

ENTERPRISE BANCORP INC /MA/
Form 424B5
October 22, 2009

Use these links to rapidly review the document

[TABLE OF CONTENTS](#)

[TABLE OF CONTENTS](#)

[Table of Contents](#)

**Filed Pursuant to Rule 424(B)(5)
Registration No. 333-161828**

**PROSPECTUS SUPPLEMENT
TO PROSPECTUS DATED OCTOBER 21, 2009**

**Common Stock
Subscription Rights to Purchase up to 691,244 Shares of Common Stock**

We are distributing to our stockholders, 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 hold of record as of 5:00 p.m., Lowell, Massachusetts time, on October 21, 2009. Each right will entitle you to purchase 0.0838 of a share of our common stock at a price of \$10.85 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 \$10.85 per share.

We are distributing subscription rights exercisable for up to 691,244 shares. We also reserve the right to issue up to an additional 132,756 shares to accommodate over-subscription requests in the rights offering and/or to facilitate sales of shares to new investors in a supplemental offering that we are undertaking concurrently with the rights offering.

Your subscription rights may be exercised at any time during the period starting on October 22, 2009 and ending at 5:00 p.m., Lowell, Massachusetts time, on November 19, 2009, unless we extend the rights offering period, which we may do in our sole discretion. 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.

At the expiration of the rights offering, and after taking into consideration all over-subscription requests, we may sell shares of our common stock to the public at \$10.85 per share in the supplemental offering. We anticipate that, if we offer shares in the supplemental 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 offering to a limited number of institutional investors. Under no circumstances will we issue more than 824,000 shares in the combined rights and supplemental offerings. The supplemental offering will end on December 1, 2009, subject to extension in our sole discretion.

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

The shares of our common stock are being offered in both the rights offering and the supplemental offering directly by us without the services of an underwriter or selling agent.

Our shares are traded on the NASDAQ Global Market under the symbol "EBTC". On October 20, 2009, the closing sale price for our shares was \$11.00 per share. All shares issued in either the rights offering or the supplemental 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-18 of this prospectus supplement and on page 9 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: \$10.85 per share

	Per Share	Total(1)
Gross proceeds	\$10.85	\$7,500,000
Net proceeds(2)	\$10.56	\$7,300,000

(1) Assumes that the rights offering is fully subscribed and that the maximum of 691,244 shares under the basic subscription rights are sold. We reserve the right to issue up to 132,756 additional shares as described further in this prospectus supplement.

(2) Assumes total estimated offering expenses of \$200,000.

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 FDIC, the Deposit Insurance Fund or any other governmental agency or fund.

The date of this prospectus supplement is October 21, 2009

Table of Contents

TABLE OF CONTENTS

Section	Page
<u>QUESTIONS AND ANSWERS RELATING TO THE RIGHTS OFFERING</u>	<u>S-3</u>
<u>SUMMARY</u>	<u>S-11</u>
<u>CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS</u>	<u>S-17</u>
<u>RISK FACTORS</u>	<u>S-18</u>
<u>USE OF PROCEEDS</u>	<u>S-22</u>
<u>PRICE RANGE OF COMMON STOCK AND DIVIDEND POLICY</u>	<u>S-23</u>
<u>THE RIGHTS OFFERING</u>	<u>S-24</u>
<u>THE SUPPLEMENTAL OFFERING</u>	<u>S-34</u>
<u>DESCRIPTION OF OUR COMMON STOCK</u>	<u>S-36</u>
<u>CERTAIN MATERIAL U.S. FEDERAL INCOME TAX CONSIDERATIONS</u>	<u>S-38</u>
PLAN OF DISTRIBUTION	S-41
LEGAL MATTERS	S-41
EXPERTS	S-41
INCORPORATION OF CERTAIN INFORMATION BY REFERENCE	S-42
WHERE YOU CAN FIND MORE INFORMATION	S-43

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.

Table of Contents

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 Corporation, and our business.

What is being offered in the rights offering?

We are distributing, at no cost or charge to our stockholders, subscription rights to purchase shares of our common stock. These rights may be exercised only by the stockholders 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., Lowell, Massachusetts time on October 21, 2009, 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 0.0838 of a share of our common stock at a subscription price equal to \$10.85 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 will be returned, without interest or penalty, as soon as practicable.

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 stockholders 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, in which many larger regional and national banking institutions have tightened their lending standards and concentrated on addressing their deteriorated asset quality and reduced capital levels, has created significant opportunities for well-positioned community banks, such as Enterprise 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 offering, was in the best interests of the Corporation and our stockholders.

Table of Contents

How was the subscription price 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 stockholders might be willing to participate in a rights offering offered on a pro rata basis to all stockholders 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 closing of the rights offering.

What is the basic subscription privilege?

For each right that you own, you will have a basic subscription privilege to buy from us 0.0838 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., Lowell, Massachusetts time, on the record date, you would receive the same number of subscription rights and would have the right to purchase 83.8 shares of common stock (rounded down to 83 shares) for \$10.85 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 stockholders 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.

What are the limitations on the over-subscription opportunity?

We reserve the right to reject in whole or in part any over-subscription requests, regardless of the availability of shares to satisfy these requests. Subject to this right, we will honor over-subscription requests in full to the extent sufficient shares are available following the exercise of rights under the basic subscription privilege, taking into account our right to issue up to 132,756 additional shares to accommodate over-subscription requests and/or to facilitate sales of shares to new investors in the supplemental offering that we are undertaking concurrently with the rights offering and our right to issue some or all of the shares that we may issue beyond the number necessary to satisfy our stockholders' exercise of their basic subscription rights solely to new investors in the supplemental offering. If over-subscription requests exceed the shares that are available to satisfy the requests, then,

Table of Contents

subject to our right to reject in whole or in part any over-subscription request, we will allocate the available shares pro rata based on the number of shares each over-subscribing stockholder purchased under the basic subscription privilege. Any excess subscription payments will be returned, without interest or penalty, as soon as practicable after the completion 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 \$10.85 per share subscription price in the supplemental offering. We anticipate that, if we offer shares of our common stock in the supplemental 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 offering to a limited number of institutional investors.

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. However, if you choose not to fully exercise your basic subscription privilege and other stockholders fully exercise their basic subscription privilege, the percentage of our common stock owned by these other stockholders will increase relative to your ownership percentage, and your voting and other rights will likewise be diluted. In addition, if you do not exercise your basic subscription privilege in full, you will not be entitled to subscribe to purchase additional shares pursuant to the over-subscription opportunity and your ownership percentage in our common stock and related voting and other rights may be further diluted.

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 October 22, 2009, through the expiration date for the rights offering, which is 5:00 p.m., Lowell, Massachusetts time, on November 19, 2009. 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. Although we have the option of extending the expiration date of the subscription period at our sole discretion, we do not currently intend to do so.

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.

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 held on the record date and by the extent to which other stockholders 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 offering.

Table of Contents

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 more than 10.0% 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.

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 Cancellation".

Can the rights offering be cancelled?

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

How do I exercise my subscription rights?

If you wish to participate in the rights offering, you must properly complete the enclosed subscription rights certificate and deliver it, along with the full subscription price (including any amounts in respect of your over-subscription request), to the subscription agent before 5:00 p.m., Lowell, Massachusetts time, on November 19, 2009. If you use the mail, we recommend that you use insured, registered mail, return receipt requested. If you cannot deliver your subscription rights certificate to the subscription agent prior to the expiration of the rights offering period, you may follow the guaranteed delivery procedures described in the subsection below entitled "The Rights Offering Notice of Guaranteed Delivery".

If you send a payment that is insufficient to purchase the number of shares you requested, or if the number of shares you requested is not specified in the forms, the payment received will be applied to exercise your basic subscription right and, if applicable, any over-subscription request that we have accepted to the fullest extent possible based on the amount of the payment received, subject to the elimination of fractional shares. If the payment exceeds the subscription price for the full exercise of your basic subscription right and any applicable over-subscription request that we have accepted, or if you subscribe for more shares than you are eligible to purchase pursuant to the over-subscription opportunity, then the excess will be returned to you as soon as practicable. You will not receive interest on any payments refunded to you under the rights offering.

If the rights offering is not completed, will my subscription payment be refunded to me?

