ENTERPRISE BANCORP INC /MA/
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PROSPECTUS SUPPLEMENT
TO PROSPECTUS DATED JULY 18, 2013
Common Stock
Subscription Rights to Purchase up to 465,116 Shares of Common Stock

We are distributing to our shareholders, free of charge, non-transferable subscription rights to purchase shares of our common stock. You will receive one right for each share of common stock that you owned of record as of 5:00 p.m., Eastern Daylight Time, on April 19, 2016. Each right will entitle you to purchase 0.0444 of a share of our common stock at a price of $21.50 per whole share. If you fully exercise your subscription rights for all of the shares that you hold of record, then you may also subscribe to purchase additional shares, subject to the conditions and limitations described later in this prospectus supplement, at the same price of $21.50 per share.

We are distributing subscription rights exercisable for up to 465,116 shares. We also reserve the right to issue up to an additional 93,023 shares to accommodate over-subscription requests in the rights offering and/or to facilitate sales of shares to new investors in a supplemental community offering that we are undertaking concurrently with the rights offering.

Your subscription rights may be exercised at any time during the period starting on April 21, 2016 and ending at 5:00 p.m., Eastern Daylight Time, on May 27, 2016, unless we extend the rights offering period, which we may do in our sole discretion. However, we will not extend the rights offering period beyond June 3, 2016. You should carefully consider whether to exercise your rights before the expiration of the rights offering period. The exercise of your subscription rights is irrevocable and our Board of Directors makes no recommendation as to whether you should exercise your rights. Your subscription rights may not be sold, transferred or assigned to anyone else and will not be listed for trading on any stock exchange or trading market.

We are also offering the shares of common stock offered but not subscribed for in the rights offering to the public through a supplemental community offering at $21.50 per share. This supplemental community offering is available only to persons selected by us, in our sole discretion. The supplemental community offering will expire at the close of business on June 10, 2016, unless we extend it in our sole discretion. However, we will not extend the supplemental community offering period beyond June 17, 2016. We reserve the right to accept or reject, in whole or in part, any subscription tendered in the supplemental community offering. Under no circumstances will we issue more than 558,139 shares in the combined rights and supplemental community offering.

We will conduct the rights offering and the supplemental community offering solely on a “best efforts” basis without the services of an underwriter or placement agent, but we may choose to do so at our discretion.

We may amend, terminate or cancel the rights offering or the supplemental community offering, or both, at any time and for any reason. If we terminate either offering, the subscription agent will return all subscription payments it has received for the terminated offering without interest, penalty or deduction.

Our shares are traded on the NASDAQ Global Market under the symbol “EBTC.” On April 19, 2016, the closing sale price for our shares was $24.75 per share. All shares issued in either the rights offering or the supplemental community offering will also be listed on the NASDAQ Global Market under the same symbol.

This investment in our common stock involves risks. You should carefully consider all of the information set forth in this prospectus supplement and the accompanying prospectus, including the risk factors beginning on page S-15 of this prospectus supplement and on page 4 of the accompanying prospectus, as well as the risk factors and other information contained in any documents we incorporate by reference into this prospectus supplement and the accompanying prospectus before exercising your subscription rights. See “Incorporation of Certain Information by Reference.”

OFFERING SUMMARY
Price: $21.50 per share

	Per Share	Total (1)
Gross proceeds	$21.50	$10,000,000
Net proceeds	$20.86	$9,700,000

(1) Based on 465,116 shares offered being sold and estimated expenses of $300,000. No assurance can be given that all or any of the shares will be sold. We reserve the right to issue up to 93,023 additional shares as described further in this prospectus supplement.

NEITHER THE SECURITIES AND EXCHANGE COMMISSION NOR ANY STATE SECURITIES COMMISSION HAS APPROVED OR DISAPPROVED OF THESE SECURITIES OR PASSED UPON THE ADEQUACY OR ACCURACY OF THIS PROSPECTUS SUPPLEMENT. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

THESE SECURITIES ARE NOT DEPOSITS OR OTHER OBLIGATIONS OF ENTERPRISE BANK AND ARE NOT INSURED OR GUARANTEED BY THE FEDERAL DEPOSIT INSURANCE CORPORATION, THE DEPOSIT INSURANCE FUND OR ANY OTHER GOVERNMENTAL AGENCY OR FUND.

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The date of this prospectus supplement is April 21, 2016.

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You should rely only on the information contained in or incorporated by reference into this prospectus supplement and the accompanying prospectus. We have not authorized anyone to provide you with additional or different information from that contained in or incorporated by reference into this prospectus supplement and the accompanying prospectus. You should assume that the information contained in this prospectus supplement is accurate only as of the date on the front cover of this prospectus supplement, the information contained in the accompanying prospectus is accurate only as of the date on the front cover of the prospectus and any information we have incorporated by reference is accurate only as of the date of the document incorporated by reference, regardless of the time of delivery of this prospectus supplement, the accompanying prospectus or any exercise of the subscription rights. Our business, financial condition, results of operations and prospects may have changed since those dates.

ABOUT THIS PROSPECTUS

This document consists of two parts. The first part is the prospectus supplement, which describes the specific terms of this offering. The second part is the accompanying prospectus, which describes more general information about us and our securities, some of which may not apply to this offering. You should read both this prospectus supplement and the accompanying prospectus, together with additional information described under the heading “Where You Can Find More Information” below.

Both this prospectus supplement and the accompanying prospectus include important information about us, our common stock and other information you should know before investing in our common stock. This prospectus supplement also adds to, updates and changes information in the accompanying prospectus. To the extent that any statement we make in the prospectus supplement is inconsistent with the statements made in the accompanying prospectus, the statements made in the accompanying prospectus are deemed modified or superseded by the statements made in this prospectus supplement. You should read both this prospectus supplement and the accompanying prospectus as well as the additional information described under the caption “Where You Can Find More Information” in the accompanying prospectus before investing in our common stock.

As used in this prospectus supplement, the terms “Enterprise Bancorp,” “the Company,” “we,” “our,” and “us” refer to Enterpr Bancorp, Inc. and our consolidated subsidiaries, unless the context indicates otherwise. This prospectus supplement and the accompanying prospectus include our trademarks and other trade names identified herein. All other trademarks and trade names appearing in this prospectus supplement and the accompanying prospectus are the property of their respective holders.

QUESTIONS AND ANSWERS RELATING TO THE RIGHTS OFFERING

The following are examples of what we anticipate will be common questions about the rights offering. The answers are based on selected information included elsewhere in this prospectus supplement and the accompanying prospectus. The following questions and answers do not contain all of the information that may be important to you and may not address all of the questions that you may have about the rights offering. This prospectus supplement and the accompanying prospectus contain more detailed descriptions of the terms and conditions of the rights offering and provide additional information about us and our business, including potential risks related to the rights offering, the common stock of the Company, and our business.

What is being offered in the rights offering?

We are distributing, at no cost or charge to our shareholders, subscription rights to purchase shares of our common stock. These rights may be exercised only by the shareholders to whom they are distributed, and may not be sold, transferred or assigned to anyone else. Holders of our common stock will receive one subscription right for each share of common stock held of record as of 5:00 p.m., Eastern Daylight Time on April 19, 2016, the record date of the rights offering. The subscription rights will be evidenced by subscription rights certificates. Each subscription right will entitle you to purchase 0.0444 of a share of our common stock at a subscription price equal to $21.50 per whole share. You may exercise any number of your subscription rights, or you may choose not to exercise any subscription rights. Fractional shares of our common stock resulting from the exercise of the basic subscription privilege or the over-subscription opportunity, each as described below, will be eliminated by rounding down to the nearest whole share, with the total subscription payment being adjusted accordingly. As a result, we may not issue the full number of shares authorized for issuance in connection with the rights offering. Any excess subscription payments received by the subscription agent (or rights agent) will be returned, without interest, penalty or deduction, as soon as practicable after the completion of the rights offering.

ALL EXERCISES OF SUBSCRIPTION RIGHTS ARE IRREVOCABLE. Once you deliver your subscription rights certificate to exercise any subscription rights, you cannot revoke the exercise of your subscription rights, even if you later learn information that you consider to be unfavorable and even if the market price of our common stock is below the subscription price. You should not exercise your subscription rights unless you are sure that you wish to purchase additional shares of our common stock.

What is the basic subscription privilege?

For each right that you receive, you will have a basic subscription privilege to buy from us 0.0444 of a share of our common stock at the subscription price. You may exercise your basic subscription privilege for some or all of your subscription rights, or you may choose not to exercise any subscription rights.

For example, if you owned 1,000 shares of our common stock as of 5:00 p.m., Eastern Daylight Time, on the record date, you would receive the same number of subscription rights and would have the right to purchase 44.40 shares of common stock (rounded down to 44 shares) for $21.50 per share with your basic subscription privilege.

What is the over-subscription opportunity?

If you exercise your basic subscription privilege in full, you, together with other shareholders that exercise their basic subscription privilege in full, will be entitled to subscribe to purchase additional shares, subject to certain conditions and limitations. The subscription price per share that applies to the over-subscription opportunity is the same subscription price per share that applies to the basic subscription privilege.

Are there any limitations on the number of subscription rights I may exercise in the rights offering?

You may only purchase the number of whole shares of common stock purchasable upon exercise of the number of basic subscription rights distributed to you in the rights offering, plus up to the number of shares that may be made available pursuant to the over-subscription opportunity. Accordingly, the number of shares of common stock you may purchase in the rights offering is limited by the number of shares of our common stock you owned on the record date and by the extent to which other shareholders exercise their subscription rights, including any over-subscription requests, as well as by our determination as to the number of shares, if any, that we will offer to sell to new investors in the supplemental community offering. We reserve the right to reject in whole or in part any or all over-subscription requests regardless of the availability of shares.

In addition, on the basis of ownership restrictions contained in our articles of organization, no person or entity or group of persons or entities acting in concert may exercise subscription rights, including over-subscription requests, to

purchase shares of our common stock that, when aggregated with their existing ownership, would result in such person or entity or group acting in

concert owning or controlling 10% or more of our outstanding shares of common stock following the completion of the rights offering, unless our Board of Directors has approved of such purchase. Under applicable federal and state banking laws, any purchase of shares of our common stock may also require the prior clearance or approval of, or prior notice to, federal and state bank regulatory authorities if the purchase will result in any person or entity or group of persons or entities acting in concert owning or controlling shares in excess of such threshold ownership interest.

What are the limitations on the over-subscription opportunity?

In the event you exercise your basic subscription rights in full, you may also choose to subscribe for any shares of our common stock that are not purchased by our other shareholders through the exercise of their basic subscription rights, subject to limitations on over-subscription privileges described below. You may subscribe for as many shares as are available, up to a limit that would cause your ownership of shares to equal 10% or more of our outstanding common stock following this rights offering.

If sufficient shares of common stock are available, we will seek to honor your exercise of the over-subscription privilege request in full prior to accepting subscriptions during the supplemental community offering. However, we reserve the right to accept or reject, in whole or in part, any over-subscription requests. If over-subscription requests exceed the number of shares of common stock available, we will seek to allocate the available shares of common stock on a pro rata basis among shareholders who over-subscribed, subject, however, to our right to accept or reject, in whole or in part, any over-subscription requests regardless of the availability of shares. Any excess subscription payments will be returned, without interest, penalty or deduction, as soon as practicable after the completion of the rights offering. For more information, see “The Rights Offering — Subscription Rights.”

How do I exercise my subscription rights?

If you wish to exercise your subscription rights, you must deliver the following items to the subscription agent, Computershare Trust Company, N.A., before 5:00 p.m., Eastern Daylight Time, on May 27, 2016:

- a properly completed subscription rights certificate; and
- payment for the full amount of shares of common stock you wish to purchase pursuant to your basic subscription right and over-subscription opportunity.

If your shares are held in the name of a broker, dealer, or other nominee, then you should deliver your subscription rights certificate and subscription payment to that record holder. If you are the record holder, then you should deliver your subscription rights certificate and subscription payment by express mail, overnight delivery or by first class mail to the subscription agent as follows:

By Express Mail or Overnight Delivery:	By First Class Mail:
Computershare Trust Company, N.A. Corporate Actions Voluntary Offer 250 Royall Street, Suite V Canton, MA 02021	Computershare Trust Company, N.A. Corporate Actions Voluntary Offer P.O. Box 43011 Providence, RI 02940-3011

Payments must be made in full in United States dollars for the full number of shares for which you are subscribing by:

- cashier’s check drawn on a U.S. bank made payable to Computershare Trust Company, N.A. (acting as subscription agent for Enterprise Bancorp, Inc.); or
- personal check drawn upon a U.S. bank made payable to Computershare Trust Company, N.A. (acting as subscription agent for Enterprise Bancorp, Inc.); or
- wire transfer of immediately available funds to the subscription agent as instructed on the subscription rights certificate and in the Instructions for Use of the Enterprise Bancorp, Inc. Subscription Rights Certificate.

Any personal check used to pay for shares of our common stock must clear the appropriate financial institutions prior to 5:00 p.m., Eastern Daylight Time, on May 27, 2016, unless the expiration date is extended, but not beyond June 3, 2016. The clearinghouse may require five or more business days. Accordingly, if you intend to pay the subscription payment by means of a

personal check, we urge you to make payment sufficiently in advance of the expiration of the rights offering to ensure such payment is both received and cleared by such date.

Additional details are provided under “The Rights Offering — Method of Exercising Subscription Rights” and “The Rights Offering — Payment Method.” If you cannot deliver your subscription rights certificate to the subscription agent prior to the expiration of the rights offering, you may follow the guaranteed delivery procedures described under “The Rights Offering — Notice of Guaranteed Delivery.”

Why are we conducting the rights offering?

We are conducting the rights offering as a way of raising equity capital in a cost-effective manner that gives all of our shareholders an opportunity to participate. This additional equity capital will support future asset growth and will otherwise be used for various corporate purposes. We believe that the current economic environment has created significant opportunities for well-positioned community banks, such as Enterprise Bank (the “Bank”), to expand geographically and to increase market share. See also the section of this prospectus supplement below entitled “Use of Proceeds.” In authorizing the rights offering, our Board of Directors evaluated our current rate of growth and our projected future need for additional capital to maintain such growth. Our Board of Directors also considered other alternatives available for raising equity capital, including an underwritten public offering of our common stock, and determined that the rights offering, accompanied by the concurrent supplemental community offering, was in the best interests of the Company and our shareholders.

How was the subscription price of $21.50 determined?

Our Board of Directors determined the terms of the rights offering, including the subscription price, in its sole discretion. In determining the subscription price, our Board of Directors considered a number of factors, including:

- the size and timing of the rights offering and the price at which our shareholders might be willing to participate in a rights offering offered on a pro rata basis to all shareholders with an over-subscription opportunity;
- historical and current trading prices for our common stock; and
- analysis of information related to other recent rights offerings and the range of discounts that the subscription prices represented to the then prevailing and historical trading prices for those offerings.

The subscription price is not necessarily related to our book value, results of operations, cash flows, financial condition or net worth or any other established criteria of value and may or may not be considered the fair value of our common stock at the time the rights offering was approved by our Board or during the rights offering period. We cannot assure you that the trading price of our common stock will not decline during or after the rights offering. We also cannot assure you that you will be able to sell shares purchased in this offering at a price equal to or greater than the subscription price. We do not intend to change the subscription price in response to changes in the trading price of our common stock prior to the expiration of the rights offering.

What will happen if less than all of the subscription rights are exercised?

In the event shares of common stock remain available for sale after taking into account the exercise of basic subscription rights and such over-subscription requests as we choose to satisfy, we will offer those remaining shares to the public at the $21.50 per share subscription price in the supplemental community offering. We anticipate that, if we offer shares of our common stock in the supplemental community offering, we will offer the shares to individual investors who reside or operate businesses in our current or prospective market area and to our employees. We may also offer shares in the supplemental community offering to a limited number of institutional investors. We reserve the right to accept or reject in whole or in part any subscription we receive in the supplemental community offering.

Am I required to exercise the rights I receive in the rights offering?

No. You may exercise any number of your subscription rights, or you may choose not to exercise any subscription rights.

What happens if I choose not to exercise my subscription rights?

You are not required to exercise your subscription rights or otherwise take any action in response to this rights offering. If you do not exercise your basic subscription privilege and the rights offering is completed, the number of shares of our common stock you own will not change, but your percentage ownership of our total outstanding common stock will decrease because shares will

be purchased by other shareholders in the rights offering and additional shares may also be issued in the supplemental community offering. In addition, if you exercise your basic subscription privilege in full but do not exercise your over-subscription opportunity in full and other shareholders fully exercise their basic subscription right and over-subscription opportunity and/or additional shares are sold in the supplemental community offering, the percentage of our common stock owned by all of these other shareholders will increase.

How soon must I act to exercise my subscription rights?

The subscription rights may be exercised at any time during the subscription period, which commences on April 21, 2016, through the expiration date for the rights offering, which is 5:00 p.m., Eastern Daylight Time, on May 27, 2016, unless we extend the rights offering period, which we may do in our sole discretion, but not beyond June 3, 2016. If you elect to exercise any subscription rights, the subscription agent must actually receive all required documents and payments from you at or prior to the expiration date.

May I transfer my subscription rights?

No. You may not sell, transfer or assign your subscription rights to anyone else.

Are we requiring a minimum subscription to complete the rights offering?

No. We are not requiring a minimum number of rights exercised or shares sold to complete the rights offering.

Are there any other conditions to the completion of the rights offering?

Yes. The completion of the rights offering is subject to the conditions described in the subsection below entitled “The Rights Offering—Conditions and Termination.”

Can the rights offering be terminated?

Yes. We may terminate the rights offering at any time prior to the expiration date for any reason. If the rights offering is terminated, all subscription payments received by the subscription agent will be returned, without interest, penalty or deduction, as soon as practicable to those persons who subscribed for shares in the rights offering.

What should I do if I want to participate in the rights offering, but my shares are held in the name of my broker, dealer, custodian bank or other nominee?

If you hold your shares of our common stock in the name of a broker, dealer, custodian bank or other nominee, then your broker, dealer, custodian bank or other nominee is the record holder of the shares of our common stock that you own. The record holder must exercise the subscription rights on your behalf for the shares of our common stock you wish to purchase.

We will ask your broker, dealer, custodian bank or other nominee to notify you of the rights offering. You should complete and return to your record holder the form entitled “Beneficial Owner Election Form” if you choose to participate in the rights offering. You should receive this form from your record holder with the other rights offering materials.

If you wish to participate in the rights offering and purchase shares of our common stock, please contact the record holder of your shares promptly.

Will the shares of common stock I acquire in the rights offering be subject to any shareholder agreement restricting my ability to sell or transfer my new shares of common stock?

No. You will not be subject to any shareholder agreement that restricts your ability to sell or transfer any new shares of common stock acquired by you in the rights offering. For more information, see “The Rights Offering – Shareholder Agreements and Other Restrictions.”

After I exercise my subscription rights, can I change my mind?

No. All exercises of subscription rights are irrevocable by the shareholders, even if you later learn information about us that you consider unfavorable. You should not exercise your subscription rights unless you are certain that you wish to purchase the shares of common stock offered pursuant to the rights offering.

Does exercising my subscription rights involve risk?

Yes. The exercise of your subscription rights involves risks. You should carefully consider the risks described under the heading "Risk Factors" in this prospectus supplement, the accompanying prospectus and the documents incorporated by reference into this prospectus supplement and the accompanying prospectus.

Has our Board of Directors made a recommendation to our shareholders regarding the rights offering?

No. Our Board of Directors is not making a recommendation regarding your exercise of the subscription rights. You are urged to decide whether or not to exercise your subscription rights based on your own assessment of our business and the rights offering. See the section entitled "Risk Factors" in this prospectus supplement, the accompanying prospectus, and the documents incorporated by reference into this prospectus supplement and the accompanying prospectus.

What fees or charges apply if I exercise my subscription rights?

There will be no cost to you beyond the subscription price for the shares of common stock you purchase and any fees your broker may charge you.

When will I receive my new shares of common stock?

The subscription agent will arrange for the issuance of the shares of common stock purchased, as soon as practicable after the expiration of the rights offering period. For more information, see "The Rights Offering – Issuance of Shares of Common Stock."

Will the subscription rights be listed on a stock exchange or trading market?

The subscription rights may not be sold, transferred or assigned to anyone else and will not be listed on the NASDAQ Global Market or any other stock exchange or trading market or on the OTC Bulletin Board. Our common stock trades on the NASDAQ Global Market under the symbol "EBTC," and the shares of common stock to be issued in connection with the rights offering will also be listed on the NASDAQ Global Market under the same symbol.

