DEALING WITH CONTRACTORS

SPECIFICATIONS AND CONTRACT DOCUMENTS FOR ANNUAL SIDEWALK REPLACEMENT PROGRAM (WORK TO BE COMPLETED BEFORE JULY 23, 2004)
CITY OF CEDARBURG
OZAUKEE COUNTY, WISCONSIN
Project No. 2004-03
February, 2004
62.15

62.15 Public works.

62.15(1)

1) Contracts; how let; exception for donated materials and labor. All public construction, the estimated cost of which exceeds $25,000, shall be let by contract to the lowest responsible bidder; all other public construction shall be let as the council may direct. If the estimated cost of any public construction exceeds $5,000 but is not greater than $25,000, the board of public works shall give a class 1 notice, under ch. 985, of the proposed construction before the contract for the construction is executed. This provision does not apply to public construction if the materials for such a project are donated or if the labor for such a project is provided by volunteers. The council may also by a vote of three-fourths of all the members-elect provide by ordinance that any class of public construction or any part thereof may be done directly by the city without submitting the same for bids.

62.15(1b)

(1b) Exception as to public emergency. The provisions of sub. (1) and s. 281.41 are not mandatory for the repair and reconstruction of public facilities when damage or threatened damage thereto creates an emergency, as determined by resolution of the board of public works or board of public utility commissioners, in which the public health or welfare of the city is endangered. Whenever the city council determines by majority vote at a regular or special meeting that an emergency no longer exists, this subsection no longer applies.

62.15(2)

(2) Plans; contract; bond. When the work is required or directed to be let to the lowest responsible bidder, the board of public works shall prepare plans and specifications for the same, containing a description of the work, the materials to be used and such other matters as will give an intelligent idea of the work required and file the same with the city clerk for the inspection of bidders, and shall also prepare a form of contract and bond with sureties required, and furnish a copy of the same to all persons desiring to bid on the work.
AN EFFECTIVE CONTRACT:

- Begins with a good set of bid documents and specifications
- Allows only qualified bidders
- Requires good communication
- Leads to a successful and satisfying job

TYPICAL CONTRACT CONTAINS:

- Official notice to bidders
- Instructions to bidders
- Proposal forms
- Wage requirements
- General contract provisions
- General specifications
- Special provisions & specifications
- Contract forms
- Contract bonds
BIDS & SPECIFICATIONS

BID DOCUMENTS SHOULD INCLUDE:

• Time & Place for Bid Opening
• Accurate Description of the Proposed Work
• Provision for Bid Bond
• Proposed Start & Completion Date
• Pre-qualification Statement
• Instructions to assure uniformity of bids and to protect agency if bids must be rejected
OFFICIAL NOTICE TO BIDDERS

The City of Cedarburg will receive sealed proposals for the Annual Sidewalk Replacement Program in the City (work to be completed before September 15, 2006) until 10:00 a.m. the 23rd day of March, 2006, at which time all bids will be opened and read aloud. The bid opening will take place at City Hall, W63 N645 Washington Avenue, Cedarburg, Wisconsin.

The improvements on which Proposals are requested will require the following approximate amounts:

- 15,500 Square Feet - Remove & Replace Concrete Sidewalk (5" thick)
- 2500 Square Feet - Remove & Replace Concrete Sidewalk (7" thick)
- 45 Square Yards - Remove & Replace Concrete Drive Approach
- 110 Linear Feet - Remove and Replace Concrete Curb and Gutter
- 100 Linear Feet - Concrete Sawing
- 100 Square Feet - Remove Concrete Walk Only, Including Lawn Restoration

Approximately 46% of walk replacement is due to tree roots

Specifications and bid documents will be available beginning March 9, 2006 at the office of the City Public Works Director, W63 N645 Washington Avenue, Cedarburg, Wisconsin. There will be no fee charged for one set of documents. No partial sets of documents will be issued.

Wages paid on this project shall conform to all Federal, State and local regulations. Bidders shall supply a statement of qualifications, for projects of similar scope and size, with the proposal.

Proposals must be accompanied by a Bid Bond or a cashier’s check in an amount equal to 5% of the bid. The contractor selected by the City must furnish a Performance Bond and a Payment Bond, in the amount of 100% of the bid, to guarantee satisfactory completion of the work. Work is scheduled to begin on or about May 3, 2004 and is to be substantially complete by July 23, 2004.

The City of Cedarburg reserves the right to reject any or all proposals and to waive any informalities in bidding. No bid shall be withdrawn after the opening of proposals without the consent of the City of Cedarburg for a period of ninety (90) days after the scheduled opening date.

City of Cedarburg, WI
Robert M. Eschner
Assistant City Engineer
(262) 375-7610

PROPOSAL FORMS
PROPOSAL FORMS SHOULD CONTAIN:

• An entry for every intended item of work
• Accurate estimates of quantities—“more or less”
• Area for addressing addenda
• Provisions for bids to be entered in both numerical and written form

BID PROPOSAL
FOR
ANNUAL SIDEWALK REPLACEMENT PROGRAM
(WORK TO BE COMPLETED SEPTEMBER 15, 2006)
Project #2006-03
City of Cedarburg, Wisconsin
By __________________________
_________________________, 2006

Honorable Mayor and Common Council
City of Cedarburg, Wisconsin
Honorable Mayor and Common Council:

We have examined the site of the work and are familiar with the plans and specifications, and propose to furnish all labor, materials, skills and facilities which are necessary for reconstruction of sidewalks and curb and gutter in accordance with the Plans, Specifications, and Addenda Nos. ___ and ___ thereto, for the respective unit and lump sum prices set forth hereinafter.
1. 15,500 square feet, more or less, remove and replace 5 inch thick concrete sidewalk, including lawn restoration

at a unit price of __________________________ a total of $____________

2. 2,500 square feet, more or less, remove and replace 7 inch thick concrete sidewalk, including lawn restoration

at a unit price of __________________________ a total of $____________

3. 45 square yards, more or less, remove and replace 7 inch thick concrete driveway approach, including lawn restoration

at a unit price of Forty-three Dollars a total of $ 4,300.00

4. 110 linear feet, more or less, remove and replace concrete curb and gutter, including lawn restoration

at a unit price of __________________________ a total of $____________

5. 100 square feet, more or less, remove concrete sidewalk only, including lawn restoration

at a unit price of __________________________ a total of $____________

6. 100 linear feet, more or less, sawing concrete walk or driveway.

at a unit price of __________________________ a total of $____________

Total cost Items 1 through 6, inclusive………………………….$ 100,000.00

The quantities stated hereinbefore are approximate only. Payment will be made for the quantities of work ordered and actually installed complete.
IMPORTANT NOTES:

Construction items can be combined if the combination is consistent for the entire job.

Providing accurate quantities will help reduce extras and project over-runs.

Using ‘more or less’ in quantities can enable limited variation in final contract quantities

5. 100 square feet, more or less, remove concrete sidewalk only, including lawn restoration
   at a unit price of ________________________ a total of $______________

6. 200 linear feet, more or less, sawing concrete walk or driveway.
   at a unit price of ________________________ a total of $______________

Total cost Items 1 through 6, inclusive..............................$___________

The quantities stated hereinbefore are approximate only. Payment will be made for the quantities of work ordered and actually installed complete.
ADDENDA

- Used to provide additional bid information or convey changes to the bidders
- Should be kept to a minimum.
  - Some may not be received
  - Can change the original scope of the project
  - Can be confusing if not precisely written

WAGE RATES

Most contracts require prevailing wage rates. This helps provide some uniformity in the bids.
66.0903(5)

(5) **Non-applicability.** This section does not apply to any single-trade public works project, including a highway, street or bridge construction project, for which the estimated project cost of completion is below $30,000* or an amount determined by the department under this subsection or to any multiple-trade public works project, including a highway, street or bridge construction project, for which the estimated project cost of completion is below $150,000** or an amount determined by the department under this subsection. The department shall adjust those dollar amounts every year, the first adjustment to be made not sooner than December 1, 1997. The adjustments shall be in proportion to any change in construction costs since the effective date of the dollar amounts established under this subsection.

* $44,000 in 2007
** $216,000 in 2007

Wisconsin State Statutes

**Contract Provisions**
Extra, Addition or Omitted Work Program. The Owner, upon proper action by its governing body, may authorize changes in, additions to, or deductions from the work to be performed, or the materials to be furnished pursuant to the provisions of the Contract Documents.

Adjustments, if any, in the amounts to be paid to the Contractor by reason of any such change, addition or deduction, shall be determined by one or more of the following methods:

A. By unit price contained in the Contractor's original bid and incorporated in the construction contract.
B. By a supplemental schedule of prices contained in the Contractor's original bid and incorporated in the construction contract.
C. By an acceptable lump sum proposal from the Contractor.
D. On a cost-plus-limited basis not to exceed a specified limit. A cost-plus-limited basis is defined as the cost of labor, materials and insurance, plus 15 percent (15%) of the said cost to cover superintendence, general expense and profit.
Payment. No later than the 18th day of each calendar month, the Owner will make partial payment to the Contractor on the basis of a duly-certified approved estimate of the work performed during the preceding calendar month by the Contractor, but the Owner will retain 10 percent (10%) of the amount of each such estimate until 50 percent (50%) completion. This amount (5% of the total contract amount) shall be retained until acceptance of all work covered by this contract.

ARTICLE 4. CONTRACT TIME

The Contractor shall begin work on May 1, 2006, or within ten days of receipt of notice to proceed, whichever is sooner. The Contractor shall have work completed before September 15, 2006.

