

Establishing Construction Costs and Sources of Supply



Establishing Base Costs for the Supply of Labour, Materials, Plant, Sub Contractors and Utilities.

CONTENTS

INTRODUCTION.....Page 3

- The Benefits of Accurate Estimates
- The Importance of Competitive Costs
- Supporting Services

SUBCONTRACTOR QUOTATIONS.....Page 5

- Procedural Options
- Sub Contractor Selection and Sourcing
- Sub Contractor Details
- Common Sub Contractor Classifications
- Sub Contractor Packages and Contract Documentation
- E-Packages
- Sub Contractor Breakdown and Analysis
- Optimising Sub Contractor Returns
- Adjudication and the Incorporation of Sub Contractor Quotations
- Incorporating Sub Contractor Quotations Supplied by the Main Contractor
- Late Sub Contractor Returns
- Substituting Provisional Sums for Sub Contractor Elements
- Consideration of Sub Contractors Bidding Decisions

UTILITY SUPPLIERS.....Page 12

- Utilities Details

PLANT COSTS AND SUPPLIERS DETAILSPage 13

Operated Plant

Plant Costs and Suppliers

Operated Plant Details

Common Operated Plant Classifications

Other Plant

Plant Supplier Details

Common Plant Hire Classifications

MATERIAL SUPPLIERSPage 16

General Merchant & Specialist Suppliers

Common Materials Suppliers Classification

LABOUR COSTS.....Page 17

How Labour Costs are Calculated

Works With Increased Labour Costs

Production Targets and Bonus Schemes

Reducing Labour Costs

Examples of Differing Labour Costs and Constants

Labour Costs Return Form.....Page 27

INTRODUCTION

We have created this booklet to:

- Set out the importance of establishing accurate base costs
- Set out how we establish accurate base costs for contractors
- Set out what information we require from contractors in the preparation of an estimate
- Discuss the factors contractors should consider when providing this information
- Discuss the terms on which sub contractor quotations are obtained such that work can be properly adjudicated.

The Benefits of Accurate Estimates

As the market continues to decline, the need to tighten prices and accuracy becomes ever more important.

It is now, in our view, the job of estimators to both find competitive solutions and reduce the degree of variation in their rates.

If we are to enter into recession today's rates may be the best available and for many there simply isn't the margin to absorb under or over pricing. Those adjudicating now, more than ever, require less variation, in relation to the estimated amounts.

Those adjudicating - have to be confident in the work we provide if margins are to be discounted without the risk of loss.

Time spent in establishing accurate costs at this stage will save effort later in the process. It will also provide you with an estimate from which you can:

- ✓ Confidently adjudicate to provide a competitive tender.
- ✓ Gauge tender levels against a consistent cost base.
- ✓ Make commercial adjustments to enhance potentially profitable areas for the work and improve cash-flow.
- ✓ Avoid loss making work.

Secondary benefits of accurate estimates include the ability to:

- ✓ Formulate an accurate project plan to manage the works.
- ✓ Provide a 'Bench Mark' to assist in identifying production; strengths, weakness, problems and extras.
- ✓ Provide quantities, rates and analysis for buyers of labour, material, plant and sub contractors.
- ✓ Calculate valuations, extras, variations and final accounts.
- ✓ Calculate costs for similar works.

The Importance of Competitive Costs

Our estimating services are designed to provide rates based upon your actual costs rather than average market rates. This individual approach to estimating is designed to ensure that contractors only win work to which they are both suited and that is likely to be profitable.

It is important that contractors supply us with realistic costs and competitive suppliers rather than perceived market rates or costs containing a 'margin of safety'. An allowance for risk, conditions, particular interest in a job, etc, can then be quantified and added to individual items and sections or as a percentage within the preliminaries.

If an accurate cost base is to be established contractors should advise us of:

- Rebates - discounts usually provided on an annual basis based on turnover
- Volume related discounts - specialist terms agreed through joint buying agreements which may not be shown in quotations supplied
- Arrangements - any other terms or agreements (excluding main contractor discounts) that the contractor has with any supplier or sub contractor - those terms would not be shown on the documents or quotations received

If the above items are not disclosed prior to adjudication then they would need to be adjusted for, by the contractor, during the adjudication period.

Supporting Services

Should you have any difficulty providing the relevant information or completing any of the forms please contact us at:

Telephone: 01953 851520

Email: enquiries@trevorsadd.co.uk

Write to: 2 Hardingham Street
HINGHAM
Norfolk
NR9 4JB

Delays in the provision of this information may hold-up the production of the estimate.

SUB CONTRACTOR QUOTATIONS

It is recommended that quotations be sought for all significantly valued specialist works that will not be carried out by your own staff or where works are to be designed (e.g. mechanical, electrical and steelwork).

On the majority of larger projects, negotiating competitive labour only and domestic subcontract quotations forms an essential part of the tendering process. Careful selection of such specialists can also often reduce both the site and overhead costs as well as reducing your risk in tendering.

Procedural Options

The preparation, management, adjudication and incorporation of sub contracted quotations can be managed in one of three ways:

1. TSA undertakes all tasks through to incorporating fully adjudicated sub contract tenders
2. The contractor obtains the sub contractor quotations themselves and provides them to TSA in an adjudicated form
3. The contractor prepares and incorporates the sub contract quotations themselves. This usually requires that the work is split in either the specification or the bill of quantities such that work is not duplicated or omitted.

Of the above options, TSA has a strong preference for Option 1 and most of the following pages deal with that process.

