



# NEWSLETTER

As each quarter rolls by I feel more secure that we are on a solid foundation. Over 50 members are signed and paid-up and our target is to double that by the end of the year. You can all help by spreading the word.

Thanks to Harriett we now have the first edition of a website established [www.constructionhistorysociety.org](http://www.constructionhistorysociety.org) Check it out please and let her have any comments and suggestions.

You should all have received your copy of the UK Society's newsletter #80. More will follow. Also please note the appeal on page 7 for articles for Construction History, the Society's main journal

Over this last quarter the Organizing Committee has been focusing on our November 6th – 8th inaugural meeting at Georgia Tech in Atlanta. Check out how this is shaping up on page 7. It promises to be an opportunity to meet up with friends and colleagues, to help craft a future direction for our young society and, at the same time, to listen to some excellent speakers on a wide range of historical subjects around the theme of “Learning from Design and Construction Failures.”

I hope to be able to meet you there!

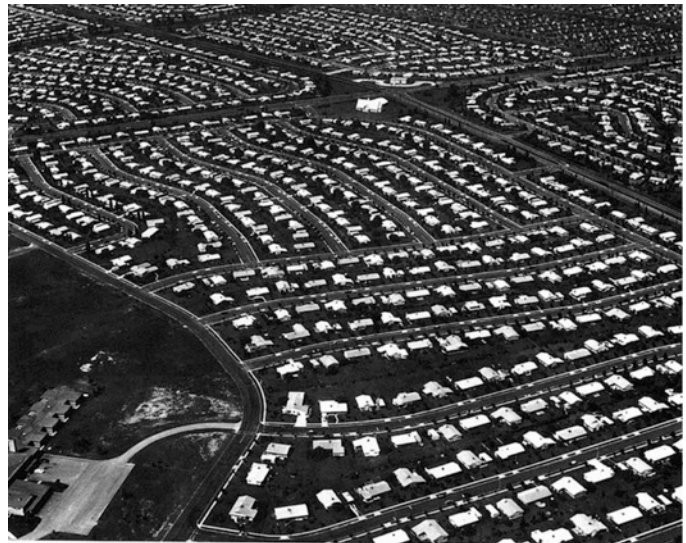
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Thanks to our institutional members:

- ★ Auburn University
- ★ Clemson University
- ★ Construction Management Association of America
- ★ Georgia Institute of Technology
- ★ University of Pennsylvania
- ★ Levine Construction Company

## CONTENTS

Levittown: A Case Study of Modern Era Homebuilding.....	2
Robert Gerhart, Jr.	
The History and Heritage Committee of ASCE.....	3
Stephen Buonopane, Ph.D.	
Public Works Historical Society.....	4
Teresa Hon	
American Architect & Building News 1908.....	5
Brian Bowen	
Calendar of Events.....	7



## LEVITTOWN: A CASE STUDY OF MODERN ERA HOMEBUILDING

*Robert Gerhart Jr.*

In 1946, over 10 million men and women, discharged from the armed forces after WWII and looking for affordable housing, found help from federal economic and regulatory initiatives. Agencies such as the Veterans' Emergency Housing Program (VEHP) in addition to legislation such as the Servicemen's Readjustment Act (the GI Bill of Rights) provided returning veterans the opportunity to purchase homes with little or no down payment through government insured FHA and VA loans.

Under these conditions—exploding housing demand and government initiatives—the residential construction industry experienced one of the largest and most sustained building booms in American history. Mass-market residential development and construction in the post-war era brought innovation in the use of materials, logistical and scheduling operations, and factory-style division of labor. Residential developers started with market analysis, followed by land acquisition, land development, home design and construction, labor management, project financing, and finally marketing and sales.

In 1946, Levitt and Sons acquired 4,000 acres of potato fields on Long Island, NY with VEHP assistance and began the phased development of Levittown. Their first home design, the Cape Cod, consisted of 4.5 rooms constructed on a 25' x 30' (750 sq ft) with stairs to an unfinished expansion attic. Levitt originally rented the single family home for \$60–65 per month, but in 1948 the homes were sold for \$7,500 which veterans could finance for \$52 per month with a 30 year fixed mortgage.

