

RecorDIM Task Group1

Metric survey skills in conservation

- Sarah Lunnon
- Heather Papworth
- Jon Bedford

Teaching Applied Metric Survey at English Heritage

Summer School Curriculum 2006

R L I C C, W M F, P N T

Measured & Drawn 2nd edition

RecorDIM

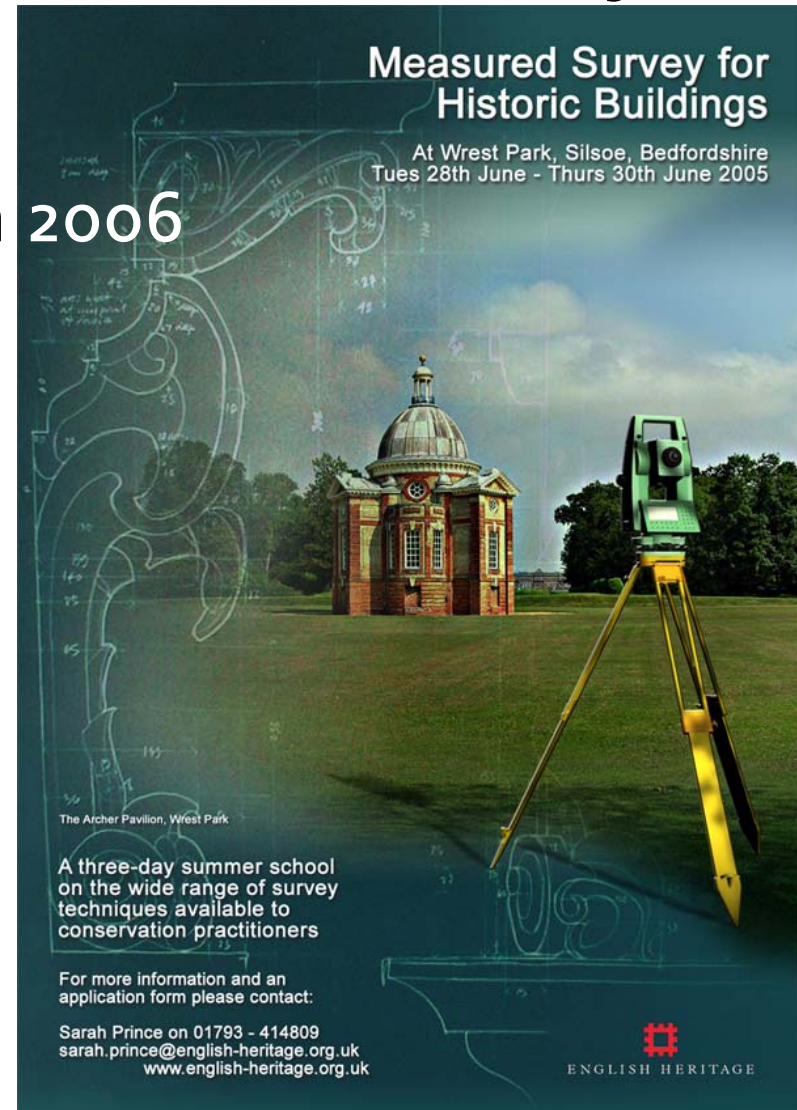


Recording, Documentation and Information Management
An International Initiative for Historic Monuments and Sites