Option 2 requires that contractors have formalised procedures which they then make explicit to TSA. The risks in contractors not making terms and extent clear in their documentation are significant. This option also involves duplicated work on the part of both the contractor and TSA.

That level of risk can increase again where contractors and sub contractors commonly work together and have understandings as to the terms and extent of work which is not fully stated in the documentation provided.

It is noteworthy that main contractors rarely break up packages in the same way and that in those packages sub contractors often omit those works which they cannot complete competitively (or those for which they do not wish to take responsibility). Therefore what main contractors and sub contractors regard as common practice differs. In such circumstances generalised or poorly worded documentation will lead to errors and the clarification of such documentation is time consuming prior to tender.

Option 3 - Contractors incorporating sub contractor quotations that they have sourced themselves can again prove a relatively clean option. It is however usually a more expensive solution in that the contractor's own estimators duplicate much of the work that TSA would undertake in rating the work.

Where sub contractor quotations are not supplied by the contractor and work is not rated TSA will assess provisional sums for the same.

Sub Contractor Selection and Sourcing

Contractors should, where possible, supply us with the details of all those sub contractors whom they wish to price the work. Ideally contractors should also confirm the availability of sub contractors and that they can price the work in the period allowed. All details should be sent to us by email or fax at the point of order.

The ongoing relationships a contractor forms with individual sub contractors can provide the basis of their competitive advantage within the market.

The usual selection criteria include:

- Capability in relation to the type of work/contract
- Quality of work
- Availability
- Recent competitiveness
- Reliability in relation to returning priced work

TSA have an existing database of sub contractors, primarily in East Anglia for new clients, and can also research new sources of supply.

This, however, is not recommended as it is less reliable and can prove more expensive. A discussion of subcontract bidding decisions is set out towards the end of this section.

Sub Contractor Details

In order for us to obtain costs from your sub contractors please provide us with the following information:

Trade or Service
Company Name
Contact Name
Company Address Including Postcode
Telephone Number
Mobile Number
Fax Number
Company Email Address
Contacts Email Address
Number of Projects Undertaken With Sub Contractor
Quotation Return Ratio
Availability Confirmed

Beyond the above items it is useful to have an indication whether a contractor is preferred and whether they would be able to process email enquiries (i.e. they can print off plans etc) as these produce a faster and more cost effective route through which quotations can be gained.

Common Sub Contractor Classifications

Examples of sub contractor classifications:

- Demolition
- Piling and Groundbeams
- Groundworks (Underpinning)
- Groundworks
- Dry Lining
- Pre-Cast Concrete (Floors)
- Pre-Cast Concrete (Stairs)
- Scaffolding
- Brickwork
- Timber Frame
- Carpentry and Joinery
- Windows (supply and fix)
- Glazing
- Steelwork (Structural)
- Cladding / Industrial Buildings
- Insulation
- Roofing Pitched
- Roofing Felt
- Plastering and Rendering
- Kitchens (supply and fix)
- Damp Course Injection
- Timber Treatment
- Plumbing and Heating
- Electrical Installation
- Partitions/Proprietary
- Ventilation
- Wall and Floor Tiling
- Carpets/Flooring
- Painting and Decorating
- Suspended Ceilings
- Asphalt/Tarmac
- Landscaping

Sub Contractor Packages and Contract Documentation

Once sub contractors are selected, we use a range of databases, letter formats and reports to enable us to effectively gain quotations.

This system has been specifically designed to incorporate the usual contract documentation such as:

- extracts of project particulars / documents references / description of works
- extracts of contract (including details of retentions, main contractors discount, contract period, etc)
- sub contract terms & conditions
- clients letterheads and stationery (optional)

Contractors should supply us with the terms under which they wish to let work (beyond those of standard sub contracts). If they do not TSA can, as a separate service, provide draft terms that can be edited to meet the individual requirements of main contractors.

E-Packages

This service can be undertaken much faster and more effectively if we can send the packages by email rather than regular post. A 10% reduction in fees per package reflects the same. To use this service obviously the selected sub contractors will need the facility to accept documentation digitally and to print plans at their end, and the main contractor should ensure that they provide us with the relevant email address(es) and an indication that an e-package is feasible option.

Sub Contractor Breakdown and Analysis

There are significant differences in the way that main contractors deal with: the provision of documents, quantities and their requirements for breakdowns both in relation to the documents that they provide and those that they require of the sub contractor.

In relation to provision there are three main package types:

- documents only
- documents with indicative quantities
- documents with measured quantities (to be re-measured at the end of the work)

In relation to the pricing breakdowns required of the sub contractor there are again three basic types:

- lump sum - a single figure denoting all those works described
- defined heads - specific totals, usually as required to allow a breakdown within a bill according with an employers or employers agents requirements
- a full breakdown of rates

When selecting the most appropriate method factors can include:

- the employers or the employers agents requirements in terms of breakdowns
- the extent to which a main contractor wishes breakdowns from a sub contractor such that they can properly adjudicate the quotations
- the degree to which the main contractor is prepared to bare the risk in providing measured quantities
- the likelihood of variations in the work and the breakdowns required to control variation costs
- the timeframe available to sub contractors to price the work
- the time and budget available to the main contractor in preparing quotations
- the working practices of the sub contractor and the likelihood of an appropriate response to the packages
- past experience with sub contractors and the likelihood of receiving competitive returns

In practice the degree to which works can be easily broken down often determines the extent to which a sub contractor can separately rate the work. For example the provision of labour only rates for brickwork is usually provided on a measured and rated basis in that it suits most main contractors and sub contractors to provide and receive documentation on that basis. Whereas an electrical contractor who is undertaking the design portion of a JCT Contract as part of the works would be less inclined to provide such a detailed breakdown.