What are the U.S. federal income tax consequences of exercising my subscription rights?

The receipt and exercise of your subscription rights will generally not be taxable under U.S. federal income tax laws. You should, however, seek specific tax advice from your personal tax advisor in light of your personal tax situation and as to the applicability and effect of any other tax laws. See the section below entitled "Certain Material U.S. Federal Income Tax Considerations."

How many shares of common stock will be outstanding after the rights offering?

As of April 19, 2016, there were 10,475,356 shares of our common stock outstanding. We will issue up to 465,116 shares of common stock in the rights offering, depending on the number of subscription rights that are exercised, and we may issue up to 93,023 additional shares to satisfy over-subscription requests and/or to facilitate sales of shares to new investors in the supplemental community offering. Assuming no options are exercised and there are no other changes in the number of outstanding shares prior to the expiration of the rights offering, and based on the number of shares outstanding as of April 19, 2016, if we issue all 465,116 shares of common stock available for the exercise of basic subscription rights in the rights offering, we would have 10,940,472 shares of common stock outstanding following the completion of the rights offering, and if we issue up to the maximum number of 558,139 shares in order to satisfy over-subscription requests and/or to facilitate sales of shares to new investors in the supplemental community offering, we would have 11,033,495 shares of common stock outstanding following the completion of the combined rights and supplemental community offerings.

Who should I contact if I have more questions?

If you have more questions about the rights offering or need additional copies of the rights offering documents, please contact the information agent, Georgeson LLC, at 866-821-0284, or you may contact Keri Freeman, Vice President—Shareholder Services, of Enterprise Bank at 978-656-5767.

If I am not a shareholder but wish to subscribe for shares of common stock in the supplemental community offering, what do I do?

We will accept subscriptions for unsold shares of common stock during the course of the rights offering. Upon completion of the rights offering, subscriptions for the shares of common stock offered in the supplemental community offering may be accepted by us on such basis as we may determine in our sole discretion, subject to the availability of shares after we have satisfied all basic subscription rights that have been properly exercised and any over-subscription requests that we have accepted in the rights offering. You may not revoke or change your subscription after you have submitted your subscription agreement. We reserve the right to accept or reject in whole or in part any subscription we receive in the supplemental community offering. For more information, see "The Supplemental Community Offering."

Is the supplemental community offering subject to any minimum or maximum subscription amount?

You must subscribe for at least 500 shares of common stock in the supplemental community offering, although we may choose to waive this minimum investment amount in our sole discretion. There is no maximum amount of shares you can subscribe for as long as we have shares remaining available for sale after our rights offering is completed, subject to the limits in the paragraph below. We do, however, reserve the right to accept or reject, in whole or in part, any subscription tendered in the supplemental community offering.

In addition, on the basis of ownership restrictions contained in our articles of organization, no person or entity or group of persons or entities acting in concert may subscribe to purchase shares in the supplemental community offering if such purchase would result in such person or entity or group acting in concert owning or controlling 10% or more of our outstanding shares of common stock following the completion of the supplemental community offering, unless our Board of Directors has approved of such purchase. Under applicable federal and state banking laws, any purchase of shares of our common stock may also require the prior clearance or approval of, or prior notice to, federal and state bank regulatory authorities if the purchase will result in any person or entity or group of persons or entities acting in concert owning or controlling shares in excess of such threshold ownership interest.

SUMMARY

This summary highlights the information contained elsewhere in or incorporated by reference into this prospectus supplement and the accompanying prospectus. This summary does not contain all of the information that you should consider before deciding whether to exercise your subscription rights. You should carefully read this entire prospectus and the accompanying prospectus, including the information contained under the heading "Risk Factors," and the documents incorporated by reference into this prospectus supplement, which are described below under the headings "Incorporation of Certain Information by Reference" and "Where You Can Find More Information."

Company Information

Overview

We are a Massachusetts corporation, incorporated in February 1996, and operate as the parent bank holding company of Enterprise Bank and Trust Company referred to as "Enterprise Bank." Substantially all of Enterprise Bancorp's operations are conducted through Enterprise Bank. Enterprise Bank, a Massachusetts trust company and state chartered commercial bank which commenced banking operations in 1989, has five wholly owned subsidiaries that are included in Enterprise Bancorp's consolidated financial statements:

- Enterprise Insurance Services, LLC, organized in 2000 for the purpose of engaging in insurance sales activities;
- Enterprise Investment Services, LLC, organized in 2000 for the purpose of offering non-deposit investment products and services, under the name of "Enterprise Investment Services;" and
- Three Massachusetts security corporations, Enterprise Security Corporation (2005), Enterprise Security Corporation II (2007) and Enterprise Security Corporation III (2007), which hold various types of qualifying securities. The security corporations are limited to conducting securities investment activities that the Bank itself would be allowed to conduct under applicable laws.

As of December 31, 2015, we had, on a consolidated basis, total assets of $2.3 billion, loans outstanding of $1.9 billion, investment securities available for sale of $300.4 million, total deposits of $2.0 billion, and shareholders' equity of $180.3 million.

Market Area

The Company's primary market area is the greater Merrimack Valley and North Central regions of Massachusetts and Southern New Hampshire. Enterprise has 22 full-service branch banking offices located in the Massachusetts communities of Acton, Andover, Billerica, Chelmsford, Dracut, Fitchburg, Lawrence, Leominster, Lowell, Methuen, Tewksbury, Tyngsboro and Westford; and in the New Hampshire communities of Derry, Hudson, Nashua, Pelham and Salem, which serve those cities and towns as well as the surrounding communities. Management actively seeks to strengthen its market position by capitalizing on market opportunities to grow all business lines and the continued pursuit of organic growth and strategic expansion within existing and into neighboring geographic markets.

Primary Lines of Business

The Company principally is engaged in the business of gathering deposits from the general public and investing primarily in loans and investment securities and utilizing the resulting cash flows to conduct operations, expand the branch network, and pay dividends to shareholders. Through the Bank and its subsidiaries, the Company offers a range of commercial and consumer loan products, deposit products and cash management services; the Company also offers investment advisory and wealth management, trust and insurance services. Management continually examines new products and technologies in order to maintain a highly competitive mix of offerings and state-of-the-art delivery channels in order to tailor product lines to customers' needs. These products and services are outlined below.

The Company specializes in lending to business entities, non-profit organizations, professionals and individuals. The Company's primary lending focus is on the development of high quality commercial relationships achieved through active business development efforts, strong community involvement, focused marketing strategies, and long-term relationships with established commercial developers, growing businesses and non-profits. Loans made to businesses include commercial mortgage loans, construction and land development loans, secured and unsecured commercial loans and lines of credit, and standby letters of credit. The Company also originates equipment lease financing for businesses. Loans made to individuals include conventional

residential mortgage loans, home equity loans and lines, residential construction loans on primary and secondary residences, and secured and unsecured personal loans and lines of credit. The Company seeks to manage its loan portfolio to avoid concentration by industry or loan size to lessen its credit risk exposure.

Deposits have traditionally been the principal source of the Company's funds. Enterprise offers commercial checking, business and municipal savings accounts, term certificates of deposit ("CDs"), money market and business sweep accounts, Interest on Lawyers Trust Accounts, and escrow management accounts, as well as checking and Simplified Employee Pension accounts to employees of our business customers. A broad selection of competitive retail deposit products are also offered, including personal checking accounts earning interest and/or reward points, savings accounts, money market accounts, individual retirement accounts and CDs. Terms on CDs are offered ranging from one month to seventy-two months. As a member of the Federal Deposit Insurance Corporation ("FDIC"), the Bank's depositors are provided deposit protection up to the maximum FDIC insurance coverage limits.

In addition to the deposit products discussed above, commercial banking and municipal customers may take advantage of cash management services including remote deposit capture, Automated Clearing House credit and debit origination, credit card processing, wholesale and retail lockbox deposit, escrow management, Non-Sufficient Funds check recovery, coin and currency processing, check reconciliation, check payment fraud prevention, international and domestic wire transfers, corporate credit cards, and automated investment sweep of excess funds into enhanced FDIC insured money market and commercial checking accounts.

The Company provides a range of investment advisory and management services delivered via two channels, Enterprise Investment Advisors and Enterprise Investment Services. Investment advisory and management services include customized investment management and trust services provided under the label "Enterprise Investment Advisors" to individuals, family groups, commercial businesses, trusts, foundations, non-profit organizations, and endowments. Enterprise Investment Services provides brokerage and management services through a third-party arrangement with Commonwealth Financial Network, a licensed securities brokerage firm, with products designed primarily for the individual investor.

Competition

We face robust competition to attract and retain customers. National and larger regional banks have a local presence in our market area. These established larger banks, as well as recent larger entrants into the local market area, have certain competitive advantages, including greater financial resources and the ability to make larger loans to a single borrower. Numerous local savings banks, commercial banks, cooperative banks and credit unions also compete in our market area. The expanded commercial lending capabilities of credit unions and the shift to commercial lending by traditional savings banks means that both of these types of traditionally consumer-orientated institutions now compete for our targeted commercial customers. In addition, the non-taxable status of credit unions allows them certain advantages as compared to taxable institutions such as us. Competition for loans, deposits and cash management services, investment advisory assets, and insurance business also comes from other businesses that provide financial services, including consumer finance companies, mortgage brokers and lenders, private lenders, insurance companies, securities brokerage firms, institutional mutual funds, registered investment advisors, non-bank payment channels, and internet based banks. Management actively seeks to strengthen our competitive position by capitalizing on the market opportunities and the continued pursuit of strategic growth within existing and neighboring geographic markets.

Management believes that we have established a positive reputation within our market area as a dependable commercial-focused community bank. Management is committed to differentiating Enterprise from the competition by providing a full range of diversified financial services and products with consistent and exceptional customer service, a highly-trained and dedicated staff of knowledgeable banking professionals, open and honest communication with clients, and a committed focus on active community involvement which we believe has led to a strong referral network with business and community leaders.

Management continually examines our product lines and technologies in order to maintain a highly competitive mix of offerings and delivery channels, and to target products to customer needs. Advances in, and the increased use of, technology, such as internet and mobile banking, electronic transaction processing and information security, are expected to have a significant impact on the future competitive landscape confronting financial institutions.

Recent Developments

Set forth below is summary unaudited consolidated financial information for Enterprise Bancorp as of March 31, 2016. These preliminary results are subject to completion of our customary quarterly financial closing and review procedures. We caution that our final results for the quarter ended March 31, 2016 as reported in our Quarterly Report on Form 10-Q for the quarter ended March 31, 2016 that we will file with the Securities and Exchange Commission ("SEC") could vary significantly from these preliminary results.

As of March 31, 2016, we had, on a consolidated basis, total assets of $2.3 billion, loans outstanding of $1.9 billion, investment securities available for sale of $304.9 million, total deposits of $2.1 billion, and shareholders' equity of $186.1 million.

Net income and diluted earnings per share for the three months ended March 31, 2016 amounted to $4.3 million and $0.41, respectively.

Corporate Information

Enterprise Bancorp's principal executive office is located at 222 Merrimack Street, Lowell, Massachusetts 01852. Our telephone number is 978-459-9000. Our website address is www.enterprisebanking.com. Except for incorporated documents listed elsewhere in this prospectus supplement, none of the information contained on, or that may be accessed through, our website is a prospectus or constitutes part of, or is otherwise incorporated into, this prospectus supplement.

The Rights Offering

The following summary describes the principal terms of the rights offering, but is not intended to be complete. See the section of this prospectus supplement below entitled "The Rights Offering" for a more detailed description of the terms and conditions of the rights offering.

Securities Offered	We are distributing at no cost or charge to you one subscription right for each share of common stock that you owned as of 5:00 p.m., Eastern Daylight Time, on the record date, April 19, 2016, either as a holder of record or, in the case of shares held of record by brokers, custodian banks or other nominees on your behalf, as beneficial owner of the shares.
Subscription Price	The subscription price per share of common stock is $21.50.
Basic Subscription Privilege	For each right that you own, you will have a basic subscription privilege to buy from us 0.0444 of a share of our common stock at the subscription price. You may exercise your basic subscription privilege for some or all of your subscription rights, or you may choose not to exercise your subscription rights. Fractional shares of our common stock resulting from the exercise of the basic subscription privilege or the over-subscription opportunity will be eliminated by rounding down to the nearest whole share. As a result, we may not issue the full number of shares authorized for issuance in connection with this rights offering.
Over-subscription Opportunity	If you exercise your basic subscription privilege in full, you will also have an opportunity to subscribe to purchase any shares that our other subscription rights holders do not purchase under their basic subscription privilege. The subscription price for shares purchased pursuant to the over-subscription opportunity will be the same as the subscription price for the basic subscription privilege. We reserve the right to reject in whole or in part any or all over-subscription requests, and we may choose to issue some or all of the shares that we may issue beyond the number necessary to satisfy properly exercised basic subscription rights solely to new investors in the supplemental community offering. If we receive over-subscription requests for more shares than we have made available to be purchased pursuant to such requests, then, subject to our right to reject in whole or in part any over-subscription requests, we will allocate the shares of our common stock to be issued pursuant to the exercise of the over-subscription requests pro rata among those over-subscribing rights holders. "Pro rata" means in proportion to the number of shares of our common stock that you and the other subscription rights holders have agreed to purchase by exercising the basic subscription privilege. If you are not allocated the full amount of shares for which you over-subscribe, you will receive a refund of the subscription price, without interest, penalty or deduction, that you delivered for those shares of our common stock that are not allocated to you. The subscription agent will mail such refunds as soon as practicable after the completion of the offering.

Record Date	April 19, 2016
Expiration Date of Rights Offering	The subscription rights offering will expire at 5:00 p.m., Eastern Daylight Time, on May 27, 2016, unless the expiration date is extended, but not beyond June 3, 2016.
No Minimum	There is no minimum number of rights that must be exercised or shares sold as a condition to accepting subscriptions and closing the offerings.
Procedure for Exercising Subscription Rights	The subscription rights may be exercised at any time during the subscription period, which commences on April 21, 2016. To exercise your subscription rights, you must properly complete the enclosed subscription rights certificate and deliver it, along with the full subscription price (including any amounts in respect of an over-subscription request), to the subscription agent, Computershare Trust Company, N.A., before 5:00 p.m., Eastern Daylight Time, on May 27, 2016, unless the expiration date is extended, but not beyond June 3, 2016. If you cannot deliver your subscription rights certificate to the subscription agent on time, you may follow the guaranteed delivery procedures described below under the heading entitled “The Rights Offering—Notice of Guaranteed Delivery.” If you hold shares of our common stock through the Enterprise employee stock purchase plan, you should refer to the specific forms provided by the subscription agent, including the Instructions for Use of Enterprise Bancorp, Inc. Rights Certificate Form. To exercise your subscription rights, you must properly complete the enclosed subscription rights certificate form and deliver it, along with the full subscription price (including any amounts in respect of an over-subscription request), to the subscription agent, Computershare Trust Company, N.A., before 5:00 p.m., Eastern Daylight Time, on May 24, 2016, unless the expiration date is extended.
Use of Proceeds	We intend to use the net proceeds to fund future asset growth and for general corporate purposes. See the section below entitled “Use of Proceeds.”
Non-Transferability of Subscription Rights	The subscription rights may not be sold, transferred or assigned to anyone else and will not be listed for trading on the NASDAQ Global Market or any other stock exchange or trading market or on the OTC Bulletin Board.
No Revocation of Exercise by Shareholders	All exercises of subscription rights are irrevocable, even if you later learn information about us that you consider unfavorable. You should not exercise your subscription rights unless you are certain that you wish to purchase the shares of common stock offered pursuant to the rights offering.
Conditions to the Rights Offering	The completion of the rights offering is subject to the conditions described in the section below entitled “The Rights Offering—Conditions and Termination.”
Supplemental Community Offering	If shares of common stock remain available for sale after the expiration of the rights offering, our officers and directors will offer and sell those remaining shares to the public on a best efforts basis at the $21.50 per share subscription price. You must subscribe for at least 500 shares of common stock in the supplemental community offering, although we may choose to waive this minimum investment amount in our sole discretion. We anticipate that, if we offer shares in the supplemental community offering, we will offer the shares to individual investors who reside or operate businesses in our current or prospective market area and to our employees. We may also offer shares in the supplemental community offering to a limited number of institutional investors. We also reserve the right to accept or reject, in whole or in part, any subscription tendered in the supplemental community offering.

Expiration Date of Supplemental Community Offering	The supplemental community offering will expire at 5:00 p.m., Eastern Daylight Time, on June 10, 2016, unless the expiration date is extended, but not beyond June 17, 2016.
Amendment; Termination	We may amend the terms of the offerings or extend the offering periods. We also reserve the right to terminate the offerings at any time prior to the expiration date for any reason. If the offerings are terminated, all subscription payments received by the subscription agent will be returned, without interest, penalty or deduction, as soon as practicable following termination.
No Board Recommendation	Our Board of Directors is not making a recommendation regarding your exercise of the subscription rights. You are urged to make your own decision whether or not to exercise your subscription rights based on your own assessment of our business and the rights offering. See the section below entitled "Risk Factors."
Certain Material U.S. Federal Income Tax Considerations	The receipt and exercise of your subscription rights will generally not be taxable under U.S. federal income tax laws. However, you should seek specific tax advice from your personal tax advisor in light of your personal tax situation and as to the applicability and effect of any other tax laws. See the section below entitled "Certain Material U.S. Federal Income Tax Considerations."
Subscription Agent	Computershare Trust Company, N.A.
Information Agent	Georgeson LLC
Shares of Common Stock Outstanding Before the Rights Offering	As of April 19, 2016, 10,475,356 shares of our common stock were outstanding.
Shares of Common Stock Outstanding After Completion of the Rights Offering	We will issue up to 465,116 shares of common stock in the rights offering, depending on the number of subscription rights that are exercised, and we may issue up to 93,023 additional shares to satisfy over-subscription requests and/or to facilitate sales of shares to new investors in the supplemental community offering. Assuming no options are exercised and there are no other changes in the number of outstanding shares prior to the expiration of the rights offering period, and based on the number of shares of common stock outstanding as of April 19, 2016, if we issue all 465,116 shares of common stock available for the exercise of basic subscription rights in the rights offering, we would have 10,940,472 shares of common stock outstanding following the completion of the rights offering, and if we issue up to the maximum number of 558,139 shares in order to satisfy over-subscription requests and/or to facilitate sales of shares to new investors in the supplemental community offering, we would have 11,033,495 shares of common stock outstanding following the completion of the combined rights and supplemental community offerings.
Risk Factors	Shareholders considering making an investment by exercising subscription rights in the rights offering and investors considering investing in the supplemental community offering should carefully read and consider the information set forth in the section entitled "Risk Factors" beginning on page S-15 of this prospectus supplement and page 4 of the accompanying prospectus, together with the other information contained in or incorporated by reference into this prospectus supplement and the accompanying prospectus, including the information contained under the heading "Risk Factors" in our Annual Reports on Form 10-K for the year ended December 31, 2015 ("2015 Form 10-K") filed with the SEC on March 15, 2016.

Fees and Expenses	We will pay the fees and expenses related to the offerings, which we estimate to be $300,000.
Questions	If you have more questions about the rights offering or need additional copies of the rights offering documents, please contact the information agent, Georgeson LLC, at 866-821-0284, or you may contact Keri Freeman, Vice President—Shareholder Services, of Enterprise Bank at 978-656-5767.

SELECTED HISTORICAL CONSOLIDATED FINANCIAL DATA

The selected historical consolidated financial information of Enterprise Bancorp has been derived from our audited consolidated financial statements contained in our 2015 Form 10-K and should be read in conjunction with our financial statements, the notes thereto and "Management's Discussion and Analysis of Financial Condition and Results of Operation" in Item 7 of our 2015 Form 10-K, which are incorporated herein by reference. See "Incorporation of Certain Information by Reference" beginning on page S-36. The summary consolidated financial results are not indicative of our expected future operating results.