Engineer's Authority. The City Engineer and his authorized representatives and agents shall be permitted to inspect all work, materials, payrolls, records of personnel, invoices of materials, and other relevant data and records.

The City Engineer and his authorized representative shall have general supervision and direct all work. He has authority to stop the work whenever such stoppage may be necessary to insure proper execution of the contract. He shall also have authority to reject all work and materials which do not conform to the contract, and to decide questions which arise in the execution of the work. It is further agreed by the parties hereto that the City Engineer and his authorized representative shall in cases determine the amount, quantities or classification of the several kinds of work or materials which are to be paid for under this contract. The City Engineer shall decide all questions which may arise relative to the performance of this contract. All decisions of the City Engineer and his authorized representative shall, when so requested, be rendered in writing. They shall be final and conclusive in all matters except the financial consideration involved. They shall be final also as to the financial conditions unless within 10 days after such decision the Contractor applied in writing to the Owner for a review of such decision.
**Inspection.** The Owner and its representatives shall at all times have access to the work wherever it is in preparation or in progress, and the Contractor shall provide proper facilities for such access and for inspection.

The Owner shall have the right to reject materials and workmanship which are defective, or require their correction. Rejected workmanship shall be satisfactorily corrected, and rejected materials shall be removed from the premises without charge to the Owner. If the Contractor does not correct such condemned work and remove rejected materials within a reasonable time, fixed by written notice, the Owner may remove them and charge the expense to the Contractor.

Should it be considered necessary or advisable by the Owner at any time before final acceptance of the entire work to make an examination of work already completed, by removing or tearing out same, the Contractor shall, on request, promptly furnish all necessary facilities, labor and material. If such work is found to be defective in any material respect, due to fault of the Contractor or his Subcontractors, he shall defray all the expense of such examination and of satisfactory reconstruction. If, however, such work is found to meet the requirements of the contract, the actual cost of labor and material necessarily involved in the examination and replacement, plus 15 percent (15%), shall be allowed the Contractor.

**Materials and Workmanship.** Unless otherwise stipulated in the specifications, all workmanship, equipment, materials and articles incorporated in the work covered by this contract are to be new and of the best grade of their respective kinds for the purpose. The Contractor shall, if required, furnish to the Owner for his approval the name of the manufacturer of machinery, mechanical and other equipment which he contemplates installing, together with their performance capacities and other pertinent information.

**Royalty and Patents.** The Contractor shall pay for all royalties and patents, and shall defend all suits or claims for infringement on any patent right, and shall save the Owner harmless from loss on account thereof. The Owner shall pay for any license fees or royalties for processes.

**Permits, Surveys and Compliance with Laws.** The Contractor shall pay for all permits and licenses necessary for the prosecution of the work unless otherwise specifically provided.
Contractor shall comply with the safety requirements in accordance with OSHA Standards and with any other applicable laws, ordinance, rules, regulations and orders of any public body having jurisdiction for the safety of persons or property or to protect them from damage, injury or loss. He shall erect and maintain, as required by the conditions and progress of the work, all necessary safeguards for its safety and protection.

Contractor shall have on site the safety equipment necessary to perform the work in a safe environment. This shall include, but not be limited to, shoring, ladders, safety vests and hard hats.

Protection of Work. The Contractor shall continuously maintain adequate protection of all his work from damage and shall protect the Owner’s and adjacent property from injury arising in connection with his contract.

INSURANCE REQUIREMENTS
(1) Workmen’s Compensation and Employer’s Liability Policy
   (a) The liability limits shall not be less than:
      1) Workmen’s Compensation - Statutory
      2) Employer’s Liability - $500,000 each occurrence

(2) Business Auto Policy
   (a) The liability limits shall not be less than:
      Bodily injury: $1,000,000 each person
      $1,000,000 each occurrence

NOTE: Limits should comply with Umbrella Policy.

(3) Comprehensive General Liability Policy
   (Must include Products/Completed Operations coverage and Blanket Contractual Coverage.)
   (a) The liability limits shall not be less than:
      Personal Injury: $1,000,000 aggregate
      $1,000,000 each occurrence

NOTE: Limits should comply with Umbrella Policy.

(4) Umbrella Policy
   (a) The liability limits shall not be less than:
      $2,000,000 aggregate
      $2,000,000 each occurrence
SPECIFICATIONS

GENERAL SPECIFICATIONS

• Describe each item of work
  - Incidental items
• Construction method
• Method of measurement
• Basis of payment
SIDEWALK SPECIFICATIONS
INCLUDE:

- Walk Removal
- Protection of Trees & Shrubs
- Materials
- Placing and Finishing Concrete Walks
- Jointing
- Curing
- Forms
- Restoration
- Public Safety

SPECIAL PROVISIONS
INCLUDE:

- Walk saw cutting
- Lawn Sprinklers
- Graffiti
- Special Circumstances
- Special Restoration - Asphalt
CONTRACT

Binding - Accepts all term and conditions of the project documents; bid documents, provisions, specifications, & plans.

BONDS

• Performance
  - Guarantee completion of work.
  - Equal to amount of Contract.
• Labor & Materials
  - Guarantee of payment to all workers, sub-contractors, and suppliers.
  - Affidavit and Lien Waiver be for final payment.
MANAGING CONTRACTS

PRE-CONSTRUCTION CONFERENCE

• Discuss provisions of the contract and job scope
• Focus on the special provisions & conditions
• Who has what authority on the job
  – Contractor’s representative
  – Owner’s representative
ON THE JOB

- Have contract documents on the job at all times.
- Keep a job diary
- Be consistent when enforcing the contract.
- Don’t compromise the contract’s intent.
- Have knowledge of what can be approved of in the field.

IMPORTANT NOTE:

When they ‘just don’t get it,’
SHUT THEM DOWN!
PROJECT COMPLETION

• Provide a thorough project clean-up list as soon as possible after substantial completion.
• Provide a time limit for clean up in the contract, or you may end up with the ‘JOB THAT NEVER ENDS.’

Special Provisions

502.10 Final Inspection

The Contractor shall complete the work on the clean-up list within 30 days of receipt of the written list, unless additional time is provided by the Engineer. Failure to complete the work on the clean-up list within the specified timeframe may result in completion of the work by the City at the Contractor’s expense. Actual costs incurred by the City for performing this work shall be deducted from the monies due the Contractor.
PUBLIC RELATIONS

PUBLIC COMPLAINTS

- Language
- ‘Borrowing’
- Inconvenience
- Attitude of the Contractor
- Property Damage
CONTRACTOR COMPLAINTS

• Ignoring Warning Signs and Barricades
• Attitude of the Public
• ‘Pettiness’
• Damage to Work

CONCLUSION

When a contract is thoroughly written and effectively managed and followed, the result is a successful job, good contract relations and a satisfied public.
FINANCING IMPLEMENTING AN EFFECTIVE SIDEWALK MAINTENANCE PROGRAM

WALK REPAIR PROGRAMS

• Walk repair in conjunction with street improvements.
• Walk repair as a separate program.
• Each program has its own criteria and assessment system
WHY TWO PROGRAMS?

Street reconstruction occurs at long intervals, too long to effectively correct walk defect. Walk replacement with street work is more extensive due to:

A) More attention given to appearance
B) Curb replacement often necessitates walk replacement
C) Design changes of the road necessitates walk replacement

IMPORTANT NOTES:

Street reconstruction should always involve a careful review of walk configuration, widths, and obstructions for consideration of improvement over existing conditions.

The two programs need to be coordinated to insure that they don’t overlap, avoiding unnecessary removal and replacement.
FINANCING SIDEWALK REPAIR PROGRAMS

CAPITAL PLANNING

• Key to Financing Walk Programs
  – Elected officials have high acceptance with an on-going program of reasonably level expenditures
  – Helps city maintain AAA bond rating
  – Just one successful lawsuit can cost more than the program
March 26, 1999

Mr. Ronald Brauer
City of Wauwatosa
7775 West North Avenue
Wauwatosa, WI 53213

Dear Mr. Brauer:

We wish to inform you that on March 25, 1999, Moody's Rating Committee reviewed and assigned an Aaa rating on the City of Wauwatosa General Obligation bonds.

In order for us to maintain the currency of our ratings, we request that you provide ongoing disclosure, including annual financial and statistical information.

Moody's will monitor this rating and reserves the right, in its sole discretion, to revise or withdraw this rating at any time in the future.

The rating as well as any revisions or withdrawals thereof will be publicly disseminated by Moody's through normal print and electronic media and in response to oral requests to Moody's ratings desk.

Moody's Investors Service
90 Church Street
New York, New York 10007

Nicole Johnson
Senior Vice President
Public Finance Group
Tel. 212-553-4573

WHO PAYS

• State Statutes - two methods
  – Police Powers - requires notification only
  – Public Improvement - requires public hearing
(3) Construction and repair.

66.0907(3)(a) Authority of council. The council may by ordinance or resolution determine where sidewalks shall be constructed and establish the width, determine the material and prescribe the method of construction of standard sidewalks. The standard may be different for different streets. The council may order by ordinance or resolution sidewalks to be laid as provided in this subsection.

66.0907(3)(b) Board of public works. The board of public works may order any sidewalk which is unsafe, defective or insufficient to be repaired or removed and replaced with a sidewalk in accordance with the standard fixed by the council.

