



Bid price shall include all labor, materials, and equipment necessary to perform the work as specified, and shall further include all licenses, fees, permits, royalties, and all taxes. Bid price shall represent full compensation for completion of the work. This provision supersedes Condition 4 on page 2 of Bid Invitation. Payment will be made in accordance with Arkansas Highway & Transportation Department Standard Specifications and Applicable Special Provisions.

Subsection 105.04, 108.07, 109.01 and 109.02 of the AHTD Standard Specifications for Highway Construction, Edition of 1996, will be in effect. (Specifications are accessible on our web site at [www.ahtd.state.ar.us/contract/progcon/general/stdspecs.htm](http://www.ahtd.state.ar.us/contract/progcon/general/stdspecs.htm).)

**Bid Bond** in the amount of 5% of total bid price required of all bidders at time of bid opening or bid will be rejected. **Personal and company checks are not acceptable as Bid Bonds.** See Condition 3 on page 2 of this Bid Invitation.

**Performance Bond** only (no checks of any kind allowed) in the amount of 100% of total bid price will be required of successful bidder prior to providing goods/services. See Condition 3 on page 2 of this Bid Invitation.

The successful bidder will be required to begin within 10 days after notice to begin from District Engineer and complete within 10 working days after project has begun.

Bids and Specifications are available on-line by going to the AHTD Web Site – [www.ahtd.state.ar.us](http://www.ahtd.state.ar.us) and clicking on “Contracts”. Tabulations will also be available at this site.

(39-3096) 4/22/03 38-00

		TOTAL BID	
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## BID INVITATION

