CITY OF OAKLAND

AGENDA REPORT

TO: Office of the City Administrator
ATTN: Deborah Edgerly
FROM: Public Works Agency
DATE: July 10, 2007

RE: **Resolution Authorizing The City Administrator To Apply For The California Tire-Derived Product Grant In The Amount of $100,000.00, Execute All Necessary Grant Related Documents, And Accept And Appropriate The Grant Funds To The Citywide Sidewalk Repair Program**

SUMMARY

A resolution has been prepared authorizing the City Administrator to apply for the California Tire-Derived Product Grant, execute all necessary grant related documents, accept and appropriate the grant funds for the use of rubberized material in a portion of the Citywide Sidewalk Program.

On August 23, 2005 by Resolution No. 79428 C.M.S., the City Council approved a Citywide Rubber Sidewalk Repair Pilot Program to test the effectiveness of rubber sidewalk around City trees and heavy pedestrian traffic areas. Rubber sidewalk was installed in front of fourteen school sites with tree-related sidewalk damage (Attachment A) at a total cost of $489,933.55. The first year of the pilot program is complete. Though the monitoring period was originally anticipated to end in five years, staff will work with other cities with similar pilot programs to evaluate the effectiveness of this product in a shorter time frame.

Staff intends to apply for the California Integrated Waste Management Board's California Tire-Derived Product Grant, which provides a maximum of $100,000.00 per grant. The total cost of rubber sidewalk material for the first year will be approximately $190,400.00. It is expected that $100,000.00 of the material cost will come from California Integrated Waste Management Board's California Tire-Derived Product Grant. The total labor and material cost for rubber sidewalk for the first year will be approximately $520,000.00 for 130 locations. The deadline to apply for the grant will be established after the California Integrated Waste Management Board meets on July 17, 2007.

The unit cost of rubber sidewalk is $26.00 per square foot, while concrete sidewalk is $16.00 per square foot (Attachment C). With the grant, the cost differential is $5.00 per square foot. However, if successful in the long-term, the maintenance of rubber sidewalk may have potentially significant cost savings when compared to concrete sidewalk because of the lower cost to make future repairs at these locations. This estimated savings is to be confirmed through the pilot study.

Seven agencies (Attachment D) using the Rubber Sidewalk Pilot Program are being benchmarked. These cities are still evaluating the effectiveness of the rubber sidewalk.

Staff recommends that the City Council adopt the resolution.

FISCAL IMPACT

Approval of the proposed resolution will authorize the application, acceptance and appropriation of the California Tire-Derived Product (TDP) grant offered through the California Integrated Waste Management Board (CIWMB) for a maximum allowed amount of $100,000.00 per grant of the rubber sidewalk, and establish rubber as an alternative material for the Sidewalk Repair Program.

The project will require an initial expenditure for material procurement. It is anticipated that the material cost for rubber sidewalk panels for the first year will be approximately $190,400.00 while the total construction cost will be approximately $520,000.00. Part of the funding for the material cost will come from the California Integrated Waste Management Board's, California Tire-Derived Product Grant Program which provides a maximum of $100,000.00 per grant. Staff intends to apply for the grant in the amount of $100,000.00. The remaining labor and material cost of $420,000.00 will come from the local sidewalk repair funds. The grant funds when received will be deposited in Fund 2154 (California Integrated Waste Management Board), Organization 30243 (Right-of-Way Management) and Account 46229 (Miscellaneous State Grants). The $100,000.00 will not be appropriated until the City receives the grant.

Although the initial construction costs of the rubber sidewalk are greater than those of concrete, it is expected that the long-term maintenance costs may be substantially less than concrete reconstruction.

BACKGROUND

Rubber sidewalk is derived from recycled tire rubber, and it is being utilized in some communities as an alternative material to concrete for tree preservation situations. The rubber material that is the subject of this grant application will be used in sidewalk retrofit locations, where adequate space is not present to perform the maintenance to tree roots. Typically, a minimum 36 inches around the base of the tree trunk is required. The installation of the rubber sidewalks requires that roots be trimmed to a minimum depth of four inches, whereas concrete sidewalk construction requires a minimum depth of eight inches.

A typical rubber sidewalk installation involves the removal of existing concrete, root pruning, grading of the area, and installation of the rubber sidewalk to the manufacturer's specifications and installation procedures. Pending the results of this and other pilot programs and based on available funding, the rubber material will be considered for use in future situations for the Tree

Preservation and Sidewalk Repair Program where root pruning is not feasible to preserve existing larger sized trees.

