

K-Deal[®]

SOFR Bonds

As of November 1, 2020



OPTIGO

Freddie Mac Multifamily



SOFR Bond Class

Freddie Mac Multifamily (MF) floating-rate K-Deals[®] now include one bond class with a coupon indexed to the Secured Overnight Financing Rate (SOFR)

- MF is supporting the SOFR bond market creating liquidity and easing the ultimate transition to SOFR
- The SOFR-based bond offerings may be supported by underlying loans that are currently either:
 - » [LIBOR-based](#) or
 - » [SOFR-based](#)¹

¹ https://mf.freddie.com/docs/product/floating_rate.pdf

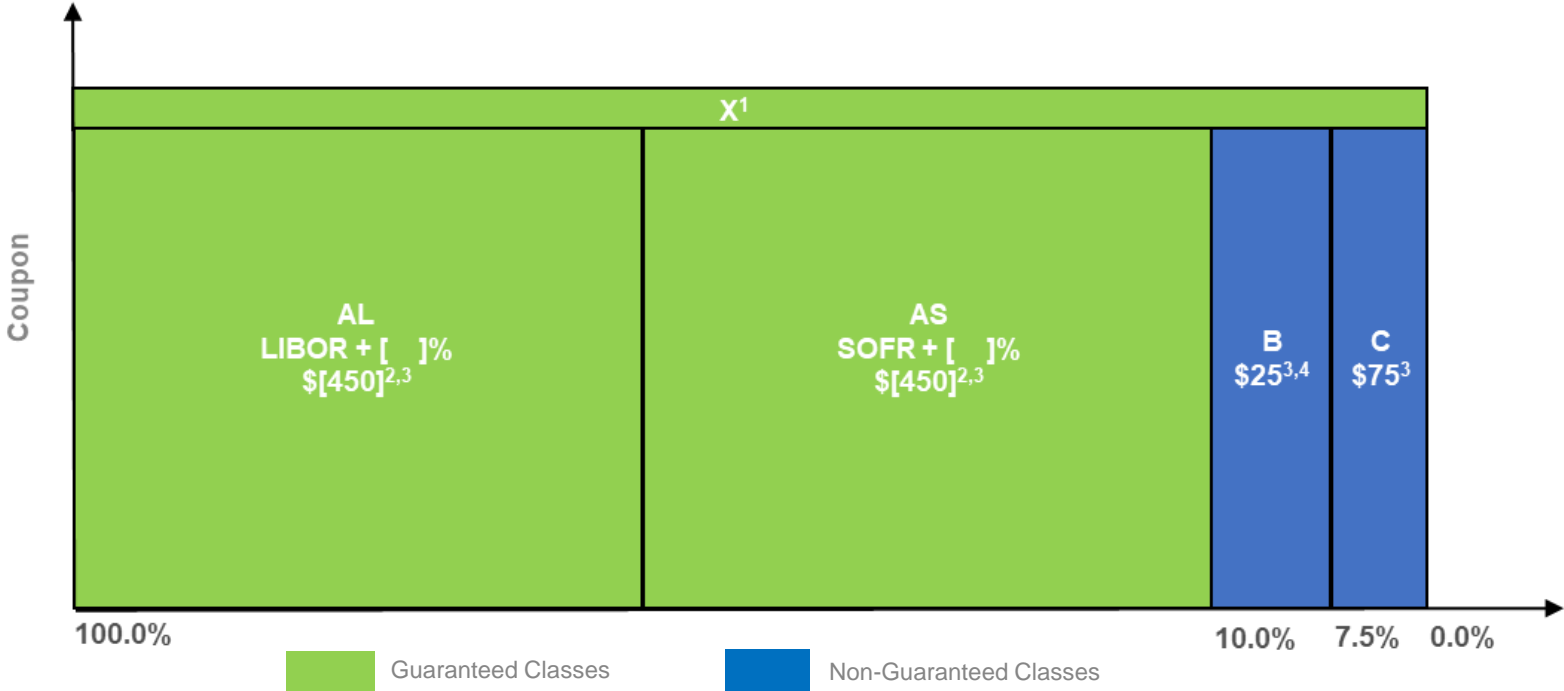


LIBOR-SOFR Bonds:

SOFR Bonds Backed By LIBOR-Based Loans

LIBOR-SOFR Bond Class

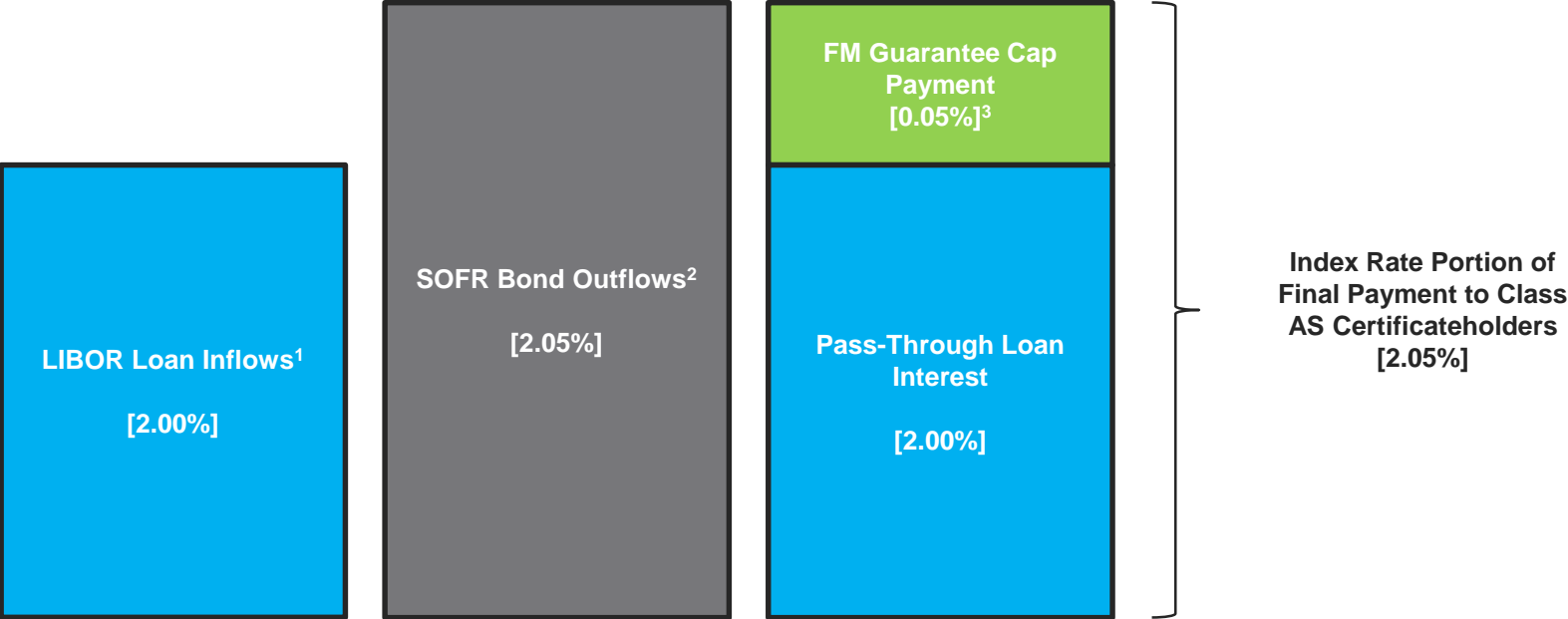
- MF began offering LIBOR-SOFR bonds (Class AS) collateralized by LIBOR-based loans with KF73
- MF provides a basis risk guarantee that will cover any basis mismatch in the event SOFR exceeds LIBOR
 - » The guarantee applies whether or not Class AS is WAC capped
- All LIBOR-based loans and LIBOR-based bonds (Class AL) will convert to an alternative index, which may be SOFR, when LIBOR ceases to be published
- KF94 is anticipated to be the last MF floating-rate K-Deal to offer a LIBOR-SOFR bond class