66.0907(3)(c) Notice. A copy of the ordinance, resolution or order directing the laying, removal, replacement or repair of sidewalks shall be served upon the owner, or an agent, of each lot or parcel of land in front of which the work is ordered. The board of public works, or either the street commissioner or the city engineer if so requested by the council, may serve the notice. Service of the notice may be made by any of the following methods:

1. Personal delivery.

2. Certified or registered mail.

3. Publication in the official newspaper as a class 1 notice, under ch. 985, together with mailing by 1st class mail if the name and mailing address of the owner or an agent can be readily ascertained.
66.0907(3)(d)
(d) Default of owner. If the owner neglects for a period of 20 days after service of notice under par. (c) to lay, remove, replace or repair the sidewalk the city may cause the work to be done at the expense of the owner. All work for the construction of sidewalks shall be let by contract to the lowest responsible bidder except as provided in s. 62.15 (1).

66.0907(3)(e)
(e) Minor repairs. If the cost of repairs of any sidewalk in front of any lot or parcel of land does not exceed the sum of $100, the board of public works, street commissioner or city engineer, if so required by the council, may immediately repair the sidewalk, without notice, and charge the cost of the repair to the owner of the lot or parcel of land, as provided in this section.

ASSESSMENT METHODS

• Special surcharge where abutting owners pay proportionate share on project basis
• Actual work at each property
• Non-assessable walks
• Other communities assessment practices
4. Repair of Defective Sidewalk: Affected property owners shall be notified by letter informing them of their defective sidewalk. Property owners will have the following options regarding the repair:
   a. Repair the defect themselves within 30 days after notification.
   b. Hire their own contractor to repair the defect within 30 days after notification.
   c. Have the City repair the defect, this will include following City Policy PW-2, Special Assessment Methods for Public Works Construction Projects.

5. Cost of Repair: The removal and replacement of public sidewalk shall be assessed to abutting property owners in accordance with the procedures set forth in Sec. 66.0907, Wis. Stats. Sections of public sidewalk, which require replacement as a result of damage caused by trees on City parkways, shall not be assessed to abutting property owners and shall be replaced at City expense. Installation or replacement of curb access ramps and associated sidewalk shall not be assessed to abutting property owners and shall be installed or replaced at City expense.
   A. City Repair Costs
      • Sidewalk defect caused by City parkway tree
      • Installation of ADA sidewalk ramps
   B. Property Owner Repair Costs (illustrative only)
      • Sidewalk settlement at utility trenches
      • Deteriorated sidewalk surface
      • Sidewalk defect caused by trees outside the public R/W

RESOLUTION

BE IT RESOLVED, By the Common Council of the City of Wauwatosa, Wisconsin that the following be and hereby are the policies for 1999 construction pertaining to street improvements and correspondence rates:

SURCHARGE

Note: To recover the cost of public sidewalk replacement when done in conjunction with Type "A" or Type "B" repaving, the assessable rates shall reflect an amount of $5.00 added against each frontage foot of adjacent properties.

(7) Service walk replacement shall be assessed at cost plus 10% for engineering, contingencies, and overhead when done in conjunction with all permanent paving.

Sidewalk and service walk removal and replacement shall be assessed at cost plus 20% for engineering, contingencies and overhead when not done in conjunction with permanent paving. Sidewalks and service walks when not done in conjunction with permanent paving requiring replacement because of tree roots damaging same, shall receive a 1/3 credit.
66.0907(3)(f)

(f) Expense. The board of public works shall keep an accurate account of the expenses of laying, removing and repairing sidewalks in front of each lot or parcel of land, whether the work is done by contract or otherwise, and report the expenses to the comptroller. The comptroller shall annually prepare a statement of the expense incurred in front of each lot or parcel of land and report the amount to the city clerk. The amount charged to each lot or parcel of land shall be entered by the clerk in the tax roll as a special tax against the lot or parcel of land and collected like other taxes upon real estate. The amount shall be collected like other taxes upon real estate. The council may provide that the street commissioner or city engineer perform the duties imposed by this section on the board of public works.

66.0907(6)

(6) Repair at city expense. The council may provide that sidewalks shall be kept in repair by and at the expense of the city or may direct that a certain proportion of the cost of construction, reconstruction or repair be paid by the city and the balance by abutting property owners.

Port Washington: Port Washington has an annual program budgeted at $150,000. The sidewalk replacement is assessed at 100% of the cost except for corner lots where only the long side is assessed at 100%. No consideration is given for walk affected by street trees. The city also replaces walk frontage at parks, city buildings and publicly owned lands at city cost. Port began their program in 1994, and they estimate approximately 3-4 years before the city has completely been covered.

Belgium: According to the municipal code for the Village of Belgium, property owners are responsible for 100% of the cost for sidewalk replacement. The village can order replacement at any time and the property owner has 20 days to make repairs, (seven days in life-threatening situations). After that time the village will make repairs and charge the homeowners. It does not appear that any consideration is given to damage from tree roots.

Grafton: The Village of Grafton no longer assesses for sidewalk replacement. Grafton budgets $20,000 per year and it takes six to eight years to go around the village. The village only replaces sidewalk that has multiple cracks or has a fault of 3/4 of an inch. Back-pitched sidewalk is not repaired.

Jackson: The Village of Jackson currently does not have an annual program. At the time of a property sale the village will perform a property maintenance inspection which includes sidewalk. The owner is responsible for hiring a contractor to correct any defect identified by the village. Jackson's municipal code states that the village will provide 50% of the replacement costs for repair or replacement of sidewalk that “have lasted their expected service life,” 30 to 40 years. For “prematurely damaged” and new walk construction, the property owner is responsible for 100% of the costs. Almost the entire walk replaced falls into the prematurely damaged category.

Thiensville: All sidewalk, curb and gutter, and driveway approaches replaced in the Village of Thiensville are assessed at 100% of the actual replacement costs. According to the village administrator, Thiensville has not had a circumstance where tree roots have raised sidewalk. However, the administrator stated that if that issue arose, the village would most likely use a 50% cost share. The annual program covers the entire village each year.

Saukville: According to the Village of Saukville Director of Public Works, property owners are assessed at actual costs. The village does pay 100% for walk heaved by street trees. The budget for the village's biennial program is $3500.
A Comparison of Annual Sidewalk Repair Programs of Municipalities in the Greater Milwaukee Area

**Assessments**
This aspect of each program has the most fluctuation. Some communities have a set assessment, and others have assessments that vary yearly. There are variations in the handling of root damage assessments as well.

**Wauwatosa** uses an assessment rate of contract unit costs plus 20 percent. This rate applies to sidewalk and drive approach replacement. We give an assessment credit of one-third for tree root damage. We do not prorate assessments for sidewalk, but we do prorate for approach replacement. We replace an approach at no cost to the owner within the first five years and at half cost within the next five.

**Cudahy**'s assessment rates are the same as its contract unit prices. Cudahy does not replace driveway approaches under the sidewalk program, nor does that city give a root damage credit. That city has a policy of free walk replacement during the first ten years and prorated replacement during the next ten years.

**Oak Creek** assesses the sidewalk work at a rate equal to the contract unit cost. This community does not include driveway approach replacement under the walk program, but the program does include and the city does assess mudjacking at 100 percent of the unit price. Oak Creek does not have a tree root damage credit.

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**St. Francis** assesses walk replacement at a rate equal to the contract unit costs plus 15 percent. This community does replace approaches, but does not give a tree root damage credit. St. Francis prorates the replacement assessments 10 percent to 100 percent over a 25-year life of the walk.

**Shorewood** replaces and assesses both sidewalk and drive approaches. This past year was the last year that Shorewood included drive approach replacement in the walk program. The assessment rate is equal to the contract unit prices. This city assesses properties at 100 percent for work done along the main street for both walk and drive approaches. Corner properties receive a 50 percent credit for work done on the "side-yard" street. Shorewood does not give a root damage credit. Shorewood also does mudjacking under its walk program, and assesses at 100 percent of contract unit costs.

**Waukesha** does not have any established formula for assessing sidewalk. Last year, the city assessed at contract unit costs. The year before, at a rate slightly more than unit costs. The primary governing factor is if the city believes it received a fair competitive low bid or if they were "low-balled." Waukesha does not replace approaches under this program. This community does not assess for tree root damage, nor does it assess for replacing a good section between two bad sections.
ASSESSMENT AMOUNTS

- Walk cost + engineering overhead
- Engineering overhead established by program budgets
- Maintain good record keeping

REDUCING INJURIES AND DAMAGE CLAIMS
REDUCING INJURIES AND DAMAGE CLAIMS

• Established Program
• Annual Inspection
  – Spring city-wide review
  – Reports from employees/public
• Interim Repairs
  – Wedging
• Responding to Claims
  – Written response
  – Personal visits

CLAIM AND STATEMENT OF ITEMIZED DAMAGES

This claim is made pursuant to Wis. Stat. 893.80(1)(b) so as to allow the City of
Waukesha to attempt to negotiate a possible settlement.

My name and address is:

Sandra S. Werner

375 Woodbridge Court

Brookfield, WI 53005

City, Town, Zip Code

926-0738

Telephone Number

I request the following relief (state date, location & circumstances):

March 16, 2002, while walking to the mailbox at corner
intersection, 124th at North AV, I stepped on the raised
curb and fell forward, on both hands. My right wrist
became very sore and was swollen in a place where the
Carpal tunnel syndrome is the hardener. Resulted there
was possibility of a broken bone. Hand was put in a cast.
I then underwent surgery on that hand. Subsequent, I
would like to receive medical expenses as well as

If this claim is denied, notice of denial will be served on you by
registered or certified mail.