Teaching Applied Metric Survey at Heritage English

Summer School Curriculum 2006

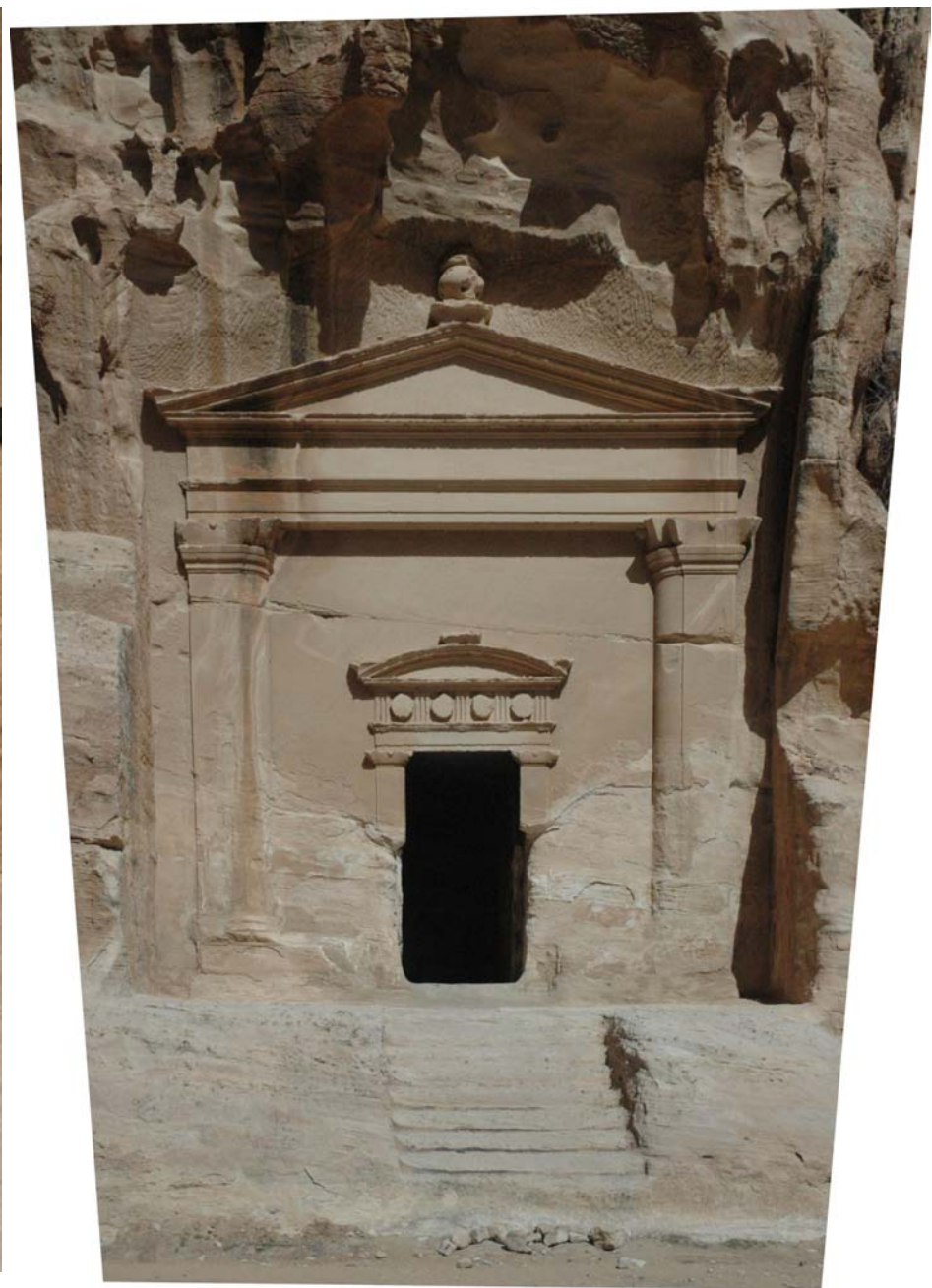
- Drawing
- REDM
- Rectified photography
- Photogrammetry
- Laser scan
- Photo/point cloud digitising
- Brief preparation



Recor D I M

Recording, Documentation and Information Management
An International Initiative for Historic Monuments and Sites

