

HENDERSON WATER UTILITY

Water • Wastewater • Stormwater

MANAGED BY THE WATER & SEWER COMMISSION OF THE CITY OF HENDERSON

TOM WILLIAMS, P.E.
GENERAL MANAGER

Date: 16 March 2015

Memo To: Planning Commission Members
Mayor Steve Austin
Judge-Executive Hugh McCormick

From: Tom Williams, P.E.
General Manager

Subject: Revisions to the Public Improvement Specifications

Slightly more than a year ago, a group of City, County and Utility staff members, working with the Planning Commission staff, recommended to you a new set of City/County Public Improvement Specifications. After a year of use, we have come across a few changes, mostly of a minor, technical nature, that need to be made. These changes have been reviewed with the City/County employees who deal with them every day, including Bill Hubiak, Doug Boom, Dylan Ward, Buzzy Newman and Ken Ferry.

The Public Improvement Specifications address how public improvements (streets, sidewalks, sanitary sewers, storm sewers and water lines) are constructed, and are a supplement to the Subdivision Regulations. Authorization for the existence of these requirements is found in KRS 100.281 (4), which makes clear that these specifications are the responsibility of the Planning Commission.

The revisions are shown on the attached, and include the following:

Section 2 - Materials

- Updates materials specifications to include flowable fill, which is a lean concrete mixture that provides a more stable backfill material in some situations. This mixture is used often in narrow trenches under roads and streets, when placement and compaction of stone backfill would be challenging. Flowable fill comes in “digable” and “non-digable” variations, depending on its ultimate strength.

Section 3 - Streets

- Changes all references to “Bituminous Concrete” to “Asphalt”, replacing archaic language that was in the original PI Specs.
- Changes the requirements for thickness of street pavements. For streets classified as Local Roads, a minimum pavement thickness is specified. For streets in higher traffic areas (Collectors & Arterials), an engineered pavement design will now be required.
- Changes the maximum aggregate size in the standard asphalt base course from 3/8” to 1”. This matches the current KYTC Specifications for asphalt pavement.

- Changes the thickness of the surface course on Asphalt Pavement from 1 inch to 1.5 inches. This matches the current KYTC Specifications for asphalt pavement. Normally, the course thickness is at least three times the maximum aggregate size. The smallest maximum aggregate size allowed by KYTC is 3/8", so the former 1 inch surface thickness did not meet the KYTC standards.

Section 5 – Storm Sewers

- Makes a minor grammatical correction ("has" replaces "as") in one location.
- Adds flowable fill as an approved backfilling method.

Section 6 – Sanitary Sewers

- Adds flowable fill as an approved backfilling method.

Section 7 – Water Mains in HWU Service Area

- Adds flowable fill as an approved backfilling method.

Exhibit 3-1 – Changes the minimum asphalt surface course from 1 inch to 1.5 inches.

Exhibit 4-1 – Changes the driveway entrance detail to allow a 1" lip, when required for drainage.

Our plan is to have the Specifications go to a public hearing at the Planning Commission meeting in May. The changes will become effective upon approval by the Commission.

If you have any questions or need further information on this or any other matter, please feel free to call me at 270.869.6621 (Office) or 270.823.2573 (Cell).

Proposed text changes/additions to the City/County Public Improvement Specifications:

In all sections, replace the words BITUMINOUS or BITUMINOUS CONCRETE with the word ASPHALT.

SECTION TWO - MATERIALS

Make the following additions to paragraph 2.1, PORTLAND CEMENT CONCRETE

- 2.1 | PORTLAND CEMENT CONCRETE & FLOWABLE FILL – Materials, placement, finishing and testing shall conform to the KYTC Standard Specifications, current edition. Digable Flowable Fill shall obtain an average compressive strength of 50 to 100 psi in 28 days. Non-Digable Flowable Fill shall obtain a minimum compressive strength of 250 psi in 28 days.

SECTION THREE - STREETS

Make the following additions to paragraph 3.4, ASPHALT BASE AND SURFACE COURSE

- 3.4 | ~~BITUMINOUS CONCRETE~~ASPHALT BASE AND SURFACE COURSE - All ~~bituminous concrete~~asphalt shall be hot-mixed and hot-laid on a prepared subgrade, old surface or underlying course. The pavement on new construction of streets classified as Local Streets shall consist of not less than:

Three (3) inches of KYTC Class 2 Asphalt Base, ~~0-381.00~~ D PG64-22; and
One and one half (1-1/2) inches es of KYTC Class 2 Asphalt Surface, 0.38D PG64-22.

