A PROJECT OF THE
PEORIA PARK DISTRICT

PRIVATE WATER MAIN AND FIRE HYDRANT
NEWMAN GOLF COURSE

2021 W. NEBRASKA AVE.
PEORIA, ILLINOIS

PEORIA PARK DISTRICT
PEORIA, ILLINOIS

PROJECT # 14-005

DATE: SEPTEMBER 30, 2014

PROJECT MANUAL

PACKAGE #_____

PROJECT MANUAL INCLUDING SPECIFICATIONS FOR:

PRIVATE WATER MAIN AND FIRE HYDRANT
NEWMAN GOLF COURSE
2021 W. NEBRASKA AVE.
PEORIA, ILLINOIS

ENGINEER: AUSTIN ENGINEERING COMPANY, INC.
8100 NORTH UNIVERSITY STREET
PEORIA, ILLINOIS 61615
TELEPHONE: (309) 691-0224

OWNER: PLEASURE DRIVEWAY AND PARK DISTRICT OF PEORIA, PEORIA, ILLINOIS

TRUSTEES:
TIMOTHY J. CASSIDY, PRESIDENT
ROBERT L. JOHNSON, SR.
JACQUELINE J. PETTY
JAMES T. HANCOCK
KELLY A. CUMMINGS
MATTHEW P. RYAN
NANCY L. SNOWDEN

PROJECT MANAGER: MICHAEL FRIBERG, RLA
PLANNING, DESIGN & CONSTRUCTION DIVISION
BRADLEY PARK EQUIPMENT SERVICE
1314 N. PARK ROAD
PEORIA, ILLINOIS 61604
TELEPHONE: (309) 686-3386

ADMINISTRATIVE STAFF:
BONNIE W. NOBLE, EXECUTIVE DIRECTOR
BRENT WHEELER, DEPUTY DIRECTOR
MICHAEL BAIETTO, SUPERINTENDENT OF PARKS
JANET BUDZYNSKI, SUPERINTENDENT OF FINANCE AND ADMINISTRATIVE SERVICES
BECKY FREDRICKSON, SUPERINTENDENT OF PLANNING, DESIGN AND CONSTRUCTION
CYNDY MCKONE, SUPERINTENDENT OF MARKETING/PUBLIC RELATIONS
DENNIS MANTICK, SUPERINTENDENT OF RECREATION AND LEISURE SERVICE
SHALESSE PIE, SUPERINTENDENT OF HUMAN RESOURCES
BILL ROEDER, SUPERINTENDENT OF RIVERFRONT DIVISION
BILL WOOLARD, SUPERINTENDENT OF GOLF

****

Address all communications regarding this work to the Project Manager listed above.

ADVERTISEMENT FOR BIDS

Sealed bids will be received by the Peoria Park District, Peoria, Illinois, hereinafter known as the Owner, for the following project:

PRIVATE WATER MAIN AND FIRE HYDRANT
NEWMAN GOLF COURSE
2021 W. NEBRASKA AVE.
PEORIA, ILLINOIS

It is the intent of the Owner to receive Base Bids for the project listed above.

Sealed bids will be received until October 14, 2014 at 1:30 p.m. prevailing time, by the Owner, at the Peoria Park District Administrative Office, 1125 W. Lake Ave., Peoria, Illinois 61614. (The Board Room clock shall be the official time keeping device in respect to the bid submission deadline.)

An electronic file including Bid Documents is available at www.peoriaparks-planning.org at no charge. Bid Documents, including Plans, Specifications and Interpretations for this project may be obtained at the Planning, Design & Construction Department, Bradley Park Equipment Service, 1314 N. Park Road, Peoria, IL 61604. Telephone (309) 686-3386. A non-refundable plan deposit of $50.00 will be charged for each printed set of Bid Documents.

A list of planholders can be obtained upon request. This information will be available up to twenty-four (24) hours prior to the scheduled bid opening time. **After that deadline, no information pertaining to the project will be given.**

A 10% Bid Bond is required, and is to be included with the Bid Proposal. The successful Bidder will be required to furnish a 100% Performance Bond and a 100% Labor and Materials Payment Bond within ten (10) days of formal Award of Contract.

The general prevailing rate of wage for the Peoria area shall be paid for each craft or type of worker needed to execute this contract or perform this work as required by the State of Illinois Department of Labor. Additionally, it is required that provisions of the Illinois Preference Act, the Illinois Drug Free Workplace Act, and the Substance Abuse Prevention on Public Works Act must be adhered to. Bidders are also advised that contract documents for this project include the non-discrimination, equal opportunity and affirmative action provisions in the Human Rights Act and rules and regulations of the Department of Human Rights. The Peoria Park District is an AA/EEO organization and encourages participation by minority and female-owned firms.

The Peoria Park District reserves the right to reject any or all bids, waive technical deficiencies, informalities or irregularities or rebid any project.

PLEASURE DRIVEWAY AND PARK DISTRICT
OF PEORIA, ILLINOIS

BY: TIMOTHY J. CASSIDY, President

BY: V. JOYCE MCLEMORE, Secretary

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SUPPLEMENTARY INSTRUCTIONS TO BIDDERS

1. INSTRUCTIONS TO BIDDERS

A. "Instructions to Bidders", AIA Document A701, 1997 Editions, published by the American Institute of Architects, including revisions adopted before date of this Project Manual, is hereby made part of these specifications with same force and effect as though set forth in full.

B. The following modifies, changes, deletes from or adds to the **Instructions to Bidders** (AIA Document A701, 1997 Edition). Where any Article of the Instructions to Bidders is modified or any Paragraph, Subparagraph or Clause thereof is modified or deleted by these Supplementary Conditions, the unaltered provisions of that Article, Paragraph, Subparagraph or Clause shall remain in effect.

C. Parenthesis ( ) indicates the appropriate section and Subparagraph of the Instructions to Bidders which each paragraph of the Supplementary Instructions to Bidders modifies or refers to.

2. PROJECT DESCRIPTION

A. The Project description generally is as follows:

1. BASE BID:

Tap of existing water main, fire service detector vault, directional bore of 8" DI water main, open cut installation of 8" DI water main, pavement and curb removal and patching, valves, fittings, hydrant, permits and site restoration.

B. PRE-BID MEETING :

1. A pre-bid meeting will be held at the project site on October 7, 2014 at 10:00 a.m.

3. CODES AND PERMITS

A. COSTS ASSOCIATED WITH REGULATORY COMPLIANCE. All Work performed in connection with this Project shall be in compliance with the requirements of all applicable local, state, and federal laws, regulations, and rules, as well as the requirements of the Construction Documents. The Bid Price shall reflect all costs of compliance to those requirements, whether or not specifically stated in the Construction Documents or specific sections of the Project Manual.

B. PERMITS/FEES. Work shall not commence until all required building (and/or other) permits have been secured by the Contractor and copies of these permits submitted to the Owner's Representative. Cost of permits is to be included in the Bid Price.

4. BID GUARANTY

The bid must be accompanied by a Bid Guaranty which shall not be less than 10% of the amount of the Bid. At the option of the Bidder, the 10% Guaranty may be a Certified Check, Cashier's Check, or a Bid Bond. The Bid Bond shall be secured by a Guaranty or a Surety Company acceptable to the Owner. No bid will be considered unless it is accompanied by the required Guaranty. Funds must be made payable to the order of the Owner. Cash deposits will not be accepted. The Bid Guaranty shall ensure the execution of the Agreement and the furnishing of the Surety Bond or Bonds by the successful Bidder, all as required by the Contract Documents.

5. AWARD OF CONTRACT/REJECTION OF BIDS:

The Contracts will be awarded on the basis of Paragraph 5.3 of the Instructions to Bidders. The Bidders to whom the awards are made will be notified at the earliest possible date. The Owner, however, reserves the right to reject any and all Bids, to accept any combination of base bids and alternates and to waive any technical deficiencies, informalities, or irregularities in Bids received whenever such rejection or waiver is in its interest.

No bid shall be withdrawn for a period of sixty (60) days after the opening of bids without the consent of the Owner. The failure of the Bidder to submit a Bid Bond, Certified Check or Cashier's Check in the full amount to cover all proposals bid upon shall be sufficient cause for rejection of his bid. The award will be made contingent upon submittal and evaluation of Contractor's Qualification Statement, Bonds, Certificate of Insurance, Contractor Certification(s), including Peoria Park District Certificate of Equal Employment Opportunity Compliance for Contractors and Vendors, etc.

6. EXECUTION OF AGREEMENT:

Subsequent to the award and within ten (10) days after the prescribed forms are prepared and presented for signature by the Owner's Representative, the successful Bidder shall execute and return to the Owner's Representative an Agreement in the form included in the Contract Documents in such number of copies as the Owner may require. The President of the Board of Trustees will complete execution of Agreement after all bonds and any other required documents have been received by the Park District. One fully executed copy of Agreement will then be returned to Contractor.

7. PERFORMANCE BOND/LABOR AND MATERIAL PAYMENT BOND & INSURANCE

A. BONDS REQUIRED. Having satisfied all conditions of award as set forth elsewhere in these Documents, the successful Bidder shall, within ten (10) calendar days after award of contract, furnish Surety Bonds in penal sums, each not less than the amount of the Contract as awarded as security for the faithful performance of the Contract (Performance Bond), and for the payment (Labor and Materials Payment Bond) of all persons, firms or corporations to whom the Contractor may become legally indebted for labor, materials, tools, equipment or services employed or used by him in performing the work.

B. **FORM OF BONDS**. **Such bonds shall be in the same form as the samples included in the Project Manual** and shall bear the same date as or a date subsequent to that of the Agreement. The current Power of Attorney for the person who signs for any Surety Company shall be attached to such Bonds. Bonds shall be signed by a Guaranty or Surety Company acceptable to the Owner.

C. **COST OF PERFORMANCE BOND/LABOR AND MATERIAL PAYMENT BOND**. All costs for the Performance Bond/Labor and Material Payment Bond shall be included in the submitted Bid Price.

D. **INSURANCE.** Insurance requirements for this project are addressed both in the Supplementary General Conditions and in "Attachment A.6", in the "Exhibits" section of this Project Manual.

a) In respect to the property ("builders risk") insurance coverages referenced in the Supplementary General Conditions: the successful Bidder will be required to provide such coverages as the work of the Project will be accomplished by one general/prime contractor.

E. **TIME FRAMES.** The successful Bidder shall, within ten (10) days after award of contract by the Board of Trustees, submit Proof of Insurance coverages/Bonds in the form and amounts required to the Owner's Representative. Should the Bidder be unable to provide the required Proof of Insurance(s)/Bonds within the specified ten day period the Owner reserves the right, at its sole discretion, to withdraw its award of contract from that Bidder.

8. DEFAULT

A. The failure of the successful Bidders to execute the Agreement, supply the required Bonds or proof of required insurance coverage(s) within (ten) 10 days after award of contract, or within such extended period as the Owner may grant based upon reasons determined sufficient by the Owner, may constitute a default. In such case, award of contract will be transferred to the second lowest bidder.

9. CONTRACTOR'S QUALIFICATION STATEMENT

A. Contractor's Qualification Statement (AIA Document 305) shall be submitted by low bidder for evaluation prior to award of contract if so requested by the Owner or his representatives.

10. LIST OF SUBCONTRACTORS/PRODUCT & EQUIPMENT SUBSTITUTIONS

A. Each Bidder shall submit a "MAJOR SUBCONTRACTORS LIST" proposed to be used in the execution of the Work. If there will be no subcontractors, the Bidder shall state "No Subcontractors" on this form. The completed form is due with the Bid Proposal.

1) Identify the trade name, address, telephone number, and category of work of each subcontractor.

2) Failure to submit the "Major Subcontractors List" with the Bid Proposal may result in the rejection of the Bid.

3) Delete Subparagraphs (6.3.1.1) and (6.3.1.2) from AIA A701.

B. The Bidder, by submission of a signed bid form, agrees to install all products and equipment by brand name or names specified in the Technical Specifications sections of this Project Manual. "Or equal" substitutions will be allowed only if approved in writing prior to the bid opening and listed in the "Substitutions" section of the Bid Form.

11. CONTRACT ADMINISTRATION FORMS/COSTS OF FORMS

A. **REQUIRED FORMS**. The following AIA forms will be used (AIA forms will be supplied by the Owner if requested, and charged to the Contractor at cost) in the administration of the project:

1) **AIA Document A310**: "Bid Bond", February 1970 edition

2) **AIA Document A305**: "Contractor's Qualification Statement", 1986 edition

3) **AIA Document G702**: "Application and Certificate of Payment", May 1992 edition

4) **AIA Document G703**: "Continuation Sheet", May 1992 edition

B. **OTHER FORMS**. Other contract administration forms (to be provided by the Owner unless otherwise noted) required for use in the Project are:

1) **Major Subcontractors List**

2) **Contractor's Affidavit**

3) **Individual Contractor Form**

4) **Corporate or Partnership Form**

5) **Performance Bond**

6) **Labor and Material Payment Bond**

7) **Lien Waiver Forms**

8) **Weekly Workforce Report**

9) **Certified Payroll Form** (Contractor may use own form)

10) **Insurance Forms: As required in Attachment A (at end of Project Manual)** (will not be provided by Owner)

11) **Agreement Between Owner and Contractor**

Examples of these forms are included in the Project Manual.

12. CONSTRUCTION TIME AND LIQUIDATED DAMAGES CLAUSE:

A. PROJECT COMPLETION. The Agreement will include the following paragraph(s) or language substantially the same, regarding construction time and liquidated damages:

1) LIQUIDATED DAMAGES: Owner and Contractor recognize that time is of the essence of this Agreement and that Owner will suffer financial loss if the Work is not Substantially Complete within the time specified below, plus any extensions thereof allowed in accordance with Article 8 of the General Conditions. They also recognize the delays, expense and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by Owner if the Work is not completed on time.

2) Accordingly, instead of requiring any such proof, Owner and Contractor agree that as Liquidated Damages for delay (but not as a penalty) Contractor shall pay Owner TWO HUNDRED AND FIFTY DOLLARS ($250.00) for each calendar day that expires after ONE HUNDRED SEVENTY FIVE (175) calendar days from Notice of Award until Substantial Completion is attained. The work is tentatively scheduled to begin on October 23, 2014 and be at Substantial Completion by April 15, 2015.

3) After Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work necessary to achieve Final Completion within ten (10) calendar days or any proper extension thereof granted by Owner, Contractor shall pay Owner TWO HUNDRED AND FIFTY DOLLARS ($250.00) for each day that expires after the time specified.

4) Owner and Contractor agree that the per day liquidated damage amounts set forth in subparagraphs "2" and "3" of this section constitute a reasonable forecast of the financial losses, actual costs and increased expenses the Owner may incur as a result of delayed Substantial or Final Completion of the Project.

13. PROJECT MANUAL/PLANS & SITE VISITATION

A. A set of Bid Documents may be examined, at no charge, at the office of the Owner's Representative.

B. **PLAN DEPOSIT**. An electronic file including Bid Documents is available at www.peoriaparks-planning.org at no charge. A printed set of Bid Documents, including Plans, Specifications and Interpretations for this project may be obtained at the Planning, Design & Construction Department, Bradley Park Equipment Service, 1314 N. Park Road, Peoria, IL 61604. Telephone (309)686-3386. A non-refundable plan deposit of $50.00 will be charged for each printed set of Bid Documents.

C. **FAMILIARITY WITH BID DOCUMENTS & SITE VISITATION**. Bidders, by submission of their Bids, represent that they have visited the site to acquaint themselves with the local conditions in which the Work is to occur, and that they are familiar with all the requirements of the Project, as defined in the Project Manual and the Plan(s).

14. OTHER MODIFICATIONS TO AIA-701/OTHER CONDITIONS

A. Add the following sentence to **(4.1.7**): "Bidder shall submit two (2) completed copies of Bid Form and retain one (1) copy for his files."

B. Delete Section **(6.2)** - "Owner's Financial Capability"; and last sentence of Paragraph **(4.2.1.)**

C. In reference to (**7.2.1**), the Peoria Park District reserves the right of final approval of bonding companies.

D. Delete paragraph **(7.1.3).**

15. EQUAL EMPLOYMENT OPPORTUNITY/AFFIRMATIVE ACTION/SEXUAL HARASSMENT

A. The "Peoria Park District Certificate of Equal Employment Opportunity Compliance for Contractors and Vendors Form" and "Workforce Profile" and "Sexual Harassment Policy" shall be filled out and returned with the Bid. Failure to submit a completed "Peoria Park District Certificate of Equal Employment Opportunity Compliance for Contractors and Vendors Form" and "Workforce Profile" and "Sexual Harassment Policy" may result in rejection of the bid.

B. Effective July 1, 1993, every party to a public contract and every party bidding on public contracts is required to have a written **"Sexual Harassment Policy"** that contains:

1) A definition of sexual harassment under state law;

2) A description of sexual harassment utilizing examples;

3) A formalized complaint procedure;

4) A statement of victim's rights;

5) Directions on how to contact the Illinois Department of Human Rights **- Illinois companies**. Out-of-State companies must include directions on how to contact the enforcement agency within their state. Companies that issue a standard policy for all business locations must prepare an addendum providing directions on how to contact the appropriate enforcement agency.

6) A recitation that there cannot be any retaliation against employees who elect to file charges.

Recommendation: Your **"Sexual Harassment Policy"** should be drafted in language easy to understand and any revisions should be reviewed by legal counsel. A copy of your policy should be posted in a prominent and accessible location to assure all employees will be notified of the company's position.

In order to conduct business with the Peoria Park District, you must have a written "Sexual Harassment Policy" that conforms to the new Act.

FAILURE TO DO SO WILL DISQUALIFY YOU AS AN ELIGIBLE VENDOR.

C. Lowest responsible bidder not meeting the Park District's goal of 12% for minority/women participation, must provide proof of efforts made in contacting an adequate number of minority and women owned firms and/or labor.

16. BID SUBMISSION

A. **DATE, TIME & PLACE OF RECEIVING BIDS**. Bids will be received until the date and time listed in the "Advertisement for Bids", at which time they will be publicly opened, read aloud and recorded. The Bid Opening will be held at the place listed in the "Advertisement for Bids".

B. **REQUIRED ITEMS**. The following items must be included as part of the "BID":

1) Two (2) signed copies of the **BID FORM**. (Retain the third copy for your files.)

2) The **PEORIA PARK DISTRICT CERTIFICATE OF EQUAL EMPLOYMENT OPPORTUNITY COMPLIANCE FOR CONTRACTORS AND VENDORS FORM** and **SEXUAL HARASSMENT POLICY.**

3) The **WORKFORCE PROFILE.**

4) The **ILLINOIS DRUG FREE WORKPLACE CERTIFICATION**.

5) The **CONTRACTOR CERTIFICATION** (individual or corporate/partnership).

6) The **LIST OF SUBCONTRACTORS**. (Submit form and state "No Subcontractors" on the form, if none will be used.)

7) The **BID GUARANTY.**

8) The **CERTIFICATION OF SAFETY COMPLIANCE.**

9) **SUBSTANCE ABUSE PREVENTION PROGRAM CERTIFICATION**

C. **BID SUBMISSION**. The "BID" shall be enclosed in envelopes (outer and inner), both of which shall be sealed and clearly labeled with the following information, in order to prevent premature opening of the bid:

- "PROPOSAL"
- NAME OF PROJECT
- NAME OF BIDDER
- DATE/TIME OF BID OPENING

END OF SUPPLEMENTARY INSTRUCTIONS TO BIDDERS

Bid From: _____ PROJECT NO. 14-005

BID FOR: PRIVATE WATER MAIN AND FIRE HYDRANT
LOCATION: NEWMAN GOLF COURSE

BID FORM

BID TO: PEORIA PARK DISTRICT

UNDERSIGNED:

1. Acknowledges receipt of:

   A. Project Manual and Drawings for:
   PRIVATE WATER MAIN AND FIRE HYDRANT
   NEWMAN GOLF COURSE
   PEORIA, ILLINOIS

   B. Addenda: No. _____ through No. _____

2. Has examined facility and the bid documents and shall be responsible for performing work specifically required of him by all parts of bidding documents including specifications for entire project, even though such work may be included as related requirements specified in other divisions or sections.

3. And agrees to enter into and execute Contract with Owner, if awarded on basis of this bid, and to:

   A. Furnish Bonds and Insurance required by the Bidding & Contract Documents.

   B. Accomplish work in accord with Contract.

   C. Complete work within specified Contract time.

4. **CONTRACT TIME**: Contractor agrees to Substantially Complete ALL WORK as required by the Contract Documents per the Supplementary General Conditions and Supplementary Instructions to Bidders.

5. **BASE BIDS**:
   A. Base Bid:
   Bidder agrees to perform all building and site work, as set forth in the Project Manual and Drawings for the sum of:

   _____ Dollars ($_____._____)

6. **UNIT PRICES**:
   A. Bidders submitting prices for the Base Bid shall submit Unit Prices for adding or deleting work. Unit Prices shall include all costs, including but not limited to preparation, labor, equipment, and materials necessary for a complete installation.

ITEM	UNIT	UNIT PRICE
8” Class 350 Ductile Iron pipe, bored	LF	$_____
8” Class 350 Ductile Iron pipe, open cut	LF	$_____

7. **PROPOSED SUBSTITUTION LIST:**

Base Bid(s) and Alternates are understood to include only those product brands, items, and elements which are specified in the Bid Documents. The following is a list of substitute products, equipment or methods of construction which the Bidder proposes to furnish on this project, with difference in price being added or deducted from Base Bid(s).

Bidder understands that acceptance of any proposed substitution which has not been approved as an "equal" to the product brand, item, or element specified prior to bid opening is at Owner's option. Approval or rejection of any substitutions listed below will be indicated before executing Contract.