The Public Works Agency staff will continue to install temporary asphalt sidewalks and make other "make safe" repairs to temporarily repair sidewalks having highest severity of damage outside of the project area that cannot be repaired to meet Americans with Disabilities Act (ADA) standards for walkways using grinding or ramping treatments.

Rubber and Concrete Comparison: The construction cost of rubber sidewalk on the short-term is greater than regular concrete. The initial repair cost of rubber sidewalk averages $26.00 per square foot while concrete sidewalk averages $16.00 per square foot. The estimated replacement maintenance cost for rubber sidewalks may be as low as $10.00 per square foot. One purpose of the pilot study is to confirm these cost assumptions. Some comparison between rubber and concrete sidewalks are shown in Attachments B and C.

KEY ISSUES AND IMPACTS

Over the years, many City of Oakland concrete sidewalks have sustained damage due to tree roots. These damages have resulted in backlogs of unrepaired sidewalk and increased trip and fall claims. These damages occur mostly within concrete sidewalks around existing trees. Part of the reason for increased sidewalk damage is that concrete is not flexible.

Staff believes that rubber sidewalk is a material that may potentially perform longer and more effectively than concrete in areas of persistent root growth due to its flexibility, and will continue to be maintainable due to the modularity of the rubber sidewalk panels. Rubber sidewalks comply with current codes and local laws, and may provide a long-term cost effective alternative to sidewalk maintenance.

Grant funding is available for the installation of rubber sidewalk which is not applicable to concrete sidewalk. The available grants help defray the incremental cost difference and allow Oakland to expand its ongoing use and study of this material at a reasonable cost premium. When repairs are proposed at locations adjacent to private property, the property owner will be notified prior to use of the material.

PROGRAM OR PROJECT OR POLICY DESCRIPTION

The purpose of the program is to use an environmentally friendly alternative material for sidewalk repairs. The material will be mainly used around trees and other selected areas. It is expected that this material can be removed and reused after tree root pruning activities while complying with ADA and local laws, potentially offering long term benefits to the sidewalk repair program. The monitoring of the pilot program will be done in conjunction with other

cities. We hope to have interim results within one year. At the end, the cost effectiveness and functionality of the program will be determined. We will solicit community input in choosing rubber sidewalk locations before undertaking their placement within property frontages.

SUSTAINABLE OPPORTUNITIES

Economic: The project will create jobs for Oakland residents and reduce the sidewalk maintenance costs in the long-term. Use of the material will allow the City to qualify for grants that otherwise would not be applicable to regular concrete sidewalk.

Environmental: The rubber material will encourage waste reduction and demonstrates an application of recycled material. It is a more flexible material than standard concrete sidewalk and will not show a pronounced displacement resulting from uplifted tree roots.

Social Equity: The rubber sidewalk will enhance the aesthetics of the sidewalk area and create a safer pedestrian-friendly environment, e.g., benefits to the immediate neighborhood, increased services to disadvantaged areas, or enhanced recreational or social venues.

DISABILITY AND SENIOR CITIZEN ACCESS

The rubber sidewalk complies with the Americans with Disabilities Act (ADA) and the Older Americans Act and other applicable laws. It has the potential to decrease trip hazards that result from traditional concrete sidewalk.

RECOMMENDATION(S) AND RATIONALE

Staff recommends that the City Council adopt the resolution in order to continue to expand use and analysis of rubberized sidewalk as an alternative to concrete. The City will not be able to participate in the grant application without a Rubber Sidewalk Program. There is a California Tire-Derived Product Grant available for rubber sidewalk use, for which the City wishes to apply.

ACTION REQUESTED OF THE CITY COUNCIL

Staff recommends that the City Council approve the resolution adopting the use of rubber as an alternative material for the sidewalk program; and authorizing the City Administrator to apply for grants, and accept and appropriate funds received from the grants for rubber sidewalk.