Yes. The subscription agent will hold all funds it receives in a segregated bank account until completion of the rights offering. If the rights offering is not completed, the subscription agent will return, without interest or penalty, as soon as practicable all subscription payments. If you own shares in "street name", it may take longer for you to receive payment because the subscription agent will return payments through the record holder of the shares.

Table of Contents

What form of payment must I use to pay the subscription price?

You must timely pay the full subscription price for the full number of shares of common stock you wish to acquire under the basic subscription privilege and any over-subscription request by delivering to the subscription agent a certified or cashier's check, a bank draft drawn on a U.S. bank, a U.S. postal or express money order, or a personal check that clears before the expiration date of the rights offering. If you wish to use any other form of payment, then you must obtain the prior approval of the subscription agent and make arrangements in advance with the subscription agent for the delivery of such payment.

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". 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. Your bank, broker or other nominee holder is the holder of the shares you own and must exercise the subscription rights on your behalf for shares you wish to purchase.

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

No. You will not be subject to any stockholder agreement that restricts your ability to sell or transfer any new shares of common stock acquired by you in the rights offering. Stockholders who are directors, officers and other employees of the Corporation and the Bank may be subject to certain trading restrictions with respect to shares that they own or control under 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.

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

No. All exercises of subscription rights are irrevocable by the stockholders, 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. However, we may cancel, extend or otherwise amend the rights offering at any time prior to the expiration date.

Does exercising my subscription rights involve risk?

Yes. The exercise of your subscription rights involves risks. Exercising your subscription rights involves the purchase of additional shares of our common stock and should be considered as carefully as you would consider other equity investments. Among other things, 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.

Table of Contents

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

No. Our Board of Directors is making no recommendations regarding your exercise of the subscription rights. Stockholders who exercise subscription rights risk investment loss on new money invested. We cannot assure you that the trading price for our common stock will be above the subscription price at the time of exercise or at the expiration of the rights offering period or that anyone purchasing shares at the subscription price will be able to sell those shares in the future at the same price or a higher price. 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?

We are not charging any fees or sales commissions to issue subscription rights to you or to issue shares to you if you exercise your subscription rights. If you exercise your subscription rights through a broker or other record holder of your shares, you are responsible for paying any fees that person may charge.

How do I exercise my subscription rights if I live outside of the United States or have an army post office or foreign post office address?

The subscription agent will hold subscription rights certificates for stockholders having addresses outside the United States or who have an army post office or foreign post office address. In order to exercise subscription rights, our foreign stockholders and stockholders with an army post office or foreign post office address must notify the subscription agent and timely follow other procedures described below in the subsection of this prospectus supplement entitled "The Rights Offering Foreign and Other Stockholders".

When will I receive my new shares of common stock?

Unless you request otherwise in writing, 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 the issuance of the shares of common stock purchased pursuant to the basic subscription privilege. 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.

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".

Table of Contents

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

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

As of October 20, 2009, there were 8,242,291 shares of our common stock outstanding. We will issue up to 691,244 shares of common stock in the rights offering, depending on the number of subscription rights that are exercised, and we may issue up to 132,756 additional shares to satisfy over-subscription requests and/or to facilitate sales of shares to new investors in the supplemental 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 October 20, 2009, if we issue all 691,244 shares of common stock available for the exercise of basic subscription rights in the rights offering, we would have 8,933,535 shares of common stock outstanding following the completion of the rights offering, and if we issue up to the maximum number of 824,000 shares in order to satisfy over-subscription requests and/or to facilitate sales of shares to new investors in the supplemental offering, we would have 9,066,291 shares of common stock outstanding following the completion of the combined rights and supplemental offerings.

How much money will we receive from the rights offering?

The net proceeds to us will depend on the number of subscription rights that are exercised in the rights offering, including oversubscription requests, and whether additional shares are sold in the supplemental offering. If we issue all 691,244 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 \$7.3 million, and if we issue up to the maximum number of 824,000 shares in order to satisfy over-subscription requests and/or to facilitate sales of shares to new investors in the supplemental offering, the net proceeds to us, after deducting estimated offering expenses, will be approximately \$8.7 million. We estimate that the expenses of the combined rights and supplemental offerings will be approximately \$200,000. 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".

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 Inc., at (888) 219-8475, or you may contact Katelin Deschenes, Vice President Finance, of Enterprise Bank at (978) 656-5584.

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

We will accept subscriptions for unsold shares of common stock during the pendency of the rights offering. Upon completion of the rights offering, subscriptions for the shares of common stock offered in the supplemental 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

Table of Contents

have been properly exercised and any over-subscription requests that we have accepted in the rights offering. We reserve the right to accept or reject in whole or in part any subscription we receive in the supplemental offering. All subscription proceeds we receive in the supplemental offering will be deposited in a segregated noninterest-bearing account maintained by the subscription agent until the time that we accept or reject those subscriptions. The supplemental offering will commence concurrently with the rights offering on October 22, 2009 and will continue for approximately one week following the expiration date for the rights offering, or until 5:00 p.m., Lowell, Massachusetts time, on December 1, 2009, subject to extension in our sole discretion. In the event the supplemental offering is cancelled, all subscription payments we received will be returned, without interest or deduction, as soon as practicable.

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

You must subscribe for at least 1,000 shares of common stock in the supplemental 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. You may not revoke or change your subscription after you have submitted your subscription agreement. We may choose to reject your subscription entirely or accept it for only a portion of the shares for which you subscribe.

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 offering if such purchase would result in such person or entity or group acting in concert owning or controlling in excess of 10.0% of our outstanding shares of common stock following the completion of the supplemental 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.

Table of Contents

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". In this prospectus supplement, all references to the "Corporation", "we", "us" and "our" refer to Enterprise Bancorp, Inc., a Massachusetts corporation, and its subsidiaries, unless the context otherwise requires or where otherwise indicated. When we refer to "Enterprise Bank" in this prospectus supplement, 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".

Company Information

Overview

The Corporation is a Massachusetts corporation and the holding company for Enterprise Bank. The only office of the Corporation, and its principal place of business, is located at the main office of the Bank at 222 Merrimack Street, Lowell, Massachusetts 01852, and the telephone number at that address is (978) 459-9000.

Our website address is www.enterprisebanking.com. **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.**

The Corporation does not engage in any active business activities, other than indirectly through its ownership of the Bank. In the future, the Corporation may become an operating company or acquire other banking institutions or companies engaged in bank-related or otherwise permissible nonbanking activities. However, we do not currently have any definitive plans to engage in any such activities or acquisitions, and we expect that our primary business for the foreseeable future will be the ongoing business of the Bank.

The Bank is a Massachusetts-chartered commercial bank, which commenced business on January 3, 1989. The Bank offers a range of commercial and consumer loan products, deposit and cash management products, investment advisory services, trust and insurance services.

Market Area

Our primary market area is composed of the Merrimack Valley and North Central regions of Massachusetts and South Central New Hampshire. Including our main office in Lowell, the Bank currently operates a network of seventeen offices in these regions of Massachusetts and New Hampshire.

Competition

We face strong competition within our market area from a variety of different types of banking and financial services organizations, which include the following:

national and larger regional banks;

local savings banks, commercial banks, cooperative banks and credit unions; and

Table of Contents

other providers of financial services, including consumer finance companies, mortgage brokers, private lenders, insurance companies, securities brokerage firms, institutional mutual funds, registered investment advisors, and Internet-based banks and other financial services providers.

Larger banks have certain competitive advantages, including the ability to make larger loans to a single borrower and to devote greater financial resources to multiple strategic initiatives, including developing and offering a broad range of automated banking services, maintaining numerous branch offices and mounting extensive advertising and promotional campaigns.

Notwithstanding the substantial competition we face, we believe that we have established a solid reputation within our market area for providing consistent, responsive and personal service based upon our understanding of the financial needs of our customers. We believe that our reputation in the market has been enhanced in recent years by the acquisitions of other independent banks by larger regional and national banking institutions and the ongoing consolidation of competitors' operations and services. We also believe that the current economic environment, in which many larger regional and national banking institutions have tightened their lending standards and concentrated on addressing their deteriorated asset quality and reduced capital levels, has created significant opportunities for well-positioned community banks, such as Enterprise Bank, to expand geographically and to increase market share.