	For Year Ended December 31,				
	2015	2014	2013	2012	2011
Earnings Data:					
Net interest income	$78,294	$71,230	$65,791	$61,910	$58,326
Provision for loan losses	3,267	1,395	3,279	2,750	5,197
Net interest income after provision for loan losses	75,027	69,835	62,512	59,160	53,129
Non-interest income	13,139	12,813	12,553	11,939	11,151
Net gains on sales of investment securities	1,828	1,619	1,239	236	791
Non-interest expense	65,732	62,031	55,824	52,612	48,966
Income before income taxes	24,262	22,236	20,480	18,723	16,105
Provision for income taxes	8,114	7,585	6,951	6,348	5,161
Net income	$16,148	$14,651	$13,529	$12,375	$10,944
Common Share Data:					
Basic earnings per share	$1.56	$1.45	$1.37	$1.29	$1.16
Diluted earnings per share	1.55	1.44	1.36	1.28	1.16
Book value per share at year end	17.38	16.35	15.14	14.42	13.45
Dividends paid per share	$0.50	$0.48	$0.46	$0.44	$0.42
Basic weighted average shares outstanding	10,323,016	10,118,762	9,862,678	9,586,783	9,401,714
Diluted weighted average shares outstanding	10,389,934	10,209,243	9,950,609	9,660,676	9,445,725
Year End Balance Sheet and Other Data:					
Total assets	$2,285,531	$2,022,228	$1,849,925	$1,665,726	$1,489,163
Loans serviced for others	71,272	64,122	72,711	75,854	67,367
Investment assets under management	678,377	674,604	667,330	592,355	505,163
Total assets under management	3,035,180	2,760,954	2,589,966	2,333,935	2,061,693
Total loans	$1,859,962	$1,672,604	$1,524,056	$1,359,655	$1,245,428
Allowance for loan losses	29,008	27,121	26,967	24,254	23,160
Investment securities	300,358	245,065	215,369	184,464	140,405
Interest-earning deposits and fed funds	19,177	10,102	12,371	14,728	8,900
Deposits	2,018,148	1,768,546	1,635,992	1,475,027	1,333,158
Borrowed funds	53,671	58,900	36,534	26,540	4,494
Subordinated debt	14,822	10,825	10,825	10,825	10,825
Total shareholders' equity	180,327	166,950	151,334	139,549	127,448
Ratios:					
Return on average total assets	0.76 %	0.76 %	0.78 %	0.78 %	0.75 %
Return on average shareholders' equity	9.29 %	9.20 %	9.32 %	9.27 %	8.98 %
Allowance for loan losses to total loans	1.56 %	1.62 %	1.77 %	1.78 %	1.86 %
Shareholders' equity to total assets	7.89 %	8.26 %	8.18 %	8.38 %	8.56 %

Dividend payout ratio	32.05	%33.10	%33.58	%34.11	%36.21	%
Capital Ratios:						
Total capital to risk-weighted assets	10.70	%11.27	%11.35	%11.46	%11.42	%
Tier 1 capital to risk-weighted assets	8.66	%9.93	%10.00	%10.15	%10.14	%
Tier 1 capital to average assets	7.73	%8.41	%8.48	%8.64	%8.63	%
Common equity tier 1 capital to risk-weighted assets	8.66	%N/A	N/A	N/A	N/A	
Asset Quality Ratios						
Nonperforming loans to total loans	0.74	%1.02	%1.20	%1.59	%2.08	%
Nonperforming assets to total assets	0.61	%0.89	%1.00	%1.33	%1.83	%
Net loans charged-off to average loans	0.08	%0.08	%0.04	%0.13	%0.12	%
Allowance for loan losses to total loans	1.56	%1.62	%1.77	%1.78	%1.86	%

CAUTION REGARDING FORWARD-LOOKING STATEMENTS

This prospectus supplement and the documents incorporated by reference may contain certain "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995, including statements concerning plans, objectives, future events or performance and assumptions and other statements that are other than statements of historical fact. Forward-looking statements may be identified by reference to a future period or periods or by use of forward-looking terminology such as "anticipates," "believes," "expects," "intends," "may," "plans," "pursue," "vi and similar terms or expressions. Various statements contained in this prospectus supplement including, but not limited to, statements related to management's views on the banking environment and the economy, competition and market expansion opportunities, the interest rate environment, credit risk and the level of future non-performing assets and charge-offs, potential asset and deposit growth, future non-interest expenditures and non-interest income growth, and borrowing capacity are forward-looking statements. The Company cautions readers that such forward-looking statements reflect numerous assumptions and involve a number of risks and uncertainties that could cause the Company's actual results to differ materially from those expressed in, or implied by, the forward looking statement. The forward-looking statements in this prospectus supplement are based on information available to the Company as of the date of this prospectus supplement and the Company undertakes no obligation to publicly update or otherwise revise any forward-looking statement, whether as a result of new information, future events or otherwise, except as required by applicable law. The following important factors, among others, could cause the Company's results for subsequent periods to differ materially from those expressed in any forward-looking statement made in this prospectus supplement:

- changes in interest rates could negatively impact net interest income;
- changes in the business cycle and downturns in the local, regional or national economies, including deterioration in the local real estate market, could negatively impact credit and/or asset quality and result in credit losses and increases in the Company's allowance for loan losses;
- changes in consumer spending could negatively impact the Company's credit quality and financial results;
- increasing competition from larger regional and out-of-state banking organizations as well as non-bank providers of various financial services could adversely affect the Company's competitive position within its market area and reduce demand for the Company's products and services;
- deterioration of securities markets could adversely affect the value or credit quality of the Company's assets and the availability of funding sources necessary to meet the Company's liquidity needs;
- changes in technology, including the increased cyber-security risk and identity theft, could adversely impact the Company's operations and increase technology-related expenditures;
- increases in employee compensation and benefit expenses could adversely affect the Company's financial results;
- changes in laws and regulations that apply to the Company's business and operations, including without limitation, the Dodd-Frank Wall Street Reform and Consumer Protection Act, the Jumpstart Our Business Startups Act, the Basel III rules adopted by the federal banking regulators and the additional regulations that will be forthcoming as a result thereof, could cause the Company to incur additional costs and adversely affect the Company's business environment, operations and financial results;
- changes in accounting standards, policies and practices, as may be adopted or established by the regulatory agencies, the Financial Accounting Standards Board, or the Public Company Accounting Oversight Board could negatively impact the Company's financial results;
- our ability to enter new markets successfully and capitalize on growth opportunities, including the receipt of required regulatory approvals;
- future regulatory compliance costs, including any increase caused by new regulations imposed by the Consumer Finance Protection Bureau; and
- the risks and uncertainties described in the documents that the Company files or furnishes to the SEC, including in Item 1A of the Company's 2015 Form 10-K, which could have a material adverse effect on the Company's business, financial condition and results of operations.

Any forward-looking statements are based upon management's beliefs and assumptions at the time they are made. Therefore, the Company cautions readers not to place undue reliance on any such forward-looking information and statements. Some of these and other factors are discussed in this prospectus supplement under the caption Risk Factors and elsewhere in this prospectus supplement, the accompanying prospectus and the documents incorporated by reference. The development of any or all of these factors could have an adverse impact on our business, financial condition and our results of operations.

RISK FACTORS

An investment in our common stock involves a high degree of risk. You should carefully read and consider the risks described below, together with the other information contained in or incorporated by reference into this prospectus supplement, including the information contained under the heading "Risk Factors" in the accompanying prospectus and in our 2015 Form 10-K and in any updates to those Risk Factors contained in our quarterly reports on Form 10-Q, before making a decision to invest in our common stock. The risks described below and in the documents referred to in the preceding sentence are not the only risks we face. Additional risks and uncertainties not currently known to us or that we currently deem to be immaterial may also materially and adversely affect our business operations. If any of these risks actually occurs, our business, financial condition and results of operations could suffer. In that case, the trading price of our common stock could decline, and you may lose all or part of your investment.

Risks Related to the Rights Offering and the Supplemental Community Offering

If you do not fully exercise your basic subscription privilege, your interest in us may be significantly diluted. In addition, if you do not exercise your basic subscription privilege in full and the subscription price is less than the fair value of our common stock, then you would experience an immediate dilution of the aggregate fair value of your shares, which could be substantial.

Up to 465,116 shares of common stock are issuable in the rights offering, with up to an additional 93,023 shares that we may issue to satisfy over-subscription requests and/or to facilitate sales of shares to new investors in the supplemental community offering that we are undertaking concurrently with the rights offering. If you do not choose to fully exercise your basic subscription privilege, your percentage ownership interest in us may significantly decrease. In addition, if you exercise your basic subscription privilege in full but do not exercise your over-subscription opportunity in full and other shareholders fully exercise their basic subscription privilege and their over-subscription opportunity, or we otherwise issue additional shares to new investors in the supplemental community offering, the percentage of our common stock owned by all other shareholders will increase. For example, if you own 104,754 shares of common stock before the rights offering, or approximately 1.0% of our common stock, and you do not exercise any of your basic subscription privilege or over-subscription opportunity while all other shareholders exercise their basic subscription privilege and over-subscription opportunity in full, or we otherwise issue the maximum number of additional shares to new investors in the supplemental community offering, then your percentage ownership will be reduced to approximately 0.95%. In addition, if you do not exercise your basic subscription privilege in full and the subscription price is less than the fair value of our common stock, you would experience immediate dilution of the value of your shares relative to what your value would have been had our common stock been issued at fair value. This dilution could be substantial.

The subscription price determined for the rights offering is not an indication of the fair value of our common stock. Our Board of Directors determined the terms of the rights offering, including the subscription price, in its sole discretion. In determining the subscription price, our Board of Directors considered a number of factors, including:

- the size and timing of the rights offering and the price at which our shareholders might be willing to participate in a rights offering offered on a pro rata basis to all shareholders with an over-subscription opportunity;
- historical and current trading prices for our common stock; and
- analysis of information related to other recent rights offerings and the range of discounts that the subscription prices represented to the then prevailing and historical trading prices for those offerings.

The subscription price is not necessarily related to our book value, results of operations, cash flows, financial condition or net worth or any other established criteria of value and may or may not be considered the fair value of our common stock at the time the offerings were approved by our Board or during the offering periods. On April 19, 2016, the closing sale price for our common stock on the NASDAQ Global Market was $24.75 per share. We cannot assure you that the trading price of our common stock will not decline during or after the offerings. We also cannot assure

you that you will be able to sell shares

purchased in the offerings at a price equal to or greater than the subscription price. We do not intend to change the subscription price in response to changes in the trading price of our common stock during the offerings.

Because we do not have any formal commitments from any of our shareholders to participate in the rights offering, the net proceeds we receive from the rights offering may be lower than currently anticipated.

We do not have any formal commitments from any of our shareholders to participate in the rights offering, and we cannot assure you that our other shareholders will exercise all or any part of their basic subscription privilege or their over-subscription opportunity. If our shareholders subscribe for fewer shares of our common stock than anticipated, the net proceeds we receive from the rights offering could be significantly reduced and we could incur damage to our reputation.

The offerings may cause the price of our common stock to decline.

Depending upon the trading price of our common stock at the time of our announcement of the offerings, the announcement of the offerings, including the subscription price, together with the number of shares of common stock we could issue if the offerings are completed, may result in an immediate decrease in the trading price of our common stock. This decrease may continue after the completion of the offerings. If that occurs, the price you pay to purchase shares of our common stock in the offerings may be at a price greater than the prevailing trading price. Further, if a substantial number of subscription rights are exercised and the holders of the shares received upon exercise of those subscription rights choose to sell some or all of those shares, the resulting sales could also depress the trading price of our common stock.

We may terminate the rights offering, the supplemental community offering or both at any time prior to their respective expiration dates, and neither we nor the subscription agent will have any obligation to you except to return your subscription payment.

We may at our sole discretion terminate the rights offering, the supplemental community offering or both at any time prior to the expiration of the respective offering periods. If we elect to terminate the rights offering, supplemental community offering or both, neither we nor the subscription agent will have any obligation with respect to the subscription rights except to return to you, without interest, penalty or deduction, as soon as practicable after termination of the applicable offering, any subscription payments. In addition, we may suffer reputational harm if the rights offering, the supplemental community offering or both are terminated prior to the expiration date.

You will not be able to sell the shares of common stock you buy in the offerings until the shares you elect to purchase are issued to you.

If you purchase shares in either offering, we will issue your shares as soon as practicable following the expiration of the applicable offering. If your shares are held by a broker, dealer, custodian bank or other nominee and you purchase shares, your nominee will be credited with the shares you purchase and your account will be credited by your nominee.

Until the shares of common stock you elect to purchase are issued to you, you may not be able to sell the shares subscribed for. Although we will endeavor to issue the shares as soon as practicable after completion of the applicable offering, including the guaranteed delivery period in the rights offering and after all necessary calculations have been completed, there may be a delay between the expiration date of the applicable offering and the time that the shares are issued. The stock price may decline between the time you decide to sell your shares and the time you are actually able to sell your shares.

Because you may not revoke or change your subscription, you could be committed to buying shares above the prevailing trading price at the time the applicable offering is completed.

Once you exercise your subscription rights in the rights offering or provide your subscription agreement in the supplemental community offering, you may not revoke or change the exercise. The trading price of our common stock may decline before the expiration of the applicable offering. If you exercise your subscription rights in the rights offering or provide your subscription agreement in the supplemental community offering, and, afterwards, the trading price of our common stock decreases below the $21.50 per share subscription price, you will have committed to buying shares of our common stock at a price above the prevailing trading price and could have an immediate unrealized loss. Our common stock is traded on the NASDAQ Global Market under the symbol, “EBTC,” and the closing sale price of our common stock on the NASDAQ Global Market on April 19, 2016 was $24.75 per share. There can be no assurances that the trading price of our common stock will equal or exceed the subscription price at

the time of exercise or at the expiration of the applicable offering period.

Because we will have broad discretion over the use of the net proceeds from the offerings, you may not agree with how we use the proceeds.

We intend to use the net proceeds to support future asset growth and for other corporate purposes. However, we may allocate the proceeds among various specific purposes as we determine is appropriate. In addition, economic and financial market conditions may require us to allocate portions of the net proceeds for other purposes. Accordingly, you will be relying on the judgment of our management with regard to the use of proceeds from the offerings, and you will not have the opportunity, as part of your investment decision, to assess whether the proceeds are being used in a manner that you consider appropriate.

There is no legal obligation for our directors or senior management to subscribe for any shares in the rights offering.

None of our directors or members of senior management is legally obligated to subscribe for any shares of common stock in the rights offering. Because our directors and senior management are not required to subscribe for any shares of common stock in the rights offering, they may choose not to subscribe or to subscribe for less than the number of shares of common stock that they are entitled to purchase in the rights offering. Any failure on the part of our directors and senior management to participate significantly in the rights offering may jeopardize the likelihood of success for the rights offering and could result in damage to our reputation.

If you do not act promptly and follow the subscription instructions, your exercise of subscription rights will be rejected.

Shareholders that desire to purchase shares in the rights offering must act promptly to ensure that all required forms and payments are actually received by the subscription agent prior to the expiration date of the rights offering. If you are a beneficial owner of shares, you must act promptly to ensure that your broker, dealer, custodian bank or other nominee acts for you and that all required forms and payments are actually received by the subscription agent prior to the expiration of the rights offering period. We are not responsible if your broker, dealer, custodian bank or nominee fails to ensure that all required forms and payments are actually received by the subscription agent prior to the expiration of the rights offering period. If you fail to complete and sign the required subscription forms, deliver an incorrect payment amount or otherwise fail to follow the subscription procedures that apply to your exercise in the rights offering prior to the expiration of the rights offering period, the subscription agent may, depending on the circumstances, reject your subscription or accept it only to the extent of the payment received. Neither we nor the subscription agent undertakes to contact you concerning, or attempt to correct, an incomplete or incorrect subscription form. We have the sole discretion to determine whether the exercise of your subscription rights properly and timely follows the subscription procedures.

If you make payment of the subscription price by personal check, your check may not clear in sufficient time to enable you to purchase shares in the offerings.

Any personal check used to pay the subscription price in the rights offering or the supplemental community offering must clear prior to the expiration date of the applicable offering, and the clearing process may require five or more business days. As a result, if you choose to use a personal check to pay the subscription price, it may not clear prior to the expiration date of the applicable offering, in which event you would not be eligible to exercise your subscription rights. You may eliminate this risk by paying the subscription price by cashier’s check drawn on a U.S. bank or through a wire transfer of funds in accordance with the instructions on the subscription rights certificate and in the Instructions for Use of the Enterprise Bancorp, Inc. Subscription Rights Certificate.

Because the subscription rights are non-transferable, there is no market for the subscription rights.

You may not sell, transfer or assign your subscription rights to anyone else, and we do not intend to list the subscription rights on the NASDAQ Global Market, any other stock exchange, trading market or the OTC Bulletin Board. Because the subscription rights are non-transferable, there is no market or other means for you to directly realize any value associated with the subscription rights. You must exercise the subscription rights and acquire additional shares of our common stock to realize any value that may be embedded in the subscription rights.

Risks Related to an Investment in our Common Stock

The common stock is equity and is subordinate to all of our existing and future indebtedness.

Shares of the common stock are equity interests in Enterprise Bancorp and do not constitute indebtedness. As such, shares of the common stock rank junior to all of our indebtedness and other non-equity claims with respect to assets available to satisfy claims on Enterprise Bancorp, including in a liquidation of Enterprise Bancorp.

We have issued subordinated debt in an original principal amount of $15.0 million to an unaffiliated financial institution, bearing a fixed interest rate of 6.00% per annum through January 30, 2025 and a variable interest rate of 30-day LIBOR plus 3.90% per annum through January 30, 2030, and maturing on January 30, 2030. The subordinated debt is senior to our common stock, and we must make payments on the subordinated debt before any dividends can be paid on our common stock and, in the event of our bankruptcy, dissolution or liquidation, certain payment obligations of the subordinated debt must be satisfied before any distributions can be made on our common stock.

Significant sales of our common stock, or the perception that significant sales may occur in the future, could adversely affect the market price for our common stock.

Sales of substantial amounts of our common stock in the public market, and the availability of shares for future sale, could adversely affect the prevailing market price of our common stock and could cause the market price of our common stock to remain low for a substantial amount of time. We cannot foresee the impact of such potential sales on the market, but it is possible that if a significant percentage of such available shares were attempted to be sold within a short period of time, the market for our shares would be adversely affected. It is also unclear whether or not the market for our common stock could absorb a large number of attempted sales in a short period of time, regardless of the price at which they might be offered. Even if a substantial number of sales do not occur within a short period of time, the mere existence of this "market overhang" could have a negative impact on the market for our common stock and our ability to raise additional capital.

The trading volume in the Company's common stock is less than that of larger companies.

Although the Company's common stock is listed for trading on the NASDAQ Global Market, the trading volume in the Company's common stock is substantially less than that of larger companies. Given the lower trading volume of the Company's common stock, significant purchases or sales of the Company's common stock, or the expectation of such purchases or sales, could cause significant swings up or down in the Company's stock price.

Our ability to pay dividends is limited.

We are a separate and distinct legal entity from our subsidiaries. We receive substantially all of our revenue from dividends from our subsidiary bank, Enterprise Bank. These dividends are the principal source of funds to pay dividends on our common stock and principal on our debt. Various federal and/or state laws and regulations limit the amount of dividends that Enterprise Bank may pay to us. In the event that Enterprise Bank is unable to pay dividends to us, we may not be able to service debt, pay obligations or pay dividends on our common stock. The inability to receive dividends from Enterprise Bank could have a material adverse effect on our business, financial condition and results of operations.

The market price of the Company's common stock could be affected by general industry issues.

The banking industry may be more affected than other industries by certain economic, credit, regulatory or information security issues. Although the Company itself may or may not be directly impacted by such issues, the Company's stock price may swing up or down due to the influence, both real and perceived, of these issues, among others, on the banking industry in general. Investment in the Company's stock is not insured against loss by the FDIC, or any other public or private entity. As a result, and for the other reasons described in this "Risk Factors" section and the "Risk Factors" section contained in our 2015 Form 10-K, if you acquire our common stock, you may lose some or all of your investment.

Federal banking laws may impose restrictions on investors that acquire "control" of us.

The Change in Bank Control Act provides that no company may acquire control of a bank holding company, such as us, without the prior approval of the Board of Governors of the Federal Reserve System ("Federal Reserve"). Pursuant to applicable regulations, control of a bank or its holding company is conclusively deemed to have been acquired by, among other things, the acquisition of 25% or more of any class of voting stock of a bank or its holding company or the ability to control the election of a majority of the directors of either entity. In addition, control is presumed to have been acquired, subject to rebuttal, upon the acquisition of 10% or more of any class of voting stock of a bank or its holding company, where one or more enumerated "control factors" are also present. Any investor that is deemed to control us could be subject to certain ongoing reporting procedures and restrictions under federal banking laws and regulations.

Your shares are not an insured deposit.

Your investment in our common stock will not be a bank deposit and will not be insured or guaranteed by the FDIC or any other government agency. Your investment will be subject to investment risk, and you must be capable of affording the loss of your entire investment.

The Company's articles of organization, by-laws and shareholders rights plan as well as certain banking and corporate laws could have an anti-takeover effect.

