments are due and payable in accordance with the terms of the Indenture and the Securities of such series; provided, that in the case of any redemption at a price or premium to be calculated based off the Treasury rate or similar rate, the amount deposited with the Trustee shall be sufficient for purposes of this Indenture to the extent that such amount is equal to the price or premium calculated as of the date of the notice of redemption, with any deficit on the date of redemption only required to be deposited with the Trustee on or prior to the date of redemption; and if, in any such case, the Issuer shall also pay or cause to be paid all other sums payable hereunder by the Issuer with respect to the Securities of such series, then this Indenture shall cease to be of further effect (except as to (i) rights of registration of transfer and exchange of Securities of such Series pursuant to Section 2.8, (ii) substitution of mutilated, defaced, destroyed, lost or stolen Securities, (iii) rights of holders of Securities to receive payments of principal thereof and interest thereon, upon the original stated due dates therefor (but not upon acceleration), and remaining rights of the Holders to receive mandatory sinking fund payments, if any, (iv) any optional redemption rights of such series of Securities to the extent to be exercised to make such call for redemption within one year, (v) the rights, obligations, duties and immunities of the Trustee hereunder, including those under Section 6.6, (vi) the rights of the Holders of Securities of such series as beneficiaries hereof with respect to

the property so deposited with the Trustee payable to all or any of them, and (vii) the obligations of the Issuer under Section 3.2) and the Trustee, on demand of the Issuer accompanied by an Officers' Certificate and an Opinion of Counsel and at the cost and expense of the Issuer, shall execute proper instruments acknowledging such satisfaction of and discharging this Indenture; provided, that the rights of Holders of the Securities to receive amounts in respect of principal of and interest on the Securities held by them shall not be delayed longer than required by then-applicable mandatory rules or policies of any securities exchange upon which the Securities are listed. The Issuer agrees to reimburse the Trustee for any costs or expenses thereafter reasonably and properly incurred and to compensate the Trustee for any services thereafter reasonably and properly rendered by the Trustee in connection with this Indenture or the Securities of such series.

(B) The following provisions shall apply to the Securities of each series unless specifically otherwise provided in a Board Resolution, Officers' Certificate or indenture supplemental hereto provided pursuant to Section 2.3. In addition to discharge of the Indenture pursuant to the next preceding paragraph, in the case of any series of Securities the exact amounts (including the currency of payment) of principal of and interest due on which can be determined at the time of making the deposit referred to in clause (a) below, the Issuer shall be deemed to have paid and discharged the entire indebtedness on all the Securities of such a series on the date of the deposit referred to in subparagraph (a) below, and the provisions of this Indenture with respect to the Securities of such series shall no longer be in effect (except as to (i) rights of registration of transfer and exchange of Securities of such series pursuant to Section 2.8 (ii) substitution of mutilated, defaced, destroyed, lost or stolen Securities, (iii) rights of Holders of Securities to receive payments of principal thereof and interest thereon, upon the original stated due dates therefor (but not upon acceleration), and remaining rights of the Holders to receive mandatory sinking fund payments, if any, (iv) any optional redemption rights of such series of Securities, (v) the rights, obligations, duties and immunities of the Trustee hereunder, (vi) the rights of the Holders of Securities of such series as beneficiaries hereof with respect to the property so deposited with the Trustee payable to all or any of them and (vii) the obligations of the Issuer under Section 3.2) and the Trustee, at the expense of the Issuer, shall at the Issuer's request, execute proper instruments acknowledging the same, if

(a) with reference to this provision the Issuer has irrevocably deposited or caused to be irrevocably deposited with the Trustee as trust funds in trust, specifically pledged as security for, and dedicated solely to, the benefit of the Holders of the Securities of such series (i) cash in an amount, or (ii) in the case of any series of Securities the payments on which may only be made in Dollars, U.S. Government Obligations (without reinvestment), maturing as to principal and interest at such times and in such amounts as will insure the availability of cash or (iii) a combination thereof, sufficient, in the opinion or based on the report of a nationally recognized firm of independent public accountants, investment bank or appraisal firm expressed in a written certification thereof delivered to the Trustee, to pay (A) the principal and interest on all Securities of such series on each date that such principal or interest is due and payable and (B) any mandatory sinking fund payments on the dates on which such payments are due and payable in accordance with the terms of the Indenture and the Securities of such series; provided, that before such a deposit the Issuer may make arrangements reasonably satisfactory to the Trustee for the redemption of Securities at a future date or dates in accordance with Article XII, which shall be given effect in applying the foregoing; and provided, further, that in the case of any redemption at a price or premium to be calculated based off the Treasury rate or similar rate, the amount deposited with the Trustee shall be sufficient for purposes of this Indenture to the extent that such amount is equal to the price or premium calculated as of the date of the notice of redemption, with any deficit on the date of redemption only required to be deposited with the Trustee on or prior to the date of redemption;

(b) no Event of Default or event which with notice or lapse of time or both would become an Event of Default with respect to the Securities shall have occurred and be continuing on the date of such deposit;

(c) such deposit will not result in a breach or violation of, or constitute a default under, any agreement or instrument to which the Issuer is a party or by which it is bound;

(d) the Issuer has delivered to the Trustee an Opinion of Counsel based on the fact that (x) the Issuer has received from, or there has been published by, the IRS a ruling or (y) since the date hereof, there has been a change in the applicable United States Federal income tax law, in either case to the effect that, and such opinion shall confirm that, the beneficial owners of the Securities of such series will not recognize income, gain or loss for United States Federal income tax purposes as a result of such deposit, defeasance and discharge and will be subject to United States Federal income tax on the same amount and 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

(e) the Issuer has delivered to the Trustee an Officers' Certificate and an Opinion of Counsel, each stating that all conditions precedent provided for relating to the defeasance contemplated by this provision have been complied with.