For streets in all other classifications (Collector, Minor Arterial, Principal Arterial), pavement type and thickness shall be designed by an Engineer licensed to practice in the Commonwealth of Kentucky, and shall be submitted to the Engineer for approval. The Engineer may require pavement design calculations for a Local Street when zoning, land use, traffic, soil type or other considerations warrant a special design. When existing pavement is widened, the Engineer may require matching existing materials and thicknesses of courses.

Make the following additions to paragraph 3.5, PORTLAND CEMENT CONCRETE PAVEMENT

- 3.5 | PORTLAND CEMENT CONCRETE PAVEMENT - Shall consist of a single course, having a minimum depth of at least six (6) inches for streets classified as Local Streets, and shall be constructed on a prepared base in close conformity with the lines, grades and cross-sections shown on the plans, in accordance with the specifications contained herein.

DGA base shall not be required under cement concrete pavement unless warranted by subgrade conditions as deemed necessary by the Engineer. Number 610 crushed stone or crushed (recycled) concrete may be used in lieu of DGA where permitted by the Engineer. Crushed concrete used as base shall meet grading requirements set by the Engineer.

The pavement shall include longitudinal and transverse joints as shown on the plans in accordance with the specifications contained herein. The concrete pavement shall be at least six inches (6") thick and shall consist of Type "P" 4000 psi, air entrained concrete in accordance with the KYTC Standard Specifications.

For streets in all other classifications (Collector, Minor Arterial, Principal Arterial), pavement type and thickness shall be designed by an Engineer licensed to practice in the Commonwealth of Kentucky, and shall be submitted to the Engineer for approval. The Engineer may require pavement design calculations for a Local Street when zoning, land use, traffic, soil type or other considerations warrant a special design. When existing pavement is widened, the Engineer may require matching existing materials and thicknesses of courses.

Perforated pipe underdrains shall be installed parallel to the centerline of the street as shown on the plans in accordance with these specifications.

SECTION FIVE: STORM SEWERS

In the 4th paragraph of section 5.6, BACKFILLING PIPELINE TRENCHES, first sentence shall read as follows:

In all cases walking or working on the completed pipelines except as necessary in compacting and backfilling, will not be permitted until the trench has been backfilled to a point one foot above the top of the pipe.

Add the following at the end of Section 5.6, BACKFILLING PIPELINE TRENCHES

Flowable fill shall be allowed as an alternate method for backfilling of utility cuts and trenches, with approval of the Engineer.

SECTION SIX: SANITARY SEWERS

Add the following at the end of Section 6.7, BACKFILLING PIPELINE TRENCHES

Flowable fill shall be allowed as an alternate method for backfilling of utility cuts and trenches, with approval of the Engineer.

SECTION SEVEN: WATER MAINS IN HWU SERVICE AREA

Add the following at the end of Section 7.7, BACKFILLING PIPELINE TRENCHES

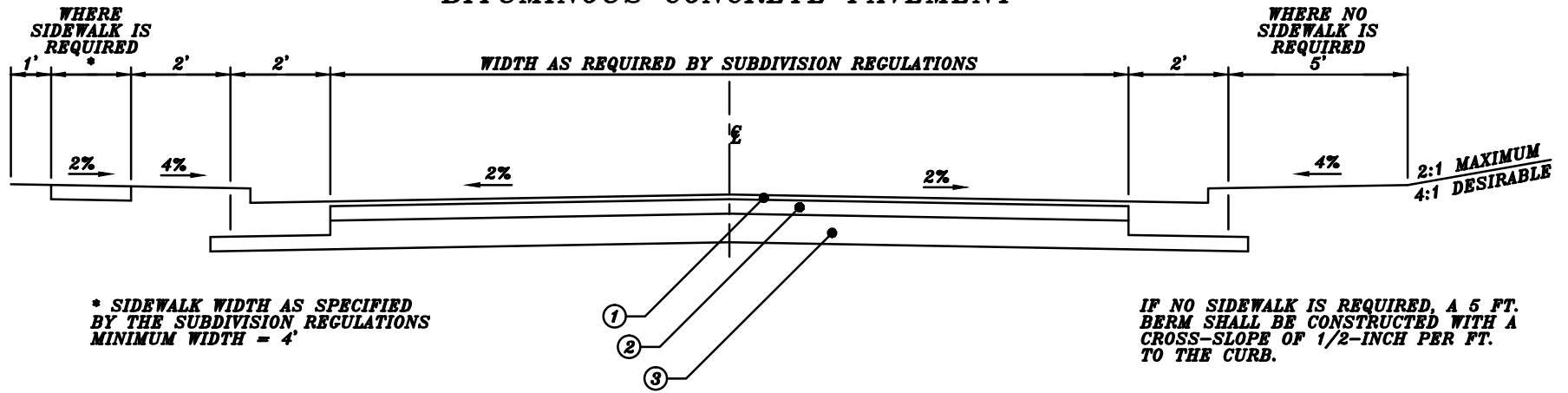
Flowable fill shall be allowed as an alternate method for backfilling of utility cuts and trenches, with approval of the Engineer.

