



CIVIL AND STRUCTURAL ENGINEERS

8 Station Approach, Wendover, Buckinghamshire, HP22 6BN

Tel: 01296 624924 email: engineer@rwaconsulting.co.uk

PARTNERS

Robert Wallbank, Caroline Brown and Stuart Mueller

INTRODUCTION TO SERVICES AVAILABLE

STRUCTURAL ENGINEERING

- Office and Commercial Development
- Industrial Development
- Domestic Projects
- Housing Developments
- Foundation Design
- Refurbishment
- Design and Build
- Subsidence/Heave Investigations and Repairs, including Underpinning
- Structural Surveys/Reports

CIVIL ENGINEERING

- Road Alignment
- Sewer Design
- Retaining Walls
- Earth Retaining Structures

COMMERCIAL AND DOMESTIC REFURBISHMENT

- Renovation and Alteration of Existing Buildings Structural Inspection and Remedial Schemes

OTHER SERVICES

- Computer Aided Design and Drawing Aids
 - Full Engineering Structural Computer Design Facilities
 - Bills & Quantities Scopes of Work
 - Preparatory Services
 - Condition Surveys
 - Safety Surveys
 - Local Authority Structural Calculation Checking
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PARTNERS

Robert M Wallbank BSc., C.Eng., M.I.C.E.

- Qualified in 1981 and Chartered in 1986.
- After Graduating 1981, spent one year in soils testing laboratory in UK and overseas. Returned to UK administering various civil engineering and structural construction sites in South West England.
- Transferred into Design office working on Structural and Civil Engineering infrastructure design.
- Became Chartered Member of the Institution of Civil Engineers in 1986. Continued in design office principally on new steel frame buildings and Civil Engineering projects.
- Became Senior Engineer for Loss Adjusters in Watford, dealing with subsidence, heave, fire and flood losses, advising Senior Partners on major losses, assisting Lawyers and Counsel on litigation claims and advising on Contractors All Risk losses.
- Joined medium sized firm of Consulting Engineers as Senior Engineer, leading a team of engineers dealing with subsidence related losses.
- Became Associate Director to medium sized consulting engineering practice, heading up their structural division mainly on subsidence losses, as well as dealing with domestic surveys and marketing matters.
- In 1992, set up RWA Consulting.

Caroline A Brown BA

- Qualified in Accounting in 1983.
- After graduation, worked in the Audit and Small Business Department in major Accounting firm in the Reading and Bristol areas.
- After moving to High Wycombe, worked in smaller Accounting Practice in the Small Business Department, dealing with audits and accounts before becoming involved in RWA Consulting in 1992 and now heads up the administration and financial aspects of the Practice.

Stuart Mueller B.Eng

- Qualified 1997 with Degree in Civil and Structural Engineering from University of Sheffield.
- After Graduation worked for three years in large accountancy firm in central London and then a small IT company in the Buckinghamshire area.
- Joined RWA Consulting in 2000 as junior Engineer, carrying out work on CAD, design calculations, subsidence investigations and site inspections.
- Became Associate of the Practice in 2006.
- Became Chartered Member of the Institution Of Structural Engineers in 2014.
- Heads up the structural design aspect of the practice.

ASSOCIATE

Nicholas Crossland M.Eng

- Worked part time with the practice whilst completing Masters Degree in Civil Engineering at Portsmouth University.
- Joined the practice full time in 2009 after graduating with distinction.
- Completed a sandwich year with multi national Engineering Consultancy WSP, working on bridge design.

TECHNICAL STAFF

Daniel Wallbank BA (Hons)

- Graduated from Coventry University with a degree in design in 2011 and joined RWA Consulting in January 2012 as a CAD technician.
- Since joining the practice he has been undertaking further training to make the transition to Civil and Structural Engineering, completing an HNC In Civil Engineering in July 2014.

