Business Requirements

Bonds

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1. Purpose of Project

1.1. Background

A number of customers have indicated that enhancements are needed to Strategy to fully service their Bond loans. Currently they are performing many calculations outside of the system via Excel or custom built side systems. The users are then updating Strategy with the information necessary to be able to post payments and track some of the balances on the system. The Bond loans discussed in this document address those loans that are created with multifamily property as collateral and are credit enhanced by Fannie Mae, Freddie Mac or other financial institutions.

A Bond loan involves two linked and simultaneous transactions.

- The first is the issuance of a bond or bonds by a government entity (state, county, city, etc) or a corporation.
- The second is the loan of the proceeds of the bonds by the Bond Issuer to a Borrower

The issuer of the bonds is acting as a conduit to provide financing to a borrower, so they are not going to provide the repayment of the bonds from governmental resources. Instead the mortgage loan is structured so that the borrower's payments are sufficient to pay principal and interest on the bonds when they are due. Because the lower rates payable on the bonds are passed through to the mortgage loan, the borrower may be required to rent some or all of their units according to specific guidelines (moderate to low income standards). Please note that the bonds may be taxable or tax exempt.

A number of features are involved with a bond deal.

- Credit Enhancement – the trading value of the credit enhancer (Fannie, Freddie or other financial institution) is substituted for the trading value of the Borrower and the credit enhancer is guaranteeing the payment of debt service on the bond. There are typically 2 forms of credit enhancement -
    - Standby – the credit enhancer is obligated to directly pay the Trustee for regularly scheduled principal and interest payments on the bond ONLY when the borrower does not pay.
    - Direct Pay – the credit enhancer will pay the Trustee directly for all principal and interest payments on the bond. The borrower's payment will then reimburse the credit enhancer.
- Interest Rate – there are 2 categories of interest rate structures for bond deals
    - Fixed Rate – rates do not change (fixed rate bonds are typically purchased by long term investors)
    - Variable Rate – rates will typically change (reset) weekly
- Taxable Tails – taxable bonds or a taxable conventional mortgage loan issued at the same time of the tax-exempt bond(s). If the borrower's financing needs exceed the amount that the bond issuer is willing or able to issue, one or

multiple taxable tails may be issued. Typically, both the tax-exempt and taxable portions are addressed in a single loan document, however the taxable tail portion must be paid off prior to any amortization of the tax-exempt bond.

- Fees – A number of fees, using different factors (balances, rates, interest basis and frequencies) may be associated with a bond deal. Fees can be stripped from interest or may be paid in addition to the interest by the borrower. Fees may be remitted to the Trustee/Bondholder, the investor, or even a third party.
- Principal Repayment Schedule – in some cases, the principal payment may be the same amount as would be expected per a normal amortization schedule. In others cases, a schedule of principal payments due from the borrower is set forth in the loan documentation.
- Principal Reserve Fund (PRF) – The principal payments that are received from the borrower are accumulated in a Principal Reserve Fund. In some cases those funds are held by the lender/servicer and remitted to the Trustee or Credit Enhancer when a Bond Redemption occurs. However, there are also cases where the funds are actually remitted as they are received, but the lender/servicer still needs to track a PRF balance (in this case it would be a non cash balance) and then reduce that balance when a Bond Redemption is authorized.

1.2. Goals

The objective of this project is to provide the functionality needed to fully service Bond deals in Strategy. This includes: supporting the Bond Structure, allowing for the setup and calculation of multiple fees per loan, calculation and billing of interest to the borrower and remittance of principal, interest and fees as needed.

2. Glossary

2.1. Naming Conventions and Definitions

2.1.1. **Bond –** A vehicle used to lend money for a defined period of time at a fixed interest rate. Bonds are used by companies and the government to finance various projects and activities.

2.1.2. **Bond Balance –** Represents the remaining balance on the bond that has yet to be redeemed and disbursed to the Bond Holders. Balance is only reduced upon the event of a redemption by the Trustee.

2.1.3. **Bond Holder –** The owner of a bond. A bondholder is entitled to regular interest payment as well as return of the principal as scheduled paydowns/redemptions occur or when the bond matures.