(C) The Issuer shall be released from its obligations under Sections 3.6 and 9.1 and unless otherwise provided for in the Board Resolution, Officers' Certificate or Indenture supplemental hereto establishing such series of Securities, from all covenants and other obligations referred to in Section 2.3(19) or 2.3(21) with respect to such series of Securities outstanding on and after the date the conditions set forth below are satisfied (hereinafter, "covenant defeasance"). For this purpose, such covenant defeasance means that, with respect to the Outstanding Securities of any series, the Issuer may omit to comply with and shall have no liability in respect of any term, condition or limitation set forth in such Section, whether directly or indirectly by reason of any reference elsewhere herein to such Section or by reason of any reference in such Section to any other provision herein or in any other document and such omission to comply shall not constitute an Event of Default under Section 5.1, but the remainder of this Indenture and such Securities shall be unaffected thereby. The following shall be the conditions to application of this subsection C of this Section 10.1:

(a) The Issuer has irrevocably deposited or caused to be deposited with the Trustee as trust funds in trust for the purpose of making the following payments, specifically pledged as security for, and dedicated solely to, the benefit of the holders of the Securities of such series, (i) cash in an amount, or (ii) in the case of any series of Securities the payments on which may only be made in Dollars, U.S. Government Obligations maturing as to principal and interest at such times and in such amounts as will insure the availability of cash or (iii) a combination thereof, sufficient, in the opinion or based on the report of a nationally recognized firm of independent public accountants, investment bank or appraisal firm expressed in a written certification thereof delivered to the Trustee, to pay (A) the principal and interest on all Securities of such series and (B) any mandatory sinking fund payments on the day on which such payments are due and payable in accordance with the terms of the Indenture and the Securities of such series; provided, that before such a deposit the Issuer may make arrangements reasonably satisfactory to the Trustee for the redemption of Securities at a future date or dates in accordance with Article XII, which shall be given effect in applying the foregoing; and provided, further, that in the case of any redemption at a price or premium to be calculated based off the Treasury rate or similar rate, the amount deposited with the Trustee shall be sufficient for purposes of this Indenture to the extent that such amount is equal to the price or premium calculated as of the date of the notice of redemption, with any deficit on the date of redemption only required to be deposited with the Trustee on or prior to the date of redemption;

(b) No Event of Default or event which with notice or lapse of time or both would become an Event of Default with respect to the Securities shall have occurred and be continuing on the date of such deposit;

(c) Such covenant defeasance shall not cause the Trustee to have a conflicting interest as defined in Section 6.9 and for purposes of the Trust Indenture Act with respect to any securities of the Issuer;

(d) Such covenant defeasance shall not result in a breach or violation of, or constitute a default under any agreement or instrument to which the Issuer is a party or by which it is bound;

(e) Such covenant defeasance shall not cause any Securities then listed on any registered national securities exchange under the Exchange Act to be delisted;

(f) The Issuer shall have delivered to the Trustee an Officers' Certificate and Opinion of Counsel to the effect that the beneficial owners of the Securities of such series will not recognize income, gain or loss for United States Federal income tax purposes as a result of such covenant defeasance and will be subject to United States Federal income tax on the same amounts, in the same manner and at the same times as would have been the case if such covenant defeasance had not occurred; and

(g) The Issuer shall have delivered to the Trustee an Officers' Certificate and an Opinion of Counsel, each stating that all conditions precedent provided for relating to the covenant defeasance contemplated by this provision have been complied with.

SECTION 10.2 APPLICATION BY TRUSTEE OF FUNDS DEPOSITED FOR PAYMENT OF SECURITIES

Subject to Section 10.4, all moneys deposited with the Trustee (or other trustee) pursuant to Section 10.1 shall be held in trust and applied by it to the payment, either directly or through any paying agent (including the Issuer acting as its own paying agent), to the Holders of the particular Securities of such series for the payment or redemption of which such moneys have been deposited with the Trustee, of all sums due and to become due thereon for principal and interest; but such money need not be segregated from other funds except to the extent required by law.

SECTION 10.3 REPAYMENT OF MONEYS HELD BY PAYING AGENT

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

SECTION 10.4 RETURN OF MONEYS HELD BY TRUSTEE AND PAYING AGENT UNCLAIMED FOR TWO YEARS

Any moneys deposited with or paid to the Trustee or any paying agent for the payment of the principal of or interest on any Security of any series and not applied but remaining unclaimed for two years after the date upon which such principal or interest shall have become due and payable, shall, upon the written request of the Issuer and unless otherwise required by mandatory provisions of applicable escheat or abandoned or unclaimed property law, be repaid to the Issuer by the Trustee for such series or such paying agent, and the Holder of the Securities of such

series shall, unless otherwise required by mandatory provisions of applicable escheat or abandoned or unclaimed property laws, thereafter look only to the Issuer for any payment which such Holder may be entitled to collect, and all liability of the Trustee or any paying agent with respect to such moneys shall thereupon cease; provided, that the Trustee or such paying agent, before being required to make any such repayment with respect to moneys deposited with it for any payment in respect of Registered Securities of any series, shall at the cost and expense of the Issuer, send to Holders of such Securities in accordance with Applicable Procedures notice, that such moneys remain and that, after a date specified therein, which shall not be less than 30 days from the date of such mailing, any unclaimed balance of such money then remaining will be repaid to the Issuer.

SECTION 10.5 INDEMNITY FOR U.S. GOVERNMENT OBLIGATIONS

The Issuer shall pay and indemnify the Trustee against any tax, fee or other charge imposed on or assessed against the U.S. Government Obligations deposited pursuant to Section 10.1 or the principal or interest received in respect of such obligations.

SECTION 10.6 EFFECT ON SUBORDINATION PROVISIONS

Unless otherwise expressly established pursuant to Section 2.3 with respect to the Subordinated Securities of any series, the provisions of Section 11.13 hereof, insofar as they pertain to the Subordinated Securities of such series, and the Subordination Provisions established pursuant to Section 2.3(9) with respect to such series, are hereby expressly made subject to the provisions for satisfaction and discharge and defeasance and covenant defeasance set forth in Section 10.1 hereof and, anything herein to the contrary notwithstanding, upon the effectiveness of such satisfaction and discharge and defeasance and covenant defeasance pursuant to Section 10.1 with respect to the Securities of such series, such Securities shall thereupon cease to be so subordinated and shall no longer be subject to the provisions of Section 11.13 or the Subordination Provisions established pursuant to Section 2.3(9) with respect to such series and, without limitation to the foregoing, all moneys, U.S. Government Obligations and other securities or property deposited with the Trustee (or other qualifying trustee) in trust in connection with such satisfaction and discharge, defeasance or covenant defeasance, as the case may be, and all proceeds therefrom may be applied to pay the principal of, premium, if any, and interest, if any, on, and mandatory sinking fund payments, if any, with respect to the Securities of such series as and when the same shall become due and payable notwithstanding the provisions of Section 11.13 or such Subordination Provisions.

ARTICLE XI MISCELLANEOUS PROVISIONS

SECTION 11.1 INCORPORATORS, STOCKHOLDERS, OFFICERS AND DIRECTORS OF ISSUER EXEMPT FROM INDIVIDUAL LIABILITY

No recourse under or upon any obligation, covenant or agreement contained in this Indenture, or in any Security, or because of any indebtedness evidenced thereby, shall be had against any incorporator, as such, or against any past, present or future stockholder, officer or director, as such, of the Issuer or of any successor, either directly or through the Issuer or any successor, under any rule of law, statute or constitutional provision or by the enforcement of any assessment or by any legal or equitable proceeding or otherwise, all such liability being expressly waived and released by the acceptance of the Securities by the Holders thereof and as part of the consideration for the issue of the Securities.