## STANDARD CONDITIONS

M-03-189P

1. **ACCEPTANCE AND REJECTION:** The Arkansas State Highway and Transportation Department (AHTD) reserves the right to reject any or all bids, to accept bids in whole or in part (unless otherwise indicated by bidder), to waive any informalities in bids received, to accept bids on materials or equipment with variations from specifications where efficiency of operation will not be impaired, and to award bids to best serve the interest of the State.
2. **PRICES:** Unless otherwise stated in the Bid Invitation, the following will apply: (1) unit prices shall be bid, (2) prices should be stated in units of quantity specified (feet, each, lbs., etc.), (3) prices must be F.O.B. destination specified in bid, (4) prices must be firm and not subject to escalation, (5) bid must be firm for acceptance for 30 days from bid opening date. In case of errors in extension, unit prices shall govern. Discounts from bid price will not be considered in making awards.
3. **BID BONDS AND PERFORMANCE BONDS:** If required, a **Bid Bond** in the form of a cashier's check, certified check, or surety bond issued by a surety company, in an amount stated in the Bid Invitation, must accompany bid. Personal and company checks are not acceptable as Bid Bonds. Failure to submit a Bid Bond as required will cause a bid to be rejected. The Bid Bond will be forfeited as liquidated damages if the successful bidder fails to provide a required Performance Bond within the period stipulated by AHTD or fails to honor their bid. Cashier's checks and certified checks submitted as Bid Bonds will be returned to unsuccessful bidders; surety bonds will be retained. The successful bidder will be required to furnish a **Performance Bond** in an amount stated in the Bid Invitation and in the form of a cashier's check, certified check, or surety bond issued by a surety company, unless otherwise stated in the Bid Invitation, as a guarantee of delivery of goods/services in accordance with the specifications and within the time established in the bid. Personal and company checks are not acceptable as Performance Bonds. In some cases, a cashier's check or certified check submitted as a Bid Bond will be held as the Performance Bond of the successful bidder. Cashier's checks or certified checks submitted as Performance Bonds will be refunded shortly after payment has been made to the successful bidder for completion of all terms of the bid; surety bonds will be retained. Surety bonds must be issued by a surety company authorized to do business in Arkansas, and must be signed by a Resident Local Agent licensed by the Arkansas State Insurance Commissioner to represent that surety company. Resident Agent's Power-of-Attorney must accompany the surety bond. Certain bids involving labor will require Performance Bonds in the form of surety bonds only (no checks of any kind allowed). In such cases, the company issuing the surety bond must comply with all stipulations herein and must be named in the U. S. Treasury listing of companies holding Certificates of Authority as acceptable sureties on Federal Bonds and as acceptable reinsuring companies. Any excess between the face amount of the bond and the underwriting limitation of the bonding company shall be protected by reinsurance provided by an acceptable reinsuring company.
4. **TAXES:** The AHTD is not exempt from Arkansas State Sales and Use Taxes, or local option city/county sales taxes, when applicable, and bidders are responsible to the State Revenue Department for such taxes. These taxes should not be included in bid prices, but where required by law, will be paid by the AHTD as an addition thereto, and should be added to the billing to the AHTD. The AHTD is exempt from Federal Excise Taxes on all commodities except motor fuels; and excise taxes should not be included in bid prices except for motor fuels. Where applicable, tax exemption certificates will be furnished by the AHTD.
5. **"ALL OR NONE" BIDS:** Bidders who wish to bid "All or None" on two or more items shall so stipulate on the face of bid sheet; otherwise, bid may be awarded on an individual item basis.
6. **SPECIFICATIONS:** Complete specifications should be attached for any substitution or alternate offered, or where amplification is necessary. Bidder's name must be placed on all attachments to the bid.
7. **EXCEPTIONS TO SPECIFICATIONS:** Any exceptions to the bid specifications must be stated in the bid. Any exceptions to manufacturer's published literature must be stated in the bid, or it will be assumed that bidder is bidding exactly as stated in the literature.
8. **BRAND NAME REFERENCES:** All brand name references in bid specifications refer to that commodity or its equivalent, unless otherwise stated in Bid Invitation. Bidder should state brand or trade name of item being bid, if such name exists.
9. **FREIGHT:** All freight charges should be included in bid price. Any change in common carrier rates authorized by the Interstate Commerce Commission will be adjusted if such change occurs after the bid opening date. Receipted common carrier bills that reflect ICC authorized rate changes must be furnished.
10. **SAMPLES AND LITERATURE:** Samples or technical literature must be provided within 14 days of AHTD request unless AHTD extends time. Failure to provide samples or literature within this period may cause bid to be rejected. When required, samples of items must be furnished free of charge, prior to or after the opening of bids, and, if not destroyed, will be returned upon request at the bidder's expense. Each individual sample must be labeled with bidder's name and item number. Request for return of samples must be made within 10 days following submission of sample. Samples from successful bidders will be retained for comparison with items actually furnished.
11. **GUARANTY:** Unless otherwise indicated in Bid Invitation, it is understood and agreed that any item offered or shipped on this bid shall be newly manufactured, latest model and design, and in first class condition; and that all containers shall be new, suitable for storage or shipment and in compliance with all applicable laws relating to construction, packaging, labeling and registration.
12. **BACKORDERS OR DELAY IN DELIVERY:** Backorders or failure to deliver within the time required may constitute default. Vendor must give written notice to the AHTD, as soon as possible, of the reason for any delay and the expected delivery date. The AHTD has the right to extend delivery if reasons appear valid. If reason or delivery date is not acceptable, vendor is in default.
13. **DEFAULT:** All commodities furnished will be subject to inspection and acceptance by AHTD after delivery. Default in promised delivery or failure to meet specifications authorizes the AHTD to cancel award or any portion of same, to reasonably purchase commodities or services elsewhere and to charge full increase, if any, in cost and handling to defaulting vendor. Applicable bonds may be forfeited.
14. **ETHICS:** *"It shall be a breach of ethical standards for a person to be retained, or to retain a person, to solicit or secure a State contract upon an agreement of understanding for a commission, percentage, brokerage, or contingent fee, except for retention of bona fide employees or bona fide established commercial selling agencies maintained by the contractor for the purpose of securing business."* (Arkansas Code, Annotated, Section 19-11-708).

