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ASPHALT

WHAT THE PAVING CONTRACTORS *WON'T* TELL YOU.....

Top 10 secrets to a Successful paving project

Presented by:

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BACKGROUND INFO.....

The <u>four</u> major types of maintenance associated with asphalt pavements:

- **Dig out and replace (patching)**
- **Emulsion based seal-coat**
- **Slurry seal**
- **Overlay (with or without reinforced fabric)**

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Dig Out and Replace (Patching)

Applicable When:

- **Asphalt is severely "alligatored"**
- **Subgrade has failed and left pavement depressed in localized areas**
- **Previous patches or utility trenches have failed around perimeters**

NOTE: Look for suspect areas adjacent to previous patches

Approximate Bay Area Cost: $3.85 - $4.40/sf

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Typical Specification

- **Base aggregates = 3/4 inch medium grade**
- **Surface aggregates = 1/2 inch medium grade**
- **Material consists of sand, aggregate, and liquid asphalt**
- **Place at 280 degrees minimum (secret #1)**
- **Excavate area to 4 inch depth (or greater), re-compact subgrade, tack perimeter, install first lift at 3 inches, surface course at 1 inch, compact each course to 95% (secret #2).**

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Reserve study tips and guidelines

- **Patching usually done in conjunction with seal coating to insure uniformity (every 3-5 years)**

- **Impossible to calculate how extensive patching will be during life of project. Use percentage contingency - except for base year**

- **Estimate amount of failed areas for base year of study**

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Emulsion Based Seal–Coat

- **Asphalt is weathered, oxidized and surface aggregates (fines) have disappeared**

- **Asphalt has "grayed out" and striping has faded**

- **Aesthetic quality is necessary to maintain**

Approximate cost = .06 - .11/sf

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Typical Specification

- **Material consists of asphalt based emulsion, solids, clays, mineral fillers, and black slag or silica sand, and various chemicals and additives (i.e.. Latex)**

- **Add 2-6 lbs. of #30 silica sand per gallon of straight emulsion if surface course is rough (first coat)**

- **Second coat is applied without sand to "lock in" sand from first coat (secret #3)**

- **Can add 2 _% latex per gallon (both coats) for durability (secret #3)**

- **Material not to be diluted with more than 20% water (secret #4)**

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Typical Specification (cont.)

- **Minimum application rate = Smooth, dense surface (20 gal. Per 1,000/sf); Medium surface (30 gal. Per 1,000/sf); Rough, aged surface (50 gal. Per 1,000/sf)**

- **First coat MUST be dry to the touch prior to application of second coat (secret #5)**

Reserve study tips and guidelines

- **Seal-coating usually done after failed areas have been patched**

Reserve study tips and guidelines

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Reserve study tips and guidelines (cont.)

- **Seal-coat normally every 3-5 yrs. to maintain aesthetic appeal and protect pavement from weathering**

- **Seal-coat when pavement temperatures are 60 degrees or above (not ambient). Turn off sprinklers, notify residents**

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Slurry Surfacing

- **Pavement is heavily weathered and oxidized**
- **Pavement not quite ready for an overlay**
- **Pavement shows heavy loss of surface fines due to water erosion**
- **Not suitable for tight turning areas or smooth pavements (secrets #6)**

Approximate cost = .11 - .15/sf (based on 50,000 sf)

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Typical Specification

- **Type I suggested for parking areas. Type II for roadways**

- **Consists of asphaltic emulsion, crushed aggregate, set control additives, and water. More functional than aesthetic. Thickness ranges from 1/8 inch to 3/16.**

- **Ambient temperature 55 degrees and rising for placement**

- **Clean pavement thoroughly, disconnect irrigation, properly notify residents to avoid driving/walking on material until material has ample time to cure (approx. 3-5 hrs.)**

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Reserve Study tips and guidelines

- **Slurry usually applied to pavements over 5-8 years old**
- **Can be utilized to fill cracks, excessively rough areas, and low spots**
- **Normally lasts 7-10 years depending on use**
- **Especially effective on rural roadways where curb and gutter is absent**
- **Usually done in conjunction with patching**
- **Cost can be accurately calculated for life of the project**
- **May indefinitely postpone overlays in some circumstances**

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Asphalt Overlay

- **Pavements have deteriorated and /or reached the end of their useful life**
- **Pavements have worn away completely in areas**
- **Asphalt has lightly "alligatored" and could be overlaid with reinforcing fabric rather than dug out and replaced**

Approximate cost = $0.80-$1.35/sf
(includes fabric)

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Typical Specification

- **Prime coat or tack coat of RS-1 uncut asphalt cement should be spray applied to asphalt before overlay if Petromat fabric is used**

- **Area should be power washed and cleaned to remove all loose materials**

- **Asphalt to be applied in two lifts. Base course should be 3/4 inch max. and surface course should be 1/2 inch max, unless thickness is 3 inches or less.....then spread in one layer**

- **Adjust manhole covers to meet final grades**

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Typical Specification (cont.)

- **Minimum ambient temperature for placement is 50 degrees, and minimum material temperature is 280 degrees (secret #7)**
- **Rake out course aggregate (secret #8)**
- **Usually done in conjunction with patching**
- **Use Petromat fabric when specifying**
- **Flood test final product to check for proper drainage (secret #9)**
- **Average life expectancy is 25-35 years with maintenance**
- **If "course" areas unravel, ask for seal coating of the area (secret #10)**

STAR Roofing Company

ECHO ANNUAL SEMINAR

Preventative Maintenance for Roofing

By Brian Swanson

Certain unique challenges face the condominium and multi-residential owner. Decisions regarding roofing often are the source of disagreement. The roof may not appear to affect the owner on the first floor of a four story building; however, all residents share and share alike in condominium upkeep.

Good planning from Boards of Directors, Association and Construction Managers along with Finance Consultants is essential and will go a long way in easing the burden of these costly investments.

What about your present roofing investment? Can it be maintained, its life extended to its full potential without having to replace it before you have planned and budgeted to do so?

Our discussion today will highlight why inspection and regular roof maintenance is critical, who should perform these inspections, and what details should be discovered, documented and repaired.

A ROOF'S LIFE EXPECTANCY

Roof products vary in quality, and therefore longevity. Every roofing product is not well suited for all buildings. Likewise, quality workmanship and experience is as important as the materials used. One particular roofing system may not perform as well installed by two different contractors. That being the case, maintenance and inspection of your roof is very important; as it will catch small problems before becoming too costly or cause damage and failure of the system altogether. For those who have warranties, (hopefully a third party manufactures warranty), requires periodic inspection and maintenance. An example would be the responsibility we assume when purchasing a new car.

Very often proper roof maintenance will extend the serviceable life of a roof 5-10 years. In other words; industry surveys confirm that a roof may need to be replaced 5-10 years sooner without proper care!