SECTION 11.2 PROVISIONS OF INDENTURE FOR THE SOLE BENEFIT OF PARTIES AND HOLDERS OF SECURITIES

Nothing in this Indenture or in the Securities, expressed or implied, shall give or be construed to give to any person, firm or corporation, other than the parties thereto and their successors and the Holders of the Securities and, in the case of the Subordinated Securities of any series, the holders of Senior Indebtedness with respect to such series, any legal or equitable right, remedy or claim under this Indenture or under any covenant or provision herein contained, all such covenants and provisions being for the sole benefit of the parties hereto and their successors and of the Holders of the Securities and, in the case of the Subordinated Securities of any series, the holders of Senior Indebtedness with respect to such series.

SECTION 11.3 SUCCESSORS AND ASSIGNS OF ISSUER BOUND BY INDENTURE

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

SECTION 11.4 NOTICES AND DEMANDS ON ISSUER, TRUSTEE AND HOLDERS OF SECURITIES

Any notice, request, direction, consent or communication made pursuant to the provisions of this Indenture or the Notes shall be in writing and delivered in person, sent by facsimile, sent by electronic mail in pdf format, delivered by commercial courier service or mailed by first-class mail, postage prepaid, addressed (until another address of the Issuer is filed by the Issuer with the Trustee) to: Shapeways Holdings, Inc., [30-02 48th Avenue, Long Island City, New York 11101], Attention: Corporate Secretary, or by being e-mailed to [] or faxed to [] and to the Trustee at [] or by being e-mailed to [] or faxed to [].

Where this Indenture provides for notice to Holders of Registered Securities, such notice shall be sufficiently given (unless otherwise herein expressly provided) if in writing and mailed, first-class mail, postage prepaid, to each Holder entitled thereto, at his last address as it appears in the Security register.

The Trustee agrees to accept and act upon instructions or directions pursuant to this Indenture sent by e-mail, pdf, facsimile transmission or other similar electronic methods; provided, however, that the Trustee shall have received an Officers' Certificate (which need not comply with Section 314 of the Trust Indenture Act or Section 11.5 hereof) listing the names and titles of the persons designated to give such instructions or directions and containing specimen signatures of such designated persons, which certificate shall be amended and replaced whenever a person is to be added or deleted from the listing. If the Issuer elects to give the Trustee e-mail or facsimile instructions (or instructions by a similar electronic method) and the Trustee acts 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 that the Trustee believes, in the absence of negligence and willful misconduct, to be genuine and to have been sent by one of the persons named on the then most recent certificate referred to above notwithstanding that such instructions conflict or are inconsistent with a subsequent written instruction. The Issuer agrees to assume all risks arising out of the use of such electronic methods to submit the 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 of electronic communications by third parties.

Notwithstanding any other provision of this Indenture or any Security of any series other than a provision that expressly states that this paragraph is not applicable to the Securities of

such series, when this Indenture or any Security provides for notice of any event (including any notice of redemption) to a Holder of Securities in global form (whether by mail or otherwise), such notice shall be sufficiently given if given to the Depository for such Security (or its designee) pursuant to the customary procedures of such Depository.

In any case where notice to such Holders is given by mail, neither the failure to mail such notice, nor any defect in any notice so mailed, to any particular Holder shall affect the sufficiency of such notice with respect to other Holders. Where this Indenture provides for notice in any manner, such notice may be waived in writing by the person entitled to receive such notice, either before or after the event, and such waiver shall be the equivalent of such notice. Waivers of notice by Holders shall be filed with the Trustee, but such filing shall not be a condition precedent to the validity of any action taken in reliance upon such waiver.

In case, by reason of the suspension of or irregularities in regular mail service, it shall be impracticable to mail notice to the Issuer when such notice is required to be given pursuant to any provision of this Indenture, then any manner of giving such notice as shall be reasonably satisfactory to the Trustee shall be deemed to be a sufficient giving of such notice.

SECTION 11.5 OFFICERS' CERTIFICATES AND OPINIONS OF COUNSEL; STATEMENTS TO BE CONTAINED THEREIN

Upon any application or demand by the Issuer to the Trustee to take any action under any of the provisions of this Indenture, the Issuer shall furnish to the Trustee an Officers' Certificate stating that all conditions precedent provided for in this Indenture relating to the proposed action have been complied with and an Opinion of Counsel stating that in the opinion of such counsel all such conditions precedent 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 or opinion need be furnished.

Each certificate or opinion provided for in this Indenture and delivered to the Trustee with respect to compliance with a condition or covenant provided for in this Indenture shall include (a) a statement that the person making such certificate or opinion has read such covenant or condition, (b) a brief statement as to the nature and scope of the examination or investigation upon which the statements or opinions contained in such certificate or opinion are based, (c) a statement that, in the opinion of such person, he has made such examination or investigation as is necessary to enable him to express an informed opinion as to whether or not such covenant or condition has been complied with and (d) a statement as to whether or not, in the opinion of such person, such condition or covenant has been complied with.

In any case where several matters are required to be certified by, or covered by an opinion of, any specified Person, it is not necessary that all such matters be certified by, or covered by the opinion of, only one such Person, or that they be so certified or covered by only one document, but one such Person may certify or give an opinion with respect to some matters and one or more other such Persons as to other matters, and any such Person may certify or give an opinion as to such matters in one or several documents.

Any certificate, statement or opinion of an officer of the Issuer may be based, insofar as it relates to legal matters, upon a certificate or opinion of or representations by counsel, unless such officer knows that the certificate or opinion or representations with respect to the matters upon which his certificate, statement or opinion may be based as aforesaid are erroneous, or in the exercise of reasonable care should know that the same are erroneous. Any certificate, statement or opinion of counsel may be based, insofar as it relates to factual matters or information with respect to which is in the possession of the Issuer, upon the certificate, statement or opinion of or

representations by an officer or officers of the Issuer, unless such counsel knows that the certificate, statement or opinion or representations with respect to the matters upon which his certificate, statement or opinion may be based as aforesaid are erroneous, or in the exercise of reasonable care should know that the same are erroneous.

Any certificate, statement or opinion of an officer of the Issuer or of counsel may be based upon a certificate, report or opinion of or representations by an accountant, firm of accountants, investment bank or appraisal firm, unless such officer or counsel, as the case may be, knows that the certificate, report or opinion of or representations with respect to the matters upon which his certificate, statement or opinion may be based as aforesaid are erroneous, or in the exercise of reasonable care should know that the same are erroneous.

Where any Person is required to make, give or execute two or more applications, requests, consents, certificates, statements, opinions or other instruments under this Indenture, they may, but need not, be consolidated and form one instrument.