Although management believes that certain anti-takeover strategies are in the Company's best interest, provisions of the Company's articles of organization and by-laws, its shareholders rights plan and certain federal and state banking laws and state corporate laws, including regulatory approval requirements for any acquisition of control of the Company, could make it more difficult for a third-party to acquire the Company, even if doing so would be perceived to be beneficial to the Company's shareholders. The combination of these provisions effectively inhibits a non-negotiated merger or other business combination involving an acquisition of the Company, which, in turn, could adversely affect the market price of the Company's common stock.

Directors and executive officers own a significant portion of common stock.

The Company's directors and executive officers, as a group, beneficially own approximately 22.24% of the Company's outstanding common stock as of April 19, 2016. Management views this ownership commitment by insiders as an integral component of maintaining the Company's locally managed connection to the communities we serve. However, as a result of this combined ownership interest, the directors and executive officers have the ability, if they vote their shares in a like manner, to significantly influence the outcome of all matters submitted to shareholders for approval, including the election of directors.

USE OF PROCEEDS

The net proceeds to us from the combined rights and supplemental community offering will depend on the number of subscription rights that are exercised in the rights offering, including over-subscription requests, and whether additional shares are sold in the supplemental community offering. If we issue all 465,116 shares available for the exercise of basic subscription rights in the rights offering, the net proceeds to us, after deducting estimated offering expenses, will be approximately $9.7 million, and if we issue up to the maximum number of 558,139 shares in order to satisfy over-subscription requests and/or to facilitate sales of shares to new investors in the supplemental community offering, the net proceeds to us, after deducting estimated offering expenses, will be approximately $11.7 million. We estimate that the expenses of the combined rights and supplemental community offering will be approximately $300,000.

Our receipt of the net proceeds from the combined rights and supplemental community offerings will increase our equity capital, which we believe will enable us to continue to grow our assets while maintaining the regulatory capital ratios that are required to maintain a classification of well capitalized under applicable federal capital rules. The means by which we may increase our assets in the future may include:

- increased lending activities and securities investments;
- investment in branch expansion; and
- acquisitions of other companies or lines of business.

We may also use the net proceeds for general corporate purposes, including, but not limited to:

- funding loans, purchasing securities or acquiring other assets;
- reducing or refinancing existing debt;
- paying our general ongoing obligations and other general corporate purposes.

Pending such use, we may temporarily invest the net proceeds of the combined rights and supplemental community offerings in liquid short-term securities. The precise amounts and timing of the application of proceeds will depend upon our funding requirements and the availability of other funds.

PRICE RANGE OF COMMON STOCK AND DIVIDEND POLICY

Our common stock is traded on the NASDAQ Global Market under the symbol “EBTC.” The following table sets forth the high and low sales prices for our common stock for the periods indicated as reported by the NASDAQ Global Market.

	High	Low
Year ending December 31, 2016:		
Second Quarter through April 19	$26.00	$24.11
First Quarter	27.06	20.01
Year ended December 31, 2015:		
Fourth Quarter	$24.90	$20.80
Third Quarter	23.95	19.87
Second Quarter	24.33	20.20
First Quarter	25.55	20.12
Year ended December 31, 2014:		
Fourth Quarter	$26.12	$18.14
Third Quarter	21.80	18.42
Second Quarter	21.20	18.00
First Quarter	22.40	18.25

We have paid cash dividends on our common stock without interruption since 1992. We paid a cash dividend of $0.13 per share on March 1, 2016 to shareholders of record on February 9, 2016, and we paid a quarterly cash dividend of $0.125 per share in each of the four quarters in 2015. We also paid a quarterly cash dividend of $0.12 per share in each of February, May, August, and November of 2014 and of $0.115 in each of February, May, August, and November of 2013. Future dividends will be declared at the discretion of our Board of Directors and will depend upon our future earnings, financial condition and other factors affecting dividend policy.

Our ability to pay dividends on our common stock depends primarily on dividends we receive from the Bank. Under federal regulations and applicable Massachusetts law, the dollar amount of dividends and any other capital distributions that the Bank may make depends upon its capital position and recent net income. Generally, so long as the Bank remains adequately capitalized, it may make capital distributions during any calendar year equal to up to 100% of net income for the year-to-date plus retained net income for the two preceding years. However, if the Bank’s capital becomes impaired or the FDIC or Massachusetts Commissioner of Banks otherwise determines that the Bank is in need of more than normal supervision, the Bank may be prohibited or otherwise limited from paying any dividends or making any other capital distributions.

Under Massachusetts law, the Company is generally prohibited from paying a dividend or making any other distribution if, after making such distribution, it would be unable to pay its debts as they become due in the usual course of business, or if its total assets would be less than the sum of its total liabilities plus the amount that would be needed if it were dissolved at the time of the distribution, to satisfy preferential rights on dissolution of holders of preferred stock ranking senior in right of payment to the capital stock on which the applicable distribution is made.

There are numerous other governmental requirements and regulations that affect our business activities. A change in applicable statutes, regulations or regulatory policy may have a material effect on our business and on our ability to pay dividends on our common stock. Depository institutions, such as the Bank, are also affected by various federal and state laws, including those relating to consumer protection and similar matters.

In addition to the foregoing regulatory restrictions, we are and may in the future become subject to contractual restrictions that could limit or prohibit us from paying dividends on our common stock. The subordinated debt is senior to our common stock, and we must make payments on the subordinated debt before any dividends can be paid on our common stock and, in the event of our bankruptcy, dissolution or liquidation, certain payment obligations of the subordinated debt must be satisfied before any distributions can be made on our common stock.

CAPITALIZATION

The following table sets forth our unaudited consolidated capitalization as of December 31, 2015:

- on an actual basis; and
- on an "as adjusted" basis to give effect to the issuance and sale of 465,116 shares of common stock in this offering, net of estimated offering expenses.

The following data should be read in conjunction with our consolidated financial statements, the accompanying notes thereto, and "Management's Discussion and Analysis of Financial Condition and Results of Operation" in item 7 of our 2015 Form 10-K, which are incorporated herein by reference. See "Incorporation of Certain Information by Reference."

	As of December 31, 2015	
	Actual	As Adjusted
	(Dollars in thousands, except share and per share amounts)	
Shareholders' Equity:		
Preferred stock, $0.01 par value, 1,000,000 shares authorized, no shares issued and outstanding and no shares issued and outstanding as adjusted	—	—
Common stock, $0.01 par value, 20,000,000 shares authorized, 10,377,787 shares issued and outstanding and 10,842,903 shares issued and outstanding as adjusted	104	108
Additional paid-in capital	61,008	80,703
Retained earnings	116,941	116,941
Accumulated other comprehensive income	2,274	2,274
Total shareholders' equity	180,327	200,026
Book value per common share	17.38	17.53

THE RIGHTS OFFERING

The following describes the rights offering in general and assumes, unless specifically provided otherwise, that you are a record holder of our common stock on the record date. If you hold your shares in a brokerage account or through a dealer or other nominee, please also refer to the subsection below entitled "Notice to Brokers and Nominees" below. Before deciding whether to exercise your subscription rights, you should carefully read this prospectus supplement and the accompanying prospectus, including the information set forth under the heading "Risk Factors" in this prospectus supplement and in the accompanying prospectus and the information that is incorporated by reference into this prospectus supplement and the accompanying prospectus, including the information set forth under the heading "Risk Factors" in our 2015 Form 10-K and in any updates of these Risk Factors contained in our quarterly reports on Form 10 Q.

The Subscription Rights

We are distributing to holders of our common stock as of 5:00 p.m., Eastern Daylight Time, on April 19, 2016, which is the record date for this rights offering, at no charge, non-transferable subscription rights to purchase shares of our common stock. You will receive one subscription right for each share of common stock you owned as of 5:00 p.m., Eastern Daylight Time, on the record date. The subscription rights will be evidenced by subscription rights certificates. Subscription rights may be exercised at any time during the subscription period, which commences on April 21, 2016, through the expiration date for the rights offering, which is 5:00 p.m., Eastern Daylight Time, on May 27, 2016, unless the expiration date is extended, but not beyond June 3, 2016. You are not required to exercise any of your subscription rights.

Basic Subscription Privilege

Each subscription right will entitle you to purchase 0.0444 of a share of our common stock at a subscription price of $21.50 per whole share. You may exercise any number of your subscription rights, or you may choose not to exercise

any subscription rights. We will not issue fractional shares of common stock. Fractional shares of our common stock resulting from the exercise of the basic subscription privilege or the over-subscription opportunity will be eliminated by rounding down to the nearest whole

share. Any excess subscription payments received by the subscription agent will be returned, without interest, penalty or deduction, as soon as practicable.

For example, if you owned 1,000 shares of our common stock as of 5:00 p.m., Eastern Daylight Time, on the record date, you would receive the same number of subscription rights and would have the right to purchase 44.40 shares of common stock (rounded down to 44 shares) for $21.50 per share with your basic subscription privilege.

Over-subscription Opportunity

If you exercise your basic subscription privilege in full, you will also have an opportunity to subscribe to purchase any shares that our other subscription rights holders do not purchase pursuant to their basic subscription privilege and up to 93,023 additional shares that we may elect to issue to satisfy over-subscription requests and/or to facilitate sales of shares to new investors in the supplemental community offering. The subscription price for shares purchased pursuant to the over-subscription opportunity will be the same as the subscription price for the basic subscription privilege.

You may exercise your over-subscription opportunity only if you exercise your basic subscription privilege in full. To determine if you have fully exercised your basic subscription privilege, we will consider only the basic subscription privilege held by you in the same capacity. For example, if you are granted subscription rights for shares of our common stock that you own individually and shares of our common stock that you own jointly with your spouse, you may exercise your over-subscription opportunity with respect to the subscription rights you own individually, as long as you fully exercise your basic subscription privilege with respect to your individually owned subscription rights. You will not, however, be able to exercise the over-subscription opportunity you have collectively with your spouse unless the basic subscription privilege collectively held by you and your spouse is fully exercised. You do not have to subscribe for any shares under the basic subscription privilege owned jointly with your spouse to exercise your individual over-subscription opportunity.

When you complete the portion of your subscription rights certificate to exercise your over-subscription opportunity, you will be representing and certifying that you have fully exercised your basic subscription privilege as to shares of our common stock that you hold in that capacity. If you choose to exercise your over-subscription opportunity, you must exercise it at the same time you exercise your basic subscription privilege in full.

We reserve the right to reject in whole or in part any or all over-subscription requests regardless of the availability of shares. We also reserve the right to issue some or all of the shares that we may issue beyond the number necessary to satisfy properly exercised basic subscription rights solely to new investors in the supplemental community offering.

If holders exercise their over-subscription opportunity for more shares than are available to be purchased pursuant to the over-subscription opportunity, we will allocate the shares of our common stock to be issued pursuant to the exercise of the over-subscription opportunity pro rata among those over-subscribing rights holders, subject to our right to reject in whole or in part any over-subscription request. “Pro rata” means in proportion to the number of shares of our common stock that you and the other subscription rights holders have agreed to purchase by exercising the basic subscription privilege.

Example: 10,000 shares remain unsubscribed following the exercise of all of the basic subscription rights by our shareholders. Two (2) shareholders exercised their basic subscription rights in full and have each subscribed for additional shares of our common stock pursuant to his over subscription opportunity. Shareholder A has subscribed for an additional 15,000 shares of our common stock. Shareholder B has subscribed for an additional 5,000 shares of our common stock. According to the over-subscription privilege formula above, Shareholder A and B would receive the following:

Shareholder A: 15,000 x (10,000/20,000) = 7,500 shares

Shareholder B: 5,000 x (10,000/20,000) = 2,500 shares

If there is a pro rata allocation of the remaining shares of our common stock and you would otherwise receive an allocation of a greater number of shares than you subscribed for under your over-subscription opportunity, then, subject to our accepting your over-subscription request, we will allocate to you only the number of shares for which you over-subscribed. We will allocate the remaining shares among all other holders exercising their over-subscription opportunity, again subject to our right to reject in whole or in part any over-subscription request. If you are not allocated the full amount of shares for which you over-subscribe, you will receive a refund of the subscription price, without interest, penalty or deduction, that you delivered for those shares of our common stock that are not allocated to you. The subscription agent will mail such refunds as soon as practicable after the completion of the offering.

Subscription Price

The subscription price per share of common stock shall be $21.50. In determining the subscription price, our Board of Directors considered a number of factors, including:

- the size and timing of the rights offering and the price at which our shareholders might be willing to participate in a rights offering offered on a pro rata basis to all shareholders with an over-subscription opportunity;
- historical and current trading prices for our common stock; and
- analysis of information related to other recent rights offerings and the range of discounts that the subscription prices represented to the then prevailing and historical trading prices for those offerings.

The subscription price is not necessarily related to our book value, results of operations, cash flows, financial condition or net worth or any other established criteria of value and may or may not be considered the fair value of our common stock at the time the rights offering was approved by our Board or during the rights offering period. We cannot assure you that the trading price of our common stock will not decline during or after the rights offering. We also cannot assure you that you will be able to sell shares of common stock purchased during the rights offering at a price equal to or greater than the subscription price. We urge you to obtain a current quote for our common stock before exercising your subscription rights. We do not intend to change the subscription price in response to changes in the trading price of our common stock prior to the expiration of the rights offering.

Expiration Time and Date; Amendments

The subscription rights will expire at 5:00 p.m., Eastern Daylight Time, on May 27, 2016, unless the expiration date is extended. We reserve the right to extend the subscription period at our sole discretion, but not beyond June 3, 2016. We will notify you of any extension of the expiration date by issuing a press release. You must properly complete the enclosed subscription rights certificate and deliver it, along with the full subscription price (including any amounts in respect of an over-subscription request), to the subscription agent prior to 5:00 p.m., Eastern Daylight Time, on May 27, 2016, unless the expiration date is extended. After the expiration of the rights offering period, all unexercised subscription rights will be null and void. We will not be obligated to honor any purported exercise of subscription rights which the subscription agent receives after the expiration of the offering, regardless of when you sent the documents regarding that exercise, unless you have used the guaranteed delivery procedures described below under the heading “ —Notice of Guaranteed Delivery.” Any subscription payments for shares not allocated or validly purchased will be returned to you, without interest, penalty or deduction, as soon as practicable following the expiration date of the rights offering.

We reserve the right, at our sole discretion, to amend or modify the terms of the rights offering.

Reasons for the Rights Offering

We are conducting the rights offering as a way of raising equity capital in a cost-effective manner that gives our shareholders an opportunity to participate. This equity capital will be used to support future asset growth and will otherwise be used for various corporate purposes. We believe that the current economic environment has created significant opportunities for well-positioned community banks, such as Enterprise Bank, to expand geographically and to increase market share. In authorizing the rights offering, our Board of Directors evaluated our current rate of growth and our projected future need for additional capital to maintain such growth. Our Board of Directors also considered other alternatives available for raising equity capital, including an underwritten public offering of our common stock, and determined that the rights offering, accompanied by the concurrent supplemental community offering, was in the best interests of the Company and our shareholders.

Anticipated Proceeds From the Rights Offering

The net proceeds to us from the rights offering will depend on the number of subscription rights exercised in the rights offering, including over-subscription requests, and whether additional shares are sold in the supplemental community offering. If we issue all 465,116 shares available for the exercise of basic subscription rights in the rights offering, the net proceeds to us, after deducting estimated offering expenses, will be approximately $9.7 million, and if we issue up to the maximum number of 558,139 shares in order to satisfy over-subscription requests and/or to facilitate sales of shares to new investors in the supplemental community offering, the net proceeds to us, after deducting estimated offering expenses, will be approximately

$11.7 million. We estimate that the expenses of the combined rights and supplemental community offerings will be approximately $300,000.

See the section of this prospectus supplement above entitled “Use of Proceeds.”

Method of Exercising Subscription Rights

The exercise of subscription rights is irrevocable and may not be cancelled or modified. You may exercise your subscription rights as follows:

Subscription by Registered Holders

To exercise your basic subscription privilege and your over-subscription opportunity, you must properly complete and execute the subscription rights certificate, together with any required signature guarantees, and deliver it, together with payment in full of the subscription price for each share of our common stock you are subscribing for, including any shares you subscribe for pursuant to the over-subscription opportunity, to the subscription agent at the address set forth below under the heading entitled “—Subscription Agent,” on or prior to the expiration date.

Subscription by Beneficial Owners

If you are a beneficial owner of shares of our common stock, meaning that you hold your shares in street name through a broker, custodian bank or other nominee, we will ask your broker, custodian bank or other nominee to notify you of the rights offering. If you wish to exercise your subscription rights, including both your basic subscription right and any over-subscription request, you will need to have your broker, custodian bank or other nominee act for you and exercise your subscription rights and deliver all documents and payment on your behalf, including a Nominee Holder Certification, prior to 5:00 p.m., Eastern Daylight Time, on May 27, 2016, unless the expiration date is extended, but not beyond June 3, 2016. If you hold certificates of our common stock directly and would prefer to have your broker, custodian bank or other nominee act for you, you should contact your nominee and request it to effect the transactions for you.

To indicate your decision with respect to your subscription rights, you should complete and return to your broker, custodian bank or other nominee, the form entitled “Beneficial Owners Election Form.” You should receive this form from your broker, custodian bank or other nominee with the other subscription rights offering materials. If you wish to obtain a separate subscription rights certificate, you should contact the nominee as soon as possible and request that a separate subscription rights certificate be issued to you. You should contact your broker, custodian bank or other nominee if you do not receive this form, but you believe you are entitled to participate in the rights offering. We are not responsible if you do not receive the form from your broker, custodian bank or nominee or if you receive it without sufficient time to respond.

Subscription by Shareholders Holding Shares Through the Enterprise Employee Stock Purchase Plan

If you hold shares of our common stock through the Enterprise employee stock purchase plan, you should refer to the specific forms provided by the subscription agent, including the Instructions for Use of Enterprise Bancorp, Inc. Rights Certificate Form. To exercise your basic subscription privilege and your over-subscription opportunity, you must properly complete and execute the subscription rights certificate form and deliver it, together with payment in full of the subscription price for each share of our common stock you are subscribing for, including any shares you subscribe for pursuant to the over-subscription opportunity, to the subscription agent prior to 5:00 p.m., Eastern Daylight Time, on May 24, 2016, unless the expiration date is extended. Please note that May 24, 2016 is prior to the rights offering expiration date.

Payment Method

Payments must be made in full in United States dollars for the full number of shares for which you are subscribing by:

- cashier’s check drawn on a U.S. bank made payable to Computershare Trust Company, N.A. (acting as subscription agent for Enterprise Bancorp, Inc.); or
- personal check drawn upon a U.S. bank made payable to Computershare Trust Company, N.A. (acting as subscription agent for the Enterprise Bancorp, Inc.); or
- wire transfer of immediately available funds to the subscription agent as instructed on the subscription rights certificate and in the Instructions for Use of the Enterprise Bancorp, Inc. Subscription Rights Certificate.

We will not honor payment received after the expiration date of the rights offering, and the subscription agent will return your payment to you, without interest, penalty or deduction, as soon as practicable. The subscription agent will be deemed to receive payment upon:

- receipt by the subscription agent of any cashier's check drawn upon a U.S. bank; or
- clearance of any personal check deposited by the subscription agent; or
- receipt of the wired funds in accordance with the instructions provided on the subscription rights certificate and in the Instructions for Use of the Enterprise Bancorp, Inc. Subscription Rights Certificate.

If you elect to exercise your subscription rights, we urge you to consider using a cashier's check drawn upon a U.S. bank or wire transfer of funds following instructions provided on the subscription rights certificate and in the Instructions for Use of the Enterprise Bancorp, Inc. Subscription Rights Certificate, to ensure that the subscription agent receives your funds prior to the expiration of the rights offering. If you deliver a personal check, payment will not be deemed to have been received by the subscription agent until the check has cleared. If you deliver a cashier's check drawn upon a U.S. bank or wire transfer of funds in accordance with the instructions provided on the subscription rights certificate and in the Instructions for Use of the Enterprise Bancorp, Inc. Subscription Rights Certificate, payment will be deemed to have been received by the subscription agent immediately upon receipt of such instrument and wire transfer of funds.

Any personal check used to pay for shares of our common stock must clear the appropriate financial institutions prior to 5:00 p.m., Eastern Daylight Time, on May 27, 2016, unless the expiration date is extended. The clearinghouse may require five or more business days. Accordingly, if you intend to pay the subscription payment by means of a personal check, we urge you to make payment sufficiently in advance of the expiration of the rights offering to ensure such payment is both received and cleared by such date.