**ARKANSAS STATE HIGHWAY AND TRANSPORTATION  
DEPARTMENT**

**SPECIAL PROVISION**

**LIQUIDATED DAMAGES**

As specified in the Contract, liquidated damages for this project will be as shown in the following table:

<b><u>ORIGINAL CONTRACT AMOUNT</u></b>			
<b><u>FROM MORE THAN</u></b>	<b><u>TO AND INCLUDING</u></b>	<b><u>FIXED DATE</u></b>	<b><u>WORKING DAY</u></b>
\$ 0	\$ 50,000	\$ 85	\$ 370
50,000	100,000	125	425
100,000	500,000	280	735
500,000	1,000,000	380	870
1,000,000	2,000,000	475	1270
2,000,000	5,000,000	500	1595
5,000,000	10,000,000	725	1710
10,000,000	-----	750	2085

**ABANDONMENT OF WELL  
MARION COUNTY AREA HEADQUARTERS & RESIDENT ENGINEER OFFICE  
YELLVILLE, ARKANSAS**

Page 1 of 4

**SCOPE**

Work under this item shall consist of Abandonment of Well (abandonment of existing well including the proper filling, capping and sealing after construction of the new well is complete) for the Marion County Area Headquarters and Resident Engineer Office located on State Highway 62, 2 miles east of junction of Highways 14 and 62, Yellville, Arkansas. All work for the complete Abandonment of Well shall be as indicated on the Plans, as called for in these Specifications, or as directed by the Engineer. These Specifications and the Plans cover the furnishing of all materials, labor, tools, equipment, machinery, caulking, drayage, rigging, fees, permits, and any and all incidental items required to complete the work.

**LOCAL CONDITIONS**

Bidders are required to visit the site prior to submission of proposal to familiarize themselves with local conditions, including general characteristics of the site and terrain, and accessibility of the work.

**PERMITS, INSPECTIONS, AND TAXES**

The Contractor, if awarded the Contract for Abandonment of Well, shall give all necessary notices; obtain and pay for all permits, licenses, certificates, inspection and other legal fees required and other costs in connection with this work, both permanent and temporary, including utility taps and/or connections; file all necessary plans; prepare all documents and obtain all necessary approvals of all governmental departments having jurisdiction; and obtain required certificates of inspection for his work and deliver same to the Department.

The Contractor shall include in the work, without extra cost to the Department, all labor, materials, services, apparatus, drawings, and related items in order to comply with all laws, ordinances, rules and regulations, whether or not called for in these Specifications.

The Contractor shall include in his bid all State Sales Tax, Social Security Taxes, State Unemployment Compensation Insurance, and all other such items of like nature. It is the intent that the bid shall represent the total cost to the Department of all work included in this Contract.

**EXAMINATION OF PLANS AND SPECIFICATIONS**

The Contractor shall examine the Plans and Specifications and shall become fully informed as to the extent and character of the work to be performed. No consideration will be given to alleged misunderstanding of materials to be furnished or work to be required under this Contract. Submission of a proposal is an implied consent to the conditions of these Specifications and of the Plans.

**PROTECTION OF EXISTING FACILITIES**

The Contractor is advised that the work is to be performed in an area directly adjacent to existing buildings which are occupied. The Contractor shall exercise care and caution to prevent interference with those working in these facilities. The Contractor is also advised that he is responsible for protecting the existing facilities and occupants against damage or injury from his workmen, work in progress, or the elements.

**SCHEDULING AND COMPLETION OF WORK**

The Contractor shall schedule his work so as to create a minimum amount of inconvenience to the normal work routine of Area Headquarters and Resident Engineer Office personnel.

**ACCESS TO THE WORK**

The Engineer or his representatives shall have access to the work at all times and shall be permitted to approach, enter or examine all stages or phases of the work as it progresses, and shall have authority to reject work which is defective in workmanship or material.

