

Alternate Bid PCC

(10/20/11)

Definitions

Design Service Life = The number of years to accumulate the design number of Rigid ESALs used in the pavement design procedure.

Thin Shoulders \leq 4 inches

Thick Shoulders $>$ 4 inches

Reseal Joints: Extends pavement design service life another 5 years

Minor CPR: Extends pavement design service life another 5 years

Major CPR: Extends pavement design service life another 10 years or $\frac{1}{2}$ of the original design service life

Alternate Bid PCC

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Alternate Bid Pavement Preservation Rehabilitation Strategies

Whitetopping & Unbonded Concrete Overlay

Design Service Life = 35 years

Pavement Age	Treatment
0	Initial Construction
17	Reseal Joints & partial depth repair
27	Minor CPR and some full depth repairs
35	End of Analysis Period (last rehab has 38% remaining service life) * [5/13]

* Major CPR at age 40

Remove & replace or HMA overlay or Concrete overlay at age 55

Pavement Preservation Rehabilitation Quantities for Alternate Bid LCCA

With Dowels

Age	Treatment	Mainline Quantity	Shoulder Treatment
17	Reseal Joints ⁽¹⁾ Type B Repair	100% Transverse Joints 5% Transverse	Thin Bit Shoulders: None Thick Bit Shoulders: None
27	Reseal Joints ⁽¹⁾ Type B Repair Type C Repair Surface Plane	100% Transverse Joints 10% Transverse Joints 5% Transverse Joints 50% Surface Area	Thin Bit Shoulders: Remove & Replace Thick Bit Shoulders: 2" Mill & Overlay Concrete Shldr: 1% Trans. Type B

(1) Only applies when the concrete overlay has sealed joints

Alternate Bid PCC

(10/20/11)

Whitetopping & Unbonded Concrete Overlay Design Service Life = 30 years

Pavement Age	Treatment
0	Initial Construction
15	Reseal Joints & partial depth repair
25	Minor CPR and some full depth repairs
35	End of Analysis Period (no remaining service life) **

** Major CPR at age 35

Remove & replace or HMA overlay or Concrete overlay at age 50

Pavement Preservation Rehabilitation Quantities for Alternate Bid LCCA

6' x 6'/7.5' panels (no Dowels)

Age	Treatment	Mainline Quantity	Shoulder Treatment
15	Reseal Joints Type B Repair Panel Replacement Surface Plane	100% Transverse Joints 5% Transverse 2% Surface Area 25% Surface Area	Thin Bit Shoulders: None Thick Bit Shoulders: None
25	Reseal Joints Type B Repair Panel Replacement Surface Plane	100% Transverse Joints 10% Transverse Joints 5% Surface Area 100% Surface Area	Thin Bit Shoulders: Remove & Replace Thick Bit Shoulders: 2" Mill & Overlay Concrete Shldr: 1% Trans. Type B

With Dowels

Age	Treatment	Mainline Quantity	Shoulder Treatment
15	Reseal Joints ⁽¹⁾ Type B Repair	100% Transverse Joints 5% Transverse	Thin Bit Shoulders: None Thick Bit Shoulders: None
25	Reseal Joints ⁽¹⁾ Type B Repair Type C Repair Surface Plane	100% Transverse Joints 10% Transverse Joints 5% Transverse Joints 50% Surface Area	Thin Bit Shoulders: Remove & Replace Thick Bit Shoulders: 2" Mill & Overlay Concrete Shldr: 1% Trans. Type B

(1) Only applies when the concrete overlay has sealed joints

Alternate Bid PCC

(10/20/11)

Whitetopping & Unbonded Concrete Overlay Design Service Life = 25 years

Pavement Age	Treatment
0	Initial Construction
14	Reseal Joints & partial depth repair
22	Minor CPR and some full depth repairs
30	Major CPR
35	End of Analysis Period (last rehab has 58% remaining service life) *** [7/12]

*** Remove & replace or HMA overlay or Concrete overlay at age 42

Pavement Preservation Rehabilitation Quantities for Alternate Bid LCCA

6' x 6'/7.5' panels (no Dowels)

Age	Treatment	Mainline Quantity	Shoulder Treatment
14	Reseal Joints Type B Repair Panel Replacement Surface Plane	100% Transverse Joints 5% Transverse Joints 2% Surface Area 25% Surface Area	Thin Bit Shoulders: None Thick Bit Shoulders: None
22	Reseal Joints Type B Repair Panel Replacement Surface Plane	100% Transverse Joints 10% Transverse Joints 5% Surface Area 100% Surface Area	Thin Bit Shoulders: Remove & Replace Thick Bit Shoulders: 2" Mill & Overlay
30	Reseal Joints Type B Repair Panel Replacement Surface Plane	100% Transverse Joints 10% Transverse Joints 10% Surface Area 100% Surface Area	Thin Bit Shoulders: None Thick Bit Shoulders: None Concrete Shldrs: 1% Trans. Type B