- The Class X Certificates 1) receive interest-only payments indexed to LIBOR and notional to Classes AL, AS, B, and C, and 2) are entitled to Static Prepayment Premiums
- The Class AL is paid pro rata with the Class AS. The Class AL and AS Principal Balances are sized based on investor demand, totaling \$900 million
- For illustrative purposes only, class sizes do not reflect actual bond offering
- MF may not offer Class B. If Class B is not offered, Classes AL and AS may extend to the 7.5% credit enhancement level

LIBOR-SOFR Interest Payment – Example 1

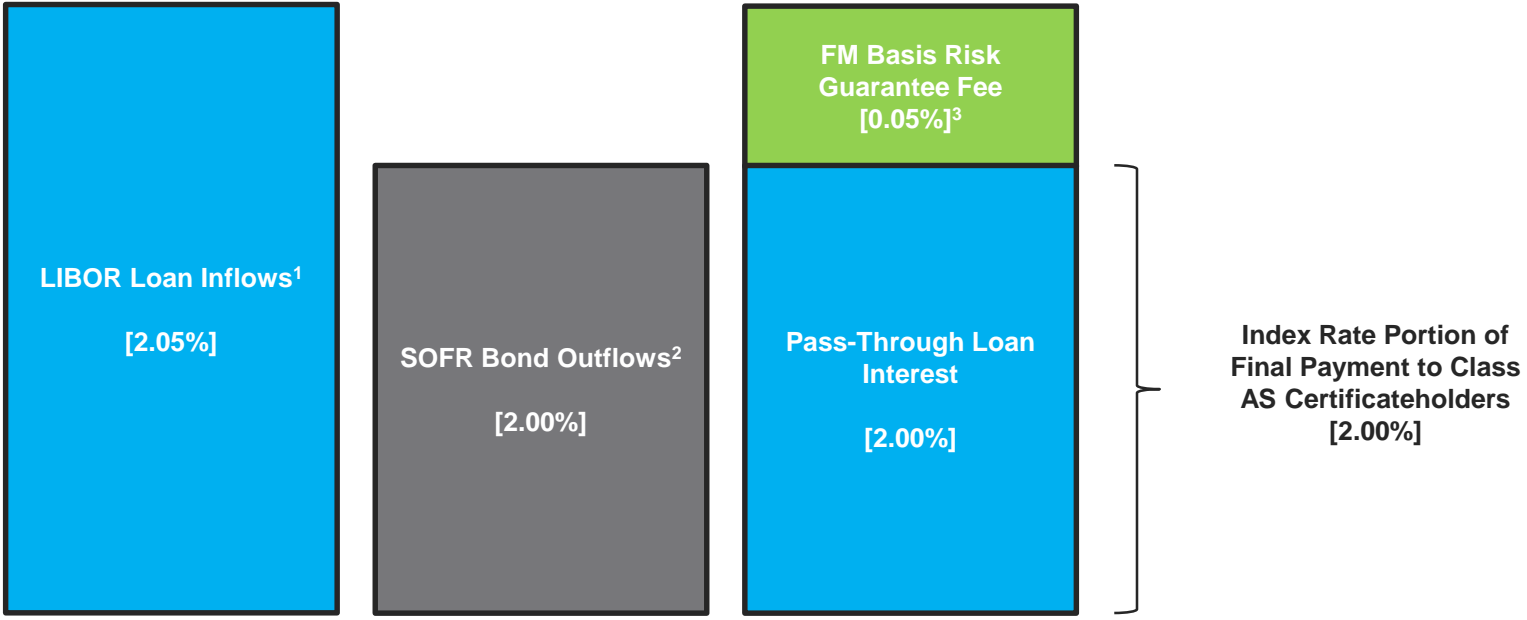
Example 1: Class AS Interest Shortfall (SOFR > LIBOR)



