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Preliminary Ratings (as of Dec. 11, 2018)

Class	Balance/Notional Amount ($)	Morningstar Preliminary Rating	Final Scheduled Distribution Date	Credit-Support Levels (%)
Class A-1FX	102,011,000	AAA	October 2058	40.35
Class A-1FL	50,000,000	AAA	October 2058	40.35
Class A-2	24,847,000	AAA	October 2058	30.60
Class A-3	34,658,000	A+	October 2058	17.00
Class M-1	15,546,000	BBB+	October 2058	10.90
Class B-1	12,487,000	BBB-	October 2058	6.00
Class B-2	7,186,000	BB	October 2058	3.18
Class B-3	8,104,518	NR	October 2058	0.00
Class A-IO-S	254,839,618	NR	October 2058	N/A
Class XS	254,839,618	NR	October 2058	N/A
Class P	100	NR	October 2058	N/A
Class R	N/A	NR	N/A	N/A

For any distribution date, the interest rate for the Class A-1FX, A-1FL, A-2, A-3, M-1, B-1, B-2, and B-3 certificates will be equal to the lesser of a fixed interest rate and the net weighted-average coupon rate.

NR-Not rated.

Estimated Closing Date: Dec. 20, 2018

Solely to the extent and subject to the scope of review enumerated herein, this report and the preliminary ratings noted above address certain credit risks and the extent to which the payment stream of the collateral is adequate to make payments required under the certificates based on information identified as subject to review herein and to the extent provided to Morningstar on the arranger's website or email for this transaction as of Dec. 11, 2018. The below analysis, as well as Morningstar's ratings characteristics as described in Appendix C, further reflects the ratings analysis related to these preliminary ratings. Investors should be aware that the proposed transaction and certain documents related thereto are not finalized. Following Morningstar's receipt of final information and documentation, and the completion of Morningstar's review of such information and documentation, Morningstar may issue final ratings. Such final ratings may differ from the preliminary ratings enumerated herein.

Ongoing Surveillance Statement

Morningstar will monitor the ratings assigned to each class of certificates and may publish surveillance reports. Appendix B to this report provides details on our surveillance approach. Morningstar's ability to monitor this transaction is contingent on Morningstar's continued timely receipt of certain information and data regarding the collateral and transaction.

This report is an opinion and does not constitute an offer to sell or a solicitation of an offer to buy any securities, and it may not be used or circulated in connection with any such offer or solicitation.

Morningstar publishes its current Form NRSRO and exhibits thereto at www.morningstarcreditratings.com. Morningstar maintains internal policies and procedures to manage conflicts, which may include payment structures for ratings.

Transaction Spotlight

Collateral	Residential rental mortgage loans
Note Balance ($)	254,839,618
Note Balance (Offered) ($)	246,735,000
Structure	Sequential/pro rata; Monthly Excess Cash Flow Turbo

Issuer	Verus Securitization Trust 2018-INV2
Sponsor	Invictus Residential Pooler, L.P.
Trustee	Wilmington Savings Fund Society, FSB
Servicers	Specialized Loan Servicing LLC
	New Penn Financial, LLC d/b/a Shellpoint Mortgage Servicing
Master Servicer	Nationstar Mortgage LLC

Ratings Rationale

Morningstar Credit Ratings, LLC determined the preliminary ratings on each class of certificates by performing a quantitative and qualitative collateral, structural, and legal analysis. This analysis uses the Morningstar Credit Model and is based on Morningstar's published criteria. (For details, go to www.morningstarcreditratings.com.) Morningstar produced vectors based on loan-level information and subjected these vectors to a variety of stresses. Morningstar used these vectors to project cash flows according to the payment waterfall structure. Morningstar assigned the ratings to each class based on the level of stresses each class can withstand and whether such stresses are commensurate with the applicable rating level. Morningstar's ratings do not consider any potential extraordinary expenses. Morningstar's ratings also do not address net weighted-average coupon-related interest shortfalls.

Morningstar reviewed the third-party participants in the transaction, including the mortgage loan aggregator and servicers, and found these parties acceptable. For more details, see the Operational Risk Evaluation section. Morningstar also conducted a legal review and found no material concerns. For details, see the Legal/Structural Analysis section.

Morningstar's U.S. RMBS General Ratings Methodology, which details Morningstar's new issuance and surveillance of ratings of U.S. residential mortgage-backed securities transactions, is available at www.morningstarcreditratings.com.

Table of Contents

Morningstar Perspective

Credit Analysis Result for Interest-Rate Scenarios

Morningstar's High-Interest-Rate Scenario--Model With Qualitative Adjustments

Rating Scenario	Loss (%)	Default (%)	Loss Severity (%)
AAA	28.32	47.57	59.52
AA	21.77	40.82	53.34
A	16.25	34.36	47.29
BBB	10.14	27.16	37.32
BB	5.41	20.86	25.95
B	2.24	15.68	14.30

Morningstar's Mid-Interest-Rate Scenario--Model With Qualitative Adjustments

Rating Scenario	Loss (%)	Default (%)	Loss Severity (%)
AAA	28.55	48.64	58.71
AA	22.08	41.99	52.58
A	16.48	35.40	46.56
BBB	10.24	27.77	36.88
BB	5.45	21.14	25.80
B	2.24	15.68	14.30

Morningstar's Low-Interest-Rate Scenario--Model With Qualitative Adjustments

Rating Scenario	Loss (%)	Default (%)	Loss Severity (%)
AAA	29.58	51.63	57.29
AA	22.97	44.87	51.20
A	17.12	37.96	45.09
BBB	10.64	29.60	35.96
BB	5.64	22.12	25.48
B	2.24	15.68	14.30

To download our loan-level default, prepayment, severity, delinquency, and servicer-advance vectors and interest-rate projections, go to the RMBS New Issue Ratings Analysis section at www.morningstarcreditratings.com.

Collateral: The collateral is composed of business-purpose rental mortgage loans backed by residential properties. The majority of the loans are backed by one property, and most loans were extended to borrowers with only one loan in the pool. However, some loans are backed by multiple properties, and some borrowers have multiple loans in this pool. Cross-default is sometimes required when a borrower has two or more loans. Morningstar is credit neutral to the cross-default feature because it provides the lender with flexibility and control in managing underperforming assets.

To address loans backed by multiple properties, Morningstar's credit analysis rolls up property-level attributes to the loan level. For example, for property type, Morningstar treats a loan backed by two condominium properties making up 53.8% of the total loan balance and planned unit development properties representing 46.2% of the loan balance as a condominium property.

Loss Drivers: Morningstar primarily considers FICO scores, loan-to-value ratios, home-price-index projections, and interest-rate projections when determining losses. Projected losses are generally higher on loans with properties in regions that have experienced greater home price declines than national averages.

Defaults: The Morningstar AAA high-interest-rate stress results in a lifetime default rate of 47.6%, which includes qualitative adjustments. The constant default rate for the first 300 months peaks at 9.8% in month 49, excluding the large-loan adjustment in month 18.

Prepayments: The Morningstar AAA high-interest-rate stress results in a lifetime cumulative prepayment rate of 42.4%, which includes qualitative adjustments.

Loss Severity: The highest loss severity projection for the first 300 months under the Morningstar AAA high-interest-rate stress is approximately 66.3%, which occurs in month 52, excluding the large-loan adjustment in month 18. Loss severities are primarily driven by Morningstar's stressed HPI assumptions.

Delinquency: Delinquency projections under the Morningstar AAA high-interest-rate stress peak at approximately 50.4% in the first 300 months, which includes qualitative adjustments.

Geographic Concentration: Approximately 75.1% of the loans by cutoff balance are in California, Florida, and New York. The geographic concentration risk is mitigated by the appropriate handling of the respective geographic locations of the loans within the Morningstar Credit Model. The credit model accounts for house price projections at the ZIP code or regional level.

Ratings Survive a Back-Ended Loss Curve: Morningstar runs loss-timing scenarios that delay losses.

Originator/Aggregator: Morningstar reviewed the aggregator, Invictus Capital Partners, and found the company to be a strong aggregator. As a result, Morningstar reduced our loss projections, as described in the Qualitative Adjustments section. Morningstar did not review the originators.

Servicer: Specialized Loan Servicing LLC and New Penn Financial, LLC doing business as Shellpoint Mortgage Servicing will service all of the loans. Morningstar reviewed both and found each to be a strong servicer of residential mortgages. As a result, we reduced our loss projections.

Due Diligence: The loans backing the Verus Securitization Trust 2018-INV2 transaction have undergone a comprehensive third-party due-diligence review.

The Bulls Say

- Current Borrower Equity: The borrowers have a significant amount of equity in their homes. The weighted-average original LTV is 62.1%, and the weighted average current LTV is 61.7% for the portfolio.
- Low Leverage: The weighted average original LTV is 62.1%, and 98.9% of the loans have an original LTV less than or equal to 75.0%.
- Current Payment Status: As of the cutoff date, 100% of the loans in the pool were current.
- Strong Servicers: Morningstar reviewed Specialized Loan Servicing and Shellpoint, and found each to be a strong servicer of residential mortgages.
- Comprehensive Due-Diligence Review: Three third party due diligence providers reviewed the loans for compliance, credit, property valuation, and data integrity. Morningstar found the results of these reviews acceptable.
- Risk Retention: The sponsor or a majority-owned affiliate of the sponsor will retain a horizontal residual interest of at least 5% of the fair value of the certificates, to satisfy credit risk-retention rules. To the extent the sponsor retains such interest, this creates an alignment of interests between the sponsor and the investors because, by holding the first-loss piece, the sponsor is incentivized to minimize collateral losses.

The Bears Say

- Low Lease Rate: As of loan origination, only about 45.9% of the properties were leased with fully executed arm's length lease agreements. In the credit analysis, which rolled up property-level attributes to the loan level, Morningstar treated about 35.4% of the loans, or 272 loans, as having full income documentation.
- Aggregator With Limited Performance History: Invictus, which began acquiring loans in 2015, has a limited history for which to evaluate loan performance.
- FICO Drift: As explained in the Credit and Cash Flow Assumptions section, the weighted average original FICO is 707, assuming a score of 500 when no score is provided. While Morningstar generally expects a FICO score to "drift" lower after a borrower obtains a mortgage, we observed that, among loans where we received a post-origination FICO score, the score for 41 loans dropped by over 50 points. For these loans, Morningstar used the updated lower FICO.
- Large-Balance Loans: Approximately 6.3% of the loans account for approximately 25.3% of the entire pool balance. This increases the loss impact of the pool from the high-balance loans. Morningstar applied a large-loan penalty to address this risk.

Transaction Comparison

The Verus 2018-INV2 notes are supported by the payment streams from 703 fixed-rate and adjustable-rate business-purpose loans backed by first liens on 811 residential properties. As of the cutoff date, unpaid principal balance was about $254.8 million. The weighted average original LTV is 62.1%, and the weighted-average original FICO score is 707. The weighted average seasoning of the loans is six months as of the cutoff date. As mentioned above, at origination, 45.9% of the properties were leased with fully executed arm's length lease agreements. About 95.6% of the loans by current balance are backed by a single property, and 4.4% are backed by more than one property. The largest number of properties backing a single loan is 18. The 703 loans were made to approximately 612 borrowers. Cross-default is sometimes required when a borrower has two or more loans, and Morningstar is generally credit neutral on this cross-default feature. As for the loans backed by multiple properties, the properties are generally in close proximity and make property management relatively easy. Morningstar's analysis is conducted at the loan level rather than the property level. The properties are distributed across 31 states and the District of Columbia. California and Florida have the largest concentration of properties with 59.6% by cutoff loan balance. The priority of payments on the notes is generally based on a senior/subordinate structure with Class A certificates being paid on a pro rata basis if a credit event is not in effect. Excess interest is used to cover losses and build overcollateralization if available. Morningstar determined the preliminary ratings for each class of notes by performing a quantitative and qualitative collateral and structural analysis.