Revise page numbers and the Table of Contents to accommodate these changes.

The attached Exhibit 3-1 shows the revised asphalt surface course thickness, and should be substituted for the original.

The attached Exhibit 4-1 contains a revised note, and should be substituted for the original.

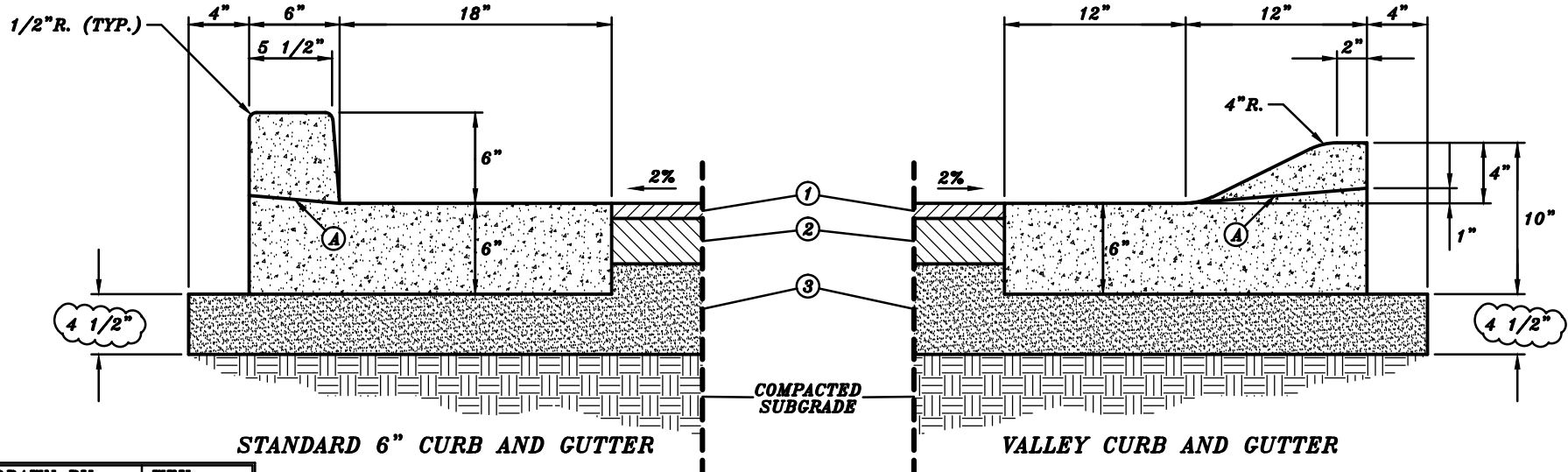
BITUMINOUS CONCRETE PAVEMENT



TYPICAL SECTION

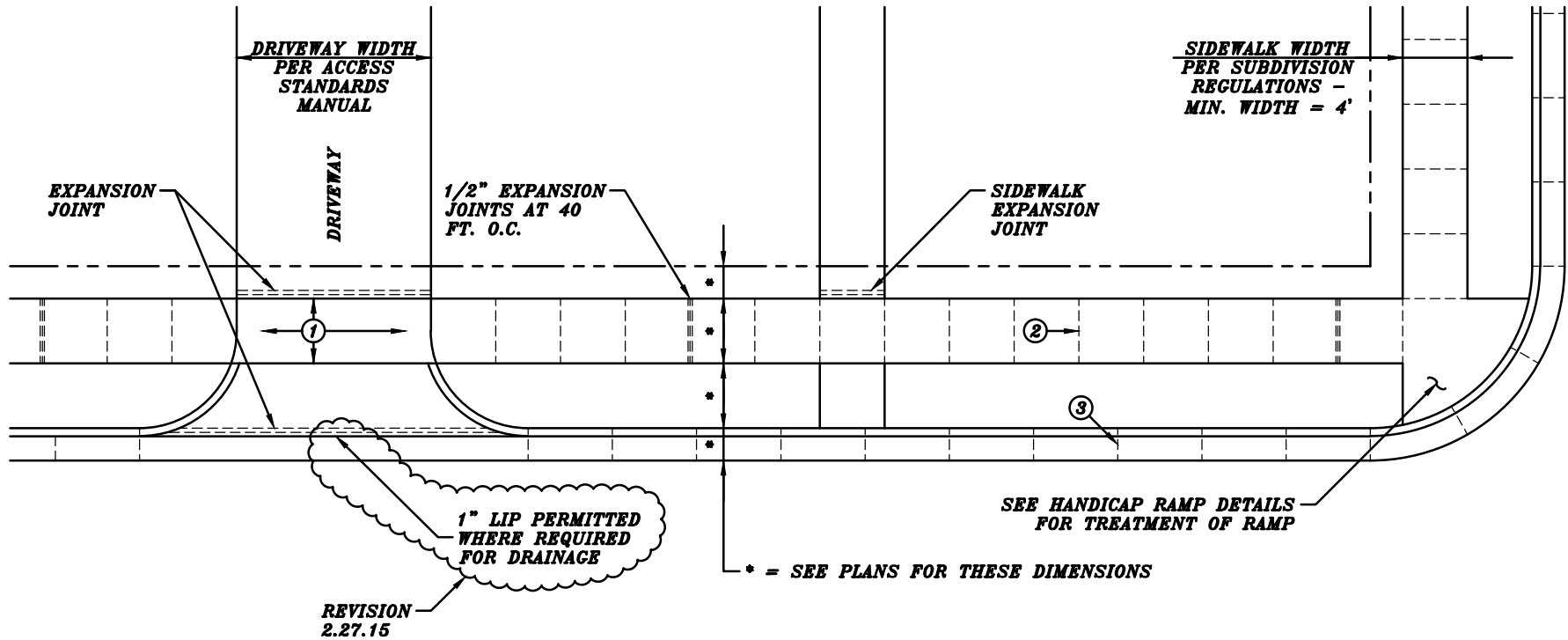
- ① 1 1/2" COMPACTED DEPTH KYTC CLASS 2 ASPHALT SURFACE, 0.38D PG 64-22
- ② 3" COMPACTED DEPTH KYTC CLASS 2 ASPHALT BASE, 1.00D PG 64-22
- ③ 6" COMPACTED DEPTH DENSE GRADED AGGREGATE BASE

Ⓐ LINE FOR CURB AT DRIVEWAY