Gerald Sills

- Joined RWA Consulting in March 2014 as Senior Engineer, bringing to the practice considerable experience from past employment.
- Gerald has a sound pedigree based upon working on projects including the conservation, restoration and general maintenance of a wide range of building types including: listed historical buildings, museums and galleries, government and MoD buildings, local authority, educational, recreational and general domestic housing stock.
- The wide range of projects has involved the design of structural elements and drainage schemes to the current British Standards, compliance with the Building Regulations, producing AutoCAD or Revit Structure layout and detail construction drawings, and specifications, together with carrying out structural inspections and preparing appraisal or structural defect reports with recommendations for remedial work.

Daniel Irwin BSc(Hons)

- Graduated from Kingston University with a Bachelor of Science degree in Civil and Structural Engineering 2014 and joined RWA Consulting in April 2015 as a Graduate Engineer.

INTRODUCTION TO SERVICES AVAILABLE

The partnership's overall design philosophy is to provide a flexible approach aimed at achieving the highest design standards and provide cost effective solutions to meet the client and project need, utilising the latest proven technology and equipment.

The partnership has developed both a civil engineering and structural engineering consultancy service as a natural compliment to the subsidence investigation and structural reporting. This arrangement allows for a close in-house interaction at site investigation/scheme design stage which is a feature of the package service available and has proven to be of particular benefit to diverse projects. With ever increasing building costs and difficult sites becoming the norm, close dialogue/liaison between Geo-technical and Civil/Structural Engineers is necessary to ensure not only correct solutions, but an economic design with a foundation system in full sympathy with the structural solution.

RWA Consulting offers a comprehensive range of structural engineering services in the area of office and commercial development, refurbishment, industrial development, design and build projects, housing, underpinning and superstructure repairs/improvements and structural surveys. Civil engineering services include road alignment, assessment and design, sewer designs, earthworks, retaining walls and reinforced concrete retaining structures.

STRUCTURAL ENGINEERING

1. Office and Commercial Development

RWA Consulting offers a full structural design service from conception to completion which can be tailored to suit the needs of individual clients:-

- Scheme designs for costings/feasibility studies with consideration of alternative structural solutions.
- Preparation of design calculations, detailed drawings (CAD generated), schedules and all other information required for approval under the Building Regulations.
- Preparation of contract documents and bills of quantities.
- Project management, supervision of construction works with pre and post contract management advice and administration.

2. Industrial Development

- A complete package of engineering services is offered including:-
- Scheme designs for costing / feasibility studies.
- Design of foundations, to suit in-house or specialist frame design, from carefully assimilated geo-technical data.
- Design of steel / concrete frame structures, supporting architectural designs.
- Design of ground floor slabs and external paving and drainage works to suit clients requirements.
- Alterations to existing buildings / structures.
- High or awkward load storage / support structures.

3. Domestic Projects

- Alterations and extensions to existing buildings.
- Full structural appraisals, reports and calculations.
- Design compatible to conservation areas and listed buildings, including barn conversions.
- Design service offering drawings for Building Regulations and Planning submissions where appropriate.
- Working alongside other professionals to ensure client receives the best advice and service.
- Loft conversion appraisal and design.
- Drawing up tender documents, issue for competitive tender and appraisal.

4. Housing Developments

With the continuing demand to develop difficult sites, RWA Consulting offers a complete engineering package which includes:-

- Ground investigation and foundation design.
- Main structural element design, masonry walls, lintels, internal steel beams, roof truss or cut roof design.
- External paving of estate road and drainage, layout and design.
- Supervision and administration of construction works.

5. Foundation Design

- Survey, inspection and design of foundation.
- Traditional mass concrete.
- Pad and beam.
- Piled - augured, driven, flight augured.
- Extend pile raft for swallow holes.
- Solutions to repair damaged structures by ground movement.

6. Refurbishment

- RWA Consulting has developed its involvement within the Commercial and Residential sector with the increased demand for the refurbishment of established properties.
- Our Engineers have a wide range of experience in assessing the structural potential of both historic and modern buildings. By taking full advantage of the existing structural capability, strengthening works are kept to a minimum whilst maintaining sympathy with the existing form of construction.