Exhibit 1 : Transaction Comparison

Deal	Verus 2018-INV2	RCO 2017-INV1	RCO 2016-SFR1
Number of Loans	703	909	948
Number of Properties	811	1,345	1502
Average Current Loan Balance ($)	362,503	140,080	120,389
Weighted Average Seasoning (months)	6	5	6
Weighted Average FICO[1]	707	717	699
Weighted Average Original LTV (%)	62.1	67.5	69.6
Weighted Average Morningstar DSCR (x)	1.3	1.4	1.4
Current (%)	100.0	100.0	100.0
Second Lien (%)	0.0	0.0	0.0
Coupon (%)	7.4	7.7	8.0
Adjustable-Rate Mortgage (%)	82.0	66.6	49.9
Full Doc[2] (%)	35.4	84.4	76.1

Note: Weighed by current balance
[1]The FICO score includes Morningstar's FICO drift analysis.
[2]Morningstar considers loans backed by properties with lease in place with in-place rent information or properties with in-place rent and third-party rent information as Full Doc loans. See the Credit and Cash Flow Assumptions section.
Sources: Morningstar Credit Ratings, LLC and 17g5 dataroom.

Analysis

Qualitative Adjustments

Morningstar applied factors at the loan level to increase or decrease loan loss projections. We applied these factors to the constant default rate vectors.

Qualitative Adjustment Category	Factor	Rationale
Originators/Aggregator	0.9500	Morningstar reviewed the aggregator, Invictus, and found it to be a strong aggregator. Morningstar did not review the originators.
Servicers	0.9500	Morningstar reviewed Specialized Loan Servicing and Shellpoint, finding them to be strong servicers.
Collateral Quality	0.9500	A third-party review firm completed comprehensive due diligence and the results are acceptable.
Cash Flow Structure	1.0000	The cash flow structure is pro rata among the Class A certificates with a sequential trigger.
Incentive Alignment	0.9500	The aggregator provides comprehensive representations and warranties.
Total Adjustment Factor	0.8145	

Additionally, Morningstar applied loan-level factors to the constant default rate and delinquency vectors based on the ratio of rent to principal, interest, taxes, insurance, and association fees, as well as the LTV and FICO score. Morningstar compared the issuer-provided rent with property-level rental estimates from RentRange and other third-party sources. If the issuer-provided rent was greater than the average of the rent values from the third-party sources, Morningstar used the average of the issuer-provided rent and the third-party rent values. If the issuer did not provide rent, Morningstar used the average of the rent from third-party sources, discounted by 10%. If rent from third-party sources was not available, Morningstar discounted issuer-provided rent by 10%. On average, for the loans where the issuer had provided rent data, the rent used by Morningstar was 13.0% less than the issuer-provided rent. If no rent was available from any source, Morningstar applied the most conservative factor. The weighted-average factor applied to the constant default rate and delinquency vectors for the business-purpose loans was 1.01. The loan-level adjustment factor was based on Morningstar's research, "Resurgence of Nonagency Single-Property Investor Loans," published in February 2016. (Please go to the Research tab at www.morningstarcreditratings.com for the article.)

Large-Balance Loan Adjustment

Approximately 6.3% of the loans account for approximately 25.3% of the entire pool balance. Because the loan balances are large and the loan count is relatively small, the loans are naturally geographically concentrated. The geographic concentration risk is mitigated by the appropriate handling of the respective geographic locations of the loans within the Morningstar Credit Model. The credit model properly accounts for house price projections at the ZIP code level. However, to ensure that a few defaulted large loans would not erode all of the credit support to the rated tranches, Morningstar defaulted the remaining balance of certain large loans in month 18 of the transaction and applied the maximum severity projection for those loans to determine the dollar amount of loss.

Default Analysis

The biggest drivers of defaults under the Morningstar Credit Model for Verus 2018-INV2 were FICO score, current LTV, HPI projections, and interest-rate projections.

Exhibit 2: Verus 2018-INV2 Constant Default Rate[1]

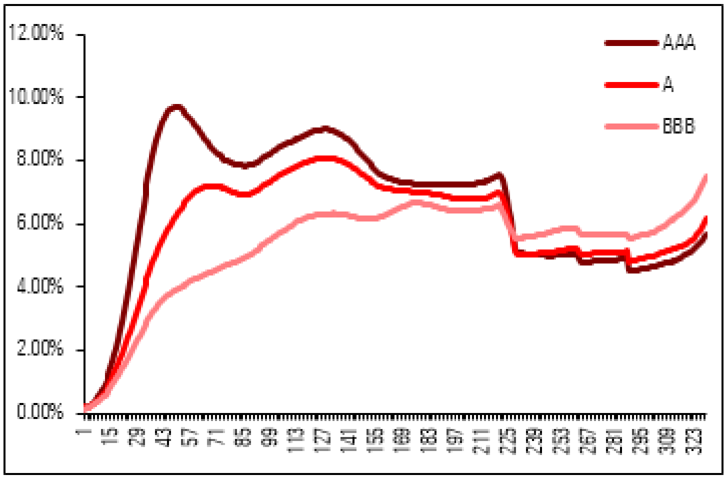
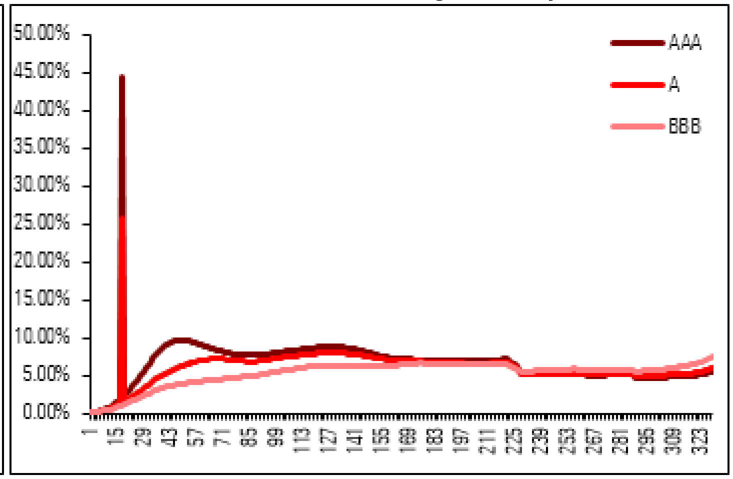


Exhibit 3: Constant Default Rate With Large-Loan Adjustment[1]



[1]High-interest-rate stress scenario.
Sources: Morningstar Credit Ratings, LLC and Intex Solutions, Inc.

Prepayment Analysis

Exhibit 4: Verus 2018-INV2 Constant Repayment Rate[1]

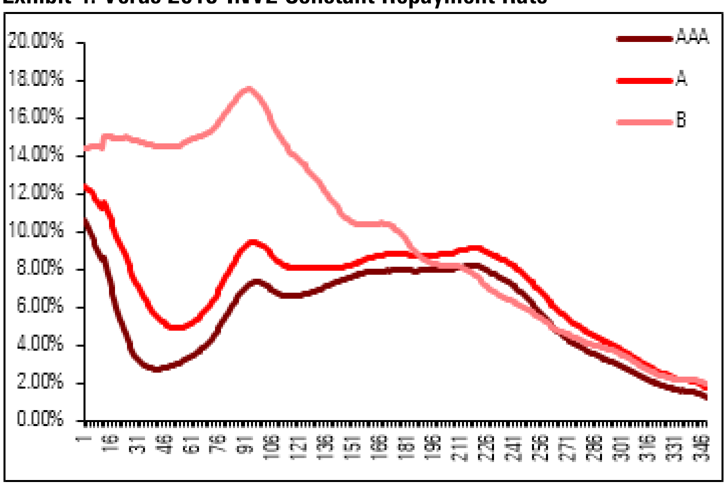
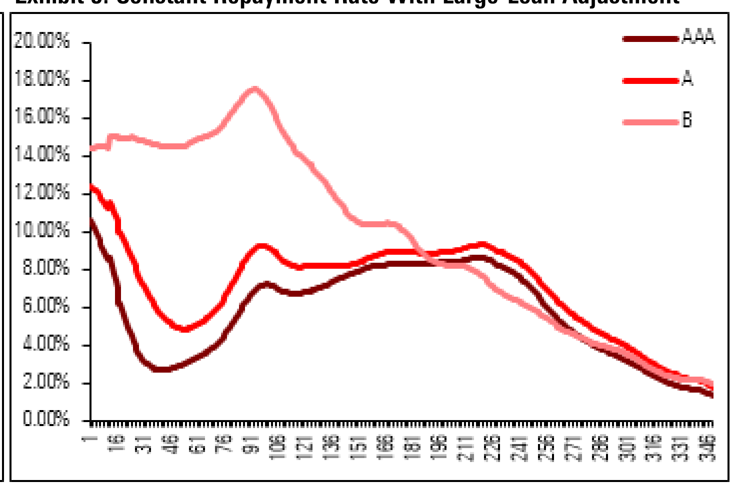


Exhibit 5: Constant Repayment Rate With Large-Loan Adjustment[1]



[1]High-interest-rate stress scenario.
Sources: Morningstar Credit Ratings, LLC and Intex Solutions, Inc.

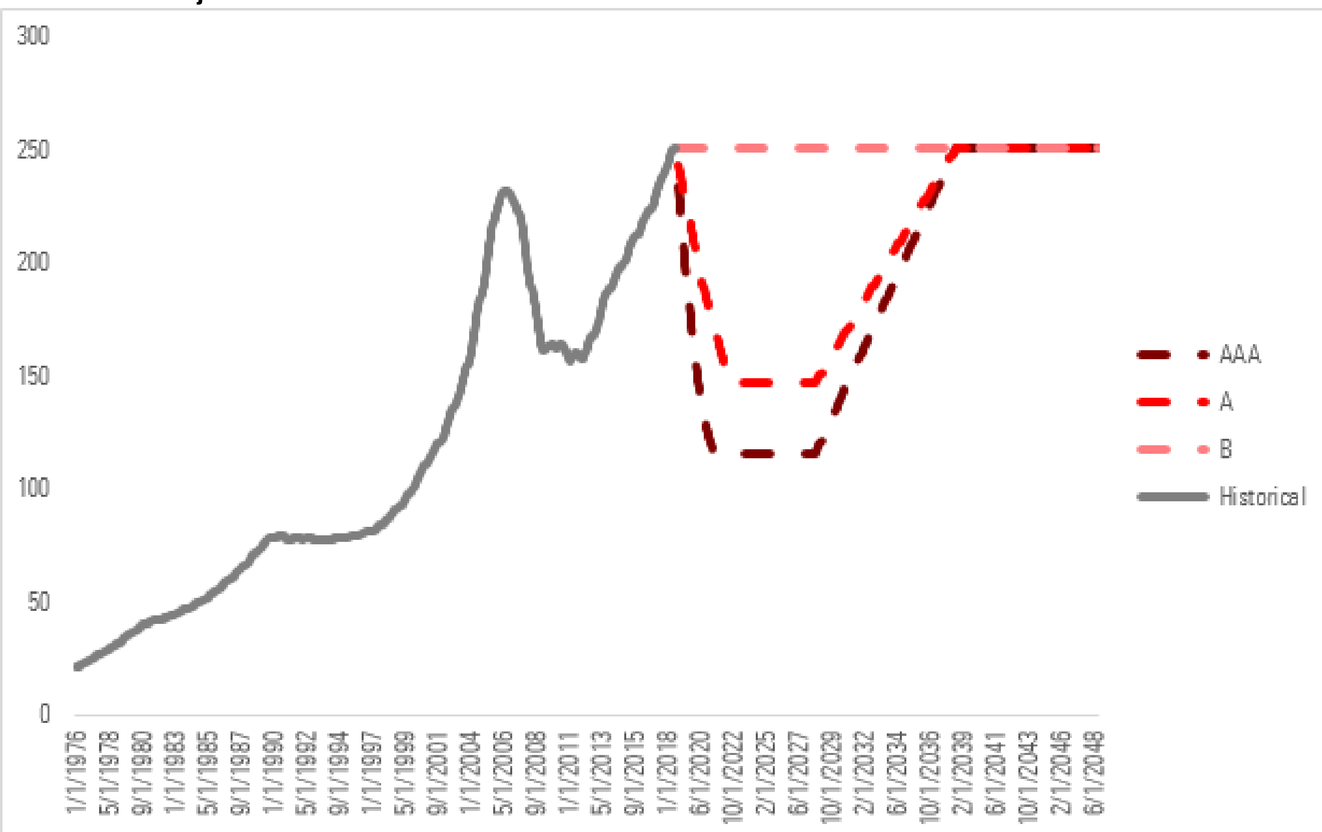
HPI Analysis

The most stressful national economic environment of the past 43 years (1976 to 2018) was the housing crisis, which Morningstar considers an A stress environment. In the A rating scenario, Morningstar applies house price decline assumptions that are at least as stressful as the worst house price decline experienced by that specific region over the past 43 years. If the regional declines have been less severe than the national average HPI decline, Morningstar uses the national average HPI decline for the region as a conservative assumption.

