



SEMINAR 2006

**Lessons Learnt from the Disastrous Hurricane Season:
2004-2005**



CONSTRUCTION SEMINAR GROUP

In association with

The College of The Bahamas

Through its office of Research, Planning & Development

May 16-17, 2006

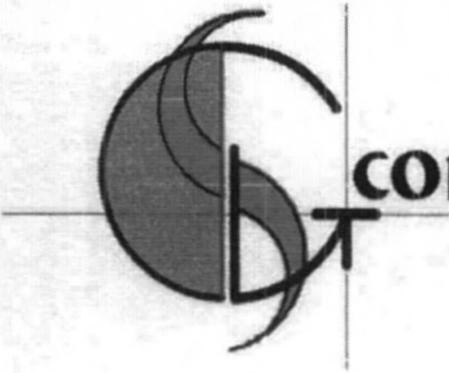
Culinary & Hospitality Management Institute

Bahamas Tourism Training Centre

The College of The Bahamas

Thompson Boulevard

Nassau, The Bahamas



CONSTRUCTION SEMINAR GROUP

IN 1995, Engineer Hammond Rahming came up with the idea to try and inform contractors, engineers and architects of the latest technology available in the construction industry. Being aware of the fact that the small and medium sized companies within the construction industry were disadvantaged in that they were not as aware of the latest technology available in the industry, Rahming decided that a seminar setting was perhaps the best way to disseminate this information. Local and international experts were invited to present on topics ranging from the behaviour of basic elements in a structure to the impact of hurricanes on building structures and lessons learnt.

At the end of Construction Seminar '95, organizers decided that the event should take place every two years. Because the focus of Construction Seminar involved more than just engineering, a Construction Seminar planning committee was formed which included Engineers Hammond Rahming and Lelawatte Manoo-Rahming, and Architects Michael Diggis and Henry Hepburn.

Two years later Construction Seminar '97 was held and its focus was "The Revisions to the Bahamas Building Code-the impact on designers, builders, developers and investors". As the government agency responsible for The Bahamas Building Code, The Ministry of Public Works played a major role in this seminar. Because of the success of Construction Seminar '95, the seminar in 1997 also attracted a large number of international presenters who helped the seminar to achieve the original goal of presenting cutting edge technology to the local construction industry. This was augmented by the presentations from local experts within the fields of engineering, architecture and building.

When Construction Seminar '97 closed, organizers decided that Construction Seminar needed to coalesce its forces so that the planning of seminars would be more intensive to better meet the