RLICC, WMF, PNT



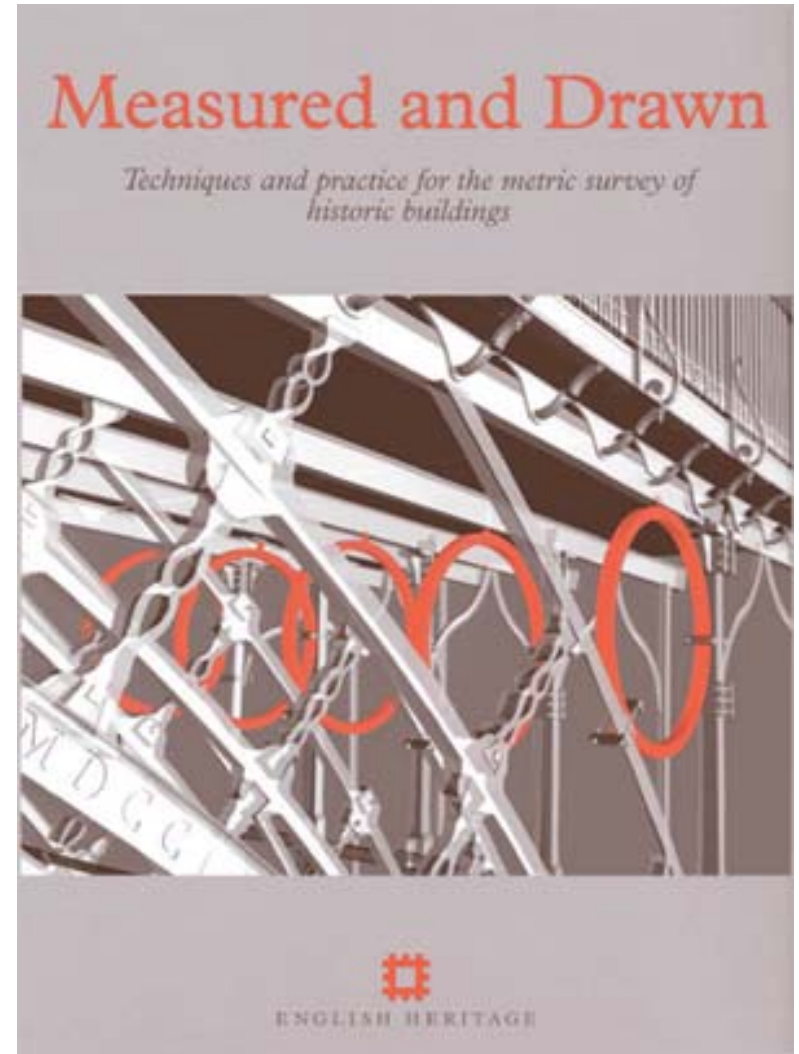
Recor D I M

Recording, Documentation and Information Management
An International Initiative for Historic Monuments and Sites

Teaching Applied Metric Survey at English Heritage

Measured & Drawn 2nd edition

- New definition of *heritage documentation*
- Improved clarity + diagrams
- Selection table
- Conservation oriented

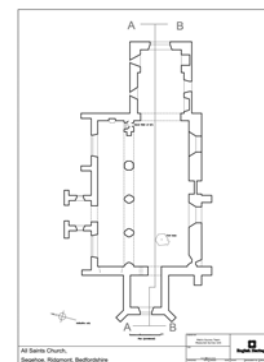
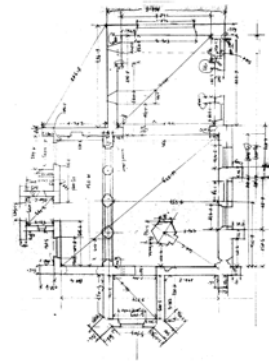
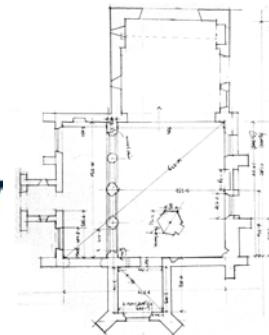
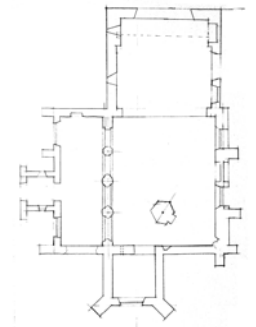
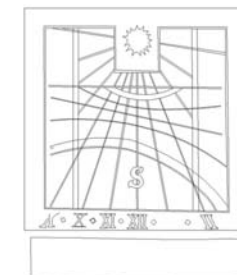
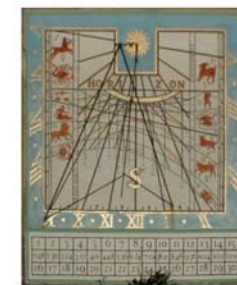
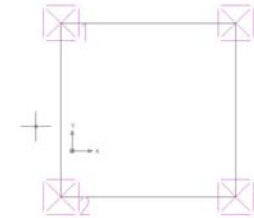
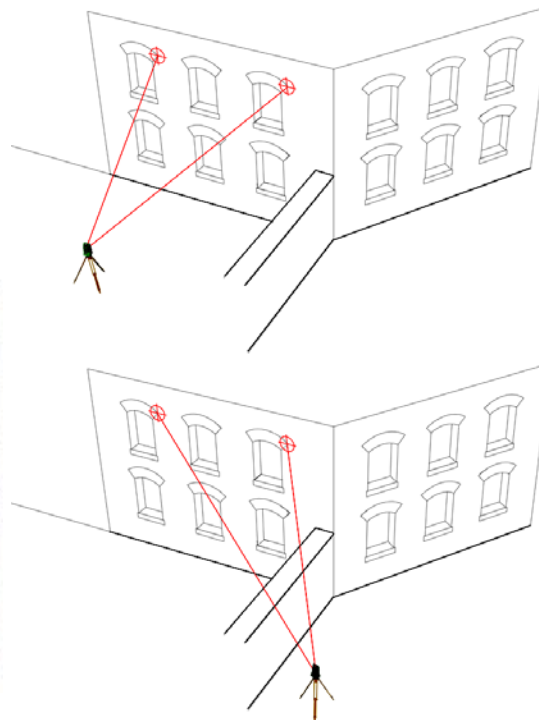