This is a legal document. You may wish to consult an attorney regarding its
meaning and use.

that the sidewalk is in very poor condition. Threubes
Insurance Company, that holds policy for 124th at North

At this point, (April 12), I haven’t received bills
from Brookfield Hospital Emergency Room or Dr.
Ron Storch.
City of Wauwatosa

InterOffice Memo

To: S. Howard Young
From: Bob Eichner
Date: April 26, 1995
Subject: Investigation of Claim for 11707 W. North Avenue.

Howard,

On Friday, April 21, 1995, Mike Johnson investigated the condition of the sidewalk at 11707 W. North Avenue. The attached pictures indicate a section of the walk is raised approximately 1 inch across the entire joint. I reviewed the address files for this location and did not find any evidence of past sidewalk replacement. There were improvements to the parking lot in 1982. The Street Department has been notified to place an asphalt wedge at this location.

CITY of WAUWATOSA
INTER-OFFICE CORRESPONDENCE

TO: Harry Gehre, City Attorney
FROM: S. Howard Young
DATE: 4/27/95
SUBJECT: Claim for Damages
Sandra Delcourt, 11707 W. North Avenue

We have investigated the claim for damages from Sandra Delcourt for tripping on a sidewalk at 11707 W. North Avenue. We recommend the claim be denied for the following reasons:

1. The City has an ongoing program for the inspection of City sidewalks. This area was last reviewed in 1990 and no defects were found.

2. The City had no prior notice of this condition until receipt of the damage claim from Sandra Delcourt.

3. At 11707 W. North Avenue one section of the sidewalk was observed to be raised approximately one inch across the entire joint. Mr. Tolomer's report of 4/26 is attached. Photographs were also taken and are attached.

It is our judgment that the one inch differential height is not a gross misalignment and settlements of this kind are common in our climate.

4. We believe Sandra Delcourt failed to use the proper lookout and ordinary care in traversing the sidewalk and that the City cannot guarantee the condition of the streets and sidewalks at all times and under all conditions.

SET:SH
Attachments
CONCLUSION

Financing is the key to a successful program. Adequate financing must exist to assure that the program can do enough to maintain public safety and the assessments must be fair and equitable enough to maintain public satisfaction.
THE CARE AND FEEDING OF SIDEWALKS

IMPLEMENTING AND MAINTAINING A SIDEWALK REPAIR PROGRAM

HISTORY OF SIDEWALKS

- Early walks were highly desired by residents.

- Later walks were not so revered. Many people are even opposed to them.
NEW EMPHASIS
A PEDESTRIAN FRIENDLY COMMUNITY

- Traffic Calming Techniques
- Create Pedestrian Friendly Sidewalk
- Correct sidewalk oversights

TRAFFIC CALMING - W. NORTH AVENUE
N. 60TH STREET - WAUWATOSA AVENUE
DEVELOPING SIDEWALK STANDARDS

AREAS NEEDING WALKS

- School Routes
- Business Areas
- Large Residential Complexes
- Parks
- Established “worn” paths
- Government Centers, Hotels, Hospitals, & Shopping Centers
The best time to consider sidewalks is with initial street improvements. After the improvement work is complete, sidewalks are difficult to “sell.”
WHY CITIZENS DON'T LIKE SIDEWALKS

- Installation cost - State DOT won't participate
- Maintenance cost – Sweep, shovel, salt
- Repair cost – Usually assessed
- Loss of rural atmosphere
- Law suits & claims
- Children getting hurt falling
- Intrusion into privacy
- Increase in crime/vandalism
12.24.010 Removal of snow and ice from sidewalks.
The owner, occupant, or person in charge of each and every building or property in the city of Wauwatosa, fronting upon or adjoining any street, and the owner or person in charge of any unoccupied building or lot fronting upon or adjoining any city street, the public sidewalk and the adjoining crosswalk by twelve noon of the day following any snowfall or accumulation of ice and shall cause the same to be kept clean from snow and ice. Crosswalks are to be cleared to the plowed area of the street. When ice is formed on any sidewalk or crosswalk and it cannot be removed, the owner, occupant, or person in charge of the adjacent property shall keep the sidewalk and crosswalk sprinkled with calcium chloride, sodium chloride, other acceptable deicing materials or sand. Where snow continues to fall for some time, it shall be removed immediately after the snowfall ends. (Ord. O-88-17 § 1, 1988)

The owner, occupant or person in charge of each and every apartment or building in the city of Wauwatosa, fronting upon or adjoining any street, and the owner or person in charge of any unoccupied building or lot fronting as aforesaid, shall clean the sidewalk in front of or adjoining such apartment or building, or unoccupied lot or building, as the case may be, of mud, dirt, rubbish, filth or other substance to the width of such sidewalk and cause the same to be kept clean of mud, dirt, rubbish, filth or other substance. (Prior code § 10.14(1-5))

The provisions of Sections 12.24.010 to 12.24.050 shall be enforced by the police department of the city of Wauwatosa. (Prior code § 10.14(3))

In case the provisions hereof are not complied with, the common council, or a committee or board of public works, shall cause all ice, snow, mud, dirt, rubbish, filth, or other substance to be removed from such sidewalk, and shall demand payment of the expense of such removal of the occupant of any such occupied premises or of the owner or agent of any such unoccupied premises, as the case may be, if such occupant, owner or agent, can be found within the city. If the expense of such removal is not paid forthwith it shall be a tax upon the premises bounded by such sidewalk, to be levied and assessed thereon and collected as provided in Section 66.0907(3), Subsection 5, Wisconsin Statutes. (Ord. O-02-1 § 1 (part), 2002; Ord. O-74-113 § 1, 1974; prior code § 10.14(4))

12.24.120 Snow removal policy—Special charge.
E. Penalty. Any person, firm, or corporation who violates the provisions of Section 12.24.010 shall pay a forfeiture of not less than fifty dollars for the first conviction within a twelve-month period. For a second conviction within a twelve-month period, the forfeiture shall not be less than two hundred dollars and for each conviction thereafter within a twelve-month period, the minimum forfeiture shall be five hundred for each offense. (Ord. O-96-1 § 17, 1996; Ord. O-92-16 § 1, 1992)
12.20.090 Maintenance of sidewalks required.
The owner of every lot or tract of land in the city of Wauwatosa, adjoining which there is a sidewalk, is required to keep such sidewalk in good and safe condition to prevent accident, and for each three days of neglect so to do shall forfeit and pay penalty of five dollars together with the costs of prosecution. (Prior code § 10.13(1))

12.20.100 Sidewalks in unsafe condition---Repair notice--Tax assessed.
Whenever any sidewalk in the city of Wauwatosa is, in the opinion of the board of public works of the city, in such an unsafe condition as to require repairing, it shall be the duty of said officers to notify the owner of the property adjoining such sidewalk, as provided in Section 66.0907 of the Wisconsin Statutes to repair the same in a manner to be approved by the board, within three days, and in case any such owner neglects to do so, the board shall immediately cause the same to be repaired and shall certify and return the expense thereof to the city clerk, and such expense is levied upon the property bounded by such sidewalk as a special tax thereon, and the same shall be collected as is provided in Section 66.615 of the Wisconsin Statutes. (Ord. O-02-1 § 1 (part), 2002; Prior code § 10.13(2))
CRITERIA FOR DEVELOPMENT

- Laws & Ordinances Establishing Criteria

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Whenever any sidewalk in the city of Wauwatosa is, in the opinion of the board of public works of the city, in such an unsafe condition as to require repairing, it shall be the duty of said officers to notify the owner of the property adjoining such sidewalk, as provided in Section 66.0907 of the Wisconsin Statutes to repair the same in a manner to be approved by the board, within three days, and in case any such owner neglects to do so, the board shall immediately cause the same to be repaired and shall certify and return the expense thereof to the city clerk, and such expense is levied upon the property bounded by such sidewalk as a special tax thereon, and the same shall be collected as is provided in Section 66.615 of the Wisconsin Statutes. (Ord. O-02-1 § 1 (part), 2002; Prior code § 10.13(2))

12.20.110 Sidewalk repair--Supervision.
The laying, removal, replacement, or repair of sidewalks, which have been declared by the board of public works to be unsafe, defective, or insufficient in the city of Wauwatosa, is authorized to be done by and under the supervision of the board of public works without submitting such work to competitive bidding. (Prior code §10.13(3))
12.20.030 Contractors--Rules and regulations.
The board of public works is authorized and empowered to make and prescribe such rules and regulations as it may deem necessary for the public interest concerning the manner of constructing, laying, or rebuilding sidewalks or concrete or asphaltic driveways within the city of Wauwatosa, and is authorized and empowered to make and prescribe standard specifications for the method of construction of said sidewalks or concrete or asphaltic driveways. All persons, firms, corporations, associations, or individuals licensed by the board of public works to construct, lay or rebuild sidewalks or concrete or asphaltic driveways within the city of Wauwatosa under the provisions of this chapter shall be subject to such rules and regulations as may be prescribed by the board of public works as hereby authorized, and such sidewalks or concrete or asphaltic driveways shall be by the persons, firms, corporations, associations, and individuals so licensed, constructed in accordance with such standard specifications as may be duly adopted by the board of public works under power and authority hereby conferred upon the board of public works. (Ord. O-74-72 § 1, 1974; prior code § 6.07(2) (part))

12.20.120 Sidewalk repair--Acquisition of workmen and equipment.
For the purpose of carrying out the provisions of Sections 12.20.090 to 12.20.130, the board of public works is authorized to hire the necessary workmen and equipment and purchase the necessary materials and equipment required therefor. (Prior code § 10.13(4))

12.20.130 New sidewalk construction--Contracting and bids.
In the cases authorized by statute, the board of public works is given the authority, at its discretion, to receive bids and let contracts for the construction of new sidewalks when it is deemed to be to the best advantage of the city of Wauwatosa and of the particular property on which the sidewalk abuts. (Prior code § 10.13(5))

SEC. 6-2-1 REMOVAL OF RUBBISH AND DIRT FROM SIDEWALKS.
No owner or occupant shall allow the sidewalk abutting on his premises to be littered with rubbish or dirt. If such owner or occupant shall refuse or fail to remove any such rubbish or dirt when notified to do so by the Public Works Superintendent or Building Inspector, the Public Works Superintendent or Building Inspector may cause the same to be done and report the cost thereof to the City Clerk who shall spread the cost on the tax roll as a special tax against the premises, pursuant to Sec. 66.60(16), Wis. Stats., or such cost may be recovered in an action against the owner or occupant.