ITEM	ADD	DEDUCT
_____	$_____	$_____
_____	$_____	$_____
_____	$_____	$_____

8. **BIDDERS CHECKLIST:**

Did you visit the site?	Yes	No
Is Bid Security enclosed? (If applicable)	Yes	No
Is Peoria Park District Certificate of Equal Employment Opportunity Compliance for Contractors and Vendors and Sexual Harassment Policy enclosed?	Yes	No
Is Workforce Profile enclosed?	Yes	No
Is List of Subcontractors enclosed?	Yes	No
Is Contractor Certification enclosed?	Yes	No
Is Ill. Drug Free Workplace Certification enclosed?	Yes	No
Is Certificate of Safety Compliance enclosed?	Yes	No
Is Substance Abuse Prevention Program Certification enclosed?	Yes	No

9. **BIDDER INFORMATION**:

NAME OF BIDDER:_____

ADDRESS: _____

CITY, STATE, ZIP: _____

Bid From: _____ PROJECT NO. 14-005

BID FOR: PRIVATE WATER MAIN AND FIRE HYDRANT
LOCATION: NEWMAN GOLF COURSE

TELEPHONE NO.: _____

BY: _____
(Signature of Authorized Official)

TITLE: _____

BIDDER'S SEAL

WITNESS: _____

END OF BID FORM

Office Use Only:
Approved: _____
Date: _____

Peoria Park District

Certificate of Equal Employment Opportunity Compliance
for
Contractors and Vendors

Disclosure of the information requested in this form is required by the Peoria Park District. Failure to properly complete and sign this form will result in it being returned unprocessed thereby resulting in a delay or denial of eligibility to bid.

As part of the Company's commitment to equal employment opportunity practices, this company does the following:

- Recruits, trains, upgrades, promotes and disciplines persons without regard to race, color, sex, religion, national origin, veteran status, age, mental or physical ability.
- Notifies all recruitment sources that all qualified applicants will be considered for employment without regard to race, color, sex, religion, national origin, veteran status, age, mental or physical ability.
- When advertising is used, specifies that all qualified applicants will be considered for employment without regard to race, color, sex, religion, national origin, veteran status, age, mental or physical ability.
- Notifies all labor organizations which furnish this company with any skilled or non-skilled labor of the Company's responsibility to comply with the equal employment opportunity requirements required in all contracts by the
  Peoria Park District.
- Notifies all of its sub-contractors of their obligation to comply with the equal employment opportunity requirements required in all contracts by the Peoria Park District.
- Has an affirmative action program that assures the company's fair employment practices are understood and carried out by all of its managerial, administrative and supervisory personnel.

Is the Company a minority/woman owned business (MBE/WBE)? ____YES ____ NO

The Company does not discriminate against any employees or applicants for employment because of race, color, religion, sex, national origin, veteran status, age, mental or physical ability.

The Company does not maintain segregated facilities for any of its employees on the basis of race, religion, color, national origin, because of habit, local custom, or otherwise.

By signing this form, the Company attests that it complies with all statements listed above as part of the Company's commitment to equal employment opportunity practices. The Company further agrees that it has completed the attached Workforce Profile Sheet truthfully, to the best of its knowledge.

_____	_____
Company Name	Company Address
_____	_____
Signature of Company Official	Name / Title
_____	_____
Telephone Number & Fax Number	Email Address

Rev. 6/2012

WORKFORCE PROFILE - FULL TIME ONLY

Job Classifications	Total Employees		Black		Hispanic		Native American		Asian		Veteran		Disabled	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F
1. Officials, Managers, Supervisors														
2. Professionals														
3. Technicians														
4. Sales														
5. Office/Clerical														
6. White Collar Trainees:														
7. Skilled Crafts:														
8. Apprentices:														
9. On-the-job Trainees:														
10. Semi-skilled														
11. Service Workers														
12. Unskilled														
TOTALS														

WORKFORCE PROFILE INSTRUCTIONS

RACE/ETHNIC IDENTIFICATION

WHITE (not of Hispanic origin): All persons having origins in any of the original peoples of Europe, North Africa, or the Middle East.

BLACK (not of Hispanic origin): All persons having origins in any of the Black racial groups of Africa.

HISPANIC: All persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race.

ASIAN or PACIFIC ISLANDER: All persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands. This area includes, for example, China, India, Japan, Korea, the Philippine Islands, and Samoa.

NATIVE AMERICAN or ALASKAN NATIVE: All persons having origins in any of the original peoples of North America, and who maintain cultural identification through tribal affiliation or community recognition.

DESCRIPTION OF JOB CLASSIFICATIONS

OFFICIALS, MANAGERS, AND SUPERVISORS - Occupations requiring administrative personnel who set broad policies, and exercise over-all responsibility for the execution of these policies, and direct individual departments or special phases of a firm's operations. Includes: officials, executives, middle management, plant managers, department managers/superintendents, salaried foremen who are members of management, purchasing agents and buyers, and kindred workers.

PROFESSIONALS - Occupations requiring either college graduation or experience of such kind and amount as to provide a comparable background. Includes: accountants/auditors, airplane pilots and navigators, architects, artists, chemists, designers, dietitians, editors, engineers, lawyers, librarians, mathematicians, natural scientists, personnel and labor relations workers, physical scientists, physicians, social scientists, teachers, and kindred workers.

TECHNICIANS - Occupations requiring combination of basic scientific knowledge and manual skill which can be obtained through about 2 years of post high school education, such as is offered in many technical institutes and junior colleges, or through equivalent on-the-job training. Includes: drafters, engineering aids, junior engineers, scientific assistants, surveyors, technical illustrators, technicians (medical, dental, electronic physical sciences), and kindred workers.

SALES WORKERS - Occupations engaging wholly or primarily in direct selling. Includes: advertising agents/salespersons, insurance agents/brokers, real estate agents/brokers, stock and bond salespersons, demonstrators, salespersons and sales clerks, and kindred workers.

OFFICE AND CLERICAL WORKERS - Includes all clerical type work regardless of level of difficulty, where the activities are predominantly non-manual though some manual work not directly involved with altering or transporting the products is included. Includes: bookkeepers, cashiers, collectors (bills and accounts), messengers and office couriers, office machine operators, shipping and receiving clerks, stenographers, typist and secretaries, telegraph and telephone operators, and kindred workers.

WHITE COLLAR TRAINEES - Persons engaged in formal training for official, managerial, professional, technical, sales, office and clerical occupations.

SKILLED CRAFTS - Manual worker of relatively high skill level having a thorough and comprehensive knowledge of the processes involved in their work. Exercise considerable independent judgment and usually receive an extensive period of training. Includes: the building trades hourly paid foremen and leadmen who are not members of management, mechanics and repairmen, skilled machining occupations, compositors and typesetters, electricians, engravers, job setters (metal), motion picture projectionists, pattern and model makers, stationary engineers, tailors and tailoresses, and kindred workers.

APPRENTICES - Persons employed in a program including work training and related instruction to learn a trade or craft which is traditionally considered an apprenticeship, regardless of whether the program is registered with a Federal or State agency.

ON-THE-JOB TRAINEES - Persons engaged in formal training for craftsmen when not trained under apprentice programs; semi-skilled, unskilled and service occupations.

SEMI-SKILLED WORKERS - Workers who operate machine or processing equipment or perform other factory-type duties of intermediate skill level which can be mastered in a few weeks and require only limited training.

SERVICE WORKERS - Workers in both protective and non-protective service occupations. Includes: attendants (hospital and other institution, professional and personal service), barbers, charwomen and cleaners, cooks (except household), counter and fountain workers, elevator operators, fire fighters, guards, watchmen and doorkeepers, stewards, janitors, police officers and detectives, porters, waiters and waitresses, and kindred workers.

UNSKILLED WORKERS - Workers in manual occupations which generally require no special training. Perform elementary duties that may be learned in a few days and require the application of little or no independent judgement. Includes: garage laborers, car washers and greasers, gardeners (except farm) and groundskeepers, longshoremen and stevedores, lumbermen, craftsmen and wood choppers, laborers performing lifting, digging, mixing loading and pulling operations, and kindred workers.

P L E A S E B E A D V I S E D !

Every party to a public contract and every party bidding on public contracts are required to have a written sexual harassment policy that contains:

(1) a definition of sexual harassment under state law:

(2) a description of sexual harassment utilizing examples;

(3) a formalized complaint procedure;

(4) a statement of victims rights;

(5) directions on how to contact the Illinois Department of Human Rights – **Illinois companies. Out-of-State** companies must include directions on how to contact the enforcement agency within their state. Companies that issue a standard policy for all business locations must prepare an addendum providing directions on how to contact the appropriate enforcement agency.

(6) a recitation that there cannot be any retaliation against employees who elect to file charges.

Recommendation: Your sexual harassment policy should be drafted in language easy to understand and any revisions should be reviewed by legal counsel. A copy of your policy should be posted in a prominent and accessible location to assure all employees will be notified of the company's position.

In order to conduct business with the PEORIA PARK DISTRICT, you must have a written sexual harassment policy that conforms to the new ACT.

FAILURE TO DO SO
WILL DISQUALIFY YOU AS AN ELIGIBLE VENDOR!!!

Please be advised, effective July 1, 1993, Governor Jim Edgar established under Executive Order Number 7 (Public Act 87-1257) that every party to a public contract and every party bidding on a public contract within the State of Illinois must have a written policy statement prohibiting sexual harassment. The following model policy statement is a draft copy provided for use in formulating your company's policy statement

SEXUAL HARASSMENT POLICY STATEMENT

It is the responsibility of each individual employee to refrain from sexual harassment and it is the right of each individual employee to work in an environment free from sexual harassment.

DEFINITION OF SEXUAL HARASSMENT
According to the Illinois Human Rights Act, sexual harassment is defined as:

Any unwelcome sexual advances or requests for sexual favors or any conduct of a sexual nature when

1. submission to such conduct is made either explicitly or implicitly a term or condition of an individual's employment;
2. submission to or rejection of such conduct by an individual is used as the basis for employment decision(s) affecting such individual; or
3. such conduct has the purpose or effect of substantially interfering with an individual's work performance or creating an intimidating, hostile, or offensive working environment.

The courts have determined that sexual harassment is a form of discrimination under Title VII of the U.S. Civil Rights act of 1964, as amended in 1991. One such example is a case where a qualified individual is denied employment opportunities and benefits that are, instead, awarded to an individual who submits (voluntarily or under coercion) to sexual advances or sexual favors. Another example is where an individual must submit to unwelcome sexual conduct in order to receive an employment opportunity.

Other conduct commonly considered to be sexual harassment includes:

⇒ Verbal: Sexual innuendoes, suggestive comments, insults, humor and jokes about sex, anatomy or gender-specific traits, sexual propositions, threats, repeated requests for dates, or statement about other employees, even outside of their presence, of a sexual nature.

⇒ Non-Verbal: Suggestive or insulting sounds (whistling), leering, obscene gestures, sexually suggestive bodily gestures, "catcalls", "smacking" or "kissing" noises.

⇒ Visual: Posters, signs, pin-ups, slogans of a sexual nature.

⇒ Physical: Touching, unwelcome hugging or kissing, pinching, brushing the body, coerced sexual intercourse or actual assault.

Sexual harassment most frequently involves a man harassing a woman. However, it can also involve a woman harassing a man or harassment between members of the same gender.

The most severe and overt forms of sexual harassment are easier to determine; however, some sexual harassment is more subtle and depends to some extent on individual perception and interpretation. The trend in the courts is to assess sexual harassment by a standard of what would offend a "reasonable woman" or a "reasonable man", depending upon the gender of the alleged victim.

An example of the most subtle form of sexual harassment is the use of endearments. The use of terms such as "honey", "darling", and "sweetheart" is objectionable to many women who believe that these terms undermine their authority and their ability to deal with men on an equal and professional level.

Another example is the use of a compliment that could potentially be interpreted as sexual in nature. Below are three statements that might be made about the appearance of a woman in the workplace:

- ⇒ "That's an attractive dress you have on."
- ⇒ "That's an attractive dress. It really looks good on you."
- ⇒ "That's an attractive dress. You really fill it out well."

The first statement appears to be simply a compliment. The last is most likely to be perceived as sexual harassment depending on individual perceptions and values. To avoid the possibility of offending an employee, it is best to follow a course of conduct above reproach, or to err on the side of caution.

RESPONSIBILITY OF INDIVIDUAL EMPLOYEES

Each individual employee has the responsibility to refrain from sexual harassment in the workplace. An individual employee who harasses a fellow worker is, of course, liable for his or her individual conduct. The harassing employee will be subject to disciplinary action up to and including discharge in accordance with company/organization policy or a collective bargaining agreement, as appropriate.

RESPONSIBILITY OF SUPERVISORY PERSONNEL

Each supervisor is responsible for maintaining a workplace free of sexual harassment. This is accomplished by promoting a professional environment and by dealing with sexual harassment as with all other forms of employee misconduct.

The courts have found companies/organizations as well as supervisors can be held liable for damages related to sexual harassment by a manager, supervisor, employee, or third party (an individual who is not an employee but does business with a company/organization, such as a contractor, customer, sales representative, or repair person).

Liability is based either on a company/organization's responsibility to maintain a certain level of control and discipline, or on the supervisor acting as an agent of the company/organization. As such, supervisors must act quickly and responsibly, not only to minimize their own liability, but also that of the company/organization.

RESOLUTION OUTSIDE THE COMPANY/ORGANIZATION

It is hoped that most sexual harassment complaints and incidents can be resolved within a company/organization. However, an employee has the right to contact the Illinois Department of Human Rights (IDHR) or the U.S. Equal Employment Opportunity Commission (EEOC) about filing a formal complaint. An IDHR complaint must be filed within 180 days of the alleged incident(s) unless it is a continuing offense. A complaint with EEOC must be filed within 300 days.

Illinois Department of Human Rights
(217) 785-5100 – Springfield
(217) 785-5125 – TDD Springfield
(312) 814-6200 – Chicago
(312) 263-1579 – TDD Chicago

Illinois Human Rights Commission
(217) 785-4350 – Springfield
(217) 785-5125 – TDD Springfield
(312) 814-6269 – Chicago
(312) 814-4760 – TDD Chicago

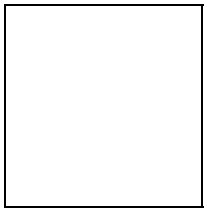
U.S. Equal Employment Opportunity Commission
(312) 353-2613 – Chicago District Office
(800) 669-4000 – Toll Free Within State of Illinois
(800) 669-6820 – TDD Chicago

An employee who is suddenly transferred to a lower paying job or passed for promotion, after filing a complaint with IDHR or EEOC, may file a retaliation charge, also due 180 days (IDHR) or 300 days (EEOC) from the alleged retaliation.

An employee who has been physically harassed or threatened while on the job may also have grounds for criminal charges of assault and battery.

FALSE AND FRIVOLOUS COMPLAINTS

False and frivolous charges refer to cases where the accuser is using a sexual complaint to accomplish some end other than stopping sexual harassment. It does not refer to charges made in good faith which cannot be proven. Given the seriousness of the consequences for the accused, a false and frivolous charge is a severe offense that can itself result in disciplinary action.



ILLINOIS DRUG FREE WORKPLACE CERTIFICATION

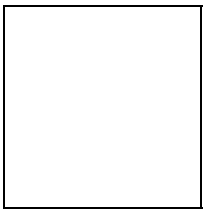
The undersigned Contractor/Vendor hereby certifies that it will comply with all provisions of the Illinois Drug Free Workplace Act of 1991.

Dated this _____ day of _____, 20 _____

Contractor/Vendor

_____

By: _____



SUBSTANCE ABUSE PREVENTION PROGRAM CERTIFICATION

Project Name:_____

Location:_____

The Substance Abuse Prevention on Public Works Act Public Act 95-0635, prohibits the use of drugs and alcohol, as defined in the Act, by employees of the Contractor and by employees of all approved Subcontractors while performing work on a public works project. The Contractor/Subcontractor herewith certifies that it has a superseding collective bargaining agreement or makes the public filing of its written substance abuse prevention program for the prevention of substance abuse among its employees who are not covered by a collective bargaining agreement dealing with the subject as mandated by the Act.

A.The undersigned representative of the Contractor/Subcontractor certifies that the contracting entity has signed collective bargaining agreements that are in effect for all of its employees, and that deal with the subject matter of Public Act 95-0635.

_____
Contractor/Subcontractor

_____
Name of Authorized Representative (type or print)

_____
Title of Authorized Representative (type or print)

_____
Signature of Authorized RepresentativeDate

B.The undersigned representative of the Contractor/Subcontractor certifies that the contracting entity has in place, for all of its employees not covered by a collective bargaining agreement that deals with the subject of the Act, the attached substance abuse prevention program that meets or exceeds the requirements of Public Act 95-0635.

_____
Contractor/Subcontractor

_____
Name of Authorized Representative (type or print)

_____
Title of Authorized Representative (type or print)

_____
Signature of Authorized RepresentativeDate

CERTIFICATION OF SAFETY COMPLIANCE

The undersigned Contractor/Vendor hereby certify that they and their sub-contractors will comply with any and all prevailing occupational safety and health standards including, but not limited to the following: hazard communication, hearing conservation, respirator use, permit required confined space entry, scaffolding, personal protective equipment, ladder usage, ventilation, flammable and combustible liquids handling and storage and lockout/tagout. Such compliance may include a training component or require a written program of compliance.

Dated this day of _____, 20 _____.

CONTRACTOR/VENDOR: _____

By: _____

PLEASURE DRIVEWAY AND PARK DISTRICT

OF PEORIA, ILLINOIS

Individual Contractor Form

CONTRACTOR CERTIFICATION

I, _____, do hereby certify that I am a contractor who has not been barred from bidding on a public contract as a result of a violation of either Section 33E-3 (bid-rigging) or Section 33E-4(bid rotating) of the Illinois Criminal Code, Illinois Compiled Statutes 720 ILCS 5/33E-3 and 5/33E-4.

_____
Contractor

By: _____

Subscribed and Sworn before me this _____ day of _____, 20____

_____
Notary Public

My Commission Expires _____, 20_____

PLEASURE DRIVEWAY AND PARK DISTRICT

OF PEORIA, ILLINOIS

Corporate or Partnership Contractor Form

CONTRACTOR CERTIFICATION

I, _____, a duly authorized agent of
(Agent)

_____, do hereby certify that neither
(Contractor)

_____, nor any individual presently
(Contractor)

affiliated with _____, has been barred from
(Contractor)

bidding on a public contract as a result of a violation of either Section 33E-3 (bid-rigging) or Section 33E-4 (bid rotating) of the Illinois Criminal Code, Illinois Compiled Statutes, 720 ILCS 5/33E-3 and 5/33E-4.

_____
Contractor

By: _____

Subscribed and Sworn before me this _____ day of _____, 20____

_____
Notary Public

My Commission Expires _____, 20_____

MAJOR SUBCONTRACTORS LIST

The following tabulation of Major Subcontractors shall be attached and made a condition of the Bid. The Bidder expressly understands and agrees to the following provisions:

A. If awarded a Contract as a result of this Bid, the major subcontractors used in the prosecution of the work will be those listed below.
B. The following list includes all subcontractors who will perform work representing 5% (five percent) or more of the total Base Bid.
C. The subcontractors listed below are financially responsible and are qualified to perform the work required.
D. The subcontractors listed below comply with the requirements of the Contract Documents.
E. Any substitutions in the subcontractors listed below shall be requested in writing by the Contractor and must be approved in writing by the Owner. No sub-subcontractors will be allowed unless specifically stated on the form. All pertinent financial, performance, insurance and other applicable information shall be submitted with the request for substitution(s). Owner shall respond to such requests within 14 calendar days following the submission of all necessary information to the full satisfaction of the Owner.
F. Failure to submit the list of Major Subcontractors as stated herein shall constitute a material variation from the Invitation to Bid; and any such Bid may be rejected by the Owner.