Again, our purpose in writing this section is to ensure that we are working with individual sub contractors in a way that has been properly defined by the main contractor and that all assumptions are understood such that the work is provided in a format of the main contractors choosing.

Optimising Sub Contractor Returns

TSA has a number of specific procedures which they adopt and follow to ensure the greatest number of returns.

The degree to which these procedures are effective however is dependant upon:

- contractors selecting appropriate sub contractors
- the contractors checking the availability of the sub contractors and confirming the sub contractors commitment to pricing the works
- the reputation of the main contractor in relation to:
 - a) previously employing the contractor
 - b) managing previous works
 - c) payment
- the concept of the package provided and the extent of work required to price it
- the time available

Failure to resolve any of the above can lead to a reduction in the number of terms or a lack of competitiveness in the costs provided.

Adjudication and the Incorporation of Sub Contractor Quotations

TSA can adjudicate and compare quotations where they have prepared the original packages. Average or proportionate costs are allowed to deal with omissions or minor variations in contractual terms.

Quotations including significant errors or terms which are significant variance with the main contractors are not usually selected as the basis for tendering. They would, however, be referred to in the tender notes if there is a chance that they will offer a competitive advantage.

Uncompetitive tenders are not usually analysed and contractors would need to work through them themselves if they are to negotiate with those contractors later.

Sub contractor quotations are usually analysed on separate schedules and incorporated as a total unless there is an employers or employer's agents' requirement for a breakdown where they require splitting. The breaking down of a lump sum sub contractor tender to accord with an employers requirement would, by its nature, be approximate and this would be stated as such in our documentation.

Incorporating Sub Contractor Quotations Prepared and Supplied by the Main Contractor

We can include sub contractor quotations where the initial documentation has been prepared by the contractor.

In such cases contractors should supply us with a schedule showing the work that is being priced including:

- 1) the names of sub contractors who will be pricing each contract
- 2) the extent of each contract including document packs in a similar format to those described earlier in this document. Logged attendance notes in relation to any verbal variations stated by the main contractor or sub contractor (including clarifications) are also required
- 3) the terms and conditions of each contract
- 4) the extent or cost of contractors work, special or general attendances and mark-ups in relation to the individual sub contractors
- 5) the fixed return date on which these quotations will be supplied to TSA

In circumstances where the contractor has prepared the sub contractor packages they will also be responsible in relation to all instructions monitoring, chasing and checking both at our adjudication and to ensure the completeness of the final schedule of rates.

In circumstances where sub contractor quotes are not supplied, TSA will include a provisional sum for the omitted items and the main contractor will be responsible to allow for all omitted quotations.

The main contractor will also, when supplying quotations, be responsible to see that they are properly incorporated.

Late Sub Contractor Returns

Late DSC quotations will be faxed or e-mailed to contractors when received if they offer a competitive alternative to costs set out in the estimate. Uncompetitive quotations will be packaged and sent later.

Substituting Provisional Sums for Sub Contractor Elements

When an area of work has not been fully designed or specified, we can calculate a Provisional Sum for the works based on an approximate specification.

Such sums can then be replaced as fuller design information is made available or with specialist sub contractor quotations.

Any Provisional Sums that we have created should be checked and incorporated in the price or identified as a provisional sum in the tender submission.

Consideration of Sub Contractors Bidding Decisions

A consideration of sub contractor bidding decisions suggests that the policies contractors adopt towards sub contractors will have a significant effect on the rates that are received.

The following bidding criteria are set out in order of importance. They are based on an analysis of formal studies, experience and sub contractors being asked questions like:

- 1) what factors effect their decision to price or decline work?
- 2) what factors effect how competitively work is marked up or priced?

Bidding Criteria

- 1) The sub contractors current workload and anticipated orders (judged against their desire to increase / decrease capacity)
- 2) The financial capacity and payment practices of the contractor
- 3) The likelihood of winning the work, specifically that the:
 - sub contractor can provide a competitive price
 - contractor has reasonable chance of securing the work
 - work is clearly specified
 - work is let on a fair basis and that the contractor does not have a reputation for shopping after contract is awarded or re-negotiating a price with his own sub contractors
- 4) The suitability of the work and contract, specifically that the:
 - sub contractor has a reasonable experience of working with the contractor
 - main contractor is experienced in managing similar work
 - the principal contract is acceptable
 - terms under which work is sub-let are acceptable
- 5) Maintaining a relationship with a known contractor so future work will be offered
- 6) Time provided to price work, specifically that:
 - adequate time has been allowed by the contractor and contract administrator to price the work
 - the sub contractors estimators have the time and resources to price the work
 - that the pricing does not require an unreasonable amount of work on the part of the sub contractor

Conclusion

If lower quotations are to be received contractors may wish to consider allaying the fears of sub contractors by:

- 1) adopting a prompt payment policy
- 2) creating a closer working relationship with a limited number of sub contractors
- 3) providing a clear (sometimes measured) specification of works in reasonable time
- 4) clarifying the terms under which work is offered

Some of these strategies are difficult to adopt as they require cultural changes and the support of other departments such as: buyers, contracts managers, accountants, etc. and the real savings are difficult to quantify.