Because a security rated AAA should survive an extremely stressful environment, Morningstar applies an economic scenario equivalent to a catastrophic event when running a AAA rating scenario. To simulate this scenario, Morningstar applies a house price decline that is more severe than the A house-price decline. For example, at the time of this publication, the AAA house price decline assumption is 1.3x the A decline. HPI forecast assumptions are regional, so deal-level HPI assumptions will vary based on the pool's geographic composition. As a result, the Morningstar Credit Model generally does not need out-of-model adjustments for geographic compositions.

The following exhibit displays the magnitude of the Morningstar HPI stress for Verus 2018-INV2. The gray line labeled Historical tracks the actual HPI path for loans in Verus 2018-INV2. The various dotted lines show Morningstar's HPI projections at the AAA, A, and B ratings category. The A HPI projections mirror the crisis HPI drop before home prices stabilize.

Exhibit 6: HPI Projections for Verus 2018-INV2



Note: The HPI is set at a base year of 2000.
Sources: Morningstar Credit Ratings, LLC and CoreLogic.

Loss-Severity Analysis

Exhibit 7: Verus 2018-INV2 Loss Severity[1]

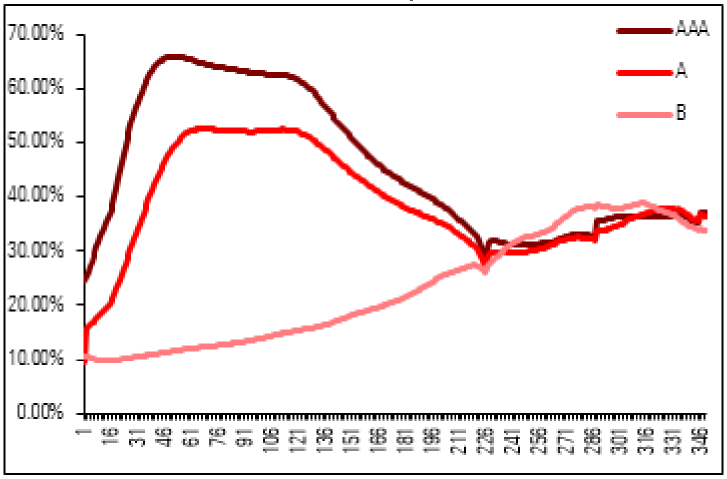
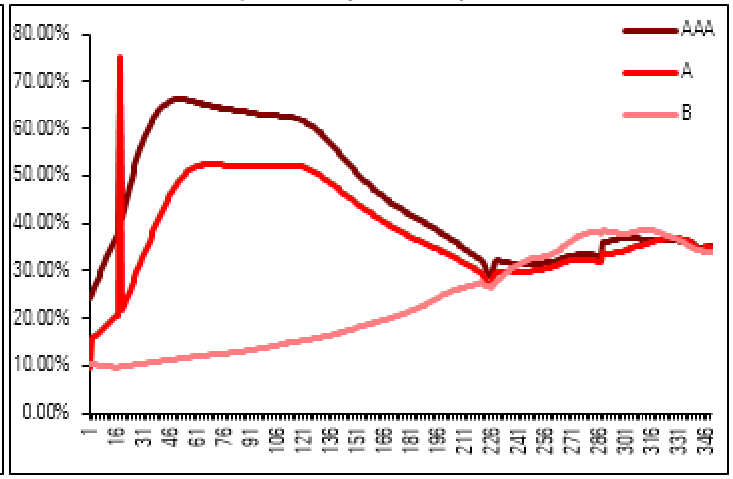


Exhibit 8: Loss Severity With Large-Loan Adjustment[1]



[1]High-interest-rate stress scenario.
Sources: Morningstar Credit Ratings, LLC and Intex Solutions, Inc.

Exhibit 9: Verus 2018-INV2 Cumulative Loss[1]

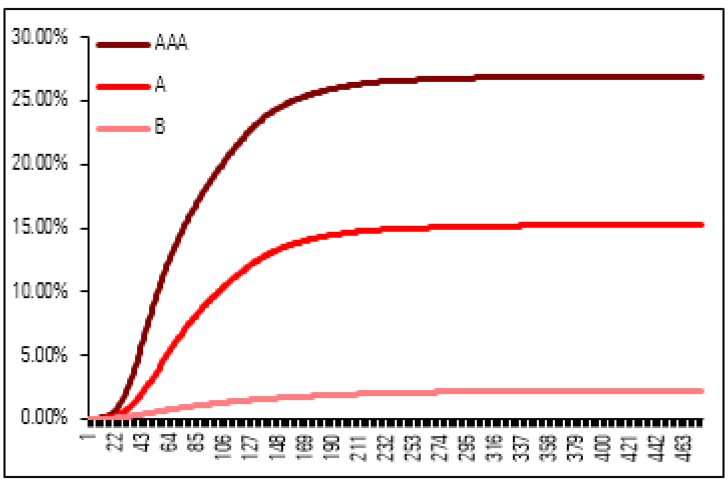
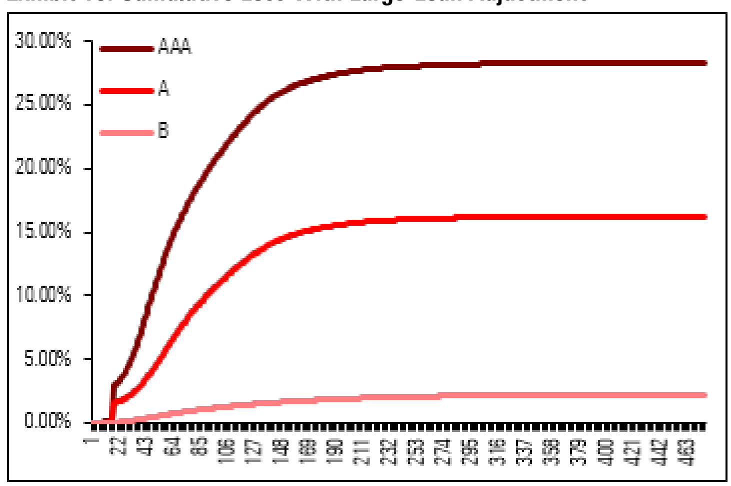


Exhibit 10: Cumulative Loss With Large-Loan Adjustment[1]



[1]High-interest-rate stress scenario.
Sources: Morningstar Credit Ratings, LLC and Intex Solutions, Inc.

Credit and Cash Flow Analysis

Morningstar built and maintains a proprietary loan-level credit model to forecast a constant default rate curve, a constant repayment-rate curve, a loss-severity curve, a delinquency curve, and a monthly servicer-advance probability for each loan. The final economic inputs are HPI and interest-rate projections. When running the B, or base-case, scenario, Morningstar uses the forward curve for each index. As the rating-stress level increases, Morningstar also runs each scenario with increasingly higher and lower interest-rate paths, ensuring that the higher rating levels can withstand a variety of interest-rate scenarios. The actual economic stresses associated with the rating scenarios are shown in the next section, Credit and Cash Flow Assumptions.

Morningstar reviews and may adjust the output from this credit model based on additional data and structural enhancements, which will increase or decrease the model results. Once the committee approves the adjusted loan performance vectors, Morningstar analysts review the transaction documents and use an issuer-provided Intex CDI or DMS file as the cash flow model. This cash flow model reflects the Verus 2018-INV2 deal structure and, using credit model outputs for various rating scenarios and the loan-level data, shows the cash flows that Morningstar projects to be distributed to each class every month. It also shows any expected principal or interest shortfall that will be absorbed by the class and/or excess cash flow because of collateral performance and interest-rate assumptions associated with each rating scenario. Morningstar determines the rating for a class by the applicable rating stress scenario that the class can survive with no interest or principal shortfalls.

Credit and Cash Flow Assumptions

In accordance with Morningstar's published criteria, we subjected the loans backing the Verus 2018-INV2 transaction to a variety of stresses. First, each rating scenario anchor has a set of economic assumptions associated with it. For example, under the B scenario, or Morningstar's base-case scenario, we expect no house price appreciation. Under the A scenario, house prices fall at least 32.8% in an environment meant to mimic the crisis. As previously mentioned, in the AAA scenario, Morningstar assumes a 1.3x multiple of the A HPI maximum drop. The intent is to be transparent about the level of stress each class can survive intact.

Future interest rates are uncertain, so Morningstar stresses interest rates at every rating level. With the exception of the B scenario, Morningstar subjected the transaction to three interest-rate projections for each rating scenario. Morningstar subjected the B scenario to the forward curve only, because the forward curve is the expected interest-rate path. Morningstar applied interest-rate stresses to both the credit and cash flow analyses.

To further stress the transaction's sensitivity to the loss timing, Morningstar ran a scenario with back-loaded defaults. Because expected voluntary prepayments were significantly higher before the projected defaults increased, the effect of the back-loaded defaults was muted and resulted in fewer write-downs than when running the applicable stressed scenario from month one.

Loans backed by properties having in-place rent and third-party rent information, Morningstar ran them as full documentation loans. Also, for loans backed by properties with available lease agreements, we considered them as full documentation loans. Morningstar analyzed loans with no rent data as no documentation loans.

To determine the original FICO score, Morningstar took the middle of three scores or the lower of two scores. If there was a co-borrower, we took the higher of the original FICO scores. Morningstar generally expects a FICO score to drift lower after a borrower obtains a mortgage. Among loans where a post-origination FICO score was provided, borrowers for 41 of them had their FICO scores dropped by over 50 points. For these loans, Morningstar used the lower FICO score. This resulted in a weighted average FICO score of 707.

For loans with more than 12 months of seasoning, to determine current property valuations, Morningstar reduced the home price index-adjusted original appraised value by 10%. For the rest, Morningstar used the home price index-adjusted original appraised value to determine current property valuations.

We reviewed the due-diligence results and underwriting guidelines and adjusted documentation type based on these reviews.

Morningstar relied on the issuer's Intex CDI input file for the deal structure evaluation.

Morningstar does not consider any potential extraordinary expenses in our ratings. Morningstar's ratings also do not address net weighted-average coupon-related interest shortfalls, prepayment interest shortfalls, or interest shortfalls because of the Servicemembers Civil Relief Act or any similar state law.

Legal/Structural Analysis

Morningstar used external legal counsel to review certain items in the transaction relevant to our ratings analysis. The documents provided during the rating process included the term sheet, a draft preliminary private placement memorandum and drafts of certain of the transaction documents. As of the publication date, legal opinions have not been provided. The representations, warranties, and enforcement mechanisms (listed in a separate publication and incorporated herein by reference) are acceptable to Morningstar and meet our published criteria. Morningstar analysts reviewed the due-diligence results and found them acceptable. The representations, warranties, and enforcement mechanisms; due-diligence findings; and transaction structure are summarized in later sections.

Loan Summary

Geographic Composition

As mentioned, the trust's 703 loans are in 31 states and the District of Columbia, with the largest concentration by cutoff balance in California. Morningstar factored the portfolio's geographic concentration at the ZIP code level into the credit analysis via our RMBS transition model. The following table provides the projected losses by state.