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., Lowell, Massachusetts time, on the record date, October 21, 2009, 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. These rights may be exercised only by you, and cannot be sold, transferred or assigned to anyone else.

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.

Basic Subscription Privilege

For each right that you own, you will have a basic subscription privilege to buy from us 0.0838 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.

S-12

Table of Contents

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 and up to 132,756 additional shares that we may elect to issue in our sole discretion to accommodate over-subscription requests and/or to facilitate sales of shares to new investors in the supplemental offering that we are undertaking concurrently with this subscription 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.

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 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 or penalty, 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 equal to \$10.85. To be effective, any payment related to the exercise of a subscription right must clear prior to the expiration of the rights offering period.

Record Date

October 21, 2009

Expiration Date

The subscription rights will expire at 5:00 p.m., Lowell, Massachusetts time, on November 19, 2009, unless the expiration date is extended. We reserve the right to extend the subscription rights period at our sole discretion.

Table of Contents

Supplemental Offering	If shares of common stock remain available for sale after the closing 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 \$10.85 per share subscription price. We anticipate that, if we offer shares in the supplemental 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 offering to a limited number of institutional investors.
Procedure for Exercising Subscription Rights	The subscription rights may be exercised at any time during the subscription period, which commences on October 22, 2009. 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., Lowell, Massachusetts time, on November 19, 2009, unless the expiration date is extended. If you use the mail, we recommend that you use insured, registered mail, return receipt requested. 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".
Net Proceeds of Offering	The net proceeds to us will depend on the number of subscription rights that are exercised, including over-subscription requests, and the number of shares, if any, that are sold in the supplemental offering. If we issue all 691,244 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 \$7.3 million, and if we issue up to the maximum number of 824,000 shares in order to satisfy over-subscription requests and/or to facilitate sales of shares to new investors in the supplemental offering, the net proceeds to us, after deducting estimated offering expenses, will be approximately \$8.7 million. We estimate that the expenses of the combined rights and supplemental offerings will be approximately \$200,000. 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.

Table of Contents

No Revocation of Exercise by Stockholders	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 Cancellation".
Amendment; Cancellation	We may amend the terms of the rights offering or extend the rights offering period. We also reserve the right to cancel the rights offering at any time prior to the expiration date for any reason. If the rights offering is cancelled, all subscription payments received by the subscription agent will be returned, without interest or penalty, as soon as practicable to those persons who subscribed for shares in the rights offering.
No Board Recommendation	Our Board of Directors is making no recommendations 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".
Issuance of Common Stock	If you purchase shares of common stock through the rights offering, we will issue those shares to you in book-entry, or uncertificated, form as soon as practicable after the completion of the rights offering. Unless you request otherwise in writing, stock certificates will not be issued for shares of our common stock purchased in the rights offering.
Listing of Common Stock	Our common stock trades on the NASDAQ Global Market under the symbol "EBTC", and the shares to be issued in connection with the rights offering will also be listed on the NASDAQ Global Market under the same symbol.
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 Information Agent	Computershare Trust Company, N.A. Georgeson Inc.
Shares of Common Stock Outstanding Before the Rights Offering	As of October 20, 2009, 8,242,291 shares of our common stock were outstanding.

Table of Contents

Shares of Common Stock Outstanding After Completion of the Rights Offering	We will issue up to 691,244 shares of common stock in the rights offering, depending on the number of subscription rights that are exercised, and we may issue up to 132,756 additional shares to satisfy over-subscription requests and/or to facilitate sales of shares to new investors in the supplemental 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 October 20, 2009, if we issue all 691,244 shares of common stock available for the exercise of basic subscription rights in the rights offering, we would have 8,933,535 shares of common stock outstanding following the completion of the rights offering, and if we issue up to the maximum number of 824,000 shares in order to satisfy over-subscription requests and/or to facilitate sales of shares to new investors in the supplemental offering, we would have 9,066,291 shares of common stock outstanding following the completion of the combined rights and supplemental offerings.
Risk Factors	Stockholders considering making an investment by exercising subscription rights in the rights offering should carefully read and consider the information set forth in the section entitled "Risk Factors" beginning on page S-18 of this prospectus supplement and page 8 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 Report on Form 10-K filed with the Securities and Exchange Commission on March 16, 2009 and any updates of those Risk Factors contained in our quarterly reports on Form 10-Q, before making a decision to invest in our common stock.
Fees and Expenses	We will pay the fees and expenses related to the rights offering.

Table of Contents

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus supplement and the documents incorporated by reference may contain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. Forward-looking statements often include the words "expect", "intend", "project", "estimate", "anticipate", "will", "plan", "believe", "continue", "predict", "contemplate", "forecast", "target", "potentially", "probably", "outlook" or similar expressions or future or conditional verbs such as "may", "will", "should", "would" and "could." These forward-looking statements are subject to known and unknown risks, uncertainties and other factors that could cause the actual results to differ materially from the forward-looking statements, including without limitation:

the credit risks of lending activities, including changes in the level and trend of loan delinquencies and write-offs;

the overall quality of the composition of our loan and securities portfolios;

changes in general economic conditions, either nationally or in our market areas;

changes in the levels of general interest rates, deposit interest rates, our net interest margin and funding sources, including our ability to maintain and attract new deposits;

fluctuations in the demand for loans, the number of unsold properties, including residential and commercial properties, and fluctuations in real estate values in our market areas;

results of examinations of the Corporation by the Federal Reserve Board or of the Bank by the Federal Deposit Insurance Corporation, or FDIC, and the Massachusetts Commissioner of Banks, including the possibility that any of these regulatory authorities may, among other things, require us to increase our allowance for loan losses and/or regulatory capital levels or to write-down assets;

our ability to control operating costs and expenses;

our ability to manage loan and lease delinquency rates;

our ability to retain key members of our senior management team;

costs and effects of litigation, including settlements and judgments;

increased competitive pressures among financial services companies;

changes in consumer and business spending, borrowing and savings habits and demand for financial services in our market area;

legislative or regulatory changes that adversely affect our business;

Edgar Filing: ENTERPRISE BANCORP INC /MA/ - Form 424B5

monetary and fiscal policies of the Board of Governors of the Federal Reserve System and the U.S. Government and other governmental initiatives affecting the financial services industry;

adverse changes in the securities markets;

inability of key third-party providers to perform their obligations to us;

changes in accounting policies and practices, as may be adopted by the financial institution regulatory agencies, the Financial Accounting Standards Board, or other relevant standards setters;

war or terrorist activities; and

S-17

Table of Contents

other economic, competitive, governmental, regulatory, and technological factors affecting our operations, pricing, products and services and the other risks described elsewhere in this prospectus and the incorporated documents and in our other filings with the SEC.

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 financial position and our results of operations.

Any forward-looking statements are based upon management's beliefs and assumptions at the time they are made. We undertake no obligation to publicly update or revise any forward-looking statements included or incorporated by reference in this prospectus or to update the reasons why actual results could differ from those contained in such statements, whether as a result of new information, future events or otherwise. In light of these risks, uncertainties and assumptions, the forward-looking statements discussed in this prospectus supplement, the accompanying prospectus and the documents incorporated by reference might not occur, and you should not put undue reliance on any forward-looking statements.

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 Annual Report on Form 10-K filed with the Securities and Exchange Commission on March 16, 2009 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, results of operations and financial condition 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

If you do not fully exercise your basic subscription privilege, your interest in us will 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 691,244 shares of common stock are issuable in the rights offering, with up to an additional 132,756 shares that we may issue to satisfy over-subscription requests and/or to facilitate sales of shares to new investors in the supplemental 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 will 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 stockholders fully exercise their basic subscription privilege and their over-subscription opportunity, or we otherwise issue additional shares to new investors in the supplemental offering, the percentage of our common stock owned by all other stockholders will increase. For example, if you own 82,422 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 stockholders 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 offering, then your percentage ownership will be reduced to approximately 0.91%. In addition, if you do not exercise

Table of Contents

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 stockholders might be willing to participate in a rights offering offered on a pro rata basis to all stockholders 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. On October 20, 2009, the closing sale price for our common stock on the NASDAQ Global Market was \$11.00 per share. 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 the rights 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 closing of the rights offering.

