Carpenters Pension Trust Fund – Detroit and Vicinity
EIN/Plan #: 38-6242188/001
Checklist Item #11 – Demonstration that the Proposed Suspension is Reasonably Estimated to not Materially Exceed the Level Necessary to Avoid Insolvency - Revised

Does the application include a demonstration that the proposed suspension is not projected to materially exceed the level necessary to avoid insolvency, including:

- *the plan-year-by-plan-year projections demonstrating projected insolvency during the relevant period, and*
- *a separate identification of the available resources (and the market value of assets and changes in cash flow) during each of those years?*

See section 4.03 of Revenue Procedure 2017-43.

Document 11.1 provides a demonstration that the proposed suspension is not projected to materially exceed the level necessary to avoid insolvency based on a <u>deterministic</u> projection.

Document 11.2 provides a demonstration of the probability that the plan will maintain a positive fund balance through April 31, 2052 period prepared using <u>stochastic</u> projections and assuming that the dollar amount of the proposed suspension for each participant and beneficiary was reduced as described in Section 4.03 of the Revenue Procedure.

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Document 11.1

Demonstration That the Proposed Suspension Is Not Projected To Materially Exceed the Level Necessary to Avoid Insolvency Based On a Deterministic Projection

As required by Revenue Procedure 2017-43, Section 4.03, the application must include a deterministic projection demonstrating that, if the dollar amount of the proposed suspension for each participant and beneficiary was reduced by the greater of:

- 5% of the reduction in payment proposed for that participant or beneficiary, or
- 2% of that participant's or beneficiary's payment determined without regard to the proposed reduction,

then the Plan would not be reasonably estimated to avoid insolvency. For purposes of this checklist item, we interpret the phrase "avoid insolvency" to mean that the plan satisfies the requirements of sub-paragraphs (1)-(3) of Regulation 1.432(e)(9)-1(d)(5)(ii)(A).

Exhibit I provides plan-year-by-plan-year projections demonstrating that, under the reduced suspension as described above, the plan would not satisfy the requirements of sub-paragraph (3) of Regulation 1.432(e)(9)-1(d)(5)(ii)(A), requiring that,

> Unless the plan's projected funded percentage (within the meaning of section 432(j)(2)) at the end of the extended period using the deterministic projection described in paragraph (d)(5)(ii)(A)(1) of this section exceeds 100 percent, that projection shows that, during each of the last five plan years of that period, neither the plan's solvency ratio nor its available resources (as defined in section 418E(b)(3)) is projected to decrease.

and therefore does not "avoid insolvency." Available resources are separately identified for each year.

The illustration is based on the actuary's interpretation of the requirements under Revenue Procedure 2017-43, Section 4.03.

Checklist Item #25 describes each of the assumptions used, as required under Revenue Procedure 2017-43, Section 4.02(3).

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Exhibit I – Deterministic Projection Based on Proposed Suspension Reduced Pursuant to Revenue Procedure 2017-43, Section 4.03

The projected Market Value of Assets and Solvency Ratio for Plan Years ending April 30, 2021 through April 30, 2053 are shown below:

Plan Year Ending	1. Beginning Assets	2. Employer Contributions	3. EWL Payments Prior Wthdrwls	4. EWL Payments Future Wthdrwls	5. Benefit Payments	6. Expenses	7. Investment Income	8. Ending Assets	9. Resources (1)+(2)+(3)+(4)-(6)+(7)	Solvency Ratio (9)/(5)
4/30/2021	$721,637,632	$98,242,244	$1,333,196	$0	$157,972,946	$6,106,627	$61,377,850	$718,511,349	$876,484,295	5.55
4/30/2022	$718,511,349	$103,950,000	$36,159	$963,841	$135,947,772	$4,688,160	$45,543,445	$728,368,862	$864,316,634	6.36
4/30/2023	$728,368,862	$103,950,000	$36,159	$963,841	$133,373,191	$4,288,676	$46,280,840	$741,937,835	$875,311,026	6.56
4/30/2024	$741,937,835	$102,465,000	$36,159	$763,841	$136,158,042	$4,391,604	$47,014,208	$751,667,397	$887,825,439	6.52
4/30/2025	$751,667,397	$102,465,000	$36,159	$613,841	$139,219,227	$4,497,002	$47,538,841	$758,605,009	$897,824,236	6.45
4/30/2026	$758,605,009	$102,465,000	$36,159	$613,841	$142,230,484	$4,604,930	$47,888,412	$762,773,007	$905,003,491	6.36
4/30/2027	$762,773,007	$102,465,000	$36,159	$613,841	$145,170,503	$4,715,448	$48,060,190	$764,062,246	$909,232,749	6.26
4/30/2028	$764,062,246	$102,465,000	$36,159	$613,841	$148,008,036	$4,828,619	$48,048,092	$762,388,683	$910,396,719	6.15
4/30/2029	$762,388,683	$102,465,000	$36,159	$613,841	$150,842,649	$4,944,506	$47,843,419	$757,559,947	$908,402,596	6.02
4/30/2030	$757,559,947	$102,465,000	$36,159	$613,841	$153,463,951	$5,063,174	$47,440,502	$749,588,324	$903,052,275	5.88
4/30/2031	$749,588,324	$102,465,000	$36,159	$613,841	$155,808,771	$5,184,690	$52,967,708	$744,677,571	$900,486,342	5.78
4/30/2032	$744,677,571	$102,465,000	$36,159	$613,841	$157,905,104	$5,309,123	$52,525,155	$737,103,499	$895,008,603	5.67
4/30/2033	$737,103,499	$102,465,000	$36,159	$613,841	$159,670,219	$5,436,542	$51,898,910	$727,010,648	$886,680,867	5.55
4/30/2034	$727,010,648	$102,465,000	$12,056	$637,944	$161,026,643	$5,567,019	$41,930,814	$705,462,800	$866,489,443	5.38
4/30/2035	$705,462,800	$102,465,000	$7,236	$642,764	$161,808,413	$5,700,627	$45,445,440	$686,514,200	$848,322,613	5.24
4/30/2036	$686,514,200	$102,465,000	$7,236	$642,764	$162,196,058	$5,837,442	$44,148,709	$665,744,409	$827,940,467	5.10
4/30/2037	$665,744,409	$102,465,000	$7,236	$642,764	$162,215,128	$5,977,541	$42,741,376	$643,408,116	$805,623,244	4.97
4/30/2038	$643,408,116	$102,465,000	$3,618	$646,382	$161,948,956	$6,121,002	$41,237,818	$619,690,976	$781,639,932	4.83
4/30/2039	$619,690,976	$102,465,000	$0	$650,000	$161,133,830	$6,267,906	$39,659,464	$595,063,704	$756,197,534	4.69
4/30/2040	$595,063,704	$102,465,000	$0	$650,000	$160,149,524	$6,418,336	$38,025,266	$569,636,110	$729,785,634	4.56
4/30/2041	$569,636,110	$102,465,000	$0	$650,000	$158,609,487	$6,572,376	$36,355,681	$543,924,928	$702,534,415	4.43
4/30/2042	$543,924,928	$102,465,000	$0	$650,000	$156,927,859	$6,730,113	$34,671,607	$518,053,563	$674,981,422	4.30

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Exhibit I – Deterministic Projection Based on Proposed Suspension Reduced Pursuant to Revenue Procedure 2017-43, Section 4.03 (cont.)

Plan Year Ending	1. Beginning Assets	2. Employer Contributions	3. EWL Payments Prior Wthdrwls	4. EWL Payments Future Wthdrwls	5. Benefit Payments	6. Expenses	7. Investment Income	8. Ending Assets	9. Resources (1)+(2)+(3)+(4)-(6)+(7)	Solvency Ratio (9)/(5)
4/30/2043	$518,053,563	$102,465,000	$0	$650,000	$154,887,399	$6,891,636	$32,988,704	$492,378,232	$647,265,631	4.18
4/30/2044	$492,378,232	$102,465,000	$0	$650,000	$152,333,143	$7,057,035	$31,336,243	$467,439,297	$619,772,440	4.07
4/30/2045	$467,439,297	$102,465,000	$0	$650,000	$149,735,101	$7,226,404	$29,734,833	$443,327,625	$593,062,726	3.96
4/30/2046	$443,327,625	$102,465,000	$0	$650,000	$146,917,288	$7,399,838	$28,196,543	$420,322,042	$567,239,330	3.86
4/30/2047	$420,322,042	$102,465,000	$0	$650,000	$143,848,770	$7,577,434	$29,118,233	$401,129,071	$544,977,841	3.79
4/30/2048	$401,129,071	$102,465,000	$0	$650,000	$140,469,886	$7,759,292	$27,825,041	$383,839,934	$524,309,820	3.73
4/30/2049	$383,839,934	$102,465,000	$0	$650,000	$136,983,272	$7,945,515	$26,675,578	$368,701,725	$505,684,997	3.69
4/30/2050	$368,701,725	$102,465,000	$0	$650,000	$133,462,341	$8,136,207	$25,685,306	$355,903,483	$489,365,824	3.67
4/30/2051	$355,903,483	$102,465,000	$0	$650,000	$129,786,031	$8,331,476	$24,872,564	$345,773,540	$475,559,571	3.66
4/30/2052	$345,773,540	$102,465,000	$0	$650,000	$126,056,175	$8,531,431	$24,257,737	$338,558,671	$464,614,846	3.69
4/30/2053	$338,558,671	$102,465,000	$0	$650,000	$122,283,169	$8,736,185	$23,858,577	$334,512,894	$456,796,063	3.74