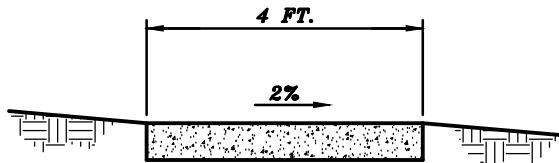
DRAWN BY	WFK
APPROVED BY	TDW
ORIGINATION	11/14/13
REVISION	02/27/15

TYPICAL CONSTRUCTION LAYOUT OF CURB, GUTTER, SIDEWALK AND DRIVEWAY



NOTE: EXPANSION JOINTS SHALL INCLUDE 1/2 INCH PRE-MOLDED EXPANSION JOINT MATERIAL.

- ① **SIDEWALK THICKNESS INCREASED AT DRIVEWAYS. SEE PUBLIC IMPROVEMENT SPECIFICATIONS**
- ② **SAWED OR TOOLED JOINT @ SPACING NOT TO EXCEED SIDEWALK WIDTH.**
- ③ **SAWED OR TOOLED JOINTS @ MAXIMUM SPACING OF 10 FEET.**



MINIMUM SIDEWALK WIDTH = 4 FT. - SEE SUBDIVISION REGULATIONS FOR WIDTH REQUIRED

SIDEWALK THICKNESS = 4 IN. EXCEPT AT DRIVEWAY

DRAWN BY	WFK
APPROVED BY	TDW
ORIGINATION	11/14/13
REVISION	02/27/15