Because we do not have any formal commitments from any of our stockholders 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 stockholders to participate in the rights offering, and we cannot assure you that our other stockholders will exercise all or any part of their basic subscription privilege or their over-subscription opportunity. If our stockholders 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 rights offering 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 rights offering, the announcement of the rights offering and its terms, including the subscription price, together with the number of shares of common stock we could issue if the offering is completed, may result in an immediate decrease in the trading price of our common stock. This decrease may continue after the completion of the rights offering. If that occurs, your purchase of shares of our common stock in the rights offering 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.

Table of Contents

We may cancel the rights offering at any time prior to the expiration of the rights offering period, 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 cancel the rights offering at any time prior to the expiration of the rights offering period. If we elect to cancel the rights offering, neither we nor the subscription agent will have any obligation with respect to the subscription rights except to return to you, without interest or penalty, as soon as practicable any subscription payments. In addition, we may suffer reputational harm if the rights offering is cancelled prior to the expiration date.

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

Once you exercise your subscription rights, you may not revoke or change the exercise. The trading price of our common stock may decline before the subscription rights expire. If you exercise your subscription rights, and, afterwards, the trading price of our common stock decreases below the \$10.85 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 October 20, 2009 was \$11.00 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 subscription rights offering period.

You may not be able to resell any shares of our common stock that you purchase pursuant to the exercise of subscription rights immediately upon expiration of the subscription rights offering period or be able to sell your shares at a price equal to or greater than the subscription price.

If you exercise subscription rights, you may not be able to resell the common stock purchased by exercising your subscription rights until you, or your broker, custodian bank or other nominee, if applicable, have received those shares. Moreover, you will have no rights as a stockholder of the shares you purchased in the rights offering until we issue the shares to you. Although we will endeavor to issue the shares as soon as practicable after completion of the rights offering, including the guaranteed delivery period and after all necessary calculations have been completed, there may be a delay between the expiration date of the rights offering and the time that the shares are issued. In addition, we cannot assure you that, following the exercise of your subscription rights, you will be able to sell your common stock at a price equal to or greater than the subscription price.

Because we will have broad discretion over the use of the net proceeds from the rights offering, 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 rights offering, 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 to

Table of Contents

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.

Stockholders 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, send 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.

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.

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

Any uncertified personal check used to pay the subscription price in the rights offering must clear prior to the expiration date of the rights offering, and the clearing process may require five or more business days. As a result, if you choose to use an uncertified personal check to pay the subscription price, it may not clear prior to the expiration date, in which event you would not be eligible to exercise your subscription rights. You may eliminate this risk by paying the subscription price by certified or cashier's check or bank draft drawn on a U.S. bank or by a U.S. postal or express money order.

Table of Contents

USE OF PROCEEDS

The net proceeds to us from the combined rights and supplemental offerings will depend on the number of subscription rights that are exercised in the rights offering, including oversubscription requests, and whether additional shares are sold in the supplemental offering. If we issue all 691,244 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 \$7.3 million, and if we issue up to the maximum number of 824,000 shares in order to satisfy over-subscription requests and/or to facilitate sales of shares to new investors in the supplemental offering, the net proceeds to us, after deducting estimated offering expenses, will be approximately \$8.7 million. We estimate that the expenses of the combined rights and supplemental offerings will be approximately \$200,000.

Our receipt of the net proceeds from the combined rights and supplemental 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.

The specific net proceeds that we receive in the combined rights and supplemental offerings may be used for a variety of different purposes, including:

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 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.

Table of Contents**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 ended December 31, 2009:		
Third Quarter	\$ 14.93	\$ 10.98
Second Quarter	14.64	8.55
First Quarter	11.30	8.48
Year ended December 31, 2008:		
Fourth Quarter	\$ 12.88	\$ 9.50
Third Quarter	13.25	10.50
Second Quarter	14.00	11.42
First Quarter	14.05	12.45
Year ended December 31, 2007:		
Fourth Quarter	\$ 14.89	\$ 12.00
Third Quarter	16.00	12.42
Second Quarter	16.39	15.17
First Quarter	16.84	15.17

We have paid cash dividends on our common stock without interruption since 1992. In 2009, we have paid a quarterly cash dividend of \$0.095 per share in each of the first three quarters, including our most recent quarterly cash dividend on September 1, 2009 to shareholders of record on August 11, 2009. We have also announced, on October 16, 2009, that we will pay a cash dividend of \$0.095 per share on December 1, 2009 to shareholders of record on November 10, 2009. We also paid a quarterly cash dividend of \$0.09 per share in each of March, June, September and December of 2008 and of \$0.08 per share in each of March, June, September and December of 2007. 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 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

Table of Contents

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 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, including the information set forth under the heading "Risk Factors" in our Annual Report on Form 10-K filed with the Securities and Exchange Commission on March 16, 2009 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., Lowell, Massachusetts time, on October 21, 2009, 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., Lowell, Massachusetts 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 October 22, 2009, through the expiration date for the rights offering, which is 5:00 p.m., Lowell, Massachusetts time, on November 19, 2009. You are not required to exercise any of your 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. 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 will be returned, without interest or penalty, as soon as practicable.

Basic Subscription Privilege

Each subscription right will entitle you to purchase 0.0838 of a share of our common stock at a subscription price of \$10.85 per whole share. You may exercise any number of your subscription rights, or you may choose not to exercise any subscription rights.

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 132,756 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 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

Table of Contents

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. You must exercise your over-subscription opportunity 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 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. 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 or penalty, 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 \$10.85. 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 stockholders might be willing to participate in a rights offering offered on a pro rata basis to all stockholders 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

Table of Contents

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 closing of the rights offering.

Expiration Time and Date; Amendments

The subscription rights will expire at 5:00 p.m., Lowell, Massachusetts time, on November 19, 2009, unless we extend it. We reserve the right to extend the subscription period at our sole discretion. 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., Lowell, Massachusetts time, on November 19, 2009, 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". Unless you request otherwise in writing, all shares purchased in the rights offering will be issued in book-entry, or uncertificated, form. Any subscription payments for shares not allocated or validly purchased will be returned to you, without interest or penalty, 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 stockholders 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, in which many larger regional and national banking institutions have tightened their lending standards and concentrated on addressing their deteriorated asset quality and reduced capital levels, 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 offering, was in the best interests of the Corporation and our stockholders.

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 oversubscription requests, and whether additional shares are sold in the supplemental offering. If we issue all 691,244 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 \$7.3 million, and if we issue up to the maximum number of 824,000 shares in order to satisfy over-subscription requests and/or to facilitate sales of shares to new investors in the supplemental offering, the net proceeds to us, after deducting estimated offering expenses, will

Table of Contents

be approximately \$8.7 million. We estimate that the expenses of the combined rights and supplemental offerings will be approximately \$200,000.

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 forward 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., Lowell, Massachusetts time, on November 19, 2009. 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.

Payment Method

Your payment of the subscription price must be made in U.S. dollars for the full number of shares of common stock you wish to acquire under the basic subscription privilege and the over-subscription opportunity. Your payment must be delivered in one of the following ways:

uncertified personal check payable to "Computershare Trust Company, N.A. (acting as subscription agent for Enterprise Bancorp, Inc.)";

certified or cashier's check or bank draft drawn upon a U.S. bank and payable to "Computershare Trust Company, N.A. (acting as subscription agent for Enterprise Bancorp, Inc.)"; or

Table of Contents

U.S. postal or express money order payable to "Computershare Trust Company, N.A. (acting as subscription agent for Enterprise Bancorp, Inc.)".

If you wish to use any other form of payment, then you must obtain the prior approval of the subscription agent and make arrangements in advance with the subscription agent for the delivery of such payment.

Receipt of Payment

Your payment will be considered received by the subscription agent only upon:

clearance of any uncertified personal check deposited by the subscription agent; or

receipt by the subscription agent of any certified check or cashier's check or bank draft drawn upon a U.S. bank or any U.S. postal or express money order.

Payment received after the expiration of the rights offering period will not be honored, and, in that case, the subscription agent will return your payment to you, without interest or penalty, as soon as practicable.