Measured & Drawn 2nd edition

Heritage Documentation

Documentation is both the product and action of meeting the information needs of heritage management. It makes available a range of tangible and in-tangible resources, such as metric, narrative, thematic and societal records of cultural heritage.

Heritage documentation enables the understanding needed for conservation by the supply of appropriate and timely information.



Summary of metric survey techniques for recording built heritage				Typical output scale	Typical range	Requires the use of
	Product		Can be used for			
Indirect:						
Photogrammetry	3D	Stereo pair	Condition recording and ante-disaster records.	1:20 - 1:200	5 - 50 m	Calibrated camera, precise control data
		Wire-frame CAD drawings	'Stone by stone' drawings, landscape survey, condition recording, works scheduling			Photogrammetric plotting system - experienced operator + image interpretation skills, Image processing, CAD and 3D modelling software + CAD skills
	2D	Orthophotographs				
	3D	Digital Elevation Models (DEM)	Condition monitoring, modelling and reverse engineering, visualisations	1:5 - 1:50		
Laser scanning	3D	Point clouds	3D Surface modelling	1:50 - 1:100	5 - 100 m	Scanner, post-processing and 3D modelling software reverse engineering software + specialist 3D CAD skills
Terrestrial scanner						
Artefact scanner			Replica components and castings	actual size - 1:10	0.5 - 2 m	
Rectified photography	2D	Scaled images	Condition recording and assessments, work scheduling	1:20 - 1:50	5 - 50 m	Metric or non-metric camera, precise control data or scaling information, rectification software
Direct:						
Drawing	2D	Sketches	Diagnostics, support to 3D modelling		0 - 30 m	Trained draughts-person + CAD skills
		Measured Drawings	Plans, sections etc	1:20 - 1:50		
EDM	3D	Point data	Terrain models	1:50	5 - 100 m	EDM set + field CAD unit + CAD skills
		Wire-frame CAD drawings	Plans, sections etc			
		Control data	Monitoring and metric data integration	1:20 - 1:500		EDM set + specialist survey skills
GPS	3D	Point data	Terrain models	1:100	20 - 500 m	GPS set + specialist survey skills
		Wire-frame CAD drawings	Control data, Site plans, landscape survey			

¹ Santana Quintero, Mario: *The use of 3D documentation and dissemination in surveying Built Heritage* Katholieke Universiteit Leuven 2003

² Albertz, Jorg.; Albrecht Meydenbauer: *Pioneer of photogrammetric documentation of cultural heritage*, Proceedings Of the Potsdam Conference CIPA 2002

³ Bryan, P., Barber, D & Mills, J.: *Towards a specification for laser scanning* Heritage 3D project 2004

Teaching Applied Metric Survey at English Heritage

RecorDIM



Recording, Documentation and Information Management
An International Initiative for Historic Monuments and Sites

RecorDIM Task Group 3

Metric survey skills in conservation

1. Gaps & needs being addressed
2. Users & providers co-operation
3. Expected deliverables/products.
4. How the anticipated out put will increase the level of conservation standards

RecorDIM Task Group 3

Metric survey skills in conservation

1. Gaps & needs being addressed

There is a common lack of properly applied survey skill in those charged with documentation either as operators or managers; particularly in built heritage

The goal is to help basic survey skills awareness by using the teaching material from English Heritages Summer school

The EH publication 'Measured & Drawn' sold 2,500 copies in 1 year showing a real need for advice of this kind!