2.1.4. **Bond Issuer –** A public entity that borrows through the sale of bonds. The public entity may be a state, county, city or other subdivision of the state, an agency or a corporation. This public entity is the issuer, even if they are not the source of funds for payment of debt service on the Bond

2.1.5. **Credit Enhancement Bond –** Used to improve the strength of a bond and therefore increase the marketability to investors. A third party may pledge its own credit worthiness and guarantee repayment of the bond in exchange for a fee. An enhancement could also take the form of a bank issued Letter of Credit.
2.1.6. **Credit Enhancer –** The agency (Fannie Mae, Freddie Mac) or bank that provides the credit enhancement for a bond
2.1.7. **CUSIP Number –** Each bond that is issued is assigned a unique CUSIP number. The number consists of 9 alphanumeric characters.
2.1.8. **Direct Pay –** A form of credit enhancement where the credit enhancer makes all scheduled payments of principal and interest directly to the Trustee.
2.1.9. **Facility Fee –** all fees that are due to the Credit Enhancer – i.e., credit enhancement liquidity, PRF, etc (sometimes referred to as the credit enhancement fee)
2.1.10. **Interest Rate Cap –** An agreement between a borrower and a third party for a premium paid by the borrower. That agreement will establish a rate cap (sometimes referred to as a strike rate). If the variable/floating rate becomes greater than the strike rate, the third party will pay the difference.
2.1.11. **Interest Rate Swap –** An agreement between a borrower and a third party where one has a fixed interest rate and the other has a floating rate. The party holding the rate with a larger value will pay the difference to the other party.
2.1.12. **Low Floater –** see Weekly Variable Rate
2.1.13. **Principal Reserve Fund (PRF) –** Principal payments made monthly by the borrower are accumulated in the PRF. When payments are collected on amortizing loans (Payments types P & Q), the loan balance is reduced by the principal portion of the payment AND the PRF is increased. On non-amortizing loans (Payment Type I), the borrower will make monthly payments that are deposited to the PRF only (no impact on principal). When a bond redemption is performed, the PRF will be reduced by the amount of that redemption and the loan balance will be decreased on non-amortizing loans.
2.1.14. **Redemption –** This term is used to describe the partial repayment or payoff of a bond. The trustee will disburse redemption funds to the Bond Holders.
2.1.15. **Redemption Threshold Amount –** Amounts or dates may be set to designate when the Trustee will initiate redemption events. Thresholds can be defined as a % of the original bond balance, a specific dollar amount or a period of time, i.e., every 6 months.
2.1.16. **Remarketing Agent –** The banker that sets the rate of interest each week on weekly variable rate bonds. They are also responsible for finding purchasers for any tendered bonds.
2.1.17. **Scheduled Payments –** The payments that a borrower is required to make on a regular periodic basis to include debt service on the loan as well as fees.
2.1.18. **Standby Basis –** A form of credit enhancement where the credit enhancer will only make payments to the Trustee if the borrower fails to do so. (the borrower usually, but not always, pays the Trustee directly)
2.1.19. **Tax-Exempt Bond –** The interest on the bond is excluded from the owners' gross income for tax purposes.
2.1.20. **Taxable Tail –** Taxable bonds or taxable mortgage loan that are issued at the same time as tax exempt bond(s)

2.1.21. **Threshold Requirements –** Determines when a bond redemption will occur. This can be defined as a % of the original bond balance, a specific dollar amount or a period of time (every 6 months)

2.1.22. **Trustee –** A bank designated by the issuer as the custodian of funds and the official representative for all bondholders.

2.1.23. **Weekly Variable Rate –** The interest rate is subject to change once a week by the Remarketing Agent. Each bond will have its own rate that is usually tracked by CUSIP number.

2.1.24.

2.2. Relevant Facts and Assumptions

2.2.1. Facts

2.2.2. Assumptions

- All file maintenance activity; add, maintain and or delete functions will be recorded and stored in File Maintenance history.

3. Functional Requirements

3.1. Scope of the Work

This project will review the business needs for the servicing and reporting of Bond Loans to determine what changes and enhancements are necessary to the Strategy system. At a high level those needs are as follows (details are found in the requirements section of this document):

- Accommodate the Bond structure – this includes tracking multiple balances for a deal. Those balances are a Bond balance, a Loan balance and a Principal Reserve Fund (PRF) balance. In addition, a Notional balance (aka SWAP balance) and/or LOC balances may be tracked in relation to the deal. Interest and/or fees may be charged on any of these balances, so tracking of the balances separately is needed to obtain correct interest and fee calculations.
  - The Bond balance will only be reduced when a Bond Redemption is authorized by the Trustee. This is the balance that is used for the calculation of monthly interest due from the borrower. This balance may also be used in the calculation of some fees.
  - The Loan and PRF balances are affected as follows…..
    - Amortizing Loans – the loan balance is reduced upon receipt of principal payments from the borrower. The PRF balance is increased by the amount of the principal payment. When a Bond Redemption is processed, the PRF is reduced by the Redemption amount. In some cases the PRF may be non-cash (funds are remitted to investor monthly, but tracking of the balance is still needed).