You should read the instruction letter accompanying the subscription rights certificate carefully and strictly follow it. Do not deliver your subscription rights certificates or payments to the Company. Except as described below under "—Guaranteed Delivery Procedures," we will not consider your subscription received until the subscription agent has received delivery of a properly completed and duly executed subscription rights certificate and payment of the full subscription amount. You and your nominee bear the risk of delivery of all documents and payments and neither we nor the subscription agent have any responsibility for such deliveries.

The method of delivery of subscription rights certificates and payment of the subscription amount to the subscription agent will be at the risk of the holders of subscription rights. If sent by mail, we recommend that you deliver those certificates and payments by registered mail, properly insured, with return receipt requested, and that you allow a sufficient number of days to ensure delivery to the subscription agent and clearance of payment prior to the expiration of the rights offering. The clearance of a personal check may require five or more business days.

Unless a subscription rights certificate states that the shares of our common stock are to be delivered to the record holder of such rights or such certificate is submitted for the account of a bank or a broker, signatures on such subscription rights certificate must be guaranteed by an "eligible guarantor institution," as such term is defined in Rule 17Ad-15 of the Securities Exchange Act of 1934, as amended, subject to any standards and procedures adopted by the subscription agent.

Instructions for Completing Your Subscription Rights Certificate

You should read the Instructions for Use of the Enterprise Bancorp, Inc. Subscription Rights Certificate accompanying the subscription rights certificate carefully and strictly follow it. Do not deliver subscription rights certificates or payments to us. Except as described below under the heading entitled "Notice of Guaranteed Delivery," we will not consider your subscription received until the subscription agent has received delivery of a properly completed and duly executed subscription rights certificate and payment of the full subscription amount. The risk of delivery of all documents and payments is borne by you or your nominee, not us or the subscription agent.

Validity of Subscriptions

We will resolve all questions regarding the validity and form of the exercise of your subscription privileges, including time of receipt and eligibility to participate in the rights offering. Our determination will be final and binding. Once made, subscriptions and directions are irrevocable, and we will not accept any alternative, conditional or contingent subscriptions or directions. We reserve the absolute right to reject any subscriptions or directions not properly submitted or the acceptance of which would be unlawful. You must resolve any irregularities in connection with your

subscriptions before the subscription period expires, unless

waived by us at our sole discretion. Neither the subscription agent nor we shall be under any duty to notify you or your representative of defects in your subscriptions. A subscription will be considered accepted, subject to our right to terminate the rights offering, only when a properly completed and duly executed subscription rights certificate and any other required documents and payment of the full subscription amount have been received by the subscription agent. Our interpretations of the terms and conditions of the rights offering will be final and binding.

Missing or Incomplete Subscription Information

If you do not indicate the number of subscription rights being exercised, or do not forward full payment of the total subscription price payment for the number of subscription rights that you indicate are being exercised, then you will be deemed to have exercised your subscription rights with respect to the maximum number of subscription rights that may be exercised with the aggregate subscription price payment you delivered to the subscription agent. If your aggregate subscription price payment is greater than the amount you would owe for exercise of your basic subscription privilege in full, you will be deemed to have exercised your over-subscription opportunity to purchase the maximum number of shares of our common stock that could be purchased with your over-payment. If we do not apply your full subscription price payment to your purchase of shares of our common stock, the subscription agent will return the excess amount to you by mail, without interest, penalty or deduction, as soon as practicable after the expiration date of the rights offering.

Conditions and Termination

We reserve the right to terminate, extend or otherwise amend the rights offering on or prior to the expiration of the rights offering for any reason. We may terminate, extend or otherwise amend the rights offering, in whole or in part, if at any time before completion of the rights offering there is any judgment, order, decree, injunction, statute, law or regulation entered, enacted, amended or held to be applicable to the rights offering that in the sole judgment of our Board of Directors would or might make the rights offering or its completion, whether in whole or in part, illegal or otherwise restrict or prohibit completion of the rights offering. We may waive any of these conditions and choose to proceed with the rights offering even if one or more of these events occur. If we terminate the rights offering, we will issue a press release notifying shareholders of such termination, all affected subscription rights will expire without value, and all subscription payments received by the subscription agent will be returned, without interest, penalty or deduction, as soon as practicable after the termination of the rights offering.

Subscription Agent

Computershare Trust Company, N.A. is acting as the subscription agent for the rights offering under an agreement with us. All subscription rights certificates, payments of the subscription price and Nominee Holder Certifications, to the extent applicable to your exercise of subscription rights, must be delivered to the subscription agent as follows:

By Express Mail or Overnight Delivery:	By First Class Mail:
Computershare Trust Company, N.A.	Computershare Trust Company, N.A.
Corporate Actions Voluntary Offer	Corporate Actions Voluntary Offer
250 Royall Street, Suite V	P.O. Box 43011
Canton, MA 02021	Providence, RI 02940-3011

Payments may also be made by wire transfer of immediately available funds in accordance with the instructions provided on the subscription rights certificate and in the Instructions for Use of the Enterprise Bancorp, Inc. Subscription Rights Certificate.

By facsimile transmission (for eligible institutions only):

617-360-6810

You should confirm receipt of all facsimile transmissions by calling the subscription agent at 781-575-2332. You should direct any questions or requests for assistance concerning the method of subscribing for the shares of common stock or for additional copies of this prospectus supplement to Georgeson LLC, the information agent, at 866-821-0284 or to Keri Freeman, Vice President—Shareholder Services, of Enterprise Bank at 978-656-5767.

We will pay the fees and expenses of Computershare Trust Company, N.A. We have also agreed to indemnify Computershare Trust Company, N.A. against certain liabilities in connection with the rights offering.

If you deliver subscription documents, subscription rights certificates or notices of guaranteed delivery in a manner different than that described in this prospectus supplement, then we may not honor the exercise of your subscription

rights.

Fees and Expenses

We will pay all fees charged by the subscription agent and the information agent. You are responsible for paying any other commissions, fees, taxes or expenses incurred in connection with the exercise of your subscription rights. Neither the subscription agent nor we will pay such expenses.

No Minimum Condition

There is no minimum number of shares that must be subscribed for by our existing shareholders as a condition to accepting subscriptions and closing the rights offering.

No Fractional Shares of Common Stock

We will not issue fractional shares of common stock. Fractional shares of our common stock resulting from the exercise of the basic subscription privilege or the over-subscription opportunity will be eliminated by rounding down to the nearest whole share. Any excess subscription payments received by the subscription agent will be returned, without interest, penalty or deduction, as soon as practicable.

Notice to Brokers and Nominees

If you are a broker, custodian bank or other nominee holder that holds shares of our common stock for the account of others on the rights offering record date, you should notify the respective beneficial owners of such shares of the rights offering as soon as possible to learn their intentions with respect to exercising their subscription rights. You should obtain instructions from the beneficial owner with respect to their subscription rights, as set forth in the instructions we have provided to you for your distribution to beneficial owners. If the beneficial owner so instructs, you should complete the appropriate subscription rights certificates and submit them to the subscription agent with the proper payment. If you hold shares of our common stock for the account(s) of more than one beneficial owner, you may exercise the number of subscription rights to which all such beneficial owners in the aggregate otherwise would have been entitled had they been direct record holders of our common stock on the subscription rights offering record date, provided that you, as a nominee record holder, make a proper showing to the subscription agent by submitting the form entitled "Nominee Holder Certification" that we will provide to you with your subscription rights offering materials. If you did not receive this form, you should contact the subscription agent to request a copy.

In the case of subscription rights that you hold of record on behalf of others through the Depository Trust Company ("DTC"), those subscription rights may be exercised by instructing DTC to transfer the subscription rights from your DTC account to the subscription agent's DTC account, and by delivering to the subscription agent the required certification as to the number of shares subscribed for pursuant to the exercise of the subscription rights of the beneficial owners on whose behalf you are acting, together with payment of the full subscription price.

Notice of Guaranteed Delivery

If you wish to exercise your subscription rights, but you do not have sufficient time to deliver the subscription rights certificate evidencing your subscription rights to the subscription agent, on or before the time the rights offering expires, you may exercise your subscription rights by the following guaranteed delivery procedures:

- deliver to the subscription agent on or prior to the rights offering expiration date your subscription price payment in full for each share you subscribed for under your subscription privilege in the manner set forth above under the heading entitled "—Payment Method;"
- deliver to the subscription agent on or prior to the expiration date the form entitled "Notice of Guaranteed Delivery," substantially in the form provided with the Instructions for Use of the Enterprise Bancorp, Inc. Subscription Rights Certificate; and
- deliver the properly completed subscription rights certificate evidencing your subscription rights being exercised and the related Nominee Holder Certification, if applicable, with any required signature guarantee, to the subscription agent by no later than three business days after the expiration date of the rights offering. For purposes of these Notice of Guaranteed Delivery procedures, business day means any day on which trading is conducted on the NASDAQ Global Market.

Your Notice of Guaranteed Delivery must be delivered in substantially the same form provided with the Instructions for Use of the Enterprise Bancorp, Inc. Subscription Rights Certificate, which will be distributed to you with your subscription rights

certificate. Your Notice of Guaranteed Delivery must include a signature guarantee from a member firm of a registered national securities exchange or a member of the Financial Industry Regulatory Authority, Inc., or a commercial bank or trust company having an office or correspondent in the United States, or a bank, stockbroker, savings and loan association or credit union with membership in an approved signature guarantee medallion program, pursuant to Rule 17Ad-15 of the Securities Exchange Act of 1934, as amended. A form of that guarantee is included with the Notice of Guaranteed Delivery.

In your Notice of Guaranteed Delivery, you must state:

- your name;
- the number of subscription rights represented by your subscription rights certificate, the number of shares of our common stock for which you are subscribing under your basic subscription privilege and the number of shares of our common stock for which you are subscribing under your over-subscription opportunity, if any; and
- your guarantee that you will deliver to the subscription agent the subscription rights certificate evidencing the subscription rights you are exercising within three business days following the expiration date of the rights offering.

You may deliver your Notice of Guaranteed Delivery to the subscription agent in the same manner as your subscription rights certificate at the address or facsimile number set forth above under the heading entitled "—Subscription Agent."

The information agent will send you additional copies of the form of Notice of Guaranteed Delivery if you request them. Please call Georgeson LLC, the information agent, at 866-821-0284 to request any copies of the form of Notice of Guaranteed Delivery.

No Transferability of Subscription Rights

The subscription rights granted to you may be exercised only by you, and, therefore, you may not sell, transfer or assign your subscription rights to anyone else.

Segregated Account; Return of Funds

The subscription agent will hold funds received in payment for shares of the common stock in a segregated account pending completion of the rights offering. The subscription agent will hold this money until the rights offering is completed or is terminated. If the rights offering is terminated for any reason, the subscription agent will return this money to subscribers, without interest, penalty or deduction, as soon as practicable.

Issuance of Shares of Common Stock

All shares that you purchase in the rights offering will be issued in book-entry, or uncertificated, form. When issued, the shares will be registered in the name of the subscription rights holder of record. As soon as practicable after the expiration of the rights offering period, the subscription agent will arrange for issuance to each subscription rights holder of record that has validly exercised its basic subscription privilege, the shares of common stock purchased pursuant to the basic subscription privilege. Any shares purchased pursuant to the over-subscription opportunity will be issued as soon as practicable after the expiration date of the rights offering and following the completion of any pro-rations as may be necessary in the event the over-subscription requests exceed the number of shares available to satisfy such requests.

Rights of Subscribers

You will have no rights as a shareholder of our common stock until your account, or your account at your broker, custodian bank or other nominee, is credited with the shares of our common stock purchased in the rights offering. You will have no right to revoke your subscriptions after you deliver your completed subscription rights certificate, payment and any other required documents to the subscription agent.

Shareholder Agreements and Other Restrictions

You will not be subject to any shareholder agreement that restricts your ability to sell or transfer any new shares of common stock acquired by you in the rights offering. Shareholders who are directors, officers and other employees of the Company and the Bank may be subject to certain trading restrictions with respect to shares that they own or control under securities laws, the

terms of our equity compensation plans and other internal corporate policies and procedures, but any of these restrictions are applicable independent of whether the shares are purchased in the rights offering.

Foreign and Other Shareholders

We will not mail subscription rights certificates to shareholders whose addresses are outside the United States or who have an army post office or foreign post office address. The subscription agent will hold these subscription rights certificates for their account. To exercise subscription rights, our foreign shareholders and shareholders with an army post office or foreign post office address must notify the subscription agent prior to 11:00 a.m., Eastern Daylight Time, at least three business days prior to the expiration date of the rights offering by completing an international holder subscription form which will be delivered to those holders in lieu of a subscription rights certificate and delivering it by mail or telecopy to the subscription agent at the address and telecopy number set forth above under the heading entitled "—Subscription Agent."

No Revocation or Change

Once you submit the form of subscription rights certificate to exercise any subscription rights, you are not allowed to revoke or change the exercise or request a refund of monies paid. All exercises of subscription rights are irrevocable, even if you learn information about us that you consider to be unfavorable. You should not exercise your subscription rights unless you are certain that you wish to purchase the shares of common stock offered pursuant to the rights offering.

Regulatory and Other Limitations

On the basis of ownership restrictions contained in our articles of organization, unless our Board of Directors has approved of such purchase, you, together with the following persons, may not exercise subscription rights (including the over-subscription opportunity) to purchase shares of our common stock which, when aggregated with your existing ownership, would result in you, together with the following persons, owning 10% or more of our issued and outstanding shares of common stock following the expiration of the transactions contemplated by this rights offering:

- your immediate family, including your spouse, father, mother, stepfather, stepmother, brother, sister, stepbrother, stepsister, son, daughter, stepson, stepdaughter, grandparent, grandson, granddaughter, father-in-law, mother-in-law, brother-in-law, sister-in-law, son-in-law, daughter-in-law, and the spouse of any of the foregoing;
- companies, partnerships, trusts, or other entities in which you are a trustee, have a controlling beneficial interest or hold a senior management position; or
- other persons who may be your associates or persons acting in concert with you.

The term "associate" is used above to indicate any of the following relationships with a person:

- any corporation or organization, other than the company or a subsidiary thereof, of which a person is a senior officer or partner, or beneficially owns, directly or indirectly, 10% or more of any class of equity securities of the corporation or organization;
- any trust or other estate, if the person has a substantial beneficial interest in the trust or estate or is a trustee or fiduciary of the estate (although a person who has a substantial beneficial interest in one of our tax-qualified or non-tax-qualified employee plans, or who is a trustee or fiduciary of the plan is not an associate of the plan, and our tax-qualified employee plans are not associates of a person);
- any person who is related by blood or marriage to such person and who is a director or senior officer of the company or a subsidiary thereof; and
- any person acting in concert with the persons or entities specified above.

As used above, the term "acting in concert" means:

- knowing participation in a joint activity or interdependent conscious parallel action towards a common goal, whether or not pursuant to an express agreement; or

- a combination or pooling of voting or other interests in the securities of an issuer for a common purpose pursuant to any contract, understanding, relationship, agreement, or other arrangement, whether written or otherwise.

A person or company that acts in concert with another person or company ("other party") shall also be deemed to be acting in concert with any person or company who is also acting in concert with that other party, except that any of our tax-qualified employee plans will not be deemed to be acting in concert with its trustee or a person who serves in a similar capacity solely for the purpose of determining whether stock held by the trustee and stock held by the plan will be aggregated.

In addition, we will not issue shares of common stock pursuant to the exercise of basic subscription rights or over-subscription opportunities to any shareholder who, in our sole opinion, could be required to obtain prior clearance or approval from or submit a notice to any state or federal bank regulatory authority to acquire, own, or control such shares if, as of the expiration date of the rights offering, we determine that such clearance or approval has not been satisfactorily obtained and any required waiting period has not expired. If we elect not to issue shares in such case, such shares will become available to satisfy any over-subscription by other shareholders pursuant to subscription rights.

No Recommendation to Subscription Rights Holders

Our Board of Directors is not making a recommendation regarding your exercise of the subscription rights. You are urged to make your own decision whether or not to exercise your subscription rights based on your own assessment of our business and the rights offering. See the section entitled "Risk Factors" in this prospectus supplement, the accompanying prospectus and in any document incorporated by reference into this prospectus supplement.

Listing

The subscription rights may not be sold, transferred or assigned to anyone else and will not be listed on the NASDAQ Global Market or any other stock exchange or trading market or on the OTC Bulletin Board. The shares of common stock issuable upon exercise of the subscription rights will be listed on the NASDAQ Global Market under the symbol "EBTC."

Shares of Common Stock Outstanding After the Rights Offering

Based on the 10,475,356 shares of our common stock outstanding as of April 19, 2016, and assuming no options are exercised and there are no other changes in the number of outstanding shares prior to the expiration of the rights offering, if we issue all 465,116 shares of common stock available for the exercise of basic subscription rights in the rights offering, we would have 10,940,472 shares of common stock outstanding following the completion of the rights offering, which would represent an increase in the number of outstanding shares of our common stock of approximately 4.44%, and if we issue up to the maximum number of 558,139 shares in order to satisfy over-subscription requests and/or to facilitate sales of shares to new investors in the supplemental community offering, we would have 11,033,495 shares of common stock outstanding following the completion of the combined rights and supplemental community offerings, which would represent an increase in the number of outstanding shares of our common stock of approximately 5.33%.

Questions about Exercising Subscription Rights

If you have any questions or require assistance regarding the method of exercising your subscription rights or requests for additional copies of this document, the Instructions for Use of the Enterprise Bancorp, Inc. Subscription Rights Certificate or the Notice of Guaranteed Delivery, you should contact the information agent, Georgeson LLC, at 866-821-0284 or you may contact Keri Freeman, Vice President—Shareholder Services, of Enterprise Bank at 978-656-5767.

Other Matters

We are not making the rights offering in any state or other jurisdiction in which it is unlawful to do so, nor are we distributing or accepting any offers to purchase any shares of our common stock from subscription rights holders who are residents of those states or other jurisdictions or who are otherwise prohibited by federal or state laws or regulations from accepting or exercising the subscription rights. We may delay the commencement of the rights offering in those states or other jurisdictions, or change the terms of the rights offering, in whole or in part, in order to comply with the securities laws or other legal requirements of those states or other jurisdictions. Subject to state securities laws and regulations, we also have the discretion to delay allocation and distribution of any shares you may elect to purchase by exercise of your subscription rights in order to comply with state securities laws. We may decline

to make modifications to the terms of the rights offering requested by those states or other jurisdictions, in which case, if you are a resident in those states or jurisdictions or if you are otherwise prohibited by federal or state laws or regulations from accepting or exercising the subscription rights you will not be eligible to participate in the rights

offering. However, we are not currently aware of any states or jurisdictions that would preclude participation in the rights offering.

THE SUPPLEMENTAL COMMUNITY OFFERING

Acceptance of Subscriptions

We will permit certain persons and entities who are not shareholders eligible to participate in the rights offering to submit subscriptions to purchase 500 or more shares of our common stock at a purchase price of $21.50 per share as and to the extent that any shares of our common stock remain available for purchase following the expiration date of the rights offering, subject to the purchase priority rights of the holders of subscription rights. We may elect to waive this minimum purchase requirement in our sole discretion with respect to any particular purchaser in the supplemental community offering.

We anticipate that, if we offer shares of our common stock in the supplemental community offering, we will offer the shares to individual investors who reside or operate businesses in our current or prospective market area and to our employees. We may also offer shares in the supplemental community offering to a limited number of institutional investors. We also reserve the right to accept or reject, in whole or in part, any subscription tendered in the supplemental community offering.

Prospective purchasers should complete, date and sign the subscription agreement that accompanies this prospectus supplement and return it, together with payment for the shares to Computershare Trust Company, N.A. (acting as subscription agent for Enterprise Bancorp, Inc.) for the full amount of the total subscription price for the shares that you subscribe for under the subscription agreement, to Computershare Trust Company, N.A., at the appropriate address set forth above in this prospectus supplement in the subsection entitled “The Rights Offering—Subscription Agent.”

Payments must be made in full in United States dollars for the full number of shares for which you are subscribing by:

- cashier’s check drawn on a U.S. bank made payable to Computershare Trust Company, N.A. (acting as subscription agent for Enterprise Bancorp, Inc.); or
- personal check drawn upon a U.S. bank made payable to Computershare Trust Company, N.A. (acting as subscription agent for Enterprise Bancorp, Inc.); or
- wire transfer of immediately available funds in accordance with the instructions provided in the Subscription Agreement.

We will not honor payment received after the expiration date of the supplemental community offering, and the subscription agent will return your payment to you, without interest, penalty or deduction, as soon as practicable after the expiration of the supplemental community offering. The subscription agent will be deemed to receive payment upon:

- receipt by the subscription agent of any cashier’s check drawn upon a U.S. bank; or
- clearance of any personal check deposited by the subscription agent; or
- receipt of wired funds in accordance with the instructions provided in the Subscription Agreement.