There was little variation in home design — standardization was the key to efficient mass production. It started with the simple floor plan that reduced the number of exterior wall breaks, eliminating hip roofs, standardizing door and window sizes, and consolidating

the plumbing system. Design dimensions were maintained in multiples of four feet to take advantage of standardized materials such as



Robert Gerhart Jr  
Information Technology Manager  
Georgia Institute of Technology

4x8 sheetrock panels. When possible, components were pre-cut and pre-assembled before delivery and were warehoused on site for quick access: framing lumber packaged according to house model; plumbing systems pre-assembled as a “tree” and installed with the slab; roof trusses replaced rafters; wall panels built with pre-installed siding; window and door units built and assembled off site. Cabinetry, hardware, and appliances were purchased in bulk directly from the manufacturer. At one point, Levitt invested in a California forest and saw mill to ensure a steady supply of lumber. When nails were in short supply, he built a nail factory in Levittown.

Levitt divided the construction process into 27 different steps. Using a piece-rate factory labor model, he paid workers by the number of units completed. Trade specialization was critical to the process. Workmen were expected to perform a small number of tasks on each home. The carpenter who previously specialized in either rough or finish work specialized further by only setting trusses or installing windows. In April and July of 1948, homes in Levittown were being completed at a rate of 150 per week. At its completion, Levittown was the nation's largest housing development, consisting of 17,447 homes and having 82,000 residents. In addition to single family homes, Levitt and Sons constructed seven “village greens” with shops and services, community meeting facilities, and nine swimming pools. Community residents built churches; state and local governments built schools and libraries; and merchants built a variety of recreational facilities—bowling alleys, movie theaters and skating rinks.

Five years after purchasing the land, Levitt sold his last Levittown home in 1951. Levitt and Sons was acquired by ITT in 1968 and later by Starrett Corporation in 1979. In November 2007, Levitt and Sons filed for bankruptcy. William J. Levitt, seen by some as the father of modern American suburbia—but who more accurately is remembered for bringing modern industrial methods to mass-market home development, died on January 28th, 1994 at the age of 87.

## THE HISTORY AND HERITAGE COMMITTEE OF ASCE

*Stephen Buonopane, Ph.D.*

The mission of the History and Heritage Committee (HHC) of the American Society of Civil Engineers (ASCE) is to “originate and conduct programs relating to the history and heritage of the profession and promote local, national and international programs to create public and member understanding of civil engineering and its contribution to the development of society.” Presently the HHC is chaired by Prof. Henry Petroski and consists of eight full members, as well as corresponding members from the US, UK and Canada. For more details on the HHC and its activities go to the ASCE History and Heritage web page <<http://content.asce.org/history/index.html>> and the History & Heritage of Civil Engineering Database <<http://live.asce.org/hh/index.mxml>>.

One of our primary activities is to administer the Historic Civil Engineering Landmarks program, which recognizes civil engineering works that have made a significant contribution to the profession and the development of society. More than 200 landmarks have been

designated in both the U.S. and abroad. The landmarks range from the well-known (e.g. Brooklyn Bridge) to the lesser-known (e.g. C.A.P. Turner’s Marshall Building in Milwaukee). Brief summaries of these projects can be found in the on-line database. Nomination of a landmark typically originates with a local ASCE section and does require some documentation effort. CHS members are encouraged to identify potential projects in their area and to assist local sections with the documentation and nomination process.

The HHC also organizes paper sessions and symposia on civil engineering history. In the past HHC has held sessions at national ASCE conferences and is organizing sessions at the various ASCE institute conferences. In October 2006 we sponsored a symposium in honor of the 200th anniversary of the birth of John A. Roebling. Currently the HHC is in the planning stages for a symposium to mark the 75th anniversary of Hoover Dam in 2010.

We administer the ASCE History and Heritage Award given to an individual

who has made outstanding contributions to increasing knowledge of and appreciation for the history and heritage of civil engineering. Details of the nomination process and a list of past winners are available through the HHC website. CHS members are encouraged to nominate worthy candidates.

In the past year HHC has been involved in the development of the new ASCE Body of Knowledge (BoK) which will form the basis for future civil engineering curricula and accreditation. The HHC strongly endorsed “History and Heritage” as a distinct outcome, although ultimately it was combined to form “Contemporary Issues and Historical Perspectives.” Nevertheless, this outcome provides an opportunity and justification for increasing the presence of history in civil engineering education.