SEC. 6-2-2 CONSTRUCTION AND REPAIR OF SIDEWALKS AND CURB AND GUTTER.

(a) Council May Order. The Board of Public Works, in the case of reconstruction, or the Plan Commission, in the case of a new subdivision or other new construction, may determine that sidewalks, curb and gutter shall be constructed, laid, rebuilt or repaired along or upon any public street, right-of-way or highway within the City. The Board of Public Works may determine or change the width or grade of any sidewalk. (Ord. 90-17)

(b) Owner to Construct. It shall be the duty of the abutting owner to construct new curb and gutter, or sidewalks along or upon any street, alley or highway in the City of Cedarburg and to reimburse the City in accordance with Title 3, Chapter 2, of this Code of Ordinances. Such costs shall include expenditures for engineering and administrative fees, excavations, gravel and driveway approaches. (Ord. 90-17)

Whenever the Board of Public Works shall by resolution determine that a sidewalk be laid, rebuilt, repaired, lowered or raised along or upon any public street, alley or highway within the City, it shall proceed according to Sec. 66.615 and/or 66.22, Wis. Stats. and the improvements shall be assessed to abutting property owners pursuant to Sec. 66.60, Wis. Stats. (Ord. 90-17)

Sidewalks shall be located in such places as designated by the Board of Public Works, upon the recommendation of the Plan Commission and/or Director of Engineering and Public Works. No person shall remove any sidewalk without the permission of the Board of Public Works. (Ord. 90-17)
(g) Repair of Defective Sidewalks, Streets, Curbs, Etc. (Ord. 90-17)

(1) Inspection. The Director of Engineering and Public Works shall cause frequent inspections to be made of all the streets, sidewalks, curb and gutter, pavements, bridges and other public ways in the City. He shall report any defects to the Board of Public Works at its next regular or special meeting. The Board of Public Works shall then take whatever action it feels is appropriate.

(2) Dangerous Conditions. Notwithstanding the provisions of Subsection (1), when the cost of repairs of any sidewalk in front of any lot or parcel of land does not exceed the sum of One Hundred Dollars ($100.00), the repair may be immediately made City of Cedarburg without such report.

(3) Cost of Repairs. The cost of all sidewalk repairs under this Section, except to the extent damage is caused by the growth of trees in the parkway, or is caused due to improper initial grade setting, shall be charged to the property benefited thereby. Repairs required by parkway tree growth or improperly initial grade setting and all other repairs to public facilities shall be paid entirely out of the general fund of the City. Driveway approach repairs specifically requested by the abutting property owner shall be charged to the property benefited thereby. (Ord. 90-17)
(c) Notice. A copy of the ordinance, resolution or order directing the laying, removal, replacement or repair of sidewalks shall be served upon the owner, or an agent, of each lot or parcel of land in front of which the work is ordered. The board of public works, or either the street commissioner or the city engineer if so requested by the council, may serve the notice. Service of the notice may be made by any of the following methods:

1. Personal delivery.
2. Certified or registered mail.
3. Publication in the official newspaper as a class 1 notice, under ch. 985, together with mailing by 1st class mail if the name and mailing address of the owner or an agent can be readily ascertained.

(d) Default of owner. If the owner neglects for a period of 20 days after service of notice under par. (c) to lay, remove, replace or repair the sidewalk the city may cause the work to be done at the expense of the owner. All work for the construction of sidewalks shall be let by contract to the lowest responsible bidder except as provided in s. 62.15 (1).

(e) Minor repairs. If the cost of repairs of any sidewalk in front of any lot or parcel of land does not exceed the sum of $100, the board of public works, street commissioner or city engineer, if so required by the council, may immediately repair the sidewalk, without notice, and charge the cost of the repair to the owner of the lot or parcel of land, as provided in this section.

(f) Expense. The board of public works shall keep an accurate account of the expenses of laying, removing and repairing sidewalks in front of each lot or parcel of land, whether the work is done by contract or otherwise, and report the expenses to the comptroller. The comptroller shall annually prepare a statement of the expense incurred in front of each lot or parcel of land and report the amount to the city clerk. The amount charged to each lot or parcel of land shall be entered by the clerk in the tax roll as a special tax against the lot or parcel of land and collected like other taxes upon real estate. The council by resolution or ordinance may provide that the expense incurred may be paid in up to 10 annual installments and the comptroller shall prepare the expense statement to reflect the installment payment schedule. If annual installments for sidewalk expenses are authorized, the city clerk shall charge the amount to each lot or parcel of land and enter it on the tax roll as a special tax against the lot or parcel each year until all installments have been entered, and the amount shall be collected like other taxes upon real estate. The council may provide that the street commissioner or city engineer perform the duties imposed by this section on the board of public works.

(5) Snow and ice. The board of public works shall keep the sidewalks of the city clear of snow and ice in all cases where the owners or occupants of abutting lots fail to do so, and the expense of clearing in front of any lot or parcel of land shall be included in the statement to the comptroller required by subsection (f), in the comptroller's statement to the city clerk and in the special tax to be levied. The city may also impose a fine or penalty for neglecting to keep sidewalks clear of snow and ice.

(6) Repair at city expense. The council may provide that sidewalks shall be kept in repair by and at the expense of the city or may direct that a certain proportion of the cost of construction, reconstruction or repair be paid by the city and the balance by abutting property owners.

(7) Rules. The council may by ordinance implement the provisions of this section, regulate the use of the sidewalks of the city and prevent their obstruction.
(10) Application of section; definitions. The provisions of this section do not apply to 1st class cities but apply to towns and villages, and when applied to towns and villages:

66.0907(10)(a) "Board of public works" means the committee or officer designated to handle street or sidewalk matters.

66.0907(10)(b) "City" means town or village.

66.0907(10)(c) "Comptroller" means clerk.

66.0907(10)(d) "Council" means town board or village board.

66.0907 - ANNOT.

66.0907 - ANNOT.
A city cannot delegate its primary responsibility to maintain its sidewalks, nor delegate or limit its primary liability by ordinance. Kobelski v. Milwaukee & Suburban Transport Corp. 56 Wis. 2d 504, 202 N.W.2d 415 (1972).

66.0907 - ANNOT.
The defendant property owners’ failure to remove snow and ice from sidewalks in violation of a municipal ordinance did not constitute negligence per se. Hagerty v. Village of Bruce, 82 Wis. 2d 208, 262 N.W.2d 102 (1978).

66.0907 - ANNOT.
A city, exercising its police power, can impose a special tax on properties for the cost of installing a sidewalk on an adjacent city right-of-way without showing that the properties would be benefited. Stehling v. City of Beaver Dam, 114 Wis. 2d 197, 336 N.W.2d 411 (Ct. App. 1983).

CRITERIA FOR DEVELOPMENT

• Laws & Ordinances Establishing Criteria
• Inventory of Facilities
## PAVEMENT AND SIDEWALK WIDTHS

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<th>STREET</th>
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<th>S.Y. WIDTH</th>
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22
CRITERIA FOR DEVELOPMENT

• Laws & Ordinances Establishing Criteria
• Inventory of Facilities
• Repair Frequency Life of Walks
  Life Cycling
THE ECONOMICS OF SEAL COATING OF BITUMINOUS PAVEMENTS

This report provides a comparison of two alternatives for the preservation of asphalt pavements to achieve their expected design life of approximately 72 years, prior to a complete reconstruction of the street roadway.

No Sealcoating

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With Sealcoating

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<th>Seal</th>
<th>Resurface</th>
<th>Seal</th>
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<td>36</td>
<td>40</td>
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</table>
Port Washington: Port Washington has an annual program budgeted at $150,000. The sidewalk replacement is assessed at 100% of the cost except for corner lots where only the long side is assessed at 100%. No consideration is given for walk affected by street trees. The city also replaces walk frontage at parks, city buildings and publicly owned lands at city cost. Port began their program in 1994, and they estimate approximately 3-4 years before the city has completely been covered.

Belgium: According to the municipal code for the Village of Belgium, property owners are responsible for 100% of the cost for sidewalk replacement. The village can order replacement at any time and the property owner has 20 days to make repairs, (seven days in life-threatening situations). After that time the village will make repairs and charge the homeowners. It does not appear that any consideration is given to damage from tree roots.

Grafton: The Village of Grafton no longer assesses for sidewalk replacement. Grafton budgets $20,000 per year and it takes six to eight years to go around the village. The village only replaces sidewalk that has multiple cracks or has a fault of 3/4 of an inch. Back-pitched sidewalk is not repaired.

Jackson: The Village of Jackson currently does not have an annual program. At the time of a property sale the village will perform a property maintenance inspection which includes sidewalk. The owner is responsible for hiring a contractor to correct any defect identified by the village. Jackson's municipal code states that the village will provide 50% of the replacement costs for repair or replacement of sidewalk that “have lasted their expected service life,” 30 to 40 years. For “prematurely damaged” and new walk construction, the property owner is responsible for 100% of the costs. Almost the entire walk replaced falls into the prematurely damaged category.

