

SECTION 3

ENGINEERING

ENGINEERING

Engineering includes asphalt paving, concrete driveways, curbs & gutters, sidewalks and other miscellaneous items that may come up in your Association. Association inventories and experience summaries are included in this section. Updates from LOMAA are expected on an annual basis.

ASPHALT:

Asphalt paving fails or breaks apart for two basic reasons: 1. The original thickness of the asphalt course or the base material or the combination of the two are inadequate to support the traffic loads. 2. Water is allowed to reach the base materials and the earth below thereby saturating the earth which becomes unstable and will not support the paving. Asphalt paving is flexible and can only distribute the traffic loads to the base and the earth. The first problem requires corrective maintenance such as an asphalt overlay to build up the structure thickness. The second problem may be managed with preventive maintenance.

Asphalt deteriorates from exposure to ultra violet rays and water. Control of irrigation water runoff by using multiple short watering cycles each night, rather than one long watering session, will reduce water runoff and resulting damage to the asphalt.

Starting the minute that the paving is laid down it begins to oxidize. It will look good long after it should have been treated. Preventive Maintenance will slow the process. Highway Department studies have shown that for every dollar spent for P.M. of sound asphalt will avoid \$8 - \$10 of corrective maintenance on pavement that is allowed to deteriorate.

Cracks along utility trenches will allow surface water to penetrate the asphalt and base weakening the structure and resulting in expensive pothole repairs. The cold polyurethane applied by contractor crews is not very long lasting. Hot asphalt/rubber (Flex-A-fill) is effective but the equipment for hot application tends to rule out jobs with less than 1000 ft. of cracks. Annual application of "Black Jack" pourable crack filler is cost effective if you have do it yourself help in your Association.

There are several Preventive Maintenance seal coats that may be applied periodically to extend road life. Cal Trans Slurry seal fills cracks and minor eroded areas and furnishes a 3/16" overlay of new asphalt. This provides a positive seal and a long life, durable, non-skid surface. The new surface protects the original pavement from sun and water damage. A drawback of this slurry is that it ravel when new. Traffic on Association streets is not frequent enough to complete surface compaction as on main

ENGINEERING

highways.

A less expensive seal, OVER-KOTE, provides a satisfactory treatment and is very suitable in low traffic areas. Other seals have less binding material and in effect only coat the original exposed pavement material.

A Cal Trans Slurry Seal should last for 6 - 9 years under light traffic. Other seals should be applied more frequently.

A major paving repair with a petromat base for 1" of hot asphalt-rock top coat can more than double the life of the repair and will often result in a lower lifetime cost.

Look at your streets -- If your stones are clean, the asphalt is below the tops, some stones are loose, get it covered up!! Your are losing structure, not just the wearing surface!!

CONCRETE:

Associations have been budgeting on the basis of 20% - 30% replacement in 30 years. A survey made in 1992 by LOMAA did not confirm this replacement rate. One Association had just replaced two driveways out of 47 units which were constructed in 1978. Other Associations have made no repairs or replacements. Refer to the tabulations in this section. A review of your area will show the possible problems. Look for cracks opening up, trees close to concrete slabs (root uplift), vehicle damage, etc. Do not forget the curbs and gutters, these are your responsibility - not the city.

Of the nine concrete projects since the July 1992 LOMAA Workshop, seven were walkways and two were driveways. Due to '93 & '94 construction slump the conventional removal /replacement of small walkway panels has been lower cost. Recent advances in crack filling technology indicate that large driveways may be repaired economically.

A number of hazardous sidewalks (reported to the city) have been temporarily patched with a cold asphaltic road mix and dusted with cement. During the next few years owners will be required to make permanent repairs. A low cost patching repair is currently under review by the city and may be approved in 1995.

Curbs & Gutters tend to be overlooked. Cracks in the gutter may contribute to additional water damage and failure of the gutter under a vehicle.



CITY OF
SANTA ROSA

PUBLIC WORKS DEPARTMENT
69 Stony Circle
Santa Rosa, CA 95401
707-543-3800
FAX 707-543-3801

An asphalt repair was placed on the sidewalk adjacent to this property in response to a report of damaged sidewalk. Please read the following letter for information about property owner obligation and the City sidewalk program.

SIDEWALK REPLACEMENT - GENERAL INFORMATION

Under California law, the maintenance and repair of sidewalks is the responsibility of the owner of the fronting property. The term "sidewalk" also includes the parking strip, driveway approach, and curb and gutter. Because of the City Council's support for a well-maintained, tree-filled environment, the Council has a long-standing policy to share the cost of concrete replacement with property owners where trees have caused the damage.

The purpose of this letter is to explain the options available to you to accomplish the repairs.