State	Cutoff Balance (%)	Properties	Base-Case Loss (%)	A Scenario Loss (%)[1]	AAA Scenario Loss (%)[1]
California	35.9	184	1.0	10.4	21.4
Florida	23.7	229	2.6	26.1	46.9
New York	15.5	68	3.7	15.1	21.6
New Jersey	4.3	30	4.1	23.0	30.0
Hawaii	4.0	17	2.7	13.3	19.5
Texas	2.7	37	2.3	12.0	19.0
Connecticut	1.1	9	2.0	10.5	16.7
Colorado	1.0	5	1.4	11.4	20.2
Washington	1.0	5	0.0	2.9	7.0
Illinois	1.0	12	6.3	24.6	39.1
Virginia	0.9	6	1.9	14.8	24.7
Massachusetts	0.9	6	3.0	12.3	18.9
Nevada	0.9	14	1.1	38.3	65.2
Arizona	0.8	11	2.6	29.4	54.7
Pennsylvania	0.8	11	3.1	12.3	19.7
Tennessee	0.7	5	0.2	7.6	15.1
District of Columbia	0.7	4	3.0	14.4	20.7
South Carolina	0.6	4	5.1	24.7	37.6
Maryland	0.5	9	1.6	9.7	15.0
Ohio	0.4	7	5.6	16.6	24.1
Maine	0.4	1	0.0	6.0	12.0
North Carolina	0.3	7	2.3	10.5	18.4
Georgia	0.3	6	1.7	8.4	14.4
Oregon	0.3	3	1.9	9.8	16.2
New Mexico	0.3	2	0.8	4.4	7.9
Louisiana	0.2	2	1.3	10.0	17.5
Michigan	0.2	2	5.1	20.8	36.8
Rhode Island	0.1	1	4.5	22.1	31.0
Idaho	0.1	2	0.2	2.7	9.4
Utah	0.1	2	0.1	1.3	2.3
Kentucky	0.1	1	2.8	11.0	16.4
Indiana	0.0	1	1.9	12.0	18.9
Weighted Average		703	2.2	16.2	28.3

[1]High-interest-rate stress scenario.
Sources: Morningstar Credit Ratings, LLC and Intex Solutions, Inc.

LTV-FICO Composition

The following heat maps show the relative risk of loans stratified by the determined LTV and FICO segments. The FICO score was determined using Morningstar's FICO drift analysis. As described in the Credit and Cash Flow Assumptions section, if neither original FICO score nor recent FICO was not provided, Morningstar assumed a score of 500. The loan segments represented by the red-shaded cells contain the highest proportion of forecast losses and defaults.

AAA Scenario Average Loss

LTV (%) \ FICO	<600	[600, 639)	[640, 679)	[680, 719)	[720, 759)	[760, 799)	≥ 800
<50	37.5%	9.1%	10.5%	12.6%	29.3%	10.3%	3.1%
[50-55)	47.4%	21.3%	8.2%	20.8%	12.9%	15.2%	45.0%
[55-60)	46.1%	23.0%	33.6%	14.4%	11.1%	20.8%	19.9%
[60-65)	51.8%	20.6%	25.2%	31.5%	14.4%	12.7%	21.3%
[65-70)	52.1%	52.0%	40.4%	34.1%	24.8%	18.1%	17.0%
[70, 75)	55.1%	53.4%	42.0%	45.7%	30.1%	22.8%	15.6%
[75, 80)	73.9%	43.2%	26.2%	38.6%	43.5%	35.9%	38.3%
>80			42.3%	41.0%		23.3%	

AAA Scenario Average Default

LTV (%) \ FICO	<600	[600, 639)	[640, 679)	[680, 719)	[720, 759)	[760, 799)	≥ 800
<50	75.2%	33.9%	33.3%	28.5%	40.5%	21.3%	11.9%
[50-55)	73.9%	48.4%	22.3%	40.5%	26.6%	28.0%	70.5%
[55-60)	79.1%	49.7%	56.6%	31.0%	26.2%	35.1%	32.9%
[60-65)	77.5%	49.8%	50.3%	54.4%	25.1%	24.8%	33.0%
[65-70)	82.1%	73.8%	62.6%	56.4%	45.1%	34.9%	29.0%
[70, 75)	77.4%	68.8%	67.0%	65.7%	49.9%	40.2%	26.1%
[75, 80)	86.8%	60.9%	55.2%	60.7%	62.3%	55.1%	53.1%
>80			75.5%	49.8%		38.4%	

A Scenario Average Loss

LTV (%) \ FICO	<600	[600, 639)	[640, 679)	[680, 719)	[720, 759)	[760, 799)	≥ 800
<50	24.4%	3.6%	3.3%	4.7%	25.2%	2.3%	1.0%
[50-55)	27.2%	11.6%	3.6%	9.9%	6.6%	4.5%	16.9%
[55-60)	26.0%	14.0%	19.2%	7.3%	5.4%	8.6%	8.5%
[60-65)	33.7%	11.8%	14.8%	15.5%	6.9%	6.0%	9.8%
[65-70)	35.6%	31.7%	25.6%	20.3%	12.4%	9.4%	11.1%
[70, 75)	38.1%	37.3%	27.5%	25.0%	17.3%	12.4%	8.2%
[75, 80)	61.2%	31.7%	16.1%	23.5%	26.5%	19.8%	22.3%
≥80			30.4%	24.0%		16.3%	

A Scenario Average Default

LTV (%) \ FICO	<600	[600, 639)	[640, 679)	[680, 719)	[720, 759)	[760, 799)	≥ 800
<50	63.3%	23.7%	20.6%	17.4%	34.2%	10.3%	7.4%
[50-55)	62.0%	35.7%	14.6%	28.0%	17.7%	14.9%	39.6%
[55-60)	64.8%	38.7%	42.8%	20.2%	17.7%	20.8%	20.4%
[60-65)	66.8%	40.5%	36.9%	36.3%	16.5%	15.5%	20.2%
[65-70)	75.1%	57.6%	48.4%	38.9%	29.0%	24.3%	22.0%
[70, 75)	67.2%	53.6%	52.9%	45.4%	34.3%	27.8%	17.1%
[75, 80)	79.3%	48.5%	43.7%	45.1%	46.7%	37.7%	37.3%
>80			64.8%	37.0%		30.7%	

B Scenario Average Loss

LTV (%) \ FICO	<600	[600, 639)	[640, 679)	[680, 719)	[720, 759)	[760, 799)	≥ 800
<50	9.3%	0.0%	0.0%	0.2%	0.2%	0.0%	0.0%
[50-55)	1.2%	0.7%	0.1%	0.7%	0.8%	0.1%	0.0%
[55-60)	0.5%	3.6%	2.4%	0.8%	0.4%	0.6%	0.4%
[60-65)	4.7%	0.2%	1.9%	1.0%	0.4%	0.4%	1.0%
[65-70)	4.3%	5.6%	5.0%	1.9%	1.9%	1.0%	3.1%
[70, 75)	9.3%	13.4%	6.2%	3.9%	3.1%	1.7%	1.1%
[75, 80)	32.4%	13.2%	1.8%	4.3%	4.8%	3.0%	3.2%
>80			10.0%	4.7%		5.5%	

B Scenario Average Default

LTV (%) \ FICO	<600	[600, 639)	[640, 679)	[680, 719)	[720, 759)	[760, 799)	≥ 800
<50	46.5%	11.0%	7.3%	6.7%	5.2%	3.5%	2.5%
[50-55)	41.7%	17.7%	6.2%	10.9%	8.2%	4.9%	7.0%
[55-60)	35.9%	20.3%	20.4%	8.3%	8.5%	8.0%	6.5%
[60-65)	42.8%	19.0%	16.8%	13.9%	6.3%	5.7%	7.5%
[65-70)	54.9%	27.9%	23.5%	12.7%	13.0%	11.4%	10.8%
[70, 75)	45.2%	27.1%	27.8%	18.0%	13.3%	12.0%	6.7%
[75, 80)	59.1%	26.4%	21.6%	18.9%	19.9%	14.7%	12.5%
>80			41.4%	18.6%		17.0%	

Loan Count

LTV (%) \ FICO	<600	[600, 639)	[640, 679)	[680, 719)	[720, 759)	[760, 799)	≥ 800
<50	4	3	11	19	16	29	3
[50-55)	7	1	8	10	16	12	1
[55-60)	9	6	8	12	9	8	5
[60-65)	24	3	11	19	21	18	3
[65-70)	30	10	23	44	28	23	1
[70, 75)	17	2	33	41	30	34	3
[75, 80)	1	1	1	15	22	38	7
>80	0	0	1	1	0	1	0

Cut-off Date Balance

LTV (%) \ FICO	<600	[600, 639)	[640, 679)	[680, 719)	[720, 759)	[760, 799)	≥ 800
<50	0.6%	0.4%	1.8%	2.8%	2.7%	3.2%	0.7%
[50-55)	0.9%	0.1%	1.4%	2.3%	2.6%	2.1%	0.3%
[55-60)	1.0%	1.1%	0.6%	2.3%	1.5%	1.2%	0.8%
[60-65)	2.3%	0.6%	2.0%	2.3%	3.6%	3.2%	0.4%
[65-70)	2.8%	0.9%	2.8%	8.4%	5.6%	4.3%	0.0%
[70, 75)	1.5%	0.1%	4.2%	4.4%	5.1%	5.2%	0.3%
[75, 80)	0.0%	0.1%	0.1%	1.7%	1.8%	4.9%	0.6%
>80	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%

Sources: Morningstar Credit Ratings, LLC and Intex Solutions, Inc..

Property Type Composition

The pool is primarily composed of single-family detached properties. The overall property type composition of this pool is summarized in the following table.

Property Type	Current Balance (%)	Properties	Average Original FICO[1]	Average Original LTV (%)	Base-Case Loss (%)	A Scenario Loss (%)[3]	AAA Scenario Loss (%)[3]
Single Family Detached	45.3	309	719	62.2	1.3	11.3	21.6
2-4 Units	20.2	125	719	64.1	5.2	20.8	32.1
Planned Unit Development	17.7	127	681	63.9	1.2	18.3	33.5
Condominium	15.2	119	694	56.9	2.3	20.9	34.5
Townhouse	1.5	23	608	63.7	2.4	32.3	55.9
Weighted Average			707	62.1	2.2	16.2	28.3

[1]Based on Morningstar's FICO drift analysis. When no FICO score is provided, Morningstar assumed a score of 500.
[2]Morningstar considered 21 PUD-attached properties as Townhouse properties in its analysis.
[3]High-interest-rate stress scenario.
Sources: Morningstar Credit Ratings, LLC and 17g5.com.

Securitization Trust Summary

Structure

Credit enhancement is provided in the form of subordination, as well as additional protection for the senior classes coming from monthly excess cash flow. These features increase the likelihood that holders of the most senior class of certificates will receive regular distributions of interest and/or principal.

As used herein, the term "Class A-1 certificates" refers to the Class A-1FX and Class A-1FL certificates.

Subordination

The subordinate and mezzanine certificates will provide credit enhancement for the senior notes and each class of subordinate or mezzanine certificates, if any, higher in order of payment of principal and interest.

Realized Losses

If the aggregate balance of the certificates exceeds the aggregate stated balance of the mortgage loans, the resulting excess will be allocated sequentially to the Class B-3, B-2, B-1, M-1, A-3, A-2, and then concurrently to the Class A-1 certificates (pro rata based on the class balances of each such class) until their respective balances reach zero. If the aggregate stated balance of the mortgage loans exceeds the aggregate balance of the certificates, the class balances of the Class A-1 certificates (pro rata based on the class balances of each such class), A-2, A-3, M-1, B-1, B-2, and B-3 certificates, sequentially, in that order, will be increased up to the amount of previously allocated realized losses.

Cumulative Loss Trigger Event

A cumulative loss trigger event occurs if the percentage of aggregate realized loss amount since the cutoff date divided by the aggregate stated balance of the loans as of the cutoff date exceeds 3.5% through the December 2021 payment date, 4.25% through the December 2022 payment date, 6.5% through the December 2023 payment date, and 8.5% thereafter. When a cumulative loss trigger event is in place, principal will be paid to Classes A-1, A-2 and A-3 certificates sequentially rather than pro rata (except that, with respect to the Class A-1 certificates, principal will be paid pro rata based on the class balance of each such class).

