

(Caution – This manual was last updated several years ago, and potentially, some of the material in it may be incorrect. Please use with caution until it is revised and ask questions if you have any concerns.)

BUILDING IT RIGHT

2nd Edition

A Public Facilities Construction Management Manual

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For the
Montana Department of Commerce
Community Development Division

In cooperation with the
Water, Wastewater and Solid Waste Action Coordinating Team
(W2ASACT)

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LIST OF EXHIBITS

Various documents and forms shown in *Building It Right* are provided for reference purposes only in order to provide an example of what is being discussed. **The Montana Public Works Standard Specifications and Engineers Joint Contract Documents Committee forms and documents should not be reproduced.** Forms identified with an asterisk are from the Montana Public Works Standard Specifications, Fifth Edition, March, 2003, and copies can be ordered from the Montana Contractors' Association, 1717 11th Avenue, PO Box 4519, Helena, Montana, 59604 or (www.mtagc.org or 406-442-4162). Forms identified with a double asterisk are Engineers Joint Contract Documents Committee documents, and copies should be obtained from the National Society of Professional Engineers (<http://www.nspe.org> or 1-800-417-0348) or ACEC 1015 15th St. NW, Washington, DC 20005, or FAX 202-789-7220. Forms not identified with an asterisk are State of Montana forms or are forms that were provided by the author and are used by Morrison-Maierle, Inc.

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PREFACE

During the past several years, state and federal public facility finance agencies have cooperated with several private nonprofit organizations and private firms to put on annual infrastructure workshops for local officials. At some of these workshops, the staff of the Morrison-Maierle, Inc., engineering firm gave a presentation called “Building It Right,” which described the basic concerns for local officials in managing the construction of a public facilities project.

The Montana Department of Commerce (MDOC), Community Development Division, administers two major public facilities financing programs: the federally-funded Community Development Block Grant (CDBG) Program and the state-funded Treasure State Endowment Program (TSEP). The project administration manuals for the two programs both include a chapter on managing the construction of a public facility project. We noted that the Morrison-Maierle, Inc., presentation covered a number of important issues not covered in the MDOC chapters. As a result, we requested that Morrison-Maierle, Inc., prepare a written version of their slide presentation that could be made available to local officials. Since two-thirds of CDBG and TSEP public facility projects assist local water and sewer projects, we asked them to draft a “generic” publication that could cover both these types of projects. However, you will find as you go through the text that the excellent advice included in *Building It Right* will cover many other types of public facility projects, including building projects designed and supervised by architects, rather than engineers.

Many local officials and staff are often facing their first experience in managing the construction of a major public facility project. The goal of *Building It Right* is to describe the basic concerns local officials should be aware of and to walk them through the process, step by step. We think that *Building It Right* can have long-term utility for local government officials, as well as the state and federal agencies that help communities finance these projects.

With apologies to Bill and the other Morrison-Maierle, Inc. staff involved in the project, the MDOC staff edited their original draft of *Building It Right* to highlight some regulatory concerns that we feel local officials should be aware of as they construct a public facility project. Various staff from other agencies that are part of the Water, Wastewater and Solid Waste Action Coordinating Team (W₂ASACT) also reviewed *Building It Right* and provided additional input. In particular, I would like to thank those individuals from the Department of Natural Resources and Conservation, the Department of Environmental Quality, and the U.S. Department of Agriculture, Rural Development/Rural Utilities Service that took the time to provide their comments. Everyone’s participation in producing *Building It Right* is greatly appreciated.

We hope that the combination of Bill’s “no nonsense” practical advice from an engineer’s perspective, gained from the collective years of experience of Morrison-Maierle, Inc. staff, with MDOC and other agencies staff’s perspective on some of the state and federal requirements that can create headaches for local officials, will make *Building It Right* a worthwhile reference for local officials and staff, and engineering professionals.

There are many Montana local and government officials and staff, state and federal agency staff, as well as professional engineers who have many years of experience in managing or overseeing the construction of public facility projects. We hope you will feel free to share your comments and suggestions on how we can make *Building It Right* better.

Dave Cole, Administrator
Community Development Division
Montana Department of Commerce

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WHAT'S NEW IN THE SECOND EDITION

Since *Building It Right* was originally published in November 2000 the *Montana Public Works Standard Specifications* (MPWSS) have been updated to the Fifth Edition, published in March 2003. Important changes have been made to the MPWSS Fifth Edition. These changes include, but are not limited to:

- The format and numbering follow the Construction Specifications Institute (CSI) Master Format. As a result, several sections have been moved and renumbered.
- The MPWSS Fifth Edition has converted to the metrics system to comply with anticipated regulatory changes.

Other significant changes have been made to the MPWSS Fifth Edition. Readers are urged to carefully read the FORWARD section of the MPWSS Fifth Edition and review the revisions that have been made between the 4th Edition and the 5th Edition.

In addition, the 2003 Legislature passed House Bill 438, which significantly reduces (we might as well say what the impact is) the time allowed for Owners to pay contractors and for contractors to pay subcontractors. The implications of this change in the law will be thoroughly discussed in Chapter 2.

INTRODUCTION

This public facility construction management manual has been prepared from a slide presentation and lecture series presented in cooperation with the Montana Department of Commerce, Community Development Division and several other state and federal infrastructure finance agencies. *Building It Right, 2nd Edition* is intended to be used by local government officials and staff, as well as engineering professionals, as a general guide for managing the construction of local public facility projects funded with state or federal assistance. The general advice and procedures should be equally applicable to cities and towns, counties, and rural water, sewer or solid waste districts. Because of the variety of forms of local governments which may utilize *Building It Right* the text will use the term “**Community**” to refer to the local government or governing body that has entered into a contract with a design professional (an engineer or architect) and a Contractor for the construction of a public facility. As used in the text, the term “Community” may be considered as equivalent to the more formal term, “**Owner**” which is used in standard model bid terminology and appears in several of the model bid forms referred to in the text or exhibits.

The purpose of *Building It Right* is to acquaint local government officials with the procedures followed after a project has been designed, accepted by the Community, and approved by the appropriate state and federal agencies for construction. It is hoped that *Building It Right* will serve as a learning tool and guide for local government officials and staff undertaking their first construction project, and to familiarize the users of the first addition with changes made during the 2003 Legislative Session that affect how contractors are to be paid. The recommendations presented in *Building It Right* apply to most public facility construction projects, whether or not they involve state or federal funds.

Building It Right assumes that the Community has already procured the services of a properly licensed engineer or architect in compliance with Montana law (Section 7-5-4301, MCA and Title 18, Chapter 8, Part 2 MCA), which sets out requirements for the hiring of architects, engineers, and surveyors in response to requests for proposals. Compensation for these professional services is negotiated after the firm is selected through a competitive proposal process. Guidelines for the procurement of professional services are available from the MDOC’s Community Development Division.

It is important to remember that before inviting bids on any construction project, the Community must acquire any property, easements, or rights-of-way that might be required for construction of the public facility. This requirement is usually a condition for the release of any loan or grant money and/or approval of the project by the funding agencies.

For local officials and staff undertaking their first major public facility project, the construction process may seem to be a simple, straightforward procedure. Advertise for bids, select a Contractor and pay the bills. In actuality, the Community as the “Owner” of the project has important contractual responsibilities to your Project Engineer, your Contractor, and any state or federal agencies, which are assisting with the financing of your project. Although the text refers to “Project Engineer” throughout *Building It Right*, the guidance generally applies equally to a public facility project whose design and construction are under the supervision of a licensed architect. *Building It Right* will use the term “**Project Engineer**” to refer to the

design professional retained by the Community. Your involvement in the construction phase of the project is crucial to the successful completion of the project. Your Project Engineer represents your eyes and ears during the construction. The Project Engineer's years of education and on the job experience will help guide you through the construction process. However, the ultimate success or failure of the project depends on your cooperation and understanding of the entire construction process.

It is the purpose of *Building It Right* to provide you with a basic understanding of the construction process. The information, tables and figures presented in *Building It Right* have been developed and successfully employed on thousands of construction projects. They are presented here, not as a standard, but as a guide to your understanding and expectations of the services that will be provided by your Project Engineer and your Contractor.

Not every engineering (or architectural) firm will utilize all of the methods presented in *Building It Right*. However, most will have developed similar procedures to assure that your community receives a public facility that has been properly constructed and will meet your long-term needs.

Building It Right is divided into three chapters:

- *CHAPTER ONE: CONTRACTOR PROCUREMENT (BIDDING THE PROJECT)*
- *CHAPTER TWO: PROJECT CONSTRUCTION*
- *CHAPTER THREE: PROJECT CLOSE OUT*

Each chapter contains subsections, each dealing with very important responsibilities of your Project Engineer and the Community.

Much of the information and terminology used in *Building It Right* will be needed throughout the entire construction process. Acronyms and abbreviations will abound in discussions and correspondence. As the "Owner" of the project, Community officials will be expected to know what these terms mean, and your attorney will also need to be familiar with the construction jargon.

As you make your way through *Building It Right*, make notes and ask yourself, "How does this apply to my project?" and "What is my responsibility as a local official or employee?"

When you encounter areas that are not quite clear to you, ask your Project Engineer for an explanation. You may want to involve your attorney so that he or she may also learn the meaning and implications of the construction phase. Remember, the only dumb questions are those you DO NOT ask! You have hired professionals to represent you. They want to help you through the process. Use them to their fullest!

Also keep in mind that if one or more state or federal agencies are involved in financing the project there may be specific requirements that the Community will have to comply with. For instance, both the Treasure State Endowment Program and the Community Development Block Grant Program provide project administration manuals that provide information about

the specific requirements of those programs, and information about implementing your public facility project. Again, when you encounter areas that are not quite clear to you, ask the funding agency for an explanation. They also want to help you through the process, and want the project to be a complete success.

We highly recommend the use of the *Montana Public Works Standard Specifications, 5th Edition* (MPWSS) for your project. The *Bidding Requirements, Contract Forms and Conditions of the Contract* section are composed of a family of contract documents. Construction contracts are complex documents. By utilizing the contract documents contained in this section, the meaning and continuity of the contract flows through the entire family of inter-related documents. References to the General Conditions of the contract have been incorporated into the contract document family, greatly reducing the chance of omission of a key contract clause. Most of the contract documents contained in the MPWSS have been prepared by the Engineer's Joint Contract Documents Committee and issued and published jointly by the American Council of Engineering Companies, the National Society of Professional Engineers and, the American Society of Civil Engineers. The contract forms, including the General Conditions, have been approved and endorsed by the Associated General Contractors of America and the Construction Specifications Institute (CSI).

These Contract Documents should not be altered. The documents have been carefully prepared by the professional organizations cited above and have been reviewed and approved by their respective legal counsel. What may seem to be a minor change in words could have a serious and undesirable effect on your contract. If changes are made to these documents they must be carefully reviewed by your attorney and, more often than not, approved by the funding agencies. The best advice is to use the documents as they were written.

While a few communities in Montana have not adopted the MPWSS as their standard specification and contract document package, the document is the accepted standard by most state and federal funding agencies. Some communities have adopted the MPWSS with a Standard Modifications package that tailors the MPWSS to their community.

The tremendous amount of work by design professionals, contractors and agency officials to prepare the MPWSS makes writing this 2nd Edition of *Building It Right* a much easier task. I encourage every community and design profession to utilize the MPWSS whenever and wherever possible.

William G. Enright, P.E.

CHAPTER ONE: CONTRACTOR PROCUREMENT (BIDDING THE PROJECT)

The project design is completed, state and federal agencies have approved your design and the associated specifications, your funding is secure, all of the necessary property acquisitions or rights-of-way are procured and complete, and the Community is ready to “move dirt” and build your project. But your Project Engineer starts talking about contractor procurement, advertisement procedures, bid packages, conferences, bid openings, bonds and insurance, acceptance and award, construction administration, and change orders. “Great,” you say, “more bureaucratic red tape and costs. Why can't we just hire a contractor and get on with it?” For many local officials who are involved in their first construction project, this is an understandable question. They do not realize how complex construction of a public facility project can be, and the requirements that go along with the construction phase. The purpose of this manual is to acquaint local officials and their staff with these complexities and how to deal with them.

CONTRACTOR PROCUREMENT (BIDDING THE PROJECT) addresses the following issues:

- ❑ Preparing the Bid Package
- ❑ Required Reviews and Approvals
- ❑ Advertising Procedures
- ❑ Responding to Contractor Questions
- ❑ Conducting the Pre-Bid Conference
- ❑ Bid Openings
- ❑ Bid Tabulation and Review
- ❑ Community's Acceptance and Award

A. PREPARING THE BID PACKAGE

Your Project Engineer will prepare the documents that will comprise the “**Bid Package.**” Typically this includes a bound volume titled “**Specifications**” or “**Project Manual**” and a set of “**Construction Plans**” (technical drawings). The Specifications or Project Manual normally consists of “**Bidding Documents,**” “**Contract Documents,**” “**Special Provisions**”, and the “**Technical Design Specifications,**” and will be prepared by your Project Engineer using “industry standards” to the extent possible. As discussed in the Introduction, the Montana Contractors’ Association publishes model bidding and contract documents entitled the *Montana Public Works Standard Specifications, 5th Edition*, which include standard bidding and contract documents and design specifications. It also includes a detailed definition section, which explains the terminology used in public facilities construction contracts.

The *Montana Public Works Standard Specifications, 5th Edition*, dated March 2003, was prepared in cooperation with the Montana Contractors’ Association, the American Public Works Association, the American Society of Civil Engineers, and the Montana Department of Transportation, and conforms to the Engineers Joint Contract Documents Committee’s model format.

1. Bidding Documents

Bidding Documents generally include information on the method of bidding, the process by which the bids will be evaluated, the method of contract award, and forms such as the "Invitation to Bid," "Instructions to Bidders," "Bid Form," "Bid Bond Requirements", etc. The Bid Form contains the format for the Contractor to state the unit prices or lump sum prices that the Contractor will expect to be paid for completed work. See Exhibit 1 for the text of an Invitation to Bid, Exhibit 2 for the Instructions to Bidders, and Exhibit 3 for the Bid Form.

For projects where unit prices are used, i.e. "500 Lineal Feet", the Community must understand that the bid quantities represent the design professional's estimate of quantities required for the project. Paragraph B of Section 00300 of the Bid Form bound in the MPWSS states:

"B. Bidder acknowledges that estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids and final payment for all Unit Price Bid items will be based on actual quantities provided, determined as provided in the Contract Documents."

The General Conditions, Article 9 – Engineer's Status During Construction, paragraph 9.07 Determinations for Unit Price Work, states in part "Engineer will determine the actual quantities and classifications of Unit Price Work performed by the Contractor."

The point of the above discussion is to alert Communities that there may be variations from bid quantities to actual installed quantities and that the final contract price, when the project is completed, may vary from the contract price bid.

The introduction of the facsimile (FAX) machine has revolutionized communications. However, the FAX can become a problem in the bidding process unless specific instructions are included in the Bidding Documents that allow for last minute bid modifications. Some communities choose to allow last minute bid modifications by FAX or written submission of a sealed modification. **However, if you want to allow last minute FAX bid modifications, you must include specific rules for the receipt and use of the FAX modification in the Instructions to Bidders.** An example of language that could be included in the Instructions to Bidders regarding FAX modifications follows:

MODIFICATION AND WITHDRAWAL OF BIDS:

"Bids may be modified or withdrawn by an appropriate document duly executed and delivered to the place where bids are to be submitted at any time prior to the opening of bids, June 22, 2000 at 1:00 p.m."

"A bid may be withdrawn or modified by telephone facsimile transmission (FAX). It is the bidder's responsibility to deliver the modification or the withdrawal to the location specified and prior to the time designated for opening of bids. A modification shall not reveal the bid price, but shall only provide the ADDITION to or SUBTRACTION from the original proposal amount. Bid modifications or withdrawals must be confirmed by an appropriate duly

executed document and said document must be received by the Community not more than three (3) working days following the bid opening or the bid modification or the withdrawal will not be considered.”

“The Community is in no way responsible for ensuring a free FAX line or for the proper functioning of the Community's facsimile machine. It is the sole responsibility of the bidder to confirm the receipt of the facsimile by the Community.”

Why should the modification contain only an ADDITION or SUBTRACTION from the original proposal amounts? The reason for this provision is to maintain the integrity of the sealed bid process. There is always a chance that a competitive bidder may be standing by the FAX machine and see the FAX modification. If the bidder who is faxing a modification were to show his entire bid, and a competing bidder were to see the total price modification, it would provide an unfair advantage to the competing bidder, allowing the bidder to modify his or her bid by either lowering or raising the bid price in hopes of getting the project and possibly, increasing the profit margin.

A bid that is withdrawn, or that has a modification, by FAX should always be verified to ensure its authenticity.

2. Contract Documents

The Contract Documents contain the text of the contract between the Community and the Contractor. Contract Documents generally include legal documents such as the:

- ❑ **Agreement Form** (the contract);
- ❑ **General Conditions to the Contract** (the rules that bind both the Community and the Contractor);
- ❑ **Supplemental General Conditions** (any special conditions or clauses required by state or federal funding agencies);
- ❑ **Bid Bond** (the bid bond is legal tender, usually in the form of a bond or a cashier's check, which is payable to the Community in the event the successful bidder fails to enter into a contract with the Community within the time specified in the Bidding Documents. Montana law [Section 18-1-202, MCA] requires a bid bond equal to ten percent of the bid amount. See Exhibit 4 for a Bid Bond.);
- ❑ **Performance and Payment Bonds** (information on performance and payment bond requirements);
- ❑ **General and Technical Specifications**; and
- ❑ **Special Provisions** (provisions unique to the Community's project).

The contract includes a section describing what the Contractor is expected to provide for each item that is included in the project, often referred to as the “Measurement and Payment” section. Contracts may be either lump sum or unit priced. If a Community has reason to believe that bids may come in higher than available funds, separate bid schedules should be used (“additive or deductive alternates”). This approach provides options for bidding on components of the overall project; the bid proposal would contain several alternate schedules of work items or components to be added or deducted from the bid submittal. This would

allow contractors to bid on one or all components of work items, providing generally more competition and price efficiency.