The HHC is always looking for opportunities to collaborate with allied organizations such as CHS. If you have an idea contact the HHC at [cehistory@asce.org](mailto:cehistory@asce.org).



Stephen Buonopane, Ph.D. Assistant Professor of Civil Engineering Bucknell University, Lewisburg, Pennsylvania

## PUBLIC WORKS HISTORICAL SOCIETY

*Charles Jacobson, PhD*

The Public Works Historical Society was chartered in 1975, by the American Public Works Association, to foster a better understanding of public works through the collection, preservation, and dissemination of public works history.

The Society's mission is to provide professionals with access to historical information to help them enhance the planning and management of public works; to promote public understanding and appreciation of the role of these works in history; and to recognize the contributions of practitioners to the history of the profession and the contributions of historians to the field of public works history. Specific goals of the Society are to:

- Foster scholarly research and publication;
- Support collaboration among public works practitioners, historians, and educators;
- Encourage the preservation of historically significant public works;

- Promote historical awareness and activities throughout APWA; and

- Collect and preserve records of individuals and groups engaged in important public works activities.

Some of the Society's major ongoing projects include:

**Oral History Program** – The Society's oral history program records interviews of practitioners who have made significant contributions to the profession in North America. Interviewees come from all facets of public works, but typically are managers and engineers with lifetime experiences or individuals who were witnesses to public works milestone event and activities.

**Awards Program** – In conjunction with the APWA Awards Program, the Society sponsors two publication awards. Both provide recognition and encouragement to historians whose research and writings have made outstanding contributions to the history of public works. Awarded annually, the Abel Wolman Award

recognizes the best new book published, and the Michael Robinson Award recognizes the best article or essay published in the field.

**Essays In Public Works History** – The essay series provides a forum for historians and practitioners to publish historical papers on public works topics. Published annually, the essay is the Society's academic periodical.

**Public Works History** – The Society publishes a periodic newsletter titled Public Works History, which is distributed to members and other interested parties. The newsletter serves as the Society's principal mode of communication for reporting Society news, historical and preservation activities, and general history.

A wealth of information can be found on the Society's pages of the APWA web site. Go directly to the link at [www.pwhs.net](http://www.pwhs.net) and let us know what you think.



Charles Jacobson, PhD Senior Associate  
Morgan Angel & Associates, LLC  
President- Public Works Historical Society

## AMERICAN ARCHITECT &amp; BUILDING NEWS 1908, PART II (JULY – DECEMBER)

*Brian Bowen.*

Continuing our review of items covered in this magazine a hundred years ago.

**July 8th:** Yet another article about building fires and the need for better fire prevention. Most people today find it difficult to comprehend the sheer scale of the problem at that time. The piece estimates the extent of the losses at \$200 million per year, which compared with the Federal government's revenues of \$554 million at that time, this was before the income tax of course. See also July 29th below.

**July 22nd:** *Plus ça change...* an editorial paragraph under the heading The Assertive Billboard, rails against this pervasive annoyance thusly: "If the people and press of this country would take united action to suppress the billboard nuisance, something might be accomplished toward a better enjoyment of life out of doors."

**July 29th:** Carries an article on the new Baltimore Customs House designed by Hornblower & Marshall. The old building was under construction when the fire of 1904 destroyed most of the city (see view from the Custom House site below!)



Baltimore 1904 fire-Looking from the west side of Customs House after the fire

*...continued, next page*

## AMERICAN ARCHITECT &amp; BUILDING NEWS 1908, PART II

**August 5th:** Comments on an address given to the upper classmen of the School of Architecture at Columbia University on the subject of The Principles of the Business Management of Office Practice for Architects, emphasizing the business side of the profession.

**August 19th:** Includes two illustrations of a Bungalow, finding it necessary to explain that the term is of Anglo-Indian origins describing a single-story dwelling with wide verandahs on three sides.

**August 26th:** Comments on an article in the Scientific American “More Daylight for Recreation”: “It is not often that a measure of such startling character as the Daylight Savings Bill is introduced into the English House of Commons”. The proposal, which was sponsored by William Willett a prominent builder in London, was to introduce the time change 20 minutes per week for three weeks in April. The editor discusses the pros and cons and opines, “it is unlikely that a daylight bill of this kind will be introduced into the United States for many decades to come”! It actually took just one, being adopted in the US in 1918.