    - Non-Amortizing Loans – the loan balance is NOT reduced upon receipt of principal payments from the borrower. The PRF is increased by the amount of the principal payment. When a Bond Redemption is processed, the PRF is reduced by the Redemption amount. In some cases the PRF may be non-cash. (funds are remitted to investor monthly, but racking of the balance is still needed).
- Calculate and bill interest
    - On the Bond Balance (typically variable rate loans)
    - On the Amortizing Balance (typically fixed rate loans)
- Allow rates to be estimated for a portion of the billing period based on specific factors, i.e. 2% above the last known rate or a flat rate (12%). When actual rates are determined if the estimate is greater than the actual amount due, adjust the borrower's current receivable with the difference resulting from the estimated amount. If the estimate is less than the actual amount due, make provision for immediate billing of the shortfall. Rates will change on a weekly basis.
- Process and monitor Bond Redemptions. When a payment is due to the Trustee/Bondholder, the Bond balance is reduced (redeemed). Redemptions are processed when the specified threshold ($ amount or % of original bond balance) is reached or when a date has been reached (based on a pre-defined schedule, i.e., every 6 months).
- Associate a single or multiple Bonds (both tax exempt and taxable) to a single loan.
- Where there are multiple Bonds, the user will need the ability to indicate how principal payments are to be applied, i.e., redeem or reduce one bond before reducing any other bonds.
- Automate the calculation, billing and remittance of multiple fees using different factors.
- Accommodate the reporting requirements for Bond loans – this includes Fannie Mae, Freddie Mac as well as Trustee reporting

3.2. Business Use Cases

3.2.1. Use Case #1

Support the Bond Structure

3.2.2. Use Case # 2

Automate the calculation and billing of multiple fees.

3.2.3. Use Case # 3

Accommodate weekly or Monthly variable rate loans – this could mean projecting interest at a rate other than the current pay rate on the loan.

3.2.4. Use Case # 4

Support reporting requirements from Fannie Mae, Freddie Mac and others.

3.3. Functional Requirements

USE CASE 1 – SUPPORT THE BOND STRUCTURE

3.3.1. Store and track multiple balances

Each of the balances associated with a deal could be used in the calculation of interest or fees due from the borrower.

- Bond Deal Balance – if there are multiple bonds in a deal, this is the sum of all bond balances. This balance may be used for fee calculations
- Bond Balance – there can be one or multiple bonds in a deal. If there are multiple bonds, each will have its own balance. The ability to identify each bond as being tax exempt or taxable is also needed. This balance may be used for interest and/or fee calculations.
- Loan Balance – there can be one or multiple loans tied to a bond deal. There could be separate loans created for the tax exempt vs taxable portions of a deal, or there may be a single loan that encompasses multiple bonds. This balance may be used for interest and/or fee calculations.
- PRF Balance – there can be one or multiple PRFs in a deal. If there are multiple PRFs they would be tracked at the bond level. This balance may be used for fee calculations.

3.3.2. Identify all parties and their role in the bond deal

- Trustee – some deals will require the servicer to remit P&I funds directly to the Trustee for distribution to the bondholders.
- Credit Enhancer – some deals require the servicer to remit P&I funds to the Credit Enhancer (Fannie Mae or Freddie Mac), who will in turn remit funds to the Trustee for distribution to the bondholders. The Credit Enhancer and the Trustee may be the same or different entities.
- Third Parties – the servicer may be required to remit fees to multiple third parties involved with a bond deal.

3.3.3. Associate bonds with bond deals

There may be a single or multiple bonds in a "deal". Bonds may be tax exempt or taxable (sometimes referred to as taxable tails). Typically all bonds in a deal will be issued at the same time as the loan origination. However, it is possible that a bond may be added to a deal after origination, so flexibility surrounding the timing of bond associations with a deal is needed. Note that in many cases bonds are issued during construction phase prior to permanent loan origination/closing.

3.3.4. Associate loans with bonds

Traditionally, there is a single loan associated with multiple bonds. That is to say, there is a single loan document executed in conjunction with multiple bonds being issued. However, it has been noted that it is entirely possible that multiple loans could be executed with a bond deal (single or multiple bonds).

3.3.5. Indicate priority of bond repayment

When there are multiple bonds on a deal, the repayment of those bonds may be done concurrently or sequentially.