UTILITY SUPPLIERS

TSA can prepare packages for Utility Suppliers where sufficient information is supplied within the contract documents.

However obtaining responses within a reasonable period can prove problematic. It is also noteworthy that a number of the Utilities now look to charge contractors for this information and where this is the case these fees would be additional to TSA's undertaking the work.

In many cases Utilities are only able to provide indicative costs in relation to enquiries and contractors undertaking development and design and build projects can find themselves bearing undo risks in circumstances where the Utilities modify their position or change their policies.

In all cases contractors should provide as much information as possible as exemplified by the utilities details section below.

It is also essential that contractors properly advise themselves of the risk in relation to these kinds of quotations and ensure that they have properly allowed for any associated costs and risks that they deem necessary.

Utilities Details

In order for us to obtain costs from your Utilities or Service Provider please provide us with the following information:

Trade or Service
Company Name
Contact Name
Company Address Including Postcode
Telephone Number
Mobile Number
Fax Number
Company EMail Address
Contacts EMail Address

PLANT COSTS AND SUPPLIERS DETAILS

Operated Plant

In rating work involving operated plant it is important to define the extent to which work is to be undertaken by or with: your own hired in operators/plant.

In both cases we require a schedule of plant types and costs including the costs of operators.

Plant Costs and Suppliers

This form can be used to provide plant costs that can be used to form the basis of rates (as described in the labour section).

Ideally costs should include all incidentals such as fuel. They should not however allow for the delivery or collection of the plant which is generally taken for within the preliminaries (general site costs) section.

On projects where the works are to be undertaken in-house and where those works are not that significant in relation to the overall size of the project a schedule of resource rate from a current similar project is usually significant to allow us to rate the works.

Where the cost of plant is significant the methodology, type and costs should be agreed during the process of the estimate production.

Where work is sub contracted smaller projects can be rated on the basis of charge out costs per hour.

Larger projects should ideally be dealt with in a similar manner to those of other sub contractors (as set out in the beginning of this booklet).

Operated Plant Detail

In order for us to obtain costs from your operated plant suppliers please provide us with the following information:

Plant Type/Service
Company Name
Contact Name
Company Address Including Postcode
Telephone Number
Mobile Number
Fax Number
Company E-mail Address
Contacts E-mail Address

Common Operated Plant Classifications

Examples of operated plant classifications:

- Excavators - Wheeled
- Excavators - 360 degrees
- Muck Away - *Grab Lorry*
- Dumpers
- Lorries - Tipping
- Rollers - Sit On

Special licenses or permits for skips should also be allowed for within the preliminaries.

Other Plant

In relation to all other plant, rates would normally be derived from your own in-house hire rates for owned plant and *from* hire companies in relation to hired plant. Again, internal schedules from other current projects serve well as a base cost for rating elements of the work.

In relation to significant items hire rates should be derived from your usual suppliers.

Plant Supplier Details

In order for us to obtain costs from your suppliers please provide us with the following information:

Trade or Service
Company Name
Contact Name
Company Address Including Postcode
Telephone Number
Mobile Number
Fax Number
Company E-mail Address
Contacts E-mail Address
Size of Business (Number Employed)
Number of Projects Undertaken With Sub Contractor
Quotation Return Ratio
Availability Confirmed

Beyond the above items it is useful to have an indication whether a contractor is preferred and whether they would be able to process email enquiries (i.e. they can print off plans etc) as these produce a faster and more cost effective route through which quotations can be gained.

Common Plant Hire Classifications

Examples of operated plant classifications:

- Skips - Spoil
- Skips - Rubbish
- Skips - Asbestos
- Cement Mixer
- Scaffold - Independent
- Scaffold - Tower

Again, the cost of delivery and collection apply are generally allowed for within preliminaries (general site costs) section. As are the costs for licenses and permits in relation to skips.

MATERIAL SUPPLIERS

General Merchant and Specialist Material Suppliers

It is our usual practice to obtain sample material quotations for contractors on a project by project basis.

We can also sometimes re-use these costs where current projects are in a similar location and of a similar type and quantity.

Suppliers Details

In order for us to obtain material costs from your preferred suppliers please provide us with the following information:

Type of Merchant
Company Name
Branch Name
Contact Name
Representatives Name*
Company Address / Location
Telephone Number
Representatives Number*
Fax Number
E-mail Address. (An e-mail address is particularly helpful because it allows us to speed up the enquiry process, generally saving at least 1 day)

*Representatives names and numbers should be included if their involvement will secure better rates.

Common Materials Suppliers Classifications

General merchant suppliers include:

- Aggregate Suppliers
- Builders Merchants
- Concrete Suppliers
- Decorator
- Electrical Wholesaler
- Plumbers Merchants
- Sanitary ware
- Steel Stockholders
- Timber Merchants
- Trusses Suppliers

We prefer to contact at least two builders' merchants as it significantly increases the likelihood of obtaining complete responses within the required timeframe and can also provide a better source of competitive costs.

Beyond the usual builders merchant quotes we also, within the cost of a quotation, look to include materials quotations for all the significant costs within works.

If a contractor does not supply us with the above information we can either use our own library rates or spend time enquiring to the relevant merchant in the location of the project. This is not however preferred as the quality of returns is reduced in both terms of numbers and competitiveness. Again it is noteworthy that the ability of contractors to negotiate competitive terms with suppliers on an ongoing basis often forms a competitive advantage in securing certain kinds of work.