**REQUIRED SUPERVISION**

The Contractor shall keep on the job at all times, when work is in progress, a competent superintendent satisfactory to the Engineer. The superintendent shall represent the Contractor in his absence and all instructions given to him shall be binding on the Contractor. Workmanship shall be by craftsmen skilled in their trade and shall be in accordance with the best standard practice.

**ACCIDENT PREVENTION**

Precaution shall be exercised at all times for the protection of persons and property. The safety provisions of applicable laws, building and construction codes shall be observed. Machinery, equipment and other hazards shall be guarded in accordance with safety provisions of the Manual of Accident Prevention in Construction, published by the Associated General Contractors of America, to the extent that such provisions are not in contravention of applicable laws. The Contractor shall be responsible for any damage which may be caused by workmen during the performance of the work.

**CONTRACT TIME LIMIT**

The Contractor shall begin within ten (10) days after notice to begin and shall complete the work within ten (10) working days after notice to begin.

**QUALITY OF MATERIAL**

All material, appliances or appurtenances furnished under these Specifications shall be new, unused, and shall be free from defects and imperfections. Any material, appliance or appurtenance found to be defective shall be replaced by the Contractor at no additional cost to the Arkansas Highway and Transportation Department, for material or labor. All material shall comply with the Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction, Edition of 1996 and these Specifications. Any material not covered in the above Specifications or on the Plans shall be approved by the Engineer.

**SUBSTITUTION OF MATERIAL**

It is intended that the Contractor have the option of substituting a material or appliance that will perform the function equally as well as the one named. The Engineer shall be given written notice two (2) weeks prior to the proposed use of a substitution so that a decision can be made as to the equal merits of the two (2) products. No substituted items shall be installed until written approval is received by the Contractor.

**CLEAN-UP**

The Contractor shall not allow any waste material or rubbish caused by his employees to accumulate in or about the premises but shall promptly remove same. At completion of the work, all rubbish, tools, scaffolding and surplus materials shall be removed and the Contractor shall leave the site clean and ready to use.

**CONSTRUCTION METHODS**

Well, to be abandoned and which will no longer be in use after construction of new well, shall be completely filled with clean, selected materials to protect the water bearing formations against possible contamination.

All work shall be in strict accordance with the Arkansas Department of Health Well Abandonment Procedures, The Rules and Regulations Pertaining to Public Water Supplies, Section VIII.B.4 – Abandonment of Wells. The record of abandonment must be filed with the Arkansas Department of Health.

**METHOD OF MEASUREMENT**

Abandonment of Well, complete and in place, as indicated on the Plans, as called for in these Specifications, or as directed by the Engineer and accepted, will be measured for payment by the "Lump Sum".

**BASIS OF PAYMENT**

Work completed and accepted under this item and measured as provided above, will be paid for at the lump sum price bid for "Abandonment of Well", which price shall be full compensation for all materials, labor, tools, equipment, machinery, caulking, drayage, rigging, fees, permits, clean-up and any and all incidental items required to complete the work.

**PAY ITEM    PAY UNIT**

Abandonment of Well

Lump Sum

**ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT  
SPECIFICATIONS  
WATER WELL CONSTRUCTION  
MARION COUNTY AREA HEADQUARTERS & RESIDENT ENGINEER OFFICE  
YELLVILLE, ARKANSAS**

Page 1 of 7

**SCOPE**

Work under this item shall consist of Water Well Construction, including drilling and casing well, furnishing and installing pump and supply piping, extending electrical service, and related items, for the Marion County Area Headquarters and Resident Engineer Office located on State Highway 62, 2 miles east of junction of Highways 14 and 62, Yellville, Arkansas. All work for the complete Abandonment of Well shall be as indicated on the Plans, as called for in these Specifications, or as directed by the Engineer. These Specifications and the Plans cover the furnishing of all materials, labor, tools, equipment, machinery, caulking, drayage, rigging, fees, permits, and any and all incidental items required to complete the work.