1. Interest income received by the Trust from underlying LIBOR based loans (assumed to be 2.00% for illustrative purposes)
2. Interest due to Class AS Certificateholders calculated using SOFR (assumed to be 2.05% for illustrative purposes)
3. Freddie Mac provides Guarantee Cap Payment to the Trust to cover the interest shortfall caused by the mismatch between LIBOR loan inflows and SOFR bond outflows due to Class AS Certificateholders (0.05%)

LIBOR-SOFR Interest Payment – Example 2

Example 2: Class AS Interest Surplus (LIBOR > SOFR)



1. Interest income received by the Trust from underlying LIBOR-based loans (assumed to be 2.05% for illustrative purposes)
2. Interest due to Class AS Certificateholders calculated using SOFR (assumed to be 2.00% for illustrative purposes)
3. Freddie Mac receives a Guarantee Cap Fee equal to the interest surplus caused by the mismatch between LIBOR loan inflows and SOFR bond outflows due to Class AS Certificateholders (0.05%)

LIBOR-SOFR Index Determination

MF's LIBOR-SOFR bond offering follows the existing floating rate bond structure with the following adjustments

■ For the purpose of calculating interest due to Class X, Class AS will be assumed to be tied to a LIBOR index (or an Alternate Index) rather than a SOFR index

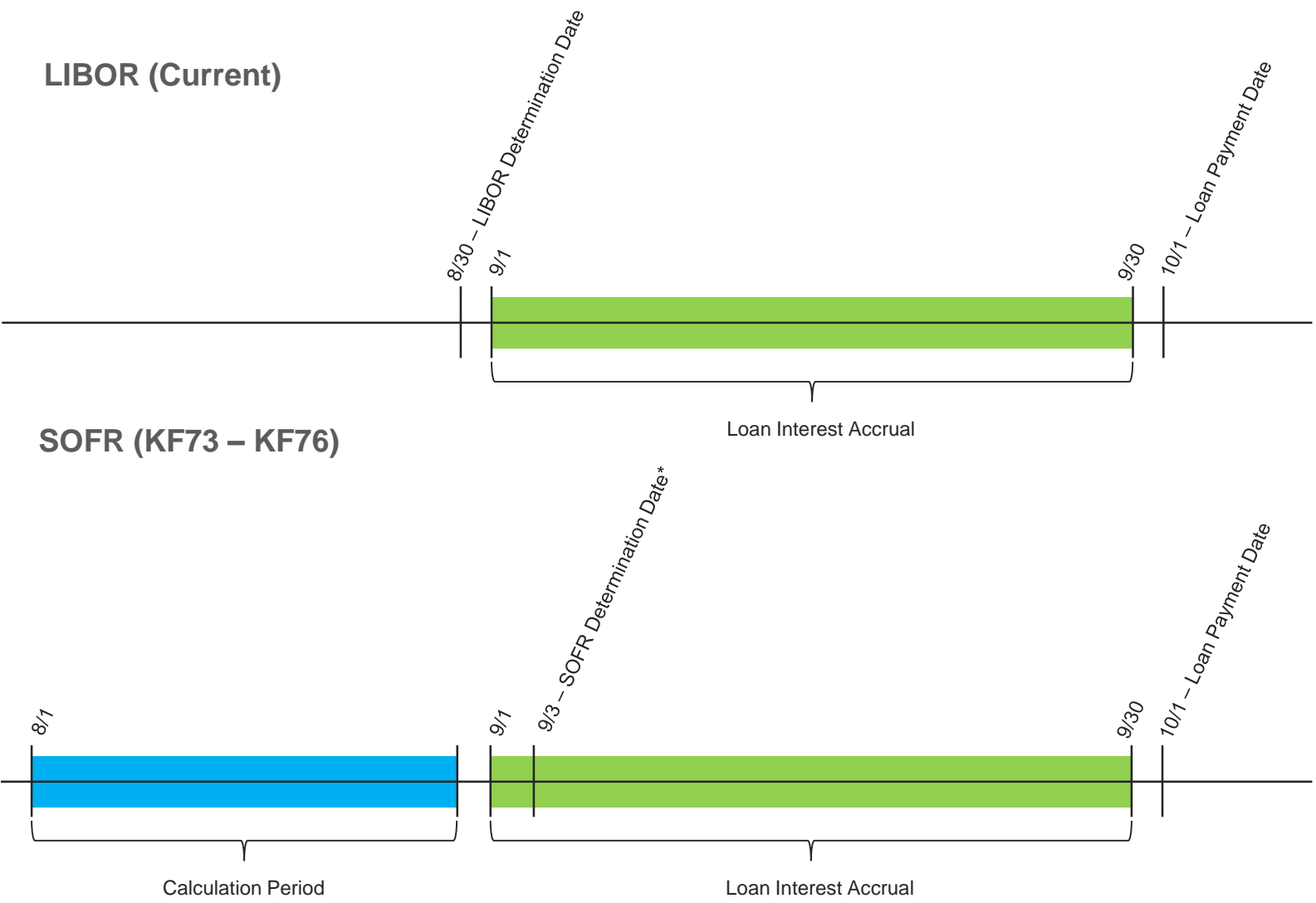
■ **KF73 – KF76**: The LIBOR-SOFR bond has a separate SOFR determination date on the first business day of the loan interest accrual period