LABOUR COSTS

How Labour Costs are Calculated

Labour costs provide us with details of how you employ and cost your labour. These costs will be used to calculate the majority of your labour rates.

Where rates are not supplied, TSA calculates individual rates for each activity from your hourly labour costs. Our database contains thousands of work descriptions, each with its own production rate.

These production rates (known as labour constants) are like those set out in price books, they set out the average speed at which directly employed labour completes work. The format of the bill pages allows clients to adjust labour rates where their levels of production are at variance with our 'averages.' You may adjust your tender to reflect the costs of using tradesmen or gangs who are quicker or slower than the average labour constant.

Within any estimate labour costs are likely to show the greatest variation, as no two men work at the same pace or produce the same volume of work.

We include, in the following six pages, three schedules of wage calculations showing basic costs, those rates used in TSA's library and those with other allowances.

Contractors who pay tradesmen 'above the rates' for higher rates of production may need to correct over-provisions in labour costs.

Calculations showing BATJIC, NFB and JIB wage rate settlements are set out within this document. However, the demand for skilled labour will vary throughout the country and many contractors pay discretionary bonuses so we have also shown examples of rates with a 10% bonus.

Some contractors enhance labour costs to allow for certain unmeasured or omitted items, which should properly be included in the preliminaries, off site overheads or profit. If the costs you use include any other element you will need to let us know what it is. The use of rounded up, or enhanced rates as basic costs can significantly increase the overall tender figure which may become uncompetitive.

Unless you specifically state otherwise, it will be taken that the figures provided are your costs without any element of preliminaries (general site costs), overheads or profit.

Wage Rates (Base)

Craftsmen	BATJIC		CJIC		
	(From 09 June 2008)		(From 30 June 2008)		
		Rate/Hr		Rate/Hr	
<u>Guaranteed Minimum Earnings</u>					
Yealry Earnings	46.20	18,756.74	46.20	18,564.31	
Employers NI	12.80%	1,809.50	12.80%	1,784.87	
Prime Cost - Non Productive		20,566.24	11.41	20,349.18	11.29
<u>Employers Other Costs Contributions</u>					
CITB	0.5%	105.60	0.5%	92.82	
Holidays with Pay	227.00	2,363.07	227.00	2,380.04	
Retirement Benefit Scheme	52.00	156.00	52.00	156.00	
Stakeholder Pension	52.00	702.00	52.00	460.00	
Death Benefit	52.00	98.28	52.00	702.00	
Prime Cost - Productive		23,991.19	13.31	24,140.04	13.40
<u>Variable Costs</u>					
Sick Pay	2.00	890.31	2.00	880.92	
Non-productive Overtime (42.5 hr week)	115.50	659.47	115.50	652.51	
Tool Money		-		-	
Insurance (Employers and Third Party)	1.0%	239.91	1.0%	241.40	
Severance Pay	0.0%	-	0.0%	-	
Redundancy Pay	0.0%	-	0.0%	-	
Attraction Money	0.0%	-	0.0%	-	
		25,780.88	14.31	25,914.86	14.38
<u>Transport and Plant Costs</u>					
Travel Time (Say 15 miles)	231.00	-	231.00	-	
Fare (Not Used)	231.00	-	231.00	-	
Vehicle Shared Use (To / From @ per mile)	231.00	-	231.00	-	
Use of Builders Small Tools / Plant		-		-	
		25,780.88	14.31	25,914.86	14.38
<hr/>					
General Operatives - Adult	BATJIC		CJIC		
		Rate/Hr		Rate/Hr	
<u>Guaranteed Minimum Earnings</u>					
Yealry Earnings	46.20	13,933.32	46.20	13,963.95	
Employers NI	0.13	1,192.10	12.80%	1,196.03	
Prime Cost - Non Productive		15,125.42	8.39	15,159.98	8.41
<u>Employers Other Costs Contributions</u>					
CITB	0.5%	78.44	0.5%	69.82	
Holidays with Pay	227.00	1,754.71	227.00	1,754.71	
Retirement Benefit Scheme	52.00	156.00	52.00	156.00	
Stakeholder Pension	52.00	702.00	52.00	460.00	
Death Benefit	52.00	98.28	52.00	702.00	
Prime Cost - Productive		17,914.85	9.94	18,302.51	10.16
<u>Variable Costs</u>					
Sick Pay	2.00	654.78	2.00	656.28	
Non-productive Overtime (42.5 hr week)	115.50	485.00	115.50	486.11	
Tool Money		-		-	
Insurance (Employers and Third Party)	1.0%	179.15	1.0%	183.03	
Severance Pay	0.0%	-	0.0%	-	
Redundancy Pay	0.0%	-	0.0%	-	
Attraction Money	0.0%	-	0.0%	-	
		19,233.79	10.67	19,627.92	10.89
<u>Transport and Plant Costs</u>					
Travel Time (Say 15 miles)	231.00	-	231.00	-	
Fare (Not Used)	231.00	-	231.00	-	
Vehicle Shared Use (To / From @ per mile)	231.00	-	52.00	-	
Use of Builders Small Tools / Plant		-		-	
		19,233.79	10.67	19,627.92	10.89