SUPPLEMENTAL COMMUNITY OFFERING SUBSCRIPTIONS ARE BINDING ON SUBSCRIBERS.

If you elect to purchase shares under the supplemental community offering, we urge you to consider using a cashier’s check drawn upon a U.S. bank or wire transfer of funds in accordance with the instructions provided in the Subscription Agreement to ensure that the subscription agent receives your funds prior to the expiration of the supplemental community offering. If you deliver a personal check, payment will not be deemed to have been received by the subscription agent until the check has cleared. If you deliver a cashier’s check drawn upon a U.S. bank or wire transfer of funds in accordance with the instructions provided in the Subscription Agreement, payment will be deemed to have been received by the subscription agent immediately upon receipt of such instrument and wire transfer of funds.

Any personal check used to pay for shares of our common stock must clear the appropriate financial institutions prior to 5:00 p.m., Eastern Daylight Time, on June 10, 2016, unless the expiration date is extended, but not beyond June 17, 2016. The clearinghouse may require five or more business days. Accordingly, if you intend to pay the subscription payment by means of a

personal check, we urge you to make payment sufficiently in advance of the expiration of the supplemental community offering to ensure such payment is both received and cleared by such date.

Limitations on Purchases by Outside Investors

Unless we otherwise agree in writing, a new investor, together with related persons or entities, may not purchase shares of our common stock which would result in the new investor, together with related persons or entities, owning 10% or more of our issued and outstanding shares of common stock. In addition, we will not issue shares of common stock to any new investor who, in our sole opinion, could be required to obtain prior clearance or approval from or submit a notice to any state or federal bank regulatory authority to acquire, own, or control such shares if, as of the expiration date of the supplemental community offering, we determine that such clearance or approval has not been satisfactorily obtained and any required waiting period has not expired.

Expiration Date and Termination Rights

The supplemental community offering will expire approximately two weeks following the expiration of the rights offering, or at 5:00 p.m., Eastern Daylight Time, on June 10, 2016, unless we extend the supplemental community offering in our sole discretion, but not beyond June 17, 2016.

We may terminate the supplemental community offering at any time for any reason, including following the rights offering expiration date. If we terminate the supplemental community offering, the subscription agent will return all subscription payments, without interest or deduction, as soon as practicable after the expiration of the supplemental community offering.

Discretion to Accept Subscriptions

We reserve the right, in our sole discretion, to accept or reject in whole or in part any subscription that may be properly delivered to the subscription agent pursuant to the supplemental community offering. As a result, you may not receive any or all of the shares for which you subscribe. We will notify subscribers as soon as practicable following the expiration date of the supplemental community offering as to whether and to what extent their subscriptions have been accepted. If we do not accept all or a portion of a subscription, the subscription agent will return to the subscriber the unaccepted portion of the subscription funds, without interest or deduction, as soon as practicable after the expiration of the supplemental community offering.

Escrow Arrangements; Return of Funds

The subscription agent will hold funds received with a subscription in connection with the supplemental community offering in a segregated noninterest-bearing account. The subscription agent will hold these funds on our behalf in escrow until such time as we accept or reject the subscription in whole or in part or until the supplemental community offering is terminated. If the supplemental community offering is terminated, the subscription agent will return the subscription payments, without interest or deduction, as soon as practicable after the expiration of the supplemental community offering.

No Revocation or Change

Once you submit your subscription and payment in connection with the supplemental community offering, you will not be allowed to revoke your subscription or request a refund of monies paid. All subscriptions delivered pursuant to the supplemental community offering are irrevocable, even if you learn information about us that you consider to be unfavorable. You should not submit a subscription to purchase shares in the supplemental community offering unless you are certain that you wish to purchase shares of our common stock at the subscription price.

Questions about Subscription in the Supplemental Community Offering

If you have any questions about the supplemental community offering or require assistance regarding purchasing shares in the supplemental community offering, you may contact Jim Marcotte, Chief Financial Officer and Treasurer of Enterprise Bank, at 978-656-5614, or Joe Lussier, Strategic Initiatives Director of Enterprise Bank, at 978-656-5578.

DESCRIPTION OF OUR COMMON STOCK

Total Authorized Capital Stock

As of April 19, 2016, our authorized capital stock was composed of 20,000,000 shares of common stock, $0.01 par value per share, of which 10,475,356 shares were issued and outstanding, and 1,000,000 shares of preferred stock, $0.01 par value per

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share, of which no shares were issued or outstanding. The issuance of any shares of our currently authorized capital stock does not require any action or approval of our shareholders. The shares of our authorized preferred stock may be issued in one or more series or classes and on such terms and conditions as approved by our Board of Directors.

Our common stock is listed on the NASDAQ Global Market under the symbol “EBTC”. The transfer agent for our common stock is Computershare Investor Services, 250 Royall Street, Suite V, Canton, Massachusetts 02021. For more information, see “Description of Common Stock” in the accompanying prospectus.

CERTAIN MATERIAL U.S. FEDERAL INCOME TAX CONSIDERATIONS

The following is a general summary of certain material U.S. federal income tax consequences that you should consider in relation to the rights offering.

General

This summary is based upon provisions of the Internal Revenue Code of 1986, as amended (the “Code”), applicable U.S. Treasury Regulations, administrative rulings, judicial authorities and other applicable existing U.S. federal income tax authorities, all of which are subject to change or differing interpretations, possibly with retroactive effect, which could result in U.S. federal income tax consequences different from those discussed below.

This summary does not provide a complete analysis of all potential tax considerations. This summary is only applicable to U.S. holders (as defined below) of our common stock who acquire the subscription rights pursuant to the terms of the rights offering, have held the common stock, as applicable, and will hold the subscription rights and any shares of common stock acquired upon the exercise of subscription rights, as capital assets (generally, property held for investment) within the meaning of Section 1221 of the Code. This summary does not deal with all tax consequences that may be relevant to holders in light of their personal circumstances or particular situations, such as holders who may be subject to special tax treatment under the Code, including (without limitation) partnerships, dealers in securities or currencies, financial institutions, insurance companies, regulated investment companies, real estate investment trusts, tax-exempt entities, trustees of qualified employee benefit plans or plan participants, or traders in securities that elect to use a mark-to-market method of accounting for their securities, persons holding subscription rights or common stock as part of a hedging, integrated or conversion transaction or a straddle, persons deemed to sell subscription rights or common stock under the constructive sale provisions of the Code, persons whose functional currency is not the U.S. dollar, investors in pass-through entities, foreign taxpayers and holders who acquired our common stock pursuant to the exercise of compensatory stock options or otherwise as compensation. This summary does not deal with any federal non-income, state, local or foreign tax consequences, estate or gift tax consequences, or alternative minimum tax consequences.

As used herein, the term “U.S. holder” means a beneficial owner of common stock that is, for U.S. federal income tax purposes, (1) an individual who is a citizen or resident of the United States, including an alien individual who is a lawful permanent resident of the United States or meets the substantial presence test under Section 7701(b) of the Code; (2) a corporation or other entity treated as a corporation for U.S. federal income tax purposes, created or organized in or under the laws of the United States, any state thereof or the District of Columbia; (3) an estate the income of which is subject to U.S. federal income taxation regardless of its source; or (4) a trust, if it (i) is subject to the primary supervision of a court within the United States and one or more U.S. persons have the authority to control all substantial decisions of the trust, or (ii) was in existence as of August 20, 1996 and has a valid election in effect under applicable U.S. Treasury Regulations to be treated as a U.S. person.

If a partnership (or entity or arrangement treated as a partnership for U.S. federal income tax purposes) holds our common stock, the tax treatment of a partner in the partnership will depend upon the status of the partner and the activities of the partnership. Partnerships and their partners should consult their tax advisors concerning the tax treatment of the receipt and exercise of subscription rights in the rights offering and the ownership and disposition of our common stock received on exercise of subscription rights.

Distribution of Subscription Rights

If you own common stock on the record date for the rights offering, you will not recognize taxable income for U.S. federal income tax purposes upon receipt of the subscription rights. Under Section 305(a) of the Code, the receipt of subscription rights to acquire common stock is treated as a stock distribution that is a tax-free transaction to a shareholder. If Section 305(a) of the Code does not apply to the distribution, the distribution would be treated as a taxable distribution of property under either Section 305(b) or 305(c) in an amount equal to the lesser of the fair

market value of the subscription rights and your allocable share of our current or accumulated earnings and profits.

The remainder of this summary assumes that the receipt of the subscription rights is treated as a nontaxable stock distribution for U.S. federal income tax purposes.

Shareholder Tax Basis and Holding Period of the Subscription Rights

In general, your tax basis in the subscription rights received in the offering will be zero. However, if either: (i) the fair market value of the subscription rights on their date of distribution is 15% or more of the fair market value on such date of the common stock with respect to which they are received; or (ii) you properly elect on your U.S. federal income tax return for the taxable year in which you receive the subscription rights to allocate part of the tax basis of such common stock to the subscription rights, then a percentage of your tax basis in our common stock with respect to which the subscription rights are received will be allocated to the subscription rights. Such percentage will equal the product of your tax basis in our common stock with respect to which the subscription rights are received and a fraction, the numerator of which is the fair market value of a subscription right and the denominator of which is the fair market value of a share of our common stock plus the fair market value of a subscription right, all as determined on the date the subscription rights are distributed. We have not obtained, and do not currently intend to obtain, an appraisal of the fair market value of the subscription rights on the date the subscription rights are distributed. In determining the fair market value of the subscription rights, you should consider all relevant facts and circumstances, including any difference between the subscription price of the subscription rights and the trading price of our common stock on the date that the subscription rights are distributed, the length of the period during which the subscription rights may be exercised and the fact that the subscription rights are non-transferable.

Your holding period with respect to the subscription rights you receive will include your holding period for the common stock with respect to which the subscription rights were distributed.

Lapse of the Subscription Rights

If you allow the subscription rights you receive to expire unexercised, you will not recognize any gain or loss on the expiration of your subscription rights, and the tax basis of the common stock you own with respect to which such subscription rights were distributed will equal the tax basis in such common stock immediately before the receipt of the subscription rights in this rights offering.

Exercise of the Subscription Rights; Tax Basis and Holding Period of Common Stock Acquired Upon Exercise

You will not recognize any gain or loss upon the exercise of your subscription rights. Your tax basis in the shares of common stock acquired through exercise of the subscription rights will be equal to the sum of the subscription price you paid to exercise the subscription rights and your tax basis in such subscription rights, if any. The holding period for the shares of common stock acquired through exercise of the subscription rights will begin on the date you exercise your subscription rights.

Distributions on Common Stock Received Upon Exercise of Subscription Rights

You will recognize ordinary income upon the receipt of any dividend or other distribution on the shares of common stock you acquire upon exercise of the subscription rights to the extent of our current or accumulated earnings and profits for the taxable year in which the distribution is made. If you are a non-corporate holder, distributions paid out of current or accumulated earnings and profits will be qualified dividends and under current law will be taxed at the holder's long-term capital gains tax rate (a maximum rate of 20%), provided that the holder meets applicable holding period and other requirements. Distributions paid out of our current or accumulated earnings and profits received by corporate holders are taxable at ordinary corporate tax rates, subject to any applicable dividends-received deduction. A distribution in excess of our current and accumulated earnings and profits will constitute a non-taxable return of capital to the extent of your adjusted tax basis in your shares of common stock acquired upon exercise of the subscription rights, and thereafter will constitute capital gain from the sale or exchange of such shares of common stock.

Sale of Common Stock Acquired Upon Exercise of Subscription Rights

If you sell or exchange shares of common stock acquired upon exercise of the subscription rights, you generally will recognize gain or loss on the transaction equal to the difference between the amount realized and your tax basis in the shares of common stock. Such gain or loss upon the sale or exchange of the shares of common stock will be long-term or short-term capital gain or loss, depending on whether the shares of common stock have been held for more than one year. Under current law, long-term capital gains recognized by non-corporate holders are taxed at a maximum rate of 20%. Long-term capital gains recognized by corporations are taxable at ordinary corporate tax rates. Short-term

capital gains of both corporate and non-corporate holders are taxed at a maximum rate equal to the maximum rate applicable to ordinary income. The deductibility of capital losses is subject to limitations.

Net Investment Income Tax

Certain U.S. holders that are individuals, estates or trusts are subject to an additional 3.8% Medicare tax on their net investment income. For individual U.S. holders, this additional tax applies to the lesser of (1) "net investment income" and (2) the excess of "modified adjusted gross income" over $200,000 ($250,000 if married and filing jointly or $125,000 if married filing separately). "Net investment income" generally equals the taxpayer's gross investment income reduced by allocable deductions. Investment income generally includes dividends and capital gains.

Information Reporting and Backup Withholding

Under the backup withholding rules of the Code, you may be subject to information reporting and/or backup withholding with respect to payments of dividends on and proceeds from the sale, exchange or redemption of our shares of common stock unless you: (i) are a corporation or come within certain other exempt categories and, when required, demonstrate this fact; or (ii) provide a correct taxpayer identification number and certify under penalties of perjury that the taxpayer identification number is correct and that you are not subject to backup withholding because of a failure to report all dividends and interest income. Any amount withheld under these rules is allowable as a credit against (and may entitle you to a refund with respect to) your federal income tax liability, provided that the required information is furnished to the Internal Revenue Service. We may require you to establish your exemption from backup withholding or to make arrangements satisfactory to us with respect to the payment of backup withholding.

THE FOREGOING SUMMARY IS INCLUDED FOR GENERAL INFORMATION ONLY. ACCORDINGLY, YOU ARE URGED TO CONSULT WITH YOUR OWN TAX ADVISOR WITH RESPECT TO THE PARTICULAR FEDERAL, STATE, LOCAL AND FOREIGN TAX CONSEQUENCES OF THE RECEIPT OF SUBSCRIPTION RIGHTS IN THIS OFFERING AND THE OWNERSHIP, EXERCISE AND DISPOSITION OF THE SUBSCRIPTION RIGHTS APPLICABLE TO YOUR OWN PARTICULAR TAX SITUATION.

PLAN OF DISTRIBUTION

Rights Offering

On or about the date hereof, we will distribute the subscription rights, subscription rights certificates and copies of this prospectus supplement and the accompanying prospectus to individuals who owned shares of common stock of record as of 5:00 p.m., Eastern Daylight Time, on April 19, 2016, the record date for the rights offering. If you wish to exercise your subscription rights and purchase shares of common stock, you should complete the subscription rights certificate and return it with payment for the shares, to the subscription agent, Computershare Trust Company, N.A. See the subsection above entitled "The Rights Offering—Method of Exercising Subscription Rights." If you have any questions, you should contact the information agent, Georgeson LLC, at 866-821-0284, or you may contact Keri Freeman, Vice President—Shareholder Services, of Enterprise Bank at 978-656-5767. The subscription rights will not be listed on the NASDAQ Global Market or any other stock exchange or trading market or on the OTC Bulletin Board. The shares of common stock issuable upon exercise of the subscription rights will be listed on the NASDAQ Global Market under the symbol "EBTC."

We have agreed to pay the subscription agent and information agent customary fees plus certain expenses in connection with the rights offering. We have not employed any brokers, dealers or underwriters in connection with the solicitation of exercise of subscription rights. Except as described in this section, we are not paying any other commissions, underwriting fees or discounts in connection with the rights offering. Some of our employees may solicit responses from you as a holder of subscription rights, but we will not pay our employees any commissions or compensation for these services other than their normal employment compensation. We estimate that our total expenses in connection with the combined rights and supplemental community offerings will be approximately $300,000.

Supplemental Community Offering

If shares of common stock remain available for sale after the expiration of the rights offering, we will permit certain persons and entities who are not shareholders eligible to participate in the rights offering to submit subscriptions to purchase 500 or more shares of our common stock at a purchase price of $21.50 per share as and to the extent that any shares of our common stock remain available for purchase following the expiration date of the rights offering, subject to the purchase priority rights of the holders of subscription rights. We anticipate that, if we offer shares in the supplemental community offering, we will offer the shares to individual investors who reside or operate businesses in our current or prospective market area and to our employees. We may elect to waive this minimum purchase

requirement in our sole discretion with respect to any particular purchaser in the supplemental community offering. We may also offer shares in the supplemental community offering to a limited number of

institutional investors. We reserve the right to accept or reject, in whole or in part, any subscription tendered in the supplemental community offering.

LEGAL MATTERS

The validity of the subscription rights and the common stock issuable upon exercise of the subscription rights will be passed upon for us by Nelson Mullins Riley & Scarborough LLP, Boston, Massachusetts. Certain other legal matters not particular to the Commonwealth of Massachusetts will be passed upon by Hunton & Williams LLP, counsel to Enterprise Bancorp, Inc.

EXPERTS

Our consolidated financial statements as of December 31, 2015 and 2014, and for each of the years in the three-year period ended December 31, 2015, and management's assessment of the effectiveness of internal control over financial reporting as of December 31, 2015, have been incorporated by reference herein in reliance upon the reports of KPMG LLP, independent registered public accounting firm, incorporated by reference herein, and upon the authority of said firm as experts in accounting and auditing.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

We incorporate by reference into this prospectus supplement the information the Company files with the SEC, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is an important part of this prospectus supplement. Some information contained in this prospectus supplement updates the information incorporated by reference, and information that the Company files subsequently with the SEC will automatically update this prospectus supplement. In other words, in the case of a conflict or inconsistency between information set forth in this prospectus supplement, the accompanying prospectus and information incorporated by reference into this prospectus supplement, you should rely on the information contained in the document that was filed later. We incorporate by reference the following documents (excluding any portions of such documents that have been furnished but not filed for purposes of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), all of which are filed under File No. 001-33912:

- Our annual report on Form 10-K for the fiscal year ended December 31, 2015;
- Our current reports on Form 8-K filed with the SEC on each of January 19, 2016, January 20, 2016, January 28, 2016, March 18, 2016, April 8, 2016, and April 19, 2016;
- Our definitive proxy statement on Schedule 14A filed with the SEC on March 31, 2016 in connection with our 2016 Annual Meeting of Shareholders;
- The description of our common stock contained in the Form 8-A12G Registration Statement filed with the SEC on July 16, 1996 pursuant to Section 12 of the Exchange Act, including any amendment or report filed with the SEC for the purpose of updating this description;
- The description of our preferred share purchase rights contained in the Form 8-A12B Registration Statement filed with the SEC on January 11, 2008, including any amendment or report filed with the SEC for the purpose of updating this description; and
- All documents we file in the future under Sections 13(a), 13(c), 14 and 15(d) of the Exchange Act (excluding any portions of any of these documents that are furnished but not filed for purposes of the Exchange Act), including reports filed after the date of the initial filing of the registration statement and before the effectiveness of the registration statement, until we sell all of the securities offered by this prospectus supplement or terminate this offering.

You may obtain any of these incorporated documents from us without charge, excluding any exhibits to these documents unless the exhibit is specifically incorporated by reference in the document, by requesting them from us in writing or by telephone at the following address:

Enterprise Bancorp, Inc.
222 Merrimack Street
Lowell, Massachusetts 01852
Attention: James A. Marcotte
978-656-5614

These incorporated documents may also be available on our web site at www.enterprisebanking.com, by clicking on Investor Relations and then SEC Filings. Except for incorporated documents, none of the information contained on, or that may be accessed through, our website is a prospectus or constitutes part of, or is otherwise incorporated into, this prospectus supplement.

WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly and current reports, proxy statements and other information with the SEC. Our filings are available to the public over the Internet at the SEC's website at http://www.sec.gov. You may also read and copy any document we file with the SEC at its public reference facilities at 100 F Street, N.E., Washington, D.C. 20549. You can also obtain copies of the documents at prescribed rates by writing to the Public Reference Section of the SEC at 100 F Street, N.E., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information on the operation of the public reference facilities. Our SEC filings are also available at no cost on our website, http://www.enterprisebanking.com, by clicking on Investor Relations and then SEC Filings, as soon as reasonably practicable after we file the documents with the SEC. Except for those SEC filings, none of the other information contained on, or that may be accessed through, our website is part of, or incorporated into, this prospectus supplement.

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PROSPECTUS
Common Stock
Preferred Stock
Rights

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We may from time to time offer and sell in one or more offerings, together or separately, any combination of the securities described in this prospectus. The aggregate initial offering price of the securities that we offer will not exceed $40,000,000.

We may offer and sell these securities on a delayed or continuous basis to or through one or more agents, underwriters or dealers as designated from time to time, directly to one or more purchasers, through a combination of these methods or any other method as provided in the applicable prospectus supplement. If any agents, dealers or underwriters are involved in the sale of any securities, the applicable prospectus supplement will set forth any applicable commissions or discounts.