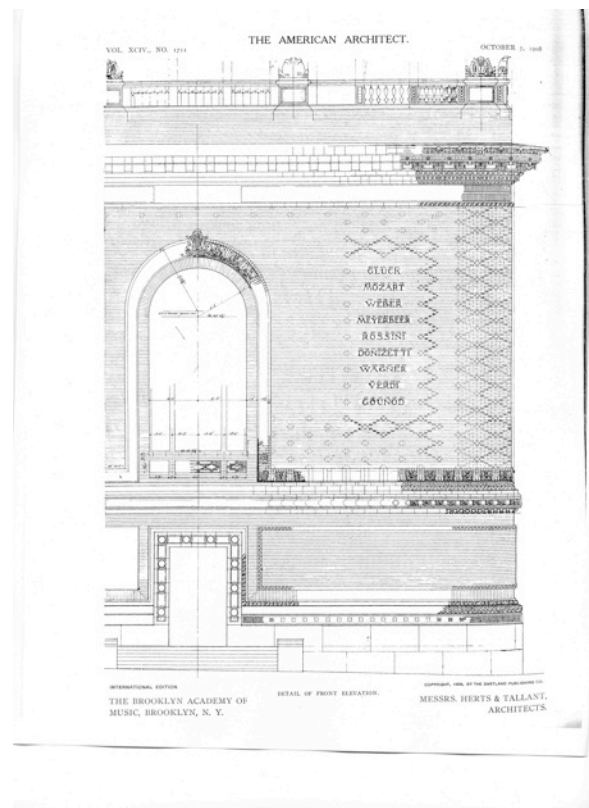
**September 2nd:** An editorial laments the current architect’s practice of leaving the design of foundations, structure, heating & ventilating, plumbing and electrical work, to contractors. . “availing himself of the gratuitous services of contractors, can hardly be regarded otherwise than inimical to the best interests of the profession and those by whom architects are employed”.

**September 9th:** Comment on the work at the Cathedral of St John the Divine in New York, then 16 years into construction – “it will be a number of years before its completion”. It still is not finished to this day.

## 2008 ANNIVERSARY

This year marks the 110th anniversary of the Bechtel Corporation. Visit their website ([www.bechtel.com](http://www.bechtel.com)) to view an update of their book *Building a Century*.

**October 7th:** Article on the opening of the Brooklyn Academy of Music, designed by Herts & Tallant.



The Brooklyn Academy of Music

**October 21st:** The Architectural Institute of Canada’s first annual meeting in Ottawa is covered.

**Oct, Nov & Dec issues:** Much coverage of the debates at the Board of Aldermen in New York on the newly proposed zoning code relating to building heights, leading to the compromise of ‘terracing-back’ facades.

**Dec 9th & 16th:** Extensive coverage of the VIII International Congress of Architects in Vienna. One pervasive subject was reinforced concrete design and construction.

**Dec 23rd & 30th:** Coverage of the AIA’s 42nd annual meeting in Washington, DC. Big news was the increase in the base fee from 5% to 6%. Charles Follen McKim was awarded to Gold Medal. He died in 1909.

## CALENDAR OF EVENTS

**August 8–10, 2008:** 23rd Annual Historic Construction Equipment Association National Convention, Brownsville, PA, [www.hcea.net](http://www.hcea.net)

**August 17–18, 2008:** Public Works Historical Society in conjunction with American Public Works Association Congress, New Orleans, Louisiana: [www.pwhs.net](http://www.pwhs.net)

**September 11–14, 2008:** Preserving the Historic Road, Albuquerque, New Mexico: [www.historicroads.org](http://www.historicroads.org)

**September 17–19, 2008:** 10th International Docomomo Conference, “The Challenge of Change,” Rotterdam, the Netherlands, [conference@docomomo2008.nl](mailto:conference@docomomo2008.nl)

**October 11–14, 2008:** Annual Meeting of the Society for the History of Technology, Lisbon, Portugal, continuing the celebration of the 50th anniversary of the founding of the Society.

**November 6–8, 2008:** Construction History Society of America Inaugural Meeting, Georgia Tech, Atlanta, Georgia: [chs@coa.gatech.edu](mailto:chs@coa.gatech.edu)

**May 20–24, 2009:** Third International Congress of the Construction History Society, Cottbus, Germany: [www.ch2009.de](http://www.ch2009.de)

## CHS *Construction History Society of America*

### Learning from Design & Construction Failures

The Construction History Society of America holds its first annual meeting on November 6–8, 2008 at Georgia Tech in Atlanta. Join us to investigate the practical applications of historical knowledge.