Other Hourly Costs

Semi-Skilled Building/Civil (CIJB)	Net	All-in
From Jan 2008		
Skill rate 1	9.82	13.80
Skill rate 2	9.46	13.30
Skill rate 3	8.85	12.44
Skill rate 4	8.35	11.74
Electrical (JIB-ECI)		
Technician	14.02	24.79
Approved	12.38	21.89
Electrician	11.35	20.07
Senior Trainee	10.21	18.05
Heating and Plumbing (JIB-PMES)		
Technical Plumber	13.46	24.01
Advanced Plumber	12.12	21.62
Trained Plumber	10.39	18.53
Apprentice with NVQ Level 3	10.05	17.93

Wage Rates (TSA Library)

Craftsmen

	BATJIC (From 09 June 2008)		CJIC (From 30 June 2008)	
		Rate/Hr		Rate/Hr
<u>Guaranteed Minimum Earnings</u>				
Yealry Earnings	46.20	18,756.74	46.20	18,564.31
Employers NI	12.80%	1,809.50	12.80%	1,784.87
Prime Cost - Non Productive		20,566.24		20,349.18
		11.41		11.29
<u>Employers Other Costs Contributions</u>				
CITB	0.5%	105.60	0.5%	92.82
Holidays with Pay	227.00	2,363.07	227.00	2,380.04
Retirement Benefit Scheme	52.00	156.00	52.00	156.00
Stakeholder Pension	52.00	702.00	52.00	460.00
Death Benefit	52.00	98.28	52.00	702.00
Prime Cost - Productive		23,991.19		24,140.04
		13.31		13.40
<u>Variable Costs</u>				
Sick Pay	2.00	890.31	2.00	880.92
Non-productive Overtime (42.5 hr week)	115.50	659.47	115.50	652.51
Tool Money		-		-
Insurance (Employers and Third Party)	1.0%	239.91	1.0%	241.40
Severance Pay	0.0%	-	0.0%	-
Redundancy Pay	0.0%	-	0.0%	-
Attraction Money	0.0%	-	0.0%	-
		25,780.88		25,673.46
		14.31		14.25
<u>Transport and Plant Costs</u>				
Travel Time (Say 15 miles)	231.00	311.85	231.00	311.85
Fare (Not Used)	231.00	-	231.00	-
Vehicle 50% Shared Use (To / From @ per mile)	231.00	1,016.44	231.00	1,016.44
Use of Builders Small Tools / Plant		200.00		200.00
		28,325.53		27,201.75
		15.72		15.10

General Operatives - Adult

	BATJIC		CJIC	
		Rate/Hr		Rate/Hr
<u>Guaranteed Minimum Earnings</u>				
Yealry Earnings	46.20	13,933.32	46.20	13,963.95
Employers NI	0.13	1,192.10	12.80%	1,196.03
Prime Cost - Non Productive		15,125.42		15,159.98
		8.39		8.41
<u>Employers Other Costs Contributions</u>				
CITB	0.5%	78.44	0.5%	69.82
Holidays with Pay	227.00	1,754.71	227.00	1,754.71
Retirement Benefit Scheme	52.00	156.00	52.00	156.00
Stakeholder Pension	52.00	702.00	52.00	460.00
Death Benefit	52.00	98.28	52.00	702.00
Prime Cost - Productive		17,914.85		18,302.51
		9.94		10.16
<u>Variable Costs</u>				
Sick Pay	2.00	654.78	2.00	656.28
Non-productive Overtime (42.5 hr week)	115.50	485.00	115.50	486.11
Tool Money		-		-
Insurance (Employers and Third Party)	1.0%	179.15	1.0%	183.03
Severance Pay	0.0%	-	0.0%	-
Redundancy Pay	0.0%	-	0.0%	-
Attraction Money	0.0%	-	0.0%	-
		19,233.79		19,627.92
		10.67		10.89
<u>Transport and Plant Costs</u>				
Travel Time (Say 15 miles)	231.00	311.85	231.00	311.85
Fare (Not Used)	231.00	-	231.00	-
Vehicle 50% Shared Use (To / From @ per mile)	231.00	1,016.44	52.00	1,016.44
Use of Builders Small Tools / Plant		-		-
		20,562.08		20,956.21
		11.41		11.63

Other Hourly Costs

Semi-Skilled Building/Civil (CIJB)

From Jan 2008

	Net	All-in
Skill rate 1	9.82	14.74
Skill rate 2	9.46	14.20
Skill rate 3	8.85	13.28
Skill rate 4	8.35	12.53

Electrical (JIB-ECI)

Technician	14.02	26.47
Approved	12.38	23.37
Electrician	11.35	21.43
Senior Trainee	10.21	19.27

Heating and Plumbing (JIB-PMES)

Technical Plumber	13.46	25.64
Advanced Plumber	12.12	23.08
Trained Plumber	10.39	19.79
Apprentice with NVQ Level 3	10.05	19.14

Wage Rates (With Other Allowances)