7. Design and Build

- RWA Consulting welcomes every opportunity to work together with other Professionals as part of a project team to undertake Design and Build packages as offered by many leading Contractors. The speculative nature of initial bids is fully appreciated and the technical resources of RWA Consulting are available to ensure the package costings and outline designs are achieved.

8. Subsidence/Heave Investigations and Repairs, including Underpinning

- RWA Consulting has built its reputation on expert knowledge with an independent approach to investigating subsidence. From a working knowledge of Loss Adjusting, Robert Wallbank has built upon Insurer's requirement for reporting and investigations, by specialising in this subject. We undertake specific investigations tailored to each individual problem. We pride ourselves upon personal contact and Client respect to ensure policy holders are kept informed about each stage of the claim.
- We will attend site, organise and attend trial hole investigations, organise CCTV drainage and root analysis, prepare and issue preliminary report and full site investigation reports including all Specialist reports, to make recommendations, highlighting risks of further movement with or without any mitigating works. It is our view that, whenever possible, to mitigate movement by tree removal/surgery and/or drainage repairs, usually followed by a period of monitoring of cracks and, if necessary, precise level monitoring. We will not advise on "rush repairs". We offer full in-house crack and precise levelling monitoring using digital callipers of precise automatic levelling equipment, carried out at regular intervals and reported numerically and in graphical form.
- Following adequate mitigating measures, a period of crack and/or precise levelling monitoring, RWA Consulting liaise closely with the Loss Adjuster's in-house Surveyors/Engineers to provide the right solution to solve the problem. Our principle is allow the structure to act as originally designed where possible, only considering underpinning where absolutely necessary, only when mitigating works do not succeed or when all other solutions are considered inappropriate. When a solution is determined, RWA Consulting provide a full design package for compiling full working specification and contract documents for superstructure and, where required, substructure repairs, submit for competitive tender, oversee works, administrating all the interim and final accounts with full certification.

9. Structural Surveys/Reports

All forms of structural surveys and reporting are undertaken ranging from preliminary, domestic pre-purchase assessment reports, either full or dedicated to specific problems highlighted by valuation reports, to full structural appraisals with attendance on site, research, detailed sample analysis and calculation. Full commercial surveys with access to Mechanical and Electrical Surveyors to complement at full service. A summary of defects covered by inspection and reports include:-

- Structural/Foundation Movement
- Defective Materials/Construction/Workmanship
- Storm Damage
- Load Capacity Checks
- Structural Failures
- Roof analysis checks/designs
- Proposed Refurbishment/Extension Feasibility
- Expert Witness reports

CIVIL ENGINEERING

1. Road Alignment

All forms of preliminary site surveys are carried out in house to provide all background highway, embankment and drainage information, to allow full highway design. Working in accordance with Department of Transport design criteria and Local Authority specific requirements, all levels of highway and pavement design is undertaken, from private/estate roads to full trunk road design, with integrated computer design packages and CAD drawing systems, calculation and drawings are efficiently produced.

Services covered:- Re-alignment design
- Housing Estate road design
- Pavement design

2. Sewer Design

Using computer design packages and industry developed design tables, all forms of potable and non-potable pipes and drainage are just a part of the services RWA Consulting can offer, either as a separate design package or as part of an overall design project. The practice is able to draw on close links to Thames Water Authority and other Water Authorities, as well as other Public Health clients, to provide detailed advice.

Services covered:- New works
- Floor analysis
- Disposal schemes

3. Retaining Walls

Design procedures include conceptual design, calculation and scheduling complex retaining wall solutions, providing economic designs to suit ground conditions and specific use.