This prospectus describes some of the general terms that may apply to these securities and the general manner in which they may be offered. At the time we offer securities, we will specify in an accompanying prospectus supplement the amount, price and specific terms of any securities offered. Before investing, you should carefully read this prospectus, any applicable prospectus supplement and the documents incorporated by reference.

For additional information on the methods of sale, you should refer to the section entitled “Plan of Distribution.” The price to the public and the net proceeds we expect to receive from any such sale will also be set forth in a related prospectus supplement.

Our common stock is listed on the Nasdaq Global Select Market under the trading symbol “EBTC.” On July17, 2013, the last reported sale price of our common stock on the Nasdaq Global Select Market was $21.10 per share.

Investing in our securities involves risks. Before buying our securities, you should carefully consider the risk factors discussed in the section entitled “Risk Factors” on page 4 of this prospectus and in the sections entitled “Risk Factors” in our most recent Annual Report on Form 10−K and in any quarterly report on Form 10−Q, as well as in any prospectus supplements relating to specific offerings.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.

These securities are not savings accounts, deposits or other obligations of any bank or savings association and are not insured or guaranteed by the Federal Deposit Insurance Corporation, the Deposit Insurance Fund or any other governmental agency.

This prospectus may not be used to sell securities unless accompanied by a prospectus supplement that contains a description of those securities.

The date of this prospectus is July 18, 2013

YOU SHOULD RELY ONLY ON THE INFORMATION CONTAINED OR INCORPORATED BY REFERENCE IN THIS PROSPECTUS TO DECIDE WHETHER YOU WISH TO INVEST IN ANY OF THE SECURITIES DESCRIBED IN THIS PROSPECTUS. WE HAVE NOT AUTHORIZED ANYONE TO PROVIDE YOU WITH INFORMATION THAT IS DIFFERENT FROM WHAT IS CONTAINED IN THIS PROSPECTUS. YOU SHOULD NOT ASSUME THAT THE INFORMATION CONTAINED IN THIS PROSPECTUS IS ACCURATE AS OF ANY DATE OTHER THAN THE DATE ON THE FRONT OF THIS PROSPECTUS, AND NEITHER THE DELIVERY OF THIS PROSPECTUS NOR THE ISSUANCE OF ANY SECURITIES BY US SHALL CREATE ANY IMPLICATION TO THE CONTRARY.

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About this prospectus

This prospectus is part of a registration statement on Form S-3 that we have filed with the Securities and Exchange Commission, or the SEC, using a “shelf” registration or continuous offering process. By using a shelf registration statement, we may, from time to time, sell any combination of the securities described in this prospectus, together with any applicable prospectus supplement, in one or more offerings in amounts that we will determine from time to time that do not exceed $40,000,000 in the aggregate.

Unless the context requires otherwise, in this prospectus, we use the terms “we,” “us,” “our,” and the “Corporation” to refer to Enterprise Bancorp, Inc. and its subsidiaries. Our common stock is traded on the Nasdaq Global Select Market under the symbol “EBTC”. When we refer to “Enterprise Bank” in this prospectus, we mean our subsidiary, Enterprise Bank and Trust Company, which is a commercial bank chartered under the laws of the Commonwealth of Massachusetts. We sometimes refer to Enterprise Bank as the “Bank”.

We may offer the following securities from time to time:

- common stock;
- preferred stock; and
- rights.

We may also issue securities upon conversion or exercise of or in exchange for any of the securities listed above.

This prospectus provides you with a general description of each of the securities we may offer. Each time we offer and sell any of these securities, we will provide a prospectus supplement that contains specific information about the terms of that offering. The prospectus supplement may also add, update or change information contained in this prospectus. If there is any inconsistency between the information in this prospectus and each prospectus supplement, you should rely on the information in that prospectus supplement. Before purchasing any of our securities, you should carefully read both this prospectus and each applicable prospectus supplement together with the additional information described under the headings “Where You Can Find More Information” and “Incorporation of Certain Information by Reference.”

The registration statement containing this prospectus, including exhibits to the registration statement, provides additional information about us and the securities that may be offered under this prospectus. The exhibits to our registration statement contain the full text of certain contracts and other important documents we have summarized in this prospectus. Because these summaries may not contain all the information that you may find important in deciding whether to purchase the securities we offer, you should review the full text of these documents. The registration statement and exhibits may be obtained and read at the SEC Internet website (www.sec.gov) or at the SEC office mentioned under the heading “Where You Can Find More Information.” You should rely only on the information contained or incorporated by reference in this prospectus and any prospectus supplement. We have not authorized any other person to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it. This prospectus and any applicable prospectus supplement may only be used where it is legal to sell these securities, and we will not make 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, as well as information we previously filed with the SEC and have incorporated by reference, is accurate as of the date on the front cover of this prospectus only. Our business, financial condition, results of operations and prospects may have changed since that date.

We may sell securities to underwriters who will sell the securities to the public on terms fixed at the time of sale. In addition, the securities may be sold by us directly or through dealers or agents designated from time to time. If we, directly or through agents, solicit offers to purchase the securities, we reserve the sole right to accept and, together with our agents, to reject, in whole or in part, any of those offers.

The prospectus supplement will contain the names of the underwriters, dealers, or agents, if any, together with the terms of offering, the compensation of those underwriters, dealers, or agents, and the net proceeds to us. Any underwriters, dealers, or agents participating in the offering may be deemed "underwriters" within the meaning of the Securities Act of 1933, as amended, or the Securities Act.

Incorporation of certain information by reference

The SEC allows us to “incorporate by reference” into this prospectus much of the information that we file with the SEC. This means that we can disclose important information to you by referring you to another document without restating

the

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information in this document. Any information incorporated by reference into this prospectus is considered to be part of this prospectus from the date we file that document. Any information filed by us with the SEC after the date of this prospectus will automatically update and, where applicable, supersede any information contained in this prospectus or previously incorporated by reference in this prospectus.

We incorporate by reference into this prospectus the following documents or information that we previously filed with the SEC (other than, in each case, documents or information deemed to have been furnished and not filed in accordance with SEC rules):

- Our Annual Report on Form 10-K for the year ended December 31, 2012, filed with the SEC on March 15, 2013;
- Our Quarterly Report on Form 10-Q for the quarter ended March 31, 2013, filed with the SEC on May 10, 2013;
- Our Current Reports on Form 8-K filed with the SEC on January 15, 2013, January 22, 2013, February 26, 2013, March 22, 2013, March 25, 2013, April 16, 2013, May 10, 2013, June 10, 2013 and July 16, 2013;
- The description of our common stock contained in the Form 8-A12G Registration Statement filed with the SEC on July 16, 1996 pursuant to Section 12 of the Exchange Act, including any amendment or report filed with the SEC for the purpose of updating this description;
- The description of our preferred share purchase rights contained in the Form 8-A12B Registration Statement filed with the SEC on January 11, 2008, including any amendment or report filed with the SEC for the purpose of updating this description.

These documents contain important information about our business and our financial performance.

We also incorporate by reference any future filings we make with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended, or the Exchange Act, on or after the date of the filing of the registration statement and prior to the termination of the offering (except for information furnished to the SEC that is not deemed to be “filed” for purposes of the Exchange Act). Our future filings with the SEC will automatically update and supersede any inconsistent information in this prospectus.

Where you can find more information

We will provide to each person, including any beneficial owner, to whom a copy of this prospectus is delivered, a copy of any or all of the information or documents that we have incorporated by reference into this prospectus. We will provide this information upon written or oral request at no cost to the requester. You may request this information by contacting our corporate headquarters at the following address and telephone number:

James A. Marcotte
Executive Vice President, Chief Financial Officer and Treasurer
Enterprise Bancorp, Inc.
222 Merrimack Street
Lowell, Massachusetts 01852
(978) 459-9000

Any statement made in this prospectus concerning the contents of any contract, agreement or other document is only a summary of the actual document. You may obtain a copy of any document summarized in this prospectus at no cost by writing to or telephoning us at the address and telephone number given above. Each statement regarding a contract, agreement or other document is qualified in its entirety by reference to the actual document.

We file annual, quarterly and current reports, proxy statements and other information with the SEC. You may read and copy, at prescribed rates, any documents we have filed with the SEC at its Public Reference Room located at 100 F Street, N.E., Washington, D.C. 20549. You may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. We also file these documents with the SEC electronically. You can access the electronic versions of these filings on the SEC’s Internet website found at http://www.sec.gov and our website: www.enterprisebanking.com (the other information contained in, or that can be accessed through, our website is not a part of this prospectus or any prospectus supplement).

We have filed a registration statement on Form S-3 under the Securities Act of 1933, as amended, with the SEC with respect to the securities to be sold hereunder. This prospectus has been filed as part of that registration statement. This prospectus does not contain all of the information set forth in the registration statement because certain parts of the registration statement are omitted in accordance with the rules and regulations of the SEC. The registration statement is available for inspection and copy as set forth above.

Forward-looking and cautionary statements

This prospectus, any accompanying prospectus supplements and the documents incorporated by reference in this prospectus contain statements may contain certain “forward-looking statements” within the meaning of the Private Securities Litigation Reform Act of 1995, including statements concerning plans, objectives, future events or performance and assumptions and other statements that are other than statements of historical fact. Forward-looking statements may be identified by reference to a future period or periods or by use of forward-looking terminology such as “anticipates,” “believes,” “expects,” “intends,” “may,” “plans,” “pursue,” “views,” “should,” and similar terms or expressions caution readers that such forward-looking statements reflect numerous assumptions and involve a number of risks and uncertainties that may adversely affect our future results. The following important factors, among others, could cause our results for subsequent periods to differ materially from those expressed in any forward-looking statement made herein:

- changes in interest rates could negatively impact net interest income;
- changes in the business cycle and downturns in the local, regional or national economies, including deterioration in the local real estate market, could negatively impact credit and/or asset quality and result in credit losses and increases in our allowance for loan losses;
- changes in consumer spending could negatively impact our credit quality and financial results;
- increasing competition from larger regional and out-of-state banking organizations as well as non-bank providers of various financial services could adversely affect our competitive position within our market area and reduce demand for our products and services;
- deterioration of securities markets could adversely affect the value or credit quality of the our assets and the availability of funding sources necessary to meet our liquidity needs;
- changes in technology could adversely impact our operations and increase technology-related expenditures;
- increases in employee compensation and benefit expenses could adversely affect our financial results;
- changes in laws and regulations that apply to our business and operations, including without limitation, the Dodd-Frank Wall Street Reform and Consumer Protection Act (the "Dodd-Frank Act"), the Jumpstart Our Business Startups Act (the "JOBS Act") and the additional regulations that will be forthcoming as a result thereof, could adversely affect our business environment, operations and financial results;
- changes in accounting standards, policies and practices, as may be adopted or established by the regulatory agencies, the Financial Accounting Standards Board (the “FASB”) or the Public Company Accounting Oversight Board could negatively impact our financial results;
- our ability to enter new markets successfully and capitalize on growth opportunities;
- future regulatory compliance costs, including any increase caused by new regulations imposed by the Consumer Finance Protection Bureau;
- changes to the regulatory capital requirements mandated under the proposed rulemaking pursuant to Basel III; and
- some or all of the risks and uncertainties described in Item 1A of the Corporation’s 2012 Annual Report on Form 10-K could be realized, which could have a material adverse effect on the Corporation’s business, financial condition and results of operation. Therefore, the Corporation cautions readers not to place undue reliance on any such forward-looking information and statements.

The cautionary statements in this prospectus, any accompanying prospectus supplement and any documents incorporated by reference herein also identify important factors and possible events that involve risks and uncertainties that could

cause our actual results to differ materially from those contained in the forward-looking statements. These forward-looking statements speak only as of the date on which the statements were made. We do not intend, and undertake no obligation, to update or revise any forward-looking statements contained in this prospectus, whether as a result of differences in actual results, changes in assumptions or changes in other factors affecting such statements, except as required by law.

Risk factors

An investment in our securities involves a high degree of risk. Before making an investment decision, you should carefully read and consider the risk factors incorporated by reference in this prospectus, as well as those contained in any applicable prospectus supplement, as the same may be updated from time to time by our future filings with the SEC under the Exchange Act. You should also refer to other information contained in or incorporated by reference in this prospectus and any applicable prospectus supplement, including our financial statements and the related notes incorporated by reference herein. Additional risks and uncertainties not presently known to us at this time or that we currently deem immaterial may also materially and adversely affect our business and operations.

Enterprise Bancorp, Inc.

Overview

We are a Massachusetts corporation, incorporated in February 1996, and operate as the parent bank holding company of Enterprise Bank and Trust Company referred to as “Enterprise Bank.” Substantially all of Enterprise Bancorp’s operations are conducted through Enterprise Bank. Enterprise Bank, a Massachusetts trust company and state chartered commercial bank which commenced banking operations in 1989, has five wholly owned subsidiaries which are included in Enterprise Bancorp’s consolidated financial statements:

- Enterprise Insurance Services, LLC, organized in 2000 for the purpose of engaging in insurance sales activities;
- Enterprise Investment Services, LLC, organized in 2000 for the purpose of offering non-deposit investment products and services, under the name of “Enterprise Investment Services;” and
- Three Massachusetts security corporations, Enterprise Security Corporation (2005), Enterprise Security Corporation II (2007) and Enterprise Security Corporation III (2007), which hold various types of qualifying securities. The security corporations are limited to conducting securities investment activities that the Bank itself would be allowed to conduct under applicable laws.

Enterprise Bank’s deposit accounts are insured under the Federal Deposit Insurance Act up to applicable limits thereunder. Enterprise Bank’s main office is located at 222 Merrimack Street, Lowell, Massachusetts 01852.

As of March 31, 2013, we had, on a consolidated basis, total assets of approximately $1.7 billion, net loans receivable of approximately $1.4 billion, investment securities available for sale of approximately $183.7 million, total deposits of approximately $1.5 billion, and shareholders’ equity of approximately $142.7 million. Our Internet website address is www.enterprisebanking.com. The information contained in, or that can be accessed through, our website is not a part of this prospectus or any prospectus supplement.

Market Area

Our primary market area is the Merrimack Valley and North Central regions of Massachusetts and Southern New Hampshire. Enterprise Bank has 21 full service branch banking offices located in the Massachusetts cities and towns of Acton, Andover, Billerica, Chelmsford, Dracut, Fitchburg, Lawrence, Leominster, Lowell, Methuen, Tewksbury, Tyngsboro, and Westford; and in the New Hampshire towns of Derry, Hudson, Pelham and Salem, which serve those cities and towns as well as the surrounding communities. Management actively seeks to strengthen its market position by capitalizing on market opportunities to grow all business lines and the continued pursuit of organic growth and strategic expansion within existing and into neighboring geographic markets.

Primary Lines of Business

We principally are engaged in the business of attracting deposits from the general public and investing in loans and investment securities. Through Enterprise Bank and its subsidiaries, we offer a range of commercial and consumer loan products, deposit and cash management products, investment advisory and wealth management, trust and insurance services. Management

continually examines new products and technologies in order to maintain a highly competitive mix of offerings and state of the art delivery channels in order to target product lines to customer needs.

Competition

We face robust competition to attract and retain customers. National and larger regional banks have a local presence in our market area. These established larger banks, as well as recent larger entrants into the local market area, have certain competitive advantages, including greater financial resources and the ability to make larger loans to a single borrower. Numerous local savings banks, commercial banks, cooperative banks and credit unions also compete in our market area. The expanded commercial lending capabilities of credit unions and the shift to commercial lending by traditional savings banks means that both of these types of traditionally consumer-orientated institutions now compete for our targeted commercial customers. In addition, the non-taxable status of credit unions allows them certain advantages as compared to taxable institutions such as us. Competition for loans, deposits and cash management services, investment advisory assets, and insurance business also comes from other businesses that provide financial services, including consumer finance companies, mortgage brokers and lenders, private lenders, insurance companies, securities brokerage firms, institutional mutual funds, registered investment advisors, non-bank payment channels, and internet based banks. Management actively seeks to strengthen our competitive position by capitalizing on the market opportunities and the continued pursuit of strategic growth within existing and neighboring geographic markets. Management believes that we have established a positive reputation within our market area as a dependable commercial-focused community bank. Management is committed to differentiating Enterprise from the competition by providing a full range of diversified financial services and products with consistent and exceptional customer service, a highly-trained and dedicated staff of knowledgeable banking professionals, open and honest communication with clients, and a committed focus on active community involvement which we believe has led to a strong referral network with business and community leaders.

Management continually examines our product lines and technologies in order to maintain a highly competitive mix of offerings and delivery channels, and to target products to customer needs. Advances in, and the increased use of, technology, such as internet and mobile banking, electronic transaction processing and information security, are expected to have a significant impact on the future competitive landscape confronting financial institutions.

Securities We May Offer

We have summarized the material terms and provisions of the securities that we may offer for sale in the sections below entitled “Description of Capital Stock,” “Description of Preferred Stock” and “Description of Rights”, which descriptions are qualified in their entirety by reference to the applicable prospectus supplement, applicable provisions of Massachusetts law and by our amended and restated articles of organization and amended and restated by-laws. We have previously filed with the SEC complete copies of our amended and restated articles of organization on Form 8-K filed on June 10, 2013 and our amended and restated by-laws with the SEC on Form 8-K filed on January 22, 2013. You should read our articles of organization and by-laws for additional information before you buy our securities.

The summary description of the securities is not meant to be a complete description of the securities that may be offered. The particular terms of any security will be described in the applicable prospectus supplement and other offering material. The applicable prospectus supplement may add, update or change the terms and conditions of the securities being registered herein.

Use of proceeds

Unless we otherwise state in an applicable prospectus supplement, we expect to use the net proceeds from the sale of the securities offered by us pursuant to this prospectus and any applicable prospectus supplement for general corporate purposes, which may include, among other things, investments in our subsidiaries, working capital, capital expenditures, debt repayment, or the financing of possible acquisitions. The applicable prospectus supplement relating to a particular offering of securities by us will identify the use of proceeds for that offering. The net proceeds may be temporarily invested in interest bearing accounts or short-term, interest bearing securities or applied to repay short-term or revolving debt prior to use.

Regulatory Considerations

As a bank holding company, the Corporation is subject to regulation, supervision and examination by the Federal Reserve Board. For a discussion of elements of the regulatory framework applicable to the Corporation and its

subsidiaries, please refer to our most recent annual report on Form 10-K and the other documents incorporated herein by reference as described under the headings above entitled “Where You Can Find More Information” and “Incorporation of Certain Information by Reference.” This regulatory framework is intended primarily for the protection of depositors and the Federal Deposit

Insurance Fund and not for the protection of security holders, including holders of the securities described in this prospectus. As a result of this regulatory framework, our results of operations and financial condition are affected by actions of the Federal Reserve Board, which regulates the Corporation, the FDIC, which insures the deposits of Enterprise Bank, and the Massachusetts Commissioner of Banks, who, along with the FDIC, regulates Enterprise Bank as a Massachusetts state-chartered commercial bank.

Our ability to pay dividends on our common stock depends primarily on dividends we receive from the Bank. Under federal regulations and applicable Massachusetts law, the dollar amount of dividends and any other capital distributions that the Bank may make depends upon its capital position and recent net income. Generally, so long as the Bank remains adequately capitalized, it may make capital distributions during any calendar year equal to up to 100% of net income for the year-to-date plus retained net income for the two preceding years. However, if the Bank's capital becomes impaired or the FDIC or Massachusetts Commissioner of Banks otherwise determines that the Bank is in need of more than normal supervision, the Bank may be prohibited or otherwise limited from paying any dividends or making any other capital distributions.

Under Massachusetts law, the Corporation is generally prohibited from paying a dividend or making any other distribution if, after making such distribution, it would be unable to pay its debts as they become due in the usual course of business, or if its total assets would be less than the sum of its total liabilities plus the amount that would be needed if it were dissolved at the time of the distribution, to satisfy preferential rights on dissolution of holders of preferred stock ranking senior in right of payment to the capital stock on which the applicable distribution is made.

There are numerous other governmental requirements and regulations that affect our business activities. A change in applicable statutes, regulations or regulatory policy may have a material effect on our business and on our ability to pay dividends on our common stock. Depository institutions, such as the Bank, are also affected by various federal and state laws, including those relating to consumer protection and similar matters.

In addition to the foregoing regulatory restrictions, we are and may in the future become subject to contractual restrictions that could limit or prohibit us from paying dividends on our common stock.

Description of Common stock

The following summary describes the material features and rights of our common stock. This summary does not purport to be a complete description of the terms and conditions of our common stock in all reports and is subject to, and qualified in its entirety by, applicable law and the provisions of our amended and restated articles of organization and our amended and restated by-laws.

