NOTE:
1. Existing superelevated and widened sections are not shown.
2. Dimensions shown are approximate and may be varied by the CO.

EXISTING TYPICAL SECTION
?? to ??

Average Existing Width
6'

Existing asphalt pavement depth varies from x" to x".
Existing aggregate base depth varies from x" to x".

NOTE:

1. Existing superelevated and widened sections are not shown.

2. Dimensions shown are approximate and may be varied by the CO.
# Designer Notes for CFLHD Template Drawing 3R_typ_template

## NOTES TO THE DESIGNER
Last Updated: February 2020

### General Information

1. **3R Surfacing Options.** When it comes to 3R surface treatments, there are a wide variety of options available. Some of the more common options are shown in this template drawing. However, you will probably need to adjust the template drawing to fit your project. Select the drawing that most closely fits your pavement recommendations and coordinate with the Pavements Engineer to adjust the template to fit your project.

2. **Road Inventory Program Milepost data.** The NPS uses the Road Inventory Program (RIP) as part of their asset management program. Include the RIP milepost data in the ‘Length of Project’ table for NPS projects only. To find this information, use VisiData (see the VisiData Route_GPS Workspace to see mileposts and GPS longitude and latitude) or ask Planning and Programming. Delete the last column in the ‘Length of Project’ table for all non-NPS projects (e.g. USFS, USFWS, IRR, etc).

3. **Safety Edge.** Use the safety edge on all projects with asphalt surfacing with the following exceptions: roadways w/curb and gutter, bridges and other structures, parking areas, projects less than 1000 ft long, such as bridge approaches, pavement preservation projects.

### Applicable SCRs

- Varies

### Typical Pay Item Used

- Varies

### Updates

- New Template - January 2010
- January 2011 – Include safety edge in Detail A
- August 2014 - Updated for FP-14
- February 2020 – Updated safety edge detail; guardrail and misc. notes
### FDR with Foamed Asphalt

**TYPICAL SECTION**

1. **Extend depth of foamed asphalt base to ???.**
2. Blade existing shoulder material away from the roadway prior to recycling operations. Use available subgrade width to provide a maximum recycled width. After placement of asphalt concrete pavement, use existing shoudering material to shoulder up pavement edge. Import additional shoudering material as needed. Additional material will be paid for as Roadway Aggregate, Method 2.
3. Construct a 1:4 or flatter foreslope unless otherwise directed by the CO. Steepen the foreslopes as necessary, but not steeper than 1:2, to stay on the existing bench.

**DETAIL A**

See Mainline Typical Section for structural section details.

**ALTERNATE DETAIL A**

(includes constructing foamed asphalt wider than existing edge of pavement)
4. Pulverize the existing paved width or as directed by the CO. Pulverize to a depth of \( \text{??} \)".

5. Place asphalt concrete pavement in two lifts. Apply tack coat to the first lift prior to placing the second lift.

6. Construct a 1:4 or flatter foreslope unless otherwise directed by the CO. Steepen the foreslopes as necessary, but not steeper than 1:2, to stay on the existing bench.

Remove all pulverized asphalt material from this section. Incorporate pulverized material into the mainline base section. Shoulder up with Roadway Aggregate, Method 2 (pay item 30202-2000) after placement of asphalt concrete pavement. Shape and compact as necessary for drainage and appearance.

**TYPICAL SECTION**

\( \text{??}+\text{??} \) to \( \text{??}+\text{??} \)

**FULL DEPTH RECLAMATION (FDR)**

(pulverize existing)
Mill and Overlay

1. Construct a 1:4 or flatter foreslope unless otherwise directed by the CO. Steepen the foreslopes as necessary, but not steeper than 1:2, to stay on the existing bench.

TYPICAL SECTION

XX+XX to XX+XX

Construct 30° pavement edge (safety edge)

Shoulder up with Roadway Aggregate, Method 2 (pay item 30202-2000) after placement of asphalt concrete pavement. Shape and compact as necessary for drainage and appearance.

See Mainline Typical Section for structural section details

Detail A

Mill existing pavement xx"
xx" Asphalt concrete pavement placed in two lifts

Mill and Overlay

Existing Pavement

Existing base course

Existing Shldr

Clear Zone

Shldr

Traveled Way

Fog seal

Tack coat (on existing pavement and between lifts)

Match existing

Match existing

Construction Limits

Variable Existing Slope

See Detail A

MILL AND OVERLAY
3. Match existing horizontal alignment and cross slopes.