#### Keynote speakers

**Alan Balfour**, Dean, College of Architecture, Georgia Tech

**James Campbell** PhD, University Lecturer, Faculty of Architecture, University of Cambridge & The Chairman of The Construction History Society, UK

**John Ochsendorf** PhD, Assistant Professor, Department of Architecture, MIT

**Bob Berkebile** FAIA, Principal, Berkebile Nelson Immenschuh McDowell Architects, Kansas City

**Sara Wermiel** PhD, Historian of technology/historic preservation consultant, MIT

**Jack Pyburn**, FAIA, Principal, Lord Aeck & Sargent, Atlanta

**Stephen Usselman**, Associate Professor: U.S. History & Technology, Georgia Tech



#### Peer reviewed papers include such topics as:

Concrete cooling tower collapse at Willow Island, WV (1978)

Deathtrap: the *other* Ford's Theater disaster (1893)

Housing problems for new work forces in Alabama 1890–1920

Prefabrication is back in vogue, but have we learned anything?

A monumental challenge:  
failures in monument design & construction

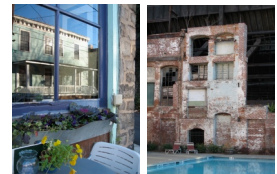
Lean construction: a new paradigm in response to the failure of current construction project delivery systems

Testing the limits: long-term deflection of the C.A.P. Turner flat-slab (1908)

Early church tower structural idiosyncrasies

Tectonics, tolerances and transfiguration:  
remediation challenges at Drake University

Cladding failures in multi-unit residential buildings in the Pacific Northwest



Go to [constructionhistorysociety.org](http://constructionhistorysociety.org) for further information

### APPEAL FOR ARTICLES—

### CONSTRUCTION HISTORY

The editors of the Society's Journal have asked us to encourage our members to submit articles for the 2008 issue, due out later this year. This is a refereed Journal and the guidelines for contributors can be found at [www.constructionhistory.co.uk/journal.php](http://www.constructionhistory.co.uk/journal.php).

We would encourage as many American branch contributions as possible just to show that we are in business!

## WHO WE ARE

The Society is dedicated to the study of the history and evolution of all aspects of the built environment—its creation, maintenance and management. It is a forum for scholars and professionals in the field to share, meet and exchange ideas and research. Membership is open to a wide range of construction related disciplines involved in the planning, development, design and construction of buildings and engineering infrastructure, in addition to those concerned with their operation and preservation. Members share a passion for examining how our existing structures were planned, designed and built, with the purpose of using this knowledge to better preserve what we have and to guide us in determining future directions.

The US branch of the Construction History Society is a distinct entity catering to the historical studies and interests of its members here in America. Membership in the US branch includes full benefits in CHS at large, including receipt of the Society's Journal and newsletter and links to scholars in the field worldwide.

THANKS TO GEORGIA TECH  
COLLEGE OF ARCHITECTURE

We are indebted to and grateful for the financial support we are receiving from the College of Architecture at Georgia Tech. Their support will carry us for a few more months, but beyond that we will be on our own. Please help us lay our own sound financial footing by joining CHS now.

**Construction History Society  
Organizing Committee****Brian Bowen**

*Georgia Tech  
Atlanta, Georgia*

**Dr. John Ochsendorf**

*MIT  
Cambridge, Massachusetts*

**Jeff Beard**

*American Council of Engineering Companies (ACEC)  
Washington D C*

**Donald Friedman**

*Old Structures Engineering  
New York, New York*

**Dr. Anat Geva**

*Texas A&M University  
College Station, Texas*

**Tom Leslie**

*Iowa State University  
Ames, Iowa*

**Frank Matero**

*University of Pennsylvania  
Philadelphia, Pennsylvania*

This is your newsletter and the only vehicle we have to keep in touch with one another. So please use this to let us know:

- ★ your interests in construction history, your current research, précis of recent lectures, etc.
- ★ books, texts & articles that your fellow readers should know about
- ★ names and e-addresses of colleagues and friends that we can include on our mailing list
- ★ if you are willing to write a brief article for us.

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