Using additive and deductive alternates should be done with care. Additive alternates should build on the basic project. Each additional additive alternate should build on the previous additive alternate so that a complete project can be realized whether all or none of the alternates are completed. For example, suppose a project consists of replacing five blocks of water main. The Community wants to replace all five blocks, but preliminary cost estimates indicate there is only enough money for three blocks. The bid document could be structured to include the first three blocks as the basic bid, the fourth block as additive alternate No.1 and the fifth block as additive alternate No.2.

Deductive alternatives work in the same manner, only the basic bid would be for all five blocks and deductive alternate No.1 would eliminate the fifth block and deductive alternate No. 2 would eliminate the fourth block. **Deductive alternates are more difficult to structure, and should be avoided if possible.** Problems in determining what to deduct, etc. can be confusing, especially if the Community is not totally knowledgeable about what the long term effects of deducting a portion of the project will have on the project's performance. If deductive alternates are used, be sure to advise the bidders in the bid form exactly how the low bid will be determined. Again, the use of deductive alternates is rare and not recommended.

It is recommended that bidders be required to bid the base bid plus all of the alternates. It is important that the basis for determining the low bid be specified clearly in the bid documents. For bids with additive alternatives, the award of the bid should be based on the base bid, plus the additive alternates actually awarded. The alternatives should be added in the order that they are listed as the budget allows. The Community should never pick and choose between the alternatives.

When using additive alternates, be sure that your bid document clearly informs the bidders that there will be no allowance for anticipated profits should one or more of the additive alternatives not be awarded. Your Engineer will develop the bid schedules and include additive alternates if necessary. Be sure you fully understand what comprises each alternate. Be sure that the base bid and each additive alternate has a clear end-point. For example, your project is for the installation of a new water main, and additive alternate No. 1 has been included to install another block of new main. Be sure that the necessary fittings are included in the base bid to terminate the water main in the event that there are insufficient funds to award the additive alternate. The additive alternative can modify or eliminate the fittings, etc., and extend the line. If clear end-points are not included, a Change Order is inevitable.

The *Montana Public Works Standard Specifications* also includes contract language that requires that the Contractor payment is due upon Community approval of the pay estimate. **However, Communities that are financing their public facility projects with assistance from state or federal funding agencies should be aware that each agency has different time requirements for processing funding requests from communities. The turn-around time between a community's request for funds and actual receipt of funds can frequently be two to four weeks or longer.** If this is the case for your project, Community officials may need to incorporate a longer payment period in the contract language or arrange

for interim construction financing with a local lender or INTERCAP (a short-term lending program through the Department of Commerce, Board of Investments) to deal with this lag in the receipt of funds.

House Bill 438, passed by the 2003 Legislature, amends Sections 28-2-2101 and 2103, MCA. The change places new requirements on Owners that limit the time allowed between the contractor's submission of a pay request and when the Owner pays the contractor. However, there are provisions that allow for the modification of the payment schedule. Be sure that you, your attorney and the design professional fully understand the requirements of this change in the law.

Author's Note: The word Owner used in the statutes is synonymous with the word Community used in this Manual.

In addition, all public construction contracts must contain provisions for compliance with either federal or state prevailing wage requirements and other labor provisions. **Montana law provides that if a public agency or local government fails to include the prevailing wage rate requirements in a bid specification or contract, the contractor is relieved from the obligation to pay the prevailing wage rate and the obligation is then placed on the public contracting agency. If federal funds, such as from the Community Development Block Grant (CDBG) Program, will be used to help fund a public facility project, the federal labor requirements will generally supersede those of the State.** The pertinent federal labor requirements vary among federal agencies. For example, projects funded through the U.S. Department of Agriculture, Rural Development/Rural Utilities Service do not require compliance with the federal Davis-Bacon Act. If federal funds will be involved in your project, you should consult with the federal agency for guidance on which labor laws or regulations will apply to your project.

A copy of the current state wage rate determinations, as provided by the Montana Department of Labor and Industry (MDLI), should be included in any solicitation for bids (Section 18-2-422, [MCA](#)) unless Montana's prevailing wage requirements are superseded by the federal Davis-Bacon Act. When federal prevailing wage rates must be used, the Project Engineer should incorporate the current wage rates published by the U.S. Department of Labor. The wage rates applicable to a particular public works project are those in effect at the time the bid specifications are advertised. For this reason, the Project Engineer should contact the appropriate state or federal agency approximately two weeks before bid advertising to re-verify that the state or federal prevailing wage determination is still current.

3. Technical Design Specifications

Wherever possible, the technical specifications (how items are to be constructed and the minimum acceptable product) should conform to or reference the latest edition of the Montana Public Works Standard Specifications. The use of these standard model documents and design specifications, which have been employed for many years, significantly reduces the possibility for misunderstanding; reduces the number of questions regarding the project; reduces potential problems; and may result in a lower bid because the bidders are familiar with the contents and requirements of the Bid Package.

Technical Specifications that are prepared specifically for a certain type of work or product should conform to the CSI Master Format Specification. This format divides the Technical Specification into four parts:

- Part 1 – General,
- Part 2 – Products,
- Part 3 – Execution, and
- Part 4 – Measurement and Payment.

Using this format ensures that the specification will conform to the rest of the structure of the project manual and that any information pertaining to the items contained in the specification will be located in a familiar place.

4. Construction Plans

The Construction Plans should include engineering or architectural (sometimes both) drawings that represent the details of what the Community expects the Contractor to construct. Before preparing the plans for any construction project, the Project Engineer should obtain information from local public utilities regarding underground installations. The plans should show elevations (if available) of existing and proposed improvements, the location of water or sewer lines, utilities, valves and fittings, etc. The plans should contain details that show the Contractor how the roof is to be fastened to the water or sewer treatment building, how the foundation is to be constructed, etc. The plans constitute a complex technical instrument that is relied upon by the Contractors from the time they prepare their bids through the final completion of the project. Do not be concerned if you do not understand everything that is in the plans; if you have questions, ask your Project Engineer. Experienced contractors should understand what the plans are saying.

B. REQUIRED REVIEWS AND APPROVALS OF THE BID PACKAGE

If the project is funded with any state or federal funds, the Project Engineer will typically be required by the funding agencies to submit a copy of the Bid Package for their review and approval to ensure that all of the required provisions are included. To ensure that all of the required bid provisions are included, the Project Engineer should plan on sending a copy of the bid document to any funding agency no later than 30 days prior to the initial bid advertisement. The specific requirements of each funding agency should be referred to since a longer review period may be required.

The bid package should also be reviewed and approved by all other applicable state or federal agencies with review and approval authority for the type of project planned. Drinking water or wastewater (sewer) projects require approval by the Montana Department of Environmental Quality prior to construction.

Once the complete bid package has been assembled, it should be also be reviewed by the Community's attorney for completeness and consistency with state laws and regulations. Montana law (Section 18-2-404, [MCA](#)) requires that all public works contracts be approved in writing by the public entity's legal adviser prior to execution.

You should become familiar with your Specifications or Project Manual document. Now that you have a basic understanding of what a Bid Package is comprised of, let's begin our overview of the contractor procurement phase of your project.

C. ADVERTISING FOR A CONTRACTOR

Under Montana law, municipalities are required to award contracts for projects costing more than \$25,000 through a competitive bidding process (Section 7-5-4302, MCA), and counties are required to award contracts for projects costing more than \$50,000 through a competitive bidding process (Section 7-5-2301, MCA). There is an exception to these requirements in emergency situations (Section 7-5-4303, MCA). Since very little construction work can be done for \$50,000 or less in today's economy, you are most likely going to be competitively bidding almost any major public facility project. The first step in procuring a Contractor to construct your project is to advertise for bids.

The "Advertisement for Bids" (sometimes also called an "Invitation to Bid") is your way of letting the construction industry know that your Community plans to construct a project for which the contractors may be interested in submitting a bid. The more exposure the bid solicitation receives, the more qualified contractors will be aware of it, increasing the likelihood of receiving lower, better and more responsive bid proposals. At a minimum, the Advertisement for Bids should be published in the local newspaper. In addition to the local newspaper, the Community should also advertise in newspapers with regional distribution in their area of the state. If the project is large enough, the Advertisement for Bids may be published statewide or even in national publications. Refer to Sections 7-5-4302 (Municipalities) and 7-1-2121 (Counties), MCA, for the advertising requirements that are required by state law.

In addition, many Project Engineers send copies of the Advertisement for Bids to "Builder's Exchanges," such as the one administered by the Montana Contractors' Association. A Builder's Exchange is an organization, supported by contractors, suppliers and associates that serves as a central location where advertisements and copies of the Bid Package may be examined prior to requesting a set of documents that will be used for bidding. If a Contractor is interested in your community's project, he or she will request a Bid Package (the plans and specifications) from the Project Engineer. The Project Engineer may charge a fee to cover the cost of production and to encourage only those contractors genuinely interested in bidding on the project to request the documents.

1. What Is Required in an Advertisement for Bids

In general, the Advertisement for Bids should contain the name of the Community; a brief description of the project; a generalized listing of the work and materials to be provided by the successful bidder; the name and address of the Project Engineer, along with the cost for the Bidding Documents; the time and place for a Pre-Bid Conference; and most important, the time, date and location of the Bid Opening. To reduce the cost of advertising, the invitation will often state that Bidding Documents may be viewed at the office(s) of the Project Engineer and at various Builder's Exchanges.

Your Project Engineer may also send copies of the Advertisement for Bids to a group of selected contractors. This is done to ensure that these contractors are aware of the project and to solicit their interest in your project. The concept of a competitive bid is to attract as many qualified bidders as possible for your project. By soliciting a number of contractors, we are looking for the lowest priced, responsive and responsible bidders. Encouraging adequate competition is of obvious benefit to the Community.

2. Advertisement Procedures

Depending on the funding agency, there are certain procedures or requirements that must be followed when advertising for bids. As a general rule, whenever federal and state requirements both apply to a situation, the more restrictive requirements govern. Frequently, this tends to be the federal law or regulation. However, in the case of procurement, most federal agencies follow what is termed a “common rule” which sets administrative requirements for federally funded grants and loans to local governments. Both in the case of procurement of engineering and architectural services and of bidding for a public project, Montana law is more specific and restrictive than the standard federal procurement requirements.

The state legal advertising requirements set out below for municipalities and counties set minimums for public solicitation. It may be advisable to broaden solicitation efforts by sending “Invitations to Bid” to Builders Exchanges or directly to individual contractors. Your Project Engineer should be your best source of advice on the length of the advertisement period. The minimum advertising requirements summarized below are also subject to change by the Montana Legislature. The Community’s attorney should always consult current Montana law for the latest bid advertising requirements for the form of local government entity involved.

a. City/Town Advertising Requirement

For construction contracts more than \$25,000, pursuant to Section 7-5-4302, MCA, and 7-5-4127, MCA, municipalities must advertise twice with at least six days separating each publication. **(Bids must be opened no sooner than five days after the last advertisement and no later than twelve days after the last advertisement.)**

b. County Advertising Requirement

Similarly, Sections 7-5-2301, MCA, and 7-1-2121, MCA, require that counties must advertise twice, no less than six days apart, before bids are opened for contracts more than \$50,000. School districts and county water and sewer districts must also comply with the county advertising requirement.

3. Scheduling the Bid Opening

Local governments, especially in small or rural communities, should carefully consider the bid date when scheduling the beginning date for advertising their project. If possible, the Bid Opening should be scheduled for a time either during or just prior to a regularly scheduled meeting of the governing body to avoid the cost or inconvenience of a special meeting.

Depending on the number of bids received, a Bid Opening should normally take no longer than 30 minutes.

D. RESPONDING TO BIDDER QUESTIONS

The bidding phase of a project represents intense competition among the bidders. Each bidder presumably wants the project, and is looking for a competitive “edge” that will make his or her bid the lowest bid, but still allow them a reasonable profit. Because of this, almost all bidders have questions or desire clarifications from time to time. **It is imperative that all questions should be submitted in writing to the Project Engineer and that all responses are in writing and distributed to all parties that have been provided with a Bid Package.** The vehicle used to answer questions is called an “Addendum.” The Addendum is an official Bidding Document that will become part of the Contract Documents when a contract is awarded.

One word of caution at this point in the bidding phase of your project: the Community must be careful about what local officials and employees tell a bidder. Local officials or staff should not attempt to answer any bidder’s questions regarding the project under consideration. The safest and recommended procedure is to direct all questions to the Project Engineer.

Too often, an oral answer may be supplied to one of the bidders and not to the remaining bidders. This can result in the bid being protested on the basis that the successful bidder had an unfair advantage over the rest of the bidders because he or she knew something about the project that they did not. Even questions as elementary as the location of a storage yard should be directed to the Project Engineer. Something as seemingly insignificant as this may provide the bidder with knowledge of a potential cost savings that other bidders are unaware of.

When local officials or staff receives questions from a prospective bidder, the bidder should be advised to contact the Project Engineer. If the person persists, the questions should be written down, the contents of the questions verified with the prospective bidder, and then forwarded to the Project Engineer. **Do not jeopardize your project by inadvertently answering a seemingly insignificant question.** The information network within the construction industry is very effective and a simple response to a question can void the entire bidding process. The result of a protested bid is usually the re-bidding of the project, which could involve a delay in construction, a possible increase in the Engineer’s fee (for having to issue new bidding documents, holding an additional pre-bid conference, attending an additional bid opening), and possibly increased construction costs. Re-bidding can even result in legal action, which usually creates hard feelings and more important, a poor working relationship between the Contractor and the Community.

E. BID ADDENDUMS

“Addendums” are a normal part of the bidding process and should not be viewed by the Community as an omission or error on the part of the Project Engineer. Each project has its unique points that are not always clear to the bidders. The issuance of Addendums should help clarify any questions, provide updated information, and result in better, more responsive

bids by the bidders. An unclear requirement in a set of Bidding Documents usually results in the bidders “padding” their bid to cover their uncertainty about the cost implications of the requirement.

Any amendments to the original bid package must be mailed as an Addendum to each prospective bidder that has requested a bid package, and every prospective bidder must be given a reasonable period of time to review and respond to the Addendum.

F. THE PRE-BID CONFERENCE

A “Pre-Bid Conference” is a common and highly recommended procedure used to inform potential bidders about the project, and is usually held at the project site. All prospective bidders are invited and encouraged to attend the Pre-Bid Conference. Some agencies and communities require attendance at the Pre-Bid Conference as a qualification for bidding to help assure that all prospective bidders receive the same information at the same time. The requirement for prospective bidders to attend the mandatory Pre-Bid Conference should be clearly stated in the Advertisement For Bids.

Selected members of the Community's staff, the Project Engineer, and the Resident Project Representative (RPR) (in the past, sometimes referred to as the “Inspector”) should attend the Pre-Bid Conference along with the prospective bidders. This conference provides the bidders with the opportunity to review the Plans and Specifications with the Community and the Project Engineer, ask questions, and view the site.

It is highly recommended that the RPR attend the Pre-Bid Conference, since he or she will be the Project Engineer and Community's “eyes and ears” on the project. The RPR should be fully informed of the proceedings at the Pre-Bid Conference so that he or she will be in a position to respond to problems or questions that come up during the actual construction.

G. INDEPENDENT SITE VISITS

Community officials and staff should discourage independent site visits by potential bidders, to the extent possible, if the principal purpose of the visit is to ask them questions about the project. If a prospective bidder wants to perform some soil borings or obtain a soil sample for analysis, the Community should oblige the Contractor, as the results of their independent analysis will aid them in preparing a better bid. Contractors obtaining this type of information have no obligation to share the information with other bidders.

H. THE BID OPENING

On the day bids are to be received, the Community should have someone of authority available at the location designated for the receipt of bids from the opening of the business day until the time set forth in the Advertisement for Bids who will be responsible for receiving the bids. **Bids must be submitted in a sealed envelope and should not be opened by the person receiving the bids.** If a bid is not submitted in a sealed envelope, it should not be accepted until it is sealed and marked in accordance with the Instructions for Bidders (contained in the Bidding Documents). **Each bid received should be marked with the date, the time the bid was received, and the initials of the person receiving the bid.**

The bid submittals should remain sealed and safely stored in a vault or a secure location to prevent tampering with the bids and to protect the Bid Bonds inside the sealed bids (Bid Bonds are legal tender). The recording of this information is essential to prevent a protest in the event a bidder complains that the Community allowed bids to be submitted after the time stipulated in the Advertisement for Bids.

Expect a lot of activity in the room prior to the bid deadline. Contractors are finalizing their bids, suppliers are reworking their quotations to the bidders, and subcontractors are revising their quotations to the general contractors bidding on the project. The advent of the cellular phone has lessened, to some degree, the amount of activity that is seen by the Community, but it is common to receive bids within one to two minutes of the closing time for the receipt of the bid. This is why it is extremely important to date, note the time the bid was received, and initial each bid as quickly as possible.

It is advisable to designate a clock, clearly visible to the bidders, which will be the "official" time for the receipt of bids. It is a good idea to check the time before the commencement of business and set the "official" clock accordingly. A back up timepiece (usually a wristwatch) should be coordinated with the "official" clock in the event of a power failure. Some bidders may protest if it appears that a bid was accepted after the stipulated time. Verification of the alternate timepiece by another member of the staff or an elected official is also advisable.

1. Bid Modifications by FAX

As noted previously in section A, some communities choose to allow for last minute bid modifications by facsimile machine (FAX) or written submission of a sealed modification. However, if you want to allow last minute bid modifications, you should have included specific instructions to cover this in the Instructions to Bidders.