Any certificate, report or opinion of any independent firm of public accountants filed with and directed to the Trustee shall contain a statement that such firm is independent.

SECTION 11.6 PAYMENTS DUE ON SATURDAYS, SUNDAYS AND HOLIDAYS

If the date of maturity of interest on or principal of the Securities of any series or the date fixed for redemption or repayment of any such Security shall not be a Business Day, then payment of interest or principal need not be made on such date, but may be made on the next succeeding Business Day with the same force and effect as if made on the date of maturity or the date fixed for redemption, and no additional interest shall accrue for the period after such date.

SECTION 11.7 CONFLICT OF ANY PROVISION OF INDENTURE WITH TRUST INDENTURE ACT

If and to the extent that any provision of this Indenture limits, qualifies or conflicts with duties imposed by, or with another provision (an "incorporated provision") included in this Indenture by operation of Sections 310 to 318, inclusive, of the Trust Indenture Act, such imposed duties or incorporated provision shall control.

SECTION 11.8 NEW YORK LAW TO GOVERN; WAIVER OF JURY TRIAL

THIS INDENTURE AND EACH SECURITY SHALL BE DEEMED TO BE A CONTRACT UNDER THE LAWS OF THE STATE OF NEW YORK, AND FOR ALL PURPOSES SHALL BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF SUCH STATE.

EACH OF THE ISSUER AND THE TRUSTEE HEREBY IRREVOCABLY WAIVES, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, ANY AND ALL RIGHT TO TRIAL BY JURY IN ANY LEGAL PROCEEDING ARISING OUT OF OR RELATING TO THIS INDENTURE, THE NOTES OR THE TRANSACTIONS CONTEMPLATED HEREBY.

SECTION 11.9 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. The exchange of copies of this Indenture and of signature pages by facsimile or PDF transmission shall constitute effective execution and delivery of this Indenture as to the parties hereto and may

be used in lieu of the original Indenture for all purposes. Signatures of the parties hereto transmitted by facsimile or PDF shall be deemed to be their original signatures for all purposes.

SECTION 11.10 EFFECT OF HEADINGS

The Article and Section headings herein and the Table of Contents are for convenience only and shall not affect the construction hereof.

SECTION 11.11 SECURITIES IN A FOREIGN CURRENCY

Unless otherwise specified in an Officers' Certificate delivered pursuant to Section 2.3 of this Indenture with respect to a particular series of Securities, whenever for purposes of this Indenture any action may be taken by the Holders of a specified percentage in aggregate principal amount of Securities of all series or all series affected by a particular action at the time Outstanding and, at such time, there are Outstanding Securities of any series which are denominated in a Foreign Currency, then the principal amount of Securities of such series which shall be deemed to be Outstanding for the purpose of taking such action shall be that amount of Dollars that could be obtained for such amount at the "Market Exchange Rate". For purposes of this Section 11.11, Market Exchange Rate shall mean the noon Dollar buying rate in The City of New York for cable transfers of such currency or currencies as published by the Federal Reserve Bank of New York as of the most recent available date. If such Market Exchange Rate is not available for any reason with respect to such currency, the paying agent shall use, in its sole discretion and without liability on its part, such quotation of the Federal Reserve Bank of New York or quotations from one or more major banks in The City of New York or in the country of issue of the currency in question, which for purposes of the euro shall be any member state of the European Union that has adopted the euro, as the paying agent shall deem appropriate. The provisions of this paragraph shall apply in determining the equivalent principal amount in respect of Securities of a series denominated in a currency other than Dollars in connection with any action taken by Holders of Securities pursuant to the terms of this Indenture.

All decisions and determinations of the paying agent regarding the Market Exchange Rate or any alternative determination provided for in the preceding paragraph shall be in its sole discretion and shall, in the absence of manifest error, be conclusive to the extent permitted by law for all purposes and irrevocably binding upon the Issuer and all Holders.

SECTION 11.12 JUDGMENT CURRENCY

The Issuer agrees, to the fullest extent that it may effectively do so under applicable law, that (a) if for the purpose of obtaining judgment in any court it is necessary to convert the sum due in respect of the principal of or interest on the Securities of any series (the "Required Currency") into a currency in which a judgment will be rendered (the "Judgment Currency"), the rate of exchange used shall be the rate at which in accordance with normal banking procedures the paying agent could purchase in The City of New York the Required Currency with the Judgment Currency on the day on which final unappealable judgment is entered, unless such day is not a New York Banking Day, then, to the extent permitted by applicable law, the rate of exchange used shall be the rate at which in accordance with normal banking procedures the paying agent could purchase in The City of New York the Required Currency with the Judgment Currency on the New York Banking Day preceding the day on which final unappealable judgment is entered and (b) its obligations under this Indenture to make payments in the Required Currency (i) shall not be discharged or satisfied by any tender, or any recovery pursuant to any judgment (whether or not entered in accordance with subsection (a)), in any currency other than the Required Currency, except to the extent that such tender or recovery shall result in the actual receipt, by the payee, of the full amount of the Required Currency expressed to be payable in respect of such payments, (ii) shall be enforceable as an alternative or additional

cause of action for the purpose of recovering in the Required Currency the amount, if any, by which such actual receipt shall fall short of the full amount of the Required Currency so expressed to be payable and (iii) shall not be affected by judgment being obtained for any other sum due under this Indenture. For purposes of the foregoing, "New York Banking Day" means any day except a Saturday, Sunday or a legal holiday in The City of New York or a day on which banking institutions in The City of New York are authorized or required by law or executive order to close.

SECTION 11.13 AGREEMENT TO SUBORDINATE

The Issuer, for itself, its successors and assigns, covenants and agrees, and each Holder of Subordinated Securities of any series by his acceptance thereof, likewise covenants and agrees, that the payment of the principal of (and premium, if any) and interest, if any, on, and mandatory sinking fund payments, if any, in respect of each and all of the Subordinated Securities of such series shall be expressly subordinated, to the extent and in the manner provided in the Subordination Provisions established with respect to the Subordinated Securities of such series pursuant to Section 2.3(9) hereof, in right of payment to the prior payment in full of all Senior Indebtedness with respect to such series.

SECTION 11.14 FORCE MAJEURE

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.

SECTION 11.15 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.

ARTICLE XII REDEMPTION OF SECURITIES AND SINKING FUNDS

SECTION 12.1 APPLICABILITY OF ARTICLE

The provisions of this Article shall be applicable to the Securities of any series which are redeemable before their maturity or to any sinking fund for the retirement of Securities of a series except as otherwise specified as contemplated by Section 2.3 for Securities of such series.