**LOCAL CONDITIONS**

Bidders are required to visit the site prior to submission of proposal to familiarize themselves with local conditions, including general characteristics of the site and terrain, and accessibility of the work.

**PERMITS, INSPECTIONS, AND TAXES**

The Contractor, if awarded the Contract for Water Well Construction, shall give all necessary notices; obtain and pay for all permits, licenses, certificates, inspection and other legal fees required and other costs in connection with this work, both permanent and temporary, including utility taps and/or connections; file all necessary plans; prepare all documents and obtain all necessary approvals of all governmental departments having jurisdiction; and obtain required certificates of inspection for his work and deliver same to the Department.

The Contractor shall include in the work, without extra cost to the Department, all labor, materials, services, apparatus, drawings, and related items in order to comply with all laws, ordinances, rules and regulations, whether or not called for in these Specifications.

The Contractor shall include in his bid all State Sales Tax, Social Security Taxes, State Unemployment Compensation Insurance, and all other such items of like nature. It is the intent that the bid shall represent the total cost to the Department of all work included in this Contract.

## **EXAMINATION OF PLANS AND SPECIFICATIONS**

The Contractor shall examine the Plans and Specifications and shall become fully informed as to the extent and character of the work to be performed. No consideration will be given to alleged misunderstanding of materials to be furnished or work to be required under this Contract. Submission of a proposal is an implied consent to the conditions of these Specifications and of the Plans.

## **PROTECTION OF EXISTING FACILITIES**

The Contractor is advised that the work is to be performed in an area directly adjacent to existing buildings which are occupied. The Contractor shall exercise care and caution to prevent interference with those working in these facilities. The Contractor is also advised that he is responsible for protecting the existing facilities and occupants against damage or injury from his workmen, work in progress, or the elements.

## **SCHEDULING AND COMPLETION OF WORK**

The Contractor shall schedule his work so as to create a minimum amount of inconvenience to the normal work routine of Area Headquarters and Resident Engineer Office personnel.

## **ACCESS TO THE WORK**

The Engineer or his representatives shall have access to the work at all times and shall be permitted to approach, enter or examine all stages or phases of the work as it progresses, and shall have authority to reject work which is defective in workmanship or material.

## **REQUIRED SUPERVISION**

The Contractor shall keep on the job at all times, when work is in progress, a competent superintendent satisfactory to the Engineer. The superintendent shall represent the Contractor in his absence and all instructions given to him shall be binding on the Contractor. Workmanship shall be by craftsmen skilled in their trade and shall be in accordance with the best standard practice.

## **ACCIDENT PREVENTION**

Precaution shall be exercised at all times for the protection of persons and property. The safety provisions of applicable laws, building and construction codes shall be observed. Machinery, equipment and other hazards shall be guarded in accordance with safety provisions of the Manual of Accident Prevention in Construction, published by the Associated General Contractors of America, to the extent that such provisions are not in contravention of applicable laws. The Contractor shall be responsible for any damage which may be caused by workmen during the performance of the work.

**CONTRACT TIME LIMIT**

The Contractor shall begin within ten (10) days after notice to begin and shall complete the work within ten (10) working days after notice to begin.

**QUALITY OF MATERIAL**

All material, appliances or appurtenances furnished under these Specifications shall be new, unused, and shall be free from defects and imperfections. Any material, appliance or appurtenance found to be defective shall be replaced by the Contractor at no additional cost to the Arkansas Highway and Transportation Department, for material or labor. All material shall comply with the Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction, Edition of 1996 and these Specifications. Any material not covered in the above Specifications or on the Plans shall be approved by the Engineer.

**SUBSTITUTION OF MATERIAL**

It is intended that the Contractor have the option of substituting a material or appliance that will perform the function equally as well as the one named. The Engineer shall be given written notice two (2) weeks prior to the proposed use of a substitution so that a decision can be made as to the equal merits of the two (2) products. No substituted items shall be installed until written approval is received by the Contractor.

