Providing:
Specifications, Quality Assurance,
Inspections & Investigations
for your Construction Projects

ABSTRACT:

When connecting new & existing waterproofing systems, verify:

1. Existing conditions.
2. Compatibility between new & existing waterproofing.
3. That installed waterproofing system is continuous & uninterrupted.

Clearly distinguish new & existing construction on Drawings.

FILING:

UniFormat™ B3010 - Roof Coverings.

MasterFormat™ 07 10 00 - Dampproofing and Waterproofing.

KEYWORDS:

Renovation, waterproofing, weather barrier, flashing, end dam, coal tar

WATERPROOFING FLASHING

Description

The project is a renovation of an existing office building originally constructed in the 1950s or 1960s. A new storefront framing and entrance system was installed on a new concrete curb. In addition new pavers were installed over an existing waterproofed plaza adjacent to the storefront system. The cold joint between the existing floor slab and the new concrete curb was reported to be leaking.

Documentation

The drawing detail provided for the renovation work identified the new work installed above the concrete floor slab. The detail did not identify the existing construction and did not identify any elements of the plaza. Existing elements should be labeled in details as "existing" as shown in Figure 1 because there will be fewer elements to label as existing compared to the new work. Elements not labeled as "existing" are then considered to be new.

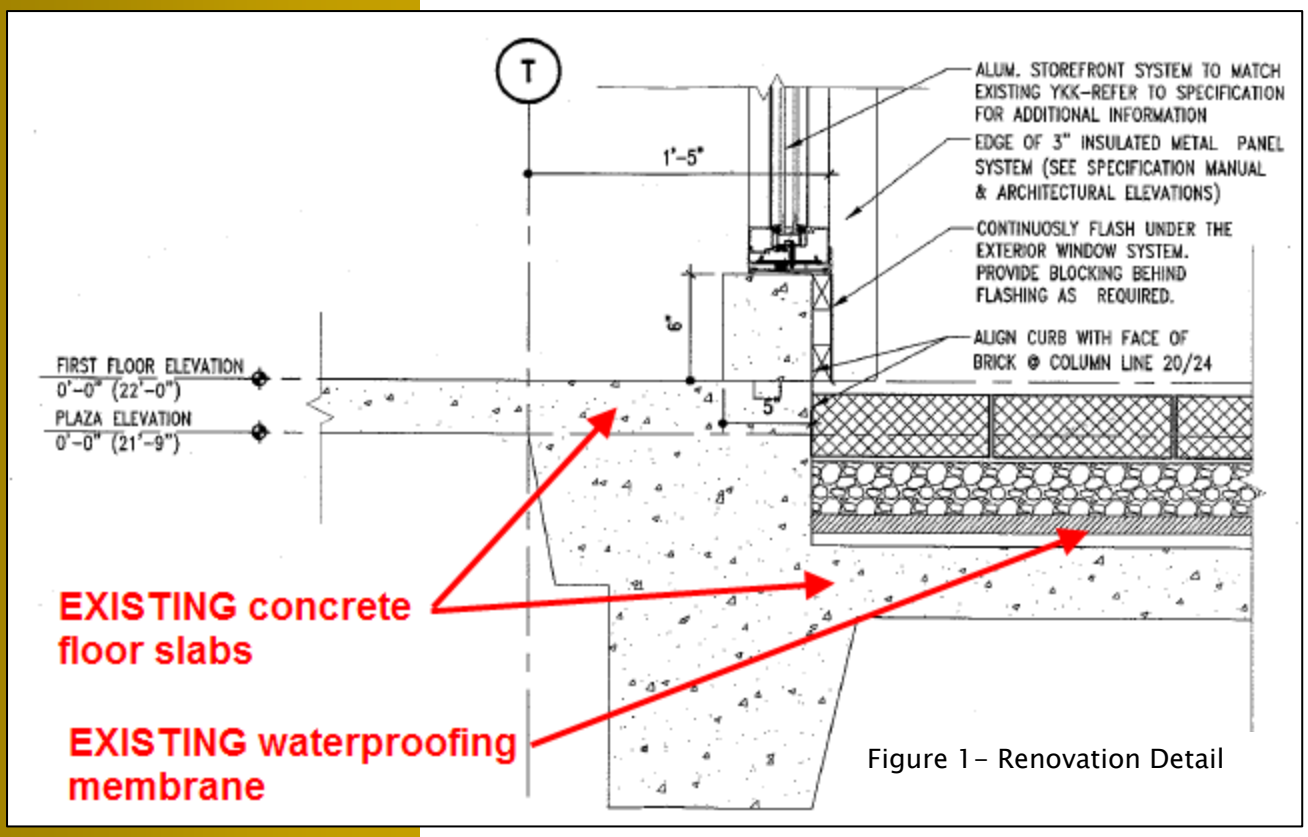

Figure 1 – Renovation Detail

Analysis

The detail does not show the flashing and termination of the waterproofing membrane. The membrane was reported to be turned up the vertical face of the plaza depression and flashed below the new cold joint. The extent of the flashing is shown by red line work in Figure 2. The new pavers provide a surface nearly aligned with the cold joint. Water shed by the exterior wall is deposited onto the pavers at the cold joint. Surface water collected on the pavers can be blown against the joint and make its way into the building.