With Dowels

Age	Treatment	Mainline Quantity	Shoulder Treatment
14	Reseal Joints ⁽¹⁾ Type B Repair	100% Transverse Joints 5% Transverse	Thin Bit Shoulders: None Thick Bit Shoulders: None
22	Reseal Joints ⁽¹⁾ Type B Repair Type C Repair Surface Plane	100% Transverse Joints 10% Transverse Joints 5% Transverse Joints 50% Surface Area	Thin Bit Shoulders: Remove & Replace Thick Bit Shoulders: 2" Mill & Overlay
30	Reseal Joints ⁽¹⁾ Type B Repair Type C Repair Surface Plane	100% Transverse Joints 10% Transverse Joints 15% Transverse Joints 50% Surface Area	Thin Bit Shoulders: None Thick Bit Shoulders: None Concrete Shldrs: 1% Trans. Type B

(1) Only applies when the concrete overlay has sealed joints

Alternate Bid PCC

(10/20/11)

Whitetopping & Unbonded Concrete Overlay Design Service Life = 20 years

Pavement Age	Treatment
0	Initial Construction
13	Reseal Joints & partial depth repair
25	Major CPR
35	End of Analysis Period (no remaining service life) ****

**** Remove & replace or HMA overlay or Concrete overlay

Pavement Preservation Rehabilitation Quantities for Alternate Bid LCCA

6' x 6'/7.5' panels (no Dowels)

Age	Treatment	Mainline Quantity	Shoulder Treatment
13	Reseal Joints Type B Repair Panel Replacement Surface Plane	100% Transverse Joints 5% Transverse Joints 2% Surface Area 25% Surface Area	Thin Shoulders: None Thick Shoulders: None
25	Reseal Joints Type B Repair Panel Replacement Surface Plane	100% Transverse Joints 10% Transverse Joints 10% Surface Area 100% Surface Area	Thin Shoulders: Remove & Replace Thick Shoulders: 2" Mill & Overlay Concrete Shldrs: 1% Trans. Type B

With Dowels

Age	Treatment	Mainline Quantity	Shoulder Treatment
13	Reseal Joints ⁽¹⁾ Type B Repair	100% Transverse Joints 10% Transverse Joints	Thin Shoulders: None Thick Shoulders: None
25	Reseal Joints ⁽¹⁾ Type B Repair Type C Repair Surface Plane	100% Transverse Joints 10% Transverse Joints 15% Transverse Joints 50% Surface Area	Thin Shoulders: Remove & Replace Thick Shoulders: 2" Mill & Overlay Concrete Shldrs: 1% Trans. Type B

(1) Only applies when the concrete overlay has sealed joints

Alternate Bid PCC

(10/20/11)

Whitetopping & Unbonded Concrete Overlay Design Service Life = 15 years

Pavement Age	Treatment
0	Initial Construction
12	Reseal Joints & partial depth repair
20	Major CPR
30	Remove and Replace with New Concrete Overlay
35	End of Analysis Period (last rehab has 67% remaining service life) [10/15]

Pavement Preservation Rehabilitation Quantities for Alternate Bid LCCA

6' x 6'/7.5' panels (no Dowels)

Age	Treatment	Mainline Quantity	Shoulder Treatment
12	Reseal Joints Type B Repair Panel Replacement Surface Plane	100% Transverse Joints 10% Transverse Joints 2% Surface Area 25% Surface Area	Thin Shoulders: None Thick Shoulders: None
20	Reseal Joints Type B Repair Panel Replacement Surface Plane	100% Transverse Joints 10% Transverse Joints 10% Surface Area 100% Surface Area	Thin Shoulders: Remove & Replace Thick Shoulders: 2" Mill & Overlay

With Dowels

Age	Treatment	Mainline Quantity	Shoulder Treatment
12	Reseal Joints ⁽¹⁾ Type B Repair	100% Transverse Joints 10% Transverse Joints	Thin Shoulders: None Thick Shoulders: None
20	Reseal Joints ⁽¹⁾ Type B Repair Type C Repair Surface Plane	100% Transverse Joints 10% Transverse Joints 15% Transverse Joints 50% Surface Area	Thin Shoulders: Remove & Replace Thick Shoulders: 2" Mill & Overlay

(1) Only applies when the concrete overlay has sealed joints