**CLEAN-UP**

The Contractor shall not allow any waste material or rubbish caused by his employees to accumulate in or about the premises but shall promptly remove same. At completion of the work, all rubbish, tools, scaffolding and surplus materials shall be removed and the Contractor shall leave the site clean and ready to use.

**MATERIALS AND CONSTRUCTION METHODS**

Water Well shall be constructed and tested in accordance with AWWA Standard A-100.

**DRILLING AND CASING WELL**

Drilling and Casing Well shall consist of drilling seven-inch (7") diameter hole to the aquifer (approximately 500 feet) and in this hole, place four-inch (4") internal diameter steel Casing. The steel pipe shall conform to the requirements of the latest revision of "Rules and Regulations pertaining to Public Water Systems" and Appendix C of the AWWA Standard A-100, with particular attention to Sections C.4, C.5, and C.6.

In order to provide for definition of all the geological strata of the Well, Contractor shall collect drill cuttings of every ten feet (10'-0"), and submit the washed, dried, bagged, and labeled samples to Mr. Bill Prior, Registered Professional Geologist, Arkansas Geological Commission, 3815 West Roosevelt Road, Little Rock, Arkansas 72204, (501) 296-1877, along with a preliminary Driller's Log.

The annular space between the Casing and opening shall be filled with impervious cement grout in such a manner as to prevent the intrusion of surface water or shallow ground water, as shown on the Plans. The required depth of the grout seal and minimum casing shall be as required by the Arkansas Department of Health, after review of the cuttings by the Arkansas Geological Commission.

The Well shall be protected at the surface by sanitary well seal and a water-tight well slab extending a minimum of two feet (2'-0") in all directions from the casing and sloped to provide drainage away from the casing, all as shown on the Plans.

#### PUMP AND SUPPLY PIPING

Submersible multi-stage Well Pump shall be furnished and installed. The Well Pump shall be suspended to a depth of 470 feet. The Pump shall be Teel Model No. 4RC16, or approved equivalent. Furnish and install compatible motor control box. Pump flow to be approximately 4.2 GPM @ 500', against 40 psi pressure tank, with 300 GPD median flow.

Supply Piping from the Pump to the surface shall be 160 psi continuous (no joints allowed) plastic, with necessary adaptors and fittings. Also, stainless steel cable from Pump to attachment at surface shall be provided.

Supply Piping from the surface to the existing well house location shall be PVC (SDR-21, 200 psi @ 73° F pressure rating) with gasket type joints and integral bell, or approved equivalent. All PVC (SDR) water pipe and fittings shall conform to the requirements of the latest revisions of ASTM Specifications D-1784, D-2672 or AWWA Standard C900. Provide tap or valve, as shown on Well Detail of the Plans, to sample well water prior to chlorination.

The SDR-21 Supply Piping shall be buried a minimum of 2'-6" as measured to top of pipe. Backfill shall be free of rocks or debris that may puncture plastic piping and shall be compacted in accordance with Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction, Edition of 1996, Section 210.10 – "Compaction Requirements".

The installation and testing of the Supply Piping shall conform to the requirements of AWWA Standard C605 – "Underground Installation of Polyvinyl Chloride Pressure Pipe and Fittings for Water".

### PRESSURE TANK

Pressure Tank shall be precharged, vertical type, 85 gallon, complete with universal tank tee, "scharader" valve, pressure gauge, pressure switch and all incidental items. The Pressure Tank shall be Teel Model No. 4P838, or approved equivalent.

Chlorine feed pump and solution storage tank piped to inlet piping of Pressure Tank shall be provided. Chlorine feed pump motor shall be interlocked with well pump to operate only when well pump is operating. Chlorinator system shall be Mec-O-Matic Model No. 7P076, or approved equivalent.

Pressure Tank, chlorinator system, and associated and incidental items shall be subsidiary to the Pump and Supply Piping pay item.