Clearance of Uncertified Personal Checks

If you are paying by uncertified personal check, please note that payment will not be deemed to have been received by the subscription agent until the check has cleared, which could take at least five or more business days to clear. If you wish to pay the subscription price by uncertified personal check, we urge you to make payment sufficiently in advance of the time the rights offering expires to ensure that your payment is received by the subscription agent and clears by the rights offering expiration date. We urge you to consider using a certified or cashier's check or bank draft drawn on a U.S. bank or U.S. postal or express money order.

Instructions for Completing Your Subscription Rights Certificate

You should read the instruction letter accompanying the subscription rights certificate carefully and strictly follow it. **Do not send 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.

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 send those certificates and payments by overnight courier or by registered mail, properly insured, with return receipt requested, and that a sufficient number of days be allowed to ensure delivery to the subscription agent and clearance of payment before the expiration of the subscription period for the rights offering. Because uncertified personal checks may take at least five or more business days to clear, we strongly urge you to pay or arrange for payment by means of certified or cashier's check or bank draft or U.S. postal or express money order to avoid missing the opportunity to exercise your subscription rights should you decide to exercise your subscription rights.

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

Table of Contents

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 or penalty, as soon as practicable after the expiration date of the rights offering.

Conditions and Cancellation

We reserve the right to cancel the rights offering on or prior to the expiration date of the rights offering for any reason. We may cancel, 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 cancel the rights offering, in whole or in part, all affected subscription rights will expire without value, and all subscription payments received by the subscription agent will be returned, without interest or penalty, as soon as practicable.

Cancellation Rights

Our Board of Directors may cancel, extend or otherwise amend the rights offering at its sole discretion at any time prior to the time the rights offering expires for any reason. If we cancel the rights offering, we will issue a press release notifying stockholders of the cancellation, and any funds you paid to the subscription agent will be returned, without interest or penalty, as soon as practicable.

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 Computershare as follows:

<i>By First Class Mail:</i>	<i>By Express Mail or Overnight Delivery:</i>
Computershare Trust Company, N.A. Corporate Actions Voluntary Offer P.O. Box 43011 Providence, RI 02940-3011	Computershare Trust Company, N.A. Corporate Actions Voluntary Offer 250 Royall Street, Suite V Canton, MA 02021
<i>By facsimile transmission (for eligible institutions only):</i>	
(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 Inc., the information agent, at (888) 219-8475 or to Katelin Deschenes, Vice President Finance, Enterprise Bank at (978) 656-5584.

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.

Table of Contents

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 other expenses incurred in connection with the exercise of the subscription rights. Neither the subscription agent nor we will pay such expenses.

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 or penalty, 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, or 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

Table of Contents

Enterprise Bancorp, Inc. Rights Certificates" distributed with your subscription rights certificates; 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 Enterprise Bancorp, Inc. Rights Certificates, 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 Inc., the information agent, at (888) 219-8475 to request any copies of the form of Notice of Guaranteed Delivery.

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 Enterprise Bancorp, Inc. Rights Certificates or the Notice of Guaranteed Delivery, you should contact the information agent, Georgeson Inc., at (888) 219-8475, or you may contact Katelin Deschenes, Vice President Finance, of Enterprise Bank at (978) 656-5584.

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.

Table of Contents

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 cancel 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.

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 cancelled. If the rights offering is cancelled for any reason, the subscription agent will return this money to subscribers, without interest or penalty, as soon as practicable.

Certificates for Shares of Common Stock

Unless you request otherwise in writing, 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 stockholder 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.

Stockholder Agreements

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

Table of Contents

Foreign and Other Stockholders

We will not mail subscription rights certificates to stockholders 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 stockholders and stockholders with an army post office or foreign post office address must notify the subscription agent prior to 11:00 a.m., Lowell, Massachusetts 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 sending 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 Limitation

We will not be required to issue to you shares of our common stock pursuant to the rights offering if, in our opinion, you are required to obtain prior clearance or approval from, or submit a prior notice to, any state or federal regulatory authorities to acquire, own or control the shares and if, at the time the rights offering expires, we determine that you have not properly obtained such clearance or approval or submitted such notice.

U.S. Federal Income Tax Treatment of Subscription Rights Distribution

Based upon discussions with our advisors, we believe that our distribution or any stockholder's exercise of these subscription rights to purchase shares of common stock should generally not be taxable to our stockholders. See the section below entitled "Certain Material U.S. Federal Income Tax Considerations".

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.

No Recommendation to Subscription Rights Holders

Our Board of Directors is making no recommendations 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

Table of Contents

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 8,242,291 shares of our common stock outstanding as of October 20, 2009, 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 691,244 shares of common stock available for the exercise of basic subscription rights in the rights offering, we would have 8,933,535 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 8.39%, and if we issue up to the maximum number of 824,000 shares in order to satisfy over-subscription requests and/or to facilitate sales of shares to new investors in the supplemental offering, we would have 9,066,291 shares of common stock outstanding following the completion of the combined rights and supplemental offerings, which would represent an increase in the number of outstanding shares of our common stock of approximately 9.99%.

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 OFFERING

Acceptance of Subscriptions During Pendency of Rights Offering

We will permit certain persons and entities who are not stockholders eligible to participate in the rights offering to submit subscriptions to purchase 1,000 or more shares of our common stock at a purchase price of \$10.85 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 offering.

We anticipate that, if we offer shares of our common stock in the supplemental 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 offering to a limited number of institutional investors.

Prospective purchasers should complete, date and sign the subscription agreement that accompanies this prospectus supplement and return it, together with a check, bank draft or money order payable to "Computershare Trust Company, N.A. (acting as subscription agent for Enterprise

Table of Contents

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".

SUPPLEMENTAL OFFERING SUBSCRIPTIONS ARE BINDING ON SUBSCRIBERS.

If you send an uncertified personal check, payment will not be deemed to have been received by the subscription agent until the check has cleared. If you send a certified or cashier's check or bank draft, drawn on a U.S. bank, or a U.S. postal or express money order, payment will be deemed to have been received immediately upon receipt of such instruments.

Any uncertified personal check used to pay for shares of our common stock must clear the appropriate financial institutions prior to 5:00 p.m., Lowell Massachusetts time, on December 1, 2009, which is the expiration date of the supplemental offering. The clearance of an uncertified personal check may require five or more business days. Accordingly, persons who wish to acknowledge their subscription by means of an uncertified personal check are urged to make payment sufficiently in advance of the expiration of the supplemental offering to ensure such payment is received and clears by such date.

If you wish to use any other form of payment in subscribing for shares in the supplemental offering, then you must obtain the prior approval of the subscription agent and make arrangements in advance with the subscription agent for the delivery of such payment.

Expiration Date and Cancellation Rights

The supplemental offering will expire approximately one week following the expiration of the rights offering, or at 5:00 p.m., Lowell, Massachusetts time, on December 1, 2009, unless we extend the supplemental offering in our sole discretion.

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

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 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 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.

Escrow Arrangements; Return of Funds

The subscription agent will hold funds received with a subscription in connection with the supplemental 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 offering is cancelled. If the supplemental offering is cancelled, the subscription agent will return the subscription payments, without interest or deduction, as soon as practicable.

Table of Contents

No Revocation or Change

Once you submit your subscription and payment in connection with the supplemental offering, you will not be allowed to revoke your subscription or request a refund of monies paid. All subscriptions delivered pursuant to the supplemental 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 offering unless you are certain that you wish to purchase shares of our common stock at the subscription price.

DESCRIPTION OF OUR COMMON STOCK

Total Authorized Capital Stock

As of October 20, 2009, our authorized capital stock was composed of 20,000,000 shares of common stock, \$0.01 par value per share, of which 8,242,291 shares were issued and outstanding, and 1,000,000 shares of preferred stock, \$0.01 par value per 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 stockholders. 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.

General

The shares of our common stock, when issued against full payment of the purchase price, and shares of our common stock that may be issued upon conversion, exchange or exercise of any of the other securities offered by this prospectus, will be validly issued, fully paid and non-assessable.

The holders of our common stock are entitled to the following basic rights:

one vote for each share of common stock held;

receive dividends if and when declared by our board of directors from our unreserved and unrestricted earned surplus or our unreserved and unrestricted net earnings for the current fiscal year; and

share ratably in our net assets legally available to our shareholders in the event of our liquidation, dissolution or winding up, after payment in full of all amounts required to be paid to creditors and preferred shareholders, if any, or provision for such payment.