Delinquency Trigger Event

A delinquency trigger event occurs if the percentage equivalent of (a) the aggregate stated balance of the mortgage loans that are 60 days or more delinquent and all mortgage loans subject to a servicing modification within the previous 12 months divided by (b) the aggregate stated balance of the mortgage loans as of the last day of the related due period exceeds 20% through the December 2021 payment date, 25% through the December 2023 payment date, and 30% thereafter. When a delinquency trigger event is in place, principal will be paid to Classes A-1, A-2 and A-3 certificates sequentially rather than pro rata.

Priority of Payments

On each distribution date, before distributions are made on the certificates, the servicing administrator, servicers, custodian, trustee, securities administrator, and P&I advancing party will be entitled to receive monthly fees. In addition, the master servicer will be entitled to receive monthly and additional fees set forth in the related servicing agreement.

On each distribution date, the interest remittance amount will be paid, sequentially, in the following order of priority:

(1) To the Class A-1 certificates, concurrently, pro rata based on the current interest distribution amounts and any interest carryforward amounts payable to each such Class, the interest distribution amounts and any interest carryforward amounts;
(2) To the Class A-2 certificates, current interest distribution amounts and any interest carryforward amounts;
(3) To the Class A-3 certificates, current interest distribution amounts and any interest carryforward amounts;
(4) To the Class M-1 certificates, current interest distribution amounts and any interest carryforward amounts;
(5) To the Class B-1 certificates, current interest distribution amounts and any interest carryforward amounts;
(6) To the Class B-2 certificates, current interest distribution amounts and any interest carryforward amounts;
(7) To the Class B-3 certificates, current interest distribution amounts and any interest carryforward amounts; and
(8) Any remaining interest remittance amount will be applied as part of the monthly excess cash flow.

On each distribution date when a trigger event is not in effect, the principal remittance amount will be paid in the following order of priority:

(1) On the distribution date in July 2027, to the Class P certificates, $100;
(2) To the Class A-1 certificates, concurrently, pro rata based on the current interest distribution amounts and any interest carryforward amounts payable to each such Class, any unpaid interest distribution amounts and any interest carryforward amounts;
(3) To the Class A-2 and Class A-3 certificates, sequentially, in that order, any unpaid interest distribution amounts and interest carryforward amounts thereon;
(4) To the Class A-1 certificates (pro rata based on the class balance of each such Class), Class A-2, and Class A-3 certificates, concurrently, pro rata based on the class balance of each such Class until their respective balances reaches zero;
(5) To the Class M-1 certificates, any unpaid current interest distribution amounts and interest carryforward amount;
(6) To the Class M-1 certificates, until the class balance reaches zero;
(7) To the Class B-1 certificates, any unpaid current interest distribution amounts and interest carryforward amount;
(8) To the Class B-1 certificates, until the class balance reaches zero;
(9) To the Class B-2 certificates, any unpaid current interest distribution amounts and interest carryforward amount;
(10) To the Class B-2 certificates, until the class balance reaches zero;
(11) To the Class B-3 certificates, any unpaid current interest distribution amounts and interest carryforward amount;
(12) To the Class B-3 certificates, until the class balance reaches zero; and
(13) Any remaining principal remittance amount as part of monthly excess cash flow.

On each distribution date when a trigger event is in effect, the principal remittance amount will be paid in the following order of priority:

(1) On the distribution date in July 2027, to the Class P certificates, $100;
(2) To the Class A-1 certificates, concurrently, pro rata based on the current interest distribution amounts and any interest carryforward amounts payable to each such Class, any unpaid interest distribution amounts and any interest carryforward amounts;
(3) To the Class A-2 and Class A-3 certificates, sequentially, in that order, any unpaid interest distribution amounts and interest carryforward amounts thereon;
(4) To the Class A-1 certificates (concurrently, pro rata based on the class balance of each such Class), Class A-2, and Class A-3 certificates, sequentially, in that order, until each of their respective balances reaches zero;
(5) To the Class M-1 certificates, any unpaid current interest distribution amounts and interest carryforward amount;
(6) To the Class M-1 certificates, until the class balance reaches zero;
(7) To the Class B-1 certificates, any unpaid current interest distribution amounts and interest carryforward amount;
(8) To the Class B-1 certificates, until the class balance reaches zero;
(9) To the Class B-2 certificates, any unpaid current interest distribution amounts and interest carryforward amount;
(10) To the Class B-2 certificates, until the class balance reaches zero;

(11) To the Class B-3 certificates, any unpaid current interest distribution amounts and interest carryforward amount;
(12) To the Class B-3 certificates, until the class balance reaches zero; and
(13) Any remaining principal remittance amount as part of monthly excess cash flow

On each distribution date, monthly excess cash flow will be paid, sequentially, in the following order of priority:

(1) In an amount up to the aggregate amount of any realized losses for such payment date, sequentially, to the Class A-1 certificates (concurrently, pro rata, based on the class balances of each such Class), A-2, A-3, M-1, B-1, B-2, and B-3 certificates until each class balance reaches zero;
(2) Up to the amount of aggregate applied realized loss amounts, sequentially, to the Class A-1 certificates (concurrently, pro rata, based on the class balances of each such Class), A-2, A-3, M-1, B-1, B-2, and B-3 certificates until each class balance reaches zero;
(3) To the cap carryover reserve account, up to the aggregate cap carryover amount for the Class A-1, A-2, A-3, M-1, B-1, B-2, and B-3 certificates for such payment date, and then, concurrently, from amounts in the cap carryover reserve account, to each of the Class A-1FX and Class A-1FL certificates, pro rata based on any cap carryover amounts for each such class for such distribution date, then sequentially to the Class A-2, A-3, M-1, B-1, B-2, and B-3 certificates, any unpaid cap carryover amounts;
(4) To the Class XS certificates, as will be set forth in the pooling and servicing agreement;
(5) To reimburse the master servicer, securities administrator, certificate registrar, trustee, and custodian for extraordinary trust expenses in excess of the annual cap; and
(6) To the Class R certificates, any remaining amount.

Prepayment premiums will not be available for distribution as part of the monthly excess cash flow and will only be distributed to holders of the Class P certificates.

Interest Rates

For any distribution date, the interest rate for the Class A-1FX, A-2, A-3, M-1, B-1, B-2, and B-3 certificates will equal the lesser of the fixed rate set forth in the private placement memorandum and the net weighted average coupon rate. For any distribution date, the interest rate for the Class A-1FL certificates will equal the lesser of (i) one-month LIBOR plus the rate set forth in the private placement memorandum and (ii) and the net weighted average coupon rate.

Optional Redemption

The beneficial owner of a majority of the Class XS certificates (which will be an affiliate of the P&I advancing party) may, at its option, on any distribution date on or after the earlier of (a) the two-year anniversary of the closing date and (b) the date on which the aggregate stated principal balance of the mortgage loans is 30% of the aggregate stated principal balance of the mortgage loans as of the cutoff date, trigger a redemption of all of the outstanding certificates by remitting to the securities administrator a purchase price equal to the greater of (a) the sum of (i) the aggregate stated principal balance of all loans that are less than 90 days delinquent plus accrued and unpaid interest and (ii) the fair market value of all mortgage loans that are 90 or more days delinquent and REO properties and (b) the sum of the remaining aggregate certificate principal balances of the certificates, any accrued and unpaid interest, and any fees, expenses, and indemnity payments due and unpaid.

Third-Party Due Diligence

Summary Scope of Work

The due-diligence companies' scope of work consisted of the following components: a credit review, a property valuation review, and a data integrity review. Three third-party companies performed the reviews. They provided reports explaining the exceptions and any compensating factors. Morningstar, which reviewed the due-diligence results, found them acceptable. Morningstar reduced our loss expectations because the companies reviewed 100% of the loans and the results were adequate.

<u>Credit Review</u>

The credit review consisted of reviewing documents sufficiency, consistency, and coherence. For example, the third-party companies reviewed the initial application, credit report, asset documentation, and sales contract for accuracy and completion, documentation of approval for any exceptions, and evaluated agreement/consistency with all other documentation in the loan file. They also reviewed loan files to assess general underwriting standards and whether adequate coverage of hazard, flood, and mortgage insurances was required. It reviewed each appraisal and any additional property valuation documents to determine if the mortgaged property is consistent with the underwritten property type and usage. It reviewed titles, landlord experience, fraud/Office of Foreign Assets Control reports, existing leases/rent rolls, tax returns, certificates of business-purpose (nonowner occupancy declarations), evidence of payment for lease agreements with related loan terms, and underwritten approved terms, as well as mortgage note, mortgage (or deed of trust), and guarantee agreements to confirm execution and agreement with all other loan approval documentation. All the loans have credit grades of either A or B. Below are Morningstar's grades for each credit review:

	Loan Count	% of Loans Reviewed (by Count)*
A	411	58.5
B	292	41.5
C	0	0
Total	703	100.0

*May not add to 100% due to rounding

Property-Valuation Review

This review examined appraisals to assess compliance with appraisal criteria and standards. In some cases, a collateral desktop analysis or similar product was obtained to determine if the original appraised value is supported. If the third-party company determined, based on the review of the appraisal and collateral desktop analysis or similar product, that the original value was not supported, or if there is a more than 10% variance from the original appraised value, a field review was requested. For loans where the desk review value was more than 5% less than the appraisal value, Morningstar used the lower desk review value. Below are Morningstar's grades for each property-valuation review:

	Loan Count	% of Loans Reviewed (by Count)
A	693	98.6
B	9	1.3
C	1	0.1
Total	703	100.0

Representations, Warranties, and Enforcement Mechanisms

The mortgage loan sellers will make certain representations and warranties as to the mortgage loans. The sellers will represent that, before the transfer to the depositor, they owned each loan free and clear of all liens. Upon notice of a breach of a representation or warranty, the sponsor will have 60 business days to cure the breach, purchase or cause the applicable seller to repurchase the loan, or substitute for the loan, if the breach materially and adversely affects the value of the loan or the interests of the certificateholder. A substitution of a mortgage loan must occur no later than two years following the closing date.

If a mortgagor fails to make any of the first three payments after the origination date within 60 days of the due date for those payments, the sponsor will purchase, cause the applicable seller to repurchase, or substitute for the loan unless the sponsor concludes that the default was the result of a servicing issue that has been corrected.

If a breach of a representation or warranty causes a loan to cease to be a qualified mortgage under the applicable regulations, the sponsor is required to repurchase such loan within 75 days of the discovery of such breach.

As of any date of determination, the majority holder of the Class XS certificates will be designated as the controlling holder. The controlling holder is not acting on behalf of the certificateholders and is not a fiduciary for the certificateholders.

If a realized loss occurs regarding any loan, the controlling holder may, at its option, review the loan to determine whether there has been a material breach (an optional review loan).

The controlling holder will provide its findings with respect to each optional review loan within 120 business days. Upon receipt of notice of a breach of a representation or warranty resulting from such review, the sponsor will have 60 business days to cure, purchase or cause the related mortgage loan seller to repurchase, or substitute for such mortgage loan only if the breach is a material breach.

Morningstar has reviewed the representations and warranties in this transaction and determined they are sufficient.

Operational Risk Evaluation

Aggregator: Invictus Capital Partners

Invictus Capital Partners is an investment-management firm focused on sourcing, underwriting, acquiring, and managing residential mortgage loans and securities. Founded in 2008, the company is headquartered in Washington, D.C. with another office in Minneapolis. In 2014, Invictus formed Verus Mortgage Capital to source, review, and settle mortgage loans. The Invictus mortgage platform, including Verus Mortgage Capital, has 77 employees. The company has 192 approved counterparty originators with 96 actively selling loans to Invictus.

Strengths

Audit and Quality Control: Invictus has engaged PricewaterhouseCoopers to complete independent financial audits that have resulted in unqualified opinions.

