The first step in the overall chip seal process is to insure that the roadway has a good foundation. In order to do this, some combination of the following steps may be required:

Crack sealing, which is the process of sealing the cracks in the existing pavement, to prevent erosion; the leveling of trenches; and the application of a 1" leveling course of Type I asphalt, which serves to strengthen the foundation and to recrown the roadway for proper drainage. Although this has the appearance of a finished product, on its own it will not endure more than a few years.

It is important to note that many roadways surveyed already have a good foundation and, therefore, these aforementioned steps are necessary. Once we have ascertained that the roadway has a good foundation, the chip seal process itself is employed as follows:

A hot asphalt emulsion is applied to the roadway, followed by the addition of a 3/8" stone aggregate, which is washed and treated for this purpose; and the final step is the use of a rubber tire roller, along with a steel drum roller, to incorporate the stone into the hot asphalt emulsion.

There are several advantages to the Chip Seal Program. First of all, it is economical. The cost of chip seal is a quarter of the cost of Type-I paving. I believe this to be the most cost effective method of maintaining the secondary roadways.

Realizing that the total funds for roadway resurfacing is limited, the best allocation for this funding is to employ Type I asphalt for major roadways and reserving the chip seal method for secondary roadways.

The further advantages to this chip seal method is its ability to expand and contract with the air temperature, as it is an excellent sealant. Because of its texture, it provides good traction in rain and snow. It also has a durable wearing surface, lasting an average of eight (8) to ten (10) years and sometimes a longer duration.

Another benefit is the fact that once a roadway as been chip sealed, it can be redone at a future date at 25% less than the cost of Type I asphalt. In this regard, chip seal has an advantage over the Type I asphalt. Multiple applications of Type I can result in the roadway being too high, at which point it must be regraded. However, with the use of chip seal, two (2) or three (3) coats may be applied without the necessity of regrading the roadway, thus effecting further savings.

I should point out, however, that there are a few drawbacks to the use of chip seal. One disadvantage is that the buildup of excess stone cannot be swept up for a minimum of seven (7) to ten (10) days after its application. This may result in some dust and stone buildup in driveways and sidewalks. In order to minimize this excess stone buildup, the Department of Public Works will increase the number of sweepings from three (3) to four (4) on newly installed chip sealed roadways.

The second drawback is the fact that the roadway surface is not as smooth as Type I asphalt. It does, however, become somewhat smoother over the years.

In conclusion, I feel that the Chip Seal Program has proven its worth over the last twenty (20) years. Although we recognize a few drawbacks to the process, the advantages far outweigh the disadvantages.

The chip seal program has been approved by the Capital Budget Committee, Finance Committee, Town Meeting, Town Administrator, and the Board of Selectmen.