2. Opening the Bids

A Bid Opening is a legal proceeding of the Community and should be conducted in a businesslike manner. Certain people should be present, and specific actions should be performed, at the Bid Opening.

a. Who Should Be Present at the Bid Opening

At a minimum, a responsible representative of the Community, (usually the city or town Clerk-Treasurer or county Clerk and Recorder) and one or more members of the governing body should be present to represent the Community. In addition, the Project Engineer or a member of the engineering firm's staff, who is thoroughly experienced in the administration of the bidding process, should be present to assist the Community with the opening and examination of the bids for conformance and completeness. **The Community's attorney or legal counsel should also be present to advise the local officials on any bid irregularities and to review any protests that may be filed by a bidder.** On more than a few occasions, a Bid Opening has had to be postponed because of an irregularity while local officials waited for the Community's attorney to be summoned to the Bid Opening to resolve the issue. Therefore, the participation of the Community's attorney is strongly recommended to expedite the bid opening process.

b. Reading of the Bids

According to guidelines prepared jointly by the Consulting Engineers Council of Montana and the Montana Contractors' Association, "Maintaining the integrity of the bidding process demands strict conformity to bid specifications by both the Community and the bidder." After the designated time for the receipt of bids, the bids are assembled on a table and each bid document individually opened and reviewed prior to reading dollar amounts. **The bid package should be reviewed for conformance with the Instructions for Bidders:**

- all Addendums are signed, noted on the Bid Form, and attached to the bid;
- that the bid is signed;
- that there are no conditions attached to the bid; and
- that the required Bid Security (Bid Bond or cashier's check) is attached.

Each bid should be reviewed for irregularities prior to reading aloud the dollar amounts (see "Handling Bid Irregularities," below). If there are no irregularities and the bid conforms to all of the requirements, either the Project Engineer or the designated community representative will read the bid. It is preferred that a local official read the bid. The Project Engineer should assist the official in reading those parts of the bid relevant to the bidders. **The items usually read aloud are:**

- the name of the bidder,
- the bidder's state registration number,
- the Bid Bond amount,
- that all Addendums are signed and attached to the bid,
- that the bid is signed, and
- the total amount of the bid.

If the bid contains multiple schedules ("additive or deductive alternates" or options for bidding on components of the overall project), the Community may choose to read the amounts of the individual alternate schedule bids as a courtesy to the bidders present in the audience. **Any bid modification that has conformed to the requirements for bid modifications must also be read aloud at this time.**

Once all of the bids have been opened and read aloud, the Community should state that all bids will be taken under advisement and that all bidders will be notified as to the final result of the bid when the bids are tabulated and checked. The Community should also thank the bidders for their interest and effort in submitting their bid on the project.

c. Handling Bid Irregularities

If any of the following bid irregularities are found, the amounts should not be read or considered if determined after being silently read by the Community, and the bid should be returned to the bidder:

- ❑ bid proposals received after the specified deadline;
- ❑ bid proposals not submitted on specified forms or altered in form by the bidder;
- ❑ alteration of a bid as to the specified time of commencement or completion of work;
- ❑ unsigned bid proposals;

- ❑ bid proposals not accompanied by the specified guarantees (bid bond, etc.);
- ❑ bid proposals by contractors not registered with the Montana Department of Labor and Industry, contrary to the bid specifications or state law;
- ❑ qualification of a bid or bid items in a bid proposal contrary to the specified requirements of bid items or bidding documents;
- ❑ bid proposals which omit items required by the specifications; or
- ❑ failure to acknowledge an addendum.

This guideline is not an exhaustive list of the irregularities that can occur, but may serve as an aid in determining other irregularities.

Examples of minor or non-substantive bid irregularities that may be waived include:

- ❑ omission of date when signed, or title of person signing;
- ❑ failure to initial erasures (assuming other information is legible);
- ❑ failure to acknowledge an addendum which does not affect quantity, quality, time or price;
- ❑ submission of a bid in an closed, but unsealed envelope;
- ❑ omission of a subcontractor's or supplier's name at bid submission time unless specifically required in the Information To Bidders and/or in the Bid Form;
- ❑ unit price bid proposals which include correctable, reconcilable arithmetic errors if the unit price does not change; or
- ❑ lump sum bid proposals which include correctable, reconcilable arithmetic errors if the amount on which the award will be based does not change.

Should a bidder identify an error in the bids, in any form, the Community's attorney should review the State statutes governing bid irregularities before proceeding further. **Any irregularity in a bid should be referred to the Community's attorney for a ruling on the legality of the bid and its conformance to the bidding requirements. When all matters of bid irregularities are resolved, the low bidder will then be determined.**

DO NOT ask the Project Engineer to give an opinion on a bid irregularity. He or she is not an attorney and is not qualified to give advice on legal matters. Likewise, your attorney is not an engineer or architect, and should not be asked to give advice on engineering or architectural matters.

3. Bid Tabulation

After the bids have been read, the Project Engineer should tabulate the bids. Bidders sometimes make arithmetic errors on their bid forms when they are in a hurry to make last minute changes to their bids. It is for this reason that the Bids are taken under advisement. The tabulation procedure should check all of the arithmetic, noting and making corrections as necessary. If an error in a bidder's bid is discovered, the Project Engineer should request verification from another member of their professional staff. Errors in arithmetic have changed bid results, so the careful checking of bids is important.

The Project Engineer may request that he or she be allowed to take the bids back to their office to tabulate the bids and to check them for accuracy. This is a common request that the Community should allow. **However, do not allow the Project Engineer to take the Bid Security with the bid. Remove the Bid Security (Bid Bond, Cashier's Check, etc.) and lock it up in a safe or similar secure location. Remember, the Bid Security is legal tender.** Some communities may also prefer to make copies of the Bid Form.

When all of the bids have been checked and verified, the Project Engineer should prepare a "Bid Tabulation." A Bid Tabulation is a list showing all of the bids received in a tabular form. Some funding agencies require that the accuracy of the Bid Tabulation be formally certified. This can be done by the Project Engineer, if necessary. An example of a Bid Tabulation is shown in Exhibit 5.

I. SELECTING THE CONTRACTOR

Once the bids have been opened and tabulated, there are steps that should be taken before the Community awards the project to the selected the Contractor.

1. Contractor and Project Superintendent Review

Following the bid opening, the low bid should be reviewed to ensure that the bid submission was technically and legally responsive to the solicitation for bids, that the Contractors and all subcontractors are qualified and have the capacity to carry out the project as scheduled. If, in the opinion of the Project Engineer and the Community's attorney, the low bid proves to be unsatisfactory or non-responsive for any reason, and the Community chooses to use the next lowest bidder, a statement of justification must be sent to the low bidder with a copy retained in the construction contract file.

In addition to checking and tabulating the bids, the Project Engineer and the Community should review the qualifications of the Contractor submitting the lowest bid and those of the contractor's Project Superintendent. Most Bid Documents contain a form titled "Information Required of the Contractor," or a similar title. This information informs the Community of such things as whether or not the Contractor visited the site, the name of the Contractor's proposed Project Superintendent, and other general information. It is rare that a Community can disqualify a bidder for information contained on this form, but it can alert the Project Engineer and the Community to be aware of certain questions and possible problems in the future.

State law requires counties to award bids to "the lowest and best responsible bidder," while municipalities are required to let bids "to the lowest responsible bidder." Montana law does not define "responsible bidder," however, procurement regulations adopted by the U.S. Department of Housing and Urban Development (HUD) give some guidance:

Grantees and sub-grantees will make awards only to responsible contractors possessing the ability to perform successfully under the terms and conditions of a proposed procurement. Consideration will be given to such matters as

contractor integrity, compliance with public policy, record of past performance, and financial and technical resources.

HUD adopted this language under what was referred to previously as the “Common Rule,” which sets out administrative requirements for federally-funded grants and loans to local governments. The underlined text should provide a working definition of “responsible bidder,” particularly for construction projects funded with any federal assistance.

If there are questions regarding whether a Contractor is a “responsible bidder,” the Community’s attorney should be consulted immediately for guidance.

2. Obtain Debarment Review of Low Bidder

If the construction project will be funded with any state or federal funds, prior to awarding any construction contract, the Community may be required to provide notice to the appropriate funding agency or agencies of the name of the prospective low bidder or bidders and the principal owner(s) of the contracting firm. The funding agency or agencies will determine if the names of the low bidders are listed and will notify the Community of the contractor's eligibility or ineligibility.

If the project is federally funded, the U.S. General Services Administration publishes and periodically updates “Lists of Parties Excluded from Federal Procurement or Non-procurement Programs” which identifies individuals and firms that are prohibited from participating in federally funded projects. If the project is state funded, the State of Montana has a similar provision to help ensure that contractors awarded public works contracts are eligible. The Community may be required by a state funding agency or agencies to provide the name of the prospective low bidder or bidders before the bid is awarded to determine whether that contractor has been debarred under Montana law.

Even if the project is only funded with local funds, communities should contact the Montana Department of Labor and Industry (MDLI) Labor Standards Bureau as soon as possible following the bid opening and before awarding any construction contract to determine whether any of the contractors have been debarred under Montana law. The MDLI Labor Standards Bureau (telephone: 444-4619) (Web site: <http://erd.dli.state.mt.us/laborstandard/lshome.asp>) should be given the names of the prime contractor’s firm and its principal owner(s), as well as any subcontractors, selected for the pending contract. Contractors or subcontractors found by the MDLI to have willfully violated the provisions of the state prevailing wage law may be barred from receiving contracts or subcontracts subject to the provisions of the law for a period not to exceed three years after the date of entry of a final judgment. If the contractor is determined to be ineligible, the Community may offer the contract to the first alternate bidder or may reopen the bidding procedures.

Construction Contractor Registration, which was passed by the 1995 Legislature, requires all construction contractors and subcontractors in the building and construction industry that have employees to be registered with the state as a registered contractor. This registration ensures contractors are complying with all

employment laws, such as workers' compensation. If the contractor is registered, the Community can be assured that the contractor has workers' compensation coverage, and therefore, it has protected itself from upward migration of liability. If the construction contractor is registered and in good standing on the date the contract begins, the liability for workers' compensation accidents will not be the responsibility of the general contractor or the Community.

While the law exempts construction "independent contractors" without employees from registering, many general contractors will hire only registered contractors to protect themselves from upward migration of liability. If a contractor hires an unregistered independent contractor, (even if that person has a workers' compensation exemption), the contractor still risks the consequences of liability for workers' compensation should an individual be hurt on the job.

Montana's workers' compensation law does not allow coverage from other states' workers' compensation plans in the construction industry. If the contractor is only bidding on a job in Montana, it may ask for a "Bid Only" registration. When the contractor comes to work in Montana, the contractor must obtain a workers' compensation policy specific to Montana. Construction companies with Bid Only certificates must upgrade their registration to "Employer" status before they can have employees working in Montana.

If you have questions about Contractor Registration, call 406-444-7734, or write the Montana Department of Labor and Industry, Employment Relations Division, Contractor Registration, PO Box 8011, Helena, MT 59604. (<http://erd.dli.state.mt.us/>)

3. Montana Contractor's Preference

Montana law (Section 18-1-102, [MCA](#)) provides that bidders that are Montana residents must be allowed a preference on a contract against the bid of any nonresident bidder from any state or country that enforces a preference for resident bidders. The preference given Montana bidders must be equal to the preference given in the other state or country.

Montana Contractor Preference is not applicable to Montana public construction contracts funded in whole or part with federal funds (Attorney General opinion, Volume 42, Number 35, issued November of 1987). This opinion would include federally funded public facility construction programs, such as the Community Development Block Grant (CDBG) program, the State Revolving Fund (SRF) loan programs, or the U.S. Department of Agriculture, Rural Development/Rural Utilities Service, which are common sources of funding for many types of public facility projects.

4. Subcontractor Review

Most contractors employ subcontractors to complete a portion of their work. Sometimes a federal funding agency will require the use of "Disadvantaged Business Enterprises" (DBE) in a project, and specify the percentage of the project work to be awarded to a DBE or DBE's. If this is the case, the Project Engineer will carefully review the DBE submittal that will be

included in the Bid Package to ensure that the bidder has complied with the bidding requirements.

In some situations, a Community may not want a specific subcontractor working on the project. In this case, the Community may request the Contractor to find a more acceptable subcontractor. In so doing, the Community is agreeing to pay any additional costs involved by requiring a new subcontractor.

5. Award Recommendation

When both the Community and the Project Engineer are satisfied that the bids are correct and that the Contractor and his or her subcontractors are capable of completing the project, the Project Engineer should prepare a "Letter of Recommendation" to the Community. This letter should recommend to the Community that the contract for construction be awarded to the successful bidder if the Community has the financial capability to fund the project.

It is customary at this time to return the bid securities to all but the three lowest bidders. The three lowest bidders' bid securities are withheld in the event the lowest bidder fails to complete an Agreement for the construction of the project with the Community within the specified time. If the low bidder fails or refuses to enter into an Agreement with the Community, the lowest bidder's Bid Bond may be forfeited and applied to the bid submitted by the second lowest bidder. The sequence can be repeated with the third lowest bidder if necessary. In the event that a bidder fails to enter into an Agreement within the stipulated time, not only does the bidder forfeit the Bid Security, but the bidder also is responsible for making up any shortfall between the value of his or her bid plus the Bid Security and the value of the next bid. Once an Agreement between the Community and the low bidder is executed, the remaining bid bonds are returned.

J. COMMUNITY'S ACCEPTANCE AND NOTICE OF AWARD

When the Community receives the Letter of Recommendation from the Project Engineer, the local officials must carefully review the entire project budget. In the event that all bids exceed the amount of funding available for the construction project, the Community has two options:

- ❑ use additional financing resources, such as increasing the amount of a planned local bond issue or increasing the amount of funding to be borrowed from state or federal loan programs; or
- ❑ modify the bid package and repeat the entire bid process as outlined above.

Do not negotiate with the low bidder after the bid opening. Allowing negotiations with the low bidder after the bidding has closed may draw a protest from the losing bidders. Such a protest may have some legal merit based on a general fairness argument. In the event the lowest responsible and responsive bid is greater than the project budget, the best course to follow would be to re-bid the project with a reduced scope.

If the Community and Project Engineer built separate bid schedules (“additive or deductive alternates”) into the Bid Package, then the Community does have some room to adjust the offer to fit the project budget. As discussed in the section on preparing the Bid Package, the bid proposal would contain several alternate schedules of work items or components to be added or deducted from the bid submittal. Refer again to Section A-2 for more information on additive or deductive alternates. The Community and their Engineer will determine how many, if any, of the additive alternates can be awarded. Be careful not to commit all of your funds; leave some money (5 to 10%) for contingencies. The unexpected will likely occur.

A good example is the discovery of an abandoned structure such as an underground storage tank buried in the path of your improvement. Neither you, your Engineer, nor certainly not the Contractor, were aware of this structure during the design and bidding of the project, but it is in the way and has to come out. The Contractor deserves to be paid for the additional work that will be required to remove the structure. Having some money in reserve for contingencies will allow the project to move forward without delay, and reduce the possibility of the Contractor submitting a claim for delay, standby time, etc.

The Contractor can submit a claim for standby time if a problem similar to this is not resolved in a timely fashion. The Contractor often has rented or leased the heavy equipment being utilized on your project. "Idle iron" costs the Contractor money, and that cost usually bites into the Contractor's profit. Be prepared to deal with the unexpected.

When satisfied that there are sufficient funds available to complete the project for all basic cost elements (construction, legal and professional services, and project administration) the Community issues a “Notice of Award.” This starts the ball rolling on the construction contract(s). However, check with any funding agencies first to ensure that you are authorized to issue the award notice.

The issuance of the Notice of Award allows the Contractor to arrange Performance and Payment Bonds, insurance, etc., and in some cases allows the Contractor to order materials and equipment. Exhibit 6 is a Notice of Award. **A copy of the Notice of Award should be sent to any federal or state agency that is providing funding for the project. The Notice of Award should be signed by the Community, not the Project Engineer.**

The Community should issue the Notice of Award within 30 days of the bid opening unless there are special circumstances, such as the funds are not yet completely available or the project requires some final action or approval by a federal or state agency. Generally, a bid is valid beyond sixty days only with the agreement of the low bidder. If a delay of longer than 60 days is anticipated, the Community should contact any state or federal agency that is providing funding for guidance.

The complete contract package should consist of an executed contract document, which includes the following attachments:

- all items included in the bid package;

- ❑ the contractor's bid proposal;
- ❑ bonds and insurance forms; and
- ❑ signed contractor certifications.

In the event that the accepted bid or bids received are less than the approved budget for the construction project, any state or federal agency that is providing grant funding may want to share proportionately in any savings. If this occurs, the Community should contact any state or federal agencies that are providing funding for guidance.

CHAPTER TWO: PROJECT CONSTRUCTION

This section deals with the actual construction of your project. During the course of construction, each party (the Community, the Project Engineer and the Contractor) has certain responsibilities. These responsibilities should be clearly spelled out in the contracts between the Community and Project Engineer, and the Community and Contractor.

PROJECT CONSTRUCTION addresses several critical issues including:

- ❑ Responsibilities of the Community, Project Engineer and the Contractor
- ❑ Pre-Construction Activities
- ❑ Construction Administration
- ❑ Construction Records
- ❑ Construction Problems
- ❑ Safety Issues

A. RESPONSIBILITIES OF THE COMMUNITY

As the Community and “Owner” of the project, you have specific responsibilities to the Project Engineer, the Contractor, and possibly state or federal funding agencies that may be involved in financing the project. The Community’s responsibilities to the Project Engineer and the Contractor are spelled out in detail in Article 8 of the General Conditions found in the *Montana Public Works Standard Specifications*. The responsibilities to any state or federal funding agencies must be spelled out by the individual funding agency.

The *Montana Public Works Standard Specifications* (MPWSS) incorporates 2002 Engineer’s Joint Contract Documents Committee (EJCDC) General Conditions. Previous editions of the MPWSS incorporated the 1996 General Conditions. There are significant changes to the General Conditions, and Owners who routinely utilize these General Conditions should familiarize themselves with the new General Conditions. A comparison of the Changes between the 1996 edition and the 2002 Edition of the General Conditions is beyond the scope of this manual.

1. Community's Responsibilities to the Project Engineer

All communications or requests from the Community to the Contractor should be issued through the Project Engineer.

If the Community should terminate the Project Engineer, the Community must designate a new Project Engineer who will have the same status as the former Project Engineer. (General Conditions, Article 8, Paragraph 8.02).