- » LIBOR-based bonds and LIBOR-based loans will continue to have a LIBOR determination date on the last business day of the month prior to the loan interest accrual period
- » The applicable index for SOFR-based bonds cannot be less than zero

■ **KF77 – KF94**: Similar to LIBOR, the SOFR Determination Date is the business day prior to the loan interest accrual period

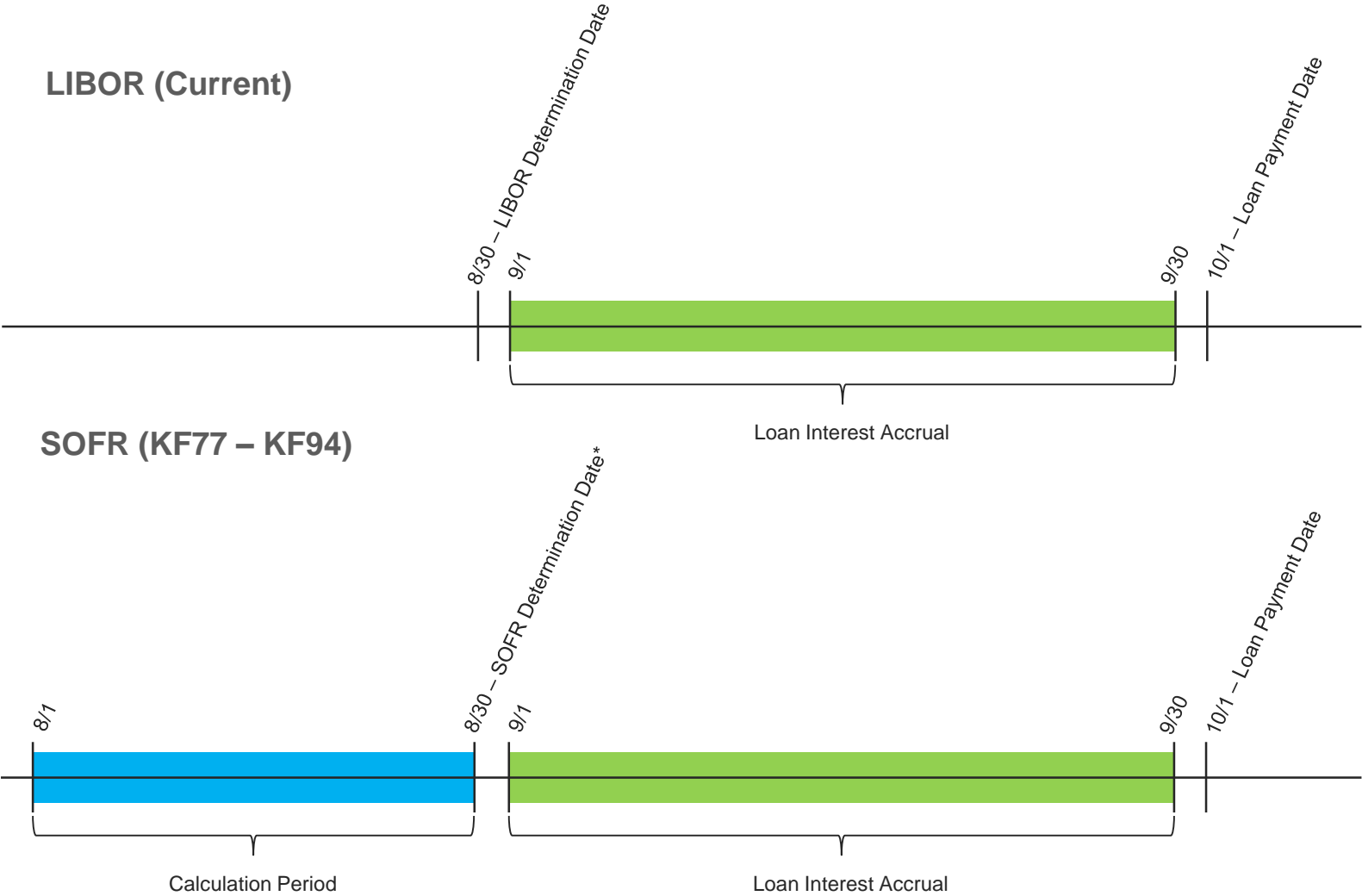
- » SOFR-based bonds will in no event have a pass-through rate less than zero