### ELECTRICAL

Electrical cable from the surface shall be submersible pump cable. All wire shall be copper with insulation. All Electrical work shall be in accordance with the requirements of the National Electrical Code and State and local codes.

Electrical work shall be subsidiary to the Pump and Supply Piping pay item.

### **DEVELOPMENT**

After the Water Well is completed, a capacity test shall be performed to determine the hydraulic condition of the Well. These hydraulic conditions shall clearly indicate that the Well is capable of producing 20 GPM. The permanent pump may be used provided the Well has been pumped with air for sufficient time to clear the Well of all sand and mud.

The Well shall be thoroughly developed, cleaned, tested and shall be clear of any sand before the permanent pump is installed.

### **GUARANTEE**

All materials and workmanship shall be warranted against defects for a period of one (1) year from date of acceptance by the Arkansas Highway and Transportation Department.

### **FINALLY**

All work shall be in strict accordance with the Arkansas Department of Health, Arkansas Water Well Construction Act, Arkansas Water Well Construction Commission Rules and Regulations, as amended August 13, 2001.

Copy of the detailed Driller's Log, as required by the Soil and Water Commission shall be submitted to the Arkansas Department of Health and the Arkansas Geological Commission, upon completion of the Well, and the abandonment of the existing well. This log shall contain pertinent Well information under AWWA Standards for Water Wells. Additional pertinent information required is as follows:

1. GPS Longitude and Latitude Well location and elevation reference point for all measurements
2. Depth at which all formations change
3. Depth at which the first water was located
4. Location and thickness of each aquifer
5. Identification of the stratigraphy and lithology encountered in the borehole
6. Depth interval each sample was taken (10'-0")
7. Depth for each borehole diameter
8. Depth to Stagnant Water Level and changes in SWL with depth
9. Total depth of completed Well
10. Location limits of lost circulation zones
11. Depth of the surface or sanitary seal
12. Normal hole diameter of the Well bore above and below the casing seal
13. Quantity, type, and mixture of the grout installed for the seal
14. Depth, length, diameter, wall thickness, material, and the type of connection of the Well casing
15. Well-screen type, diameter, wall thickness, material, aperture, type of connection, and depth interval in the borehole
16. Sealing off water-bearing strata, if any, and the exact location thereof
17. Any and all other pertinent information required by the Department and these Specifications
18. Rate of penetration

## **METHOD OF MEASUREMENT**

### **DRILLING AND CASING WELL**

Drilling and Casing Well, complete and in place, as indicated on the Plans, as called for in these Specifications, or as directed by the Engineer and accepted, will be measured for payment by the "Linear Foot".

### **PUMP AND SUPPLY PIPING**

Pump and Supply Piping, complete, in place and operating, as indicated on the Plans, as called for in these Specifications, or as directed by the Engineer and accepted, will be measured for payment by the "Lump Sum".

**BASIS OF PAYMENT**

DRILLING AND CASING WELL

Work completed and accepted under this item and measured as provided above, will be paid for at the linear foot price bid for "Drilling and Casing Well", which price shall be full compensation for all materials, labor, tools, equipment, machinery, caulking, drayage, rigging, fees, permits, clean-up and any and all incidental items required to complete the work.