2. Community's Responsibilities to the Contractor

The Community is responsible for providing all of the lands, easements and rights-of-way that are designated as part of the project and for use of the Contractor. Unless

otherwise specified in the Contract Documents, the Community must obtain and pay for all easements for permanent structures or permanent changes in existing structures. **The Contractor is responsible for those lands and the access needed for temporary construction facilities or storage of materials and equipment.**

The Community must provide the Contractor with the engineering survey to establish construction reference points that the Project Engineer considers necessary to proceed with the project. The Community should also make available to the Contractor copies of those reports of site explorations and subsurface conditions that were used by the Project Engineer in preparing the Plans and Specifications. (General Conditions, Article 8, Paragraph 8.05).

The Community must obtain and maintain its own liability insurance. This may include insurance to protect the Community against claims arising from operations under the Contract Documents. Unless specifically stated to the contrary in the Contract Documents, the Community is responsible for maintaining property insurance for the work at the project site for the full insurable value of that work. The Community must also purchase and maintain boiler and machinery and/or additional property insurance if required by Supplementary Conditions or laws and regulations. In both of the latter cases, the insurance policies must list the Contractor, subcontractors, Project Engineer and the Project Engineer's consultants as additional insured parties. None of these insurance policies can be canceled, changed or refused renewal unless the Contractor is given 30 days written notice by certified mail. (General Conditions, Article 8, Paragraph 8.06 and Article 5).

The Community is required to execute Change Orders (Written Amendments to the contract with the Contractor), which cover the following (General Conditions, Article 8, Paragraph 8.07 and Article 10, Paragraph 10.03):

- ❑ Changes in work ordered by the Community;
- ❑ Changes in work required because of acceptance or correction of defective work;
- ❑ Changes in work agreed to by the Community and Contractor;
- ❑ Changes in the contract price or time agreed to by the parties; or
- ❑ Those changes in the contract price or schedule that incorporates certain written decisions rendered by the Project Engineer.

Unless otherwise specified, the costs for all inspections, tests, and/or approvals required by laws or regulations must be paid by the Community. (General Conditions, Article 8.08 and Article 13, Paragraph 13.03).

Under the terms of the standard Agreement (contract) based on the *Montana Public Works Standard Specifications*, the Contractor payment is due upon the Community's approval (based on the Project Engineer's recommendations) of the Application for (Progress) Payment, unless a longer period for payment has been agreed to, or claims have been made against the Community due to the Contractor's performance, or there are other items entitling the Community to offsets against the amount recommended. Section 28-2-2103, MCA – *Payment to contractor and subcontractor* places a time limitation and other conditions on the time allowed for the Community to make payment to the

Contractor. The requirements of Section 28-2-2103, MCA, are discussed Section 12 of this Chapter.

The Community can order the Contractor to stop work if:

- the work is defective,
- the Contractor fails to supply sufficient workers or suitable materials or equipment, or
- the Contractor fails to furnish or perform work in accordance with the Contract Documents until the cause for the stop order has been eliminated.

At any time and without cause the Community may suspend the work, or any portion of the work, for not more than 90 days by providing written notice to the Contractor and the Project Engineer. Under such a suspension, the Contractor may be entitled to an increase in the contract price or an extension in the Contract Time, or both.

Under certain circumstances, the Community may terminate the services of the Contractor. These circumstances are listed in Article 15 of the General Conditions found in the *Montana Public Works Standard Specifications*.

3. Community's Responsibilities to the Funding Agencies

The Community's responsibilities to any state or federal funding agencies will be spelled out by the individual funding agency. Each agency typically has certain files that Communities are expected to keep on the project. There may also be certain actions required of Communities throughout the construction period to ensure that specific requirements are being complied with. For instance, the CDBG and TSEP programs in the Department of Commerce list several actions to be accomplished by a Community, such as checking weekly payroll reports and interviewing construction employees, to ensure that the Contractor is paying the correct prevailing wage rates to his employees.

B. RESPONSIBILITIES OF THE PROJECT ENGINEER

The Project Engineer will be the Community's representative during the construction period. The scope of the Project Engineer's authority should be described in the Contract Documents and should not be extended without written agreement between the Community and the Project Engineer.

The Project Engineer generally has certain contractual responsibilities to the Community. These responsibilities are detailed in Article 9 of the General Conditions found in the *Montana Public Works Standard Specifications*. The Project Engineer will usually employ a Resident Project Representative (RPR) to be on-site to monitor the project during construction. The RPR has no authority to modify the project plans or specifications but does have the experience to observe problems and recommend a modification to the Project Engineer. The RPR cannot make design changes and modifications, but will channel all written requests to the Project Engineer for a decision. The term Resident is not meant to infer that the person or person employed by the Engineer is a local resident of the community, but rather that this person is resident on the project as the Engineer's representative. Compensation for an RPR

may include the costs for lodging, per-diem and transportation as well as the rate charge to the Community for RPR services.

The Project Engineer, or the RPR, will visit the project at appropriate intervals during the various stages of the construction to observe the progress and quality of the work and to generally determine that work is proceeding in accordance with the Contract Documents. Presence on the job by the Project Engineer and the RPR is to provide a greater degree of confidence in the suitability of construction, and to allow an accurate determination of the completed work for purposes of payment. The Project Engineer should keep the Community informed of work progress and will help protect the Community against defects and work deficiencies.

However, the Project Engineer is not responsible for the Contractor's:

- ❑ **means, methods, techniques or procedures of construction,**
- ❑ **safety precautions and programs, or**
- ❑ **failure to perform or furnish the work specified in the Contract Documents.**

Also, the Project Engineer is not responsible for the acts or omissions of the Contractor or any subcontractor, supplier or any other person or organization performing or furnishing any of the work. **However, even though the Project Engineer is not directly accountable for the responsibilities of the Contractor, the Project Engineer is the Community's "eyes and ears."** The Project Engineer should keep the Community informed of anything that does not appear to be proper or proceeding as specified so that the Community can take action if necessary.

The Project Engineer serves as the initial interpreter of requirements of the Contract Documents and judge of the acceptability of the project work. Requests for Clarification or Interpretation of the contract drawings or specifications are often referred to as RFI's or Requests For Information. A RFI is a written request from the Contractor to the Project Engineer and will be answered in writing by the Project Engineer. RFI's are an important part of the contract and project record and should be maintained by the Project Engineer in the Project File. Referring to a RFI that has been previously issued can often clear up disputes that may arise further on during project construction.

All claims, disputes or other matters relating to such interpretation and/or acceptability must initially be referred to the Project Engineer in writing. This written requirement also applies to claims with respect to changes in the contract price or contract time. The Project Engineer will render a formal written clarification, interpretation or decision within a reasonable time without showing any partiality to either the Community or the Contractor. The Project Engineer may issue such written clarifications or interpretations of the requirements of the Contract Documents as may be necessary and which must be consistent with or reasonably inferable from the overall intent of the Contract Documents.

The Project Engineer may authorize minor variations in the work provided they do not involve an adjustment in the contract price or contract time and are consistent with the overall intent of the Contract Documents. Such variations may be accomplished by "Field Orders" and will

be binding on the Community and the Contractor. The Contractor may claim that a Field Order justifies an increase in the contract price or an extension of the contract time. The Project Engineer should first obtain approval from the Community if the issuance of a Field Order or Work Directive will result in a change in either the contract price or contract time. If there is a change in either the contract time or contract price, a written Change Order must be completed, and signed by the Contractor and the Project Engineer, and most importantly signed and approved by the Community.

The Project Engineer has the authority to disapprove or reject work that he or she believes to be defective. The Project Engineer also has the authority to require special inspection or testing of the work even when the work is fabricated, installed or completed.

With reasonable promptness, the Project Engineer will review and approve shop drawings and samples submitted by the Contractor. Such review and approval is only for conformance with the project design concept and compliance with the information given in the Contract Documents. The Project Engineer may require the Contractor to submit corrections to shop drawings or samples.

The Project Engineer will accept and review the Contractor's Applications for Progress Payment. After reviewing the application, the Project Engineer will either recommend payment and present the application to the Community, or return the application to the Contractor stating in writing why the application is being refused. A recommendation for payment will be based on the Project Engineer's on-site observations of the work in progress and accompanying information that the work has progressed to the point indicated.

The Project Engineer is generally responsible for checking the actual quantities and classifications of unit price work performed by the Contractor. Following a review of his or her preliminary decisions with the Contractor, the Project Engineer will provide a written decision (as an Application for Payment or otherwise). Such written decisions are binding on the Community and the Contractor unless either party delivers a written notice to appeal such decision to all parties.

Upon written notice from the Contractor that the entire project (or an agreed portion) is complete, the Project Engineer must make a final inspection with the Community and the Contractor. If the Project Engineer determines that the work is incomplete or defective, he or she must so notify the Contractor in writing.

When the Project Engineer is satisfied the work is complete, he or she will accept and review the Contractor's Application for Final Payment. In accordance with Montana law (Section 18-2-306, MCA), unless otherwise provided by law or the contract, the Project Engineer must decide whether or not to make final acceptance within 10 days after receiving the Contractor's Application for Final Payment. Final acceptance means that the Project Engineer has certified that the facility or building been constructed in accordance with the terms and conditions of the contract documents. The Project Engineer must give written notice to the Community and the Contractor that the work is acceptable. **Within 30**

days after final acceptance by the Project Engineer, the Community must make the final payment of the contract price specified in the contract to the Contractor.

C. RESPONSIBILITIES OF THE PROJECT CONTRACTOR

The Contractor has certain contractual responsibilities to the Community and/or the Project Engineer, which are defined in Article 6 of the General Conditions, found in the *Montana Public Works Standard Specifications*. **It is the responsibility of the Contractor to complete the project in accordance with the Plans and Specifications and to comply with applicable safety, labor, and environmental protection laws and regulations.**

1. Subcontractors

In accordance with the General Conditions of the *Montana Public Works Standard Specifications*, the apparent low bidder must submit a list of all subcontractors to be used on the project within seven days after bids are opened. The Community may request an “experience statement” for each subcontractor. Before giving the Notice of Award, the Community or Project Engineer may object to any proposed subcontractor and request an acceptable substitute. This could cause an increase in the contract price. If the apparent low bidder refuses to make the substitution, the contract may not be awarded to the bidder without forfeiture of the Bid Security. Listed subcontractors to which the Community or Project Engineer does not submit a written objection will be considered acceptable. Likewise, the Contractor cannot be required to employ a subcontractor to which the Contractor has a reasonable objection.

The Contractor is fully responsible for all acts and omissions of subcontractors, suppliers and other persons and organizations performing or furnishing any of the work under a direct or indirect contract with the Contractor. Nothing in the Contract Documents creates any direct contractual relationship between the Community or Project Engineer and any subcontractor, supplier or other person or organization, nor is there any obligation on the Community or Project Engineer to pay or assure the payment of any moneys due any subcontractor, supplier or other person or organization. Section 28-2-2103, MCA, has provisions requiring the payments of subcontractors. These provisions are discussed in Section 12 of this Chapter.

2. Project (Construction) Superintendent

During the project, the Contractor must keep a competent Project Superintendent (also frequently called the “General Superintendent”) on the site who will supervise and direct the construction work required in the Contract Documents. The Project Superintendent cannot be replaced without written notice to the Community and the Project Engineer, except under extraordinary circumstances. (General Conditions, Article 6, Paragraph 6.01). The Project Engineer or the Engineer’s Resident Project Representative communicates with the Contractor through the Contractor’s Project Superintendent. Official communications regarding the work should only be made to the Contractor’s Project Superintendent and not laborers or worker on the project, as they do not have the authority to direct other members of the Contractor’s work force.

3. Qualified Personnel and Time of Work

The Contractor must provide competent and qualified personnel to layout the work and perform the construction specified in the Contract Documents. All work must be performed during regular working hours unless an emergency arises or otherwise specified in the Contract Documents. The Contractor must not permit overtime work, work at night, or work on weekends and holidays unless agreed to in writing by the Community with notice provided to the Project Engineer. The Community's contract with the Project Engineer may provide that if the Community allows the Contractor to work beyond these times, the Project Engineer is entitled to compensation for the additional working hours performed by the Engineer. Emergency work may usually be done without prior permission.

4. Materials and Equipment

The Contractor must furnish and assume full responsibility for all materials, labor, transportation, utilities, facilities and incidentals necessary for the performance and completion of the project. Unless otherwise specified, all materials and equipment must be new and of good quality. The Project Engineer may require the Contractor to provide evidence as to the kind and quality of materials and equipment. The Contractor may substitute materials or equipment specified in the Contract Documents provided the Project Engineer has determined such substitution is equivalent or equal to that named. The Contractor may also utilize a substitute means, method, sequence, technique or procedure to that specified in the Contract Documents if the proposed substitute is first determined to be acceptable by the Project Engineer.

5. Payment of Permits and Licenses

Unless otherwise stated in the Contract Documents, the Contractor should obtain all required construction permits and licenses, and pay all applicable permit fees. The Community may assist the Contractor in obtaining such permits and licenses. The Contractor is usually responsible for paying for all governmental charges and inspection fees necessary for the project. In addition, the Contractor must usually pay all charges of utility companies for connections to the project.

The Community usually pays the building permit fee and any review fee. The cost of these reviews is generally unknown until the documents are submitted and a fee determined by the reviewing agency. It is the Community's responsibility to pay these review fees since they are not normally included in the Agreement between the Project Engineer and the Community. The Community may also pay for permits such as the Montana Department of Environmental Quality's *General Permit for Storm Water Discharge Associated with Construction Activity* because of the relatively long period of time involved in obtaining this type of permit. Once a contract is awarded, the Community then transfers the permit to the Contractor.

6. Compliance with Laws and Regulations

The Contractor is responsible for complying with all laws and regulations applicable to furnishing and performance of the project work. If the Contractor performs any work that

the Contractor knows or has reason to believe is contrary to applicable laws and regulations without providing notice to the Project Engineer, the Contractor will be responsible for all costs arising from such actions. If the Contractor determines that the Plans and Specifications are at odds with applicable laws and regulations, he or she must provide prompt written notice to the Project Engineer. However, it is not the Contractor's primary responsibility to make sure the Plans and Specifications are in accordance with such laws and regulations.

7. Payment of Taxes

The Contractor is responsible for payment of all taxes required to be paid by the Contractor that are applicable during performance of the work. The State of Montana requires a 1% Contractor's Gross Receipt Tax to be withheld from each payment to a contractor. It is usually the responsibility of the Community to send this payment directly to the Montana Department of Revenue along with the required forms (Section 15-50-~~205~~, MCA).

8. Site Conditions

During the progress of the work, the Contractor must keep the project site free from waste materials, rubbish and other debris generated by the work. The Contractor must remove all waste materials, equipment, surplus materials, tools and appliances from the premises at the completion of the project and leave the site clean and ready for occupancy. The Contractor must restore any property to its original condition that is not designated for alteration.

All construction equipment and materials and the operations of workers should be confined to the project site or those areas specifically identified in the Contract Documents. The Contractor is fully responsible for damages to any project land or areas, as well as any land or areas contiguous to the project site, resulting from performance of the work (except damage or loss attributable to the fault of Plans and Specifications or acts or omissions of the Community or the Project Engineer). Should any claims for damages be made against the Community or the Project Engineer because of performance of the work, the Contractor must promptly attempt to settle or otherwise resolve the claim.

9. Record Keeping

The Contractor must maintain at the project site at least one record copy of all drawings, specifications, addenda, written amendments, change orders, work directive changes, field orders and written interpretations and clarifications in good order and annotated to show all changes made during construction. These record documents are to be available to the Project Engineer for reference. Final Payment to the Contractor should not be made, until the Contractor has provided the Project Engineer with a copy of the Contractor's record drawings, Operation and Maintenance Manuals and other documentation required to be provided by the Contractor.

10. Prevention of Injury, Damage and Loss

The Contractor is responsible for compliance with all applicable laws and regulations of any governmental agency that has jurisdiction for the safety of workers, other persons or property, and must protect them from injury, damage and loss. The Contractor must erect and maintain all necessary safeguards for such safety and protection. The Contractor must notify and cooperate with the owners of adjacent property and underground facilities and utility owners when the project activities may affect them. The Contractor's duties and responsibilities for the safety and protection of the work must continue until the project is completed.

In the event of emergencies which might affect the safety or protection of persons or property at or adjacent to the project site, the Contractor is obligated to act to prevent threatened injury, damage or loss without special authorization from the Community or the Project Engineer. The Contractor must provide prompt notice to the Project Engineer if the Contractor believes any significant changes in the work or variations from the Contract Documents were caused by the emergency.

During any disputes or disagreements with the Community, the Contractor should continue the work and adhere to the project schedule. Unless agreed to in writing by both parties, no work should be delayed or postponed pending resolution of any disputes or disagreements.

To the fullest extent permitted, the Contractor must indemnify and hold harmless the Community and the Project Engineer from and against all claims, damages, losses and expenses arising out of or resulting from the performance of the work and caused by negligent acts or omissions of the Contractor, any subcontractor, or other person or organization directly or indirectly employed by any of them.

11. Shop Drawings and Underground Installations

After checking and verifying all field measurements and complying with applicable procedures specified in the Contract Documents, the Contractor must submit to the Project Engineer required copies of all shop drawings. Without causing a delay in the work, the Contractor must also submit all samples required by the Contract Documents. The shop drawings and samples should include or be accompanied by a specific written indication that the Contractor has satisfied his or her responsibilities under the Contract Documents. The Project Engineer will promptly review and approve the shop drawings and samples only for conformance with the project design concept and compliance with information given in the Contract Documents. Any work performed prior to the Project Engineer's approval of required shop drawings or samples will be the sole expense and responsibility of the Contractor.

The Project Engineer will generally obtain information from local public utilities regarding underground installations and incorporate them in the construction plans. The plans will show elevations, if known, of existing and proposed improvements, the location of water or sewer lines, utilities, valves and fittings, etc. The Contractor

should be required to verify these locations prior to actual construction and then be held liable for any subsequent damages to underground facilities.