Subcontractor Name	Address	Telephone	Area of Work	Minority/Women Owned Business (Yes/No)

(Attach additional sheets if required)

END OF MAJOR SUBCONTRACTORS FORM

Directory of Minority & Women Owned Business Enterprises
Compiled with Information from
City of Peoria Equal Opportunity Office
Peoria Housing Authority
Peoria Park District

Revised 11/13

Absolute Risk Management Strategies Kelly Peterson	MBE Construction Safety, Job Site Safety Plan Development, Job Site Risk Assessment, Construction OSHA Training 416 Main St., Suite 533, Peoria, IL 61602	309-256-8471 309-222-4050 Cell
Adams Septic & Sewer Services, Inc. Michelle Adams	WBE Septic and Sewer Contractor 1641 N. Tiber Ridge Ct., East Peoria, IL 61611	309-691-6113
Aerial Work Services Company	MBE Landscaping and Seeding 13805 Wadsworth Road, Wadsworth, IL	847-662-5321 847-662-5321 Fax
AFE Construction, Inc. Tommy and Monica Arbuckle	WBE General Contractor WBE P.O. Box 199, Mackinaw, IL 61755	309-303-7065 866- 491-2209 Fax
A & L Salvage, Inc. Archie Brown	MBE Clean Up, Tree Cutting & Removal, Truck Salvaging 824 W. Brons Peoria, IL 61604	309-682-4412
Alexander Brothers Construction Co. Allester Alexander	MBE Concrete, Demolition, Excavation, Landscaping P.O. Box 1508, Peoria, IL 61605	309-673-6768
A. Lucas & Sons Steel Margaret Hanley	WBE Structural Steel Fabrication 1328 SW Washington, Peoria, IL 61602	309-673-8547 309-673-7213 Fax
Ambri Inc. Robert J. Hunt. Jr.	MBE Drywall, Flooring, Painting, Cabinetry 9101 S. Nashville Ave., Oak Lawn, IL 60453	708-233-0217 Ph and Fax
Atherton, P.A. Patricia Atherton	WBE Asphalt, Concrete, Demolition, Excavation 57 Eichorn Road, Spring Bay, IL 61611	309-822-8575 309-822-8782 Fax
A Unique Maintenance Service Andrea McKnight	MBE Commercial and Industrial Construction Cleanup 2101 N. North St., Peoria, IL 61604	309-685-7197 309-685-4472 Fax
Braun Excavating, Inc. Teresa Braun	WBE Demolition, Digging of Footings, Excavation, Pipe Laying 24 Gulf Stream Bartonville, IL 61607	309-697-5454 309-697-6567 Fax
Brown, Leo Trucking, Inc. Leo Brown	MBE Trucking/Hauling P. O. Box 9057, Peoria, IL 61612	309-685-6710 309-685-0759 Fax
Buddy's Landscaping Dexter Davis	MBE Landscaping P. O. Box 1836, Bloomington, IL 61702	309-824-9211 309-454-3342 Fax
Capitol Trucking Eddie Washington	MBE Janitorial Service, Snow Removal, Trucking 2803 Creston Ln., Peoria, IL 61604	309-679-9388 309-339-5313 Cell
Central IL Construction Inc. Jessica Youngman	WBE Land Surveying 416 Germantown Rd., Germantown, IL 61548	309-383-3156
Central IL Rebar Insulators Roger Fleming	MBE Structural Steel and Rebar Replacement 4719 Ridgelawn, Peoria, IL 61615	309-258-1379 888-387-5716 Fax
Central Landscaping Donna Brandenburg	WBE Landscaping 12512 Mendell Rd., Princeville, IL 61559	309-385-4832 309-385-2644 Fax
CJL Landscaping, Inc. Rebecca J. Kelch	WBE Landscaping 10902 W. U. S. Highway 150, Brimfield, IL 61517	309-691-9200 309-691-5131 Fax

C & L Construction & Roofing Co. Jeanette Burns	WBE Roofing, Electrical, Plumbing P.O. Box 416, Peoria, IL 61651	309-672-2641
Clean Sweep Lead Abatement Ricky Walker	MBE Lead-Based Paint Removal 4014 Brighton Peoria, IL 61615	309-689-1146
Clevenger Contractors Inc. Verlee Clevenger	WBE Guardrail, Bridge Rail, Seeding, Fencing 355 Naples Rd., P.O. Box 19, Bluffs, IL 62621	217-754-3411 217-754-3537 Fax
CNS Forestry & Landscaping LLC Christine Schilling	WBE Landscaping, Seeding, Sodding, Tree Removal 1813 1000th St., Lincoln, IL 62656	217-792-3808 217-792-3808 Fax
Cordova Construction Tina Christopher	WBE Concrete Removal, Curb & Gutter Removal, Sidewalk Removal 2424 N. Ellory Road, Peoria, IL 61615	309-674-8810
Cornerstone Builders & Developers Ron Touilly	WBE 6129 W. Southport Rd., Peoria, IL 61615	309-674-9000 309-673-7783 Fax
CSS (Construction Specialties & Services) Dave Suzuki	MBE Building Specialties, Design, Engineering, Estimating P. O. Box 120703 Peoria, IL 61614	309-685-8453
Davis Brothers Construction Company Russell Davis	MBE Trucking/Hauling 1522 W. Kettelle St. Peoria, IL 61605	309-683-6931
DECA Realty Eddie J. Washington	MBE Real Estate Broker, Appraiser 417 W. Main, Peoria, IL 61606	309-637-3322 309-682-3922 Fax
Design Air Inc. Courtney Eston	MBE Commercial Air Duct Cleaning 3806 W. Hearthwood Dr., Dunlap, IL 61525	309-693-8632 309-243-2102 Fax
Dunbar Transfer	WBE Trucking P.O. Box 315, Chillicothe, IL 61523-0315	309-303-5122
E & D Trucking and Hauling, Inc. Eddie Proctor	MBE Trucking/Hauling 1913 N. Idaho, Peoria, IL 61604	309-682-4336 309-251-6736 Cell
Earth Care Unlimited, Inc. Monica Thomley	WBE Seeding, Sodding, Landscaping 3108 Panther Grove Rd., Ashland, IL 62612	217-452-7320 217-452-7178 Fax
Economy Painting & Decorating Linda Coffman	MBE Painting 9315 W. Goetz, Hanna City, IL 61536	309-565-7300
Elegant Installations James Barrett	MBE Installation/sales custom drapery, blinds, shade, shutters 125 E. Elaine, Peoria, IL 61614	309-648-8118 309-93-0007 Fax
Fashion Floors, Inc. Yvonne Hand	WBE Floorcoverings 930 S. 2nd Street, Suite B, Pekin, IL 61554	309-353-8272 309-347-1109 Fax
Fire & Ice Heating and Air J.T. Toombs	MBE HVAC Maintenance, Installment 922 W. Smith St., Peoria, IL 61605	309-219-3708
Fuhrmann Engineering Inc. Kathy Shelter	WBE Civil Engineers / Land Surveyors 456 Fulton St., Suite 146	309-713-3498 Ext. 5
Flessner Electric	WBE Electrical 3600 S. Cameron Ln., Mapleton, IL 61547	309-697-2484
G&L Trucking & Construction	WBE 1113 W. Groveland Ave., Peoria, IL 61604	309-686-9334
Garza Heating & Cooling	MBE 1304 S. Western Ave., Peoria, IL 61605	309-645-6294
Ronald A. Givens & Associates Ronald A. Givens	MBE Insurance & Investments 2616 N. Lehman, Peoria, IL 61602	309-685-4588 309-676-3152 Fax

Gutters & More	WBE 157 Thunderbird Ln., East Peoria, IL 61611	309-694-4000 309-694-3356 Fax
Hancock Trucking, Inc. Nancy Hancock	WBE Trucking/Hauling 30570 Hancock Road Mackinaw, IL 61755	309-447-6733
Hanley Steel, Inc. Jill Hanley	WBE Fabricated Structural and Miscellaneous Steel 8811 N. Industrial Rd., Peoria, IL 61615	309-692-5250 309-692-5251 Fax
Heart Technologies Jim Bainter, Brad Armstrong	WBE Data and Telephone, Communication and Construction 3105 N. Main Street, Peoria, IL 61611	309-427-7000 309-427-7007 Fax
Hermann & Associates Alisha Hermann	WBE Consultant Engineering 5835 N. Galena Rd., Peoria, IL 61614	309-687-5566 309-687-0571 Fax
Horan Construction, Inc. Susan Arnholt	WBE Carpentry, Concrete, Demolition, General, Wrecking 1720 W. Chanute Road Peoria, IL 61615	309-691-3133 309-691-1841 Fax
Infrastructure Engineering Thu Truitt	MBE Civil Enineering 456 Fulton St., Suite 104, Peoria, IL 61602	309-637-9200 309-637-9210
Intech Innovations John McCrary	WBE Audio/Video Design and Integration Washington, IL 61571	309-370-6676 309-745-9691 Fax
J Construction Frank Coates	MBE General 1810 Stever, Peoria, IL 61605	309-303-3919 Cell
JAKS Construction Inc. John Spencer	Disabled Vet Concrete Cutting,Drilling, Sealing 19319 Great Crane Rd., Bloomington, IL 61705	800-455-9662 309-455-9662 Fax
J. D. Masonry Services Hurdestine Dabbs	M/WBE Concrete 907 E. Arcadia, Peoria, IL 61603	309-453-6533 Cell
J&J Manufacturing	110 W. Walnut, Chillicothe, IL 61523	209-274-3141
J & J Construction Herman Johnson	MBE Demolition, Excavation 1710 W. Garden Street, Peoria, IL 61605	309-673-8616 309-676-8292 Fax
J & K Construction James Tilman	MBE General 4003 N. Rochelle, Peoria, IL 61615	309-685-8554 309-685-8554 Fax
JM Industrial Supply Ron Given	MBE Maintenance Items, Tools, Soaps 2323 Lakeshore, Pekin, IL 61554	309-346-5796 309-347-5100 Fax
Joseph & Associates Construction Inc. Elva Jones	M/WBE Rough and Finish Carpentry 325 Sanford St., East Peoria, IL 61611	309-550-5639 309-282-6013Fax
Kahbeah Contracting & Trucking Larry Kahbeah	MBE Trucking/Hauling 510 N. Yates, P. O. Box 56, Tallula, IL 62688	217-634-4157 217-634-4157 Fax
Kreiling Roofing Co.	WBE Slate, Wood Shakes, Tile, Thatch, Custom Fabricated Copper and Steel, Residential and Commercial 2335 W. Altorfer Dr., Peoria, IL 61615	309-673-3649
LNR Construction & Trucking Demonte Davis	MBE Concrete, Trucking 2200 Linsley St., Peoria, IL 61604	309-682-6331
LV Enterprise John L. Palmer	MBE Trucking/Hauling 303 E. Archer Avenue, Peoria, IL 61603	309-657-2420 309-682-8872 Fax
M & A Plumbing Michael Abner	MBE Plumbing 6216 N. Devonshire Avenue, Peoria, IL 61615	309-689-0133 309-689-0133 Fax
McGinnis Transportation Beth McGinnis	WBE Trucking, Tandem, 24 » Box Truck 336 Riverview Dr., Creve Cœur, IL 61610	309-369-4465 309-694-1604 Fax
M&K Heating & Cooling Reggie Williams	MBE HVAC 2406 W. Newman Parkway, Peoria, IL 61604	309-256-6129

M & L Plumbing Manzell Lawson	MBE Plumbing 1309 W. Lincoln, Peoria, IL 61605	309-674-8466
Mid-Illinois Companies, Corp.	WBE Metal Framing, Insulation, Drywall, Plaster and Exterior Insulation, Acoustical Ceilings and Wall Panels, Painting and Wall Covering, Access Flooring 905 NE Adams St., Peoria, IL 61603	309-674-0717 309-674-5802 Fas
Midwest Construction Services Sheila Shover	M/WBE Traffic Control Products, Trucking/Hauling P. O. Box 4185, Bartonville, IL 61607	309-697-1000 309-697-1004 Fax
Millennia Professional Services of IL Paul Moreno	MBE Civil Engineering, Erosion Control, Landscaping, Sewer Construction, Surveying, Retaining Walls 850 N. Main St., Morton, IL 61550	309-321-8141 309-321-8142
Molleck Electric	WBE Electrical 14926 W. Winchester Dr., Brimfield, IL 61517	309-446-3483
Ordaz Construction Co. Inc. Elizabeth Ordaz Mercer	WBE Concrete 8010 N. Sommer St., Peoria, IL 61615	309-693-3338 309-693-5505 Fax
Pendleton Excavating Darold Pendleton	MBE Excavation, Sand & Gravel 1207 W. MacQueen Peoria, IL 61605	309-685-9133 309-685-9133 Fax
Porter, V. L. Vincent Porter	MBE Concrete, General 500 W. North, Suite 10, Springfield, IL 62704	217-744-8050
RNS Electric Inc. Regina Slonneger	WBE Electrical 28558 Irish Lane, Washington, IL 61571	309-444-5200 309-444-5201 Fax
RTM Concrete Construction Morris Stokes	MBE Concrete 2207 W. Wiswall, Peoria, IL 61605	309-637-4237
N. E. Rudd Trucking Nanette Jenkins-Rudd	WBE Trucking/Hauling P.O. Box 14, 107 Washington St., Kingston Mines, IL 61539	309-389-4150 309-389-2849 Fax
Nelton Construction Damon Nelton	MBE Concrete, Residential and Commercial Construction 1180 Upper Spring Bay Rd., East Peoria, IL 61611	309-694-9837 309-694-9852 Fax
Professional Contracting Services Inc. Don Mackey	MBE Concrete, Masonry, Carpentry, Site Work 2669 N. County Hwy. 19, Canton, IL 61520	309-647-9744 309-208-7089 Cell
Ridge Painting Vickie Ridge	MBE Painting 4216 N. Patricia Ct., Peoria, IL 61615	309-688-5610
Rufus Construction Company Rufus Nelson	MBE Painting, Roofing, Remodeling 1819 S. Idaho Street, Peoria, IL 61605	309-673-6776 309-497-9453 Cell
Searle Trucking, Inc. Debbie Searle	WBE Trucking/Hauling P. O. Box 1084, Peoria, IL 61653	309-686-0708 309-688-5365 Fax
Sherwin Baker & Associates, Inc. Sherwin Baker	MBE Construction Management, Consulting, Engineering, Technical Services 103 E. Archer, Peoria, IL 61603	309-688-4203 309-688-4203 Fax
Smeltz, V.	MBE Excavation P. O. Box 64, Washington, IL 61571	
Tabitha Ventures, Inc. Edward O. Taiwo	MBE Asphalt, Concrete, Demolition, Earthwork, Electrical, Excavation, General, HVAC, Landscaping, Painting, Plumbing, Resurfacing, Roofing, Trucking/Hauling 2000 W. Pioneer Parkway, Suite 7B, Peoria, IL 61615	309-692-1473 309-692-1564 Fax
The Communication Connection Jennifer Stone	WBE Communication, Wire and Cable, Electrical and Telephone Products 604 Filmore Street Harrisburg, PA 17104	717-561-7267
Three Cross Development J. T. Donelson	MBE Concrete, General, Sidewalk 1519 W. Millman Peoria, IL 61605	309-637-1238

Third Hand Landscaping Tommy Harris	MBE Landscaping 2313 W. Lincoln, Peoria, IL 61605	309-673-6702
Thompson Brothers Inc. Todd Thompson	MBE General Carpentry and Construction, Interior Finish Work, Millwork 221 Court St., Pekin, IL 61554	309-613-0254
Thornton Rave dba Illini Concrete Co. of Illinois	MBE Precast and Prestressed Concrete, Demolition, Excavating and Grading, Drainage, Aggregate Bases and Surfaces, Pavement Patching 929 E. Grove St., Suite A, Bloomington, IL 61701	309-585-2376 309-585-2472 Fax
Tilman Electric James Tilman	MBE Electrical 4003 N. Rochelle, Peoria, IL 61615	309-685-8554 309-264-3903 Cell
TOS Trucking John McCullum	MBE Trucking 11501 Farmington Rd., Hanna City, IL 61536	309-208-1927
Wards Custom Landscaping Wardine Smith	MBE Landscaping 3804 W. Pagewood Dr., Peoria, IL 61615	309-671-1890 309-671-1893 Fax
Whitaker Construction Lionel Whitaker	MBE Concrete, General, Curb & Gutter, Sidewalk 4010 N. Marbleway Dr., Peoria, IL 61615	309-682-9305 309-208-0476 Cell
Wiegand & Storrer Inc. Leslie Savant	WBE Horizontal Boring, Sewer, Watermain 3210 E. Washington Road, East Peoria, IL 61611	309-699-6457 309-699-9660 Fax
Willie Veneble Construction Willie Venable	MBE Construction, Concrete Removal, Demolition 1000 E. Wilcox, Peoria, IL 61605	309-686-1429 309-360-0757 Cell
Willis Electric Phyllis Willis	WBE Electrical P.O. Box 545, Chillicothe, IL 61523	309-579-2926

Peoria County Prevailing Wage for October 2014

(See explanation of column headings at bottom of wages)

Trade Name	RG	TYP	C	Base	FRMAN	M-F>8	OSA	OSH	H/W	Pensn	Vac	Trng
ASBESTOS ABT-GEN		BLD		26.470	27.970	1.5	1.5	2.0	7.700	15.07	0.000	0.800
ASBESTOS ABT-GEN		HWY		29.580	31.080	1.5	1.5	2.0	7.700	16.19	0.000	0.800
ASBESTOS ABT-MEC		BLD		32.140	34.640	1.5	1.5	2.0	11.17	10.76	0.000	0.720
BOILERMAKER		BLD		36.750	39.750	2.0	2.0	2.0	7.070	15.84	0.000	0.350
BRICK MASON		BLD		32.380	33.880	1.5	1.5	2.0	8.600	9.870	0.000	0.590
CARPENTER		BLD		30.380	32.630	1.5	1.5	2.0	8.000	14.71	0.000	0.520
CARPENTER		HWY		31.650	33.900	1.5	1.5	2.0	8.000	15.46	0.000	0.520
CEMENT MASON		BLD		27.090	28.840	1.5	1.5	2.0	8.140	14.76	0.000	0.500
CEMENT MASON		HWY		28.280	29.780	1.5	1.5	2.0	8.140	15.13	0.000	0.500
CERAMIC TILE FNSHER		BLD		29.890	0.000	1.5	1.5	2.0	8.600	10.05	0.000	0.580
ELECTRIC PWR EQMT OP		ALL		38.300	45.290	1.5	1.5	2.0	6.150	10.73	0.000	0.380
ELECTRIC PWR GRNDMAN		ALL		26.280	45.290	1.5	1.5	2.0	5.790	7.360	0.000	0.260
ELECTRIC PWR LINEMAN		ALL		42.540	45.290	1.5	1.5	2.0	6.280	11.92	0.000	0.430
ELECTRIC PWR TRK DRV		ALL		27.560	45.290	1.5	1.5	2.0	5.830	7.720	0.000	0.280
ELECTRICIAN		BLD		34.820	37.320	1.5	1.5	2.0	6.100	11.43	0.000	0.400
ELECTRONIC SYS TECH		BLD		28.250	30.250	1.5	1.5	2.0	5.850	10.55	0.000	0.400
ELEVATOR CONSTRUCTOR		BLD		41.070	46.200	2.0	2.0	2.0	12.73	13.46	3.290	0.600
GLAZIER		BLD		31.870	33.870	1.5	1.5	1.5	10.25	7.700	0.000	1.250
HT/FROST INSULATOR		BLD		43.350	45.850	1.5	1.5	2.0	11.47	12.36	0.000	0.720
IRON WORKER		BLD		31.810	33.710	1.5	1.5	2.0	9.390	12.91	0.000	0.540
IRON WORKER		HWY		35.340	37.340	1.5	1.5	2.0	9.390	12.91	0.000	0.540
LABORER		BLD		25.470	26.970	1.5	1.5	2.0	7.700	15.07	0.000	0.800
LABORER		HWY		28.830	30.330	1.5	1.5	2.0	7.700	16.19	0.000	0.800
LABORER, SKILLED		BLD		25.870	27.370	1.5	1.5	2.0	7.700	15.07	0.000	0.800
LABORER, SKILLED		HWY		29.130	30.630	1.5	1.5	2.0	7.700	16.19	0.000	0.800
LATHER		BLD		30.380	32.630	1.5	1.5	2.0	8.000	14.71	0.000	0.520
MACHINERY MOVER		HWY		35.340	37.340	1.5	1.5	2.0	9.390	12.91	0.000	0.540
MACHINIST		BLD		44.350	46.850	1.5	1.5	2.0	6.760	8.950	1.850	0.000
MARBLE FINISHERS		BLD		29.890	0.000	1.5	1.5	2.0	8.600	10.05	0.000	0.580
MARBLE MASON		BLD		31.650	32.900	1.5	1.5	2.0	8.600	10.05	0.000	0.580
MILLWRIGHT		BLD		30.800	33.050	1.5	1.5	2.0	8.000	14.63	0.000	0.520
MILLWRIGHT		HWY		32.220	34.470	1.5	1.5	2.0	8.000	15.39	0.000	0.520
OPERATING ENGINEER		BLD	1	37.050	40.050	1.5	1.5	2.0	7.000	17.48	0.000	3.000
OPERATING ENGINEER		BLD	2	34.450	40.050	1.5	1.5	2.0	7.000	17.48	0.000	3.000
OPERATING ENGINEER		BLD	3	30.160	40.050	1.5	1.5	2.0	7.000	17.48	0.000	3.000
OPERATING ENGINEER		HWY	1	37.000	40.000	1.5	1.5	2.0	7.000	17.48	0.000	3.000
OPERATING ENGINEER		HWY	2	34.400	40.000	1.5	1.5	2.0	7.000	17.48	0.000	3.000
OPERATING ENGINEER		HWY	3	30.110	40.000	1.5	1.5	2.0	7.000	17.48	0.000	3.000
PAINTER		ALL		33.650	35.650	1.5	1.5	1.5	10.30	8.200	0.000	1.350
PAINTER SIGNS		BLD		33.920	38.090	1.5	1.5	1.5	2.600	2.710	0.000	0.000
PILEDRIVER		BLD		31.380	33.630	1.5	1.5	2.0	8.000	14.71	0.000	0.520
PILEDRIVER		HWY		32.650	34.900	1.5	1.5	2.0	8.000	15.46	0.000	0.520
PIPEFITTER		BLD		37.400	41.510	1.5	1.5	2.0	7.000	11.63	0.000	1.060
PLASTERER		BLD		27.770	29.770	1.5	1.5	2.0	8.140	13.71	0.000	0.650
PLUMBER		BLD		34.520	37.630	1.5	1.5	2.0	7.000	13.31	0.000	0.900
ROOFER		BLD		30.580	32.110	1.5	1.5	2.0	8.450	7.220	0.000	0.250
SHEETMETAL WORKER		BLD		32.150	33.760	1.5	1.5	2.0	8.620	14.18	0.000	0.780
SIGN HANGER		HWY		35.340	37.340	1.5	1.5	2.0	9.390	12.91	0.000	0.540
SPRINKLER FITTER		BLD		37.120	39.870	1.5	1.5	2.0	8.420	8.500	0.000	0.350
STEEL ERECTOR		HWY		35.340	37.340	1.5	1.5	2.0	9.390	12.91	0.000	0.540
STONE MASON		BLD		32.380	33.880	1.5	1.5	2.0	8.600	9.870	0.000	0.590
~~SURVEY WORKER~~		-> NOT IN EFFECT		ALL	28.900	30.400	1.5	1.5	2.0	7.700	14.86	0.000	0.800
TERRAZZO FINISHER		BLD		29.890	0.000	1.5	1.5	2.0	8.600	10.05	0.000	0.580
TERRAZZO MASON		BLD		31.650	32.900	1.5	1.5	2.0	8.600	10.05	0.000	0.580
TILE MASON		BLD		31.650	32.900	1.5	1.5	2.0	8.600	10.05	0.000	0.580
TRUCK DRIVER		ALL	1	33.000	36.550	1.5	1.5	2.0	11.10	5.230	0.000	0.250
TRUCK DRIVER		ALL	2	33.480	36.550	1.5	1.5	2.0	11.10	5.230	0.000	0.250
TRUCK DRIVER		ALL	3	33.700	36.550	1.5	1.5	2.0	11.10	5.230	0.000	0.250
TRUCK DRIVER		ALL	4	34.010	36.550	1.5	1.5	2.0	11.10	5.230	0.000	0.250
TRUCK DRIVER		ALL	5	34.900	36.550	1.5	1.5	2.0	11.10	5.230	0.000	0.250
TRUCK DRIVER		O&C	1	26.400	29.240	1.5	1.5	2.0	11.10	5.230	0.000	0.250
TRUCK DRIVER		O&C	2	26.780	29.240	1.5	1.5	2.0	11.10	5.230	0.000	0.250
TRUCK DRIVER		O&C	3	26.960	29.240	1.5	1.5	2.0	11.10	5.230	0.000	0.250
TRUCK DRIVER		O&C	4	27.210	29.240	1.5	1.5	2.0	11.10	5.230	0.000	0.250
TRUCK DRIVER		O&C	5	27.920	29.240	1.5	1.5	2.0	11.10	5.230	0.000	0.250
TUCKPOINTER		BLD		32.380	33.880	1.5	1.5	2.0	8.600	9.870	0.000	0.590

Legend: RG (Region)
TYP (Trade Type - All,Highway,Building,Floating,Oil & Chip,Rivers)
C (Class)
Base (Base Wage Rate)
FRMAN (Foreman Rate)
M-F>8 (OT required for any hour greater than 8 worked each day, Mon through Fri.
OSA (Overtime (OT) is required for every hour worked on Saturday)
OSH (Overtime is required for every hour worked on Sunday and Holidays)
H/W (Health & Welfare Insurance)
Pensn (Pension)
Vac (Vacation)
Trng (Training)

Explanations

PEORIA COUNTY

The following list is considered as those days for which holiday rates of wages for work performed apply: New Years Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving Day, Christmas Day and Veterans Day in some classifications/counties. Generally, any of these holidays which fall on a Sunday is celebrated on the following Monday. This then makes work performed on that Monday payable at the appropriate overtime rate for holiday pay. Common practice in a given local may alter certain days of celebration. If in doubt, please check with IDOL.