City Procedures

1. The Public Works Department administers an Annual Sidewalk Maintenance Program for the purpose of repairing reported sidewalk problems. The City utilizes the procedures from the California Streets and Highways Code to accomplish the repair work. The Streets and Highways Code has a process to recover the property owner's portion of the repair costs when the City provides the repair work.
 2. The City may provide asphalt patching of the sidewalk. Any asphalt patching of the sidewalk by the City which may exist or may be applied is intended to correct an irregularity until the concrete can be replaced.
 3. Prior to any work being done, the Department of Public Works will evaluate the sidewalk and will mark the area(s) of sidewalk needing repair. This evaluation will define the amount of City cost participation as outlined below. Concrete replacement in the parking strip is not eligible for City cost participation unless the concrete was installed as part of the original sidewalk.
 4. Locations included in the Annual Sidewalk Maintenance Program are prioritized based on the date when the damage was reported to the City. Due to the large number of locations reported, there is a significant delay between the date the sidewalk problem is reported and the actual work is included on the City's sidewalk maintenance contract.
-

When the property owner hires a contractor to perform the repairs, the contractor must submit a bill directly to the City for the total amount of work done. The City will pay the contractor directly for up to a maximum of 50% of the concrete replacement cost for that portion that was damaged by trees as defined in the initial sidewalk evaluation. The City will pay 50% of the contractor's unit costs or 50% of the City's unit costs from the most recent Annual Sidewalk Maintenance Program (ASMP) contract, whichever is less.

When the work is accomplished under the City's Annual Sidewalk Maintenance Program, the property owners are required to reimburse the City for their portion of the repair costs under an assessment process.

Description of Work

1. Damaged curb, gutter, and sidewalk is removed and replaced to the lines and grades of the original construction whenever possible.
2. When trees planted in the planter strip have caused the damage, the Parks Department evaluates each tree and makes a preliminary determination on the extent of the tree work necessary. The Parks Department makes a final decision on tree work after the concrete has been removed and the roots have been exposed. In some cases, trees that were scheduled for root work and top thinning need to be removed. All tree work is performed by a licensed tree surgeon. However, all work on private trees (which are trees behind the sidewalk) is the responsibility of the property owner.
3. In an attempt to save significant trees, the width of the sidewalk can be reduced to three feet at a point, to provide a larger area for the tree roots. Three feet at a point is the minimum sidewalk width for handicap access. Due to lack of right-of-way and proximity to existing houses, sidewalks are generally not constructed to meander around trees.
4. Removal of trees within the sidewalk planter strip is determined by the City Parks Department. When it is determined that a tree needs to be removed, the Parks Department indicates the type, number, and location of new trees that may be planted.
5. Any work needed on private trees is the responsibility of the property owner. When the work is performed under the Annual Sidewalk Maintenance Program, the property owner may negotiate directly with the City's contractor, or hire their own contractor to do the tree work. It is the property owner's responsibility to pay the contractor directly for the costs of private tree work.

Should you desire to replace the sidewalk concrete yourself or through the assistance of a contractor, an Encroachment Permit is required. For information and assistance, please contact a City Encroachment Officer, either Gary Pavlenkov at 543-3862 or Mike Sherman at 543-3868.

If you have any questions regarding the Annual Sidewalk Maintenance Program, please call John Best of this office at 543-3842 between the hours of 7:30 AM and 4:00 PM.

Please keep this letter for future reference.

J. COLLEEN FERGUSON
Supervising Engineer

c: John A. Best, Civil Engineering Technician

JCF:psl

doorhanger

COST SHARING EXAMPLES:

EXAMPLE #1

(Contractor's unit cost is greater than the City's ASMP unit costs)

<u>DESCRIPTION</u>	<u>COSTS PER SQUARE FOOT</u>		<u>CITY PAYMENT</u>
	<u>CONTRACTOR</u>	<u>CITY ASMP</u>	
Tree Damaged Sidewalk	\$8.00	\$5.50 *	\$2.75
Non-Tree Damaged Sidewalk	\$8.00	\$5.50 *	\$0.00

EXAMPLE #2

(Contractor's unit cost is less than City's ASMP unit costs)

<u>DESCRIPTION</u>	<u>COSTS PER SQUARE FOOT</u>		<u>CITY PAYMENT</u>
	<u>CONTRACTOR</u>	<u>CITY ASMP</u>	
Tree Damaged Sidewalk	\$5.00	\$5.50 *	\$2.50
Non-Tree Damaged Sidewalk	\$5.00	\$5.50 *	\$0.00

* Estimated dollar figures developed for these examples only.

EXAMPLE #3

(Homeowner performs repairs; all work tree related)

<u>DESCRIPTION</u>	<u>HOMEOWNER'S MATERIAL COST</u>	<u>CITY PAYMENT</u>
Concrete	\$500.00	\$250.00
Form Boards	\$ 50.00	\$ 25.00

The homeowner or the contractor, as appropriate, must submit total invoice costs to:

Department of Public Works
Attention: Encroachment Permit Section
69 Stony Circle
Santa Rosa, CA 95401

doorhanger
12/22/98