D. PRE-CONSTRUCTION ACTIVITIES: PREPARATION AND REVIEW OF THE AGREEMENT (CONTRACT)

Prior to construction, many contractual requirements must be met in order for the actual construction to begin. The Project Engineer will prepare forms, contract documents and other documents for the Community's review and signature. Be sure you understand what it is you are signing. These documents commit your Community financially to the project and all of the stipulations set out in the documents.

Once the Community has issued the “Notice of Award”, the Project Engineer will prepare the “Agreement” (Contract) between the Community and Contractor for the Contractor's signature. Along with the Agreement, the Project Engineer will also prepare the format for the Performance and Payment bonds. In addition, the Project Engineer may send a list of insurance requirements, in the form of a checklist, enumerating the types, limits and other conditions of insurance that will be required of the Contractor before the Community signs the Agreement. (The requirements for insurance, performance and payment bonds are clearly spelled out in the General Conditions, the Supplemental General Conditions, and possibly the Special Provisions of the Bidding Documents). We will briefly discuss each of these documents.

1. The Agreement (Contract)

The Agreement is a legally binding contract between the Community and the Contractor once both parties execute it. Exhibit 7 is an example of an Agreement Form from the *Montana Public Works Standard Specifications*. The Agreement contains the date of the Agreement, the official name of the parties entering into the Agreement, [i.e., “John Doe Construction” (Contractor) and the “City of Anywhere” (Community)]. The Agreement will generally describe the work for which the Agreement pertains, and a qualifying description that more specifically describes the work or a portion of the work required for the total project to which the Agreement applies.

The Agreement should specify the contract time, generally stating “The Work will be completed within ___ days after the date . . . “ In too many contracts, the definition of “days” is often missing. There is a vast difference in calendar and working days. Be sure this is clearly stated in the Bidding Documents to avoid confusion during the construction period. In addition, the Agreement usually specifies the time that the Project Engineer has allocated for construction. This is usually stated in a manner similar to “The Contractor will perform the work on Monday through Friday from 8:00 a.m. to 5:00 p.m.” This may seem somewhat limiting on first reading, but there is a serious monetary cost involved with letting the Contractor work beyond the daily or weekly time period established in the contract documents. For example, the Engineer may have based his or her contract with the Community based on the hours and days stipulated in the Agreement with the contractor. Allowing the contractor to work beyond the hours or days stipulated in the agreement subjects the Engineer to additional costs that they may be entitled to bill the Community for

and collect if the contract with the Engineer has this type of provision. (In some cases, Liquidated Damages may be used for this purpose). The Agreement should also specify the liquidated damages that will be assessed from the Contractor if he or she exceeds the contract time.

Most Community officials will recall their original contract negotiations with their Project Engineer. During those negotiations, the Project Engineer discussed the time frame they had determined to be reasonable for the Contractor to complete the construction of the project. Part of the Project Engineer's fee was based on the amount of time that the RPR would be present on the job to observe the Contractor's work. If the Contractor does not finish the work within the time frame allowed, the Project Engineer may be entitled to compensation for the additional services he or she must provide during the time it takes the Contractor to complete the work after the contract time has expired.

Usually contracts between the Community and the Contractor state that any additional time required for the Project Engineer beyond the stated contract time will be paid for by the Contractor by withholding from the Contractor payment in the amount the Community would have to pay the Project Engineer for his or her services. The Agreement may state:

Community and Contractor recognize that time is of the essence of this Agreement and that the Community will suffer financial loss if the Work is not substantially complete within the time specified (above), and any extensions thereof allowed in accordance with the General Conditions. They also recognize the expense and difficulties involved in providing legal or arbitration proceedings involving the actual loss by the Community if the Work is not substantially completed on time. Accordingly, instead of requiring any such proof, Community and Contractor agree that as liquidated damages for delay (but not as a penalty) Contractor will pay Community _____ dollars (\$_____) for each day that expires after the stipulated time herein until the work is substantially complete.

Essentially, this section of the Agreement states that the Community may assess any costs associated with the continuance of services provided by the Community under the Agreement with the Contractor. Proving financial loss for the lack of use by a Community is very difficult, unless the Community can document such loss. However, it is much easier to document the additional costs the Community will bear for the continued employment of the Project Engineer as a result of the contract time overrun.

The Agreement may also contain an example employed by many Project Engineers to document additional time beyond the time stipulated in the Agreement for services provided by the Project Engineer or his or her staff. The key word here is documentation. If the Community or the Project Engineer does not have adequate documentation, the Contractor can challenge the assessment for charges, and most likely will win. If this happens, local officials and your Project Engineer will probably enter into discussions as to how the Project Engineer will be compensated for services provided. Remember, the contract with the Project Engineer is with the Community, not between the Contractor and the Project Engineer. Be sure you are clear on the provisions of the Agreement for payment to the

Project Engineer, in the event the Contractor exhausts the time allowed for construction prior to substantial completion of the work

2. Contract Price

The Agreement between the Community and the Contractor will list a price for the completed work. There are two types of contracts, a lump sum type contract, and a unit price contract. A lump sum contract is a contract binding the Contractor to complete the work for the lump sum price specified in his bid (unless Change Orders have modified the lump sum upward or downward from the original bid). Most utility improvement contracts are a unit price contract. Rarely will the contract amount listed in the Agreement be the actual price the Community will pay for the completed project. Especially in unit price type bids, the actual amount of work completed will differ from the amount initially bid, with some items under-running initial quantities and other items exceeding initial quantities (see “Reconciliation Change Order” in Chapter 3). Remember, the actual amount that the Community is required to pay the Contractor is the amount stipulated in the Agreement, unless the Agreement has been formally modified by a “Change Order” (Change Orders will be discussed later in this section). The Community should budget for a 5% or greater allowance for unknowns that often arise during construction. For example, elsewhere in this manual, we have discussed unforeseen conditions, like abandoned car bodies used for road fill or a boiler buried in the right of way. These conditions were unknown to the Engineer at the time the project was designed and to the Contractor at the time the project was bid. The Contractor will be required to remove and dispose of these unknowns and should be compensated for the work involved in removing these types of items. Perhaps the largest unknowns are abandoned utility lines that were not mapped or shown on any information provided to the Project Engineer. It is for these reasons and others that the Community should have some contingency funds in addition to any contingencies the Project Engineer may have built into the project to cover the unknown conditions.

3. Progress Payments

If the contract period exceeds thirty days, the Contractor will usually expect periodic payment for services completed. This request is commonly referred to as a “Progress Estimate,” and the payment the Community makes to the Contractor is often referred to as a Progress Payment. The Project Engineer should prepare a progress estimate for consideration by community officials. Refer to the previous discussion regarding the Responsibilities of the Community regarding progress payments.

4. Retainage

“Retainage” is an amount of money, usually five (5) percent of the total amount due to the Contractor that is held by the Community as additional insurance that the Contractor will properly complete the construction work. The retainage may not exceed 5% if the contractor is performing by the terms of the contract (Section 18-2-316, MCA). The retainage is held pending the final inspection and acceptance of work. The actual amounts retained may vary, depending on the total amount of the contract, progress of construction, and other specific instructions in the contract. Additionally,

retainage gives the Community a fund of allocated expenses from which the Community may pay the Project Engineer for services rendered beyond the contract time.

5. Gross Receipts Tax

Section 15-50-205, MCA, requires contractors working on public projects to pay to the Department of Revenue a 1% gross receipts tax and, in addition, requires local governments to withhold this 1% of all payments due to contractors and transmit these funds to the Department of Revenue. In addition to the Retainage described above, **the Community must retain one percent of the total amount of each partial payment due to the Contractor and send these funds to the Montana Department of Revenue for the Contractor's Gross Receipts Tax.** Contracts valued at less than \$5,000 are exempt from this provision. The "Contract Award Report" and the "Gross Receipts Withholding Report" are shown in Exhibit's 8 and 9. **The Community or the prime Contractor must complete the Contract Award Report and mail to the Department of Revenue within ten (10) days after the contract or bid has been officially awarded. The Community must complete the Gross Receipts Withholding Report and remit the 1% tax to the Department of Revenue within thirty (30) days of payment to the Contractor.**

6. Final Payment

When the Contractor has completed all of the work required under the Agreement, he or she is entitled to final payment. Final payment releases all of the Retainage previously withheld from the Contractor during the course of the project and represents the final reconciliation between the Community and the Contractor for services rendered. The Project Engineer will advise the Community when final payment should be made. Chapter 3 deals exclusively with project closeout. We will discuss final payment, reconciliation change orders, and other pertinent documents in that Chapter.

7. Interest

As with any financial obligation, late payments by the Community are generally subject to interest. The contract between the Community and the Contractor should define the interest rate that you agree to pay the Contractor if the payment is late. Your Project Engineer should work with you to establishing dates that progress estimates must be presented to you for payment to help you avoid interest charges.

8. Contractor's Representations

This is perhaps one of the most important clauses in the Agreement between the Community and the Contractor. This section generally states that the Contractor is familiar with the nature, location and extent of the work required under the Agreement and that the Contractor has studied the reports of investigations and tests of the subsurface and latent physical conditions at the site, etc., that were relied on by the Project Engineer in designing the project and other items identified in the General Conditions and elsewhere in the bidding documents.

Essentially, the Contractor is stating that the bid presented and represented in this Agreement is the full price compensation he or she expects to receive for work completed. It also states the limitations upon which the Agreement is entered into, and defines a path for the Contractor to follow if conditions discovered during the execution of the work differ substantially from those described in the contract documents.

9. Contract Documents

The Agreement should state which documents constitute the entire Agreement between the Community and the Contractor. The usual procedure that is followed is to list the documents within the Agreement. The list of documents is found in Article 9 of the Agreement form in the *Montana Public Works Standard Specifications*. **It is extremely important that the list of contract documents identify any addendums that are to be included in the Agreement, along with any “after the fact” contract modifications that relate to the Agreement. It is recommended that the Contract Documents only be amended, modified or supplemented as provided in the General Conditions, Article 3, Paragraph 3.04**

10. Miscellaneous

There are often certain conditions relating to the Agreement that do not fall under a specific article or paragraph of the Agreement between the Community and the Contractor. Most agreements contain a “Miscellaneous” article to deal with these items. Refer to Article 10 of the Agreement bound in the MPWSS or Exhibit 7 for an example of this section.

11. Signatures

In order for any Agreement to be legal, it must be signed, sealed and attested to by both parties. **Once the Agreement has been assembled, it should also be reviewed by the Community’s attorney for completeness and consistency with State laws and regulations. Montana law (Section 18-2-404, MCA) requires that all public works contracts be approved in writing by the public entity's legal adviser prior to execution.**

Refer to the last page of the Agreement, Exhibit 7 for an example of a signature page to an Agreement between the Community and the Contractor.

E. PERFORMANCE AND PAYMENT BONDS

Two very important documents are generally included with the Agreement to protect the Community from the Contractor’s failure to complete the work or to pay laborers and suppliers. These two documents are known as a Performance Bond and a Payment Bond. These documents can be compared to an insurance binder that legally obligates the Contractor's insurance company or bonding company to complete the project if the Contractor fails to complete the project, or pay all laborers and suppliers moneys due to them, if the Contractor fails to or cannot pay them.

These documents take many forms but usually conform to those shown in Exhibit 10 or Form C-610 in the MPWSS (Performance Bond) and Exhibit 11 or Form C-615 in the MPWSS

(Payment Bond). If local officials have any doubts about these forms, they should consult with their attorney and their community's insurance agent for assurance and clarification.

It is very important that neither the Performance Bond nor the Payment Bond be dated prior to the date of the Agreement. To predate the bonds may invalidate them simply because there was no agreement in place linking the bonds to a specific project. Your Project Engineer can assist you in the signing and dating of contract documents.

F. INSURANCE

It is critical that the Community receive documentation that the Contractor is providing adequate insurance for the project. Insurance requirements are usually set out in the General Conditions, Supplemental General Conditions and the Special Provisions of the Agreement. Of all the contract documents, the insurance requirements are often the ones that are not in compliance with the Agreement in the first submittal. **It is important that local officials, your insurance advisor, the Project Engineer and your attorney review the insurance submittal provided by the Contractor to assure complete compliance with the Agreement.**

The Project Engineer is not an insurance underwriter or an agent and is not qualified to pass judgment on whether or not an insurance certificate completely fulfills the requirements of the Agreement. Consultation with your community's insurance agent is therefore extremely important. **Do not execute the Agreement, Performance Bond or Payment Bond until local officials are entirely satisfied that the insurance coverage provided by the Contractor is in complete accordance with the Agreement requirements.**

G. CONDUCTING THE PRE-CONSTRUCTION CONFERENCE

The "Pre-Construction Conference" is the first official meeting between the Community and the Contractor. This meeting should be held soon after the contract award and is scheduled when the Contractor has provided all of the necessary contract documents. **During the Pre-Construction Conference, project responsibilities are defined, key players are introduced and the Contractor's proposed schedule is presented to the Community and the Project Engineer.** The conference represents a key opportunity prior to beginning project construction for the Community and its Project Engineer to give instructions to the Contractor.

Items that may be discussed in a Pre-Construction Conference include:

- ❑ Identification of official representatives of the Community, Project Engineer and Contractor,
- ❑ The introduction of the Contractor's Project Superintendent and a discussion of his or her responsibilities,
- ❑ The introduction of the Project Engineer's Resident Project Representative (RPR) and a discussion of his or her duties, responsibilities and limitations,
- ❑ Identification of any state or federal agencies involved in the project and their requirements, such as prevailing wage rates for construction; payment of overtime;

- equal employment opportunity requirements; and the use of registered subcontractors,
- ❑ Chain of command,
 - ❑ Licenses, permits and certificates that may be provided by the Community, and those that need to be provided by the Contractor,
 - ❑ The need and location of any project signs,
 - ❑ Notice to Proceed, Suspend Work and Resume Work Orders,
 - ❑ Contract completion time and the Contractor's schedule to complete the project,
 - ❑ Liquidated damages, what they will be assessed for and how they will be assessed,
 - ❑ Extension of contract time and what will constitute a valid request by the Contractor for a contract time extension,
 - ❑ Payments to the Contractor for work completed on the project,
 - ❑ Submission of certified payrolls weekly from the Contractor and any subcontractors employed on the project; posting prevailing wages continually at the job site; and employment of apprentices or trainees,
 - ❑ Materials and payment for materials on hand,
 - ❑ The use of alternate materials,
 - ❑ Submittal and approval of shop drawings,
 - ❑ Manufacturer's operation and maintenance (O&M) data and required start-up services,
 - ❑ Extra Work, Work Directives and Change Orders,
 - ❑ Subcontractors that will be employed by the Contractor,
 - ❑ Preparation, submittal and approval of concrete and asphaltic concrete mix designs,
 - ❑ Equipment that will be used by the Contractor,
 - ❑ Final acceptance of work documents required, and certification of payments to suppliers and subcontractors' payments,
 - ❑ Guarantee on completed work,
 - ❑ Staking of the work,
 - ❑ Testing of materials and compaction,
 - ❑ Safety regulations,
 - ❑ Maintenance of traffic, traffic signs and traffic control devices,
 - ❑ Haul roads that will be used by the Contractor,
 - ❑ Underground and overhead utilities,
 - ❑ Land and right-of way,
 - ❑ Insurance requirements and certificates, and
 - ❑ Any special conditions of the contract.

In order to document discussions that occur during the Pre-Construction Conference, local officials should record minutes of the conference. **Minutes of the meeting should be recorded and distributed to all parties in attendance and to any federal or state funding agencies participating in the project. A verbatim record is not necessary; the names of the persons who attended and a summary of the comments and issues covered is sufficient.** Minutes of the Pre-Construction Conference should be retained by the Community.

The Community and prime contractor should include all subcontractors in the discussions to ensure that the subcontractors are aware of the requirements that will apply to them, such as state or federal prevailing wage requirements.

The Montana Department of Commerce TSEP and CDBG programs each provide a “Pre-Construction Conference Planning Guide” as part of their grant administration manuals, which is available upon request. (They are also available on line by going to each of the program’s web sites.) Some of the more important items that should be covered in a Pre-Construction Conference are discussed below. In addition, many of the Pre-Construction Conference items discussed here will be applicable throughout the entire construction process. To avoid repetition later, we will examine some of the items in detail.

It is common for the Community to execute the Agreement at the Pre-Construction Conference, especially if a federal agency is involved. This is usually the case if all or part of the funding for the project is being provided by the U.S. Department of Agriculture, Rural Development/Rural Utilities Service, as their representative is also required to sign the Agreement. If the Agreement will be signed at the Pre-Construction Conference, it is important that the Community’s attorney review the draft Agreement in advance to assure local officials that it is acceptable. The attorney is also required to sign the agreement on some contracts where funding agencies are involved, and it is good practice to have the attorney review and sign any construction contract.

1. Attendance List

A sign-in roster should be provided at the Pre-Construction Conference. The list should have columns for the attendee’s name, company and telephone, fax and cellular phone number(s). With the proliferation of electronic mail, the attendance list may also require the e-mail address of those people attending the pre-construction conference. Key people such as the Project Engineer’s RPR, the Contractor’s Project Superintendent and the Community’s emergency contact should list telephone numbers where these people can be reached 24 hours a day. If night, weekend or holiday people are to be utilized during the project, they should attend and their telephone number(s) listed.

2. Introductions

The Pre-Construction Conference is usually led by the Project Engineer. All participants in the pre-construction conference should be introduced so that each participant in the project is familiar with the person and the organization they represent. For example, if the project involves underground construction of a pipeline, representatives of the telephone, power, natural gas and cable TV companies should be in attendance and introduced. These people have a financial interest in the construction of your project, because in Montana all public and private utilities have a legal obligation to clearly mark the location of their underground utilities.

3. Identification of Contractor's Project Superintendent

The Contractor's Project Superintendent is usually required to attend the Pre-Construction Conference. This person is the person with whom the Project Engineer and the RPR will deal on a daily basis. It is important that the Contractor appoint a qualified Project Superintendent who will be on the project from the beginning through project close out. (General Conditions, Article 6, Paragraph 6.01B).