Oil and chip resealing (O&C) means the application of road oils and liquid asphalt to coat an existing road surface, followed by application of aggregate chips or gravel to coated surface, and subsequent rolling of material to seal the surface.

EXPLANATION OF CLASSES

ASBESTOS - GENERAL - removal of asbestos material/mold and hazardous materials from any place in a building, including mechanical systems where those mechanical systems are to be removed. This includes the removal of asbestos materials/mold and hazardous materials from ductwork or pipes in a building when the building is to be demolished at the time or at some close future date.

ASBESTOS - MECHANICAL - removal of asbestos material from mechanical systems, such as pipes, ducts, and boilers, where the mechanical systems are to remain.

CERAMIC TILE FINISHER, MARBLE FINISHER, TERRAZZO FINISHER

Assisting, helping or supporting the tile, marble and terrazzo mechanic by performing their historic and traditional work assignments required to complete the proper installation of the work covered by said crafts. The term "Ceramic" is used for naming the classification only and is in no way a limitation of the product handled. Ceramic takes into consideration most hard tiles.

ELECTRONIC SYSTEMS TECHNICIAN

Installation, service and maintenance of low-voltage systems which utilizes the transmission and/or transference of voice, sound, vision, or digital for commercial, education, security and entertainment purposes for the following: TV monitoring and surveillance, background/foreground music, intercom and telephone interconnect, field programming, inventory control systems, microwave transmission, multi-media, multiplex, radio page, school, intercom and sound burglar alarms and low voltage master clock systems.

Excluded from this classification are energy management systems, life safety systems, supervisory controls and data acquisition systems not intrinsic with the above listed systems, fire alarm systems, nurse call systems and raceways exceeding fifteen feet in length.

LABORER, SKILLED - BUILDING

The skilled laborer building (BLD) classification shall encompass the following types of work, irrespective of the site of the work: cutting & acetylene torch, gunnite nozzlemen, gunnite pump men & pots, kettlemen & carriers of men handling hot stuff, sandblaster nozzle men, sandblasting pump men & pots, setting up and using concrete burning bars, wood block setters, underpinning & shoring of existing buildings, and the unload-ing and handling of all material coated with creosote.

LABORER, SKILLED - HIGHWAY

The skilled laborer heavy & highway (HWY) classification shall encompass the following types of work,irrespective of the site of the

work: jackhammer & drill operator, gunite pump & pot man, puddlers, vibrator men, wire fabric placer, sandblast pump & pot man, strike off concrete, unloading, handling & carrying of all creosoted piles, ties or timber, concrete burning bars, power wheelbarrows or buggies, asphalt raker, brickset-ters, cutting torchman (electric & acetylene), men setting lines to level forms, form setters, gunite nozzle man & sandblasting nozzle man, power man, and rip-rapping by hand.

SURVEY WORKER - Operated survey equipment including data collectors, G.P.S. and robotic instruments, as well as conventional levels and transits.

TRUCK DRIVER - BUILDING, HEAVY AND HIGHWAY CONSTRUCTION
Class 1. Drivers on 2 axle trucks hauling less than 9 ton. Air compressor and welding machines and brooms, including those pulled by separate units, truck driver helpers, warehouse employees, mechanic helpers, greasers and tiremen, pickup trucks when hauling materials, tools, or workers to and from and on-the-job site, and fork lifts up to 6,000 lb. capacity.

Class 2. Two or three axle trucks hauling more than 9 ton but hauling less than 16 ton. A-frame winch trucks, hydrolift trucks, vactor trucks or similar equipment when used for transportation purposes. Fork lifts over 6,000 lb. capacity, winch trucks, four axle combination units, and ticket writers.

Class 3. Two, three or four axle trucks hauling 16 ton or more. Drivers on water pulls, articulated dump trucks, mechanics and working forepersons, and dispatchers. Five axle or more combination units.

Class 4. Low Boy and Oil Distributors.

Class 5. Drivers who require special protective clothing while employed on hazardous waste work.

TRUCK DRIVER - OIL AND CHIP RESEALING ONLY.

This shall encompass laborers, workers and mechanics who drive contractor or subcontractor owned, leased, or hired pickup, dump, service, or oil distributor trucks. The work includes transporting materials and equipment (including but not limited to, oils, aggregate supplies, parts, machinery and tools) to or from the job site; distributing oil or liquid asphalt and aggregate; stock piling material when in connection with the actual oil and chip contract. The Truck Driver (Oil & Chip Resealing) wage classification does not include supplier delivered materials.

OPERATING ENGINEERS - BUILDING

Class 1. Cranes; Overhead Cranes; Gradall; All Cherry Pickers; Mechanics; Central Concrete Mixing Plant Operator; Road Pavers (27E - Dual Drum - Tri Batchers); Blacktop Plant Operators and Plant Engineers; 3 Drum Hoist; Derricks; Hydro Cranes; Shovels; Skimmer Scoops; Koehring Scooper; Drag Lines; Backhoe; Derrick Boats; Pile Drivers and Skid Rigs; Clamshells; Locomotive Cranes; Dredge (all types) Motor Patrol; Power Blades - Dumore - Elevating and similar types; Tower Cranes (Crawler-Mobile) and Stationary; Crane-type Backfiller; Drott Yumbo and similar types considered as Cranes; Caisson Rigs; Dozer; Tournadozer; Work Boats; Ross Carrier; Helicopter; Tournapulls - all and similar types; Scoops (all sizes); Pushcats; Endloaders (all types); Asphalt Surfacing Machine; Slip Form Paver; Rock Crusher; Heavy Equipment Greaser; CMI, CMI Belt Placer, Auto Grade & 3 Track and similar types; Side Booms; Multiple Unit Earth Movers; Creter Crane; Trench Machine; Pump-crete-Belt Crete-Squeeze Cretes-Screw-type Pumps and Gypsum; Bulker & Pump - Operator will clean; Formless Finishing Machine; Flaherty Spreader or similar types; Screed Man on Laydown Machine; Wheel Tractors (industrial or Farm-type w/Dozer-Hoe-Endloader or other attachments); F.W.D. & Similar Types; Vermeer Concrete Saw.

Class 2. Dinkeys; Power Launches; PH One-pass Soil Cement Machine (and similar types); Pugmill with Pump; Backfillers; Euclid Loader; Forklifts; Jeeps w/Ditching Machine or other attachments; Tuneluger; Automatic Cement and Gravel Batching Plants; Mobile Drills (Soil Testing) and similar types; Gurries and Similar Types; (1) and (2) Drum Hoists (Buck Hoist and Similar Types); Chicago Boom; Boring Machine & Pipe Jacking Machine; Hydro Boom; Dewatering System; Straw Blower; Hydro Seeder; Assistant Heavy Equipment Greaser on Spread; Tractors (Track type) without Power Unit pulling Rollers; Rollers on Asphalt -- Brick Macadem; Concrete Breakers; Concrete Spreaders; Mule Pulling Rollers; Center Stripper; Cement Finishing Machines & CMI Texture & Reel Curing Machines; Cement Finishing Machine; Barber Green or similar loaders; Vibro Tamper (All similar types) Self-propelled; Winch or Boom Truck; Mechanical Bull Floats; Mixers over 3 Bag to 27E; Tractor pulling Power Blade or Elevating Grader; Porter Rex Rail; Clary Screed; Truck Type Hoptoe Oilers; Fireman; Spray Machine on Paving; Curb Machines; Truck Crane Oilers; Oil Distributor; Truck-Mounted Saws.

Class 3. Air Compressor; Power Subgrader; Straight Tractor; Trac Air without attachments; Herman Nelson Heater, Dravo, Warner, Silent Glo, and similar types; Roller: Five (5) Ton and under on Earth or Gravel; Form Grader; Crawler Crane & Skid Rig Oilers; Freight Elevators - permanently installed; Pump; Light Plant; Generator; Conveyor (1) or (2) - Operator will clean; Welding Machine; Mixer (3) Bag and Under (Standard Capacity with skip); Bulk Cement Plant; Oiler on Central Concrete Mixing Plant.

OPERATING ENGINEERS - HEAVY AND HIGHWAY CONSTRUCTION

CLASS 1. Cranes; Hydro Cranes; Shovels; Crane Type Backfiller; Tower, Mobile, Crawler, & Stationary Cranes; Derricks; Hoists (3 Drum); Draglines; Drott Yumbo & Similar Types considered as Cranes; 360 Degree Swing Excavator (Shears, Grapples, Movacs, etc.); Back Hoe; Derrick Boats; Pile Driver and Skid Rigs; Clam Shell; Locomotive - Cranes; Road Pavers - Single Drum - Dual Drum - Tri Batcher; Motor Patrols & Power Blades - Dumore - Elevating & Similar Types; Mechanics; Central Concrete Mixing Plant Operator; Asphalt Batch Plant Operators and Plant Engineers; Gradall; Caisson Rigs; Skimmer Scoop - Koering Scooper; Dredges (all types); Hoptoe; All Cherry Pickers; Work Boat; Ross Carrier; Helicopter; Dozer; Tournadozer; Tournapulls - all and similar types; Operation of Concrete and all Recycle Machines; Multiple Unit Earth Movers; Scoops (all sizes); Pushcats; Endloaders (all types); Asphalt Surfacing Machine; Slip Form Paver; Rock Crusher; Operation of Material Crusher, Screening Plants, and Tunnel Boring Machine; Heavy Equipment Greaser (top greaser on spread); CMI, Auto Grade, CMI Belt Placer & 3 Track and Similar Types; Side Booms; Asphalt Heater & Planer Combination (used to plane streets); Wheel Tractors (with Dozer, Hoe or Endloader Attachments); CAT Earthwork Compactors and Similar Types; Blaw Knox Spreader and Similar Types; Trench Machines; Pump Crete - Belt Crete - Squeeze Crete - Screw Type Pumps and Gypsum (operator will clean); Creter Crane; Operation of Concrete Pump Truck; Formless Finishing Machines; Flaherty Spreader or Similar Types; Screed Man on Laydown Machine; Vermeer Concrete Saw; Operation of Laser Screed; Span Saw; Dredge Leverman; Dredge Engineer; Lull or Similar Type; Hydro-Boom Truck; Operation of Guard Rail Machine; and Starting Engineer on Pipeline or Construction (11 or more pieces) including: Air Compressor (Trailer Mounted), All Forced Air Heaters (regardless of Size), Water Pumps (Greater than 4-1/2" or Total Discharge Over 4-1/2"), Light Plants, Generators (Trailer Mounted - Excluding Decontamination Trailer), Welding Machines (Any Size or Mode of Power), Conveyor, Mixer (any size), Stud Welder, Power Pac, etc, and Ground Heater (Trailer Mounted).

CLASS 2. Bulker & Pump; Power Launches; Boring Machine & Pipe Jacking Machine; Dinkeys; Operation of Carts, Powered Haul Unit for a Boring Machine; P & H One Pass Soil Cement Machines and Similar Types; Wheel Tractors (Industry or Farm Type - Other); Back Fillers; Euclid Loader; Fork Lifts; Jeep w/Ditching Machine or Other Attachments; Tunneluger; Automatic Cement & Gravel Batching Plants; Mobile Drills - Soil Testing and Similar Types; Pugmill with Pump; All (1) and (2) Drum Hoists; Dewatering System; Straw Blower; Hydro-Seeder; Bump Grinders (self-propelled); Assistant Heavy Equipment Greaser; Apsco Spreader; Tractors (Track-Type) without Power Units Pulling Rollers; Rollers on Asphalt - Brick or Macadam; Concrete Breakers; Concrete Spreaders; Cement Strippers; Cement Finishing Machines & CMI Texture & Reel Curing Machines; Vibro-Tampers (All Similar Types Self-Propelled); Mechanical Bull Floats; Self-Propelled Concrete Saws; Truck Mounted Power Saws; Operation of Curb Cutters; Mixers - Over Three (3) Bags; Winch and Boom Trucks; Tractor Pulling Power Blade or Elevating Grader; Porter Rex Rail; Clary Screed; Mule Pulling Rollers; Pugmill without Pump; Barber Greene or Similar Loaders; Track Type Tractor w/Power Unit attached (minimum); Fireman; Spray Machine on Paving; Curb Machines; Paved Ditch Machine; Power Broom; Self-Propelled Sweepers; Self-Propelled Conveyors; Power Subgrader; Oil Distributor; Straight Tractor; Truck Crane Oiler; Truck Type Oilers; Directional Boring Machine; Horizontal Directional Drill; Articulating End Dump Vehicles; Starting Engineer on Pipeline or Construction (6 -10 pieces) including: Air Compressor (Trailer Mounted), All Forced Air Heaters (regardless of Size), Water Pumps (Greater than 4-1/2" or Total Discharge Over 4-1/2"), Light Plants, Generators (Trailer Mounted - Excluding Decontamination Trailer), Welding Machines (Any Size or Mode of Power), Conveyor, Mixer (any size), Stud Welder, Power Pac, etc., and Ground Heater (Trailer Mounted).

CLASS 3. Straight Framed Truck Mounted Vac Unit (separately powered); Trac Air Machine (without attachments); Rollers - Five Ton and Under on Earth and Gravel; Form Graders; Bulk Cement Plant; Oilers; and Starting Engineer on Pipeline or Construction (3 - 5 pieces) including: Air Compressor (Trailer Mounted), All Forced Air Heaters (regardless of Size), Water Pumps (Greater than 4-1/2" or Total Discharge Over 4-1/2"), Light Plants, Generators (Trailer Mounted - Excluding Decontamination Trailer), Welding Machines (Any Size or Mode of Power), Conveyor, Mixer (any size), Stud Welder, Power Pac, etc., and Ground Heater (Trailer Mounted).

Other Classifications of Work:

For definitions of classifications not otherwise set out, the Department generally has on file such definitions which are available. If a task to be performed is not subject to one of the classifications of pay set out, the Department will upon being contacted state which neighboring county has such a classification and provide such rate, such rate being deemed to exist by reference in this document. If no neighboring county rate applies to the task, the Department shall undertake a special determination, such special determination being then deemed to have existed under this determination. If a project requires these, or any classification not listed, please contact IDOL at 217-782-1710 for wage rates or clarifications.

LANDSCAPING

Landscaping work falls under the existing classifications for laborer, operating engineer and truck driver. The work performed by landscape plantsman and landscape laborer is covered by the existing classification of laborer. The work performed by landscape operators (regardless of equipment used or its size) is covered by the classifications of operating engineer. The work performed by landscape truck drivers (regardless of size of truck driven) is covered by the classifications of truck driver.

SAMPLE ADDENDUM

Peoria Park District
Planning, Design and Construction Department
1314 N. Park Road
Peoria, IL 61604
Telephone: (309) 686-3386

ADDENDUM NO.

PROJECT TITLE:

ISSUANCE DATE:

LOCATION:

The proposed Contract Documents for this Work are modified as follows:

I. **DRAWINGS**: (Delete/Change/Modify/Etc.)

II. **PROJECT MANUAL/SPECIFICATIONS/GENERAL CONDITIONS/ETC**.:
(Delete/Change/Modify/Etc.)

III. **INVITATION TO BID**: (Delete/Change/Modify/Etc.)

END OF ADDENDUM NO. _____

(Addendum may be bound into Project Manual, attached to front cover, faxed, mailed or delivered to bidders.)

Addendum No. _____
Page 1 of 1

Pleasure Driveway and Park District of Peoria, Illinois

Sample Agreement Between Owner and Contractor

This **AGREEMENT** for

PRIVATE WATER MAIN AND FIRE HYDRANT
NEWMAN GOLF COURSE
PEORIA, ILLINOIS

is made as of the _____ day of _____ in the year of Two Thousand Fourteen (2014)

Between the Owner:

PLEASURE DRIVEWAY AND PARK DISTRICT OF PEORIA, ILLINOIS
1125 W. LAKE AVENUE
PEORIA, IL 61614

And the Contractor:

The Owner's Representative is:

PLANNING, DESIGN AND CONSTRUCTION DEPARTMENT
1314 N. PARK ROAD
PEORIA, IL 61604

The Architect or Engineer is:

AUSTIN ENGINEERING COMPANY, INC.
8100 NORTH UNIVERSITY STREET
PEORIA, ILLINOIS 61615

The Owner and Contractor agree as follows:

I. THE CONTRACT DOCUMENTS. The Contract Documents consist of this AGREEMENT, the Plans/Drawings for the Project dated August 27, 2014 all sections of the Project Manual dated September 30, 2014, including but not limited to the Instructions and Supplementary Instructions to Bidders, the Bid Form, the General Conditions (1997 AIA Document A201) and Supplementary General Conditions, the General Requirements, the Specifications, and other documents as enumerated in Section 10 and Attachment #1 of this AGREEMENT**,** and including addenda issued prior to the execution of this AGREEMENT. The Contract Documents form the CONTRACT between the Owner and the Contractor. The CONTRACT represents the entire and integrated contract for the construction of the Work of the Project between the parties hereto and supersedes prior proposals, contracts, negotiations, or representations, either written or oral.

II. THE WORK OF THE CONTRACT. The Contractor shall execute the entire Work described in the Contract Documents, unless modified in Section XI of this AGREEMENT**.**

III. BASIS OF PAYMENT. The Work of the CONTRACT shall be performed on a Lump Sum basis.

IV. CONTRACT SUM. The Owner shall pay the Contractor the sum of

(and incorporates the acceptance of bid alternates as defined in sub-paragraph "A", below) for the Contractor's performance of the Work required by the Contract Documents, subject to modifications made by Owner approved Change Orders. If this CONTRACT calls for a unit price basis of payment, the contract sum stated above shall be adjusted by Change Order based upon multiplying the unit prices submitted by the Contractor on the Bid Form (and included herein as an Attachment to this CONTRACT) times (x) the actual quantities installed.

A. ACCEPTANCE OF ALTERNATES. The contract sum stated above is based on the acceptance of the following alternates, which are described in the Project Manual:

ITEM	ADD	DEDUCT

V. DATES OF COMMENCEMENT AND COMPLETION OF THE WORK. The Owner's Representative will issue a written Notice to Proceed with the Work of the Project after receiving the required Performance Bond, Labor and Material Payment Bond, and Certificate of Insurance (in proper form and providing the required coverages and amounts from a company [or companies] acceptable to the Owner, and naming the Owner as an Additional Insured), and any other pre-construction submittals required by the Contract Documents. The Contractor hereby acknowledges and agrees that failure to provide such submittals in a timely manner shall not be cause to adjust the date(s) for completion of the Work.

A. LIQUIDATED DAMAGES. Owner and Contractor recognize that time is of the essence of this CONTRACT and that Owner will suffer financial loss if the Contractor has not achieved Substantial Completion and Final Completion of the Work within the time specified below, plus any extensions thereof allowed in accordance with Article 8 of the General Conditions. They also recognize the delays, expense and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by Owner if the Work is not completed on time.

B. SUBSTANTIAL COMPLETION. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as Liquidated Damages for delay (but not as a penalty), Contractor shall pay Owner Two Hundred Fifty dollars ($250.00) for each calendar day that expires after ONE HUNDRED SEVENTY FIVE (175) calendar days from Notice of Award until Substantial Completion is attained. The work is tentatively scheduled to begin on October 23, 2014 and be at Substantial Completion by April 15, 2015.

C. FINAL COMPLETION. After Substantial Completion if Contractor shall neglect, refuse, or fail to complete the remaining Work necessary to achieve Final Completion within Ten (10) calendar days or any proper extension thereof granted by Owner, Contractor shall pay Owner Two Hundred Fifty dollars ($250.00) for each day that expires after the time specified.

VI. PROGRESS PAYMENTS, REDUCTION OF RETAINAGE AND FINAL PAYMENT.

A. Unless otherwise specified elsewhere in the Contract Documents, the Contractor may submit monthly applications for progress payments ("Application for Payment") to the Owner's Representative. Each Application for Payment must be certified by the Architect or Engineer (if applicable), or the Owner's Representative if an Architect or Engineer has not been engaged for construction phase services. An Application for Payment shall be for a period of no less than one calendar month ending on the last day of the month, unless otherwise approved in writing by the Owner's Representative. Application forms shall be subject to Owner's approval. Each Application for Payment shall be based upon the Schedule of Values submitted by the Contractor, in accordance with the Contract Documents. The Schedule of Values shall be approved by the Owner's Representative and the Architect or Engineer (if applicable) in advance of the Contractor's first Application for Payment and the approved schedule shall be used by the Contractor as the basis for submitting payment requests. The Owner's Representative and/or

Architect/Engineer's (if applicable) approval of the Schedule of Values shall not constitute a complete check for accuracy, and shall not relieve the Contractor from responsibility for errors of any sort.