RecordIM Task Group 3

Metric survey skills in conservation

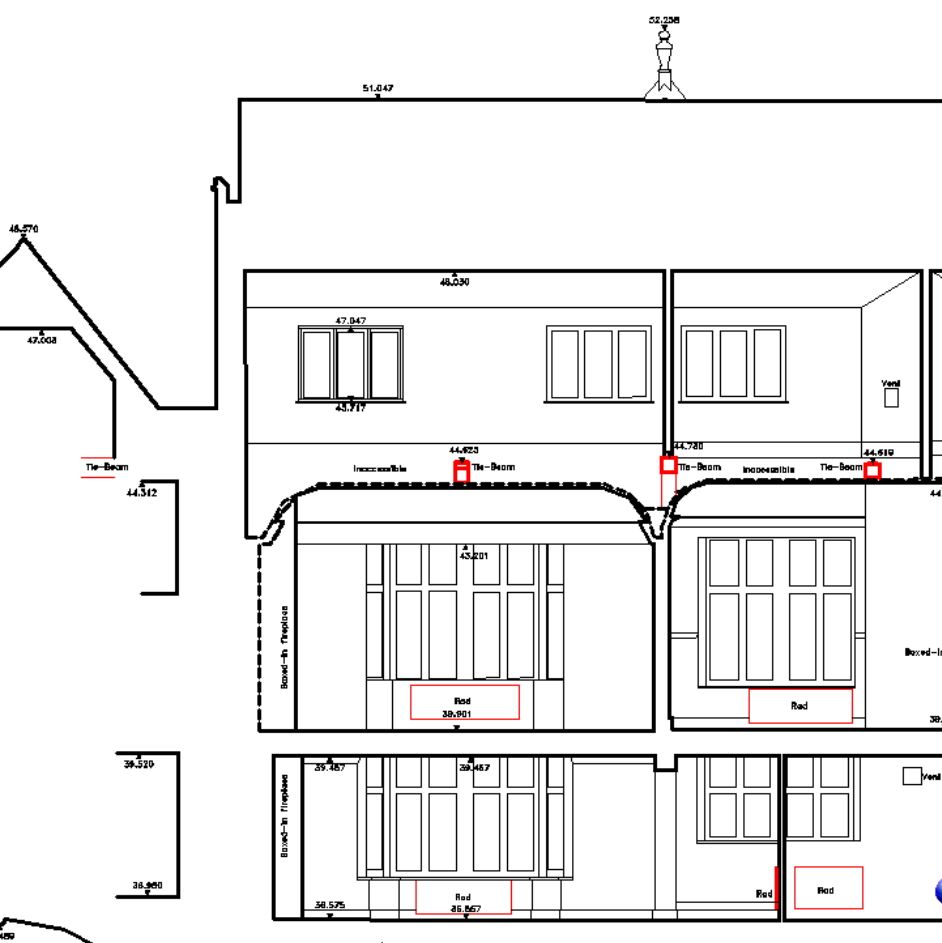
Teaching material

1. Curriculum
2. Lesson plans
3. Examples
4. Textbooks handbooks

4. Textbooks handbooks

RecorDIM Task Group 3

1. Gaps & needs being addressed



Gap=

missing detail in architectural
surveys supplied by metric
survey providers

Need=

advice on measured drawing to
infill survey by
EDM/photogrammetry

RecorDIM Task Group 3



1. Gaps & needs being addressed



Gap=

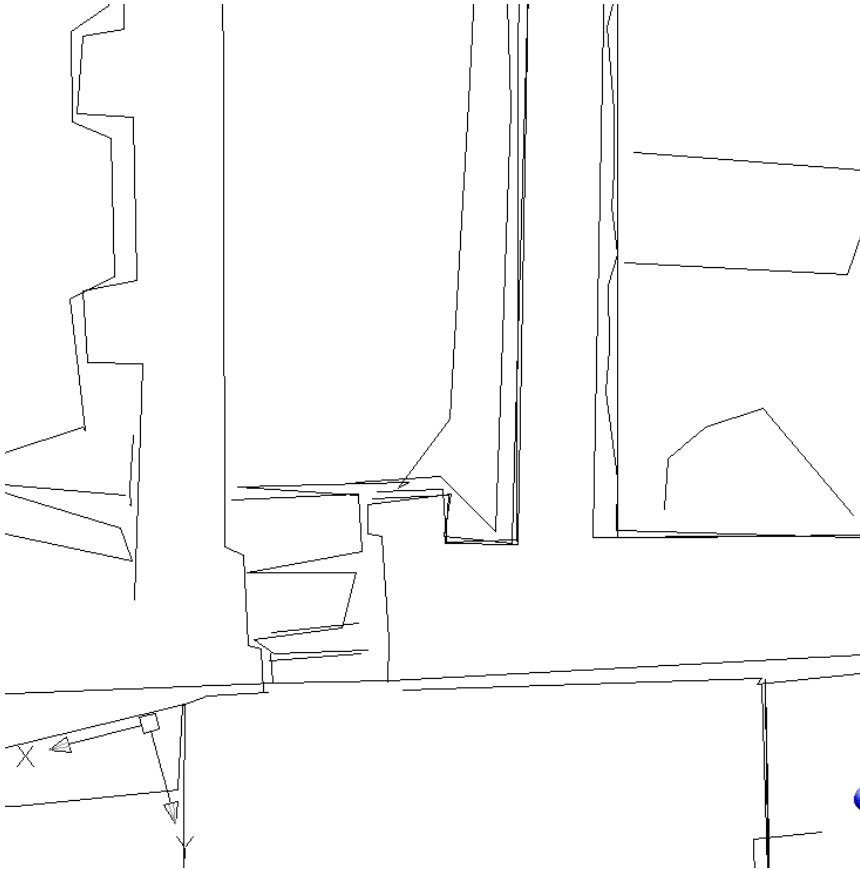
Specification failure in the procurement of architectural survey

Need=

education in the use of **specification** and **brief** on heritage projects

RecorDIM Task Group 3

1. Gaps & needs being addressed



Gap=

Inappropriate use of EDM

Need=

Guidance and access to low cost
and simple tools

www.theolt.com



Recor DIM

Recording, Documentation and Information Management
An International Initiative for Historic Monuments and Sites

RecorDIM Task Group 3

2. Provider & User co-operation

Providers : Photarc Ltd.

English Heritage Metric Survey Team

User : English Heritage regional & conservation teams

Training partners: University of York, RLICC Leuven, WMF/GCI SBAH Initiative, Icomos Macedonia, INTACH, RCHMW, i3Mainz

RecorDIM Task Group 3

EH Hosted task group meeting York Sept 2004 and...

Agreed to work with task group partners to