4. Project Engineer's Resident Project Representative (RPR)

The Project Engineer's RPR will also usually attend the Pre-Construction Conference. He or she will be introduced to the key people that will be involved in the construction of the project. The duties and responsibilities of the RPR will be discussed. The RPR cannot make design changes and modifications, but will channel all written requests to the Project Engineer for a decision.

5. Federal and State Agencies

If the project is being funded in part by federal or state agencies, there will be additional requirements that must be complied with during the course of the project. **During the Pre-Construction Conference, the agency representatives or the Community's designated Project Administrator will explain the state and/or federal requirements to the Contractor and other conference participants.** The Community and your Project Engineer will likely have been working with these agencies and should already be aware of their requirements.

6. Licenses, Permits and Certificates

The contract documents usually require the Contractor to obtain all necessary licenses, permits and certificates that will be needed to complete the project. For building projects, this may include the building permit. Usually on building projects, the Project Engineer has previously cleared the building permit with the regulating building department or the Montana Department of Commerce Building Codes Division, and the permit should be ready to be issued to the Contractor. The Community usually pays the building permit fee and any review fee. The cost of these reviews is generally unknown until the documents are submitted and a fee determined by the reviewing agency. It is the Community's responsibility to pay for these review fees since they are not normally included in the Agreement between the Project Engineer and the Community. (General Conditions, Article 6, Paragraph 6.08).

Any special permits that were acquired by the Community for the project should also be discussed at this time. Copies of all the licenses, permits and certificates should be exchanged between the Contractor and the Community.

7. Notice to Proceed

After executing the construction Agreement and holding the preconstruction conference, the Community may then provide the prime contractor with a "Notice to

Proceed.” This notice establishes the construction starting date and the estimated date of completion. This document is very important to the Contractor and to the Community because it controls the contract time. The Notice to Proceed is shown in Exhibit 12 and Form C-550 in the MPWSS. A copy of the Notice to Proceed should also be sent to any state or federal agency that is providing funding for the project, at the time the notice is sent to the contractor.

8. Suspend Work Order and Resume Work Order

The Contractor's “clock” starts running based upon the starting date in the Notice to Proceed. **Usually, the only way the “clock” can be stopped is by the issuance of a “Suspend Work Order.” Likewise, the only way the “clock” can usually be restarted is by the issuance of a “Resume Work Order.”**

These orders are generally used for winter shut down or in cases where it is impossible for the Contractor to continue working on the project due to some circumstance. **When a Suspend Work Order is issued, it is usually required that all work on the project stops. If that is the case, the Contractor may not install any new work and can perform only maintenance work as required on work completed prior to the Suspend Work Order.**

A Suspend Work Order is usually issued for an extended period of time. The Project Engineer and his RPR will not be on the project site, with the exception of periodic visits for maintenance of conditions by the Contractor. Only when a Resume Work Order has been issued, may the Contractor resume normal construction activities.

Suspend Work Orders may result in an increase in the Project Engineer's fee due to the fact that additional paper work will be needed during the suspended work period that was not originally budgeted at the time fees were negotiated. Your Project Engineer should discuss the issuance of a Suspend Work Order with you should the need ever arise.

9. Contractor's Schedule

The Contractor will usually be required to submit a schedule of proposed activities that will be completed during the course of construction. This schedule may be a simple bar graph for a small, uncomplicated project, or it may be a computerized “Critical Path Method” schedule for a complex project where the installation of items or equipment must be completed in a specific order.

The Contractor's schedule is an important document. It will generally be used throughout the project for things like public announcement of street closures, construction traffic control, scheduling of the Project Engineer's RPR and by the Community, in scheduling your staff. **The schedule is a dynamic instrument. It should be updated on a weekly basis.** This should be emphasized at the pre-construction conference.

The schedule will also generally be used by the RPR to track the Contractor's progress. It can serve as an early warning device to alert the Community that the project may not be completed within the time allocated. The schedule can help the Project Engineer

“stimulate” the Contractor to add additional work forces, etc., to avoid liquidated damages at a later date.

In the event a contractor is unable to complete a construction project, the Community may assess the Contractor for the costs the Community must incur in order to complete the project. This assessment generally takes into account the work actually performed by the original contractor and the total amount of any contracts needed to satisfactorily complete the construction. These provisions must be consistent with the corresponding elements of the construction Agreement.

10. Liquidated Damages

This important provision of the Agreement should be reviewed at the pre-construction conference to reacquaint participants with the consequences if the Contractor exceeds the contract time stated to complete the project.

11. Extension of Contract Time

Weather is generally the most uncontrollable factor in completing a construction project on schedule. At times, the Contractor will be physically unable to perform any work on the project, such as underground utility work during periods of heavy rain. The standard Agreement allows the Contractor to request a contract time extension. These extensions are usually granted if the weather is considered abnormal, or unless other circumstances would alter this consideration. However, the Community must realize that granting an extension of contract time to the Contractor will usually also extend the time the Project Engineer and the RPR will need to work on the project. This may mean that you will have to pay additional funds to the Project Engineer and engineering staff. Some Project Engineers have built a contingency into their fee to cover small time extensions, but Community officials, with the aid of the Project Engineer, will have to examine each request for a time extension and carefully consider its implications.

12. Payments to the Contractor

The Contractor will usually expect to be paid on a monthly interval during the course of the contract. The RPR and the Project Superintendent should prepare an estimate of work completed and present the list to the Project Engineer. After review, the Project Engineer should sign off on the estimate, often referred to as a “Progress Estimate” and present it to the Community for payment.

Timing for the submission of a progress estimate is important, since the Community is a governmental body and local officials have certain days designated for the conduct of official business. The Agreement, (General Conditions, Supplemental General Conditions and the Special Provisions) sets forth the time allowed between the submission of a progress estimate and the time the Contractor is paid. Therefore, a cut-off date for the submission of a progress estimate is usually established during the pre-construction conference that will allow the Project Engineer and Community officials sufficient time to review and approve payment to the Contractor.

For example, if your regular meeting date is the first Monday of the month, then a date near the 20th of the month preceding should be designated as the cut-off date. After that date, any work completed by the Contractor will appear on the next month's progress estimate. Establishing a cut-off date, coordinated with your regular meeting dates, will avoid confusion and problems as your project progresses.

In addition, communities that are financing their public facility projects with assistance from state or federal funding agencies should be aware that each agency has different time requirements for processing construction funding requests from communities.

The turn-around time between a community's request for funds and actual receipt of funds can frequently be two to four weeks or longer. If this is the case for your project, Community officials may need to incorporate a longer payment period in the construction Agreement language or arrange for interim construction financing with INTERCAP, or a local lender to deal with this lag in the receipt of funds.

The 2003 Montana Legislature passed House Bill 438, which made significant changes to the time allowed between the Contractor's initial request for payment and the time the Contractor receives payment. This bill amended Sections 28-2-2101 and 2103, MCA. The provisions and requirements of this statute must be incorporated into projects with a contract date of October 1, 2003 or later. The statute provides for some relaxation for the number of days that periodic payments must be made as compared to the twenty-one days and seven days stipulated in Section 28-2-2103, MCA. A discussion of the requirements of this statute follows:

Of primary importance, the new statute provides for a total of twenty-one (21) days to review an application for payment. If the Community or Engineer fails to act within that time, the application is deemed approved. This is a strict time line that is statutorily required and cannot be waived. The time line can be extended beyond the twenty-one days, but your Project Engineer has to include certain language in the Instructions to Bidders. It might be worthwhile to make that change because the consequences of approving a progress payment by waiting too long can be serious. It is possible, for example, that you could end up paying for defective work if a progress payment is deemed approved due to the expiration of the twenty-one days.

HB 438 applies to the following types of construction projects in Montana:

- ◆ All private commercial construction.
- ◆ Residential construction with total cost of \$400,000 or more.
- ◆ All government entities, with the exception of State and Federal Construction projects. (The Act defines a governmental entity as a City, Town, County, consolidated municipal-county government, school district, or other special district.)

HB 438 also contains strict provisions stipulating when a general contractor or a subcontractor may suspend work or terminate a construction contract:

- ◆ A general contractor may suspend work or terminate the contract if a Community fails to pay for the general contractor's work that has been approved. The general contractor must give the Community at least seven calendar written notice of his intent to suspend or terminate.
- ◆ A subcontractor may suspend work or terminate the contract if the Community and the general contractor fail to pay for work that has been approved. If a general contractor is paid for the subcontractor's approved work, but fails to pass on the payment, the subcontractor must also give the Community seven days notice prior to suspending work or terminating a contract. The key to if and when a contractor can suspend work or terminate a contract lies with the Community. If a Community pays for work approved--and the money flows down to the appropriate contractors--all work must continue.

HB 438 also stipulates a seven-day time period in which payments must be made once they are approved. Communities may want to consider using an alternative billing cycle, especially where funding for the project comes from a grant or a loan. Often, a Community must request a "Draw-Down" from the funding agency, and the time involved in transferring the money may exceed the time allowed by Section 28-2-2103, MCA.

Section 28-2-2115, MCA, inserted here contains the explicit instruction as to how a Community must go about specifying an alternate billing cycle. Because of the financial ramifications of this statute, consultation with your attorney is advisable so that he or she can review the bid document, the advertisement for bids, the instructions for bidders and any other pertinent contract documents to ensure that the language complies with the requirements of this statute.

28-2-2115. Alternative billing cycle. (1) A construction contract may provide for a billing cycle other than a monthly billing cycle if the construction contract specifically sets forth another billing cycle and either of the following applies:
 (a) a notice in substantially the following form, setting forth the other billing cycle, appears in clear and conspicuous type in the "Information for Bidders" section of the construction documents:

Notice of Alternate Billing Cycle

This contract allows the Community to require the submission of payment requests in billing cycles other than once a month. Payment requests for this contract must be submitted as follows: _____

_____; or
 (b) a notice in substantially the following form, setting forth the other billing cycle, appears in clear and conspicuous type in the "Information for Bidders" section of the construction documents:

Notice of Alternate Billing Cycle

This contract allows the Community to require the submission of payment requests in billing cycles other than once a month. A written description of the other billing cycle applicable to the project is available from the Community or the Community's designated agent at (telephone number or address, or both), and the Community or the Community's designated agent must provide this written description on request.

(2) An Community may change the number of days to approve a contractor's payment request to later than 21 days after the date the payment request is submitted if:

(a) the construction contract in a clear and conspicuous manner specifically provides for a later approval date defined by a specified number of days after the payment request is submitted; and

(b) a notice in substantially the following form, setting forth the specified number of days, appears in clear and conspicuous type in the "Information for Bidders" section of the construction documents:

Notice of Approval of Payment Request Provision

This contract allows the Community to approve the contractor's payment request within ___ days after it is received by the Community.

(3) An Community may make payments later than 7 days after the date that the contractor's request for payment is approved if:

(a) the construction contract in a clear and conspicuous manner specifically provides for a later payment defined by a specified number of days after approval; and

(b) a notice in substantially the following form, setting forth the specified number of days, appears in clear and conspicuous type in the "Information for Bidders" section of the construction documents:

Notice of Extended Payment Provision This contract allows the Community to make payment within ___ days after approval of the payments.

13. Payments by the Contractor

Of equal importance to the Community are payments to suppliers and subcontractors by the Contractor. Although you do not have a direct contract with these parties, you do have a responsibility to ensure that they are paid in a timely manner. **Many Project Engineers have included a provision in the construction Agreement that requires the Contractor to provide invoices marked "paid" from their suppliers and subcontractors showing that these parties have been paid either in full or in proportion to the amount paid to the Contractor for services rendered or material delivered up to the cut off date.** (The recent edition of the General Conditions has removed the ability of the Community to ensure themselves that all subcontractors and suppliers have been paid in proportion to the work completed). Most communities are not immune to liens on public projects and this method of requiring the Contractor to provide paid invoices helps to alleviate this problem at contract close out time.

14. Labor and Prevailing Wage Requirements

Since the 1930's, both federal and state laws have required the fair payment of wages for laborers and mechanics employed under construction contracts funded in whole or in part by public funds. **Montana law (Section 18-2-422, MCA) requires that the contract contain a provision requiring the payment of the state prevailing wage rates, and the Bid Package must contain the appropriate, current state prevailing wage rates, unless the state's prevailing wage requirements are superseded by the federal Davis-Bacon Act.** The state prevailing wage rates are provided by the Montana Department of Labor and Industry (MDLI). If federal funds will be used to help fund a public facility project, the Community should ask each federal funding agency whether their program requires that the federal prevailing wage requirements supersede those of the state. For example, the federally-funded Community Development Block Grant (CDBG) program requires the use of the federal prevailing wages. **In addition, Montana law (Section 18-2-403, MCA) provides that if a public agency or local government fails to include the prevailing wage rate requirements in a contract, the contractor is relieved from the obligation to pay the prevailing wage rate and the obligation is then placed on the public contracting agency.**

As long as the requirement to comply with prevailing wage requirements has been included in the Agreement, it is the Contractor's responsibility to assure the payment of workers according to the specified wage rates. However, the Community also has an oversight responsibility to ensure that workers are, in fact, being paid properly. Most experienced contractors are very familiar with state and federal prevailing wage requirements. Some inexperienced contractors may make honest mistakes because they fail to fully understand the complexities of prevailing wage compliance. Unfortunately, in rare cases, unscrupulous contractors have tried to make up for a very low bid and a tight profit margin by cheating workers out of their fair compensation.

The need to ensure prevailing wage compliance is a situation that supports the old adage that "an ounce of prevention is worth a pound of cure." Problems with labor requirements can delay local construction projects and cost Community officials headaches and considerable time and money. **To help avoid problems, Community officials should designate a local staff person or consultant, before the start of construction, to ensure compliance with prevailing wage requirements and to act as liaison with the Contractor.** Further preventive steps include:

- Ensuring that all bid documents, contracts and subcontracts contain applicable prevailing wage provisions and the current wage determination(s), and that all contractors and subcontractors are not currently debarred from working on public works projects by the State or federal government.
- Conducting a preconstruction conference to inform all contractors and subcontractors performing contract construction work of their prevailing wage and other labor obligations.

- ❑ Conducting on-site project inspections, which include employee interviews and checking for posting of current wage determinations at the project site.
- ❑ **Montana law requires that the current prevailing wages be posted prominently at the construction site continually in an accessible location, beginning with the first day of construction work, so that workers can easily find out what they should be paid.** For posting the required prevailing wages at the job site, the Contractor can use a bulletin board attached to the side of a temporary field office or a storage or equipment trailer or a plywood billboard located near the site of field construction activities. The current wage rates can be placed in a plastic covering to protect them from weather. Regardless of the method used, it is the Contractor's responsibility to provide reasonable access for employees to a copy of the state or federal prevailing wage rates that apply to the project.
- ❑ Promptly reviewing certified weekly payroll reports for accuracy and comparing them to the required prevailing wage rates. **Payroll reports must usually be submitted weekly by both the prime contractor and subcontractor(s).** On many of the state and federally funded projects, the weekly certified payroll must be checked against the wage rates in the Agreement to make sure that workers are being paid wages at least equal to the required prevailing wage and fringe benefit rates.
- ❑ Interviewing construction workers to confirm that they are, in fact, being paid the required prevailing wages and that their job classification accurately reflects their actual duties at the job site. **Many federal and state funding agencies require that workers be periodically interviewed to insure that they are being correctly compensated for their work.**
- ❑ Resolving all labor complaints or violations promptly.
- ❑ Maintaining detailed records to document all administrative and enforcement activities with respect to labor and prevailing wage requirements.

The most common types of prevailing wage violations include mathematical errors or the use of incorrect amounts for hourly wages or fringe benefits, under reporting total hours of regular or overtime work performed, and classifying workers at a lower wage job than the work they are actually performing, (such as listing a worker as a “general laborer” who is actually working as a “backhoe operator” and who should be paid at a higher hourly rate).

Violations of prevailing wage or other labor requirements sometimes surface as the result of monitoring of payroll records or through a specific complaint by a construction worker. In either instance, the Community is responsible for investigating and documenting the alleged violation. If a violation is evident, the Community should first work with the Contractor on an informal basis to resolve the problem and allow a reasonable time for correction. Where the Contractor refuses to address the violation or continues to violate the labor requirements, the appropriate state or federal agency should be promptly notified of the violation in writing. The Contractor should be informed that an unresolved prevailing wage violation could result in

monetary penalties and make the contractor ineligible work on state or federal public works construction projects in the future.

Community officials can assign these oversight duties to a local staff person, such as a local planner or public works supervisor, or may contract with a grant management consultant or engineer to perform these tasks. The Project Engineer is not generally responsible for assuring compliance with labor and prevailing wage requirements. However, some communities have contracted with their Project Engineer to provide this additional service. Compensation for these additional professional services would have to be negotiated between the Community and the Project Engineer. If this alternative is selected by the Community, day-to-day oversight usually would be done by the Project Engineer's RPR.

If a state or federal agency is providing funding for the project, it will likely have additional specific guidance for conducting payroll reviews and employee interviews. Both the CDBG and TSEP grant administration manuals include guidance for local officials on these procedures.

15. Delivery of Materials and Payment for Materials

On large projects, material storage and payment for materials on-hand is an important item, and needs to be discussed in detail. Recall that earlier, it was stated that the Notice of Award sometimes authorized the Contractor to order materials. Often this is not allowed until a Notice to Proceed has been issued. **Materials are usually not ordered until a Notice to Proceed has been issued simply because, until the time the Agreement has been signed by the Community, the Contractor has no guarantee that he or she will be paid for the materials.**

On many public facility projects, the Contractor will have ordered all of the materials for the project, and instructed the supplier to hold off shipping the order until the Agreement is signed. This is done to ensure that materials are available and will be on-site when the Contractor needs them. The availability of materials is also important to the Contractor when he or she prepares the schedule for the project. Some specialty items, such as pumps, may have a long delivery period, sometimes extending for months. Expected delivery time is therefore important to the Contractor, the Community and the Project Engineer in scheduling their respective work forces.