SECTION 12.2 NOTICE OF REDEMPTION; PARTIAL REDEMPTIONS

Notice of redemption to the Holders of Registered Securities of any series to be redeemed as a whole or in part at the option of the Issuer shall be given by sending notice of such redemption, at least 30 days and not more than 60 days prior to the date fixed for redemption, to such Holders of Securities of such series in accordance with Applicable Procedures, except that

redemption notices may be delivered more than 60 days prior to a redemption if the notice is issued in connection with defeasance, covenant defeasance or discharge of any series of Securities pursuant to Section 10.1. Any notice which is sent in accordance with Applicable Procedures shall be conclusively presumed to have been duly given, whether or not the Holder receives the notice. Any defect in the notice to the Holder of any Security of a series designated for redemption as a whole or in part shall not affect the validity of the proceedings for the redemption of such Security of such series.

The notice of redemption to each such Holder shall identify the Securities to be redeemed (including CUSIP number(s)) and specify the aggregate principal amount of Securities of such series to be redeemed, the date fixed for redemption, the redemption price, the place or places of payment, that payment will be made upon presentation and surrender of such Securities, that such redemption is pursuant to the mandatory or optional sinking fund, or both, if such be the case, that interest accrued to, but not including, the date fixed for redemption will be paid as specified in such notice and that on and after said date interest thereon or on the portions thereof to be redeemed will cease to accrue. In case any Security of a series is to be redeemed in part only, the notice of redemption to Holders of Securities of the series shall state the portion of the principal amount thereof to be redeemed and shall state that on and after the date fixed for redemption, 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.

The notice of redemption of Securities of any series to be redeemed at the option of the Issuer shall be given by the Issuer or, at the Issuer's request at least five (5) Business Days prior to the date the notice must be mailed to Holders (unless the Trustee otherwise agrees to a shorter period), by the Trustee in the name and at the expense of the Issuer.

On or before 11:00 a.m., New York City time, on the redemption date specified in the notice of redemption given as provided in this Section, the Issuer will deposit with the Trustee or with one or more paying agents (or, if the Issuer is acting as its own paying agent, set aside, segregate and hold in trust as provided in Section 3.4) an amount of money sufficient to redeem on the redemption date all the Securities of such series so called for redemption at the appropriate redemption price, together with accrued interest to the date fixed for redemption. The Issuer will deliver to the Trustee at least 70 days prior to the date fixed for redemption, or such shorter period as shall be acceptable to the Trustee, an Officers' Certificate stating the aggregate principal amount of Securities to be redeemed. In case of a redemption at the election of the Issuer prior to the expiration of any restriction on such redemption, the Issuer shall deliver to the Trustee, prior to the giving of any notice of redemption to Holders pursuant to this Section, an Officers' Certificate stating that such restriction has been complied with.

If less than all the Securities of a series are to be redeemed, the Trustee shall select, in such manner as it shall deem appropriate and fair in accordance with the procedures of the Depositary, in its sole discretion, Securities of such series to be redeemed in whole or in part. Securities may be redeemed in part in multiples equal to the minimum authorized denomination for Securities of such series or any multiple thereof. The Trustee shall promptly notify the Issuer in writing of the Securities of such series selected for redemption and, in the case of any Securities of such series selected for partial redemption, the principal amount thereof to be redeemed. For all purposes of this Indenture, unless the context otherwise requires, all provisions relating to the redemption of Securities of any series shall relate, in the case of any Security redeemed or to be redeemed only in part, to the portion of the principal amount of such Security which has been or is to be redeemed.

SECTION 12.3 PAYMENT OF SECURITIES CALLED FOR REDEMPTION

If notice of redemption has been given as above provided, the Securities or portions of Securities 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, but not including, the date fixed for redemption, and on and after said date (unless the Issuer shall default in the payment of such Securities at the redemption price, together with interest accrued to said date) interest on the Securities or portions of Securities so called for redemption shall cease to accrue, and, except as provided in Sections 6.5 and 10.4, such Securities shall cease from and after the date fixed for redemption to be entitled to any benefit or security under this Indenture, and the Holders thereof shall have no right in respect of such Securities except the right to receive the redemption price thereof and unpaid interest to the date fixed for redemption. On presentation and surrender of such Securities at a place of payment specified in said notice, said Securities or the specified portions thereof shall be paid and redeemed by the Issuer at the applicable redemption price, together with interest accrued thereon to the date fixed for redemption; provided, that payment of interest becoming due on or prior to, but not including, the date fixed for redemption shall be payable to the Holder of such Registered Securities registered as such on the relevant record date, subject to the terms and provisions of Section 2.3 and 2.7 hereof.

If any Security called for redemption shall not be so paid upon surrender thereof for redemption, the principal shall, until paid or duly provided for, bear interest from the date fixed for redemption at the rate of interest or Yield to Maturity (in the case of an Original Issue Discount Security) borne by such Security.

Upon presentation of any Security redeemed in part only, the Issuer shall execute and the Trustee shall authenticate and deliver to or on the order of the Holder thereof, at the expense of the Issuer, a new Security or Securities of such series, of authorized denominations, in principal amount equal to the unredeemed portion of the Security so presented.

SECTION 12.4 EXCLUSION OF CERTAIN SECURITIES FROM ELIGIBILITY FOR SELECTION FOR REDEMPTION

Securities shall be excluded from eligibility for selection for redemption if they are identified by registration and certificate number in an Officers' Certificate delivered to the Trustee at least 40 days prior to the last date on which notice of redemption may be given as being owned of record and beneficially by, and not pledged or hypothecated by, either (a) the Issuer or (b) an entity specifically identified in such written statement as directly or indirectly controlling or controlled by or under direct or indirect common control with the Issuer.

SECTION 12.5 MANDATORY AND OPTIONAL SINKING FUNDS

The minimum amount of any sinking fund payment provided for by the terms of the 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 the Securities of any series is herein referred to as an "optional sinking fund payment." The date on which a sinking fund payment is to be made is herein referred to as the "sinking fund payment date."

In lieu of making all or any part of any mandatory sinking fund payment with respect to any series of Securities in cash, the Issuer may at its option (a) deliver to the Trustee Securities of such series theretofore purchased or otherwise acquired (except upon redemption pursuant to the mandatory sinking fund) by the Issuer or receive credit for Securities of such series (not previously so credited) theretofore purchased or otherwise acquired (except as aforesaid) by the Issuer and delivered to the Trustee for cancellation pursuant to Section 2.10, (b) receive credit for

optional sinking fund payments (not previously so credited) made pursuant to this Section, or (c) receive credit for Securities of such series (not previously so credited) redeemed by the Issuer through any optional redemption provision contained in the terms of such series. Securities so delivered or credited shall be received or credited by the Trustee at the sinking fund redemption price specified in such Securities.