Respectfully submitted,

Raul Godinez II, P.E.
Director, Public Works Agency

Reviewed by:
Michael Neary, P.E.
Assistant Director, Public Works Agency

Prepared by:
Yader Bermudez, Manager
Engineering Design & Right-of-Way
Management Division

APPROVED AND FORWARDED TO THE
PUBLIC WORKS COMMITTEE:

Office of the City Administrator

Attachments A - Rubber Sidewalk Pilot Project
B - Rubber Sidewalk vs. Concrete Sidewalk
C - Rubber Sidewalk Project (C78050)
D - Cities Contacted

ATTACHMENT A

CITY OF OAKLAND

RUBBER SIDEWALK PILOT PROJECT

ITEM	LOCATION	ADDRESS	STRET NAME	COUNCIL DISTRICT
1	CARTER MIDDLE SCHOOL	4521	WEBSTER STREET	1
2	EMERSON SCHOOL	4803	LAWTON AVENUE	1
3	WASHINGTON SCHOOL	581	61ST STREET	1
4	GARFIELD SCHOOL	1640	22ND AVENUE	2
5	LINCOLN NEIGHBORHOOD CENTER	250	10TH STREET	2
6	LINCOLN SCHOOL	225	11TH STREET	2
7	COX SCHOOL	1011	UNION STREET	3
8	FOSTER SCHOOL	2850	WEST STREET	3
9	MARTIN LUTHER KING JR SCHOOL	960	10TH STREET	3
10	LAUREL SCHOOL	3750	BROWN	4
11	BREWER SCHOOL	3748	13TH AVENUE	5
12	FRICK MIDDLE SCHOOL	2845	64TH AVENUE	6
13	E. MORRIS COX	9860	SUNNYSIDE	7
14	HIGHLAND CHILDREN CENTER	1322	86TH AVENUE	7

ATTACHMENT B

Rubber Sidewalks vs. Concrete Sidewalks

Pros

- Longer life span in areas of invasive tree root growth
- No buckling or cracking
- Maintainable, rubber panels may be removed and replaced
- Require less root pruning, thinner cross section than concrete
- Water and oxygen can enter soil through panel seams
- Higher coefficient of friction than concrete
- Softer than concrete, can cushion a fall
- Environmentally friendly, constructed of recycled tire rubber

Cons

- Maintenance resources are periodically required
- Maintenance costs are difficult to quantify due to lack of historical data
- More expensive than concrete, installation costs vary from 30% to 100% more
- Requires additional coating to obtain a desirable finish, fading may occur
- Some additional concrete sidewalk repair work required for proper installation
- Potential for growth of weeds through panel seams
- Not suitable for vehicular traffic or extreme loading conditions
- Sub-base compaction is critical to avoid settlement and uneven installation

Grant Opportunities

There are currently a couple of different grant opportunities that promote use of recycled materials including tire-derived products. Some limited funding is available through Alameda County Source Reduction and Recycling Funds. These funds are available annually for the use of recycled products and can be applied to the additional cost above conventional concrete sidewalk repair. Funding may also be available through the California Integrated Waste Management Board (CIWMB) Tire-Derived Product Grant Program. Funds from this source may be applied to the material costs of products constructed of recycled tire rubber. The annual award of this grant is determined from a list of applicants due each November.

ATTACHMENT C

Rubber Sidewalk Pilot Project (C78050) **3-19-07**

E. Morris Cox (9860 Sunnyside)

Highland Children Center (1322 86th Avenue)

Supplier: Rubber Sidewalks, Inc.

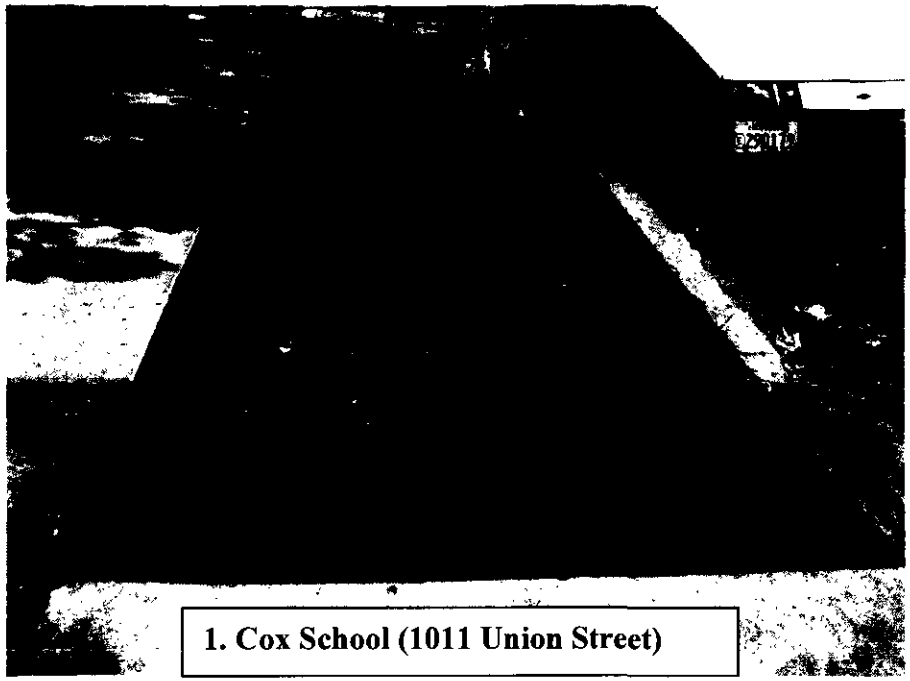
Web Site: http://rubbersidewalks.com/

Initial Repair Cost per Location:

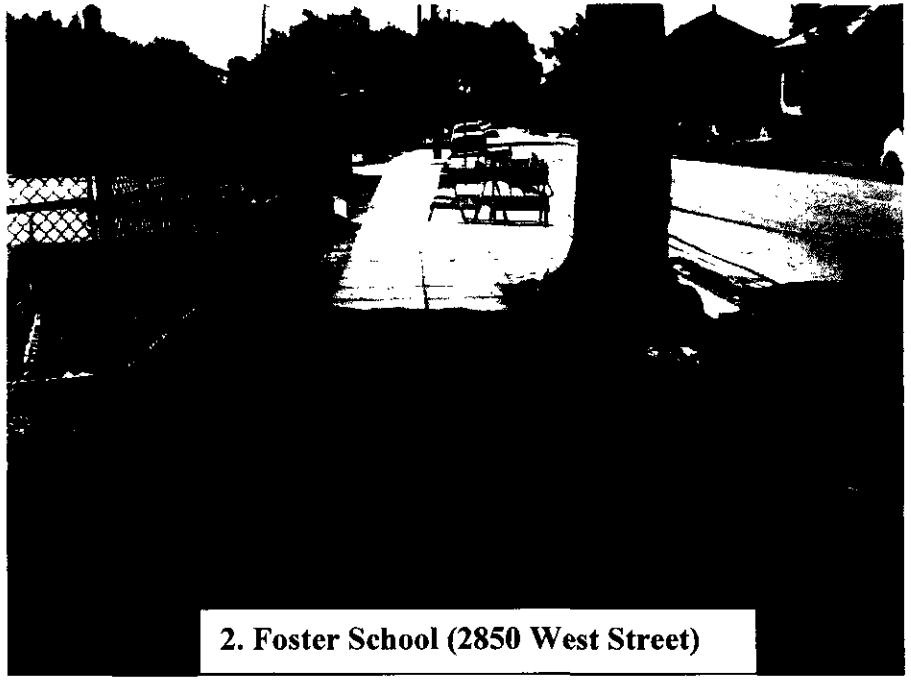
$4,000 (Rubber Sidewalk, $26/SF)
$2,500 (Concrete, $16/SF)

Cost include removal and disposal of existing concrete, root pruning, materials and installation.

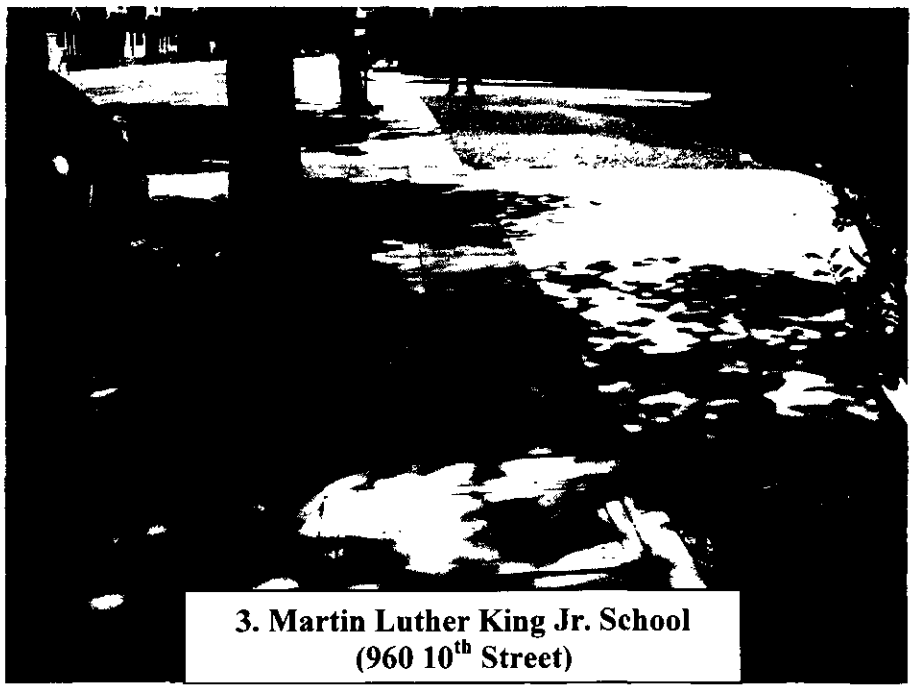
Estimated maintenance cost for rubber sidewalks is $1,500 ($10/SF); 40% savings over concrete repair.