4. Earth Retaining Structures

Whether designed to withhold or contain water, we have developed comprehensive designs detailing and schedules derived from our computer design packages, to simplify solutions wherever possible, to ensure efficient and economic designs. Where more complex situations arise, we work from first principles, drawing on our expert knowledge of the behaviour of materials, to again provide working designs. With integrated design and reinforced scheduling packages, easy to read drawings and data are always assured.

COMMERCIAL AND DOMESTIC REFURBISHMENT

Renovation and Alteration of Existing Buildings - Structural Inspection and Remedial Schemes

The behaviour of most modern and older structures is complex even when drawings and calculations are available, (and often they are not), and previous alterations and/or deterioration can make analysis awkward. Therefore, considerable working knowledge of structures is essential. We undertake thorough inspections and carry out full structural appraisal to design any required repairs or remedial works. We work closely with specialist contractors and Local Authority departments to ensure original materials are used where possible, used in conjunction with modern techniques to provide an economic and effective repair. A brief outline of the services are listed below:

- Cladding - Disruption, spalling, warping, damp penetration, defective fixings.
- Cracking Damage - Investigation, cause, cure.
- Condensation - Basic and interstitial mould growth.

- Dampness - Water penetration, basement defects, dpc/dpm defects, flooring defects cracking, de-bonding, dusting, sulphate attack, settlement.
- Fire Damage - Structural assessment.
- Thermal Damage - Effects on structures and remedies.
- Heave/Subsidence - Foundation problems.
- Effects of trees/leaking drains on structures.
- Swallow hole investigation.
- Precise levelling and crack monitoring.
- Insulation - Thermal heat loss, cooling.
- Noise and Vibrations - Air and structure borne sound/vibration.
- Office Refurbishment - Building audits, comprehensive site survey, partition layout, CAD drawing, specifications and overseeing works.
- Loft and Barn Conversions.
- When a client has a clear idea of the objectives to be achieved in certain circumstances we can offer a drawing and design service for submission for Local Authority Planning and Building Regulation Approval. We are always happy to work along side other building professionals to ensure that the client is receiving the appropriate help and advice.
- Experience is complimented by extensive library material, Building Research Establishment and BSI.

OTHER SERVICES

1. Computer Aided Design and Drawing Aids

- Traditional drawings/sketches.
- CAD packages on networked computers linked to A1 colour inkjet printer.
- All CAD generated drawings information can be swapped with all design team members by disk or e-mail, to ensure totally compatible drawings between Client, Architect, M&E Services Engineers, QS, etc.
- CAD packages are complimented by integrated design packages to produce material schedules.
- Comprehensive computerised design packages to ensure rapid data calculation. This, combined with CAD integrated packages, ensure any concept design changes can be dealt with promptly.

2. Full Engineering Structural Computer Design Facilities

- As a Practice, we have an integrated design computer design package which can handle data inputs for all building, civil and structural design requirements, enabling design calculations to be undertaken efficiently and accurately.

3. Bills & Quantities Scopes of Work

- Full tender documents can be prepared to cover all areas of new work design or repairs. Full bills of quantities or scopes of work, tailored to specific situations.

4. Preparatory Services

- Desk top site investigation and E.P.A. reports.
- Preliminary site investigation.
- Management of site investigation.
- Feasibility studies and project evaluation reports.
- Site surveys.
- Technical and economic studies.

5. Condition Surveys

- Rent review conditions surveys.
- Part Wall condition surveys.

6. Safety Surveys

7. Local Authority Structural Calculation Checking

QUALITY ASSURANCE

The Practice has established and maintained in house quality assurance procedures. Quality is paramount and the procedures are only in place to ensure our standards are met. We review these procedures routinely and upgrade them whenever necessary.

Each stage of a contract is administered along defined procedural lines, yet allowing full flexibility to the engineer to discover either a standard or innovative solution for the client In an efficient and economic way. The procedures ensure that during and after conceptual designs are made, our standards are always and routinely checked. In house cross checks ensure a fresh critical eye is cast over all stages of a contract.

RWA Consulting became members of the Federation of Small Businesses in 1995.