Because we are a holding company, our rights and the rights of our creditors and shareholders to participate in the distribution of assets of a subsidiary on its liquidation or recapitalization may be subject to prior claims of the subsidiary's creditors, except to the extent that the Corporation itself may be a creditor having recognized claims against the subsidiary.

Holders of our common stock have no preemptive, subscription, redemption, conversion or cumulative voting rights. Our outstanding common stock is fully paid and nonassessable.

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 Canton, Massachusetts 02021.

Anti-Takeover Provisions

Our articles of organization and 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 below entitled "Incorporation of Certain Information by Reference".

Table of Contents

We also maintain a shareholders rights plan, which is designed to protect the rights of shareholders and discourage unwanted or hostile takeover attempts that are not approved by our board of directors. The rights plan, among other anti-takeover provisions contained in the plan, allows holders of our common stock to purchase shares in either the Corporation or an acquirer of the Corporation at a discount to market value in response to specified takeover events that are not approved in advance by the Corporation's board of directors. 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 that we previously filed with the SEC and which is referenced in the section below entitled "Incorporation of Certain Information by Reference".

S-37

Table of Contents

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 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 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) 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 hold 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.

Table of Contents

Stockholder Basis and Holding Period of the Subscription Rights

In general, your 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 basis of such common stock to the subscription rights, then a percentage of your 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 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; 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 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 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 and 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 and 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 15%, increasing to 20% for taxable years beginning after December 31, 2010), provided that the holder meets applicable holding period and other requirements. Distributions paid out of our current and 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.

Table of Contents

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 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 15%, and will be taxed at a maximum rate of 20% for taxable years beginning after December 31, 2010. 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.

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.

Table of Contents

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., Lowell, Massachusetts time, on October 21, 2009, 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 Inc., at (888) 219-8475, or you may contact Katelin Deschenes, Vice President Finance, of Enterprise Bank at (978) 656-5584. 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 offerings will be approximately \$200,000.

Supplemental Offering

If shares of common stock remain available for sale after the closing of the rights offering, members of our senior management and board of directors will offer and sell those remaining shares to the public on a best efforts basis at the \$10.85 per share subscription price. We anticipate that, if we offer shares in the supplemental 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 offering to a limited number of institutional investors.

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 Chu, Ring & Hazel LLP, a law firm located in Boston, Massachusetts.

EXPERTS

Our consolidated financial statements as of December 31, 2008 and 2007, and for each of the years in the three-year period ended December 31, 2008, and management's assessment of the effectiveness of internal control over financial reporting as of December 31, 2008, 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.

Table of Contents

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

We "incorporate by reference" into this prospectus supplement the information the Corporation 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 Corporation 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, which we refer to as the "Exchange Act"):

Our annual report on Form 10-K for the fiscal year ended December 31, 2008;

Our quarterly reports on Form 10-Q for the quarters ended March 31 and June 30, 2009;

Our current reports on Form 8-K filed with the SEC on each of March 26, 2009, April 21, 2009, April 23, 2009, April 30, 2009, May 6, 2009, July 21, 2009, July 23, 2009, July 30, 2009, September 10, 2009 and October 16, 2009;

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.**

Table of Contents

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 access through, our website is part of, or incorporated into, this prospectus supplement.**

S-43

Table of Contents

PROSPECTUS

Common Stock Rights

We may offer and sell, from time to time, 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 \$25,000,000. We may offer and sell these securities to or through one or more underwriters, dealers and agents, or directly to purchasers, on a continuous or delayed basis.

This prospectus describes some of the general terms that may apply to these securities and the general manner in which they may be offered. The specific terms of any securities to be offered, and the specific manner in which they may be offered, will be described in one or more supplements to this prospectus. This prospectus may not be used to sell securities unless accompanied by a prospectus supplement. Before investing, you should carefully read this prospectus and any related prospectus supplement.

Our common stock is traded on the NASDAQ Global Market under the symbol "EBTC".

You should refer to the risk factors beginning on page 9 of this prospectus, as well as the risk factors included in our periodic reports and other information that we file with the Securities and Exchange Commission and carefully consider all of that information before investing.

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

These securities are not 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.

The date of this prospectus is October 21, 2009

Table of Contents

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.

TABLE OF CONTENTS

Section	Page
<u>ABOUT THIS PROSPECTUS</u>	<u>3</u>
<u>WHERE YOU CAN FIND MORE INFORMATION</u>	<u>4</u>
<u>INCORPORATION OF CERTAIN INFORMATION BY REFERENCE</u>	<u>4</u>
<u>SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS</u>	<u>5</u>
<u>PROSPECTUS SUMMARY</u>	<u>7</u>
<u>RISK FACTORS</u>	<u>9</u>
<u>USE OF PROCEEDS</u>	<u>11</u>
<u>REGULATORY CONSIDERATIONS</u>	<u>11</u>
<u>DESCRIPTION OF OUR COMMON STOCK</u>	<u>12</u>
<u>DESCRIPTION OF RIGHTS</u>	<u>13</u>
<u>PLAN OF DISTRIBUTION</u>	<u>14</u>
<u>LEGAL MATTERS</u>	<u>15</u>
<u>EXPERTS</u>	<u>15</u>

Our address is Enterprise Bancorp, Inc., 222 Merrimack Street, Lowell, Massachusetts 01852 and our telephone number is (978) 459-9000.

Table of Contents

ABOUT THIS PROSPECTUS

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 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".

This prospectus is part of a registration statement we filed with the Securities and Exchange Commission, or SEC, using a "shelf" registration process. Under the shelf registration process, using this prospectus, together with a prospectus supplement, we may sell, from time to time, in one or more offerings, any amount of the securities described in this prospectus in a dollar amount that does not exceed \$25,000,000, in the aggregate.

This prospectus provides you with a general description of the securities we may offer. Each time we offer securities, we will provide a prospectus supplement that will contain specific information about the terms of that offering. The prospectus supplement may also add, update or change information contained in this prospectus. You should read this prospectus, the applicable prospectus supplement and the information incorporated by reference in this prospectus before making an investment in the securities. See "Where You Can Find More Information" for more information. If there is any inconsistency between the information in this prospectus and any prospectus supplement, you should rely on the information in the prospectus supplement.

Our SEC registration statement containing this prospectus, including exhibits, provides additional information about us and the securities offered under this prospectus. The registration statement can be read at the SEC's website (<http://www.sec.gov>) or at the SEC's offices mentioned under the heading "Where You Can Find More Information".

You should rely only on the information contained in or incorporated by reference in this prospectus or a supplement to this prospectus. We have not authorized anyone to provide you with different information. This document may be used only in jurisdictions where offers and sales of these securities are permitted. You should not assume that information contained in this prospectus, in any supplement to this prospectus, or in any document incorporated by reference is accurate as of any date other than the date on the front page of the document that contains the information, regardless of when this prospectus is delivered or when any sale of securities occurs.

We may sell the securities in a number of ways or combination of ways, including sales that we may make directly to our stockholders or employees or to individual investors who reside or operate businesses within our current or prospective market area. We may also seek to sell some or all of the securities directly to a limited number of other purchasers or to a single purchaser or through underwriters, dealers or other agents. If we, directly or through agents, solicit offers to purchase any of 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.

A prospectus supplement will contain the general plan of how we intend to sell the securities, including whether we intend to use any underwriters, dealers or agents and the names and the terms of the compensation of any such underwriters, dealers or agents, and the net proceeds to be received by the Corporation in the offering. Any underwriters, dealers or agents participating in any offering of the securities may be deemed "underwriters" within the meaning of the Securities Act of 1933.

Table of Contents

WHERE YOU CAN FIND MORE INFORMATION

This prospectus is a part of a registration statement on Form S-3 that we filed with the SEC under the Securities Act of 1933. This prospectus does not contain all the information set forth in the registration statement, certain parts of which are omitted in accordance with the rules and regulations of the SEC. For further information with respect to us and the securities offered by this prospectus, reference is made to the registration statement, including the exhibits to the registration statement and the documents incorporated by reference.