On or before the 60th day next preceding each sinking fund payment date for any series, the Issuer will deliver to the Trustee an Officers' Certificate (which need not contain the statements required by Section 11.5) (a) specifying the portion of the mandatory sinking fund payment to be satisfied by payment of cash and the portion to be satisfied by credit of Securities of such series and the basis for such credit, (b) stating that none of the Securities of such series has theretofore been so credited, (c) stating that no defaults in the payment of interest or Events of Default with respect to such series have occurred (which have not been waived or cured) and are continuing and (d) stating whether or not the Issuer intends to exercise its right to make an optional sinking fund payment with respect to such series and, if so, specifying the amount of such optional sinking fund payment which the Issuer intends to pay on or before the next succeeding sinking fund payment date. Any Securities of such series to be credited and required to be delivered to the Trustee in order for the Issuer to be entitled to credit therefor as aforesaid which have not theretofore been delivered to the Trustee shall be delivered for cancellation pursuant to Section 2.10 to the Trustee with such Officers' Certificate (or reasonably promptly thereafter if acceptable to the Trustee). Such Officers' Certificate shall be irrevocable and upon its receipt by the Trustee, the Issuer shall become unconditionally obligated to make all the cash payments or payments therein referred to, if any, on or before the next succeeding sinking fund payment date. Failure of the Issuer, on or before any such 60th day, to deliver such Officers' Certificate and Securities specified in this paragraph, if any, shall not constitute a default but shall constitute, on and as of such date, the irrevocable election of the Issuer (i) that the mandatory sinking fund payment for such series due on the next succeeding sinking fund payment date shall be paid entirely in cash without the option to deliver or credit Securities of such series in respect thereof and (ii) that the Issuer will make no optional sinking fund payment with respect to such series as provided in this Section.

If the sinking fund payment or payments (mandatory or optional or both) to be made in cash on the next succeeding sinking fund payment date plus any unused balance of any preceding sinking fund payments made in cash shall exceed \$50,000 (or the equivalent thereof in any Foreign Currency) or a lesser sum in Dollars (or the equivalent thereof in any Foreign Currency) if the Issuer shall so request with respect to the Securities of any particular series, such cash shall be applied on the next succeeding sinking fund payment date to the redemption of Securities of such series at the sinking fund redemption price together with accrued interest to the date fixed for redemption. If such amount shall be \$50,000 (or the equivalent thereof in any Foreign Currency) or less and the Issuer makes no such request then it shall be carried over until a sum in excess of \$50,000 (or the equivalent thereof in any Foreign Currency) is available. The Trustee shall select, in the manner provided in Section 12.2, for redemption on such sinking fund payment date a sufficient principal amount of Securities of such series to absorb said cash, as nearly as may be, and shall (if requested in writing by the Issuer) inform the Issuer of the serial numbers of the Securities of such series (or portions thereof) so selected. Securities shall be excluded from eligibility for redemption under this Section if they are identified by registration and certificate number in an Officers' Certificate delivered to the Trustee at least 60 days prior to the sinking fund payment date as being owned of record and beneficially by, and not pledged or hypothecated by, either (a) the Issuer or (b) an entity specifically identified in such Officers' Certificate as directly or indirectly controlling or controlled by or under direct or indirect common control with the Issuer. The Trustee, in the name and at the expense of the Issuer (or the Issuer, if it shall so request the Trustee in writing) shall cause notice of redemption of the Securities of such series to be given in substantially the manner provided in Section 12.2 (and with the effect provided in Section 12.3) for the redemption of Securities of such series in part at

the option of the Issuer. The amount of any sinking fund payments not so applied or allocated to the redemption of Securities of such series shall be added to the next cash sinking fund payment for such series and, together with such payment, shall be applied in accordance with the provisions of this Section. Any and all sinking fund moneys held on the stated maturity date of the Securities of any particular series (or earlier, if such maturity is accelerated), which are not held for the payment or redemption of particular Securities of such series shall be applied, together with other moneys, if necessary, sufficient for the purpose, to the payment of the principal of, and interest on, the Securities of such series at maturity.

On or before each sinking fund payment date, the Issuer shall pay to the Trustee in cash or shall otherwise provide for the payment of all interest accrued to the date fixed for redemption on Securities to be redeemed on the next following sinking fund payment date.

The Trustee shall not redeem or cause to be redeemed any Securities of a series with sinking fund moneys or give any notice of redemption of Securities for such series by operation of the sinking fund during the continuance of a default in payment of interest on such Securities or of any Event of Default except that, where the giving of notice of redemption of any Securities shall theretofore have been made, the Trustee shall redeem or cause to be redeemed such Securities, provided that it shall have received from the Issuer a sum sufficient for such redemption. Except as aforesaid, any moneys in the sinking fund for such series at the time when any such default or Event of Default shall occur, and any moneys thereafter paid into the sinking fund, shall, during the continuance of such default or Event of Default be deemed to have been collected under Article V and held for the payment of all such Securities. In case such Event of Default shall have been waived as provided in Section 5.10 or the default cured on or before the sixtieth day preceding the sinking fund payment date in any year, such moneys shall thereafter be applied on the next succeeding sinking fund payment date in accordance with this Section to the redemption of such Securities.

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

SHAPEWAYS HOLDINGS, INC.

By: _____

Name: _____

Title: _____

[_____], as **Trustee**

By: _____

Name: _____

Title: _____

[Signature Page to Indenture]



SILICON VALLEY
ANN ARBOR
AUSTIN
BEIJING
BOSTON
LOS ANGELES
NEW YORK
SAN DIEGO
SAN FRANCISCO
SÃO PAULO
SINGAPORE

October 6, 2022

Shapeways Holdings, Inc.
30-02 48th Avenue
Long Island City, New York 11101

Re: **Registration Statement on Form S-3**

Ladies and Gentlemen:

We have acted as counsel to Shapeways Holdings, Inc., a Delaware corporation (the “**Company**”), in connection with its filing on the date hereof with the Securities and Exchange Commission (the “**Commission**”) of a Registration Statement on Form S-3 (the “**Registration Statement**”) in connection with the registration pursuant to the Securities Act of 1933, as amended (the “**Act**”), of the Securities (as defined below).

The Registration Statement relates to the proposed issuance and sale by the Company, from time to time, pursuant to Rule 415 under the Act, as set forth in the Registration Statement, the prospectus contained therein (the “**Prospectus**”) and the supplements to the prospectus referred to therein (each, a “**Prospectus Supplement**”), of up to an aggregate offering price of \$50,000,000, or the equivalent thereof, of shares of the Company’s common stock, \$0.0001 par value per share (the “**Common Stock**”), shares of the Company’s preferred stock, \$0.0001 par value per share (the “**Preferred Stock**”), debt securities (the “**Debt Securities**”), warrants to purchase any of the securities described above (the “**Warrants**”), rights to purchase Common Stock or Preferred Stock (the “**Rights**”) and units consisting of any combination of Common Stock, Preferred Stock, Debt Securities, Warrants and Rights (the “**Units**,” and together with the Common Stock, the Preferred Stock, the Debt Securities, the Warrants or the Rights, the “**Securities**”).