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Document 11.2

Demonstration That the Proposed Suspension Is Not Projected To Materially Exceed the Level Necessary to Avoid Insolvency Based On a Stochastic Projection

As required by Revenue Procedure 2017-43, Section 4.03, the application must include a demonstration utilizing stochastic projections that, if the dollar amount of the proposed suspension for each participant and beneficiary was reduced by the greater of:

- 5% of the reduction in payment proposed for that participant or beneficiary, or
- 2% of that participant's or beneficiary's payment determined without regard to the proposed reduction,

then the Plan would not be reasonably estimated to avoid insolvency.

For purposes of this checklist item, we interpret the phrase "avoid insolvency" to mean that the plan satisfies the requirements of sub-paragraphs (1)-(3) of Regulation 1.432(e)(9)-1(d)(5)(ii)(A). Exhibit I provides a projection demonstrating that, under the reduced suspension as described above, the plan would not satisfy the requirements of sub-paragraph (3) of Regulation 1.432(e)(9)-1(d)(5)(ii)(A). Since the reduced suspension does not satisfy sub-paragraph (3), it cannot "avoid insolvency" regardless of the results of stochastic projections.

This Document 11.2 summarizes the results of 5,000 stochastic trials. Each trial consists of a projection of the market value of Plan assets for the plan years ending April 30, 2021 through 2052 assuming implementation of the hypothetical reduced suspension as outlined above. We calculated the percentage of trials that resulted in fund assets remaining above $0 through April 30, 2052 as follows:

The probability of positive assets through April 30, 2052 period is: **57.14%**

The 5th, 25th, 50th, 75th and 95th percentiles of the projected market value of plan assets are shown below in graphical format in Exhibit I and in tabular format in Exhibit II.

Checklist Item #25 describes the actuarial assumptions and methodology used in the reports filed with this application, as required under Revenue Procedure 2017-43, Section 4.02(3).

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Exhibit I – Graphical Representation of Projected Market Value of Plan Assets Recognizing Proposed Suspension Reduced Pursuant to Revenue Procedure 2017-43, Section 4.03 Utilizing Stochastic Projections