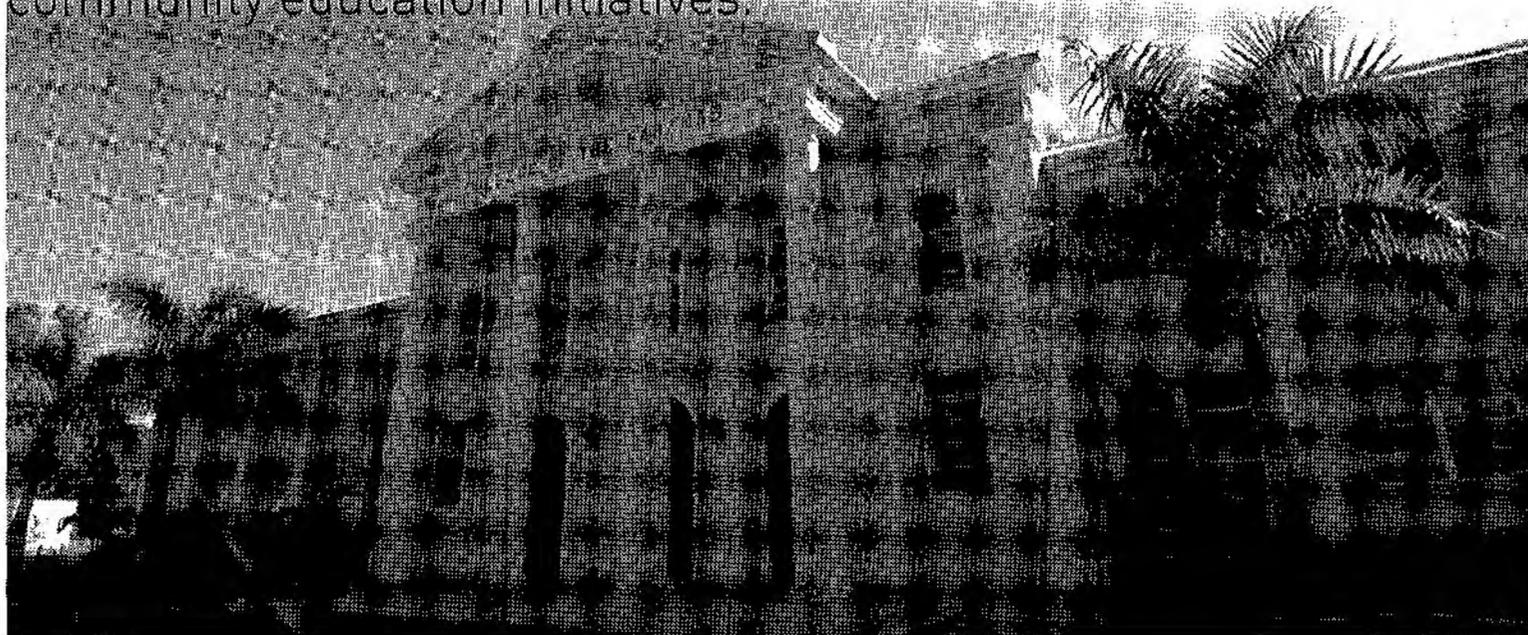
needs of participants. With that in mind, Construction Seminar Group (CSG) was formed. Then, under the leadership of CSG, Construction Seminar '99 was expanded to include an Exposition by local companies — the first construction trade show to be held in The Bahamas. The theme of Construction Seminar '99 was "The Built Environment in the New Millennium" and it opened with a panel discussion which addressed issues such as the effects the Free Trade Agreement of the Americas (FTAA) will have on professionals of the built environment. Leading this panel was the Bahamas Ambassador for Trade and Investment, Mr. James Smith. By addressing the FTAA issue during Construction Seminar '99, CSG demonstrated its farsighted vision, in that, as early as 1998, they saw the importance of the impact that globalisation has on the Bahamian society.

Construction seminars '95, '97 and '99 were all successfully subscribed to by professionals in the industry. Building on that track record, CSG then partnered with The Bahamas Home Show Exhibition and Trade Show to present Construction Seminar 2001, under the theme, "Eco-development: Myth or Reality?" Construction Seminar 2001 attracted the participation of the Ministry of Tourism which has made ecotourism education one of their mandates. Seminar participants were once again provided with up-to-date information on sustainable development pertinent to everyone involved in the construction and facilities management industries.

True to its history of tackling topical issues, CSG partnered with the Ministry of Housing, in December 2002, to present a symposium which dealt with the very vexing problem of the high cost of building houses in The Bahamas and, in particular, the issue of providing affordable, quality, low cost housing. The symposium, under the theme, "Reducing the Cost of Housing in The Bahamas", was broadcast live on radio and television. A panel of nationally recognised pacesetters and leaders in the housing industry presented its views, after which members of the audience were given the opportunity to ask questions and make comments. This symposium was the first of its kind in The Bahamas to deal with issues surrounding the built environment.

THE COLLEGE OF THE BAHAMAS is now well engaged in its evolution to becoming a comprehensive university. A primary goal is to create an institution that will fulfill its national mandate to provide educational opportunities in support of sustainable national development. At the same time, the University of The Bahamas will seek to carve a niche for itself in the international academy by creating programmes for a diverse, international student body, which draw on unique resources-among them an archipelago presenting a fascinating archeology, a largely unexplored biodiversity, especially in the marine sphere and a significant and a mature tourism and hospitality industry. We have created as centres of excellence the Culinary & Hospitality Management Institute and the Marine and Environmental Studies Institute. Supporting the latter facility are Bahamas Environmental Research Centre on the island of Andros and Gerace Research Centre on San Salvador, both of which are already well known among researchers in the marine and environmental sciences and the field of archeology. The College/ University of The Bahamas is committed to being a bridge for the exchange of ideas and opportunities among various sectors of the economy for the benefit of all partners.