Invictus hired an employee in the fourth quarter of 2018 to oversee the company compliance program and establish an internal-audit function. The company outsources certain middle- and back-office functions to SEI Global Services, a third-party administrator that maintains Invictus' books and records. The Invictus accounting team evaluates SEI's work. SEI also conducts an internal-audit review to ensure Invictus completes agreed-upon procedures as expected. EY examines SEI's internal-audit function and is part of the Service Organization Controls report.

Invictus offers loan originators the option to have a loan reviewed by American Mortgage Consultants, Inc. before funding to confirm loan eligibility with correspondent guidelines. AMC provides a prefunding review on approximately 50% of the loans eventually acquired by Invictus. The company completes due diligence on 100% of acquired loans before the acquisition, with AMC completing the vast majority of the reviews. The due-diligence reviews include verifying data integrity, compliance with established underwriting guidelines, appraisal reviews, regulatory compliance, and fraud checks. An Invictus underwriter reviews and makes the final decision on loans on which the originator and third-party reviewer disagree. Invictus re-established a postfunding audit program to review a minimum of 10% of purchased loans, including at least one loan from each seller, and at least the first 10 loans acquired from each new seller. The postclosing due diligence will include a documentation, underwriting, compliance, appraisal, and data-integrity review.

Technology Infrastructure: Invictus is migrating its clients to Street Solutions, Inc.'s Loan Management System from Ellie Mae's Encompass. LMS provides Invictus an end-to-end platform allowing lenders to check pricing and loan eligibility, lock rates, upload and store documents, manage the pipeline, track due diligence, manage loan sales and securitizations, oversee servicing and loan accounting, create dashboards, monitor loan exceptions, and oversee servicer audits.

The company does not store the personal information of borrowers internally, and if a borrower's personal information needs to be shared, it is done through a secure file transfer site. Invictus laptops have encrypted hard drives and antivirus and antimalware applications. The company uses firewalls to stop unauthorized network access and network segmentation and segregation to prevent an intruder from gaining access to the entire network. Employees must follow complex password requirements and update passwords regularly.

The company has a disaster-recovery and business-continuity plan to guide operations through a business disruption. The plan covers evacuation and calling-tree procedures, data-backup policies, and remote access to the company's applications through virtual private networks. Invictus backs up key data, which is available through Microsoft's cloud-based service Azure, nightly.

Management and Staff: Invictus' senior-management team averages over 23 years of industry experience and six years of company tenure. Employees average approximately seven years of industry experience. The senior-management team has not experienced any turnover, and the employee turnover rate is just over 7%.

Organizational Structure: The company has a well-defined organizational structure with clear reporting lines. The originations/business development team is a separate reporting line outside of operations, reducing the possibility of conflicts of interest.

Corporate Insurance: Invictus has the appropriate corporate insurance.

Underwriting Standards and Due Diligence: The company has underwriting guidelines and a credit-grade matrix defining eligible loan programs and documentation requirements. Invictus distributes the guidelines to approved correspondents and stores them on a correspondent web portal. Invictus reviews and updates the guidelines as needed and then disseminates them to correspondents with an explanation of the changes.

Correspondents manually underwrite all loans, and Invictus' due-diligence vendors then review them before and after closing to confirm they meet eligibility requirements. Invictus' due-diligence providers approve all loans for purchase. The correspondents submit guideline exception requests through the due-diligence provider to Invictus underwriters for approval.

Loan Aggregation: To be approved to sell loans to Invictus, correspondents must meet eligibility requirements outlined in the seller guide. The correspondent approval process includes a seller application package, a financial review, and an operations due-diligence review. Once Invictus begins purchasing loans from a correspondent, Invictus monitors the conduit's activities with risk-management summaries at the seller, portfolio, and loan level. Invictus completes a recertification process for each correspondent annually.

Weaknesses

Limited Performance History: Invictus began acquiring loans in August 2015 and has a limited history for which to evaluate loan performance.

Servicer: Specialized Loan Servicing, LLC

Specialized Loan Servicing is a residential mortgage servicer. In 2011, Computershare Ltd., a publicly traded Australian company, acquired Specialized Loan Servicing. The company is the primary servicer on more than 150 RMBS transactions and the special servicer on approximately 180 RMBS transactions.

Founded in 2003, the company is headquartered in Highlands Ranch, Colorado, and has another office in Tempe, Arizona. It has about 1,300 employees. The company services over 354,000 loans with an unpaid principal balance of approximately $49.5 billion.

Audit and Quality Control: Specialized Loan Servicing maintains an audit and quality-control program including a risk-management model with three lines of defense, external auditors, client audits, an annual Statement on Standards for Attestation Engagements No. 16 audit, and routine examinations conducted by federal and state regulators.

As the first line of defense, Specialized Loan Servicing ensures adherence to policies and procedures while job functions are being completed by promoting a culture of compliance through training, regulatory certification, and policies and procedures certification. The company manages third-party vendors through a first line of defense with due-diligence reviews for prospective vendors, day-to-day performance monitoring against service-level agreements, and annual risk assessments.

The second line of defense is an independent quality-control group that tests predetermined modules monthly and reports quarterly on the operational effectiveness and regulatory compliance for mortgage servicing functions. The second line of defense includes Home Affordable Modification Program, or HAMP (a program from Making Home Affordable), and Mortgage Electronic Registration Systems monthly testing, with quarterly results reviewed internally and sent to the Making Home Affordable and Mortgage Electronic Registration Systems.

For the third line of defense, PwC, state and federal regulators, and clients complete external compliance audits. PwC completes a quarterly agreed-upon procedures review to test the operational effectiveness of the company's procedures. Specialized Loan Servicing completes a quarterly Uniform Single Attestation Program and Regulation AB audit in conjunction with the AUP review with results reported annually.

Specialized Loan Servicing completes 35-40 audits per year with no material findings in the most recent reviews.

Technology Architecture: Specialized Loan Servicing has integrated internally managed third-party and proprietary software to enable secure, scalable, and loosely coupled solutions for different business processes. The company's primary servicing system is Fiserv, Inc.'s LoanServ, allowing workflow automation, real-time interfaces with external and proprietary applications, and help with agency and regulatory compliance. The company's proprietary applications include the preboarding system, the customer resolution workstation, or CRW, investor-management system, SLS.net with online account information and payments, and InvestorWeb with direct access for investors' loan data.

The CRW application allows automated decision making, customized by client, portfolio, and asset class for client-specific waterfall, workflow, and net present value models. The application also provides a centralized location for financial information, underwriting histories, documentation, and data for Specialized Loan Servicing and clients to share. The company allows investors to access and monitor, research, and view loan information and the loan history, including communications between the call center and borrowers, through InvestorWeb. Clients can produce custom and standard reports on mortgage pools and individual loan information, access loan documents, view valuations, and monitor any loss mitigation processes. Specialized Loan Servicing also allows clients to review loan acquisitions and releases, whole loan accounting and reporting, and investor reporting through InvestorWeb.

Computershare Technology Services manages Specialized Loan Servicing's information-technology security and is built into company processes. The company documents the technical security controls for each core technology and incorporates security architecture standards, including defense-in-depth, least privilege, default deny, and fail secure and system hardening guidelines using secure encrypted protocols and disabling insecure protocols. Computershare has a standard build and firmware release cycle for all firewalls, which are included in the control documents that are reviewed annually. The company completes ethical hacking testing twice a year.

The Specialized Loan Servicing development team follows a standardized software development life-cycle process and change-management procedures for developing and implementing new releases and updates of internally developed projects. The company develops applications in a segregated environment and performs user-acceptance testing and obtains authorization before changes are brought live. It uses a change-management tool to manage application change requests, approval, prioritization, scheduling, and work assignments.

Disaster Recovery and Business Continuity: Specialized Loan Servicing has disaster-recovery and business-continuity plans to address potential disruptions. Each department tests semiannually the business-continuity plan and calling tree and updates a business-impact analysis with changes in technology, staffing, vendors, location, and business processes.

The company maintains fully redundant data centers in geographically dispersed locations with simultaneous data replication. All data is backed up incrementally and nightly, along with weekly and monthly full-system backups stored at a secure off-site location. Specialized Loan Servicing maintains redundant power supplies. The company operates virtual servers and systems with the ability to continue critical functions. Employees have remote connectivity capability enabled through Internet, voice over Internet Protocol, and nonreplicated data restores through backup systems.

Management and Staff: The company's senior management averages 16 years of industry experience and five years of company tenure. Middle management averages 12 years of industry experience and four years of company tenure. The turnover rate is 13.3% for management at the supervisor level and above and 22.6% for servicing staff.

Training: Specialized Loan Servicing has 14 full-time staff trainers who present classroom training. Recertification training is web based and managed through a learning-management system. All employees complete orientation and job-specific training and must complete annual certifications. New hires complete approximately 40 hours of training, and new-hire call-center employees receive approximately 196 hours of training. Employees receive 40 hours of continual training each year, while call-center employees receive 120 hours. The company requires employees to pass all regulatory training with a 90% minimum score. Specialized Loan Servicing and Computershare developed all the training modules. The company uses the learning-management system to track training, deploy online courses, and provide access to policies and procedures and job aids.

Policies and Procedures: Specialized Loan Servicing has policies and procedures for each business unit. The compliance department reviews and approves every policy and procedure and risk assessment and control log at least once per year. The company formats policies and procedures in a consistent template and stores them on an intranet site for employee access.

Accounting and Reporting: Specialized Loan Servicing maintains a principal and insurance trust account and a taxes and insurance trust account for each investor. The company reconciles all accounts monthly with manager signoff required, completes approximately 80% of all reconciliations within 30 days, and clears all aged items within 90 days.

The company has policies guiding the process for advances on delinquent loans and recovering advances. All advances that are fees or costs charged to a borrower must be reasonable and customary, be allowable by relevant state law, investor requirements, and loan documents, be fully disclosed to the borrower before being charged, and not collected while a loan modification is under consideration.

Customer-Relationship Management: The company's customer-care team manages borrower correspondence, dispute processing, payoff, and credit reporting responsibilities. The company call center operates 12 hours per day, Monday through Friday, and the company offers self-service capabilities through interactive voice response. Borrowers can submit documents physically, through the company web portal, or by fax. Specialized Loan Servicing monitors call compliance and quality through an internal audit.

Customer-service associates are trained to handle delinquent accounts and loss mitigation, allowing one-call resolution. Associates have an average speed of answer of 12 seconds, an abandonment rate of 1.1%, and an average talk time of just under 10 minutes. Interactive voice response allows borrowers to pay by phone, request a payoff demand, request loan documents, and look up account information.

The company has a loss-mitigation process that combines a single point of contact with automated systems to accommodate investor and compliance rules. It assigns a team point of contact when a borrower becomes 30 days delinquent and is not engaged in loss mitigation. The point of contact discusses the loan status and the reason for delinquency and encourages borrowers who need assistance to apply for loss-mitigation alternatives. When a borrower enters loss mitigation, he or she is assigned a single point of contact for the life of the loss-mitigation process. The company evaluates the loan options per investor and program guidelines and through a net present value model to consider foreclosure alternatives, including HAMP and non-HAMP modifications, loan forbearance, short sale, and deed-in-lieu of foreclosure solutions. The company submits loans that do not complete a workout to a preforeclosure review and then either submits them to foreclosure or returns them for additional workout efforts. The company internally manages foreclosures through an integrated 50-state attorney network. It manages the attorney network with scorecard reporting and adheres to Fannie Mae's and the U.S. Foreclosure Network's timelines.

Payment Processing: Remitco is Specialized Loan Servicing's lockbox provider. It accounts for approximately 25% of payments and performs daily scans and deposits of borrowers' remittances. The Highlands Ranch office processes all internally received payments in a secure cash room with 24-hour surveillance video, limited card reader access, and fireproof safes for check storage. The company deposits all internal checks using image replacement document and accounts receivable conversion technology.

The company has quality-control programs and has invested in automation enhancements to ensure timely and accurate payment processing. The company receives close to 60% of payments through an automated clearing house, its web portal, and interactive voice response. It tracks suspense funds at the loan level, with systematic payment processing completed when sufficient funds are available to ensure timely application.