1. Cox School (1011 Union Street)



2. Foster School (2850 West Street)



3. Martin Luther King Jr. School (960 10th Street)

Supplier: Rubber Sidewalks, Inc.

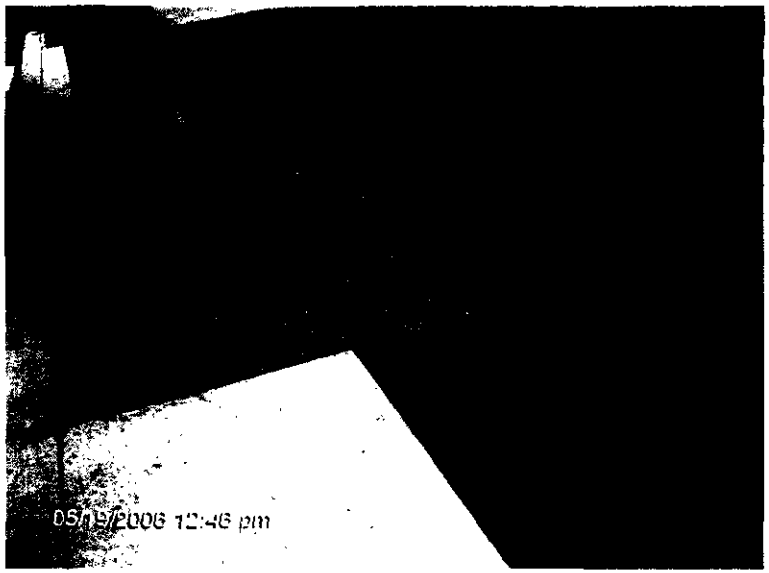
Web Site: http://rubbersidewalks.com/

Initial Repair Cost per Location:

$4,000 (Rubber Sidewalk, $26/SF)
$2,500 (Concrete, $16/SF)

Cost include removal and disposal of existing concrete, root pruning, materials and installation.

Estimated maintenance cost for rubber sidewalks is $1,500 ($10/SF); 40% savings over concrete repair.



Frick Middle School (2845 64th Avenue)

Supplier: Rubber Sidewalks, Inc.

Web Site: http://rubbersidewalks.com/

Initial Repair Cost per Location:

$4,000 (Rubber Sidewalk, $26/SF)
$2,500 (Concrete, $16/SF)

Cost include removal and disposal of existing concrete, root pruning, materials and installation.

Estimated maintenance cost for rubber sidewalks is $1,500 ($10/SF); 40% savings over concrete repair.

E. Morris Cox (9860 Sunnyside)

Highland Children Center (1322 86th Avenue)

Supplier: Rubber Sidewalks, Inc.

Web Site: http://rubbersidewalks.com/

Initial Repair Cost per Location:

$4,000 (Rubber Sidewalk, $26/SF)
$2,500 (Concrete, $16/SF)

Cost include removal and disposal of existing concrete, root pruning, materials and installation.

Estimated maintenance cost for rubber sidewalks is $1,500 ($10/SF); 40% savings over concrete repair.

ATTACHMENT D

Cities Contracted

- Redwood City
  - Contact: Gordon Mann 650-780-7493
  - 80 current sites
  - first installed over two years ago
  - installed cost: $20-25 per square foot
- Alameda
  - Contact: CW Chung 510-749-5840
  - 20 current sites
  - first installed four years ago
  - installed cost: $17.50 per square foot
- Dublin
  - Contact: Ananthan Kangasundaran 925-833-6630
  - 8 current sites
  - first installed two years ago
  - installed cost: $18 per square foot
- Los Angeles
  - Contact: Dennis Weber 213-485-5681
  - 6 current sites
  - first installed two to three year ago
  - installed cost: 100% more than traditional concrete
- Berkeley
  - Contact: Vincent Chen 510-981-6409
  - 2 current sites
  - first installed one year ago
  - installed cost: $16 per square foot
- San Francisco
  - Contact: Nick Elsner 415-554-6199
  - 1 current site
  - first installed one year ago
  - installed cost: paid for by property owner
- Santa Monica
  - Contact: Richard Valeriano 310-458-8504
  - 70 current sites
  - first installed in 2001
  - installed cost: 30% more than traditional concrete

Approved as to Form and Legality

City Attorney

OFFICE OF THE CITY CLERK

2007 JUN 28 PM 6:42

OAKLAND CITY COUNCIL

RESOLUTION No._____C.M.S.