B. An Application for Payment (certified by the Architect or Engineer, if applicable) shall be submitted to the Owner's Representative no later than the fifth (5th) day of the month following the period for which the application is being submitted. In such case, the Owner shall make the progress payment to the Contractor not later than the twentieth day of the next month. A progress payment request on an Application for Payment (certified by the Architect or Engineer, if applicable) received by the Owner's Representative after the fifth (5th) day of a month shall be made by the Owner not later than forty-five days after receipt by the Owner's Representative.

C. Based upon its review of the certified (by the Architect or Engineer, if applicable) Application for Payment, the Owner shall make a progress payment to the Contractor in such amount as the Owner reasonably determines is properly due, subject to a retainage of ten percent (10%) of the value of the Work completed and covered by the Application for Payment, less the aggregate of previous payments in each case. In determining the amount properly due, the Owner shall consider the value of labor, materials and equipment incorporated in the Work, or properly allocable to materials and equipment suitably stored at the site or at some other location previously agreed upon in writing by the parties. The Owner's Representative shall have the sole right to determine that materials or equipment stored off-site have been properly delivered, protected, and/or secured. The Owner's Representative (or the Architect or Engineer, if applicable) may nullify or withhold a Certificate of Payment, in whole or in part, for the reasons set forth in Section 9.5 of the General Conditions. Upon Substantial Completion of the Work, the Owner shall pay the Contractor a sum sufficient to increase the total payments to ninety-five percent (95%) of the Contract Sum, less such amounts as the Owner's Representative shall determine for incomplete work and unsettled claims.

VII. Final payment, constituting the entire unpaid balance of the Contract Sum, shall be made by the Owner when **1)** the Contract has been fully performed by the Contractor except for the Contractor's responsibility to correct nonconforming Work as provided in Subparagraph 12.2.2 of the General Conditions and to satisfy other requirements, if any, which necessarily survive final payment; and **2)** a final Certificate of Payment has been issued by the Architect/Engineer or Owner's Representative; such final payment shall be made by the Owner not more than forty-five (45) days after the receipt of the final Certificate of Payment by the Owner.

VIII. CHANGE ORDERS. The Owner and Contractor agree that changes in the Work are sometimes required and necessary, and that timely: **a)** submission of proposed changes in the Work or the scope of Work by the Owner, **b)** pricing by the Contractor, **c)** review by the Owner's Representative and/or Architect/Engineer, and **d)** final approval by the Owner are necessary in order to assure that the Work of the Project is completed on schedule. The Contractor hereby acknowledges and agrees that an increase in the scope of the Work does not grant or imply an increase in the Contract Time, unless specifically so stated on the final approved Change Order. The Contractor also agrees that any and all Work which deviates from the plans and specifications and/or results in additional Work performed by Contractor's forces, including those of his sub-contractor's, will not result in additional expense to the Owner, unless **finally approved both by the Owner and the Architect/Engineer (if applicable) prior to the additional Work being performed.** No claim for an addition to the Contract Sum shall be valid unless approved by a written Change Order signed by the Owner and the architect/engineer (if applicable) **prior to the additional Work being performed.**

IX. TERMINATION OR SUSPENSION. The CONTRACT may be terminated by the Owner or the Contractor as provided by Article 14 of the General Conditions. The Work may be suspended by the Owner as provided in Article 14 of the General Conditions.

X. ENUMERATION OF CONTRACT DOCUMENTS. The Contract Documents, except for modifications issued after the execution of this Agreement, consist of:

A. this Standard Form of Agreement Between Owner and Contractor, of the Pleasure Driveway and Park District of Peoria, Illinois.

B. the Plans or Drawings titled Newman Golf Course Clubhouse Private Fire Service Main , dated August 27, 2014, and enumerated in ATTACHMENT #1 - "LIST OF DRAWINGS".

C. Supplementary and other Conditions of the CONTRACT, and the Specifications, are those found in the Project Manual titled "Private Water Main and Fire Hydrant", and dated September 30, 2014 enumerated as follows:

1) Supplementary Instructions to Bidders

2) Contractor's Proposal, as accepted by the Owner

3) General Conditions of the Contract for Construction, AIA Document A201, 1997 Edition
4) Supplementary General Conditions
5) Major Subcontractor List
6) Directory of Minority & Women Owned Business Enterprises
7) Illinois Drug Free Workplace Certification
8) Contractor Certification (Individual or Corporate/Partnership)
9) Peoria Park District Certificate of Equal Employment Opportunity Compliance for Contractors and Vendors
10) Workforce Profile
11) Performance Bond
12) Labor and Material Payment Bond
13) Proof of Insurance
14) Specifications: Division 010000, "General Requirements"; Appendix A & B of the "American Water Works Service Company Incorporated Standard Pipeline Specifications" as applicable
15) Attachment A.6 - Insurance Requirements
16) Certificate of Safety Compliance
17) Peoria Park District Weekly Workforce Report
18) Certified Payroll Form
19) Substance Abuse Prevention Program Certification

XI. MISCELLANEOUS PROVISIONS. Other Provisions of this Agreement are as follows:

This AGREEMENT is entered into as of the day and year first written above and is executed in at least three original copies of which one is to be delivered to the Contractor, one to the Architect/Engineer (if any) for use in the administration of the CONTRACT, and one to the Owner.

OWNER:

_____
(Signature)

TIMOTHY J. CASSIDY, Park Board President
(Printed Name and Title)

ATTEST:

CONTRACTOR :

_____
(Signature)

_____
(Printed Name and Title)

ATTEST:

ATTACHMENT #1 - LIST OF DRAWINGS

Number	Title	Date
1	**Cover**	**8/27/14**
2	**Site Plan sheet**	**8/27/14**
3	**General Notes and Details**	**8/27/14**

PERFORMANCE BOND

TO: PLEASURE DRIVEWAY AND PARK DISTRICT OF PEORIA
PEORIA, ILLINOIS

KNOW ALL MEN BY THEIR PRESENTS;

That_____
_____
as Principal, and_____
_____as
corporation of the State of _____, as Surety, are held and firmly bound unto the PLEASURE DRIVEWAY AND PARK DISTRICT OF PEORIA, PEORIA, ILLINOIS, as Obligee, in the amount of _____
_____
($_____), for the payment whereof Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, Principal has by written agreement dated _____, 20 _____ entered into a contract with Obligee for _____
_____
in accordance with contract documents prepared by the Architect-Engineer, which Contract is by reference made a part hereof and is hereinafter referred to as "the Contract".

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that if Principal shall promptly and faithfully perform the Contract and all changes thereof, and during the life of any guaranty or warranty required under the Contract, and, if Principal shall fully secure and protect the Obligee from all liability and from all loss or expense of any kind, including all court costs, engineering fees and attorneys' fees made necessary or arising from the failure, refusal or neglect of Principal to comply with all obligations assumed by Principal in connection with the performance of the Contract and all changes thereof, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

Surety hereby waives notice of any changes in the Contract, including extensions of time for the performance thereof. Whenever Principal shall be and is declared to be in default under the Contract, Obligee having performed Obligee's obligations thereunder, Surety shall, after notice of such default, reserve all rights against all parties, take over and complete the Contract and become entitled to payment of the balance of any monies due or to become due to such defined Principal in accordance with the progress of the work.

A condition of this Bond is that the Principal shall faithfully perform in accordance with the prevailing wage clause provided in the bid specification or Contract pursuant to Illinois Compiled Statutes 820 ILCS 130/1 *et. seq.*

No right of action shall accrue on this Bond to or for the use of any person or corporation other than the Obligee named herein.

Signed and Sealed this _____ day of _____, 20 _____.

CONTRACTOR

_____
Contractor Firm Name

By: _____
Signature

_____
Title

SURETY

_____
Surety Name

By:_____
Attorney-in-Fact

_____
Resident Agent

ATTEST:

_____
Corporate Secretary (Corporations only)

LABOR & MATERIAL PAYMENT BOND

TO: PLEASURE DRIVEWAY AND PARK DISTRICT OF PEORIA
PEORIA, ILLINOIS

KNOW ALL MEN BY THESE PRESENTS:

That: _____
_____
as Principal, and _____
_____
a corporation of the State of _____ as Surety, are held and firmly bound unto the PLEASURE DRIVEWAY AND PARK DISTRICT OF PEORIA, PEORIA, ILLINOIS, as Obligee, for the use and benefit of claimants as hereinafter defined in the amount of _____Dollars ($_____), for the payment whereof Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, Principal has by written agreement dated _____, 20 _____, entered into a Contract with Obligee for _____
_____
in accordance with contract documents prepared by the Architect-Engineer which Contract is by reference made a part hereof, and is hereinafter referred to as "the Contract".

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that if Principal shall promptly pay for all laborers, workers and mechanics engaged in the work under the Contract, and not less than the general prevailing rate of hourly wages of a similar character in the locality in which the work is performed, as determined by the State of Illinois Department of Labor pursuant to the Illinois Compiled Statutes 820 ILCS 130/1 et. seq. and for all material used or reasonably required for use in the performance of the Contract, then this obligation shall be void; otherwise it shall remain in full force and effect.

1. A claimant is defined as any person, firm, or corporation having contracts with the Principal or with any of Principal's subcontractors for labor or materials furnished in the performance of the Contract on account of which this Bond is given.

2. Nothing in this Bond contained shall be taken to make the Obligee liable to any subcontractor, materialman or laborer, or to any other person to any greater extent than it would have been liable prior to the enactment of The Public Construction Bond Act, approved June 20, 1931, as amended; provided further, that any person having a claim for labor and materials furnished in the performance of the Contract shall have no right of action unless he shall have filed a verified notice of such claim with the Obligee within 180 days after the date of the last item of work or the furnishing of the last item of materials, which claim shall have been verified and shall contain the name and address of the claimant, the business address of the claimant within the State of Illinois, if any, or if the claimant be a foreign corporation having no place of business within the State the principal place of business of the corporation, and in all cases of partnership the names and residences of each of the partners, the name of the Contractor for the Obligee, the name of the person, firm or corporation by whom the claimant was employed or to whom such claimant furnished materials, the amount of the claim and a brief description of the public improvement for the construction or installation of which the Contract is to be performed. No defect in the notice herein provided for shall deprive the claimant of its right of action under the terms and provisions of this Bond unless it shall affirmatively appear that such defect has prejudiced the rights of an interested party asserting the same.

3. No action shall be brought on this Bond until the expiration of 120 days after the date of the last item of work or of the furnishing of the last item of material except in cases where the final settlement between the Obligee and the Contractor shall have been made prior to the expiration of the 120 day period, in which case action may be taken immediately following such final settlement; nor shall any action of any kind be brought later than 6 months after the acceptance by the Obligee of the work. Such suit shall be brought only in the circuit court of this State in the judicial district in which the Contract is to be performed.

4. Surety hereby waives notice of any changes in the Contract, including extensions of time for the performance thereof.

5. The amount of this Bond shall be reduced by and to the extent of any payment or payments made in good faith hereunder.

6. The Principal and Surety shall be liable for any attorneys fees, engineering costs, or court costs incurred by the Obligee relative to claims made against this Bond.

Signed and Sealed this _____ day of _____, 20 _____.

CONTRACTOR	**SURETY**
Contractor Firm Name:	
_____	_____
By: _____ Signature	By:_____ Attorney-in-Fact
_____ Title	_____ Resident Agent

ATTEST:

_____
Corporate Secretary (Corporations only)

CONTRACTOR'S AFFIDAVIT

STATE OF ILLINOIS)
) SS
COUNTY OF PEORIA)

TO WHOM IT MAY CONCERN:

THE undersigned, being duly sworn, deposes and says that he is _____
_____ of the _____
who is the contractor for the _____
building located at _____
owned by _____.

That the total amount of the contract including extras is $_____ on which he has received payment of $_____ prior to this payment. That all waivers are true, correct and genuine and delivered unconditionally and that there is no claim either legal or equitable to defeat the validity of said waivers. That the following are the names of all parties who have furnished material or labor, or both, for said work and all parties having contracts or sub-contracts for specific portions of said work or for material entering into the construction thereof and the amount due or to become due to each, and that the items mentioned include all labor and material required to complete said work according to plans and specifications:

NAMES	WHAT FOR	CONTRACT PRICE	AMOUNT PAID	THIS PMT.	BALANCE DUE

TOTAL ALL LABOR AND MATERIAL TO COMPLETE

There are no other contracts for said work outstanding, and that there is nothing due or to become due to any person for material, labor or other work of any kind done or to be done upon or in connection with said work other than above stated.

Signed this _____ day of _____, 20 _____.

Signature: _____

Subscribed and sworn to before me this _____ day of _____, 20 ___.

_____
Notary Public

FINAL WAIVER OF LIEN

STATE OF ILLINOIS)
) SS
COUNTY OF PEORIA)

TO WHOM IT MAY CONCERN:

WHEREAS, the undersigned _____ha_____ been employed by THE PEORIA PARK DISTRICT to furnish material and labor for the _____

at the premises commonly known as _____

located in the City of _____, County of Peoria, State of Illinois.

The undersigned, for and in consideration of _____ ($_____) Dollars, and other good and valuable considerations, the receipt whereof is hereby acknowledged, do_____ hereby waive and release any and all lien or claim or right of lien under the statutes of the State of Illinois relating to mechanics' liens, with respect to and on said above-described premises and improvements thereon and on the money, funds or other considerations due or become due from the owner on account of labor or services, material, fixtures, apparatus or machinery heretofore furnished or which may be furnished at any time hereafter by the undersigned for the above described premises.

Dated this _____ day of _____ 20 _____.

[Affix corporate seal here.]

_____
(Name of sole owner, corporation or partnership)

ATTEST:

_____ _____(SEAL)
(Signature of secretary of corporation) (Signature of sole owner or authorized representative of corporation or partnership)

WAIVER OF LIEN

GENERAL CONTRACTOR'S PARTIAL
TO COVER ONLY CERTAIN PAYMENTS

STATE OF ILLINOIS)
) SS
COUNTY OF PEORIA)

TO ALL WHOM IT MAY CONCERN:

WHEREAS, the undersigned _____ has been employed by THE PEORIA PARK DISTRICT to furnish material and labor for the _____at the premises commonly known as _____

_____

located in the City of Peoria, County of Peoria, and State of Illinois.

NOW, THEREFORE, the undersigned, for and in consideration of the sum of _____ _____ Dollars, and other good and valuable considerations, the receipt whereof is hereby acknowledged by the undersigned, does hereby waive and release to the extent only of the aforesaid amount of _____ Dollars, paid simultaneously herewith, any and all lien or right or claim of lien under the statutes of the State of Illinois relating to mechanics' liens, with respect to and on said above-described premises, and the improvements thereon and on the money, funds, or other consideration due or to become due from the owner on account of labor, services, material, fixtures, apparatus or machinery, furnished by the undersigned, to or on account of the said owner, for the above-described premises, but only to the extent of the payment aforesaid.

Dated this _____ day of _____, 20 _____.

[Affix corporate seal here]

_____
(Name of sole owner, corporation or partnership)

ATTEST:

_____ _____(SEAL)
(Signature of secretary of corporation) (Signature of sole owner or authorized representative of corporation or partnership)

SUB-CONTRACTOR'S FINAL WAIVER OF LIEN

STATE OF ILLINOIS)
) SS
COUNTY OF PEORIA)

TO WHOM IT MAY CONCERN:

WHEREAS, the undersigned _____
(sub-contractor)
ha____ been employed by _____
(general contractor)
to furnish material and labor for the _____ at the

premises commonly known as _____, in the City of _____,

County of Peoria, State of Illinois.

The undersigned, for and in consideration of _____

_____ ($_____) Dollars, and other good and valuable considerations, the receipt whereof is hereby acknowledged, do _____ hereby waive and release any and all lien or claim or right of lien under the statutes of the State of Illinois relating to Mechanics Liens, on the above described premises and improvements thereon and on the money, funds or other considerations due or become due from the owner on account of labor or services, material, fixtures, apparatus or machinery heretofore furnished or which may be furnished at any time hereafter by the undersigned for the above described premises.

Dated this _____ day of _____, 20 _____.

[Affix corporate seal here.]

ATTEST:_____

_____
(Name of sole owner, corporation or partnership)

_____ _____(SEAL)
(Signature of sole owner or authorized representative of corporation of partnership)
(Signature of secretary of corporation)

WAIVER OF LIEN

SUB-CONTRACTOR'S PARTIAL
TO COVER ONLY CERTAIN PAYMENTS

STATE OF ILLINOIS)
) SS
COUNTY OF PEORIA)

TO WHOM IT MAY CONCERN:

THE undersigned, _____
(sub-contractor)
has been employed by _____
(general contractor)
to furnish material and labor for the _____

_____

at the premises commonly known as _____

_____
located in the City of Peoria, County of Peoria, and State of Illinois.

NOW, THEREFORE, the undersigned, for and in consideration of the sum of _____ _____ Dollars, and other good and valuable considerations, the receipt whereof is hereby acknowledged by the undersigned, does hereby waive and release to the extent only of the aforesaid amount of _____ Dollars, paid simultaneously herewith, any and all lien or right or claim of lien under the statutes of the State of Illinois relating to mechanics' liens, with respect to and on said above-described premises, and the improvements thereon and on the money, funds, or other consideration due or to become due from the owner on account of labor, services, material, fixtures, apparatus or machinery, furnished by the undersigned, but only to the extent of the payment aforesaid.

Dated this _____ day of _____, 20 _____.

[Affix corporate seal here.]

_____
(Name of sole owner, corporation or partnership)

ATTEST:

_____ _____(SEAL)
(Signature of secretary of corporation) (Signature of sole owner or authorized representative of corporation or partnership)

PEORIA PARK DISTRICT
Weekly Workforce Report
Instructions

This weekly workforce report must be completed and returned to the Peoria Park District project manager for each week that you are working on Peoria Park District property. You are to report only those employees that are actually working on the Peoria Park District project identified on this report. Do not report employees that are not working on the project identified on this report.

If you have further questions regarding this report, please contact the Owner's Project Manager.

I. Trade and Hour Breakdown Table
- List the different trades (carpenter, laborer, plumber, etc.) and report the number of hours by race/gender for each trade;
- Total the hours for each trade on the right.

II. New Hires by Race and Gender
- If additional employees are hired for the job, please record the number of employees hired by race/gender.

III. Total Project Employee Breakdown
- Please track total hours by race/gender for the project if project lasts longer than a week.

Weekly Workforce Report (Peoria Park District Form) Date:_____ Week Ending: _____

Contractor/Subcontractor:_____ Project: _____

Trade & Hour Breakdown:

TRADE	FEMALE HOURS	CAUCASIAN HOURS	AFRICAN-AMERICAN HOURS	HISPANIC HOURS	NATIVE AMERICAN HOURS	ASIAN, PAC. ISLANDER HOURS	TOTAL HOURS

New Hires by Race & Gender

TRADE	CAUCASIAN	AFRICAN-AMERICAN	HISPANIC	NATIVE AMERICAN	ASIAN, PACIFIC ISLANDER	MALE	FEMALE

Total Project Employee Breakdown

	CAUCASIAN	AFRICAN-AMERICAN	HISPANIC	NATIVE AMERICAN	ASIAN, PACIFIC ISLANDER	MALE	FEMALE

CERTIFIED PAYROLL FORM
(Contractor May Use Own Form)

NAME OF CONTRACTOR ☐ OR SUBCONTRACTOR ☐ ADDRESS

PAYROLL NO. FOR WEEK ENDING PROJECT AND LOCATION PROJECT OR CONTRACT NO.

NAME, ADDRESS, TELEPHONE NUMBER AND SOCIAL SECURITY NUMBER OF EMPLOYEE	WORK CLASSIFICATION	DAY / DATE	HOURS WORKED EACH DAY							TOTAL HOURS	RATE OF PAY	GROSS AMOUNT EARNED	DEDUCTIONS			TOTAL DEDUCTIONS	NET WAGES PAID PER WEEK
													FICA	WITHHOLDING TAX	OTHER		
		O.T.															
		ST.															
		O.T.															
		ST.															
		O.T.															
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		ST.															
		O.T.															
		ST.															

DATE_____

I, _____ _____

(Name of Signatory Party) (Title)]

do hereby state:

(1) That I pay or supervise the payment of the persons employed by

_____ on the

(Contractor of Subcontractor)

_____; that during the payroll period commencing on the

_____ day of _____, _____, and ending the _____ day of _____, _____,

all persons employed on said project have been paid the full weekly wages earned, that no rebates have been or will be made either directly or indirectly to or on behalf of said

_____ from the full

(Contractor or Subcontractor)

weekly wages earned by any person and that no deductions have been made either directly or indirectly from the full wages earned by any person, other than permissible deductions authorized by law.

(2) That any payrolls otherwise under this contract required to be submitted for the above period are correct and complete; that the wage rates for laborers or mechanics contained therein are not less than the applicable wage rates mandated by the Illinois Prevailing Wage Act and that the classifications set forth therein for each laborer or mechanic conform with the work performed.

REMARKS:	
NAME AND TITLE	SIGNATURE

THE WILLFUL FALSIFICATION OF ANY OF THE ABOVE STATEMENTS MAY SUBJECT THE CONTRACTOR OR SUBCONTRACTOR TO CIVIL OR CRIMINAL PROSECUTION. SEE SECTION 5 (820 ILCS 130/5) OF THE PREVAILING WAGE ACT OF THE STATE OF ILLINOIS.

(3) _____ does remit/does not remit (circle correct statement) contributions to fringe benefit funds that are jointly
(Contractor or Subcontractor)
maintained and jointly governed by one or more employers and one or more labor organizations in accordance with the Federal Labor Management Relations Act (LMRA).