The Contractor will usually have made arrangements for a materials yard or warehouse to store materials until it is time for installation. **It is the Contractor's responsibility to provide a safe and secure storage area for the material, not the Community.**

The purchase of materials represents a major expenditure by the Contractor. **It is customary for the Community to pay the Contractor for Materials on Hand with the progress payments.** The Community should be very careful when making a Materials on Hand payment for a number of reasons. **If any material is being stored by a supplier on the supplier's property, it should not generally be paid for because the Contractor does not have possession of the material.** There have been cases in the past where a supplier's inventory has been confiscated, or a supplier has declared bankruptcy and their

assets frozen. The Community then owns materials that it cannot get access to until the assets of the supplier are released by a court.

If the Project Engineer is providing construction administration services, he or she should inventory all material arriving on the site, inspect it for damage and log the material delivered. The Project Engineer, or most likely the RPR, should advise the Community of the number and dollar value of the Material on Hand (based on actual invoices) that should be paid to the Contractor. **It is advisable that only materials approved by the Project Engineer and material for which invoices are provided be paid for by the Community.** Many communities question the possibility of double payment for materials. This is a valid question that deserves explanation here.

When materials arrive on the site, the RPR should log the material and the material cost. The Community then pays the Contractor the amount approved by the Project Engineer for the “raw“ materials. As the material is incorporated into the Project, the amount paid for the “raw“ materials should then be deducted from the Contractor's pay estimate and included in the amount paid for the "furnishing and installing" of a particular work item.

For example, the Contractor submits a Materials on Hand claim for 100 feet of 6-inch pipe. The unit cost for the pipe delivered to the storage yard is \$2.00 per foot. The Contractor submits a claim for \$200.00 for Materials on Hand that the Community pays. In the Agreement, the Contractor stated that he or she would “furnish and install“ the 6-inch pipe for \$15.00 per foot. Estimate time rolls around and the Contractor submits a pay request for the installation of 50 feet of the 6-inch pipe. The value of the work installed is \$750.00. In preparing the pay request, the RPR and the Project Engineer review the request and deduct \$100.00 (50 feet of pipe originally purchased at \$2.00 per foot) from the request because the raw material has already been paid for by the Community. The net payment to the contractor is then \$650.00.

Pay estimates for Materials on Hand are usually accounted for on a “declining balance“ type spreadsheet. An example of a Pay Estimate with Materials on Hand included is shown in Exhibit 13.

16. Alternate Materials

During the design phase of your project, the Project Engineer will usually have selected certain materials and equipment that were needed to provide the Community with a finished project that would perform according to your needs and expectations. However, most funding organizations have required the Community to include an “or equal“ provision in the bidding documents. This can tend to “open up the flood gates“ by allowing anyone who thinks their product is equal or superior to the product specified to submit their material or equipment for inclusion in the project. The review required for an “or equal“ product can range from a few minutes to several days, depending on the complexity of the component. The Project Engineer could, to some extent, control the flood of “or equal“ submittals by requiring pre-

qualification before the bid. However, even this provision usually results in the Project Engineer having to spend time not originally budgeted to review the submittals¹.

17. Submittal and Approval of Shop Drawings

“Shop drawings” are detailed renderings of materials or equipment that will be supplied for the project that require the review of the Contractor and the Project Engineer prior to their fabrication and shipment. An example of a shop drawing could be a steel reinforcing manufacturer's detail drawings for a bridge connection, or a pump manufacturer's submittal of a specific pump along with its performance data and installation details. Shop drawings are crucial to the completion of a project and must usually be reviewed in a rather tight time frame.

Because of the number of shop drawings usually submitted on a project, it is recommended that the Contractor be required to review and sign off on the shop drawings prior to submitting them to the Project Engineer for review. By making this a provision of the Agreement, the Project Engineer is reviewing only those shop drawings that pertain to the project at hand, not a submittal that has accidentally found its way into this project.

The Project Engineer is not responsible for the means or methods that the Contractor will employ for the installation of the material or equipment, and should only review the shop drawings for compliance with the specifications.

In order to preclude a Contractor from claiming the Project Engineer has taken too long in shop drawing review, and thus causing the Contractor to over run the contract time, the Project Engineer usually maintains a Shop Drawing Log that lists the date the shop drawing was received, the date the shop drawing was returned to the Contractor and the action taken on the shop drawing.

18. Manufacturer's Operation and Maintenance Data and Start-Up Services

On complex projects such as treatment plants, pump stations, etc., operation and maintenance data that will be used by the Community in the future are generally required to be furnished by the Contractor in sufficient quantity to allow the Community or the Project Engineer to assemble an Operations and Maintenance (O & M) Manual. The timing and delivery of these documents should be thoroughly understood by all parties involved.

¹ The U.S. First Circuit Court of Appeals affirmed a decision handed down by the U.S. District Court in the *Whitten Corp vs. Puddock, Inc.* suit which guarantees the specifier's (engineer or architect) authority to define specifications on federal projects. The U.S. Supreme Court also backed up the decision and has refused to hear further appeals. In this ruling, the court has said that an engineer or other specifier writing specifications with brand names only is not in violation of antitrust law. The court stated that trained professionals making such decisions know what products best serve their clients needs.

The court ruled that unspecified suppliers can qualify as "or equal" to a brand name listed only when the specifier chooses to waive the specifications or authorizes a supplier to bid. Thus the Contractor cannot decide what other suppliers are "or equal" to the brand specified.

In addition to operation and maintenance literature, the Contract Documents often require the manufacturers to provide start-up services for specialized equipment. This service should be scheduled with the start-up of the facility. Community officials and their staff need to be aware of the start-up schedule so that the appropriate personnel can be present to receive instruction as to the operation and maintenance of the equipment.

19. Extra Work and Change Orders

During the course of construction, it may be necessary for the Contractor to perform work over and above the work required in the Agreement. In these cases, the Project Engineer should recommend to the Community that a Change Order be issued to the Contractor authorizing the Contractor to perform the extra work. No extra work should be paid for until the Change Order has been executed by the Community, Contractor and Project Engineer. In some state or federally funded projects, the funding agency representative must also review and approve or even sign the Change Order. Local officials should always consult any federal or state funding agency participating in the project before proceeding with a Change Order.

An example of extra work may be the removal of an abandoned underground structure that was not known to exist at the time the design was completed. Compensation for a Change Order can take many forms such as a lump sum, time and materials, etc. The Project Engineer should work with the Contractor to establish a fair price for this extra work.

Sometimes, however, it is not economically feasible or practical to wait for all of the necessary paper work to be completed before a Contractor can correct the situation that would result in a Change Order. In this case, the Project Engineer, through the RPR, can issue a Work Directive Change or Field Order to the Contractor directing the Contractor to continue. The Change Order and Work Directive Change is shown in Exhibits 15 and 16. If a Work Directive Change or a Field Work Order is issued to the Contractor that will affect either the contract time or contract amount, the Community or their designated responsible representative should also approve it. The Project Engineer is not in a position to know the total financial status of the Community, and therefore, should not be making a decision that could effect the Community's financial situation without first consulting with and obtaining approval from the Community.

Change Orders and Work Directive Changes can result in the extension of contract time due to the fact the work required may require additional time by the Contractor to complete the work. The issuance of a Work Directive Change will usually result in a Change Order at a later date. The Project Engineer and the RPR should work closely with the Community whenever a Work Directive Change is to be issued.

“Extra work” is work that was not an original part of the Agreement and that does not have a direct bearing on the project, but “would be nice.” Community officials can request that the Contractor do the extra work for a negotiated price. **Beware that asking the Contractor to perform extra work may result in the granting of additional contract time since the**

extra work has the potential of delaying some of the Contractor's previously scheduled operations.

20. Equipment to be Used by the Contractor / Haul Roads

During the pre-construction conference, the equipment to be used by the Contractor should be discussed. For example, some local streets may not have been designed to withstand the weight and loads that may be imposed by the Contractor's heavy equipment. **By discussing the type and weight of the proposed equipment, access and haul roads can be designated as the routes that the Contractor will use when moving equipment.**

By setting forth these restrictions at the pre-construction conference, both the Community and the Contractor will not have to discuss damage to existing roads and traveled ways at the end of the project. (It is a good idea to discuss access and haul roads at the pre-bid conference so that the Contractor cannot claim that the haul roads imposed by the Community have resulted in unanticipated costs to the Contractor and that he or she is entitled to additional compensation for restrictions placed on them after the bid).

21. Safety Regulations

It is the sole responsibility of the Contractor to provide a safe working environment of all parties to the contract. The Project Engineer is not responsible for the Contractor's means or methods employed on the project. However, the Engineer should inform the community of any conditions that he or she considers unsafe. Only the Community can stop work on the project. Anyone suspecting that the operations of the Contractor present an unsafe working condition can notify the U.S. Occupational Safety and Health Administration (OSHA). The Montana office of OSHA is in Billings and can be reached at telephone number 1-800-488-7087.

22. Documentation of Pre-existing Conditions

Prior to construction, your Project Engineer should document the existing conditions of the project site, adjoining and/or adjacent structures, fences, landscaping, sidewalks, curbs, etc. The best way to do this is with the use of still and video photography. It is becoming increasingly necessary to document pre-existing conditions to ward off claims made by persons who claim to have suffered damage as a result of project construction activities. For example, Project Engineers and Communities have often seen claims come from citizens stating that a contractor drove heavy equipment over their driveway or landscaping and damaged it. A dated photograph and videotape showing the condition of the property prior to construction has saved thousands of dollars. This type of documentation has also been used to verify that a Contractor did cause damage and should be responsible for repairs. A few hundred dollars in film or videotape are well worth the expense when considering the potential cost for repairs and hard feelings that could result from disputes.

Most Contractors these days compile their own documentation of preexisting conditions. Often a question can be resolved in a matter of minutes by consulting this information.

I. CONSTRUCTION ADMINISTRATION

“Construction administration” is a service that is generally provided by the Project Engineer during the construction phase. Now that construction is starting, there are five major areas that we need to consider:

- ❑ Shop drawings and equipment-materials submittal
- ❑ Periodic site visits by the Project Engineer
- ❑ The Resident Project Representative
- ❑ Independent testing services
- ❑ Public Relations

1. Shop Drawings and Equipment-Material Submittal

Shop drawings are not all submitted at the beginning of the project simply because some manufacturers require time to prepare them once they have received a confirmed order from the Contractor. During the course of the project, the Project Engineer will generally be reviewing shop drawings and equipment-material submittals as they arrive. Once these submittals are reviewed, they are usually distributed to the RPR and the Contractor for incorporation into the project and, if necessary, into the Operation and Maintenance Manual.

2. Periodic Site Visits by the Project Engineer

As construction on the project progresses, the Project Engineer will usually make periodic visits to the site to review the work completed by the Contractor. These visits are in addition to the observations of the RPR. Community officials usually like to meet with their Project Engineer during these visits to get an update on their project and to discuss various aspects of the project. Some communities prefer to have their Project Engineer make a presentation at a regularly scheduled meeting so the entire council or commission or district board can be brought up to date and ask questions concerning the project. This is also a good opportunity to get some local media coverage about the project since the media often will attend a meeting if the topic is potentially of interest to the general public.

3. Resident Project Representative (RPR)

The RPR (previously referred to as the “on-site inspector”) is the Project Engineer's "eyes and ears" on the project. He or she should have experience in the construction of projects similar to yours and observes the Contractor's work and progress during construction. Often, the RPR is not a licensed professional, but a highly trained and experienced technician. The RPR should not make design changes, but can advise the Project Engineer. The RPR should also not relax or modify the project requirements of specifications. The RPR does have some influence over the Contractor in that the RPR essentially controls the “checkbook.” **Until the RPR is satisfied that the Contractor has completed the work in accordance with the plans and specifications, the RPR should not recommend payment for that work.** It is like saying to the Contractor “you can practice as much as you want, but when it conforms to the Contract Documents, you will be paid.”

The RPR cannot direct the Contractor, and for that matter, neither can the Project Engineer. It is entirely up to the Contractor to determine the means and methods that will be employed to complete the project. If the RPR, the Project Engineer or the Community, directs the Contractor, the Contractor is immediately relieved of responsibility for that portion of the work, and the party doing the direction usually assumes the liability. The payment for work completed is the major tool the Community and the Project Engineer have to ensure that the work is completed in accordance with the Contract Documents. If the work completed is not in accordance with the plans and specifications, the Project Engineer should not recommend payment for that work. As the Community, you must understand this principle. If you are in doubt, consult with your attorney.

Let's return to safety issues for a moment. Recall that it is the sole responsibility of the Contractor to provide a safe working environment for people working on the project. Now suppose the RPR sees a flagrant violation of safe working conditions. He cannot stop the Contractor's work in progress. **Only the Community can stop work on the project since the only contractual relationship is directly between the Community and the Contractor.** The reason for this is that in stopping the Contractor from working, the Community is affecting his completion time. If it is ever necessary to stop work on a project due to a safety concern or other violation, the Contractor's claim for additional compensation can usually be denied. There are obviously other reasons that the Community may want to stop work until a concern is satisfied; for example, if the work site is safe, but the exposure of the general public to harm is clearly obvious. The Community has every right to stop the work if, after consultation with the Contractor through either the RPR or the Project Engineer, the Contractor ignores your complaint and continues working. This is a very important, and potentially costly, area and the Community's attorney should be involved in any decision to stop work.

4. Independent Testing Services

Most project engineers utilize the services of an independent testing firm to ascertain the conformance of materials such as soil compaction, concrete, asphaltic concrete, etc., with the specifications. Independent testing firms are usually used for two reasons:

- ❑ First, the cost of the testing equipment and trained staff can be prohibitive for each design firm to operate and maintain.
- ❑ Second, and most importantly, the use of an independent testing firm provides an unbiased third party to evaluate the work performed.

The testing firm will usually provide the results of the tests to the Project Engineer and the Contractor. It is up to the Project Engineer to make the decision as to whether or not the material conforms to the specifications.

5. Public Relations

There is an understandable tendency for the local officials and staff of any community to get involved in the day-to-day details of getting their public facility project built. It is easy to forget that it is important to keep local citizens up to date on what is going on, too. Community officials and staff should keep the public informed about the project as it proceeds. On many local public facility projects, there are often plenty of “sidewalk superintendents” who are always eager to convey their impression to friends and neighbors. **The best way for local officials and staff to stay ahead of the “rumor mill” is to continually make efforts to keep the public informed about what is going on and why.**

Public facility projects are usually quite visible to your constituents. Utility installation and replacement projects can cause hardships on local residents. Because of this, **it is of vital importance to keep the general public well informed as to street closures, water shut offs, any delays that can be expected, and the general status of the project.** A good public relations program to keep the public informed should be initiated prior to the commencement of construction and continued throughout the project.

Publicity and citizen participation efforts should be tailored to the situation in each community. One approach followed in many communities is to have the Project Engineer or manager provide periodic progress reports to the city or town council or district board. This is also a good opportunity to get local media coverage about your project since the media often will attend a meeting if the topic is potentially of interest to the general public. If a local reporter does not attend the meeting, copies of the Project Engineer’s progress report can be provided to the local newspaper or radio station. Another option would be to have the members of the city council make brief presentations to local civic groups or service organizations to bring them up to date.

Keeping people informed can help accomplish other goals related to your project, too. Most public facility projects will result in an increase in user charges or fees. Continued publicity regarding the project helps local citizens understand why these costs must go up and makes them feel like part of the process, rather than just being on the receiving end of a higher bill or fee. Publicity also helps inform people regarding the complex issues their local governments are facing in trying to provide adequate public facilities.

A long-standing requirement for many federal and state public facilities funding programs is that the community erect a sign on or near the project site that describes the purpose of the project and the various funding sources. Various agencies such as the DEQ State Revolving Fund (SRF) loan programs and the Department of Agriculture, Rural Development/Rural Utilities Service require that bid specifications contain construction details for project signs including dimensions, size and type of lettering, and color of paint. **Even if not required by a funding agency, communities should use signs to publicize the project and the sources of funding. Publicizing the project helps local citizens feel involved in the project.** A well-done project sign can help generate enthusiasm about your project and give people the feeling that things are happening in the community. It also lets the public know that something worthwhile is being accomplished with their tax dollars. A project sign does not have to be expensive or professionally done to be effective. The Town of Chester, for

example, had a high school shop class paint the sign for their “Chester Northside Water System Improvements Project.”

Special events, such as a ground breaking ceremony for a new water treatment plant, can be used to let people know what is happening and to generate enthusiasm. For example, the Town of Culbertson held a ribbon cutting ceremony and open house, complete with hot dogs and soft drinks, to show off the town's new water treatment plant. The town's public works staff also conducted guided tours for science classes from local schools to describe how the new plant operated to provide safe drinking water for the community. Of course, these students told their parents what they had seen and increased community awareness of the project.

Unfortunately, no discussion of how to deal with the public would be complete without mentioning dealing with complaints. Though local officials are doing their best to improve their community through their public facility project, human nature seems to guarantee that some citizen, at some time, will probably be dissatisfied with some aspect of the project. A taxpayer may feel that the proposed project is poorly designed or too expensive or that the new water or sewer rate is too high. **As a rule of thumb, the more promptly community officials or the Project Engineer can investigate the basis for a complaint and try to offer a reasonable solution, the better.** It is human nature for the citizen lodging the complaint to feel that they are being ignored if the community does not respond with at least an immediate telephone call to investigate the situation. The longer the time before they are contacted, the greater will be their frustration or anger.

The general public needs to know who to contact with their complaints or questions. Community officials and staff are usually the ones who get the calls. Local officials or staff should either give the caller the telephone number of the RPR, or write down the name of the caller, the time of the call and the nature of the complaint or question. This information should be given to the RPR who will investigate the issue and, if appropriate, order the Contractor to make any necessary repairs to correct a problem. In any event, the RPR should report back to the Community with the status of the complaint or question.