- Concurrent method requires the repayment of bonds on a pro rata share basis or pursuant to a schedule in the Bond documents.
- Sequential method requires the repayment of 1 bond before another. Each bond is assigned a repayment priority and the bond with highest priority is redeemed before others. Typically, any taxable tails are redeemed before the tax-exempt bond.
- There can only be one method that applies to all bonds within a deal (so no mixture of sequential and concurrent methods will be allowed).

3.3.6. Manage the Bond balance

The bond balance will only be reduced upon notification from the Trustee of a bond redemption. A bond redemption will affect balances as follows:

- If the loan is amortizing, the bond balance and PRF balance will be reduced
- If the loan is non-amortizing, the bond balance, PRF balance and loan balance will be reduced.

3.3.7. Track the PRF

Principal payments made by the borrower will accumulate in the PRF. Some deals will require the servicer to hold the cash in an account (P&I custodial or other designated account) while others require remittance of the PRF funds with interest paid on the loan (monthly P&I).

If the PRF funds are held by the servicer, funds will be remitted to the Trustee when a bond redemption occurs or remitted to the credit enhancer as reimbursement for the Trustee's draw.

Regardless of where funds are held, the balance must be tracked by the servicer as some fees will be based on the PRF balance.

If there are multiple bonds in a deal, there may be a single PRF or there may be a separate PRF for each bond.

Need to be able to house multiple dda to house funds.

3.3.8. Manage PRF transactions and balance

If the associated loan is amortizing, principal funds received from the borrower will be added to the PRF and will also reduce the loan balance – the bond balance will not change.

If the loan is not amortizing, principal funds received from the borrower will be added to the PRF – the loan and bond balance will not change.
When a bond redemption occurs, the PRF balance will be reduced.
Fees may be charged on the PRF balance.

3.3.9. Establish and monitor threshold requirements for Bond Redemptions

Threshold requirements are stated as a % of the principal or a minimum dollar amount, or in some cases a period of time (i.e., every 6 months) that may follow a business calendar when determining dates. When a threshold has been reached, the user should be notified (via an online alert or report).

Threshold requirements that are not based on a time period are monitoring the funds accumulating in the PRF.

3.3.10. Remittance of P&I and Fees

Remittance of P&I may go directly to the Trustee. Fannie and Freddie deals will vary – some require remittance to them, while others will be remitted directly to the Trustee. Remittance frequencies will vary for each Trustee. If remittance is directly to Freddie Mac, the funds received from the borrower must be remitted within 2 business days. If remittance is directly to Fannie Mae, they have a calendar for remittance of interest and fees.
Some fees may be remitted to other parties.
Remittances can be as follows….

- Principal and interest can be remitted in various ways
    1. Interest remitted to the Credit Enhancer, Principal to the Trustee
    2. Principal remitted to the Trustee, Interest to the Credit Enhancer
    3. Principal and Interest remitted to the Credit Enhancer
    4. Principal and Interest remitted to the Trustee
- Fees can be remitted to either the Credit Enhancer, the Trustee, a Third Party or the Servicer

3.3.11. Setup P&I Payment Schedule

Amortizing loans may follow a normal P&I amortization based on the loan balance. However, there are many cases where the principal portion of the payment could actually be based on a schedule that is provided as part of the loan documents. The servicer will need to adhere to that schedule for the billing and collection of payments from the borrower.

Non-amortizing loans will have a principal repayment schedule as well.

The ability to do an automated upload of this principal payment schedule to the system is needed. There may be changes to the schedule, so in addition to loading the schedule at origination, modifications to the information should also be allowed.

Whether it is the typical amortization schedule or a principal payment schedule, these principal payments will be tracked in the PRF.

USE CASE 2 – FEES

3.3.12. Calculate multiple fees, each with different factors

- Balances that can be used for calculating fees
  - Bond Deal Balance
  - Bond Balance
  - Loan Balance
  - PRF Balance
  - Notional Balance (balance that is used only for calculating fees)
  - LOC Balance
- Rates
  - Fixed Rate
  - Variable Rate (based on the value of a specified index on the date the fee is calculated)
  - Adjustable Rate (rate is adjusted periodically, ie, every 90 days or every 6 months)
  - Flat Dollar Amount
- Interest Basis Codes
  - Could the same as or different from the interest basis code used to calculate interest on the loan
- Frequency
  - Fees may be calculated and billed at a frequency the same as or different from the interest on the loan. For example, interest may be payable monthly but some fees are only paid semi-annually

3.3.13. Fees can be stripped from the interest paid by the borrower

3.3.14. Fees can be in addition to the interest paid by the borrower

3.3.15. Fees can be remitted to the Trustee, Credit Enhancer or other 3rd party involved with the deal.

3.3.16. Fees may be remitted at a frequency different from the P&I remittance frequency.

Some deals are written to require annual or semi-annual remittance of fees to some parties even though P&I is remitted monthly.