The Securities are to be sold from time to time as set forth in the Registration Statement, the Prospectus contained therein and the Prospectus Supplements. The Debt Securities are to be issued in one or more series pursuant to an indenture (including any officer’s certificate or supplemental indenture used to issue the Debt Securities, the “**Indenture**”) and any supplemental indentures thereto, to be entered into between the Company and a bank or trust company to be named in the Indenture and duly qualified under the Trust Indenture Act of 1939, as amended (the “**Trust Indenture Act**”), as trustee (the “**Trustee**”), the form of which is filed as an exhibit to the Registration Statement. The Warrants will be issued pursuant to a warrant agreement (each, a “**Warrant Agreement**”) to be entered into between the Company and a bank or trust company, as warrant agent (each, a “**Warrant Agent**”), which will be in a form to be filed as an exhibit to a post-effective amendment to the Registration Statement or a Current Report on Form 8-K incorporated in such Registration Statement by reference. The Preferred Stock will be issued in one or more series and the relative powers, designations, preferences, rights and qualifications, limitations or restrictions of such Preferred Stock will be set forth in one or more certificates of designation (each, a “**Certificate of Designation**”), which will be in a form to be filed as an exhibit to a post-effective amendment to the Registration Statement or a Current Report on Form 8-K incorporated in such Registration Statement by reference.

We have examined instruments, documents, certificates and records that we have deemed relevant and necessary for the basis of our opinions hereinafter expressed. In such examination, we have assumed: (i) the authenticity of original documents and the genuineness of all signatures; (ii) the conformity to the originals of all documents submitted to us as copies; (iii) the truth, accuracy and completeness of the information, representations and warranties contained in the instruments, documents, certificates and records we have reviewed; (iv) that the Registration Statement, and any amendments thereto (including post-effective amendments), will have become effective under the Act; (v) that a Prospectus Supplement will have been filed with the Commission describing the Securities offered thereby; (vi) that the Securities will be issued and sold in compliance with applicable U.S. federal and state securities laws and in the manner stated in the Registration Statement and the applicable Prospectus Supplement; (vii) that a definitive 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; (viii) that any Securities issuable upon conversion, exchange, redemption or exercise of any Securities being offered will be duly authorized, created and, if appropriate, reserved for issuance upon such conversion, exchange, redemption or exercise; (ix) that the Indenture, and any supplemental indentures thereto, will be the legal, valid and binding obligation of each party thereto, other than the Company, enforceable against each such party in accordance

with its terms, and will be duly qualified under the Trust Indenture Act, and that the applicable Trustee will be duly eligible to serve as trustee; (x) with respect to shares of Common Stock or Preferred Stock offered, that there will be sufficient shares of Common Stock or Preferred Stock authorized under the Company's organizational documents that are not otherwise reserved for issuance; and (xi) the legal capacity of all natural persons. As to any facts material to the opinions expressed herein that were not independently established or verified, we have relied upon oral or written statements and representations of officers and other representatives of the Company.

Based on such examination, we are of the opinion that:

1. With respect to shares of the Common Stock to be sold by the Company, when both: (a) the Board of Directors of the Company or a duly constituted and acting committee thereof (such Board of Directors or committee being hereinafter referred to as the "Board") has taken all necessary corporate action to approve the issuance and the terms of the offering of the shares of Common Stock and related matters; and (b) the shares of Common Stock have been duly delivered either (i) in accordance with the applicable definitive purchase, underwriting or similar agreement approved by the Board, or upon the exercise of Warrants to purchase Common Stock, 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, then the shares of Common Stock will be validly issued, fully paid and nonassessable;
 2. With respect to any particular series of shares of Preferred Stock, when both: (a) the Board has taken all necessary corporate action to approve the issuance and terms of the shares of Preferred Stock, the terms of the offering thereof, and related matters, including the adoption of a certificate of designation relating to such Preferred Stock conforming to the Delaware General Corporation Law (a "Certificate") and the filing of the Certificate 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 either (i) in accordance with the applicable definitive purchase, underwriting or similar agreement approved by the Board, or upon the exercise of Warrants to purchase Preferred Stock, 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 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, then the shares of Preferred Stock will be validly issued, fully paid and nonassessable;
 3. With respect to the Indenture, when the Indenture has been duly authorized, executed and delivered by the Company, the Indenture will constitute a legal, valid and binding obligation of the Company, enforceable against the Company in accordance with its terms;
 4. With respect to the Debt Securities to be issued under the Indenture, when (a)(i) the terms of the Debt Securities have been duly established and authorized by the Company, (ii) the Indenture has been duly executed and delivered by the Company, (iii) the issuance and sale of the Debt Securities has been duly authorized by all necessary action (corporate or otherwise) and (iv) the Debt Securities have been duly executed by the Company and duly authenticated by the Trustee in accordance with the terms of the Indenture and any applicable supplemental indenture, and delivered to the purchasers thereof against payment of the consideration therefor duly approved by the Company, the Debt Securities will constitute legal, valid and binding obligations of the Company, enforceable against the Company in accordance with their terms and (b) when the Debt Securities to be offered and issued by the Company upon exercise of the Warrants have been issued by the Company against payment in full of the consideration and in accordance with the applicable Warrant, the Indenture and any applicable supplemental indenture, the Debt Securities will be duly authorized and legal, valid and binding obligations of the Company, enforceable against the Company in accordance with their terms;
 5. With respect to the Warrants, when both: (a) the Board has taken all necessary corporate action to approve the issuance and terms of the Warrants and related matters; and (b) the Warrants have been duly executed and delivered against payment therefor, pursuant to the applicable definitive purchase, underwriting, warrant or similar agreement duly authorized, executed and delivered by the Company and the purchasers or warrant agent, and the certificates for the Warrants have been duly executed and delivered by the Company and such purchasers or warrant agent, then the Warrants will be validly issued and will constitute valid and binding obligations of the Company, enforceable against the Company in accordance with their terms;
 6. With respect to the Rights, when both: (a) the Board has taken all necessary corporate action to approve the issuance and terms of the Rights, the terms of the offering thereof, and related matters, including the adoption of a rights agreement, as applicable; and (b) the Rights have been duly executed, authenticated,
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issued and delivered against payment therefor in accordance with the terms of the applicable rights agreement and in the manner contemplated by the applicable Prospectus Supplement and by such corporate action (assuming the shares of Common Stock or Preferred Stock relating to such Rights, as applicable, have been duly authorized and reserved for issuance by all necessary corporate action of the Company and in accordance with the terms of the Rights and the rights agreement), then the Rights will be legally valid and binding obligations of the Company, enforceable against the Company in accordance with their terms; and