In any country, there can be little that has a greater impact on the quality of social, cultural and economic development than the natural and built environments. Given the fragility of an archipelagic environment and the fact that The Bahamas lies in the hurricane belt, it is of great importance that Bahamians understand the impact of natural phenomena, such as storms, upon development. The College is pleased to partner with Construction Seminar Group CSG in facilitating its timely community education initiatives.



The effects of hurricanes and other natural phenomena have had a tremendous historical impact in shaping the economic and cultural development of the Bahamas. After many decades of relative calm, the extremely busy 2004 Hurricane season and the record breaking 2005 Hurricane season jolted Bahamians into the reality that we live in the Atlantic "hurricane belt" and that hurricanes are powerful forces of nature. For contemporary Bahamians, the calamity caused by hurricanes has moved from the realm of lore into the realm of reality. Many of us today have never experienced the effects of such powerful hurricanes as Frances, Jeanne and Wilma. It does lead one to ask the question, is there a correlation between global warming and the increased frequency and intensity of hurricanes? Increasingly, climate experts are expressing the view that this is so.

As we prepare to face the challenges of another hurricane season, will we do anything differently from what we have done in the past? Conventional wisdom indicates that crisis is a powerful motivator for change. Unfortunately, new studies are revealing that this may not be the case. In dealing with hurricanes, which can cause major damage to life, property and the environment, our first instinct is to repair the damage as quickly as possible and bring a sense of "normalcy" back to our lives. Do we really learn the "lessons" from natural disasters that would improve the quality of our existence in harmony with nature?

Construction Seminar Group (CSG) recognizes and insists that the effects of natural disasters should be analyzed and the results made available for use as part of a national development tool. Construction Seminar Group (CSG) is of the view that it is imperative that we enhance our mechanisms (short, medium and long term) to deal with future occurrences and ultimately ensure that the relevant facts are woven into the fabric of national development.

The 2006 Hurricane season is near at hand. CSG, in association with The College of The Bahamas, seeks to provide a forum to address the lessons learnt from the last two seasons by beginning a national discourse. This discourse will take the form of a seminar at which regional and local experts will make presentations. We therefore welcome your participation in Construction Seminar 2006: Lessons Learnt from the disastrous Hurricane Seasons 2004 and 2005.

CONSTRUCTION SEMINAR 2006

“Lessons Learnt from the Disastrous Hurricane Season: 2004-2005”

Culinary & Hospitality Management Institute
 Bahamas Tourism Training Centre
 The College of The Bahamas
 Nassau, The Bahamas

DAY ONE: Wednesday, 16th MAY, 2006

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| 1:00 - 2:30 p.m. | REGISTRATION |
| 2:00 - 7:00 p.m. | TRADE SHOW |
| 2:30 - 3:30 p.m. | <p>MASTER OF CEREMONIES
 Henry Hepburn, Lecturer, COB</p> <p>OPENING/INTRODUCTION - COB and CSG
 Cyprian Gibson, President, BSE
 Amos Ferguson, President, IBA</p> <p>WELCOME REMARKS
 Dr Rhonda Chipman-Johnson,
 Acting President, COB</p> <p>INTRODUCTION OF MINISTER
 Henry Hepburn
 Member, Organising Committee</p> <p>REMARKS
 Hon. Bradley B Roberts
 Minister of Works and Utilities</p> |
| 3:45 - 4:15 p.m. | <p>INTRODUCTION OF SPEAKER
 Mrs Lelawattee Rahming</p> <p>KEYNOTE SPEAKER
 Herbert Saffir
 Codeveloper Saffir-Simpson Scale</p> |
| 4:30 - 5:15 p.m. | GENERAL DISCUSSION |
| 5:15 - 6:00 p.m. | RECEPTION AND COCKTAILS |