3.3.17. Advance and recover fees

Some fees must be paid to the Trustee/Credit Enhancer/3rd parties even if funds are not received from the borrower. If funds are not received from the borrower, the servicer must advance those funds to the Trustee from their corporate cash account. If/when the borrower makes payment for fees that have been advanced, funds should be credited to the corporate cash account.

3.3.18. Provide itemized list of fees due on the billing statement

A breakdown of all fees due from the borrower should appear on the billing statement. This will require the description and amount due for each fee as a separate line item.

3.3.19. Allow fees to be tied to a specific P&I receivable

This will allow the servicer to post a single transaction to satisfy principal, interest, escrow, reserves and fees.

3.3.20. Allow fee payments from the borrower to be included in the PAT processing.

3.3.21. Allow selected fees to be subtotaled on the billing statement.

There may be some fees on a deal that are actually the combined sum of multiple fee calculations. In order to present the borrower with a billing statement with a correct representation of fees, subtotaling some fees together may be required. In addition, the ability to subtotal interest with a select group of fees may also be required by a deal – this is often times referred to as the rate stack.

USE CASE 3 – ACCOMMODATE WEEKLY VARIABLE RATES

3.3.22. Allow interest rate to change every week

Any floating rate bonds will have their own rate – tracked by the CUSIP number assigned to the bond. The remarketing agent for each bond will contact the servicer with the weekly rate. Servicers are typically notified of the new rate on Wednesday or Thursday of each week (the exact day is specified for each deal). Customers want to ensure large capacity to hold rates and would like a way to pull data from Bloomberg.

3.3.23. Estimate the rate

Because billing statements may need to go out prior to receiving the rate for the last few days during a period, an estimated rate may be required by the bond deal (not simply the current rate). The estimated rate is defined in the loan documents and may be a flat percentage (12%) or it could be a percentage added to the last known rate (add 2% to the current rate).

If an estimated rate is used the borrower may be paying the servicer a significantly higher rate of interest for a short period of time.

If an estimated rate is not used, the bill is not sent to the borrower until the rate is known.

When the actual rate is received, reconciliation between the estimated (billed) amount and the final (actual) amount is needed to determine the difference. If it is determined that the borrower has overpaid, the system will need to make adjustments for the difference – overages will be credited to the borrower on the next billing statement. Overages from the borrower may be held in suspense or the custodial P&I account, whichever is specified in the loan documents. If it is determined that the borrower has underpaid, immediate billing for the shortage must occur.

3.3.24. Detailed billing statements

Users may be required to send out both an estimated billing statement as well as a final billing statement (when the rate is known). Identify the bill that contains the actual rate as the Final bill.

The interest accrual for each rate period (typically weekly) should be included on the billing statement.

The borrower on a bond deal will typically be making their payment on the same day or the day after their billing statement is received, so the ability to email these bills directly from the system should be allowed.

USE CASE 4 – SUPPORT REPORTING REQUIREMENTS

3.3.25. Remittance reports

Detailed remittance reports to include FEES are needed. Please note that remittance of some fees to parties other than the credit enhancer or trustee may occur. Need reports for 3rd party.

3.3.26. Fannie Mae Bond Reporting

Creation of the Fannie Mae 4090 is needed. Need to review specific requirements and mapping in more detail.

3.3.27. Freddie Mac Bond Reporting

Reporting to Freddie Mac's MultiSuite system is needed. ~~Please note that Freddie Mac is making changes that will require reporting Bond information via MARS in the near future.~~ All bond fees for loan should be included.

3.4. Data Elements

Specific Data Elements required for the Bonds Project. It has been decided that specific data elements will be identified during the initial Design phase of this project.

Data	**Min Length Req**	**A / N**	**Description**

4. Nonfunctional Requirements

4.1 Look and Feel Requirements

4.1.1. The appearance of any screens developed for this project should follow the standards of STRATEGY CS.

4.1.2. Any changes to data will be stored in file maintenance history.

4.2 Security Requirements

4.2.1. Security will be needed to Read, Write, Print and Delete.

5 Examples

6 Project Issues

6.1. Open Issues

6.2. Considerations

6.2.1. Some assistance with the conversion of existing bond deals should be considered. Currently servicers are using spreadsheets and adjusting Strategy calculations to manage their bond deals, so when functionality is available for use they will need some way to convert their existing deals.

7 Future Requirements