Specialized Loan Servicing deposits all payments into a clearing account and reconciles the account activity daily against the mortgage-servicing platform activity with automated transfers to custodial accounts. The company controller signs off monthly on the account reconciliation. There are no reconciling items older than 60 days.

Loan Boarding and Document Tracking: The preboarding process starts six weeks before transfer and compares the preliminary data file to the expected pool details as well as normalizes, sanitizes, and enhances preliminary data. The company's proprietary preboarding and quality-control system validates borrower data before boarding with 1,000 logic-validation checks on every portfolio transferred. Once the servicing transfer is complete, the company makes welcome calls to current borrowers and collection calls to delinquent borrowers. The company tracks and researches borrower payments made to a prior servicer. It automatically boards all the loans within 48 hours of when it received the final documents.

Property Insurance and Tax Monitoring: The company has escrow accounts on approximately 82% of its first-lien portfolio. It uses Assurant Specialty Property to monitor a borrower's property insurance and CoreLogic Flood Services for flood-zone tracking. About 8.9% of the portfolio has force-placed insurance. Proctor Financial, Inc. monitors and manages all force-placed insurance.

The company uses CoreLogic for property tax services. CoreLogic completes an annual delinquent tax search on all loans, and Specialized Loan Servicing sends borrowers with delinquent property taxes a notice letter before advancing payments, requesting evidence that the borrower paid taxes.

Servicer: Shellpoint Mortgage Servicing, LLC

Shellpoint Mortgage Servicing is a residential mortgage servicer founded in 2000 as an in-house residential servicing group of Sherman Capital Markets LLC and was restructured in 2010 as a third-party special servicer. In 2014, Shellpoint Partners LLC, a wholly owned subsidiary of New Penn Financial LLC, acquired Sherman Capital Markets and rebranded the company as Shellpoint Mortgage Servicing. In 2017, Fortress Investment Group acquired the Shellpoint Partners portfolio of companies, including Shellpoint Mortgage Servicing. On Dec. 27, 2017, SoftBank Group Corp. completed an acquisition of Fortress.

Shellpoint has its headquarters in Greenville, South Carolina, and another office in Houston. It has about 650 employees with plans to add another 50 by year-end. The company is servicing close to 160,000 loans with an unpaid principal balance of approximately $35.6 billion.

Audit and Quality Control: Shellpoint maintains an audit and quality-control program including a risk-management model with three lines of defense, external auditors, client audits, an annual Statement on Standards for Attestation Engagements No. 16 audit, and routine examinations conducted by federal and state regulators.

As the first line of defense, Shellpoint has a quality-assurance program in each business line to ensure adherence to policies and procedures while job functions are being completed. The second line of defense is an independent quality-control group that tests operational functionality after the completion of a specific process. Shellpoint's third line of defense is an internal-audit group that tests processes for compliance with policies and procedures from a job's inception through completion. The compliance department handles the remediation of all internal-audit findings. The internal-audit and compliance teams report their findings to Shellpoint's senior management. The company uses an internally developed compliance-management system to ensure operational oversight and compliance.

Technology Architecture: Shellpoint has integrated internally managed third-party and proprietary software to enable secure, scalable, and loosely coupled solutions for different business processes.

The Shellpoint servicing system allows customers to contact the company by phone, website, fax, email, and mail, all within a single platform, which allows collaboration among business units. The company supports call, letter, and imaging and document management, cash processing, loan servicing, statements and billing, foreclosure management, and bankruptcy management within the single platform.

The company has two data centers: a primary center in Greenville and a second in Plymouth Meeting, Pennsylvania. Shellpoint maintains redundant point-to-point connections between both centers, which have redundant Internet service providers. The company backs up its systems on an established schedule with mirrored tape libraries at each site.

Shellpoint's security monitoring and management program includes intrusion detection and prevention, web uniform resource locator filtering, and email security filtering. The company's network security includes a proxy firewall, monitoring, virtual private network, transport layer security, secure sockets layer, and secure file transfer. Applications use authentication and role-based authorization. To protect its network, the company uses antivirus and antispyware, along with log aggregation. The system includes end-user security for disabling USB ports, encrypting mobile devices, and managing remote access through virtual private networks. Shellpoint port-manages all machines and maintains building security through badge access, managed entry points, cameras, limited access to sensitive areas, and multifactor authentication. Shellpoint uses complex password requirements. Grant Thornton LLP completes an information-security audit annually.

Disaster Recovery and Business Continuity: Shellpoint has disaster-recovery and business-continuity plans to address potential disruptions. Each department tests annually the business-continuity plan and calling tree and updates a business-impact analysis with changes in technology, staffing, vendors, location, and business processes.

The company regularly revises its disaster-recovery plans to reflect system and company changes. The designated recovery site is the Plymouth Meeting office with real-time replication of critical data. The company operates virtual servers and systems with the ability to continue critical Shellpoint functions. Employees, including call-center employees, have remote connectivity capability enabled through intranet, voice-over-Internet protocol, and nonreplicated data restore through backup systems.

Management and Staff: Shellpoint's senior management averages 16.9 years of industry experience and 5.8 years of company tenure. Middle management averages 13.7 years of industry experience and 2.2 years of company tenure. The turnover rate is 7.0% for senior management and 19.6% for staff.

Training: New hires receive 80 hours of training, which includes six hours of new-hire orientation and three hours of training on the Fair Debt Collection Practices Act. New employees in jobs requiring customer contact receive an additional 30 hours of classroom training followed by 50 hours of on-the-job coaching and development. The company uses instructor-led training, internally developed training distributed through the company's New Penn University, and a learning-management system that allows for tracking and reporting, deploying online courses, and communicating online alerts.

Policies and Procedures: Shellpoint has policies and procedures for each business unit. The Shellpoint process-improvement group reviews and updates all risk assessments with every policy and procedure change. The compliance department reviews and approves every policy and procedure and risk assessment and control log at least once per year. Shellpoint formats company policies and procedures in a consistent template and stores them in a corporate SharePoint site for employee access.

Accounting and Reporting: Shellpoint maintains separate principal and insurance and taxes and insurance trust accounts for each investor. The company reconciles all accounts monthly with manager signoff required, completes all reconciliations within 30 days, and clears all aged items within 90 days.

The company has policies guiding the process for advances on delinquent loans and recovering advances. All advances that are fees or costs charged to a borrower must be reasonable and customary, allowable by relevant state law, investor requirements, and loan documents, fully disclosed to the borrower prior to being charged, and not be collected while a loan modification is under consideration.

Shellpoint performs all stop-advance tests permitted by service-level agreements. The tests are either a loan-by-loan stop advance test or a pool analysis stop-advance test. On the loan-by-loan stop-advance test, the company evaluates all loans with advances outstanding monthly to determine if the proceeds through foreclosure disposition exceed the amount of the existing advance balance plus the current month's new-advance balance. If the projected proceeds do not exceed the projected balance, advances will be stopped. On the pool-analysis stop-advance test, Shellpoint evaluates all pools monthly to ensure the existing advance balance of the pool does not exceed the projected liquidation proceeds of the pool.

Customer-Relationship Management: Shellpoint customer contact groups assess each borrower's situation to provide proper solutions. The Shellpoint call center operates with extended hours, and the company offers self-service capabilities through interactive voice response. Borrowers can submit documents physically, through the Shellpoint web portal, or by fax. Shellpoint monitors call compliance and quality through an internal audit.

Shellpoint's technology allows the company to route inbound calls based on the borrower's delinquency status. Customer-service associates are trained to handle delinquent accounts and loss mitigation, allowing one-call resolution. Associates have an average speed of answer of 42 seconds, an abandonment rate of 1.75%, and an average talk time of 2.46 minutes. Interactive voice response allows borrowers to pay by phone, request a payoff demand, request loan documents, and look up account information.

The company has a loss-mitigation process that combines a single point of contact with automated systems to accommodate investor and compliance rules. Borrowers enter loss mitigation when they reach imminent default or 61 days past due, at which time Shellpoint attempts to contact the borrower and collect documents to process potential foreclosure alternatives. Shellpoint evaluates the loan options per investor and program guidelines and through a net present value model to consider a waterfall of foreclosure alternatives, including the Home Affordable Modification Program, non-HAMP modifications, loan forbearance, short sale, and deed-in-lieu of foreclosure solutions. Shellpoint submits loans that do not complete a workout to a preforeclosure review and then either submits them to foreclosure or returns them for additional workout efforts. The company internally manages foreclosures through an integrated 50-state attorney network. Shellpoint selects and manages the attorney network with scorecard reporting and adheres to Fannie Mae's and the U.S. Foreclosure Network's timelines.

Payment Processing: Shellpoint's payment-processing department uses Access Business Technologies' Servicing Director to process and manage borrowers' accounts. Fifth Third Bank is Shellpoint's lockbox provider, which accounts for approximately 16.8% of payments, and performs daily scans and deposits of borrowers' remittances.

The company has quality-control programs and invested in automation enhancements to ensure timely and accurate payment processing. The company receives over 82% of payments through an automated clearing house or Shellpoint's web portal. Shellpoint tracks suspense funds at the loan level with systematic payment processing completed when sufficient funds are available to ensure timely application.

Shellpoint deposits all payments into a clearing account and reconciles the account activity daily against the mortgage-servicing platform activity with automated transfer to custodial accounts. The company controller signs off monthly on the account reconciliation. There are no reconciling items aged over 60 days.

Loan Boarding and Document Tracking: Shellpoint has completed close to 1,500 servicing transfers from nearly 100 originators and servicers since 2014. The company boards loans within two days of the transfer date and completes 97% of loan transfers electronically.

The Shellpoint preboarding process compares preliminary data file to the expected pool details, normalizes, sanitizes, and enhances preliminary data. Shellpoint's proprietary preboarding and quality-control system validates borrower data prior to boarding with a 140-step assessment on every portfolio transferred to ensure information is complete and accurate. Once the servicing transfer is complete, Shellpoint makes welcome calls to current borrowers and collection calls to delinquent borrowers. The company tracks and researches borrower payments made to the prior servicer.
The company has a Greenville-based vendor to provide a secure and fireproof vault for file and document storage. The vendor scans and indexes all documents in files into OnBase's document-imaging system.

Property Insurance and Tax Monitoring: Shellpoint uses Proctor Financial, Inc. to monitor the borrower's property insurance and CoreLogic Flood Services for flood-zone tracking. About 77% of the portfolio is escrowed for insurance, with 6.0% of the portfolio having force-placed insurance. Proctor Financial also monitors and manages all force-placed insurance.

The company uses CoreLogic for property tax services. CoreLogic completes an annual delinquent tax search on all loans, and Shellpoint sends borrowers with delinquent property taxes a notice letter 30 days prior to advancing of payments requesting evidence the taxes have been paid. About 87.0% of the portfolio is escrowed for taxes.

Master Servicer: Nationstar Mortgage LLC, dba Mr. Cooper

Nationstar Mortgage LLC, doing business as Mr. Cooper, is a residential mortgage originator and servicer based in Dallas, Texas, with additional offices in Chandler, Arizona; Longview, Texas; Denver; and at five offshore locations. The company was founded in 1994 as Nova Credit Corp., which became Centex Home Equity Company, LLC as part of a corporate restructuring. In 2006, FIF HE Holdings LLC acquired Centex Home Equity and changed the name to Nationstar Mortgage LLC, which rebranded its mortgage origination and servicing operations as Mr. Cooper in 2017. The company employs more than 5,200 people in the United States. As of March 31, 2018, Mr. Cooper serviced loans for over 3 million borrowers with an unpaid principal balance of $463.99 billion.

Audit and Quality Control: Mr. Cooper maintains an audit and quality-control program including a risk-management model that follows a standardized Committee of Sponsoring Organizations of the Treadway Commission risk framework with three lines of defense, external auditors, client audits, an annual Statement on Standards for Attestation Engagements No. 16 audit, and routine examinations that federal and state regulators conduct.

Business line managers provide the first line of defense through monitoring compliance with policies and procedures, automated processes and checks, and implementing corrective actions to address process and control deficiencies. The company's risk and control self-assessment process evaluates operations in real time. Mr. Cooper uses RSA's Archer enterprise, governance, risk, and compliance software for enterprise management, compliance management and change of law, vendor and procurement management, policy management, issues and findings management, and remediation planning.