prepare teaching guidance on

Drawing

EDM

Rectified photography

Photogrammetry

RecorDIM Task Group 3

4. How the anticipated out put will increase the level of conservation standards:

- Provide an accessible teaching resource
- Inform selection of technique
- Enable users to anticipate the difficulty of survey processes by method
- Improve quality control through informed briefs
- Improve application of user driven tools

RecorDIM Task group 3 is seeking participation in the preparation of advice and delivery of training in the use of metric survey in conservation!

Contact via RecorDIM TG 3

bill.blake@theolt.com



Recording, Documentation and Information Management
An International Initiative for Historic Monuments and Sites

Thanks to the Assistance of:

- University of York,
- RLICC Leuven,
- WMF/GCI SBAH Initiative,
- Dr Mario Santana WHC UNESCO
- Icomos Macedonia,
- INTACH,
- RCHMW,
- izMainz, Dr Wolfgang Bohler
- Parks Canada,
- Lieca Geosystems uk,
- University of Bath,School of Architecture & Engineering
- Plymouth University, School of Architecture
- kubit, Latimer CAD,Veraxis Mundi
- University of Newcastle, faculty of Geomatics

- IHBCPhillip Grover
- Photarc Ltd
- Donald Insall & ptnr
- Pat Collins M Gallie & ptnrs



ENGLISH HERITAGE

Recor D I M

Recording, Documentation and Information Management
An International Initiative for Historic Monuments and Sites