SOFR Determination – Calendar Month SOFR (KF73 – KF76)



* SOFR determination dates to occur on the first business day of the loan interest accrual period

SOFR Determination – 30 Day SOFR Average (KF77 – KF94)



* SOFR determination dates to occur on the last business day prior to the loan interest accrual period

SOFR Floor – Example 3

Example 3: Class AS Pass-Through 0.00% Rate Floor (KF77 – KF94)



1. 30-Day Average SOFR Rate assumed to be -1.00%, -0.75%, and -0.50% respectively for illustrative purposes

2. Class AS Margin assumed to be 0.25%, 0.50%, and 0.75% respectively for illustrative purposes

3. Since the LIBOR-SOFR Bond in KF77 – KF94 cannot have a pass through rate less than zero, the Class AS Pass-Through Rates in Scenarios 1 and 2 are floored at 0.00%

SOFR Bond Index

- **KF73 – KF76**: Interest due to Class AS certificateholders will be calculated based upon a calendar month compounding average of published SOFR rates
 - » Freddie Mac Multifamily will calculate the applicable SOFR average based upon the methodology published by the FRBNY / Alternative Reference Rates Committee on November 4, 2019¹

- **KF77 – KF94**: Interest due to Class AS will be calculated based upon the published 30-day SOFR average
 - » The applicable SOFR average is published on or about 2:30 p.m. (New York City time) on the New York Federal Reserve Bank’s website²

¹ https://www.newyorkfed.org/markets/operating_policy/operating_policy_191104

² <https://apps.newyorkfed.org/markets/autorates/sofr-avg-ind>



SOFR-SOFR Bonds:

SOFR Bonds Backed By SOFR-Based Loans

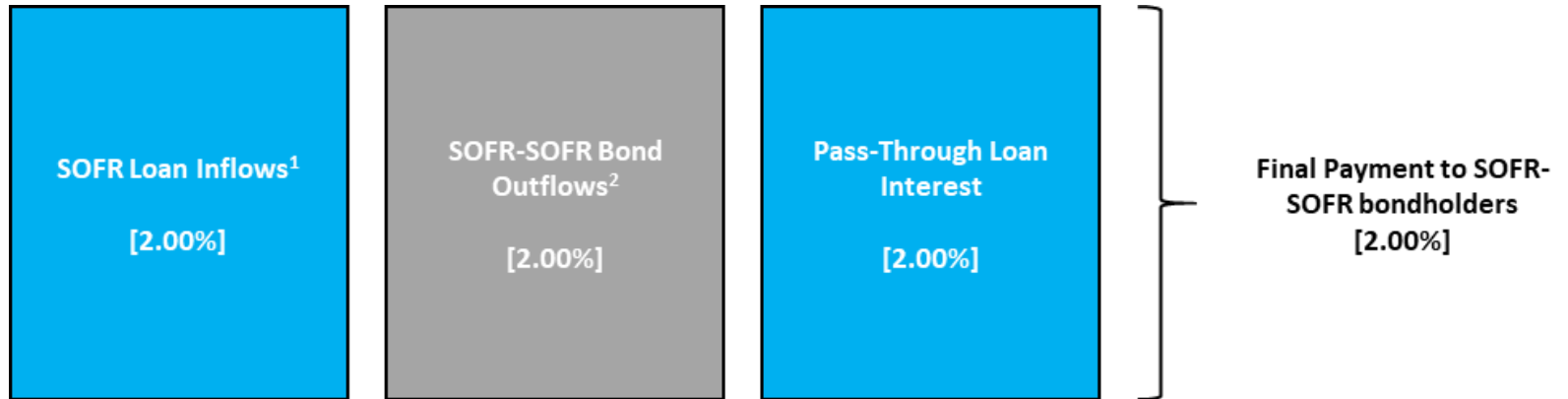
SOFR-SOFR Bond Class

- MF expects to begin offering SOFR-SOFR bonds (Classes AS, BS, CS, and XS) collateralized by SOFR-based loans with KF95
- MF may or may not offer LIBOR bonds (Classes AL, BL, CL, and XL) collateralized by LIBOR-based loans in the same KF transaction in which SOFR-SOFR bonds are offered. If LIBOR bonds are offered, underlying mortgage loans will be group directed such that:
 - LIBOR bonds are exclusively collateralized by LIBOR-based loans and
 - SOFR-SOFR bonds are exclusively collateralized by SOFR-based loans



1. The Class XL Certificates 1) receive interest-only payments indexed to LIBOR and notional to Classes AL, BL, and CL, and 2) are entitled to Static Prepayment Premiums
 2. The Class XS Certificates 1) receive interest-only payments indexed to SOFR and notional to Classes AS, BS, and CS, and 2) are entitled to Static Prepayment Premiums
 3. For illustrative purposes only, class sizes do not reflect actual bond offering
 4. MF may not offer Class BL or BS Classes. If Class BL and BS are not offered, Classes AL and AS may extend to the 7.5% credit enhancement level

SOFR-SOFR Interest Payment Example



1. Interest income received by the Trust from underlying SOFR based loans (assumed to be 2.00% for illustrative purposes)

2. Interest due to SOFR-SOFR (class AS, BS, CS, or XS) bondholders calculated using SOFR (assumed to be 2.00% for illustrative purposes)

MF's SOFR-SOFR bond offering follows the existing floating rate LIBOR bond structure with a SOFR index



Determination Date: Similar to LIBOR, the SOFR Determination Date is the business day prior to the loan interest accrual period



SOFR Index: Interest due to SOFR-SOFR bonds will be calculated based upon the published 30-day SOFR average