J. CONSTRUCTION RECORDS

The maintenance of construction records is a very important function of the Project Engineer, the RPR and the Contractor. The importance of keeping complete and accurate records during construction cannot be over-stressed, both from a claims standpoint and a future operations standpoint. Often, funding agencies require specific records as part of their program, such as for determining compliance with prevailing wage requirements. How are these records kept and who is responsible for keeping them?

1. Construction Diary

The RPR and the Contractor's Project Superintendent should keep a daily construction diary. These diaries should contain a synopsis of the day's events, the weather conditions, temperature throughout the day, the work completed, problems encountered, materials

installed, visitors to the site, compressed minutes of meetings, etc. Diaries are usually the most complete record of the project.

Diaries are also often used to record disputes or disagreements. In these cases, the RPR should write down his or her interpretation of the dispute and ask the Project Superintendent to read and sign the diary. The Project Superintendent can not be required to sign the diary and should be given the opportunity to write his or her own interpretation on the next page. Both parties, after reading each other's entries, should sign the daily diary. This is the best and most accurate record of events that can be used by the Contractor, the Project Engineer and the Community in settling disputes. Without the diary, things are left to memory, which can sometimes be conveniently forgotten!

2. Maintenance of Record Drawings

“**Record Drawings**” are drawings that represent the constructed project. A frequently misused term for record drawings is “As Built.” “As Built” infers that each and every element of the project was constructed exactly as shown. Rarely are all dimensions held to exactly as those shown on the design drawings. “Record Drawings,” on the other hand, indicate a record of items actually observed during construction of the project. Underground structures or utilities encountered during construction that required a slight change in grade or alignment should be recorded daily on the project record drawings.

The locations of improvements that will be buried in the ground or hidden behind a wall are extremely important for future maintenance or expansion. Because of the importance of these drawings, the Project Engineer usually requires that the Contractor and the RPR maintain independent sets of record drawings. These sets of drawings should be compiled into a final set of record drawings that are given to the Community as a permanent record of the improvements made under this project. Community officials should take care of their record drawings so that they will be accessible in the years to come should the need arise.

Others interested in installing their improvements near the Community’s public facilities will also use the record drawings. Those most likely to use the drawings are power, gas, electric, telephone and cable TV utilities. Most of their improvements are now being installed underground and they do not want to damage the Community’s material or equipment while installing theirs.

K. PERIODIC PAY ESTIMATES - CERTIFICATION OF WORK

We have discussed payments to the Contractor previously in this Chapter. However, we have not discussed the Certification of Work that the Contractor makes to the Community when he or she submits a payment request. Among other things, the Contractor should certify on a pay request that all work for which the Contractor is requesting payment has been completed in conformance with the Plans and Specifications. Thus, the periodic pay estimate, combined with the construction diary and record drawings, provides a fairly accurate time line of the project construction. This may be useful in the future should a problem or a claim arise as a result of the Contractor's work. Certification of pay estimates by

the Contractor can help minimize revenge claims by the Contractor at a later date. Exhibit 13 is a sample pay estimate.

L. LABOR AND PAYROLL RECORDS

We previously discussed the need for labor and payroll records that are sometimes required by funding agencies. These records usually must be maintained by the Community to prove to funding agencies that all workers on the project were compensated at the applicable wage rate.

A prevailing wage file should be maintained which includes the following items:

- ❑ a copy of all applicable wage rate decisions;
- ❑ evidence that prevailing wage provisions were included in bid packages and contracts;
- ❑ telephone notes or correspondence regarding contractor eligibility;
- ❑ a copy of the pre-construction conference minutes;
- ❑ evidence that required prevailing wage notices have been continually posted at the construction site;
- ❑ the contractor's weekly payroll reports (numbered sequentially and the final one marked "Final");
- ❑ evidence that the weekly payroll reports have been promptly reviewed and verified as correct;
- ❑ records of construction worker interviews;
- ❑ evidence of any complaints or violations with supporting documentation; and
- ❑ evidence of the resolution of any complaints or violations.

Most state and federally funded projects are monitored by agency staff during the construction period. Project records may also be audited when the local government entity receives its regularly scheduled financial audit. The financial audit may occur a year or two after the project is completed. Therefore, the Community must store and maintain the project records, including labor and payroll records, for the required amount of time prior to destroying them. Most federal agencies require that project records be retained for at least three years after the project receives "final closeout." In addition, state law establishes even longer records retention requirements for some local government records. It is always best to contact any funding agency for the project to clear the destruction of project records with the agency before destroying them.

M. CONSTRUCTION PROBLEMS

We would all like to get through a construction project without any problems, but unfortunately that rarely happens. Conditions are rarely totally what we expect them to be or what we were led to believe they are. We will take a look at some of the more common construction problems that occur during a construction project and discuss how they are often handled.

1. Clarifications, Interpretations and Field Orders

“Clarifications” may be required where there are minor discrepancies between the plans and specifications. An example would be where the plans illustrate an auxiliary fire hydrant valve to be located five feet away from the hydrant, but the specifications indicate that the auxiliary valve is attached directly to the hydrant. **“Interpretations” may be required where descriptive terms such as a “smooth finish,” a “workmanlike manner,” etc., are concerned.**

In cases such as these, the Project Engineer, through the RPR, will usually issue written clarifications or interpretations to the Contractor, often in a response to a Request For Information (RFI). In most cases, these clarifications and interpretations usually do not result in any additional time or cost to the Contractor. In other cases, a “Field Order” may be issued to the Contractor directing a change which may result in a small increase or decrease in the contract amount. Field Orders are also used as directives to contractors to remind them of certain contractual responsibilities that are being overlooked. An example of this type of field order could be “clean up the site,” or “improve traffic control at the intersection”

2. Unforeseen Conditions

There are times during the course of construction when the Contractor encounters a condition that was unforeseen during the design phase. An example of an unforeseen condition would be the encountering of unstable soil or bedrock during the installation of a pipeline. Even though the Project Engineer may have utilized the services of an independent geotechnical engineer, it is not possible to test every inch of the pipeline alignment.

Since the Contractor had no knowledge of this unforeseen condition, he or she could not have planned or budgeted the cost required to correct the situation in his or her bid. In this situation, a Work Directive Change, followed by a Change Order, should be issued to compensate the Contractor for the additional work required to complete the project. Other examples of unforeseen conditions are the encountering of hazardous wastes, petroleum in the soil or groundwater, or a previously unknown or abandoned and forgotten utility line or fuel storage tank.

3. Disputes and Claims

“Disputes” are disagreements between the Community and the Contractor. For example, a Community may not believe that the completed work is in conformance with the specifications. **A Contractor makes “Claims” when the Contractor believes that extra work has been required or more time is needed to complete the work due to conditions beyond the Contractor's control.**

Sometimes a Contractor and the Project Engineer do not agree or cannot resolve their differences and the Contractor will file a dispute or a claim for additional compensation with the Community. Unfortunately, when a situation like this arises, it takes time to resolve. The best defense the Project Engineer and the Community have against a dispute or a claim is the RPR's daily construction diary, pre-construction condition records and the record

drawings. Hopefully you will not have to deal with a dispute or claim on your project, but if you do, your Project Engineer and your attorney will work with you through the process.

N. CONCLUDING REMARKS

This chapter has briefly exposed you to the construction phase of the project. Obviously, each project has different circumstances and each will be handled differently. Also, each Project Engineer may take a somewhat different approach to managing the overall project than the one presented in this manual. Hopefully, the picture of what you can expect has been made somewhat clearer to you through this manual. Remember, your Project Engineer has the training and experience to guide you through your project. Do not hesitate to consult with your Engineer often.

CHAPTER THREE: PROJECT CLOSE OUT

This section deals with those actions that should be taken when the construction phase of your project is close to being completed. There are specific actions that should be accomplished to finish the project, and once the project is completed the warranty period begins.

PROJECT CLOSE OUT covers the following topics:

- Project Close Out Procedures
- Warranty Period

A. PROJECT CLOSE OUT PROCEDURES

Project close out is one of the most important phases of construction administration. Items that will be completed during this phase by the Project Engineer generally will include the Final Inspection and Punch List, Substantial Completion, Reconciliation Change Order, Final Payment, Contractor Release and Certification, and the Project Engineer's Certification of Record Drawings.

1. Final Inspection and Punch List

Prior to recommending to the Community that the project is complete and ready to be reviewed by the Community, the Project Engineer should prepare a list of project deficiencies or work remaining to be completed and presents this list to both the Contractor and the Community. This list of project deficiencies is known as a "punch list."

The RPR may make many interim punch lists during the course of the project at the request of the Contractor to facilitate completion of the project within the allocated time frame. When the Contractor is confident that the project has been satisfactorily completed and any punch list items complied with, the Contractor will request the Project Engineer inform the Community that the project is ready for final inspection.

The final inspection is designed to walk the Community through the entire project, pointing out the work completed by the Contractor. In essence, the Contractor is "selling" his completed work to the Community. More often than not, Community officials or staff will question some of the Contractor's work or clean up and request that these items be taken care of before the Community will take possession of the project. This is very similar to purchasing a new car or home. There is usually something that the Community wants fixed or spruced up before taking possession. In this case, the Project Engineer should prepare a final punch list and present it to the Contractor. **If the number of items on the final punch list is very small, the Project Engineer may recommend to the Community that a Certificate of Substantial Completion be prepared.**

2. Substantial Completion

The “Certificate of Substantial Completion” is a very important contract document. **The issue date of the certificate sets the warranty dates, and most important to the Contractor, it releases the Contractor's surety company's obligation to complete the work in the event the Contractor does not or cannot. The Certificate of Substantial Completion also allows the Contractor to bid new work¹. Therefore, as the Community, you should only sign the Certificate of Substantial Completion when you are comfortable with the project, and when the Project Engineer recommends that the work is substantially complete.**

The Certificate of Substantial Completion contains an area for the Project Engineer and the Community to list minor items that remain to be completed under terms of the contract (see Exhibit 17). This area is usually used for work items such as seeding or landscaping when completion of the work at the time of substantial completion would not be feasible. Pavement replacement is another common item that may appear on the certificate. If the project is completed in the late fall or early winter, conditions will probably not be favorable for seeding, landscaping or the placement of pavement that will last or meet the project specifications. The Project Engineer should be in a position to advise the Community in these types of situations.

Even though the Community still has the Contractor's Performance and Payment Bonds, the Project Engineer generally will recommend that the Community retain sufficient funds from the Contractor's pay estimate to ensure that the work is either completed by the Contractor when conditions are more favorable, or that the Community has enough money remaining in the construction fund to have the work completed by others. The pay estimate for the work completed and recommended by the Project Engineer up to the date of the Certificate of Substantial Completion should be labeled “SEMIFINAL” if any work or punch list items remain to be completed, and the conditions stipulated in the Certificate of Substantial Completion should be attached to the pay estimate.

By not issuing a Final Pay Estimate, the Community retains control of the Contractor's Performance Bond and Payment Bond, and in the event the Contractor does not complete the remaining project items or pay for labor and materials, the Community not only has the funds remaining in the construction fund, but it also has the opportunity to advise the Contractor's surety company that their client has failed to complete his or her work in accordance with the contract. This usually gets the Contractor's attention rather quickly, because bonding and insurance companies do not like to pay for anything. They will apply substantial pressure on the Contractor to complete the work. In addition, the surety company may not allow the Contractor to bid any additional work until the contract is complete.

¹ In most cases, an insurance company limits the total bonding capacity of a Contractor. The Contractor's coverage is like a declining balance. The more work the Contractor has under contract, the less free bonding that is available.

3. Reconciliation Change Order

At this point, the Contractor has completed all of the punch list items, the Community is satisfied with the Project, and the Contractor is requesting final payment. As part of the Contract, a final balancing change order often referred to as a "Reconciliation Change Order", (see Exhibit 18), may be prepared in conjunction with the final pay request.

As you will recall, the bid presented by the Contractor and made a part of the contract contains many items that are described as "per each" or "per lineal foot." Also recall that the Measurement and Payment section in most contracts states that the price paid per unit will be made on the actual amount installed. This means that your contract is essentially an open-ended agreement. The Reconciliation Change Order adjusts the contract to represent the final quantities that were actually installed, thus changing the contract to a fixed amount. The Reconciliation Change Order also makes the final adjustment in contract time, if any. **If a Reconciliation Change Order is prepared, it is signed by the Contractor, the Project Engineer, and the Community indicating agreement on the final contract amount and time. Until the Reconciliation Change Order has been completed and signed by the Contractor and the Project Engineer, the Community should not process the final pay estimate.**

4. Contractor Release and Certification

Even though a Contractor has provided the Community with Performance and Payment Bonds, there still is a possibility that not all of the suppliers and subcontractors have been paid for their services. The last thing the Community wants to have happen is for a supplier or subcontractor to file a lien against it, demanding payment from the Community for services rendered or material supplied to the General Contractor. **The contract between the Community and the Contractor should require lien waivers from both the Contractor and all of the Contractor's suppliers and subcontractors. It is critical that the Community have in its possession signed and notarized lien waivers from all of the subcontractors and suppliers in addition to a lien waiver from the General Contractor before final payment is made.** Examples of these Lien Waiver forms are shown in Exhibits 19 and 20.

5. Final Payment

The final payment represents the Community's complete and final payment to the Contractor for the materials supplied and work performed on the project. The Final Pay Estimate looks no different from any other pay estimates that the Community has processed in the course of the project with the exception that it should clearly state that it is the "Final" estimate.

The Community should not process the Final Pay Estimate until the Contractor and your Project Engineer have signed by Reconciliation Change Order, if a Reconciliation Change Order is required. The usual procedure that is commonly followed calls for the Project Engineer to present both the Reconciliation Change Order and the Final Pay Estimate

to the Community for its consideration. The Project Engineer should go over both the Reconciliation Change Order and the Final Pay Estimate with local officials so the Community has a clear understanding of the final construction cost of the project.

6. Engineer Certification of Record Drawings

As a usual part of the Community's contract with the Project Engineer, he or she must provide the Community with a set of Record Drawings. The Project Engineer relies on the Contractor's daily record drawings as well as the RPR's records to prepare the official Record Drawings. These drawings represent the best information available as to where improvements have been installed on the project. **The Record Drawings will indicate where changes have been made from the original design and show sufficient detail to allow the Community to locate these improvements in the future should maintenance be required or a future connection need to be made.**

If a project is subject to approval from the Montana Department of Environmental Quality prior to construction, Record Drawings must also be submitted to that agency. The DEQ requires that the Record Drawings be prepared by a licensed Professional Engineer. This is another reason it is important (and mandatory in the case of a public water or sanitary sewer project) that the Project Engineer's representative is on the project on a full time basis. No Project Engineer can comply with the DEQ requirement if he or she has not been on or represented on the project during all phases of construction.

B. WARRANTY PERIOD

Even though the project is complete, the Contractor has removed his equipment from the project site, and the Community's public works staff are operating the new facility, we are still not quite finished with the administrative portion of the project. **Once local officials signed the Certificate of Substantial Completion, the clock starts running on the warranty period. Warranty periods normally extend for one year, because** if any component of the project is going to fail, be it a piece of mechanical equipment or a street patch, it will most likely fail within this period.

The contract between the Community and the Contractor should be specific that for a period of one year from the date of substantial completion, the Contractor will repair or replace any defective equipment or workmanship at no cost to the Community. This warranty obviously excludes failures from misuse, "Acts of God," etc.

Potentially, if a Contractor refuses to replace or correct a failed component of the project as required by the contract, the Community has the right to correct the problem and bill the expense to the Contractor. However, if the Contractor is uncooperative, collecting this cost can be problematic but contractors are usually quite responsive to warranty needs and the communities rarely are required to make repairs themselves.

1. Eleventh-Month Inspection

Some funding agencies require an “eleventh-month inspection“ of projects they have funded. These inspections usually require an inspection team composed of a representative of the Community, the Project Engineer, a representative of the Contractor, and a representative from the funding agency. **The purpose of this eleventh-month inspection is to review the entire project and ensure that any corrective actions required by the Contractor and the Project Engineer are taken care of before the warranty period expires.**

If your project is receiving federal funds, or the funding agency has special requirements such as this, be sure that both the Community and the Project Engineer understand these requirements from the onset of the project, as these inspections require time and expense of both local officials and the Project Engineer and, as a result, have a cost associated with them.

2. One-Year Performance Evaluation

Some federal funding agencies also require a one-year performance evaluation of the project. Your Project Engineer should also be well aware of this requirement. Again, as with the eleventh-month inspection, these activities involve additional time and expense.

3. Correction Of Non-Acceptable Work

In the event non-acceptable work is discovered during one of these inspections, or at any time during the warranty period, the first person to notify is your Project Engineer. Correction of non-acceptable work after the warranty period can turn into a problem if the Contractor chooses to take the position that it is past the warranty period, and therefore is not his or her responsibility. Depending on the magnitude of the problem, this could lead to a lengthy court battle in which there are no real winners.

Article 13 of the General Conditions to the contract between the Community and the Contractor explains in detail the avenues that the Community can explore to correct non-acceptable work and still remain within the limits of the contract.

In closing, the best advice available to the Community when it is dealing with public facility projects is to rely on your Project Engineer. If the Project Engineer cannot answer questions directly, he or she will be able to direct local officials to the correct person or agency to deal with the problem. It is often better to let the Project Engineer handle these problems, since he or she has an objective view of the situation and is generally better equipped to explain the situation.

EXHIBITS

The exhibits that are provided at this point in the printed publication are not made available here due to the proprietary nature of the forms and because the Department of Commerce does not have access to the computer version of them.

The documents and forms shown in Building It Right are provided for reference purposes only in order to provide an example of what is being discussed. **The Montana Public Works Standard Specifications and Engineers Joint Contract Documents Committee forms and documents should not be reproduced.** The Montana Public Works Standard Specifications, Fifth Edition, March, 2003, can be ordered from the Montana Contractors' Association, 1717 11th Avenue, PO Box 4519, Helena, Montana, 59604, telephone (406) 442-4162. Engineers Joint Contract Documents Committee documents should be obtained from the National Society of Professional Engineers (<http://www.nspe.org> or 1-800-417-0348) or ACEC 1015 15th St. NW, Washington, DC 20005, or FAX 202-789-7220.