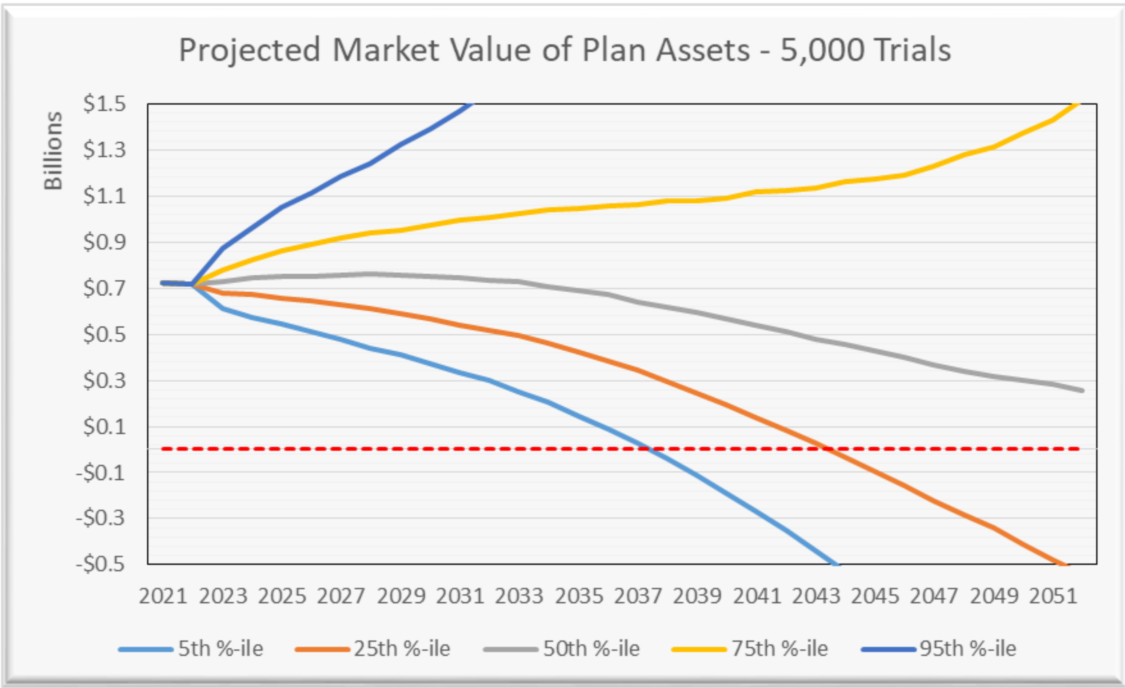

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Exhibit II – Tabular Representation of Projected Market Value of Plan Assets Recognizing Proposed Suspension Reduced Pursuant to Revenue Procedure 2017-43, Section 4.03 Utilizing Stochastic Projections

Plan Year Ending	Market Value of Plan Assets – 5,000 Trials				
	5th %-ile	25th %-ile	50th %-ile	75th %-ile	95th %-ile
4/30/2020	$721,637,632	$721,637,632	$721,637,632	$721,637,632	$721,637,632
4/30/2021	$718,511,349	$718,511,349	$718,511,349	$718,511,349	$718,511,349
4/30/2022	$612,675,791	$677,709,778	$726,162,979	$780,833,777	$872,834,432
4/30/2023	$574,706,520	$670,555,118	$742,927,114	$825,629,036	$963,718,725
4/30/2024	$545,385,298	$658,521,744	$749,721,707	$861,536,536	$1,048,969,379
4/30/2025	$511,901,181	$642,862,316	$752,435,960	$890,780,238	$1,113,066,064
4/30/2026	$480,643,150	$630,052,866	$757,402,679	$917,401,739	$1,183,183,847
4/30/2027	$441,151,166	$614,336,338	$760,931,143	$941,285,990	$1,240,963,409
4/30/2028	$411,509,610	$590,197,896	$758,336,193	$951,429,638	$1,322,647,250
4/30/2029	$375,453,521	$568,326,879	$750,852,434	$973,972,914	$1,388,797,289
4/30/2030	$333,501,612	$541,723,138	$743,791,241	$996,202,122	$1,466,157,474
4/30/2031	$298,265,208	$516,741,677	$736,641,585	$1,009,548,807	$1,558,657,603
4/30/2032	$251,741,920	$492,762,929	$727,546,580	$1,022,481,051	$1,649,114,450
4/30/2033	$203,250,978	$460,644,135	$705,170,572	$1,037,517,557	$1,744,880,078
4/30/2034	$146,275,407	$423,024,148	$689,139,367	$1,047,403,680	$1,832,030,937
4/30/2035	$87,966,291	$382,869,371	$671,041,718	$1,058,779,493	$1,917,411,733
4/30/2036	$25,215,408	$343,781,340	$641,691,195	$1,060,269,306	$2,009,305,934
4/30/2037	**insolvent**	$294,545,967	$620,175,139	$1,076,710,374	$2,097,418,674
4/30/2038		$244,963,440	$593,605,158	$1,081,563,885	$2,155,834,692
4/30/2039		$194,677,194	$564,770,912	$1,091,742,119	$2,262,135,526
4/30/2040		$139,116,790	$539,613,453	$1,115,995,713	$2,366,919,169
4/30/2041		$82,896,472	$509,917,439	$1,123,808,319	$2,565,308,434
4/30/2042		$26,791,118	$480,606,213	$1,133,447,972	$2,623,860,414
4/30/2043		**insolvent**	$456,336,513	$1,160,926,391	$2,740,813,269
4/30/2044			$427,269,400	$1,174,929,896	$2,913,895,298
4/30/2045			$399,031,512	$1,190,623,571	$3,075,588,874
4/30/2046			$368,569,779	$1,229,443,824	$3,243,313,481
4/30/2047			$341,906,851	$1,277,756,584	$3,447,262,060
4/30/2048			$318,161,804	$1,312,935,433	$3,657,306,542
4/30/2049			$299,430,662	$1,373,034,644	$4,013,726,462
4/30/2050			$284,415,544	$1,429,949,032	$4,272,292,371
4/30/2051			$255,850,630	$1,517,921,540	$4,650,225,671
4/30/2052			$242,577,702	$1,586,436,165	$4,925,796,080