The second line of defense provides independent governance and oversight of corporate functions, including evaluating compliance, finance, human resources, legal, quality control, enterprise risk management, vendor oversight, call quality monitoring, and complaints management. The company completes regulatory compliance testing through random and targeted sampling. Senior management reviews all audit results at the monthly risk committee meeting. The risk committee assigns a risk-rating score and logs the associated action plans into the governance, risk, and compliance system to monitor progress toward a proper and timely resolution.

The third line of defense is an internal-audit group ensuring the efficacy of governance, risk management, and internal controls and the effectiveness of the first and second lines of defense. The company's systems, processes, operations, functions, and activities are subject to an internal audit to ensure it achieves programs, plans, and objectives; it identifies and manages risks; it provides accurate financial, compliance, and operating information in a timely manner; and employees adhere to established policies and procedures, applicable laws, and regulations. The internal-audit group develops an annual risk-based audit plan with the approval of an audit committee and the senior management team.

Mr. Cooper completes additional oversight through an external audit from Ernst & Young LLP, state and federal regulatory audits, agency reviews, the Consumer Financial Protection Bureau reviews, and other regulatory and market-oversight requirements. The company has completed its audits without any material adverse findings.

Technology Architecture: Mr. Cooper operates in a hybrid technology environment with a blend of customized third-party-provided and internally developed proprietary software to manage loan servicing, originations, and corporate functions. The company's information-technology platform incorporates a layered security environment with multiple and overlaying security tools based on risk assessments, technology usage, security threats, and investor and regulatory requirements. The network security includes managed intrusion detection and prevention, email, file, and database encryption, antivirus software, firewalls, two-factor authentication, cyber security dashboards, and vulnerability scanning.

Disaster Recovery and Business Continuity: The company has disaster-recovery and business-continuity plans to address potential disruptions because of unforeseen events. The recovery strategies focus on crisis management and communication, business-resumption planning, and information-technology disaster-recovery planning. The company tests the business-continuity plan annually and updates a business-impact analysis with required changes in technology, staffing, vendors, location, and business processes.

Management and Staff: The company's experienced senior management team averages over seven years of company tenure. One member of the senior management team, the chief risk officer, resigned last year and an internal candidate replaced him. The company's turnover rate for 2017 was 33.9%, but this figure appears high because of the closure of an office that Mr. Cooper inherited as part of an acquisition.

Training: Mr. Cooper has built a training and development program to enhance employee performance, improve customer experience, and meet regulatory and compliance guidelines. The company's new-hire training curriculum includes 120 hours of compliance training and up to an additional 34 hours of job-specific training. Training is either on the job or through subject-matter experts in a classroom setting, web-based programs, simulations, or side-by-side job shadowing. Employees can access additional online resources such as CooperU, a call library, training reports, and show-me-how videos. The company's performance-management process records the results of instructor-led and self-paced courses to evaluate employees' skills development.

Policies and Procedures: Mr. Cooper has developed policies and procedures for each business unit to guide employees through the company's day-to-day operations. The company stores its policies and procedures on its intranet site for easy access and reference. Policy and procedure documents include a revision history documenting previous policies and procedures, specific changes, and when the document was updated. Mr. Cooper reviews policies and procedures regularly with formal annual reviews and as needed based on regulatory or process changes.

Accounting and Reporting: Mr. Cooper has established reporting/accounting teams to manage mortgage loans from government-sponsored enterprises (Fannie Mae, Freddie Mac, and Ginnie Mae), and it has a separate private-label securities, or PLS, team. The GSE investor-accounting team reconciles accounts in accordance with agency guidelines and are approved within 30 days of the bank statement cutoff date. The company clears aged items within 90 days for Fannie Mae and Freddie Mac and two bank reconciliation cycles for Ginnie Mae. Mr. Cooper reconciles taxes and insurance within 30 days to correspond with investor cutoff dates, with 95% of taxes and insurance reconciliations being automated.

The PLS team has developed a proprietary investor-reporting information system that supports all remittance types, and allows multiple cutoff dates and prepayment periods. This system allows the PLS team to make remittance adjustments, pull in claim and refund amounts on liquidated loans, and adjust for specialized reporting.

Customer-Relationship Management: Mr. Cooper's customer-service group handles borrower correspondence, dispute processing, payoff demands, collections, and loss mitigation. The call center operates Monday through Thursday from 7:00 a.m. to 8:00 p.m., Fridays from 7:00 a.m. to 6:00 p.m., and Saturdays from 8:00 a.m. to 2:00 p.m., Central Time. The call center handles 100% of voice support from onshore locations. The company offers self-service capabilities through interactive voice response, and borrowers can submit documents physically, through the Mr. Cooper web portal, or by fax. The company monitors call compliance and quality through an internal audit. Customer service new-hire training includes six weeks of courses and ongoing training and certifications on a regular schedule. Over the past four years, the company has reduced its customer complaints to 0.32 per 1,000 loans from 1.79 per 1,000 loans.

Payment Processing: Wells Fargo is Mr. Cooper's lockbox provider, with locations in Dallas and Los Angeles, and performs daily scans and deposits of borrowers' remittances. The company receives 18.1% of payments through the lockbox, 26.45% through its web portal, 25.48% through an automated clearing house, and 20.73% through an E-Box payment. The company deposits all payments into a clearing account and reconciles the account activity daily against the mortgage-servicing platform activity with automated transfers to custodial accounts. The payment processing group posts 99.9% of payments within two days with a 99.9% accuracy rate and processes 99.7% of payoffs within two days. The company completes quarterly onsite lockbox visits and reviews monthly scorecards to monitor vendor performance.

Loan Boarding and Document Tracking: The Mr. Cooper preboarding process begins 45 - 65 days in advance of a loan boarding, with a kickoff call with the previous servicer to review servicing transfer instructions, coordinate transfer timelines, and review the goodbye letter and mailing date. The company validates borrower data on every portfolio transferred to ensure the information is complete and accurate. Once the servicing transfer is complete, the company makes welcome calls to current borrowers and collection calls to delinquent borrowers. Mr. Cooper tracks and analyzes borrower payments made to a prior servicer. It completes a postboarding audit on all nonperforming and reperforming loans, modified loans, adjustable-rate mortgages, and home equity lines of credit.

Property Insurance and Tax Monitoring: Mr. Cooper has tax escrow accounts on approximately 81% of its mortgage loans and hazard or flood insurance escrows on approximately 73% of its mortgage loans. The company uses third-party vendors CoreLogic, SWBC, Precedent, and Assurant to monitor escrow accounts, processing escrow disbursements for premium payments, handling inquiries, and contacting insurance agents and carriers before initiating force-placed insurance. The escrow administration team completes an escrow analysis annually.

Final Scheduled Distribution Date

October 2058

Appendix A: Morningstar Credit Model

The Morningstar Credit Model is a quantitative tool used to assess the credit risk within RMBS transactions. The MCM may be consistently applied during the initial ratings and the subsequent surveillance of RMBS transactions. The model results are used as a starting point in the rating process. Deal-level adjustments may be made as deemed necessary during the evaluation of the transaction. The MCM uses conditional binomial logistic regressions to construct a transition matrix. Each loan status, including current, delinquent, foreclosure, and REO, has its unique set of binomial logistic regressions that determines the transition to the next possible loan status. These determinations follow a probability-based distribution. A simulation method actualizes these transition probabilities to the next loan status. Following the transition, the macroeconomic variables and dynamic loan attributes including but not limited to loan balance, payment velocity, and delinquency history are updated to guide next month's projected simulated path. These steps are repeated until the loan prepays, matures or terminates. Results of the simulation are aggregated to yield the voluntary prepayment rate, conditional default rate, and 60+ days delinquency vectors at the loan-level. For further information on the MCM, please see Morningstar's U.S. RMBS General Ratings Methodology at www.morningstarcreditratings.com.

Appendix B: Morningstar Rating Surveillance

Morningstar has been paid by the issuer or arranger to maintain periodic surveillance on this transaction. Morningstar will publish our surveillance of this transaction by posting the current letter ratings for the transaction and Morningstar's surveillance report, the Morningstar DealView® Surveillance Analysis, for the transaction on the Ratings/Surveillance section of our website, www.morningstarcreditratings.com. Morningstar's analysis is best described as a bottom-up approach. At its core, it is driven by the performance of the underlying loan collateral. Analysts first evaluate, using qualitative and quantitative analysis, the credit risk characteristics of the collateral pool backing any given securitization trust. The credit protections are then evaluated as part of Morningstar's opinion of the risk profile of any given security. Morningstar applies the Morningstar Credit Model described at www.morningstarcreditratings.com, to produce collateral credit forecast for ratings evaluations for each rated class of a given RMBS transaction. Any surveillance activities described herein are conditioned on Morningstar's receipt of certain information to enable Morningstar to perform surveillance. The degree of surveillance performed depends largely on the scope of review performed by Morningstar and enumerated in the related surveillance report and the availability of information. The degree and scope of review and information considered is generally enumerated in the Morningstar surveillance report for the respective transaction and should be considered when evaluating and comparing ratings. For further information and a description of Morningstar's surveillance activities, please see Morningstar's U.S. RMBS General Ratings Methodology at www.morningstarcreditratings.com.

Appendix C: Morningstar Rating Characteristics

The preliminary ratings provided in this report address the likelihood of the timely receipt of distributions of interest by certificateholders to which they are entitled and, the ultimate distribution of principal by the rated final distribution date.

The preliminary ratings are based solely on the scope of review enumerated in this report and the information related thereto provided to Morningstar through the arranger website as of the date hereof or as expressly enumerated herein which we believe to be reliable. Unless otherwise in accordance with Morningstar's policies and procedures, Morningstar does not audit or verify the truth or accuracy of any such information.

These preliminary ratings are not a recommendation to buy, sell or hold securities and may be subject to revision or withdrawal at any time by Morningstar. In addition, these ratings do not address: (a) the likelihood, timing, or frequency of prepayments (both voluntary and involuntary) and its impact on interest payments or the degree to which such prepayments might differ from those originally anticipated, (b) the possibility that a certificateholder might suffer a lower than anticipated yield, (c) the likelihood of receipt of yield or spread maintenance charges, prepayment charges, yield or spread maintenance premiums or penalties, spread maintenance default premiums, yield maintenance default premiums, yield maintenance nondefault premiums, prepayment premiums, default prepayment premiums, spread maintenance payments, release spread maintenance premiums, extension fees or any increase or adjustment to any pass-through rates or interest amounts relating to any extensions, prepayment fees, charges or penalties, assumption fees, modification fees, penalty charges, postmaturity interest shortfall amounts, postmaturity interest shortfall distribution amounts, default interest or postanticipated repayment date additional interest, (d) the likelihood of experiencing prepayment interest shortfalls, reimbursement or allocation of prepayment interest shortfalls, an assessment of whether or to what extent the interest payable on any class of rated certificates may be reduced in connection with any prepayment interest shortfalls, or of receiving compensating interest payments and/or interest on shortfalls, (e) the tax treatment of the certificates or effect of taxes on the payments received, (f) the likelihood or willingness of the parties to the respective documents to meet their contractual obligations or the likelihood or willingness of any party or court to enforce or hold enforceable, the documents in whole or in part, (g) an assessment of the yield to maturity that investors may experience, (h) the likelihood, timing or receipt of any payments of interest to the holders of the rated certificates resulting from an increase or decrease in the interest rate on any underlying mortgage loan in connection with a mortgage loan modification, waiver or amendment, (i) excess interest, interest at any applicable scheduled extension margin, applicable scheduled extension spread, additional interest amounts or any remaining or excess funds, (j) any CREFC license fee or similar amount(s), (k) any likelihood, payment, assessment and/or impact of any additional interest distribution amounts on the certificates, (l) any trust advisor, operating advisor or asset representations reviewer fees, asset review fees, expenses or similar amounts, or (m) other noncredit risks, including, without limitation, market risks or liquidity.

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