7. With respect to the Units, when both: (a) the Board has taken all necessary corporate action to approve the issuance and terms of the Units, the terms of the offering thereof, and related matters, including the adoption of a unit agreement, as applicable; and (b) the Units have been duly executed, authenticated, issued and delivered against payment therefor in accordance with the terms of the applicable unit agreement and in the manner contemplated by the applicable Prospectus Supplement and by such corporate action (assuming the securities issuable upon exercise of such Units have been duly authorized and reserved for issuance by all necessary corporate action and the applicable Indenture and Debt Securities have been duly executed by the Company and such Debt Securities have been authenticated by the applicable Trustee in accordance with the Indenture), then the Units will be legally valid and binding obligations of the Company, enforceable against the Company in accordance with their terms.

Our opinion that any document is legal, valid and binding is qualified as to:

- (a) limitations imposed by bankruptcy, insolvency, reorganization, arrangement, fraudulent conveyance, moratorium or other laws relating to or affecting the rights of creditors generally;
- (b) rights to indemnification and contribution, which may be limited by applicable law or equitable principles; and
- (c) general principles of equity, including without limitation concepts of materiality, reasonableness, good faith and fair dealing, and the possible unavailability of specific performance or injunctive relief and limitation of rights of acceleration, regardless of whether such enforceability is considered in a proceeding in equity or at law.

We express no opinion as to the laws of any other jurisdiction, other than the Federal laws of the United States of America, the Delaware General Corporation Law and, with respect to the Indenture, also the substantive laws of the State of New York, as in effect on the date hereof. We express no opinion as to enforceability of the New York choice-of-law provision contained in the Indenture.

We hereby consent to the filing of this opinion as an exhibit to the above-referenced Registration Statement and to the use of our name wherever it appears in the Registration Statement, the Prospectus, any Prospectus Supplement and in any amendment or supplement thereto. In giving such consent, we do not believe that we are "experts" within the meaning of such term as used in the Act or the rules and regulations of the Commission issued thereunder with respect to any part of the Registration Statement, including this opinion as an exhibit.

Very truly yours,

/s/ Gunderson Dettmer Stough Villeneuve Franklin & Hachigian, LLP

GUNDERSON DETTMER STOUGH
VILLENEUVE FRANKLIN & HACHIGIAN, LLP



SILICON VALLEY
ANN ARBOR
AUSTIN
BEIJING
BOSTON
LOS ANGELES
NEW YORK
SAN DIEGO
SAN FRANCISCO
SÃO PAULO
SINGAPORE

October 6, 2022

Shapeways Holdings, Inc.
30-02 48th Avenue
Long Island City, New York 11101

Ladies and Gentlemen:

We have acted as counsel to Shapeways Holdings, Inc., a Delaware corporation (the “*Company*”), and you have requested our opinion with respect to certain matters in connection with the offering by the Company of the number of authorized but unissued shares having aggregate proceeds of up to \$13.25 million (the “*Shares*”) of the Company’s common stock, par value \$0.0001 (the “*Common Stock*”), to be issued pursuant to the Registration Statement on Form S-3 filed on the date hereof with the Securities and Exchange Commission (the “*Commission*”) under the Securities Act of 1933, as amended (the “*Act*”) (the “*Registration Statement*”), the related prospectus, included in the Registration Statement (the “*Base Prospectus*”), and the related at-the-market offering prospectus supplement (the “*ATM Prospectus*”) and that certain At the Market Offering Agreement dated the date hereof by and between the Company and Craig-Hallum Capital Group LLC (the “*Sales Agreement*”). The Base Prospectus and the ATM Prospectus are collectively referred to as the “*Prospectus*.” The Shares are to be sold by the Company in accordance with the Sales Agreement, as described in the ATM Prospectus.

In connection with this opinion, we have examined and relied upon the Registration Statement, the Prospectus, the Company’s Certificate of Incorporation and Bylaws, as currently in effect, and the originals or copies certified to our satisfaction of such other documents, records, certificates, memoranda and other instruments as in our judgment are necessary or appropriate to enable us to render the opinion expressed below. With your consent, we have relied upon certificates and other assurances of officers of the Company as to factual matters without having independently verified such factual matters. We have assumed the genuineness and authenticity of all documents submitted to us as originals; the conformity to originals of all documents submitted to us as copies thereof; the accuracy, completeness and authenticity of certificates of public officials; and the due execution and delivery by all parties other than the Company of all documents where due execution and delivery are a prerequisite to the effectiveness thereof.

This opinion is being furnished in connection with the requirements of Item 601(b)(5) of Regulation S-K under the Act, and no opinion is expressed herein as to any matter pertaining to the contents of the Registration Statement or the Prospectus, other than as expressly stated herein with respect to the issue of the Shares. Our opinion is limited to the matters stated herein and no opinion is implied or may be inferred beyond the matters expressly stated. Our opinion herein is expressed solely with respect to the General Corporation Law of the State of Delaware and we express no opinion with respect to any other laws. Our opinion is based on these laws as in effect on the date hereof, and we disclaim any obligation to advise you of facts, circumstances, events or developments which hereafter may be brought to our attention and which may alter, affect or modify the opinion expressed herein.

Subject to the foregoing and the other matters set forth herein, it is our opinion that, when the Shares to be issued and sold by the Company are issued and paid for in accordance with the terms of the Sales Agreement, and in accordance with the Registration Statement and the Prospectus, such Shares will be validly issued, fully paid and nonassessable.

We consent to the reference to our firm under the caption “Legal Matters” in the ATM Prospectus and to the filing of this opinion as an exhibit to the Registration Statement. In giving such consent, we do not thereby admit that we are in the category of persons whose consent is required under Section 7 of the Act or the rules and regulations of the Commission thereunder.

Very truly yours,

/s/ Gunderson Dettmer Stough Villeneuve Franklin & Hachigian, LLP

GUNDERSON DETTMER STOUGH
VILLENEUVE FRANKLIN & HACHIGIAN, LLP

Consent of Independent Registered Public Accounting Firm

We hereby consent to the incorporation by reference in the Prospectus constituting a part of this Registration Statement of our report dated March 31, 2022, relating to the consolidated financial statements of Shapeways Holdings, Inc. appearing in the entity's Annual Report on Form 10-K for the years ended December 31, 2021 and 2020. We also consent to the reference to us under the caption "Experts" in the Prospectus.

/s/ WithumSmith+Brown, PC

East Brunswick, New Jersey
October 6, 2022