General

Our authorized capital stock consists of 21,000,000 shares, of which 20,000,000 shares are common stock, par value $0.01 per share, and 1,000,000 shares are preferred stock, par value $0.01 per share. Our outstanding shares of common stock are, and the shares of common stock to be issued in this offering will be, validly issued, fully paid and non-assessable. As of July 16, 2013 there were 9,887,097 shares of our common stock outstanding, held by approximately 869 registered shareholders, and no shares of our preferred stock were outstanding. As of July 16, 2013 there were 521,613 shares of our common stock underlying options that have been issued pursuant to our equity incentive plans and 403,753 shares of our common stock reserved for future issuance under our equity incentive plans. Our common stock is listed for trading on the Nasdaq Global Select Market under the symbol "EBTC."

Each share of our common stock has the same relative rights and is identical in all respects to every other share of our common stock. Our shares of common stock are neither redeemable nor convertible, and the holders thereof have no preemptive or subscription rights to purchase any of our securities.

Voting Rights

Each outstanding share of our common stock is entitled to one vote on all matters submitted to a vote of shareholders. There is no cumulative voting in the election of directors.

Liquidation Rights

Upon our liquidation, dissolution or winding up, the holders of our common stock are entitled to receive, pro rata, our assets which are legally available for distribution, after payment of all debts and other liabilities and subject to the prior rights of any holders of preferred stock then outstanding.

Dividends Payable on Shares of Common Stock

In general, the holders of outstanding shares of our common stock are entitled to receive dividends out of assets legally available therefor at such times and in such amounts as our board of directors may from time to time determine. The ability of our board of directors to declare and pay dividends on our common stock may be affected by both general corporate law considerations and policies of the Board of Governors of the Federal Reserve, which we refer to herein as the Federal Reserve, applicable to bank holding companies. As a Massachusetts corporation, we are subject to the limitations of Massachusetts law, which allows us to pay dividends unless, after such dividend: (i) we would not be able to pay our debts as they become due in the usual course of business; or (ii) our total assets would be less than the sum of our total liabilities plus any amount that would be needed, if we were to be dissolved at the time of the dividend payment, to satisfy the preferential rights upon dissolution of our shareholders whose rights are superior to the rights of our shareholders receiving the distribution. Additionally, as a general matter, the Federal Reserve indicates that the board of directors of a bank holding company should eliminate, defer or significantly reduce the dividends if: (i) the company’s net income available to shareholders for the past four quarters, net of dividends previously paid during that period, is not sufficient to fully fund the dividends; (ii) the prospective rate of earnings retention is inconsistent with the company’s capital needs and overall current and prospective financial condition; or (iii) the company will not meet, or is in danger of not meeting, its minimum regulatory capital adequacy ratios. The Federal Reserve also possesses enforcement powers over bank holding companies and their nonbank subsidiaries to prevent or remedy actions that represent unsafe or unsound practices or violations of applicable statutes and regulations. Among these powers is the ability to proscribe the payment of dividends by banks and bank holding companies.

Most of our revenues available for the payment of dividends derive from amounts paid to us by the Bank. There are various statutory limitations that limit the ability of the Bank to pay dividends to us. The Bank is a state-charted bank and is subject to the laws and regulations of the Massachusetts Division of Banks and to the regulations of the Federal Deposit Insurance Corporation, or FDIC. If a bank's primary banking regulator determines that the bank is engaged or is about to engage in an unsafe or unsound banking practice, the regulator may require, after notice and hearing, that the bank cease and desist from such practice. Depending on the financial condition of the bank, an unsafe or unsound practice could include the payment of dividends. In particular, the federal banking agencies have indicated that paying dividends that deplete a bank's capital base to an inadequate level would be an unsafe and unsound banking practice. Under the Massachusetts banking law, Massachusetts state-chartered banks, such as the Bank, generally may pay dividends only out of undivided profits. In addition, the Massachusetts Division of Banks may restrict the declaration or payment of a dividend by a Massachusetts state-chartered bank.

Furthermore, the payment of dividends by any financial institution is affected by the requirement to maintain adequate capital pursuant to applicable capital adequacy guidelines and regulations, and a financial institution generally is prohibited from paying any dividends if, following payment thereof, the institution would be undercapitalized. Even notwithstanding the availability of funds for dividends, the FDIC may prohibit the payment of any dividends by an insured bank, such as the Bank, if the FDIC determines such payment would constitute an unsafe or unsound practice.

Our amended and restated articles of organization and amended and restated by-laws, as well as the laws of Massachusetts, contain various provisions that may be deemed to have an "anti-takeover" effect with respect to the Corporation. These provisions are described in detail in the description of our common stock contained in the registration statement on Form 8-A12G that we previously filed with the SEC and which is referenced in the section above entitled “Incorporation of Certain Information by Reference.”

Anti-Takeover Provisions.

General. Our amended and restated articles of organization and amended and restated by-laws may have the effect of discouraging, delaying or preventing a change in control or an unsolicited acquisition proposal that a shareholder might consider favorable, including a proposal that might result in the payment of a premium over the market price for the shares held by shareholder. These provisions are summarized in the following paragraphs.

Authorized Shares of Capital Stock. Authorized but unissued shares of our common stock and preferred stock under our amended and restated articles of organization could (within the limits imposed by applicable law and Nasdaq Marketplace Rules) be issued in one or more transactions that could make a change of control of us more difficult, and therefore more unlikely. The additional authorized shares could be used to discourage persons from attempting to gain

control of us by diluting the voting power of shares then outstanding or increasing the voting power of persons who would support the board of directors in a potential takeover situation, including by preventing or delaying a proposed business combination that is opposed by the board of directors although perceived to be desirable by some shareholders.

Limitations on Right to Call Special Meetings; Shareholder Proposal Notice Requirements. Under our amended and restated articles of organization, a special meeting of our shareholders may be called only by: (i) the Chairman of the Board or the Chief Executive Officer, or (ii) by the affirmative vote of a majority of the directors then in office; provided, however, that if at the time of such call there is an Interested Shareholder, as defined in our amended and restated articles of organization, any such call for a special meeting also requires the affirmative vote of a majority of the Continuing Directors, as defined in our amended and restated articles of organization, then in office. Additionally, our amended and restated by-laws require that shareholder proposals meet certain advanced notice and minimum informational requirements. These provisions could have the effect of delaying until the next annual shareholders' meeting shareholder actions which are favored by the holders of a majority of our outstanding voting securities.

State Anti-Takeover Laws. Chapters 110C, 110D and 110F of the Massachusetts General Laws are generally applicable to any "take-over" of a Massachusetts corporation. In general, Chapter 110F of the Massachusetts General Laws prevents an "interested shareholder" (including certain persons who own or have the right to acquire 5% or more of a corporation's outstanding voting stock) from engaging in a "business combination" (defined to include mergers and certain other actions) with a Massachusetts corporation for a period of three years following the date such person became an interested shareholder unless, among other things, (i) prior to the date such person became an interested shareholder, the board of directors of the corporation approved either the business combination or the transaction in which the interested shareholder became an interested shareholder; (ii) upon consummation of the transaction in which the interested shareholder became an interested shareholder, the interested shareholder owned at least 90% of the voting stock of the corporation outstanding at the time the transaction commenced (excluding, for purposes of determining the number of shares outstanding, stock held by directors who are also officers and by employee stock plans that do not allow plan participants to determine confidentially whether to tender shares); or (iii) on or subsequent to the date the business combination is approved by the board of directors of the corporation and authorized at a meeting of shareholders, and not by written consent, by the affirmative vote of the holders of at least 66 2/3% of the outstanding voting stock of the corporation which is not owned by the interested shareholder.

Chapter 110D of the Massachusetts General Laws restricts the voting rights of shares acquired in a "control share acquisition," unless, among other things, the articles of organization or by-laws of a Massachusetts corporation provide that such restrictions are inapplicable. Neither our amended and restated articles of organization nor our amended and restated by-laws provide that the provisions of Chapter 110D do not apply to us.

Chapter 110C of the Massachusetts General Laws subjects an offeror to certain disclosure and filing requirements before such offeror can proceed with a "take-over bid," defined to include any acquisition of or offer to acquire more than ten percent of the issued and outstanding equity securities of a target company.

The foregoing discussion is not a complete statement of Massachusetts law and is qualified in its entirety by reference to Chapter 110F, Chapter 110C, Chapter 110D and the Massachusetts Business Corporation Act.

Shareholder Rights Plan. We have maintained a shareholders rights plan since 1998. The plan as originally adopted expired pursuant to its terms on January 13, 2008, and in conjunction with such expiration we adopted a renewed shareholders rights plan containing terms that are substantially similar to the terms of the original plan. Under the renewed plan, each share of common stock includes a right to purchase under certain circumstances one one-hundredth of a share of our Series A Junior Participating Preferred Stock, par value $0.01 per share, at a purchase price of $52.00 per one one-hundredth of a preferred share, subject to adjustment, or, in certain circumstances, to receive cash, property, shares of common stock or other securities of the Corporation. The rights are not presently exercisable and remain attached to the shares of common stock until the occurrence of certain triggering events that would ordinarily be associated with an unsolicited acquisition or attempted acquisition of 10% or more of our outstanding shares of common stock. The rights will expire, unless earlier redeemed, exchanged, or otherwise rescinded by us, on January 13, 2018. The rights have no voting or dividend privileges, and unless and until they become exercisable have no dilutive effect on our earnings. The terms of our shareholders rights plan are described in greater detail in the description of our preferred share purchase rights contained in the registration statement on Form 8-A12B as well as our Schedule 14A for our 2013 annual meeting of shareholders, which describes certain amendments to our articles of organization, that we previously filed with the SEC and which is referenced in the section above entitled "Incorporation of Certain Information by Reference."

Description of Preferred Stock

The following summary describes material terms, preferences, limitations, voting powers and relative rights of the preferred stock that we may offer from time to time. This summary does not purport to be a complete description of the terms and conditions of our preferred stock in all respects and is subject to and qualified in its entirety by, applicable law and the provisions of our amended and restated articles of organization, our amended and restated by-laws, and the certificate of designations relating to any particular series of preferred stock.

General

Under our amended and restated articles of organization, our board of directors is authorized, without further shareholder action, to issue up to 1,000,000 shares of preferred stock, $0.01 par value per share, in one or more series, and to determine the voting powers and the designations, preferences, and relative, participating, optional or other special rights, and the qualifications, limitations or restrictions of each series. To date, we have not issued any shares of preferred stock. We may amend our amended and restated articles of organization to increase the number of authorized shares of preferred stock in a manner permitted by our amended and restated articles of organization and Massachusetts law.

We will describe the particular terms of any series of preferred stock being offered in the prospectus supplement relating to that series of preferred stock. Those terms may include:

- the number of shares being offered;
- the title and liquidation preference per share;
- the purchase price;
- the dividend rate or method for determining that rate;
- the dates on which dividends will be paid;
- whether dividends will be cumulative or noncumulative and, if cumulative, the dates from which dividends will begin to accumulate;
- any applicable redemption provisions;
- any applicable conversion provisions; and
- any additional dividend, liquidation and other rights and restrictions applicable to that series of preferred stock.

The shares of preferred stock will, when issued against full payment of their purchase price, be fully paid and nonassessable.

Dividend Rights

If you purchase preferred stock being offered by use of this prospectus and an applicable prospectus supplement, you will be entitled to receive, when, as and if declared by our board of directors, dividends at the rates and on the dates set forth in the prospectus supplement. Dividend rates may be fixed, variable or both. The nature, amount, rates, timing and other details of dividend rights for a series of preferred stock will be described in the applicable prospectus supplement and will be payable in preference to, or in such relation to, the dividends payable on any other class or classes or series of our stock, as described in the applicable prospectus supplement. We are subject to various regulatory policies and requirements relating to the payment of dividends, including requirements to maintain adequate capital above regulatory minimums.

Voting Rights

The voting rights of preferred stock of any series being offered will be described in the applicable prospectus supplement.

Liquidation Rights

In the event that we liquidate, dissolve or wind-up our affairs, either voluntarily or involuntarily, holders of our preferred stock will be entitled to receive liquidating distributions in the amount set forth in the applicable prospectus supplement, plus accrued and unpaid dividends, if any, before we make any distribution of assets to the holders of our common stock or any junior preferred stock. If we fail to pay in full all amounts payable with respect to preferred stock being offered by us and any stock having the same rank as that series of preferred stock, the holders of the preferred stock and of that other stock will share in any distribution of assets in proportion to the full respective preferential amounts to which they are entitled. After the holders of each series of preferred stock and any stock having the same rank as the preferred stock are paid in full, they will have no right or claim to any of our remaining assets. For any series of preferred stock being offered by this prospectus and an

applicable prospectus supplement, neither the sale of all or substantially all of our property or business nor a merger or consolidation by us with any other corporation will be considered a dissolution, liquidation or winding-up of our business or affairs.

Redemption

The terms, if any, on which shares of a series of preferred stock being offered may be redeemed will be described in the applicable prospectus supplement. The preferred stock of a series may be redeemed in such amount or amounts, and at such time or times, if any, as may be provided in respect of that particular series of preferred stock. Preferred stock may be redeemed by the Corporation only to the extent legally permissible.

Conversion Rights

The applicable prospectus supplement will state the terms, if any, on which shares of a series of preferred stock being offered are convertible into shares of our common stock or another series of our preferred stock.

Description of Rights

This section describes the general terms and provisions of the rights to purchase common stock or other securities that we may offer to our shareholders. Rights may be issued independently or together with any other offered security and may or may not be transferable by the person purchasing or receiving the rights. In connection with any rights offering to our shareholders, we may enter into a standby underwriting or other arrangement with one or more underwriters or other persons pursuant to which such underwriters or other person would purchase any offered securities remaining unsubscribed for after such rights offering. Each series of rights will be issued under a separate rights agent agreement to be entered into between us and a bank or trust company, as rights agent, that we will name in the applicable prospectus supplement. The rights agent will act solely as our agent in connection with the certificates relating to the rights that we may issue and will not assume any obligation or relationship of agency or trust for or with any holders of rights certificates or beneficial owners of rights.

The prospectus supplement relating to any rights we offer will include specific terms relating to the offering, including, among others, the date of determining the shareholders entitled to the rights distribution, the aggregated number of rights issued and the aggregate number of shares of common stock or other securities purchasable upon exercise of the rights, the exercise price, the conditions to completion of the offering, the date on which the right to exercise the rights will commence and the date on which the right will expire and any applicable U.S. federal income tax considerations. To the extent that any particular terms of the rights, rights agent agreements or rights certificates described in a prospectus supplement differ from any of the terms described herein, then the terms described herein will be deemed to have been superseded by that prospectus supplement.

Each right would entitle the holder of the rights to purchase for cash the principal amount of shares of common stock or other securities at the exercise price set forth 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 would become void and of no further force or effect.

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 prospectus supplement, we will, as soon as practicable, forward the shares of common stock or other securities 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 shareholders, to or through agents, underwriters or dealers or through a combination of such methods, including pursuant to standby arrangements, as described in the applicable prospectus supplement.

The description in the applicable prospectus supplement and other offering material of any rights we offer will not necessarily be complete and will be qualified in its entirety by reference to the applicable rights agent agreement, which will be filed with the SEC if we offer rights. For more information on how you can obtain copies of the applicable rights agent agreement if we offer rights, see the sections above entitled “Where You can Find More Information” and “Incorporation of Certain Information by Reference.” We urge you to read the applicable rights agent agreement and the applicable prospectus supplement and any other offering material in their entirety.

Plan of distribution

We may sell the securities in any one or more of the following ways:

- directly to one or more purchasers;

- through agents;
- to dealers;
- through underwriters, brokers or dealers; or
- through a combination of any of these methods of sale.

Each time that we use this prospectus to sell our securities, we will also provide a prospectus supplement that contains the specific terms of the offering. We will set forth the terms of the offering of securities in a prospectus supplement, including:

- the name or names of any underwriters, dealers, or agents and the type and amounts of securities underwritten or purchased by each of them;
- the public offering price of the securities and the proceeds to us and any discounts, commissions or concessions allowed or reallowed or paid to dealers; and
- any delayed delivery arrangements.

The offer and sale of the securities described in this prospectus by us, the underwriters, or the third parties described above may be effected from time to time in one or more transactions, including privately negotiated transactions, either:

- at a fixed price or prices, which may be changed;
- at market prices prevailing at the time of sale;
- at prices related to the prevailing market prices; or
- at negotiated prices.

Any public offering price and any discounts or concessions allowed or reallowed or paid to dealers may be changed from time to time.

We may engage in “at the market offerings” as defined in Rule 415 of the Securities Act of 1933, including sales made directly on the Nasdaq Global Select Market, the principal existing trading market for the Corporation’s common stock, and sales made to or through a market maker or through an electronic communications network.

If underwriters are used in the sale of any securities, the securities will be acquired by the underwriters for their own account and may be resold from time to time in one or more transactions, including negotiated transactions, at a fixed public offering price or at varying prices determined at the time of sale. The securities may be either offered to the public through underwriting syndicates represented by managing underwriters, or directly by underwriters. Generally, the underwriters’ obligations to purchase the securities will be subject to certain conditions precedent. The underwriters will be obligated to purchase all of the securities if they purchase any of the securities.

We may sell the securities through agents from time to time. The prospectus supplement will name any agent involved in the offer or sale of our securities and any commissions we pay to them. Generally, any agent will be acting on a best efforts basis for the period of its appointment. Underwriters, dealers and agents may engage in transactions with us, perform services for us in the ordinary course of business.

Unless otherwise specified in the related prospectus supplement, each series of securities will be a new issue with no established trading market, other than the common stock which is listed on the Nasdaq Global Select Market. Any common stock sold pursuant to a prospectus supplement will be listed on the Nasdaq Global Select Market, subject to official notice of issuance, unless our issued and outstanding common stock at the date of the prospectus supplement is listed on another exchange. We may elect to list any series of preferred stock, respectively, on an exchange, but we are not obligated to do so. It is possible that one or more underwriters may make a market in a series of securities, but such underwriters will not be obligated to do so and may discontinue any market making at any time without notice. Therefore, no assurance can be given as to the liquidity of, or the trading market for, any series of preferred stock.

We may authorize underwriters, dealers, or agents to solicit offers by certain purchasers to purchase our securities at the public offering price set forth in the prospectus supplement pursuant to delayed delivery contracts providing for payment and delivery on a specified date in the future. The contracts will be subject only to those conditions set forth in the prospectus supplement, and the prospectus supplement will set forth any commissions or discounts we pay for solicitation of these contracts.

Agents and underwriters may be entitled to indemnification by us against certain civil liabilities, including liabilities under the Securities Act or to contribution with respect to payments that the agents or underwriters may be required to make in respect thereof. Agents and underwriters may be customers of, engage in transactions with, or perform services for us in the ordinary course of business.

We may enter into derivative transactions with third parties, or sell securities not covered by this prospectus to third parties in privately negotiated transactions. If the applicable prospectus supplement indicates in connection with those derivatives then the third parties may sell securities covered by this prospectus and the applicable prospectus supplement, including in short sale transactions. If so, the third party may use securities pledged by us or borrowed from us or others to settle those sales or to close out any related open borrowings of stock, and may use securities received from us in settlement of those derivatives to close out any related open borrowings of securities. The third party in such sale transactions will be an underwriter and will be identified in the applicable prospectus supplement (or a post-effective amendment).

To comply with applicable state securities laws, the securities offered by this prospectus will be sold, if necessary, in such jurisdictions only through registered or licensed brokers or dealers. In addition, securities may not be sold in some states unless they have been registered or qualified for sale in the applicable state or they are in compliance with an available exemption from the registration or qualification requirement.

Legal matters

Certain legal matters in connection with the offering of securities made by this prospectus will be passed upon for us by our special counsel in the Commonwealth of Massachusetts, Murtha Cullina LLP. Certain other legal matters not particular to the Commonwealth of Massachusetts will be passed upon by Hunton & Williams LLP, counsel to Enterprise Bancorp, Inc. Any underwriters will be represented by their own legal counsel named in the applicable prospectus supplement.

Experts

The consolidated financial statements of Enterprise Bancorp, Inc. and subsidiaries as of December 31, 2012 and 2011, and for each of the years in the three-year period ended December 31, 2012, and management’s assessment of the effectiveness of internal control over financial reporting as of December 31, 2012, have been incorporated by reference herein and in the registration statement in reliance upon the reports of KPMG LLP, independent registered public accounting firm, incorporated by reference herein, and upon the authority of said firm as experts in accounting and auditing.