Craftsmen

	BATJIC			CJIC		
	(From 09 June 2008)			(From 30 June 2008)		
			Rate/Hr			Rate/Hr
<u>Guaranteed Minimum Earnings</u>						
Yealry Earnings	46.20	18,756.74		46.20	18,564.31	
Employers NI	12.80%	1,809.50		12.80%	1,784.87	
Prime Cost - Non Productive		<u>20,566.24</u>	11.41		<u>20,349.18</u>	11.29
<u>Employers Other Costs Contributions</u>						
CITB	0.5%	105.60		0.5%	92.82	
Holidays with Pay	227.00	2,363.07		227.00	2,380.04	
Retirement Benefit Scheme	52.00	156.00		52.00	156.00	
Stakeholder Pension	52.00	702.00		52.00	460.00	
Death Benefit	52.00	98.28		52.00	702.00	
Prime Cost - Productive		<u>23,991.19</u>	13.31		<u>24,140.04</u>	13.40
<u>Variable Costs</u>						
Sick Pay	2.00	890.31		2.00	880.92	
Non-productive Overtime (42.5 hr week)	115.50	659.47		115.50	652.51	
Tool Money		-			-	
Insurance (Employers and Third Party)	1.0%	239.91		1.0%	241.40	
Severance Pay	0.5%	119.96		0.5%	120.70	
Redundancy Pay	0.5%	119.96		0.5%	120.70	
Attraction Money	10.0%	2,399.12		10.0%	2,414.00	
		<u>28,419.91</u>	15.77		<u>28,570.27</u>	15.85
<u>Transport and Plant Costs</u>						
Travel Time (Say 15 miles)	231.00	311.85		231.00	311.85	
Fare (Not Used)	231.00	-		231.00	-	
Vehicle Use (To / From @ per mile)	231.00	2,032.80		231.00	2,032.80	
Use of Builders Small Tools / Plant		200.00			200.00	
		<u>30,964.56</u>	17.18		<u>31,114.92</u>	17.27

General Operatives - Adult

	BATJIC			CJIC		
			Rate/Hr			Rate/Hr
<u>Guaranteed Minimum Earnings</u>						
Yealry Earnings	46.20	13,933.32		46.20	13,963.95	
Employers NI	0.13	1,192.10		12.80%	1,196.03	
Prime Cost - Non Productive		<u>15,125.42</u>	8.39		<u>15,159.98</u>	8.41
<u>Employers Other Costs Contributions</u>						
CITB	0.5%	78.44		0.5%	69.82	
Holidays with Pay	227.00	1,754.71		227.00	1,754.71	
Retirement Benefit Scheme	52.00	156.00		52.00	156.00	
Stakeholder Pension	52.00	702.00		52.00	460.00	
Death Benefit	52.00	98.28		52.00	702.00	
Prime Cost - Productive		<u>17,914.85</u>	9.94		<u>18,302.51</u>	10.16
<u>Variable Costs</u>						
Sick Pay	2.00	654.78		2.00	656.28	
Non-productive Overtime (42.5 hr week)	115.50	485.00		115.50	486.11	
Tool Money		-			-	
Insurance (Employers and Third Party)	1.0%	179.15		1.0%	179.15	
Severance Pay	0.5%	89.57		0.5%	91.51	
Redundancy Pay	0.5%	89.57		0.5%	91.51	
Attraction Money	10.0%	1,791.49		10.0%	1,830.25	
		<u>21,204.42</u>	11.77		<u>21,637.32</u>	12.01
<u>Transport and Plant Costs</u>						
Travel Time (Say 15 miles)	231.00	311.85		231.00	311.85	
Fare (Not Used)	231.00	-		231.00	-	
Vehicle Use (To / From @ per mile)	231.00	2,032.80		52.00	2,032.80	
Use of Builders Small Tools / Plant		-			-	
		<u>23,549.07</u>	13.07		<u>23,981.97</u>	13.31

Other Hourly Costs

Semi-Skilled Building/Civil (CIJB)	Net	All-in
From Jan 2008		
Skill rate 1	9.82	16.86
Skill rate 2	9.46	16.24
Skill rate 3	8.85	15.20
Skill rate 4	8.35	14.34
Electrical (JIB-ECI)		
Technician	14.02	27.07
Approved	12.38	23.90
Electrician	11.35	21.91
Senior Trainee	10.21	19.71
Heating and Plumbing (JIB-PMES)		
Technical Plumber	13.46	26.21
Advanced Plumber	12.12	23.60
Trained Plumber	10.39	20.23
Apprentice with NVQ Level 3	10.05	19.57

Works With Increased Labour Costs

The difficult or complex nature of some projects is such that hourly costs can be increased (to increase the rates based on those costs) to allow for the loss of production. This is often the case, for example, on small projects or where the building will be occupied during the construction period.

Production rates can be adjusted on a percentage basis within ConQuest and TSA can, as part of the adjudication process, adjust production rates on a trade by trade or schedule by schedule basis. Further adjustment on a rate by rate basis would incur an additional charge.

On projects that are too small for gangs to work effectively (or where contractors do not employ labourers) labourers will be costed as tradesmen.

Production Targets and Bonus Schemes

On larger works most contractors will have established their own performance, bonus or sub contractor rates from which they can price work. Contractors who have not established such rates may need to consider how they will achieve 'above average' rates if they are to be competitive in pricing larger works. Trevor Sadd Associates can, if given sufficient time, assist in establishing such rates.

Reducing Labour Costs

In competitive tender situations, some general contractors may need to achieve lower labour costs than those allowed, if they are to win the work. This need to reduce costs becomes more evident as projects increase in size.

A few methods that can be used to reduce labour costs include:

- increased production through training or improved management, foreman or trade supervision.
- improved procedures to reduce time lost, error, etc.
- increased use of specialised or dedicated trades to achieve higher levels of production or the use of gangs, semi skilled labour, apprentices and unskilled labour.
- use of target rates and bonus schemes.
- increased use of plant.
- use of labour only sub contractors on a priced or day-work basis (or improved quotations from same).
- use of domestic sub contractors supplying materials to reduce site and overhead costs.

Labour rates only reflect the cost of completing the items described and contractors will need to make specific provisions for overtime, travelling, preliminary items, etc.