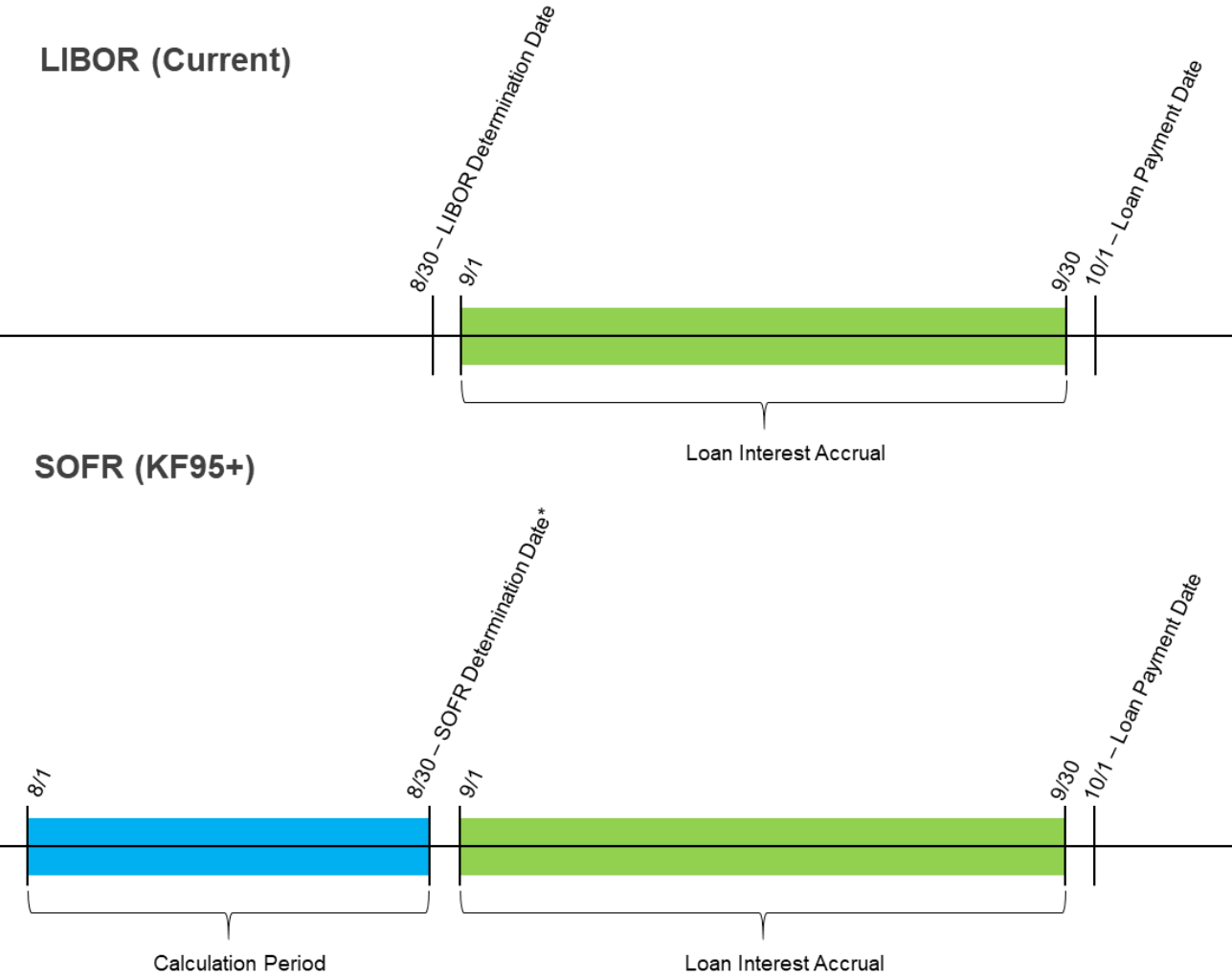
» The applicable SOFR average is published on or about 2:30 p.m. (New York City time) on the New York Federal Reserve Bank's website¹



Applicable Floor: Applicable index for SOFR-based bonds cannot be less than zero

¹ <https://apps.newyorkfed.org/markets/autorates/sofr-avg-ind>

SOFR Determination – 30 Day SOFR Average (KF95+)



* SOFR determination dates to occur on the last business day prior to the loan interest accrual period



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