Because of the building age, the plaza waterproofing may be coal tar or asphalt based. Coal tar was a popular waterproofing choice before the 1970s because of its self healing capabilities. It is important to determine the type of waterproofing materials because coal tar and asphalt are not compatible. Mixing the materials will lead to premature failure.

The sill flashing for the storefront relies on sealants at the interior and exterior surface to complete the weather seal. The flashing does not have a vertical leg at the interior face of the storefront.

Without the vertical leg the flashing end dams at the storefront jambs will be ineffective at preventing water from entering the building when water penetrates the exterior sealant joint.

The principal concern for the detail was determined to be the cold joint and the break in the weather barrier

Solution

Install new waterproofing membrane base flashing from the horizontal membrane up the vertical face of the plaza depression. Lap the new flashing over the cold joint onto the new curb and terminate the flashing under the storefront system. Hyload GL waterproofing membrane products were determined to be suitable for the repair. This product is compatible with coal tar membranes. The membrane flashing was sealed to the storefront framing. New sheet meal flashing was installed to conceal the membrane flashing from UV exposure and to provide protection from physical contact

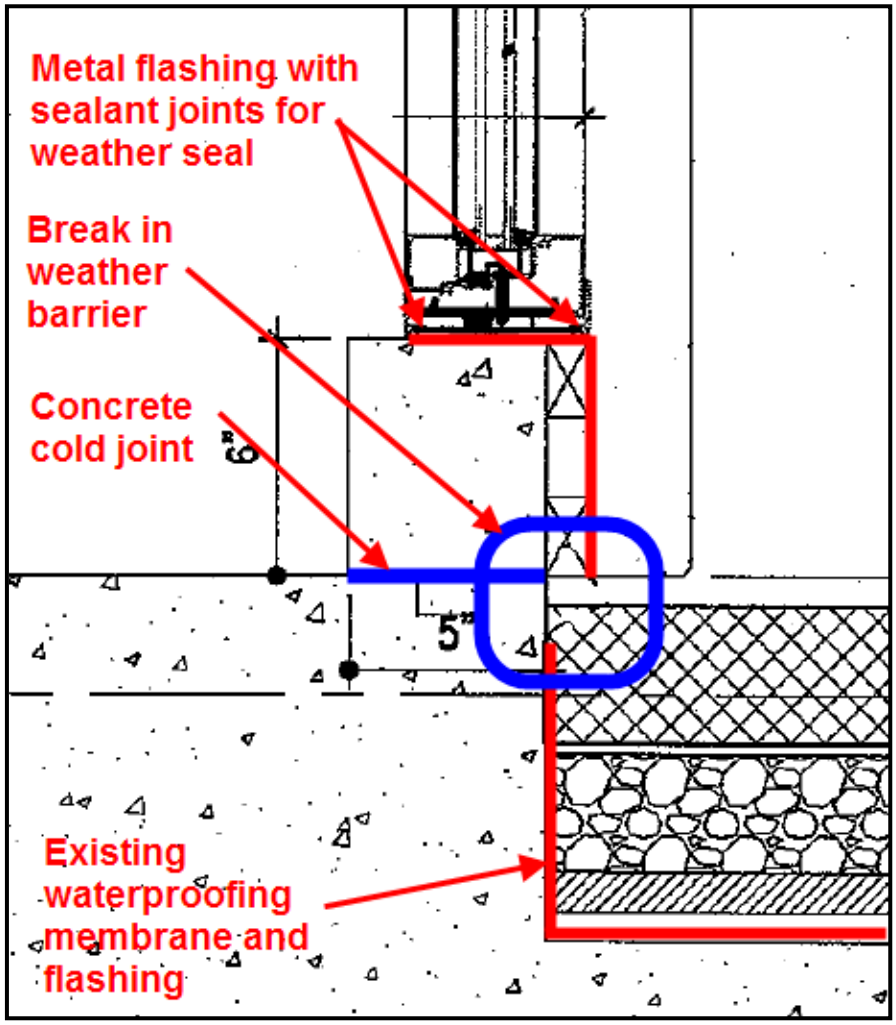

Figure 2 – Weather Barrier Break