

# Concrete: Money in the Bank

**B**ankers are the experts in time value of money. The stakeholders of the Sumner Bank and Trust of Hendersonville, Tennessee made a sound choice in selecting concrete pavement to serve their parking lot needs. Ms. Haley Meridieth, branch manager/assistant vice president, commented, “We were always going with concrete, because it holds up better.” Known and documented, concrete has three times the service life of asphalt paving. Concrete pavements can be found across the United States in highways, streets, and roads that have far exceeded 50 years of service life with relatively little maintenance.

W.T. DuBois Construction built Sumner Bank and Trust of Hendersonville. Mr. Jonathan Eads of W.T. DuBois Construction states, “The bank saved a good deal on excavating going with concrete, because we hit rock and just placed the parking lot on top. If they had used asphalt, they would have had to excavate down through the rock to put in some stone to have the layers you need and get the grade right.” Therefore, construction would have taken longer.

Garrott Brothers Continuous Mix, Inc. provided the ready mix. Concrete was placed with a 10’ vibratory roller at four inch thickness in the parking lot and drive areas. The project incorpo-



rated 300 cubic yards. The curb and gutter was placed integrally with parking lot paving to provide stronger pavement at the edges, where wheel loads create higher stress in the pavement structure. In choosing to place all concrete monolithically, this eliminated the time and expense of hiring another contractor. The jointing

plan recommended 10' x 10' panels to control stresses, control cracking and provide aggregate interlock for load transfer. Expensive wire mesh and dowel bars are not required by ACI 330R-08 in four to nine inch pavements, therefore, giving the bankers more cost savings.

A chief concern of the bank owners was safety at night for their ATM customers. Concrete offers high light reflectivity thereby reducing shadows and dark spots for improved visibility. "I do [feel better] because concrete lights up better than black asphalt," said Ms. Meridith. In contrast to concrete, asphalt requires up to 30% more lighting to compensate for its darker color. The light color of concrete leads to a cooler pavement surface and lower temperatures surrounding the building envelope. This provides lower cooling (energy) costs for the owner. During summer months the surface

temperature of asphalt can be as much as 25 degrees F warmer than concrete.

Sumner Bank and Trust stakeholders chose a beautiful, long lasting concrete parking lot offering minimal maintenance throughout its service life. Rigid pavement, a key contributor to concrete's durability, allows loads applied to concrete to spread evenly across the subgrade or subbase, thus reducing stress levels. Asphalt, in contrast, is a flexible pavement permitting applied point loads to propagate into the subgrade or subbase creating high stress levels and causing ruts and potholes. Factors frequently overlooked when selecting an asphalt pavement are future, and costly, overlays and sealcoats. According to the Asphalt Sealcoat Manufacturers Association, asphalt pavements should be re-sealed every three to four years or as necessity dictates. Business down time and exorbitant costs are to be expected for asphalt maintenance.



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