Thiensville: All sidewalk, curb and gutter, and driveway approaches replaced in the Village of Thiensville are assessed at 100% of the actual replacement costs. According to the village administrator, Thiensville has not had a circumstance where tree roots have raised sidewalk. However, the administrator stated that if that issue arose, the village would most likely use a 50% cost share. The annual program covers the entire village each year.

Saukville: According to the Village of Saukville Director of Public Works, property owners are assessed at actual costs. The village does pay 100% for walk heaved by street trees. The budget for the village’s biennial program is $3500.

<table>
<thead>
<tr>
<th>A Comparison of Annual Sidewalk Repair Programs of Municipalities in the Greater Milwaukee Area</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Introduction</strong></td>
</tr>
<tr>
<td>This report compares the City of Wauwatosa’s annual sidewalk repair program with similar programs of several Milwaukee area municipalities. I contacted and obtained information from the City of Cudahy, Oak Creek, St. Francis, Waukesha, and West Allis, and the Village of Shorewood. I also contacted the Village of Menomonee Falls. They are in the process of establishing a program and so no information is available. The following is a comparison, by aspect, of the identified communities’ programs.</td>
</tr>
<tr>
<td><strong>Frequency</strong></td>
</tr>
<tr>
<td>Cudahy has an annual program that covers approximately one-fourth of that city each year. They replaced about 50,000 square feet last year. Oak Creek reinstated its annual program two years ago and covered half of that city each of the last two years. Oak Creek replaced approximately 2,000 square feet last year. St. Francis runs a replacement program citywide on an as-needed basis. The frequency of this program is once every five to seven years, covering the entire city. The quantity of replacement also varies greatly. Shorewood has an annual program that covers the entire city in about seven years. That community replaced approximately 20,000 square feet of sidewalk last year. Waukesha’s annual program covers the entire city each year. During last year’s program, Waukesha replaced about 50,000 square feet of walk. West Allis also has an annual program. That city is on a two-year cycle, and last year replaced approximately 90,000 square feet of sidewalk.</td>
</tr>
</tbody>
</table>

City of Cedarburg originally was set up 1998 as a five year cycle. Currently in its eighth year. Has about 3 years left, then we will be able to begin five year cycle.
CRITERIA FOR DEVELOPMENT

• Laws & Ordinances Establishing Criteria
• Inventory of Facilities
• Repair Frequency Life of Walks
  Life Cycling
• Establish a Consistent Program

WHY IS PROGRAM CONSISTENCY IMPORTANT?
PROGRAM CONSISTENCY HELPS:

- Avoid liability
- Avoid rollercoaster funding
- Improve Capital Planning
- Bond Rating
- Gain Public Acceptance
- Save money on assessments
- Coordinate Temporary Repairs
- Make Repair Work More Efficient
- Encourage Public Involvement
- Avoid Spot Repairs After Only a Few Years

CLAIM AND STATEMENT OF ITEMIZED DAMAGES

This claim is made pursuant to Wis. Stat. 103.49(1) to allow the City of
Waukesha to attempt to negotiate a possible settlement.

My name and address is:
Sandra S. Weiner
5775 Woodbridge Court
Brockway, WI 53105
City, State, Zip Code
926-0983
Telephone Number

I request the following relief: (describe date, location & circumstances)

March 16, 1989: While walking to the mailbox at corner
intersection, 167th and North Av. I stepped on a raised
drainage and fell forward on both hands. The right wrist
became very sore and was swollen in a place where the
joints are. There was no pain in the left wrist. I was unable to
bear weight on the right hand and arm. It is not clear how
long I was on the ground. I was later able to stand for a short
period, but was in considerable pain. I was unable to drive
or work.

I would like to receive medical expenses as well as

If this claim is denied, notice of disallowance will be served on you by
registered or certified mail.

This is a legal document. You may wish to consult an attorney regarding its
meaning and use.
City of Wauwatosa

InterOffice Memo

To: S. Howard Young
From: Bob Biehn
Date: April 26, 1995
Subject: Investigation of Claim for 11707 W. North Avenue.

Howard,

On Friday, April 21, 1995, Mike Johnson investigated the condition of the sidewalk at 11707 W. North Avenue. The attached pictures indicate a section of the walk is raised approximately 1 inch across the entire joint. I reviewed the address files for this location and did not find any evidence of past sidewalk replacement. There were improvements to the parking lot in 1982. The Street Department has been notified to place an asphalt wedge at this location.


city of Wauwatosa
INTER-OFFICE CORRESPONDENCE

TO: Harry Gehres, City Attorney
FROM: S. Howard Young
SUBJECT: Claim for Damages

Sandra Delker, 11707 W. North Avenue

DATE: 4/27/95

We have investigated the claim for damages from Sandra Delker for tripping on a sidewalk at 11707 W. North Avenue. We recommend the claim be denied for the following reasons:

1. The City has an ongoing program for the inspection of City sidewalks. This area was last reviewed in 1983 and no defects were found.

2. The City had no prior notice of this condition until receipt of the damage claim from Sandra Delker.

3. At 11707 W. North Avenue one section of the sidewalk was observed to be raised approximately one inch across the entire joint. Mr. Gehres's report of 4/26 is attached. Photographs were also taken and are attached.

It is our judgment that the one inch differential height is not a gross misalignment and settlements of this kind are common in our climate.

4. We believe Sandra Delker failed to use the proper lookout and ordinary care in traversing the sidewalk and that the City cannot guarantee the condition of the streets and sidewalks at all times under all conditions.

SET:JE
Attachments
### CITY OF WAUWATOSA

#### Schedule of Special Assessments and Accounts
**To be Financed by General Funds**

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### Moody's Investors Service

90 Church Street  
New York, New York 10007

Nicola Johnson  
Senior Vice President  
Public Finance Group  
Tel: 212-552-2479

March 26, 1999

Mr. Ronald Braier  
City of Wauwatosa  
7775 West North Avenue  
Wauwatosa, WI 53213

Dear Mr. Braier:

We wish to inform you that on March 25, 1999, Moody's Rating Committee reviewed and assigned an Aa rating on the City of Wauwatosa General Obligation bonds.

In order for us to maintain the currency of our ratings, we request that you provide ongoing disclosure, including annual financial and statistical information.

Moody's will monitor this rating and reserves the right, in its sole discretion, to revise or withdraw this rating at any time in the future.

The rating as well as any revisions or withdrawals thereof will be publicly disseminated by Moody's through normal print and electronic media and in response to oral requests to Moody's ratings desk.
CONSTRUCTION PROGRAMS

WALK REPAIR PROGRAMS

• Walk repair in conjunction with street improvements.
• Walk repair as a separate program.
• Each program has its own criteria and assessment system
WHY TWO PROGRAMS?

Street reconstruction occurs at long intervals, too long to effectively correct walk defect.

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<tr>
<th>STREET</th>
<th>BLOCK</th>
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WHY TWO PROGRAMS?

Street reconstruction occurs at long intervals, too long to effectively correct walk defect.

Walk replacement with streets work is more extensive due to:

A) More attention given to appearance
B) Curb replacement often necessitates walk replacement
C) Design changes of the road necessitates walk replacement
Street reconstruction should always involve a careful review of walk configuration, widths, and obstructions for consideration of improvement over existing conditions.

The two programs need to be coordinated to insure that they don’t overlap, avoiding unnecessary removal and replacement.
SIDEWALK MAINTENANCE

PROJECT DEVELOPMENT

• Survey sidewalk using repair criteria
SIDEWALK REPAIR GUIDELINES

The following is a list of criteria that is used in determining concrete sidewalk replacement:

A. Sidewalk Repair Program

1) Differential settlement or heaving at walk joints of 3/4" or more at any point along joint.
2) Sidewalk is cracked - and such cracking has caused or has potential to cause breaking out and/or settling.
3) Sidewalk has pieces missing at joints to the extent they are susceptible to catching a person in high heel shoes. (Owner may be given the opportunity to repair if damage is localized.)
4) The sidewalk has a negative pitch (drains toward house). Zero pitch is allowable.
5) A slab that slopes more than 1" per foot in any direction.
6) Where walk elevations have over the years become so warped due to settling, heaving or individual replacements, it may be necessary to remove a "good" slab in order to save a number of warped slabs and obtain proper drainage.

B. TYPE A and TYPE B Street Repairs

All the above criteria is used plus the following:

7) The surface of the sidewalk is spalled to the extent that scaling, pitting or potholing has progressed 1/2" from the surface and there are 2 or more pockets in the sidewalk stone.
8) Open walk joints of 3/4" or more at any location or full width of walk. (Owner may be given the opportunity to repair).

NOTE: All patches or repairs done by property owners must be approved by the Engineering Department. Certain walk condition can be repaired by mudjacking. Owners are allowed the opportunity to make repairs in this fashion. As with other repairs, it must be approved by the Engineering Department.

July, 1996
General: The objective of this policy is to establish a sidewalk replacement program. The goal of the program is to establish uniform guidelines for inspection and replacement of defective sidewalk that could cause a pedestrian injury.

Procedure:

1. Inspection: The Director of Engineering and Public Works shall establish a regular inspection program of existing sidewalk. The yearly inspection program will include twenty percent of the City sidewalk shall be inspected for defects as established in this policy. The Public Works Commission shall establish a yearly defective sidewalk replacement program based on the inspection of the Director.