(4) If _____ does not remit contributions to a fringe benefit fund that is jointly maintained and jointly governed
(Contractor or Subcontractor)
by one or more employers and one or more labor organizations in accordance with the LMRA, but does remit contributions to a fringe benefit fund, the following information is required:

(a) The worker's hourly fringe benefit rates: _____

(b) The name and address of each fringe benefit fund: _____

(c) The plan sponsor of each fringe benefit fund, if applicable: _____

(d) The plan administrator of each fringe benefit fund, if applicable: _____

Form **W-9**
(Rev. August 2013)
Department of the Treasury
Internal Revenue Service

Request for Taxpayer Identification Number and Certification

Give Form to the requester. Do not send to the IRS.

Print or type See **Specific Instructions** on page 2.

Name (as shown on your income tax return)

Business name/disregarded entity name, if different from above

Check appropriate box for federal tax classification:
☐ Individual/sole proprietor ☐ C Corporation ☐ S Corporation ☐ Partnership ☐ Trust/estate

☐ Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=partnership) ▶ _____

☐ Other (see instructions) ▶

Exemptions (see instructions):
Exempt payee code (if any) _____
Exemption from FATCA reporting code (if any) _____

Address (number, street, and apt. or suite no.)

Requester's name and address (optional)

City, state, and ZIP code

List account number(s) here (optional)

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on the "Name" line to avoid backup withholding. For individuals, this is your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the Part I instructions on page 3. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN* on page 3.

Note. If the account is in more than one name, see the chart on page 4 for guidelines on whose number to enter.

Social security number
			–		–				

Employer identification number
		–							

Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me), and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding, and
3. I am a U.S. citizen or other U.S. person (defined below), and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions on page 3.

Sign Here **Signature of U.S. person** ▶ **Date** ▶

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. The IRS has created a page on IRS.gov for information about Form W-9, at *www.irs.gov/w9*. Information about any future developments affecting Form W-9 (such as legislation enacted after we release it) will be posted on that page.

Purpose of Form

A person who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) to report, for example, income paid to you, payments made to you in settlement of payment card and third party network transactions, real estate transactions, mortgage interest you paid, acquisition or abandonment of secured property, cancellation of debt, or contributions you made to an IRA.

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN to the person requesting it (the requester) and, when applicable, to:

1. Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),
2. Certify that you are not subject to backup withholding, or
3. Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income, and
4. Certify that FATCA code(s) entered on this form (if any) indicating that you are exempt from the FATCA reporting, is correct.

Note. If you are a U.S. person and a requester gives you a form other than Form W-9 to request your TIN, you must use the requester's form if it is substantially similar to this Form W-9.

Definition of a U.S. person. For federal tax purposes, you are considered a U.S. person if you are:

- An individual who is a U.S. citizen or U.S. resident alien,
- A partnership, corporation, company, or association created or organized in the United States or under the laws of the United States,
- An estate (other than a foreign estate), or
- A domestic trust (as defined in Regulations section 301.7701-7).

Special rules for partnerships. Partnerships that conduct a trade or business in the United States are generally required to pay a withholding tax under section 1446 on any foreign partners' share of effectively connected taxable income from such business. Further, in certain cases where a Form W-9 has not been received, the rules under section 1446 require a partnership to presume that a partner is a foreign person, and pay the section 1446 withholding tax. Therefore, if you are a U.S. person that is a partner in a partnership conducting a trade or business in the United States, provide Form W-9 to the partnership to establish your U.S. status and avoid section 1446 withholding on your share of partnership income.

In the cases below, the following person must give Form W-9 to the partnership for purposes of establishing its U.S. status and avoiding withholding on its allocable share of net income from the partnership conducting a trade or business in the United States:

- In the case of a disregarded entity with a U.S. owner, the U.S. owner of the disregarded entity and not the entity,
- In the case of a grantor trust with a U.S. grantor or other U.S. owner, generally, the U.S. grantor or other U.S. owner of the grantor trust and not the trust, and
- In the case of a U.S. trust (other than a grantor trust), the U.S. trust (other than a grantor trust) and not the beneficiaries of the trust.

Foreign person. If you are a foreign person or the U.S. branch of a foreign bank that has elected to be treated as a U.S. person, do not use Form W-9. Instead, use the appropriate Form W-8 or Form 8233 (see Publication 515, Withholding of Tax on Nonresident Aliens and Foreign Entities).

Nonresident alien who becomes a resident alien. Generally, only a nonresident alien individual may use the terms of a tax treaty to reduce or eliminate U.S. tax on certain types of income. However, most tax treaties contain a provision known as a "saving clause." Exceptions specified in the saving clause may permit an exemption from tax to continue for certain types of income even after the payee has otherwise become a U.S. resident alien for tax purposes.

If you are a U.S. resident alien who is relying on an exception contained in the saving clause of a tax treaty to claim an exemption from U.S. tax on certain types of income, you must attach a statement to Form W-9 that specifies the following five items:

1. The treaty country. Generally, this must be the same treaty under which you claimed exemption from tax as a nonresident alien.

2. The treaty article addressing the income.

3. The article number (or location) in the tax treaty that contains the saving clause and its exceptions.

4. The type and amount of income that qualifies for the exemption from tax.

5. Sufficient facts to justify the exemption from tax under the terms of the treaty article.

Example. Article 20 of the U.S.-China income tax treaty allows an exemption from tax for scholarship income received by a Chinese student temporarily present in the United States. Under U.S. law, this student will become a resident alien for tax purposes if his or her stay in the United States exceeds 5 calendar years. However, paragraph 2 of the first Protocol to the U.S.-China treaty (dated April 30, 1984) allows the provisions of Article 20 to continue to apply even after the Chinese student becomes a resident alien of the United States. A Chinese student who qualifies for this exception (under paragraph 2 of the first protocol) and is relying on this exception to claim an exemption from tax on his or her scholarship or fellowship income would attach to Form W-9 a statement that includes the information described above to support that exemption.

If you are a nonresident alien or a foreign entity, give the requester the appropriate completed Form W-8 or Form 8233.

What is backup withholding? Persons making certain payments to you must under certain conditions withhold and pay to the IRS a percentage of such payments. This is called "backup withholding." Payments that may be subject to backup withholding include interest, tax-exempt interest, dividends, broker and barter exchange transactions, rents, royalties, nonemployee pay, payments made in settlement of payment card and third party network transactions, and certain payments from fishing boat operators. Real estate transactions are not subject to backup withholding.

You will not be subject to backup withholding on payments you receive if you give the requester your correct TIN, make the proper certifications, and report all your taxable interest and dividends on your tax return.

Payments you receive will be subject to backup withholding if:

1. You do not furnish your TIN to the requester,

2. You do not certify your TIN when required (see the Part II instructions on page 3 for details),

3. The IRS tells the requester that you furnished an incorrect TIN,

4. The IRS tells you that you are subject to backup withholding because you did not report all your interest and dividends on your tax return (for reportable interest and dividends only), or

5. You do not certify to the requester that you are not subject to backup withholding under 4 above (for reportable interest and dividend accounts opened after 1983 only).

Certain payees and payments are exempt from backup withholding. See *Exempt payee code* on page 3 and the separate Instructions for the Requester of Form W-9 for more information.

Also see *Special rules for partnerships* on page 1.

What is FATCA reporting? The Foreign Account Tax Compliance Act (FATCA) requires a participating foreign financial institution to report all United States account holders that are specified United States persons. Certain payees are exempt from FATCA reporting. See *Exemption from FATCA reporting code* on page 3 and the Instructions for the Requester of Form W-9 for more information.

Updating Your Information

You must provide updated information to any person to whom you claimed to be an exempt payee if you are no longer an exempt payee and anticipate receiving reportable payments in the future from this person. For example, you may need to provide updated information if you are a C corporation that elects to be an S corporation, or if you no longer are tax exempt. In addition, you must furnish a new Form W-9 if the name or TIN changes for the account, for example, if the grantor of a grantor trust dies.

Penalties

Failure to furnish TIN. If you fail to furnish your correct TIN to a requester, you are subject to a penalty of $50 for each such failure unless your failure is due to reasonable cause and not to willful neglect.

Civil penalty for false information with respect to withholding. If you make a false statement with no reasonable basis that results in no backup withholding, you are subject to a $500 penalty.

Criminal penalty for falsifying information. Willfully falsifying certifications or affirmations may subject you to criminal penalties including fines and/or imprisonment.

Misuse of TINs. If the requester discloses or uses TINs in violation of federal law, the requester may be subject to civil and criminal penalties.

Specific Instructions

Name

If you are an individual, you must generally enter the name shown on your income tax return. However, if you have changed your last name, for instance, due to marriage without informing the Social Security Administration of the name change, enter your first name, the last name shown on your social security card, and your new last name.

If the account is in joint names, list first, and then circle, the name of the person or entity whose number you entered in Part I of the form.

Sole proprietor. Enter your individual name as shown on your income tax return on the "Name" line. You may enter your business, trade, or "doing business as (DBA)" name on the "Business name/disregarded entity name" line.

Partnership, C Corporation, or S Corporation. Enter the entity's name on the "Name" line and any business, trade, or "doing business as (DBA) name" on the "Business name/disregarded entity name" line.

Disregarded entity. For U.S. federal tax purposes, an entity that is disregarded as an entity separate from its owner is treated as a "disregarded entity." See Regulation section 301.7701-2(c)(2)(iii). Enter the owner's name on the "Name" line. The name of the entity entered on the "Name" line should never be a disregarded entity. The name on the "Name" line must be the name shown on the income tax return on which the income should be reported. For example, if a foreign LLC that is treated as a disregarded entity for U.S. federal tax purposes has a single owner that is a U.S. person, the U.S. owner's name is required to be provided on the "Name" line. If the direct owner of the entity is also a disregarded entity, enter the first owner that is not disregarded for federal tax purposes. Enter the disregarded entity's name on the "Business name/disregarded entity name" line. If the owner of the disregarded entity is a foreign person, the owner must complete an appropriate Form W-8 instead of a Form W-9. This is the case even if the foreign person has a U.S. TIN.

Note. Check the appropriate box for the U.S. federal tax classification of the person whose name is entered on the "Name" line (Individual/sole proprietor, Partnership, C Corporation, S Corporation, Trust/estate).

Limited Liability Company (LLC). If the person identified on the "Name" line is an LLC, check the "Limited liability company" box only and enter the appropriate code for the U.S. federal tax classification in the space provided. If you are an LLC that is treated as a partnership for U.S. federal tax purposes, enter "P" for partnership. If you are an LLC that has filed a Form 8832 or a Form 2553 to be taxed as a corporation, enter "C" for C corporation or "S" for S corporation, as appropriate. If you are an LLC that is disregarded as an entity separate from its owner under Regulation section 301.7701-3 (except for employment and excise tax), do not check the LLC box unless the owner of the LLC (required to be identified on the "Name" line) is another LLC that is not disregarded for U.S. federal tax purposes. If the LLC is disregarded as an entity separate from its owner, enter the appropriate tax classification of the owner identified on the "Name" line.

Other entities. Enter your business name as shown on required U.S. federal tax documents on the "Name" line. This name should match the name shown on the charter or other legal document creating the entity. You may enter any business, trade, or DBA name on the "Business name/disregarded entity name" line.

Exemptions

If you are exempt from backup withholding and/or FATCA reporting, enter in the *Exemptions* box, any code(s) that may apply to you. See *Exempt payee code* and *Exemption from FATCA reporting code* on page 3.

Exempt payee code. Generally, individuals (including sole proprietors) are not exempt from backup withholding. Corporations are exempt from backup withholding for certain payments, such as interest and dividends. Corporations are not exempt from backup withholding for payments made in settlement of payment card or third party network transactions.

Note. If you are exempt from backup withholding, you should still complete this form to avoid possible erroneous backup withholding.

The following codes identify payees that are exempt from backup withholding:

1—An organization exempt from tax under section 501(a), any IRA, or a custodial account under section 403(b)(7) if the account satisfies the requirements of section 401(f)(2)

2—The United States or any of its agencies or instrumentalities

3—A state, the District of Columbia, a possession of the United States, or any of their political subdivisions or instrumentalities

4—A foreign government or any of its political subdivisions, agencies, or instrumentalities

5—A corporation

6—A dealer in securities or commodities required to register in the United States, the District of Columbia, or a possession of the United States

7—A futures commission merchant registered with the Commodity Futures Trading Commission

8—A real estate investment trust

9—An entity registered at all times during the tax year under the Investment Company Act of 1940

10—A common trust fund operated by a bank under section 584(a)

11—A financial institution

12—A middleman known in the investment community as a nominee or custodian

13—A trust exempt from tax under section 664 or described in section 4947

The following chart shows types of payments that may be exempt from backup withholding. The chart applies to the exempt payees listed above, 1 through 13.

IF the payment is for . . .	THEN the payment is exempt for . . .
Interest and dividend payments	All exempt payees except for 7
Broker transactions	Exempt payees 1 through 4 and 6 through 11 and all C corporations. S corporations must not enter an exempt payee code because they are exempt only for sales of noncovered securities acquired prior to 2012.
Barter exchange transactions and patronage dividends	Exempt payees 1 through 4
Payments over $600 required to be reported and direct sales over $5,000[1]	Generally, exempt payees 1 through 5[2]
Payments made in settlement of payment card or third party network transactions	Exempt payees 1 through 4

[1] See Form 1099-MISC, Miscellaneous Income, and its instructions.

[2] However, the following payments made to a corporation and reportable on Form 1099-MISC are not exempt from backup withholding: medical and health care payments, attorneys' fees, gross proceeds paid to an attorney, and payments for services paid by a federal executive agency.

Exemption from FATCA reporting code. The following codes identify payees that are exempt from reporting under FATCA. These codes apply to persons submitting this form for accounts maintained outside of the United States by certain foreign financial institutions. Therefore, if you are only submitting this form for an account you hold in the United States, you may leave this field blank. Consult with the person requesting this form if you are uncertain if the financial institution is subject to these requirements.

A—An organization exempt from tax under section 501(a) or any individual retirement plan as defined in section 7701(a)(37)

B—The United States or any of its agencies or instrumentalities

C—A state, the District of Columbia, a possession of the United States, or any of their political subdivisions or instrumentalities

D—A corporation the stock of which is regularly traded on one or more established securities markets, as described in Reg. section 1.1472-1(c)(1)(i)

E—A corporation that is a member of the same expanded affiliated group as a corporation described in Reg. section 1.1472-1(c)(1)(i)

F—A dealer in securities, commodities, or derivative financial instruments (including notional principal contracts, futures, forwards, and options) that is registered as such under the laws of the United States or any state

G—A real estate investment trust

H—A regulated investment company as defined in section 851 or an entity registered at all times during the tax year under the Investment Company Act of 1940

I—A common trust fund as defined in section 584(a)

J—A bank as defined in section 581

K—A broker

L—A trust exempt from tax under section 664 or described in section 4947(a)(1)

M—A tax exempt trust under a section 403(b) plan or section 457(g) plan

Part I. Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. If you are a resident alien and you do not have and are not eligible to get an SSN, your TIN is your IRS individual taxpayer identification number (ITIN). Enter it in the social security number box. If you do not have an ITIN, see *How to get a TIN* below.

If you are a sole proprietor and you have an EIN, you may enter either your SSN or EIN. However, the IRS prefers that you use your SSN.

If you are a single-member LLC that is disregarded as an entity separate from its owner (see *Limited Liability Company (LLC)* on page 2), enter the owner's SSN (or EIN, if the owner has one). Do not enter the disregarded entity's EIN. If the LLC is classified as a corporation or partnership, enter the entity's EIN.

Note. See the chart on page 4 for further clarification of name and TIN combinations.

How to get a TIN. If you do not have a TIN, apply for one immediately. To apply for an SSN, get Form SS-5, Application for a Social Security Card, from your local Social Security Administration office or get this form online at *www.ssa.gov*. You may also get this form by calling 1-800-772-1213. Use Form W-7, Application for IRS Individual Taxpayer Identification Number, to apply for an ITIN, or Form SS-4, Application for Employer Identification Number, to apply for an EIN. You can apply for an EIN online by accessing the IRS website at *www.irs.gov/businesses* and clicking on Employer Identification Number (EIN) under Starting a Business. You can get Forms W-7 and SS-4 from the IRS by visiting IRS.gov or by calling 1-800-TAX-FORM (1-800-829-3676).

If you are asked to complete Form W-9 but do not have a TIN, apply for a TIN and write "Applied For" in the space for the TIN, sign and date the form, and give it to the requester. For interest and dividend payments, and certain payments made with respect to readily tradable instruments, generally you will have 60 days to get a TIN and give it to the requester before you are subject to backup withholding on payments. The 60-day rule does not apply to other types of payments. You will be subject to backup withholding on all such payments until you provide your TIN to the requester.

Note. Entering "Applied For" means that you have already applied for a TIN or that you intend to apply for one soon.

Caution: *A disregarded U.S. entity that has a foreign owner must use the appropriate Form W-8.*

Part II. Certification

To establish to the withholding agent that you are a U.S. person, or resident alien, sign Form W-9. You may be requested to sign by the withholding agent even if items 1, 4, or 5 below indicate otherwise.

For a joint account, only the person whose TIN is shown in Part I should sign (when required). In the case of a disregarded entity, the person identified on the "Name" line must sign. Exempt payees, see *Exempt payee code* earlier.

Signature requirements. Complete the certification as indicated in items 1 through 5 below.

1. Interest, dividend, and barter exchange accounts opened before 1984 and broker accounts considered active during 1983. You must give your correct TIN, but you do not have to sign the certification.

2. Interest, dividend, broker, and barter exchange accounts opened after 1983 and broker accounts considered inactive during 1983. You must sign the certification or backup withholding will apply. If you are subject to backup withholding and you are merely providing your correct TIN to the requester, you must cross out item 2 in the certification before signing the form.

3. Real estate transactions. You must sign the certification. You may cross out item 2 of the certification.

4. Other payments. You must give your correct TIN, but you do not have to sign the certification unless you have been notified that you have previously given an incorrect TIN. "Other payments" include payments made in the course of the requester's trade or business for rents, royalties, goods (other than bills for merchandise), medical and health care services (including payments to corporations), payments to a nonemployee for services, payments made in settlement of payment card and third party network transactions, payments to certain fishing boat crew members and fishermen, and gross proceeds paid to attorneys (including payments to corporations).

5. Mortgage interest paid by you, acquisition or abandonment of secured property, cancellation of debt, qualified tuition program payments (under section 529), IRA, Coverdell ESA, Archer MSA or HSA contributions or distributions, and pension distributions. You must give your correct TIN, but you do not have to sign the certification.

What Name and Number To Give the Requester

For this type of account:	Give name and SSN of:
1. Individual	The individual
2. Two or more individuals (joint account)	The actual owner of the account or, if combined funds, the first individual on the account [1]
3. Custodian account of a minor (Uniform Gift to Minors Act)	The minor [2]
4. a. The usual revocable savings trust (grantor is also trustee)	The grantor-trustee [1]
b. So-called trust account that is not a legal or valid trust under state law	The actual owner [1]
5. Sole proprietorship or disregarded entity owned by an individual	The owner [3]
6. Grantor trust filing under Optional Form 1099 Filing Method 1 (see Regulation section 1.671-4(b)(2)(i)(A))	The grantor*
For this type of account:	**Give name and EIN of:**
7. Disregarded entity not owned by an individual	The owner
8. A valid trust, estate, or pension trust	Legal entity [4]
9. Corporation or LLC electing corporate status on Form 8832 or Form 2553	The corporation
10. Association, club, religious, charitable, educational, or other tax-exempt organization	The organization
11. Partnership or multi-member LLC	The partnership
12. A broker or registered nominee	The broker or nominee
13. Account with the Department of Agriculture in the name of a public entity (such as a state or local government, school district, or prison) that receives agricultural program payments	The public entity
14. Grantor trust filing under the Form 1041 Filing Method or the Optional Form 1099 Filing Method 2 (see Regulation section 1.671-4(b)(2)(i)(B))	The trust

[1] List first and circle the name of the person whose number you furnish. If only one person on a joint account has an SSN, that person's number must be furnished.

[2] Circle the minor's name and furnish the minor's SSN.

[3] You must show your individual name and you may also enter your business or "DBA" name on the "Business name/disregarded entity" name line. You may use either your SSN or EIN (if you have one), but the IRS encourages you to use your SSN.

[4] List first and circle the name of the trust, estate, or pension trust. (Do not furnish the TIN of the personal representative or trustee unless the legal entity itself is not designated in the account title.) Also see *Special rules for partnerships* on page 1.

***Note.** Grantor also must provide a Form W-9 to trustee of trust.

Note. If no name is circled when more than one name is listed, the number will be considered to be that of the first name listed.

Secure Your Tax Records from Identity Theft

Identity theft occurs when someone uses your personal information such as your name, social security number (SSN), or other identifying information, without your permission, to commit fraud or other crimes. An identity thief may use your SSN to get a job or may file a tax return using your SSN to receive a refund.

To reduce your risk:

- Protect your SSN,
- Ensure your employer is protecting your SSN, and
- Be careful when choosing a tax preparer.

If your tax records are affected by identity theft and you receive a notice from the IRS, respond right away to the name and phone number printed on the IRS notice or letter.

If your tax records are not currently affected by identity theft but you think you are at risk due to a lost or stolen purse or wallet, questionable credit card activity or credit report, contact the IRS Identity Theft Hotline at 1-800-908-4490 or submit Form 14039.

For more information, see Publication 4535, Identity Theft Prevention and Victim Assistance.

Victims of identity theft who are experiencing economic harm or a system problem, or are seeking help in resolving tax problems that have not been resolved through normal channels, may be eligible for Taxpayer Advocate Service (TAS) assistance. You can reach TAS by calling the TAS toll-free case intake line at 1-877-777-4778 or TTY/TDD 1-800-829-4059.

Protect yourself from suspicious emails or phishing schemes. Phishing is the creation and use of email and websites designed to mimic legitimate business emails and websites. The most common act is sending an email to a user falsely claiming to be an established legitimate enterprise in an attempt to scam the user into surrendering private information that will be used for identity theft.

The IRS does not initiate contacts with taxpayers via emails. Also, the IRS does not request personal detailed information through email or ask taxpayers for the PIN numbers, passwords, or similar secret access information for their credit card, bank, or other financial accounts.