4. Construct a 1:4 or flatter foreslope unless otherwise directed by the CO. Steepen the foreslopes as necessary, but not steeper than 1:2, to stay on the existing bench.

**OVERLAY**

Shoulder up with Roadway Aggregate, Method 2 (pay item 30202-2000) after placement of asphalt concrete pavement. Shape and compact as necessary for drainage and appearance.

Construct 30\(^\circ\) pavement edge (safety edge)

**TYPICAL SECTION**

\[??+?? \text{ to } ??+??\]

**TYPICAL CRACK TREATMENT**

Map existing Pavement

See Mainline Typical Section for structural section details

Clean and seal cracks prior to pavement overlay

Refer to Section 414
COLD IN-PLACE RECYCLING (CIPR)

TYPICAL SECTION

**Construction Limits**

- **x' Clear Zone**
- **x' Shldr**
- **Traveled Way**
- **Fog seal**
- **Tack coat**
- **x' Asphalt concrete pavement placed in two lifts**
- **XX' Cold in-place recycled asphalt base course**

**Shoulder up with existing shoulder material and Roadway Aggregate, Method 2 (pay item 30202-2000) after placement of asphalt concrete pavement. Shape and compact as necessary for drainage and appearance.**

**Construct 30° pavement edge (safety edge)**

**Variable Existing Slope**

1. Construct a 1:4 or flatter foreslope unless otherwise directed by the CO. Steepen the foreslopes as necessary, but not steeper than 1:2, to stay on the existing bench.

See Mainline Typical Section for structural section details
MILL FULL DEPTH AND OVERLAY

1. Construct a 1:4 or flatter foreslope unless otherwise directed by the CO. Steepen the foreslopes as necessary, but not steeper than 1:2, to stay on the existing bench.

TYPICAL SECTION ??+?? to ??+??

Shoulder up with Roadway Aggregate, Method 2 (pay item 30202-2000) after placement of asphalt concrete pavement. Shape and compact as necessary for drainage and appearance.

See Mainline Typical Section for structural section details

DETAIL A
4. Pulverize the existing paved width or as directed by the CO. Pulverize to a depth of ??".

5. Spread pulverized asphalt and pave across the available width on all curves. Add additional aggregate base if necessary.

6. Place asphalt concrete pavement in two lifts. Apply tack coat to the first lift prior to placing the second lift.

7. Construct a 1:4 or flatter foreslope unless otherwise directed by the CO. Steepen the foreslopes as necessary, but not steeper than 1:2, to stay on the existing bench.

FULL DEPTH RECLAMATION (FDR)
(pulverize existing and add aggregate base)
3. Reclaim to the depth specified in the typical section. See the Pavement Report for more information on existing pavement conditions.

4. Construct a 1:4 or flatter foreslope unless otherwise directed by the CO. Steepen the foreslopes as necessary, but not steeper than 1:2, to stay on the existing bench.

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**TYPICAL SECTION**

??+?? to ??+??

- Reclaim to the depth specified in the typical section. See the Pavement Report for more information on existing pavement conditions.
- Construct a 1:4 or flatter foreslope unless otherwise directed by the CO. Steepen the foreslopes as necessary, but not steeper than 1:2, to stay on the existing bench.
FDR WITH ASPHALT EMULSION
FULL DEPTH RECLAMATION (FDR)

(add aggregate base and pulverize existing + new aggregate base)
MILL, PULVERIZE, AND OVERLAY

TYPICAL SECTION

 Shoulder up with Roadway Aggregate, Method 2 (pay item 30202-200) after placement of asphalt concrete pavement. Shape and compact as necessary for drainage and appearance.
Lateral Variable slope grade Finished traveled way Edge of traveled way (max) 6” curb reveal 6” max. 12” block

MGS GUARDRAIL TYPICAL SECTION
Hinge point

Grade

Finished

Variable slope

Lateral support

W-beam backup plate (non blocked guardrail)

TYPICAL SECTION

MGS GUARDRAIL

TYPICAL SECTION

3 1/2" x'

x' (min.)

W-beam backup plate (non blocked guardrail)

Face of Wall

1V:3H or flatter

Finished grade

Edge of traveled way

Face of Wall

Hinge point

Variable fill slope

MGS GUARDRAIL

TYPICAL SECTION