DAY TWO: 17th MAY 2006

- 8:30 - 9:00 a.m. REGISTRATION
- 9:00 - 9:10 a.m. INTRODUCTION
Hammond Rahming
Member, Organising Committee
- 9:10 - 10:10 a.m. HURRICANE DAMAGE ASSESSMENT
Tony Gibbs
- 10:10 - 11:20 a.m. ARCHITECTURE AND STRUCTURES
Amos Ferguson - Architecture
Nick Dean - Structures
- 11:20 - 11:30 a.m. COFFEE BREAK
- 11:30 - 12:30 p.m. DESIGN AND CONSTRUCTION OF BUILDINGS IN
HIGH WINDS REGIONS
Gary Williams
- 12:30 - 1:30 p.m. COASTAL ENGINEERING
Dr David Smith
- 1:30 - 2:30 p.m. LUNCH
- 2:30 - 2:40 p.m. PANEL INTRODUCTORY COMMENTS
Michael Diggiss
Member, Organising Committee
- Representatives of the following agencies:
National Emergency Management
Agency (NEMA)
Bahamas Electricity Corporation (BEC)
Bahamas Telephone Company (BTC)
Water & Sewerage Corporation
Insurance Company
- 2:40 - 4:15 p.m. PANEL DISCUSSION
Michael Diggiss
- 4:15 - 5:30 pm DISCUSSION & RECOMMENDATIONS
FOR THE WAY FORWARD
Hammond Rahming

HERBERT S. SAFFIR

Born 29 March 1917 in New York City, Herbert Saffir is an American Engineer. He graduated from Georgia Institute of Technology in 1940 with a B.S. in civil engineering. He came to what was then Dade County, Florida in 1947 to be assistant county engineer. Saffir set up his own consulting firm in Coral Gables, Florida in 1959.

In 1969, the United Nations commissioned a study of wind-storm damage on low-cost housing, leading Saffir to develop a scale to measure hurricanes. Robert Simpson, then-director of the National Hurricane Center, added in the damage done by storm surge, resulting in the Saffir-Simpson Hurricane Scale

In 1973 he was the winner of the Award for Outstanding Service to the Engineering Profession, by the Florida Engineering Society, as well as the 1988 Governor A.W. Gilchrist Award, presented annually to a member of the engineering profession who exemplifies the spirit of public service that betters humankind, therefore, bringing honor to the engineering profession.

A little interesting information ... At the age of 17, Herbert Saffir was working as a crew member of the ill-fated SS Morro Castle when it caught fire on September 8, 1934 in transit from Havana, Cuba to New York City. The ship sank and many people died. He managed to stay afloat for seven hours in rough seas before being rescued by the Coast Guard.

His presentation in The Bahamas will cover 'short-range and long-range planning for mitigation against hurricane disasters'. Short-range involves building inspections and retrofitting and long-range calls for a review of current standards and codes and strengthening the codes if necessary.

As of 2006, Saffir maintains an engineering office in Coral Gables.

NICK DEAN

At the age of 28, Nick Dean became one of the youngest Bahamians to be recognized as a licensed Professional Engineer from a U.S. State Board. A 1989 graduate of St. Augustine's College in Nassau, Nick went on to receive his Bachelor's degree in Civil Engineering from McMaster University in Hamilton, Ontario, Canada. Fascinated by buildings and bridges since childhood, Nick says that a tremendous amount of self-discipline was key to his academic accomplishments.

In February of 2000, Nick partnered with three young Bahamian engineers to form a multi-disciplinary engineering firm called "Integrated Building Services". IBS offers design and consulting services in several disciplines of engineering including Structural, Civil, Mechanical, Electrical, and Environmental Engineering making it unique in the realm of Bahamian engineering Firms.

Nick is a licensed engineer in the States of Georgia and Florida, a

recognized Professional Engineer in the Commonwealth of the Bahamas and a member of numerous international professional organizations and institutions including the Bahamas Society of Engineers and the American Society of Civil Engineers.