Comparison of Direct and Sub Contractor Labour Rates

We use 'average production constants' for directly employed staff. An adjustment will be required to either the labour cost or the rate where sub contractors are paid on a day work basis and achieve higher levels of production than the 'average production constants' allowed for directly employed staff.

If, for example, a labour only sub contract brickwork gang is employed on a daywork basis to complete a new house and costs 15% more per hour than your employed staff but they produce 15% more work they would cost the same as your own directly employed staff. If, in such a case, the sub contractors would achieve a higher rate of production, a reduction in the labour cost would be possible.

However, if no such increase in production would be evident, the real cost of the sub contractor should be used.

Care should also be taken to consider all of the costs when comparing direct labour and sub contract labour - for example you may need to allow for additional or less costs for management (both overhead and preliminary - Foremen and Trade Foreman), plant, transport, standing or lost time, etc

Examples of Differing Labour Costs and Constants

If, for example, consider a comparison of labour costs for brickwork gangs with 8,000 bricks to lay, it is clear that both the hourly costs and the production constants significantly effect the overall rate and the total cost.

In Example A we have taken that the Directly Employed staff would lay, say, 40 bricks per hour. In Example B. the Labour Only Sub Contractors are laying the same amount of bricks but cost 20% more. In Example C. the sub contractors have increased their production rate (or constant) by 25%. In Example D. we have increased the tradesman ratio.

Example E. provides a range of comparable priced or laid rates per 1,000 bricks.

Gang	Production Constant	Bricks 8,000	Gang Costs	Total Costs
<u>A. Directly Employed [2:1] Gang @ Standard Production Constants</u>				
Tradesman 1	40.0 bricks / hr		£ 12.50	
Tradesman 2	40.0 bricks / hr		£ 12.50	
Labourer	-		£ 9.50	
	<u>80.0 bricks / hr</u>	100 hours	<u>£ 34.50</u>	£ 3,450.00
<u>B. Sub Contract [2:1] Gang @ Standard Production Constants</u>				
Tradesman 1	40.0 bricks / hr		£ 15.00	
Tradesman 2	40.0 bricks / hr		£ 15.00	
Labourer	-		£ 11.40	
	<u>80.0 bricks / hr</u>	100 hours	<u>£ 41.40</u>	£ 4,140.00
<u>C. Sub Contract [2:1] Gang @ Standard Production Constants Plus 25%</u>				
Tradesman 1	50.0 bricks / hr		£ 15.00	
Tradesman 2	50.0 bricks / hr		£ 15.00	
Labourer	-		£ 11.40	
	<u>100.0 bricks / hr</u>	80 hours	<u>£ 41.40</u>	£ 3,312.00
<u>D. Sub Contract [3:1] Gang @ Standard Production Constants Plus 25%</u>				
Tradesman 1	50.0 bricks / hr		£ 15.00	
Tradesman 2	50.0 bricks / hr		£ 15.00	
Tradesman 3	50.0 bricks / hr		£ 15.00	
Labourer	-		£ 11.40	
	<u>150.0 bricks / hr</u>	53 hours	<u>£ 56.40</u>	£ 3,008.00
<u>E. Sub Contract Gangs @ Rates Per 1,000 Bricks</u>				
Gang Rate		8 x 1,000 bricks	£ 300.00	£ 2,400.00
Gang Rate		8 x 1,000 bricks	£ 350.00	£ 2,800.00
Gang Rate		8 x 1,000 bricks	£ 400.00	£ 3,200.00

Ideally a separate schedule of 'all in' piece-work rates should be provided if Labour Only sub contractors are to be used on larger projects (i.e. £ / 1,000 for brickwork, or £ / m2 for block work) or examples of production rate bonuses.

Labour Costs

Client

Project

Insert the number of operatives that you employ in the Nr. column and then their costs within the relevant columns. If you employ any subcontractors but do not know their hourly rate tick the appropriate "use" box on the form so that we can provide suitable rates as required.

Category	Trade	Directly Employed		Labour Only Subcontract		Domestic ⁷ Subcontract	
		Nr.	Rate / Hour	Use	Rate / Hour	Use	Rate / Hour
Wet Trades	Bricklayers						
	Bricklayer's Labourers						
	Plasterers ¹						
	Plasterer's Labourers						
General Labour	General Labourer ²						
	Class 1-2 ^{3 (JIB)}						
	Class 3-4 ^{4 (JIB)}						
Carpentry	Carpenter (1st Fix)						
	Carpenter (2nd Fix)						
	Bench Joiner ⁵						
Roofing	Tiler - Slater						
	Tiler / Slater's Labourer						
	Flat Roofer						
Finishes	Glazier						
	Dryliner						
	Painter						
	Texteurer						
	Tile - Ceramic						
Mechanical & Electrical	Plumber						
	Plumbers Mate						
	Heating Engineer						
	Heating Engineer's Mate						
	Electrician						
Specialist	Fencing Contractors						
	Aspalters						
	Timber Treatment						
	DPC Installer						
	Steel Bar Fixers						
	PVCu Installer ⁶						
Management	Contracts Manager						
	Foremen						

Notes: 1. includes Roughcasers, 2. General Building Operative (Adult) NFB / BATJIC 3. JIB Class 1-2 including: General Groundworker, Concretor, Banksman, 4. JIB Class 3-4 including Kerblayer, Drainlayer, 5. Including the use of machinery etc. 6. PVCu Window and door fitter, 7. Managed Sub Contractors (DSC) supplying materials.