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 such documents with the SEC. **Except for those SEC filings, none of the other information contained on, or that may be access through, our website is part of, or incorporated into, this prospectus.**

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

We "incorporate by reference" into this prospectus the information the Corporation 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. Some information contained in this prospectus updates the information incorporated by reference, and information that the Corporation files subsequently with the SEC will automatically update this prospectus. In other words, in the case of a conflict or inconsistency between information set forth in this prospectus and information incorporated by reference into this prospectus, 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, which we refer to as the "Exchange Act"):

Our annual report on Form 10-K for the fiscal year ended December 31, 2008;

Our quarterly reports on Form 10-Q for the quarters ended March 31 and June 30, 2009;

Our current reports on Form 8-K filed with the SEC on each of March 26, 2009, April 21, 2009, April 23, 2009, April 30, 2009, May 6, 2009, July 21, 2009, July 23, 2009, July 30, 2009 and September 10, 2009 and October 16, 2009;

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

Table of Contents

registration statement and before the effectiveness of the registration statement, until we sell all of the securities offered by this prospectus 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.**

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and the documents incorporated by reference may contain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. Forward-looking statements often include the words "expect", "intend", "project", "estimate", "anticipate", "will", "plan", "believe", "continue", "predict", "contemplate", "forecast", "target", "potentially", "probably", "outlook" or similar expressions or future or conditional verbs such as "may", "will", "should", "would" and "could." These forward-looking statements are subject to known and unknown risks, uncertainties and other factors that could cause the actual results to differ materially from the forward-looking statements, including without limitation:

the credit risks of lending activities, including changes in the level and trend of loan delinquencies and write-offs;

the overall quality of the composition of our loan and securities portfolios;

changes in general economic conditions, either nationally or in our market areas;

changes in the levels of general interest rates, deposit interest rates, our net interest margin and funding sources, including our ability to maintain and attract new deposits;

fluctuations in the demand for loans, the number of unsold properties, including residential and commercial properties, and fluctuations in real estate values in our market areas;

results of examinations of the Corporation by the Federal Reserve Board or of the Bank by the Federal Deposit Insurance Corporation, or FDIC, and the Massachusetts Commissioner of Banks, including the possibility that any of these regulatory authorities may, among other things, require us to increase our allowance for loan losses and/or regulatory capital levels or to write-down assets;

our ability to control operating costs and expenses;

our ability to manage loan delinquency rates;

our ability to retain key members of our senior management team;

costs and effects of litigation, including settlements and judgments;

increased competitive pressures among financial services companies;

Table of Contents

changes in consumer and business spending, borrowing and savings habits and demand for financial services in our market area;

legislative or regulatory changes that adversely affect our business;

monetary and fiscal policies of the Board of Governors of the Federal Reserve System and the U.S. Government and other governmental initiatives affecting the financial services industry;

adverse changes in the securities markets;

inability of key third-party providers to perform their obligations to us;

changes in accounting policies and practices, as may be adopted by the financial institution regulatory agencies, the Financial Accounting Standards Board, or other relevant standards setters;

war or terrorist activities; and

other economic, competitive, governmental, regulatory, and technological factors affecting our operations, pricing, products and services and the other risks described elsewhere in this prospectus and the incorporated documents and in our other filings with the SEC.

Some of these and other factors are discussed in this prospectus under the caption "Risk Factors" and elsewhere in this prospectus and in the incorporated documents. The development of any or all of these factors could have an adverse impact on our financial position and our results of operations.

Any forward-looking statements are based upon management's beliefs and assumptions at the time they are made. We undertake no obligation to publicly update or revise any forward-looking statements included or incorporated by reference in this prospectus or to update the reasons why actual results could differ from those contained in such statements, whether as a result of new information, future events or otherwise. In light of these risks, uncertainties and assumptions, the forward-looking statements discussed in this prospectus and the incorporated documents might not occur, and you should not put undue reliance on any forward-looking statements.

Table of Contents

PROSPECTUS SUMMARY

This summary highlights information contained elsewhere in or incorporated by reference into this prospectus. As a result, it does not contain all of the information that may be important to you or that you should consider before investing in our securities. You should carefully read this entire prospectus, including the information contained under the heading "Risk Factors", and the documents incorporated by reference, which are described above under the sections entitled "Where You Can Find More Information" and "Incorporation of Certain Information by Reference".

Company Information

Overview

The Corporation is a Massachusetts corporation and the holding company for Enterprise Bank. The only office of the Corporation, and its principal place of business, is located at the main office of the Bank at 222 Merrimack Street, Lowell, Massachusetts 01852.

The Corporation does not engage in any active business activities, other than indirectly through its ownership of the Bank. In the future, the Corporation may become an operating company or acquire other banking institutions or companies engaged in bank-related or otherwise permissible nonbanking activities. At this time, however, we do not have any definitive plans to engage in any such activities or acquisitions and we expect that our primary business for the foreseeable future will be the ongoing business of the Bank.

The Bank is a Massachusetts-chartered commercial bank, which commenced business on January 3, 1989. The Bank offers a range of commercial and consumer loan products, deposit and cash management products, investment advisory services, trust and insurance services.

Market Area

Our primary market area is composed of the Merrimack Valley and North Central regions of Massachusetts and South Central New Hampshire. Including our main office in Lowell, the Bank currently operates a network of seventeen offices in these regions of Massachusetts and New Hampshire.

Competition

We face strong competition within our market area from a variety of different types of banking and financial services organizations, which include the following:

national and larger regional banks;

local savings banks, commercial banks, cooperative banks and credit unions; and

other providers of financial services, including consumer finance companies, mortgage brokers, private lenders, insurance companies, securities brokerage firms, institutional mutual funds, registered investment advisors, and Internet-based banks and other financial services providers.

Larger banks have certain competitive advantages, including the ability to make larger loans to a single borrower and to devote greater financial resources to multiple strategic initiatives, including developing and offering a broad range of automated banking services, maintaining numerous branch offices and mounting extensive advertising and promotional campaigns.

Notwithstanding the substantial competition we face, we believe that we have established a solid reputation within our market area for providing consistent, responsive and personal service based upon our understanding of the financial needs of our customers. We believe that our reputation in the market has been enhanced in recent years by the acquisitions of other independent banks by larger

Table of Contents

regional and national banking institutions and the ongoing consolidation of competitors' operations and services. We also believe that the current economic environment, in which many larger regional and national banking institutions have tightened their lending standards and concentrated on addressing their deteriorated asset quality and reduced capital levels, has created significant opportunities for well-positioned community banks, such as Enterprise Bank, to expand geographically and to increase market share.

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 Our Common 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 the Corporation's articles of organization and bylaws. We have previously filed complete copies of our restated articles of organization, as amended, and our amended and restated bylaws with the SEC, and these documents are included in the list of exhibits contained in our annual report on Form 10-K for the year ended December 31, 2008. You should read our articles of organization and bylaws for additional information before you buy our securities.

The summary description of the securities is not meant to be a complete description of what may be offered. The particular terms of the securities we offer 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 as described in this prospectus.

Use of Proceeds

We intend to use the net proceeds from sales of the securities as set forth in the section below entitled "Use of Proceeds" and the applicable prospectus supplement relating to a specific issuance of securities.

Table of Contents

RISK FACTORS

Before making an investment decision in any of our securities, you should carefully consider the risks described below and the additional risks set forth under the heading "Risk Factors" in the applicable prospectus supplement and in our most recent annual report on Form 10-K, and in any updates to those Risk Factors contained in our quarterly reports on Form 10-Q, together with all of the other information appearing in this prospectus or incorporated by reference into this prospectus and any applicable prospectus supplement. The risks described below and in the other 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. Our business, financial condition or results of operations could be materially and adversely affected if any of these risks actually occurs. In that case, the trading price of our common stock could decline, and you may lose all or part of your investment.

Risks Related Specifically to an Investment in Our Common Stock

The trading volume in our common stock is substantially less than that of larger companies.

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

Insiders control a significant percentage of our common stock.

Our directors and senior management as a group own or control approximately 30% of the outstanding shares of our common stock as of October 20, 2009. As a result of this combined ownership interest, our directors and senior management have the ability, if they were to vote their shares in a like manner, to significantly influence the outcome of all matters submitted to stockholders for approval, including the election of directors and any mergers or other transactions that could result in a change in control of the Corporation.