2. Replacement: The yearly replacement program as established by the Public Works Commission shall be carried out by the Director of Engineering and Public Works. An official notice shall be published and affected property owners shall be notified by letter, including construction cost for replacement if completed under contract by a City hired contractor.

3. Criteria used for defining "Defective Sidewalk":

   a. Differential Settlement or heaving at walk joints of one (1) inch or more at any point along joint.
   b. Sidewalk cracking of 3/4" or more or open joints of 3/4" or more.
   c. A settled sidewalk of more than two (2) inches.
   d. Negative pitched sidewalk (drains toward house), if in the judgment of the Director of Engineering and Public Works, it is deemed to create a safety hazard.
   e. Spalled surface (scaling, pitting or pocketing) that has progressed one-half (1/2) inch from the surface and there are two (2) or more pockets in the sidewalk stone.
   f. A slab that slopes more than one (1) inch per foot in any direction.
   g. Other situations which, in the opinion of the Director of Engineering and Public Works, are a safety hazard.
PROJECT DEVELOPMENT

- Survey Sidewalk using Repair Criteria
- Inspection in the Fall preceding project
- Re-inspect in the Spring preceding project
- Complete Forms & Records

FORMS & RECORDS

- Sidewalk condition report
- Sidewalk computer report
- Sidewalk computer spreadsheet
- Property owner notices
1987 SIDEWALK AND APPROACH REPAIR

Property Information

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Notice of Sidewalk and Drive Approach Repair for 1988

The City of Milwaukee Board of Public Works has approved the City's sidewalk repair program affecting properties as shown in the above list in 1986.

The area bounded by West State Street on the north, 6th Avenue on the south, and N. Mill Street on the west side of Wauwatosa Avenue.

Reelinig of the sidewalk adjoining properties within the area may require repairs due to settlement or a safety hazard. An average sidewalk replacement will cost $25 square foot. Standard criteria for replacement of sidewalks include cracked, popped, pitted, eroded, or oddly shaped areas or deterioration of the two sides, splits, or cracks. Several existing drive approaches may also need the repairs and may have to be replaced.

The City of Wauwatosa has agreed to make the necessary replacements. Property owners will be notified by the year before the completion of the work, according to law. Assessment replacement costs will be $4.00 per square foot of 5' sidewalk and $6.00 per square foot of 7' sidewalk. See following schedule of sidewalks and property owners will receive a copy of this list of the proposed replacement costs for their sidewalks.

Upon written request from the property owner, the City will remove a service walk, required for replacement, and replace it with a sidewalk equal to the original sidewalk. Property owners may remove the sidewalk and replace it with a sidewalk equal to the original sidewalk in such an area, subject to the approval of the City. The City shall be responsible for the cost of replacement if the replacement exceeds the original sidewalk.

If there are any objections to the proposed plan, please notify the Milwaukee Engineering Department in writing. Property owners will be responsible for removing, clearing, and performing any necessary work and paying the cost of such work. This requires obtaining a permit and contractor's license from the Engineering Department, and completing all work by May 1, 1986.
CONTRACT INSPECTION - NEVER A DULL MOMENT

- Prosecution & progress
- Sprinklers
- Root cutting
- Forming
- Lawn restoration
- Parking permits
- Cars in garages & drives
- Barricading
- Damage to walk
- Service walks
621.26 – PROGRESS OF REPLACEMENT  The Contractor shall replace walk within four (4) working days of the removal of that portion of walk. Walk shall be backfilled with topsoil within two (2) working days of form removal. Barricades shall remain in place until backfilling is complete.
SECTION 625
SPECIAL PROVISIONS
If sprinkling systems are encountered with sidewalk or approach removal, care should be taken to preserve the line and the heads. If it is determined that the sprinkling system will be damaged as a result of construction, the abutting property owner should be notified and given time to remove and relocate the sprinkling system as necessary. The Contractor is not responsible for the repair of the sprinkling system unless damaged through carelessness or un-workmanlike operations.

SECTION 621 – SPECIFICATIONS FOR CONCRETE WALKS AND DRIVE APPROACHES

621.03 – TREE ROOTS Tree roots that have raised a sidewalk slab to be replaced shall be cut by the Contractor at six (6) inches outside of the sidewalk area, using a root cutting machine. Cuts shall be made perpendicular to the length of the root and shall be done in a manner so as not to splinter the wood. Cutting depth is not to exceed nine (9) inches from the proposed sidewalk surface. All roots within two inches of the bottom of the proposed sidewalk must be removed. Cost of this work shall be included in the price bid per square foot of walk removed and replaced. Contractor shall make every effort to safeguard and preserve all trees and tree roots.
601.09 PROTECTION OF TREES AND SHRUBS  Unless specifically shown on the plans, or otherwise directed by the engineer, it is the intent of the work operations under this contract to make every effort to preserve and protect trees and shrubs from damage or removal within the limits of, and adjacent to, the work included in this contract.

There are at various locations on the project, existing trees and shrubs which will require special care and protection during the removal and subsequent construction of new pavements, curbs, drive approaches, and walks. Prior to beginning construction operations for the removal and/or replacement of these contract work items, the Contractor shall conform to the following procedure:

The Construction Engineer, the City Forester, and an authorized Contractor’s representative shall, prior to construction, conduct a detailed walk-through field inspection of all potential conflicts of the contract work with trees and shrubs within and adjacent to the project limits.

The Engineer shall describe, at each potential conflict site, the special construction methods required to avoid damage to said tree or shrub. The most comprehensive procedure would be to utilize the pay item, in one of the contract divisions, in accordance with Standard Drawing 15.TC (Detail “TC”). After such inspection is completed, the Engineer shall furnish to the Contractor a written tabulation of the locations in question. The Contractor shall not excavate or cut the roots of trees or shrubs unless so indicated by the Engineer’s written order.

If, in the Engineer’s opinion, it is necessary to alter the methods of construction in the plans to preserve trees and shrubs, the Contractor shall make such changes as directed.

621.17 – FORMS  The forms shall be smooth, free from warp, of sufficient strength to resist springing out of shape and of a depth to conform to the depth of the proposed work. All foreign material shall be removed from forms that have been previously used. The forms must be a full five (5) inches in depth, and staked and set to the established lines, their upper edges conforming to the grade of the finished work. The construction of sidewalks without forms is prohibited. The side pitch of sidewalks shall be 1/4 inch per foot and shall slope toward the street.

Forms shall be cleaned and oiled each time they are used. Forms shall remain in place for at least 24 hours after concrete is placed. Flexible forms must be used where sidewalk alignment is curved. In these locations, forms can be flexible metal forms or 1 inch by 6 inch wood forms.
621.20 – REPAIR TO LAWNS The Contractor shall replace all damaged lawns by placing a minimum of 3 inches of compacted topsoil in the damaged of filled area and laying Blue Grass nursery sod a minimum of 9 inches wide. All sod must be fertilized with a Type A granular fertilizer; cost to be included in bid prices. To make a tight match with undisturbed sod, a sod cutter may be used to line up and square off the trench. Sod must be placed to a butt joint and not wedged off with topsoil or laid on to of existing lawn. Sod shall be properly rolled or tamped in place. Sod shall be properly replaced within four (4) days after removal of forms. All landscaping work must be watered thoroughly each day for five (5) consecutive days. If the Contractor chooses to use City of Wauwatosa water, a permit and hydrant attachments are to be obtained from the City Water Department, at the Contractor’s expense.

820. LAWN REPLACEMENT.
A. The Contractor shall place three (3) inches minimum of new or salvaged topsoil along new sidewalk construction in all existing grass and terrace areas. The cost of lawn restoration, including furnishing and placing topsoil, fertilizer, seed and mulch, shall be included in the unit prices bid for other items unless a separate bid item(s) is included in the Proposal.
1. Seed mixture shall be a mixture of 50% rye and 50% grass seed suitable for shade locations, as per the "Standard Specifications." The fertilizer shall be 10-10-10 or 12-7-7 and shall be applied in strict accord with the manufacturer’s instructions.
B. The Contractor shall be responsible for watering new lawns for a period of 10 working days or until the lawn is accepted as being established by the Engineer.
601.07 TRAFFIC CONTROL PROVISIONS Control of arterial traffic shall be in conformance with Section 643 of the current State Specifications.

A. Signing, Barricades and Flagmen.
1. Whenever the Contractor's activities shall obstruct through traffic, there shall be sufficient flagmen on duty to guide the traffic, and the Contractor shall furnish and install all temporary signing and barricades required to safely direct the traveling public around the obstructed area.

a. For removal of a single slab or two adjacent slabs, a single barricade shall be erected. For removal of three or more adjacent slabs, a barricade shall be erected at each end of the excavation. Barricades shall remain in place until the new concrete is cured and all adjacent holes have been backfilled.

b. All signing and barricades shall be done in accordance with the latest revision of Part VI, Traffic Controls for Street and Highway Construction and Maintenance Operations of the U.S. Department of Transportation, Federal Highway Administration's "Manual on Uniform Traffic Control Devices" for Streets and Highways and Section 643 of the "State Specifications".

c. Removed concrete shall be hauled from site daily or delineated by an adequate number of barricades for traffic safety. In no case shall removed concrete remain on-site more than three days, or over a weekend.
800. SURFACE REPLACEMENT AND SITE RESTORATION

A. General Replacement.
1. The provisions of Sections 2.6.11. and 2.7.2. of the "Standard Specifications" are modified as follows:
   a. The Contractor shall replace or restore to its original condition, unless specified otherwise, any sidewalk, driveway, curb, gutter, shoulder, pavement, culvert, lawn, ditch, fence, sign, mailbox or other property damaged by him during his work operations at his own cost.
   b. Restoration of pavements damaged by normal truck hauling operations; i.e., hauling within approved weight and speed limits and exercising reasonable care while starting, stopping or turning vehicles, will not be the responsibility of the Contractor. This provision does not apply to pavement damaged by truck wheels during loading or unloading operations.