Introduced by Councilmember _____

RESOLUTION AUTHORIZING THE CITY ADMINISTRATOR TO APPLY FOR THE CALIFORNIA TIRE-DERIVED PRODUCT GRANT IN THE AMOUNT OF $100,000.00, EXECUTE ALL NECESSARY GRANT RELATED DOCUMENTS AND ACCEPT AND APPROPRIATE THE GRANT FUNDS TO THE CITYWIDE SIDEWALK REPAIR PROGRAM

WHEREAS, on the 23rd day of August 2005, by Resolution No. 79428 C.M.S., the City Council approved a Citywide Rubber Sidewalk Repair Pilot Program; and

WHEREAS, the first year of the pilot program is complete; and

WHEREAS, the completed pilot program resulted in installation of rubber sidewalk at fourteen school sites for a total cost of $489,933.55; and

WHEREAS, the property owners will be notified when repairs are proposed at locations adjacent to private property; and

WHEREAS, staff compared initial cost of rubber sidewalk and concrete sidewalk and found that the initial cost of rubber sidewalk is greater than concrete sidewalk, but will work with other cities with similar pilot programs to evaluate the effectiveness of the product; and

WHEREAS, seven agencies using the Rubber Sidewalk Pilot Program were benchmarked, and their results indicate ongoing evaluation of the effectiveness of rubber sidewalk; and

WHEREAS, it is anticipated that the cost for the rubber sidewalk for the first year will be approximately $520,000.00 for 130 locations; and

WHEREAS, $420,000.00 out of the $520,000.00 of the anticipated cost will come from sidewalk repair funds, and additional $100,000.00 will be required; and

WHEREAS, the City will benefit through application of grants available for using the rubber material for sidewalk, and that the City may experience cost savings in the long run for using rubber sidewalk; and

WHEREAS, there is a California Tire-Derived Product (TDP) Grant Program offered through the California Integrated Waste Management Board (CIWMB) to which City staff will apply for a maximum allowed amount of $100,000.00 per grant of the rubber sidewalk; and

WHEREAS, Senate Bill 876 Escutia, Statutes of 2000, Chapter 838) authorizes the California Integrated Waste Management Board to establish a grant program opportunities to divert waste tires from landfill disposal, prevent illegal tire dumping, and to promote markets for recycled-content waste tire products; and

WHEREAS, the California Integrated Waste Management Board has been delegated the responsibility for the administration of the program within the State, including setting up necessary procedures governing application by California cities, counties, city and county, special districts or political subdivisions thereof, and qualifying California Indian tribes; and

WHEREAS, procedures established by the CIWMB require jurisdiction-applicants to certify by resolution the approval of the jurisdiction's governing authority for submittal of a grant application before submission of said application to CIWMB; and

WHEREAS, if awarded a grant, the City of Oakland will enter into an agreement with the State of California for development of the project; and

WHEREAS, the rubber sidewalk is environmentally friendly and complies with codes and local ordinances; now, therefore, be it

RESOLVED: That the City Administrator is authorized to submit an application to the California Integrated Waste Management Board for Tire-Derived Product (TDP) Grant Program, accept and appropriate received grant funds for the Citywide Sidewalk Repair Program. The City Administrator of the City of Oakland, or her designee is hereby authorized and empowered to execute in the name of the City of Oakland all necessary applications, contracts, agreements, amendments and payment requests hereto for the purposes of securing grant funds and to implement and carry out the purposes specified in the grant application.

IN COUNCIL, OAKLAND, CALIFORNIA, _____, 2007

PASSED BY THE FOLLOWING VOTE:

AYES-BROOKS, BRUNNER, CHANG, KERNIGHAN, NADEL, QUAN, REID, and PRESIDENT DE LA FUENTE

NOES-

ABSENT-

ABSTENTION-

ATTEST:_____
LaTonda Simmons
City Clerk and Clerk of the Council
of the City of Oakland, California