The market price of our common stock may be affected by general market and industry issues.

The stock market in general, and the NASDAQ Global Market and the market for commercial banks and other financial services companies in particular, has experienced significant price and volume fluctuations that sometimes have been unrelated or disproportionate to the operating performance of those companies. These broad market and industry factors may seriously harm the market price of our common stock, regardless of our operating performance.

We rely on dividends from our subsidiary for substantially all of our revenue.

Substantially all of our activities are conducted through Enterprise Bank, and, consequently, as the parent company of the Bank, we receive substantially all of our revenue, including the cash that we use to pay dividends to our stockholders, as dividends from the Bank. Federal and state regulations limit the amount of dividends that the Bank may pay to us. See the section below entitled "Regulatory Considerations". In the event the Bank becomes unable to pay dividends to us, we may not be able to service our debt, pay our other obligations or pay dividends on our common stock. Accordingly, any inability on our part to receive dividends from the Bank could have a material adverse effect on our business, financial condition and results of operations and the value of your investment in our common stock.

Table of Contents

Our common stock is subordinate to all of our existing and future indebtedness; regulatory and contractual restrictions may limit or prevent us from paying dividends on our common stock; we are not limited in the amount of indebtedness we and our subsidiaries may incur in the future.

Our common stock ranks junior to all indebtedness and other non-equity claims on the Corporation with respect to assets available to satisfy claims on the Corporation, including in a liquidation of the Corporation. Additionally, unlike indebtedness, where principal and interest would customarily be payable on specified due dates, in the case of our common stock, (1) any dividends are payable only when, as and if authorized and declared by our board of directors and depend on, among other things, our results of operations, financial condition, debt service requirements, other cash needs and any other factors our board of directors deems relevant, and (2) as a Massachusetts corporation, under Massachusetts law we are subject to restrictions on payments of dividends out of lawfully available funds. See the section below entitled "Regulatory Considerations". In addition, the Corporation's right to participate in a distribution of assets upon a subsidiary's liquidation or reorganization is subject to the prior claims of the subsidiary's creditors. We are also not limited by our common stock in the amount of debt or other obligations we or our subsidiaries may incur in the future. Accordingly, we and our subsidiaries may incur substantial amounts of additional debt and other obligations that will rank senior to the common stock or to which the common stock will be structurally subordinated.

There may be future sales of additional common stock or other dilution of our equity, which may adversely affect the market price of our common stock.

We are not restricted from issuing additional common stock or other securities. In addition, our shareholders may in the future approve the authorization of additional classes or series of stock which may have distribution or other rights senior to the rights of our common stock, or may be convertible into or exchangeable for, or may represent the right to receive, common stock or substantially similar securities. The future issuance of shares of our common stock or any other such future class or series could have a dilutive effect on the holders of our common stock. The market value of our common stock could also decline as a result of sales by us of a large number of shares of common stock or any future class or series of stock in the market or the perception that such sales could occur.

Risks Related Generally to an Investment in the Corporation

We are subject to a variety of competitive, economic, financial, regulatory, operational and other risks.

We face a variety of risks, including, among many other risks, substantial competition, a limited market area, the effects of general economic and market conditions on the quality of our loan and securities portfolios, our ability to maintain an adequate allowance for loan losses as well as adequate funding sources and liquidity, the effects of changing interest rates on our profitability, our reliance on outside service providers for essential resources, support and expertise in a variety of critical areas, and substantial legal, regulatory, compliance and accounting requirements that significantly impact our operations, financial condition and profitability, all of which, together with many other risks that we have not included in this paragraph, are described in greater detail in our most recent annual report on Form 10-K that we have filed with the SEC, and in any updates to those Risk Factors contained in our subsequently filed quarterly reports on Form 10-Q, which we urge you to read carefully.

Table of Contents

USE OF PROCEEDS

Our receipt of the net proceeds from the sales of the securities 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.

The specific net proceeds that we receive in the sale of securities may be used for a variety of different purposes, including:

funding loans, purchasing securities or acquiring other assets;

reducing or refinancing existing debt;

paying our general ongoing obligations and other general corporate purposes; and

such other purposes as may be described in any prospectus supplement.

Pending such use, we may temporarily invest the net proceeds of any offering. The precise amounts and timing of the application of proceeds will depend upon our funding requirements and the availability of other funds. Except as may be indicated in a prospectus supplement, allocations of the proceeds to specific purposes will not have been made at the date of that prospectus supplement.

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

Table of Contents

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 OUR COMMON STOCK

Total Authorized Capital Stock

As of October 20, 2009, our authorized capital stock was composed of 20,000,000 shares of common stock, \$0.01 par value per share, of which 8,242,291 shares were issued and outstanding, and 1,000,000 shares of preferred stock, \$0.01 par value per 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 stockholders. 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.

General

The shares of our common stock, when issued against full payment of the purchase price, and shares of our common stock that may be issued upon conversion, exchange or exercise of any of the other securities offered by this prospectus, will be validly issued, fully paid and non-assessable.

The holders of our common stock are entitled to the following basic rights:

one vote for each share of common stock held;

receive dividends if and when declared by our board of directors from our unreserved and unrestricted earned surplus or our unreserved and unrestricted net earnings for the current fiscal year; and

share ratably in our net assets legally available to our shareholders in the event of our liquidation, dissolution or winding up, after payment in full of all amounts required to be paid to creditors and preferred shareholders, if any, or provision for such payment.

Because we are a holding company, our rights and the rights of our creditors and shareholders to participate in the distribution of assets of a subsidiary on its liquidation or recapitalization may be subject to prior claims of the subsidiary's creditors, except to the extent that the Corporation itself may be a creditor having recognized claims against the subsidiary.

Holders of our common stock have no preemptive, subscription, redemption, conversion or cumulative voting rights. Our outstanding common stock is fully paid and nonassessable.

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, Canton, Massachusetts 02021.

Table of Contents

Anti-Takeover Provisions

Our articles of organization and 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".

We also maintain a shareholders rights plan, which is designed to protect the rights of shareholders and discourage unwanted or hostile takeover attempts that are not approved by our board of directors. The rights plan, among other anti-takeover provisions contained in the plan, allows holders of our common stock to purchase shares in either the Corporation or an acquirer of the Corporation at a discount to market value in response to specified takeover events that are not approved in advance by the Corporation's board of directors. 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 that we previously filed with the SEC and which is referenced in the section above entitled "Incorporation of Certain Information by Reference".

DESCRIPTION OF RIGHTS

In this section, we describe 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 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

Table of Contents

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 a number of different ways or in a combination of ways, which may include the following (or any combination thereof):

directly to our existing stockholders;

directly to our employees and/or individual investors who reside or operate businesses within our current or prospective market area;

directly to a limited number of other purchasers or to a single purchaser;

through underwriters or dealers; or

through agents.

Each time that we use this prospectus to sell securities, we will also provide a prospectus supplement that contains the specific terms of the offering. Each prospectus supplement will include information regarding the following matters:

the general plan of how we intend to sell the securities, including whether we intend to use any underwriters, dealers or agents;

the name or names of any underwriters, dealers or agents and the 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 reallocated or paid to dealers; and

any delayed delivery arrangements.

The offer and sale of the securities described in this prospectus by us or by any underwriters or other third parties as described above may be completed from time to time in one or more transactions, including privately negotiated transactions, at any of the following prices:

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 reallocated or paid to dealers may be changed from time to time.

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,

Table of Contents

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 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.

We may authorize underwriters, dealers or agents to solicit offers by certain purchasers to purchase 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 of 1933, as amended, or to contribution with respect to payments which 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.

LEGAL MATTERS

The validity of the securities offered by this prospectus has been passed upon for us by Chu, Ring & Hazel LLP, a law firm located in Boston, Massachusetts.

EXPERTS

The consolidated financial statements of the Corporation as of December 31, 2008 and 2007, and for each of the years in the three-year period ended December 31, 2008, and management's assessment of the effectiveness of internal control over financial reporting as of December 31, 2008, 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.

Table of Contents

Common Stock
Subscription Rights to Purchase up to
691,244 Shares of Common Stock

Prospectus Supplement

October 21, 2009