If you receive an unsolicited email claiming to be from the IRS, forward this message to *phishing@irs.gov*. You may also report misuse of the IRS name, logo, or other IRS property to the Treasury Inspector General for Tax Administration at 1-800-366-4484. You can forward suspicious emails to the Federal Trade Commission at: *spam@uce.gov* or contact them at *www.ftc.gov/idtheft* or 1-877-IDTHEFT (1-877-438-4338).

Visit IRS.gov to learn more about identity theft and how to reduce your risk.

Privacy Act Notice

Section 6109 of the Internal Revenue Code requires you to provide your correct TIN to persons (including federal agencies) who are required to file information returns with the IRS to report interest, dividends, or certain other income paid to you; mortgage interest you paid; the acquisition or abandonment of secured property; the cancellation of debt; or contributions you made to an IRA, Archer MSA, or HSA. The person collecting this form uses the information on the form to file information returns with the IRS, reporting the above information. Routine uses of this information include giving it to the Department of Justice for civil and criminal litigation and to cities, states, the District of Columbia, and U.S. commonwealths and possessions for use in administering their laws. The information also may be disclosed to other countries under a treaty, to federal and state agencies to enforce civil and criminal laws, or to federal law enforcement and intelligence agencies to combat terrorism. You must provide your TIN whether or not you are required to file a tax return. Under section 3406, payers must generally withhold a percentage of taxable interest, dividend, and certain other payments to a payee who does not give a TIN to the payer. Certain penalties may also apply for providing false or fraudulent information.

A complete copy of AIA Document A201, 1997 Edition, with Supplementary General Conditions incorporated, is available for review in the Peoria Park District's Planning, Design and Construction Office.

SUPPLEMENTARY GENERAL CONDITIONS

1. A. "GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION", AIA Document A201, 1997 Edition, published by the American Institute of Architects, including revisions adopted before the date of the Project Manual, is hereby made part of these Specifications with same force and effect as though set forth in full.

B. The following modifies, changes, deletes from or adds to the General Conditions of the Contract for Construction (AIA Document A201, Fourteenth Edition, 1997). Where any Article of the General Conditions is modified or any Paragraph, Subparagraph or Clause thereof is modified or deleted by these Supplementary Conditions, the unaltered provisions of that Article, Paragraph, Subparagraph or Clause shall remain in effect.

C. Parenthesis ( ) indicates the appropriate section and Subparagraph of the General Conditions which each paragraph of the Supplementary General Conditions modifies or refers to.

2. INSERT THE FOLLOWING PHRASE TO PARAGRAPH (1.1.1) AFTER THE WORDS "The Contract Documents consist of the Agreement Between Owner and Contractor (hereinafter the Agreement)":

"the Contractor's Bid, the Advertisement for Bids, the Instructions to Bidders, sample forms and addenda relating to these,"

DELETE THE LAST SENTENCE OF PARAGRAPH (1.1.1).

3. ADD THE FOLLOWING SENTENCES TO END OF PARAGRAPH (1.2.1):

The Contractor shall notify the Owner's Representative immediately if discrepancies are discovered. Full-size or large-scale details or drawings shall govern small-scale drawings that the former are intended to amplify. Dimensions from drawings shall not be determined by scale or rule. Where the Drawings and Specifications conflict with each other or with themselves, the Owner's Representative (in consultation with the Architect, if any) will decide which conflicting requirement governs. Should discrepancies or doubt occur, Contractor shall not proceed with the Work without clarification from the Owner. Contractor shall request clarification in a reasonable time to avoid delays and increases in the Contract Sum.

ADD THE FOLLOWING PARAGRAPHS TO SECTION (1.2):

1.2.4 If any item or material shown on the Drawings is omitted from the Specifications, or vice-versa (except when the Drawings and Specifications clearly exclude such omitted item), and when such item or material is clearly required to complete the detail shown or specified, the Contractor shall furnish and install such item or material of the type and quality established by the balance of the detail shown and specified at no increase to the Contract Sum.

1.2.5 Where a typical or representative detail is shown on the Drawings, this detail shall constitute the standard for workmanship and materials throughout those parts of the Work.

1.2.6 Any Summary of Work as outlined in the Specifications shall not be deemed to limit the work required by the Contract Documents. The Contractor and each Subcontractor shall be responsible for carefully examining all Drawings, including all details, plans, elevations, sections, schedules and diagrams for each particular type of work, and for coordinating the Work described in the Drawings, with the related Specifications. The Contractor shall also be responsible for determining the exact scope of work for each type of work per the Contract Documents and Contractor shall endeavor to check cross-references of work excluded from any division. The Contract Sum is deemed to be based on a complete installation. When additional details or instructions are clearly required to complete the work, the Contractor is deemed to have made an allowance in the Contract Sum for completion of such Work consistent with the local standard of care.

1.2.7 The Drawings are intended to show the arrangement, design and extent of the Work and are schematic in nature. They are not to be scaled for roughing-in measurements or used as shop drawings.

4. ADD THE FOLLOWING PARAGRAPH TO SECTION (1.5):

1.5.3 Neither any oral representation by or oral agreement with any officer, agent, or employee of Owner or Architect before execution of this Contract shall affect or modify any of the Contractor's rights or obligations hereunder. Contractor is not aware of any facts that make misleading or inaccurate in any material respect any information Owner or Architect has furnished to Contractor which would have a material adverse affect on the Contract Time or Contract Sum which Contractor has not advised Owner or Architect of, and if, during the course of the performance of the Work, Contractor learns of any such facts it will so advise Owner. Contractor shall not be entitled to any adjustments in the Contract Time or the Contract Sum as a consequence of Contractor's breach of the terms of this Subparagraph.

5. IN PARAGRAPH (1.6.1) DELETE THE WORD "Architect" **IN THE FOURTH SENTENCE AND REPLACE IT WITH THE WORD "**Owner**".**

DELETE SENTENCES #7, #8, #9 STARTING WITH "The Contractor, Subcontractors, Sub-subcontractors and material or equipment suppliers are …."

6. DELETE PARAGRAPH (2.2.3) IN ITS ENTIRETY.

7. ADD THE FOLLOWING SENTENCE AT THE END OF PARAGRAPH (2.3.1):

"The Owner shall not be liable for any extra cost incurred by the Contractor by such an order."

8. IN PARAGRAPH (2.4.1) DELETE THE SECOND TO LAST SENTENCE.

9. IN PARAGRAPH (3.2.1, 3.2.2 AND 3.2.3) AFTER THE WORD "Architect**" ADD THE WORDS "**and Owner**".**

10. ADD THE FOLLOWING PARAGRAPHS TO SECTION (3.2):

3.2.4 Before starting any work, the Contractor shall examine work performed by others to which his work adjoins or is applied to and report to the Owner's Representative any conditions that will prevent the satisfactory accomplishment of his work. Failure to notify the Owner's Representative of deficiencies or faults in preceding work prior to commencing work shall constitute acceptance thereof and waiver of any claim of its unsuitability.

11. ADD THE FOLLOWING PARAGRAPHS TO SECTION (3.4):

3.4.4 Before ordering any material or doing any Work, the Contractor shall verify all measurements at the Project site and he shall be responsible for the correctness of same. No extra charge or compensation will be allowed to the Contractor on account of any difference between actual dimensions and the measurements shown on the Project Drawings.

3.4.5 The Contractor shall carefully inspect all materials delivered on and to the Project site and reject defective materials without waiting for the Owner's Representative or other representative of Owner to observe the materials.

12. ADD THE FOLLOWING PARAGRAPHS TO SECTION (3.5):

3.5.2 The Contractor agrees to assign to the Owner any and all manufacturer's warranties relating to materials and equipment furnished as part of the Work and further agrees to perform the Work in such manner so as to preserve any and all such manufacturer's warranties subject to installation directives and other terms of the Contract Documents. The Contractor agrees to deliver to the Owner, upon final payment, such assignments along with or as part of a reference manual, in form and detail reasonably acceptable to Owner, showing all such warranties and guarantees provided by the Contractor and Subcontractors. Such warranties and guarantees shall commence no sooner than the date of purchase from the supplier.

3.5.3 The warranty of Contractor provided in Paragraph 3.5 shall in no way limit or abridge the warranties of the suppliers of equipment and systems which are to comprise a portion of the Work, if they are broader, and all of such warranties shall be in form and substance as required by the Contract Documents. Contractor shall take no action or fail to act in any way which results in the termination or expiration of such third party warranties or which otherwise results in prejudice to the rights of the Owner under such warranties subject to installation directives and other terms of the Contract Documents. Contractor agrees to provide all notices required for the effectiveness of such warranties and shall include provisions in the contracts with the providers and manufacturers of such systems and equipment whereby Owner shall have a direct right of enforcement of such warranty obligations.

13. IN PARAGRAPH (3.6.1), DELETE THE WORD "Sales".

ADD THE FOLLOWING AT THE END OF PARAGRAPH (3.6.1):

The Peoria Park District is exempt from Federal, State and Local taxes. A certificate of exemption will be furnished upon request.

14. IN PARAGRAPH (3.10.2) BEFORE THE WORD "Architect's" **ADD THE WORDS** "Owner's and".

IN PARAGRAPH (3.10.2) AFTER THE WORD "Architect" **ADD THE WORDS** "and Owner's Representative".

ADD THE FOLLOWING PARAGRAPHS TO SECTION (3.10):

3.10.4 The construction schedule shall provide for the most expeditious and practicable execution of the Work. The Contractor shall also work closely with the Owner to confirm that the construction schedule accurately reflects the status of the Project. The Contractor's construction schedule shall be updated every month by the Contractor and submitted to the Owner.

.1 Whenever it becomes apparent from the updated construction schedule that any substantial completion previously established by the construction schedule cannot be met, the Contractor shall, at the Owner's request, take any or all of the following actions with no increase to the Contract Sum or Contract Time (unless the delay is caused by an event set forth in paragraph 8.3 of these General Conditions thereby permitting adjustment of the Contract Sum and/or Contract Time under Paragraph 4.3.5 of these General Conditions):

.1.1 Increase construction manpower to substantially return the Project to schedule;

.1.2 Increase the number of working hours per shift, shifts per day or the amount of construction equipment or any combination of the foregoing which will substantially return the Project to schedule;

.1.3 Reschedule activities to concurrently accomplish activities, to the maximum degree practicable, in the time required by the Contract Documents.

If the Contractor fails to take any of these actions Owner shall have the notice and other rights set forth in Paragraph 2.4.

15. IN PARAGRAPH (4.1.1) DELETE THE FIRST SENTENCE AND SUBSTITUTE THE FOLLOWING:

"The Architect, Owner's Representative, and Owner's Project Manager are defined in Paragraph C of "Section 01000 - General" of "Division 01000 - General Requirements".

16. IN PARAGRAPH (4.2.1) DELETE THE WORDS "and will be an Owner's Representative**".**

17. IN PARAGRAPH (4.2.2) DELETE THE WORDS "as a representative of the Owner".

18. IN PARAGRAPH (4.2.4) IN THE FIRST SENTENCE SUBSTITUTE THE WORD "Architect" **FOR THE WORD** "Owner" **AND SUBSTITUTE THE WORD** "Owner" **FOR THE WORD** "Architect"**.**

19. IN PARAGRAPH (4.2.5) DELETE THE WORD "Architect's" **AND** "Architect"**AND SUBSTITUTE THE WORDS** "Owner Representative's" **AND** "Owner Representative"**.**

20. IN PARAGRAPH (4.2.6) IN THE SECOND SENTENCE AFTER THE WORDS "will have authority" **INSERT THE WORDS** "upon written authorization from the Owner".

21. IN PARAGRAPH (4.2.8) DELETE THE WORD "prepare" **AND SUBSTITUTE THE WORDS** "assist the Owner's Representative in preparing".

22. IN PARAGRAPH (4.2.9) DELETE THE WORD "Architect" **AND SUBSTITUTE WORDS** "Owner's Representative, assisted by the Architect".

23. IN PARAGRAPH (4.2.11) IN THE FIRST SENTENCE DELETE THE WORDS "and decide".

24. IN PARAGRAPH (4.2.12) IN THE FIRST SENTENCE DELETE THE WORD "and decisions".

IN PARAGRAPH (4.2.12) IN THE SECOND SENTENCE DELETE THE WORDS "and initial decisions" **AND** "or decisions".

25. ADD PARAGRAPH TO SECTION (4.2):

4.2.14 Notwithstanding any other provision of this Agreement to the contrary, the Architect shall have no authority to order or approve any material deviation from the Contract Documents, whether or not such deviation affects the Contract Sum or other Substantial Completion Date (as defined herein). In the event any such deviation is sought, prior written approval from the Owner's Representative and the Owner must be obtained. The Architect may decide quality issues and may approve non-material deviations from the Contract Documents.

26. IN PARAGRAPH (4.3.4) IN THE FOURTH SENTENCE DELETE THE WORD "decision" **AND SUBSTITUTE THE WORD** "recommendation".

IN PARAGRAPH (4.3.4) IN THE LAST SENTENCE DELETE THE WORD "determination" **AND SUBSTITUTE THE WORD** "recommendation".

27. DELETE PARAGRAPH (4.3.10) IN ITS ENTIRETY.

28. DELETE PARAGRAPH (4.4.1) AND SUBSTITUTE THE FOLLOWING:

"Claims, disputes and other matters in question between the Contractor and the Owner relating to the execution or progress of the Work or the interpretation of the Contract Documents shall be initially referred in writing to the Architect for a recommendation."

29. IN PARAGRAPH (4.4.2) AFTER "(2)" ADD THE WORD "recommend" **AND CHANGE THE WORD** "reject" **TO** "rejecting".

IN PARAGRAPH (4.4.2) AFTER "(3)" ADD THE WORD "recommend" **AND CHANGE THE WORD** "approve" **TO** "approving".

IN PARAGRAPH (4.4.2) AT THE END OF THE SENTENCE DELETE THE WORD "resolve" **AND ADD THE WORDS** "make recommendation on".

30. IN PARAGRAPH (4.4.3) DELETE THE WORD "decision" **AND SUBSTITUTE THE WORD** "recommendation".

31. IN PARAGRAPH (4.4.4) IN THE LAST SENTENCE DELETE THE WORDS "either reject or approve the Claim" **AND SUBSTITUTE THE WORDS** "provide a recommendation regarding the Claim in accordance with Paragraph 4.2.2".

IN PARAGRAPH (4.4.4) AT THE END OF THE LAST SENTENCE DELETE THE WORDS "in whole or in part."

32. DELETE PARAGRAPHS (4.4.5) AND (4.4.6) IN THEIR ENTIRETY.

33. IN PARAGRAPH (4.4.8) DELETE THE WORD "resolution" **AND SUBSTITUTE THE WORDS** "final recommendation".

IN PARAGRAPH (4.4.8) AFTER THE WORD "Architect," **ADD THE WORD** "or".

IN PARAGRAPH (4.4.8) AT THE END OF THE SENTENCE DELETE THE WORDS "or by arbitration".

34. IN PARAGRAPH (4.5.1) DELETE THE WORD "decision" **AND SUBSTITUTE THE WORD** "recommendation".

IN PARAGRAPH (4.5.1) DELETE THE WORDS "arbitration or".

35. IN PARAGRAPH (4.5.2) IN THE SECOND SENTENCE DELETE THE WORDS "a demand for arbitration" **AND SUBSTITUTE THE WORDS** "legal or equitable proceedings".

IN PARAGRAPH (4.5.2) AFTER THE WORDS "proceed in advance of " **DELETE THE WORDS** "arbitration or".

36. IN PARAGRAPH (4.5.3) DELETE THE FIRST SENTENCE.

37. DELETE SECTION (4.6) IN ITS ENTIRETY.

38. IN PARAGRAPH (5.2.1) DELETE THE FIRST SENTENCE AND SUBSTITUTE:

> "The subcontractors/suppliers listed by the Contractor on the Major Subcontractor/Supplier List (submitted with the Bid) shall not be changed without the written consent of the Owner."

IN PARAGRAPH (5.2.1) IN THE SECOND SENTENCE DELETE THE WORDS "Architect will" **AND SUBSTITUTE THE WORDS** "Owner's Representative will".

IN PARAGRAPH (5.2.1) IN THE SECOND SENTENCE AFTER THE WORDS "promptly reply to" **ADD THE WORDS** "any request made by".

IN PARAGRAPH (5.2.1) IN THE SECOND SENTENCE AFTER THE WORDS "any such proposed" **ADD THE WORDS** "change in".

IN PARAGRAPH (5.2.1) IN THE LAST SENTENCE DELETE THE WORDS "Owner or Architect" **AND SUBSTITUTE THE WORDS** "Owner's Representative".

IN PARAGRAPH (5.2.1) IN THE LAST SENTENCE DELETE THE WORD "promptly" **AND ADD THE WORDS** "within 10 calendar days (of receipt of written request for such change from the Contractor)".

39. IN PARAGRAPH (6.2.2) BEFORE THE WORD "Architect" **ADD THE WORDS** "Owner and".

40. IN PARAGRAPH (6.3.1) DELETE THE WORD "Architect" **AND SUBSTITUTE THE WORD** "Owner".

41. IN PARAGRAPH (7.2.1) DELETE THE WORDS "the Architect" **AND SUBSTITUTE THE WORDS** "the Owner's Representative".

ADD THE FOLLOWING PARAGRAPHS TO SECTION (7.2):

7.2.3 A Change Order shall include all of the Contractor's costs associated therewith.

7.2.4 The Contractor shall not accept any request for a Change Order from any person other than the Owner and may not perform any work asserted to constitute a change in the Work until the Owner has approved the Change Order in writing, unless the Owner authorizes the Contractor, in writing, to proceed with a change prior to the Owner's final approval. Notwithstanding anything to the contrary herein, the Contractor shall not charge for overtime services in the performance of any Change Order Work, unless the Owner has specifically authorized overtime in writing. Owner may

competitively bid changes in the Work and Contractor, Subcontractor and suppliers shall provide Owner with all documents Owner requests to facilitate such competitive bidding of changes in the Work.

7.2.5 There shall be no change in the Work, whether an alteration or addition to the Contract Sum or to any amounts due under the Contract Documents or to a change in the Contract Time, unless and until such alteration or addition has been authorized by a written Change Order executed and issued in accordance and compliance with the requirements with this Article 7 or by written authorization to proceed with such change in the Work signed by the Owner or as otherwise provided pursuant to the Contract Documents. The requirements set forth in this Paragraph 7.2.5 are of the essence. No claim that the Owner has been unjustly enriched by any alteration or addition to the Work, whether or not any such unjust enrichment to the Work or to the Owner in fact exists, shall form the basis of any claim for an increase in any amount due under the Contract Documents or a change in the Contract Time, and the terms of a fully-executed Change Order shall be conclusive.

42. IN PARAGRAPH (7.3.1) DELETE THE WORDS "the Architect" **AND SUBSTITUTE THE WORDS** "the Owner's Representative".

43. IN PARAGRAPH (7.3.4) DELETE THE WORDS "the Architect" **AND SUBSTITUTE THE WORDS** "the Owner's Representative".

44. IN PARAGRAPH (7.3.6) IN THE FIRST SENTENCE DELETE THE WORD "determined" **AND SUBSTITUTE THE WORD** "recommended".

45. IN PARAGRAPH (7.3.7) IN THE FIRST SENTENCE AFTER THE WORD "Architect" **ADD THE WORDS** "and the Owner's Representative".

46. IN PARAGRAPH (7.3.8) DELETE THE WORDS "the Architect" **AND SUBSTITUTE THE WORDS** "the Owner's Representative".

47. IN PARAGRAPH (7.3.9) DELETE THE WORD "determination" **AND SUBSTITUTE THE WORD** "recommendation".

48. IN PARAGRAPH (8.1.3) DELETE THE WORD "Architect" **AND SUBSTITUTE THE WORDS** "Owner's Representative".

49. ADD THE FOLLOWING PARAGRAPHS TO SECTION (8.2) .

8.2.4 All work shall be "Substantially Complete" as required by the **Instructions to Bidders** and the **Agreement Between Owner and Contractor.**

8.2.5 It is further agreed that said completion schedule is reasonable, and the Contractor shall prosecute said work regularly, diligently and continuously at such rate of progress as will insure full completion thereof within the time specified.

8.2.6 Provided, however, the following exceptions:

.1 Any preference, priority or allocation order duly issued by the United States Government.

.2 Any unforeseeable cause beyond the control and without the fault or negligence of the Contractor, including acts of God, or of a public enemy, acts of the Owner, acts of another Contractor in performance of a separate contract with the Owner, fire, floods, epidemics,

quarantine restrictions, strikes, freight embargoes and unusually severe weather. The criteria on which the unusually severe weather shall be based is the average precipitation/temperatures received in the project area, as recorded over a period of the last five (5) years at the local area United States Weather Station. Any extension of time due to unusually severe weather must be requested by the Contractor on the basis of documented records of the actual precipitation/temperatures during the contract time period, compared with the normal/average for the area. Also, the criteria shall include the number of excessive precipitation or extreme cold days (i.e., days in which the temperature would adversely affect the type of work being constructed) over the same period and whether or not the Contractor's force worked on said days or stage of construction was affected.

.3 Any delays of subcontractors occasioned by any of the causes specified in this paragraph.

8.2.7 Provided further that the Contractor shall, within seven (7) days from the beginning of any such delay during the performance of the Contract, notify the Owner's Representative in writing of the alleged cause of such delay.

50. IN PARAGRAPH (8.3.1) DELETE THE WORDS "and arbitration".

IN PARAGRAPH (8.3.1) DELETE THE WORD "determine" **AND SUBSTITUTE THE WORD** "recommend".

51. DELETE PARAGRAPH (9.2.1) AND SUBSTITUTE THE FOLLOWING:

"Before the first Application for Payment, the Contractor shall submit to the Owner's Representative a schedule of values allocated to various portions of the Work, prepared in such form and supported by such data to substantiate its accuracy as the Architect and Owner's Representative may require. This schedule, unless objected to by the Architect and Owner's Representative, shall be used as a basis for reviewing the Contractor's Applications for Payment."