TONY GIBBS

Tony Gibbs is a civil engineer specializing in structures and practising mainly in the Caribbean. He did his undergraduate studies at The Queen's University of Belfast and he was a Commonwealth Scholar at The University of Leeds.

His engineering career included assignments with Norman & Dawbarn at the UWI campus in St Augustine; Ove Arup & Partners in London and Caribbean Construction Company in Jamaica. He is now a Consultant to Consulting Engineers Partnership Ltd with active offices in four Eastern Caribbean islands. He is Past President of The Barbados Association of Professional Engineers; Past Vice President of The Institution of Structural Engineers (UK); Fellow of The Institution of Civil Engineers (UK); Fellow of The American Society of Civil Engineers and Fellow of the Association of Professional Engineers of Trinidad & Tobago.

Mr Gibbs has acted as Associate Project Manager for the Caribbean Uniform Building Code; Chairman of the Barbados Metrication Board; Deputy Chairman of the Barbados National Council for Science & Technology; Chairman of the Barbados Building

Standards Authority Advisory Committee and Director of the American Association for Wind Engineering. He is currently a Member of the General Assembly of The International Association for Wind Engineering (IAWE); Member of The International Codification Forum of the IAWE; Chairman of the Caribbean Division of The Institution of Structural Engineers and Secretary General of the Council of Caribbean Engineering Organisations. He was a member of the Joint Board of Moderators (UK) 1995 team assessing the UWI BSc Civil Engineering degree programme.

Mr Gibbs' special interests are in the fields of reinforced and pre-stressed concrete; thin shell and folded-plate structures; collaborative design in multi-disciplinary teams and designing against the natural hazards of hurricanes and earthquakes. He is particularly interested in the interrelationship between engineering and insurance. He has devoted much of his time to the particular problems related to the structural design of hospitals in areas subject to hurricanes and earthquakes.

In 1991 he received the International Award "For (his) Very Significant Contributions to Hurricane Loss Reduction and Hurricane Safety in the Caribbean" at the US National Hurricane Conference; and an award "In Recognition of (his) Contribution to the Advancement and Promotion of Structural Engineering in the Caribbean" from The Barbados Association

of Professional Engineers. In 1998 he received the award of "Career of Excellence in Engineering" from the Association of Professional Engineers of Trinidad & Tobago. In 2003 Mr Gibbs received the Lewis Kent Award from The Institution of Structural Engineers (UK) for services to engineering and to The Institution.

DR DAVID A. Y. SMITH

Ph.D., P.Eng.

Dr Smith has over 25 years experience in the field of Coastal Engineering. During this time he lectured in Civil Engineering/Hydraulics and Fluid mechanics at the University of the West Indies, Trinidad. Following that, he led the Coastal Engineering Department of a leading Canadian Ports and Marine consulting company. During that time, he worked on a number of coastal related projects in North America, Africa and the Far East. From 1991-1995 he was the Project Coordinator for the South and West Coast Coastal Conservation Project in Barbados.

In that role, he coordinated the activities of a multi-disciplinary

team of professionals, whose disciplines ranged from marine ecology through coastal processes and oceanography, to land use issues. That study identified the linkages between terrestrial actions/uses and the marine environment, and defined the key parameters for the tracking of changes within the coastal zone.

Finally, the study results were put within the framework of a CZMP, with the use of GIS as a tool to aid the management of coastal resources.

Since 1995, Dr. Smith has been Managing Director of Smith Warner International Ltd. In this role, he has been responsible for the undertaking of a number of coastal, oceanographic, hazard mitigation/management and marine environmental projects. Under his stewardship, SWI has garnered a reputation throughout the Caribbean for the high calibre of its personnel, the professionalism and the technical excellence of its work, and its strong Caribbean focus.



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Lelawatte Manoo-Rahming

Construction Seminar Group

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Construction Seminar Group

Michael Diggiss

Construction Seminar Group

Henry Hepburn

CSG/The College of The Bahamas

Dr Pandora Johnson

VP, Research, Planning and

Development

The College of The Bahamas



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