PUMP AND SUPPLY PIPING

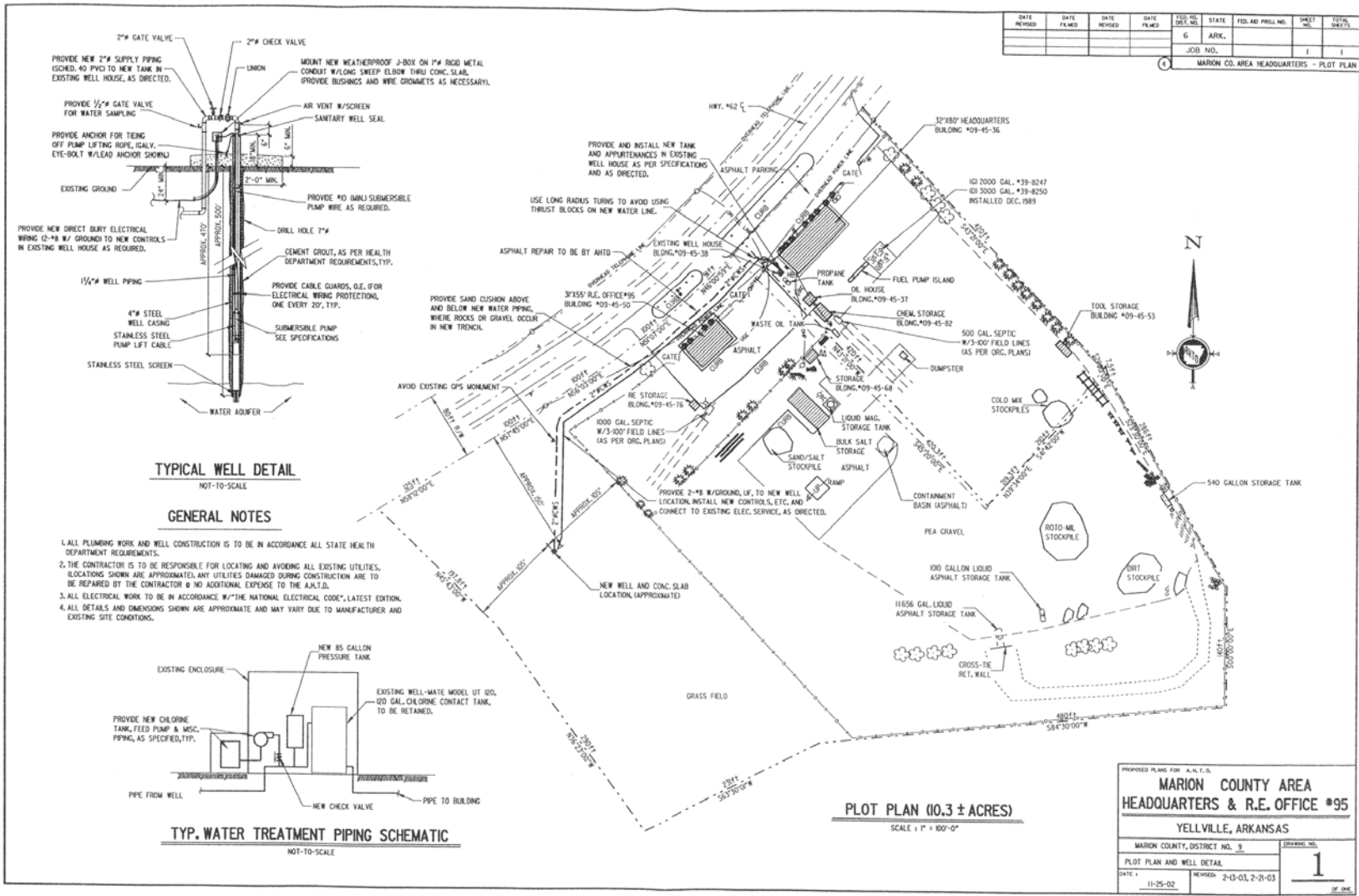
Work completed and accepted under this item and measured as provided above, will be paid for at the lump sum price bid for "Pump and Supply Piping", which price shall be full compensation for all materials, labor, tools, equipment, machinery, caulking, drayage, rigging, fees, permits, clean-up and any and all incidental items required to complete the work.

**PAY ITEMS**

**PAY UNITS**

Drilling and Casing Well  
Pump and Supply Piping

Linear Foot  
Lump Sum



**THIS DRAWING HAS BEEN REDUCED FOR SCANNING PURPOSES AND IS NOT TO SCALE.**