B. Pavement Protection.
1. The Contractor shall take all precautions necessary to protect road pavements, including shoulders, from being damaged.
2. Backfill or excavated material spilled or tracked onto pavements or shoulders shall be removed at the completion of each working day or more often if needed as directed by the Engineer. Any such materials interfering with traffic shall immediately be swept off with power brooming equipment.
621.25 – PROTECTION OF WORK The Contractor shall provide for a minimum of one finisher to remain on the project site after final finishing of the sidewalks until such time as the concrete sidewalks have cured sufficiently to resist surface scarring caused by footprints, handprints, or any other type of imprint, malicious or otherwise. The finisher shall actively and continuously patrol the newly placed sidewalks and repair any damage to the surface. If defaced or damaged sidewalk is not repaired to the engineer’s satisfaction, the Contractor must replace the walk at the Contractor’s expense. The cost of providing the finisher and necessary equipment and materials shall be considered to be included in the contract unit prices.
SECTION 601 GENERAL PROVISIONS FOR PAVING

The alignment of curbs in side streets must be matched in all locations. The proposed dimension at the sidewalk for each new concrete approach is indicated on the plan. Concrete service walks which are to be replaced (many will not be), shall be rebuilt to the width of the existing service walk only (no wings). A 3 foot minimum width is required.

NOTICE OF SIDEWALK AND DRIVE APPROACH REPAIR FOR 1999

Upon written request from the property owner, the City will remove a service walk, marked for replacement, and replace the walk with topsoil and sod. There is no charge to the property owner for replacing the service walk with sod. The City will remove service walk wings at the curb and replace the wings with sod. The contractor is responsible for restoration of sod adjacent to the replaced sidewalk slabs (to a maximum of 18" wide). Property owner should water and maintain the new sod. DAILY WATERING OF THE NEW SOD FOR 2 WEEKS WILL HELP ENSURE GROWTH.
Contract Record Keeping

- Quantities
  - Measurement
  - Tree root credit
  - No-pay items
- Homeowner complaints
  - Keeping records
- Correcting errors
CONCLUSION:

A successful project involves quality in construction, inspection, and project management.
EFFECTIVE MAINTENANCE TECHNIQUES & MATERIALS

TECHNIQUES
TECHNIQUES

- Mud-jacking
- Wedging
- Grinding
- Sawing
- Overlays
- Removal
- Replacement

MUD-JACKING

- "Semi-permanent" - Adjusting grade or pitch by injecting bentonite "mud" under existing walk.
- Cost is about 2/3 of replacement.
- Relatively "invisible"
- Difficult to get effective results in hot weather or with extreme settlement
- Not effective where tree roots are affecting walk
WEDGING JOINTS

- “Temporary - placement of asphalt wedge against a raised joint to eliminate tripping.
- Removed when raised walk is replaced.
- Low cost technique.
- Good for 2 to 5 years.
- Best if not tacked.
GRINDING JOINTS

- Consists of grinding the raised portion of a joint to eliminate trip hazard.
- Can be permanent if no other problems, or no tree roots, exist.
- Can be low cost effective fix with the correct equipment.
- Limit to amount of grinding.
SAWING JOINTS

- Consists of sawing the raised portion of a joint to eliminate trip hazard.
- Smoother finished surface than with grinding
- Can be permanent if no other problems, or no tree roots, exist.
- Can be low cost effective fix with the correct equipment.
- Limit to amount of sawing.
Typical Trip Hazard
BEFORE correction

Typical Trip Hazard
AFTER correction
OVERLAYS

• Asphalt overlay - placement of asphalt across one or more settled, cracked, or spalled walk. Also known as skin patching.
• Concrete overly - placement of a concrete and epoxy layer over existing, or milled concrete surface. Also known as white-topping.
ASPHALT OVERLAYS

• Temporary maintenance technique.
• Low cost quick fix.
• Like wedges, can have a relatively short life.
• Usually removed when the walk is replaced.
CONCRETE OVERLAYS

- Usually a permanent fix.
- Used where conventional replacement techniques are not feasible or practical.
- Can be fairly expensive - $15 to $25 per square foot.
- Finished product sealed to prevent de-icing salt damage.
REMOVAL

• May be most cost effective maintenance technique if the walk is deemed unnecessary.
• Remove walk and replace with sod or seed.
• Be sure that owner understands responsibility for maintaining new lawn.
REPLACEMENT

- “Permanent” - Remove the defective walk and replace with new.
- Most expensive maintenance technique
- Most effective technique
- In many cases work is assessable
- Best costs when done in volume.
REMEMBER:

• Once a hazard is discovered, it is more important to eliminate the hazard as quickly as possible.
• The method of maintenance is secondary to safety.
• Where possible, use a temporary method and follow-up with a permanent technique.
USING MATERIALS

PAVING MATERIALS

- CONCRETE
- EXPOSED AGGREGATE CONCRETE
- STAMPED CONCRETE
- BRICK PAVERS
- ASPHALT
CONCRETE

- Material most preferred in sidewalk construction
- Readily available
- Long life cycle-low maintenance
- Rigid
- Easily replaced
- $4.00 to $8.00 per square foot
REQUIRED TESTS

- **Slump test** – Control water content of mix, reduce cure time, increase strength
- **Air Content** – Control voids in concrete, aids in strength & freeze/thaw resistance
- **Temperature** – Rate of hydration
- **Cylinders** – Determine strength at various ages, 3 days, 7 days, 28 days

EXPOSED AGGREGATE CONCRETE

- Far less common construction material
- Fewer contractors available to install
- Similar life to concrete under the right conditions-high maintenance
- Not as easily replaced
- $15 to $25 per square foot
STAMPED CONCRETE

• Once a novelty item, now coming into use more frequently
• Still not a large number of contractors
• Similar life cycle to concrete under good conditions-high maintenance
• Difficult to replace/repair; must have tools & stamps
• $12 to $25 per square foot
REQUIRED TESTS

• The same tests are required as with standard concrete. Parameters may be different depending on usage and desired finished product.
BRICK PAVERS

- Used more in private work or to enhance concrete
- Most landscapers and many concrete contractors can install
- More problems due to climate and wear and tear
- Moderately high maintenance
- $5 to $15 per square foot
REQUIRED TESTS

• No required tests for placement of pavers. Visual inspection of subgrade is usually adequate.
• If slurry is used as subgrade, verify mix is within the design specifications.

ASPHALT

• Used mainly in multi-use walks, bike paths, access roads.
• Flexible
• Short life cycle, high maintenance
• Difficult to match existing surface when replacing or repairing
• $4 to $8 per square foot
REQUIRED TESTS

• Sample asphalt material for laboratory testing for conformance to the specifications.
• Temperature – Assure proper placement and rolling of pavement for optimum performance.
COMBINING MATERIALS

- Frequency of potential replacement
- Initial cost Vs. Maintenance cost
- Owner preference
- Aesthetic Qualities
OTHER MATERIALS

- **Expansion material**
  Provide relief zone for expansion & contraction and for future maintenance
- **Curing Compound**
  Control hydration of concrete to prevent shrinkage cracking.
- **Reinforcing**
  Additional strength to resist loading or temperature changes.
A FINAL THOUGHT

• The choice of material should be made with a clear understanding of the cost, service life, location, and use of the walkway. More people remember the mistakes than they do the successes

ADA REQUIREMENTS
1973 Section 504 of the Rehabilitation Act

- Banned Discrimination on the basis of disability for recipients of federal funds

- Recognized that inferior social and economic status of peoples with disabilities was not caused by the disability, but by societal barriers and prejudices.

1973 Section 504 of the Rehabilitation Act

- State & Local government with 50 or more employees must develop a Transition Plan
  
  Evaluate physical obstacles that limit people with disabilities;

  Develop a schedule for needed structural changes;

  Involve the participation of people with disabilities
1973 Section 504 of the Rehabilitation Act

- Curb cuts to be installed at intersections, crosswalks, and transit stops as part of the transition plan.

1990 Americans with Disabilities Act (ADA)

- A comprehensive civil rights act covering activities such as employment, education, housing, communication, healthcare, and transportation.

- It is the only civil rights law that protects every citizen, if they were to become disabled.

- All inclusive and extended the Transition Plan
1990 Americans with Disabilities Act (ADA)

- All state and local programs and facilities are required to be accessible.
- No current design standards for pedestrian facilities in public right-of-way (Chapter 14)
- State and local governments still have an obligation to make facilities as accessible as possible.

What Does This A Mean

- Remove physical barriers to people who use wheelchairs
- Provide information for persons with visual impairments to navigate along or across streets.
- Replacing word signs with easier to understand symbols or pictures for the cognitively impaired.
Tests of Truncated Domes

- 00942591.pdf
Available Resources

- Federal Highway Administration
  Designing Sidewalks and Trails for Access
  
  Part 1: A review of Existing Guidelines and Practices
  FHWA-HEP-99-006

  Part 2: Best Practices Design Guide
  FHWA-HEP-01-027 HEPH/801

www.fhwa.dot.gov/environment/bikeped/access1.htm
www.walkinginfo.com  877-WALKBIKE
www.bicyclinginfo.com  877-925-5245