52. IN THE FIRST SENTENCE OF (9.3.1), CHANGE "ten" **TO** "forty five".

IN PARAGRAPH (9.3.1) IN THE FIRST SENTENCE DELETE THE WORD "Architect" **AND SUBSTITUTE THE WORDS** "Owner's Representative".

ADD THE FOLLOWING TO THE END OF PARAGRAPH (9.3.1):

Payment requests shall consist of AIA Documents #702 "Application and Certificate for Payment"; AIA #703 "Continuation Sheet"; Contractors Affidavit of Payment to Subcontractors and Suppliers; Weekly Workforce Reports; Certified Payroll Form; and Waivers of Lien. (Waivers of Lien are required from the general contractor in the full amount of the current payment application, and from all subcontractors, suppliers, or workers who provide more than $10,000 of project material/labor of the Work. The waiver shall be in the amount(s) listed in the Contractor's Affidavit.) For final payment, the general contractor shall also provide a Waiver of Lien in the full amount of the contract price.

The Waiver of Lien and Contractor Affidavit forms used shall be the Peoria Park District's standard form(s): 1) "Final Waiver of Lien" (for general contractors), 2) "Waiver of Lien - General Contractor's Partial To Cover Only Certain Payments", 3) "Sub-Contractor's Final Waiver of Lien", 4) "Waiver of Lien - Sub-Contractor's Partial To Cover Only Certain Payments, and 5) "Contractor's Affidavit". (These forms are included in the Project Manual, and are the required Waiver of Lien forms for the project.)

(If the Contractor is unable to provide the required sub-contractor waiver at the time the application for payment is submitted (preferred method) alternatively, it may be provided at the time that payment is delivered by the District. If the sub-contractor waiver(s) still cannot be provided at that time, the District will provide "two-party" checks in which the Contractor and the sub-contractor are named jointly as payees.)

Format of AIA #703 shall follow that of "Schedule of Values". (See Division 01000 Article IV.) All payment requests shall reflect retainage in the amount of 10% of completed work.

53. IN PARAGRAPH (9.3.1.1) DELETE THE WORDS "or by interim determination of the Architect, but not yet included in Change Orders".

54. ADD THE FOLLOWING SUB-PARAGRAPHS TO PARAGRAPH (9.3.1):

9.3.1.3 Upon Substantial Completion, the Owner will pay 95% percent of the amount due to the Contractor on account.

9.3.1.4 Monthly progress payments will be made by the Owner on projects lasting more than sixty days (from award of the bid to the Substantial Completion date given in the Supplementary Instructions to Bidders).

55. ADD THE FOLLOWING SUB-PARAGRAPHS TO PARAGRAPH (9.3.2):

9.3.2.1 Material stored on site will be considered for payment only when a Schedule of Stored Materials with appropriate values accompany the payment request as an attachment.

9.3.2.2 All material and work covered by partial payments made shall thereupon become the sole property of the Owner, but this provision shall not be construed as relieving the Contractor from the sole responsibility for the care and protection of material and work upon which payments have been made or the restoration of any damaged work, or as a waiver of the contract.

56. IN PARAGRAPH (9.4.1) DELETE THE WORDS "Architect" **AND** "Architect's" **AND SUBSTITUTE THE WORDS "**Owner's Representative" **AND** "Owner's Representative's".

IN PARAGRAPH (9.4.1) DELETE THE PHRASE "with a copy to the Contractor".

57. IN THE FIRST SENTENCE OF PARAGRAPH (9.4.2) DELETE THE WORD "Architect".

IN THE FIRST SENTENCE OF PARAGRAPH (9.4.2) AFTER THE WORDS "Architect's" **ADD THE WORDS** "and Owner's Representative's".

IN THE FOURTH SENTENCE OF PARAGRAPH (9.4.2) DELETE THE WORDS "Architect has" **AND SUBSTITUTE THE WORDS** "Owner's Representative and Architect have".

58. IN PARAGRAPH (9.5.1) DELETE THE WORDS "Architect" **AND** "Architect's" **AND SUBSTITUTE THE WORDS** "Owner's Representative **AND** "Owner's Representative's".

59. IN PARAGRAPHS (9.6.1, 9.6.3, AND 9.6.4) DELETE THE WORDS "Architect" **AND SUBSTITUTE THE WORDS** "Owner's Representative".

60. IN PARAGRAPH (9.7.1) DELETE THE WORD "Architect" **AND SUBSTITUTE THE WORDS** "Owner's Representative".

IN PARAGRAPH (9.7.1) DELETE THE WORDS "or awarded by arbitration".

61. IN PARAGRAPH (9.8.2) DELETE THE WORD "Architect" **AND SUBSTITUTE THE WORDS "**Owner's Representative".

62. IN THE FIRST SENTENCE OF PARAGRAPH (9.8.3) DELETE THE WORD "Architect" **AND SUBSTITUTE THE WORDS** "Owner's Representative assisted by the Architect".

IN THE SECOND AND THIRD SENTENCES OF PARAGRAPH (9.8.3) DELETE THE WORDS "Architect's" and "Architect" **AND SUBSTITUTE THE WORDS** "Owner's Representative's" and "Owner's Representative".

63. IN PARAGRAPH (9.8.4) DELETE THE WORD "Architect" **AND SUBSTITUTE THE WORDS** "Owner's Representative".

64. IN PARAGRAPH (9.9.1) DELETE THE WORD "Architect" **AND SUBSTITUTE THE WORDS** "Owner's Representative".

65. IN PARAGRAPH (9.10.1) IN THE FIRST SENTENCE AFTER THE FIRST TWO APPEARANCES OF THE WORD 'Architect" **ADD THE WORDS** "and Owner's Representative".

IN PARAGRAPH (9.10.1) DELETE THE THIRD AND FOURTH APPEARANCES OF THE WORD "Architect" and "Architect's" **AND SUBSTITUTE THE WORDS** "Owner's Representative" and "Owner's Representative's".

IN PARAGRAPH (9.10.1) AFTER THE FIFTH APPEARANCE OF THE WORD "Architect's" **ADD THE WORDS** "and Owner's Representative's".

IN THE LAST SENTENCE OF PARAGRAPH (9.10.1) DELETE THE WORD "Architect's" **AND SUBSTITUTE THE WORDS** "Owner's Representative's".

66. IN PARAGRAPH (9.10.2) DELETE THE WORD "Architect" **AND SUBSTITUTE THE WORD** "Owner's Representative".

67. ADD THE FOLLOWING SUB-PARAGRAPH TO PARAGRAPH (9.10.2):

9.10.2.1 When all items including items noted within Division 1000 General Requirements are found to be complete and in conformance with the Contract Documents, a final payment will be issued.

68. IN PARAGRAPH (9.10.3) DELETE THE WORD "Architect" **AND SUBSTITUTE THE WORDS** "Owner's Representative".

69. IN PARAGRAPH (11.1.1) IN THE FIRST SENTENCE AFTER THE PHRASE "as will protect the Contractor" **ADD THE WORDS** "Architect and Owner".

70. IN PARAGRAPH (11.1.2), IN THE FIRST SENTENCE DELETE THE WORDS "limits of liability specified in the Contract Documents" **AND SUBSTITUTE THE WORDS** "limits required in 'Attachment A –

Project Specific Insurance Requirements' (which is included as the last section of the Project Manual and the requirements therein shall be made part of the Contract Documents),".

IN PARAGRAPH (11.1.2) AFTER THE FIRST SENTENCE ADD:

"In addition, if any of the work occurs within fifty feet of an active railroad line and the Contractor's general liability coverages provide for exclusions of coverage when working on or near a railroad, the Contractor shall provide a separate Railroad Protective Liability Insurance Policy naming the railroad as the insured party, with the coverage limits required by that railroad."

71. IN PARAGRAPH (11.1.3), AFTER THE WORDS "Certificates of insurance" **ADD THE WORDS** "and endorsements to the insurance policy(s) which are".

IN PARAGRAPH (11.1.3) AFTER THE WORDS "acceptable to the Owner" **ADD THE WORDS** "and naming the Owner, their agents and consultants as additional insured".

ADD THE FOLLOWING SUB-PARAGRAPHS TO PARAGRAPH (11.1)

11.1.4 The Contractor may, at his option, furnish Owner's Protective Liability Insurance in lieu of naming the Owner Additional Insured on the Contractor's policy, as required above. This insurance shall protect the Owner from claims as set forth in Paragraph 11.1.1 of the General Conditions, and to the limits required herein, as shown in "Attachment A".

11.1.5 The Contractor shall furnish two copies of each of the required Certificates or Endorsements for each copy of the Agreement which shall specifically set forth evidence of all coverage required by the Contract Documents. The form of the Certificate(s) or Endorsement(s) shall be those as required in "Attachment A". The Contractor shall also furnish to the Owner copies of any endorsements which limit coverage, or are subsequently issued amending coverage or limits of coverage.

72. DELETE PARAGRAPHS (11.3.1, 11.3.2, AND 11.3.3) IN THEIR ENTIRETY.

73. DELETE PARAGRAPH (11.4.1) AND SUBSTITUTE:

"If the work of the project is being completed by one general or prime contractor rather than multiple prime contractors, the Contractor shall purchase and maintain property insurance upon the entire Work at the site to the full replacement value thereof. Such insurance shall be in a company or companies against which the Owner has no reasonable objection. This insurance shall include the interests of the Owner, the Contractor, Subcontractors and Sub-subcontractors in the Work.

74. AT THE END OF PARAGRAPH (11.4.1.1) ADD THE FOLLOWING SENTENCE: "The form of policy for this coverage shall be "Completed Value".

75. DELETE PARAGRAPH (11.4.1.2) IN ITS ENTIRETY.

76. DELETE PARAGRAPH (11.4.1.3) IN ITS ENTIRETY AND SUBSTITUTE:

"If by the terms of this insurance any mandatory deductibles are required, or if the Contractor should elect, with the concurrence of the Owner, to increase the mandatory deductible amounts or purchase this insurance with voluntary deductible amounts, the Contractor shall be responsible for payment of the amount of all deductibles in the event of a paid claim. If separate contractors are added as insureds to be covered by this policy, the separate contractors shall be responsible for payment of appropriate part of any deductibles in the event claims are paid on their part of the Project."

77. DELETE PARAGRAPHS (11.4.3, 11.4.4, AND 11.4.5) IN THEIR ENTIRETY.

78. DELETE PARAGRAPH (11.4.6) AND SUBSTITUTE:

"The Contractor shall file two certified copies of all policies with the Owner before exposure to loss can occur. If the Owner is damaged by the failure of the Contractor to maintain such insurance and to so notify the Owner, then the Contractor shall bear all reasonable costs properly attributable thereto.

79. DELETE PARAGRAPHS (11.4.7, 11.4.8, 11.4.9, AND 11.4.10) IN THEIR ENTIRETY.

80. DELETE PARAGRAPH (11.5.1) AND SUBSTITUTE:

"The Contractor shall furnish a Performance Bond and a separate Labor and Material Payment Bond, each for one hundred percent (100%) of the Contract Sum. Form of these bonds shall be as provided by the Owner in the Project Manual and no other form will be accepted. The Surety shall be authorized to do business in the State of Illinois and be acceptable to the Owner.

81. IN PARAGRAPH (12.1.1) DELETE THE WORD "Architect's" **AND SUBSTITUTE WORDS** "Owner's Representative's and Architect's". **DELETE THE WORD** "Architect" **AND SUBSTITUTE THE WORDS** "Owner's Representative".

82. IN PARAGRAPH (12.1.2) AFTER THE WORD "Architect" **ADD THE WORDS** "and Owner's Representative".

83. IN PARAGRAPH (12.2.1.1) AFTER THE WORD "Architect" **ADD THE WORDS** "and Owner's Representative".

84. IN PARAGRAPH (13.5.4) AFTER THE WORD "Architect" **ADD THE WORDS** "and Owner's Representative".

85. IN PARAGRAPH (14.1.1.3) DELETE THE WORD "Architect" **AND SUBSTITUTE THE WORDS** "Owner's Representative".

86. IN PARAGRAPH (14.2.2) DELETE THE PHRASE ", upon certification by the Architect that sufficient cause exists to justify such action,".

87. IN PARAGRAPH (14.2.4) DELETE THE WORD "Architect" **AND SUBSTITUTE THE WORDS** "Owner's Representative".

88. DELETE PARAGRAPH (14.4.3) IN ITS ENTIRETY AND SUBSTITUTE:

In case of such termination for the Owner's convenience, the Contractor shall be entitled to receive payment for Work executed, and costs incurred by reason of such termination. In no event, however, will such amounts exceed the Contract Sum reduced by the amount of prior payments except for increases pursuant to the claims procedure in the Contract Documents. Subcontracts, subsubcontracts, and purchase orders will contain appropriate provisions for termination for convenience under this Paragraph 14.4.

89. ADD THE FOLLOWING ARTICLE 15: LABOR, SAFETY AND WAGE STANDARDS TO THE GENERAL CONDITIONS OF THE CONTRACT:

ARTICLE 15
LABOR, WAGE, SAFETY, AND OTHER STANDARDS

15.1 LABOR STANDARDS. All employers shall comply with the Employment of Illinois Workers on Public Works Act [30 ILCS 570/1 to 570/7].

15.2 WAGE STANDARDS.

15.2.1 PREVAILING WAGE ACT: Wages and benefits to employees shall comply with all Federal and State of Illinois statutes pertaining to public works projects and specifically: Wages of Employees on Public Works [820 ILCS 130/1 - 12].

15.2.2 Not less than the prevailing rate of wages as determined by the Park District or the Department of Labor shall be paid to all laborers, workers and mechanics performing work under this contract. All contractor's bonds shall include a provision as will guarantee the faithful performance of such prevailing wage clause as provided by this bid specification or contract.

15.2.3 The terms "general prevailing rate of hourly wages", "general prevailing rate of wages" or "prevailing rate of wages" when used in this Act mean the hourly cash wages plus fringe benefits for training and apprenticeship programs approved by the U.S. Department of Labor, Bureau of Apprenticeship and Training, health and welfare, insurance, vacations and pensions paid generally, in the locality in which the work is being performed, to employees engaged in work of a similar character on public works.

15.2.4 PREVAILING WAGE ACT/FOIA
Contractors and subcontractors shall submit certified payroll on a monthly basis to the Park District in compliance with requirements of 820 ILCS 130/5. These records will be kept by the Park District for three years and may be reviewed by others through the Freedom of Information Act (FOIA). The Park District will exclude employee's address, telephone number, and social security number from public inspection.

15.3 SAFETY STANDARDS.

15.3.1 PROTECTION OF PERSONS AND PROPERTY: The Contractor and his subcontractors shall, at all times, comply with applicable provisions of Federal, State and Local laws.

15.3.1.1 The Contractor and his sub-contractors shall have written programs complying with Occupational Safety and Health Administration standards and/or Illinois Department of Labor requirements including, but not limited to the following: hazardous

communications, hearing conservation, respirator use, confined space entry, scaffolding, ladders, ventilation, flammable and combustible liquids, and lockout/tagout. The Contractor shall submit documentation of their programs at the request of the Owner's Representative, or Occupational Safety and Health Administration and/or Illinois Department of Labor officials.

15.4 EQUAL EMPLOYMENT OPPORTUNITY/AFFIRMATIVE ACTION/SEXUAL HARASSMENT

15.4.1 During the performance of the contract, the contractor agrees to the following:

15.4.1.1 That it will not discriminate against any employee or applicant for employment because of race, color, religion, sex, marital status, national origin or ancestry, age, physical or mental handicap unrelated to ability, or an unfavorable discharge from military service; and further that it will examine all job classifications to determine if minority persons or women are under-utilized and will take appropriate affirmative action to rectify any such under-utilization.

15.4.1.2 That, if it hires additional employees in order to perform his contract or any portion thereof, it will determine the availability (in accordance with the Rules and Regulations of the Illinois Department of Human Rights) of minorities and women in the area(s) from which it may reasonably recruit and it will hire for each job classification for which employees are hired in such a way that minorities and women are not under-utilized.

15.4.1.3 That, in all solicitations or advertisements for employees placed by it or on its behalf, it will state that all applicants will be afforded equal opportunity without discrimination because of race, color, religion, sex, marital status, national origin or ancestry, age, physical or mental handicap unrelated to ability or an unfavorable discharge from military service.

15.4.1.4 That it will have a written sexual harassment policy to include at the minimum, the following:

15.4.1.4.1 a definition of sexual harassment under the law;

15.4.1.4.2 a description of sexual harassment utilizing examples;

15.4.1.4.3 a formalized complaint procedure;

15.4.1.4.4 a statement of victim's rights;

15.4.1.4.5 directions on how to contact the Illinois Department of Human Rights. Out-of-state companies must provide directions for filing with the enforcement agency within their state. Companies that issue a standard policy for all business locations must prepare an addendum providing directions on how to contact the appropriate enforcement agency; and

15.4.1.4.6 A recitation that there cannot be any retaliation against employees who elect to file charges.

15.4.1.4.7 In addition, it is recommended that the employer post a copy of the sexual harassment policy in a prominent and accessible location and distribute it in a manner to assure notice to all employees on an annual basis.

15.4.1.4.8 The Illinois Human Rights Act specifically provides that all documents may meet, but cannot exceed, the sixth grade literacy level. Therefore, the employers sexual harassment policy must be stated in plain language and in "laymen's terms".

15.4.1.5 That it will send to each labor organization or representative of workers with which it has or is bound by a collective bargaining or other agreement or understanding, a notice advising such labor organization or representative of the contractor's obligations under the Illinois Human Rights Act and the Department's Rules and Regulations. If any such labor organization or representative fails or refuses to cooperate with the contractor in its efforts to comply with such Act and Rules and Regulations, the contractor will promptly so notify the Department and the contracting agency and will recruit employees from other sources when necessary to fulfill its obligations thereunder.

15.4.1.6. That it will submit reports as required by the Department's Rules and Regulations, furnish all relevant information as may from time to time be requested by the Department or the contracting agency, and in all respects comply with the Illinois Human Rights Act and the Department's Rules and Regulations.

15.4.1.7. That it will permit access to all relevant books, records, accounts and work sites by personnel of the contracting agency and the Department for purposes of investigation to ascertain compliance with the Illinois Human Rights Act and the Department's Rules and Regulations.

15.4.1.8. That it will include verbatim or by reference the provisions of this clause in every subcontract it awards under which any portion of the contract obligations are undertaken or assumed, so that such provisions will be binding upon such subcontractor. In the same manner as with other provisions of this contract, the contractor will be liable for compliance with applicable provisions of this clause by such subcontractors; and further it will promptly notify the contracting agency and the Department in the event any subcontractor fails or refuses to comply therewith. In addition, the contractor will not utilize any subcontractor declared by the Illinois Human Rights Commission to be ineligible for contracts or subcontracts with the State of Illinois or any of its political subdivisions or municipal corporations.

15.4.2 In the event of the contractor's non-compliance with the provisions of the Illinois Human Rights Act, the contractor may be declared ineligible for future contracts or subcontracts with the State of Illinois or any of its political subdivisions or municipal corporation, and the contract may be cancelled or voided in whole or in part, and such other sanctions or penalties may be imposed or remedies invoked as provided by statute or regulations.

END OF SUPPLEMENTARY GENERAL CONDITIONS

SECTION 010000 - GENERAL

A. SUMMARY OF THE WORK

1. The Work covered under this Contract consists of that work described by the Invitation to Bid, the Instructions/Supplemental Instructions to Bidders, the Bid/Proposal Form, the General/Supplemental Conditions of the Contract, these General Requirements, the Plans, and the Technical Specifications.
2. The Contractor shall be responsible for all items incidental to the scope of the Work intended by the bidding documents as per A.1 above, including but not limited to, expenses incurred by the requirements of various Sections of Division 010000, unless specifically stated otherwise herein.
3. Changes to the Work as required by approved Change Orders shall be at the expense of the Owner, however, requests for additional payments made after the fact will not be considered.

B. OCCUPANCY BY OWNER.

1. The Owner reserves the right to occupy any portion of the project before it has been entirely completed, with the understanding that such occupancy shall in no way constitute acceptance of the work, in whole or in part, or of any work performed under the Contract, provided that such occupancy does not substantially interfere with completion of the work by the Contractor.

SECTION 012600 - CHANGE ORDERS

A. OWNER'S REPRESENTATIVE'S FIELD ORDERS

1. From time to time during progress of the Work the Owner's Representative may issue an "Owner's Representative's Field Order" which interprets the Contract Documents or orders minor changes in the Work without change in Contract Sum or Contract Time.
2. Should the Contractor consider that a change in Contract Sum or Contract Time is required he shall submit an itemized proposal to the Owner's Representative **immediately and before proceeding with the Work**. If the proposal is found to be satisfactory and in proper order, the Field Order will be superseded by a Change Order.

B. PROPOSAL REQUESTS

1. From time to time during the progress of work the Owner's Representative may issue a "Proposal Request" for an itemized quotation for changes to the Work which may result in a change to the Contract Sum or Contract Time. This document **is not a Change Order** and is not a direction to proceed with the changes described therein.

C. CHANGE ORDERS

1. Change Orders are written documents describing changes in the Work, in the Contract Sum, in the Contract Time of Completion, or any combination thereof. Change Orders must be signed by both the Owner and the Architect/Owner's Representative prior to proceeding with the Work subject to the Change Order. **REQUESTS FOR "EXTRA'S" OR OTHER ADDITIONAL PAYMENTS OVER AND ABOVE THE CURRENT CONTRACT SUM WILL NOT BE CONSIDERED WITHOUT THE PRIOR, WRITTEN APPROVAL OF BOTH THE OWNER AND THE OWNER'S REPRESENTATIVE.**
    a) INITIATION. Change Orders may be initiated by a "Field Order" or "Proposal Request" per paragraphs "A" and "B" above. In addition, either the Contractor or Owner (or Owner's Representative) may initiate a Change Order through:
        1) Discovery of a discrepancy in the Contract Documents,
        2) Discovery of concealed conditions or,
        3) Discovery, during the course of the Work, of methods of accomplishing the Work in a better or more economical manner.
    b) PROCESSING CHANGE ORDERS.
        1) Change Orders will be dated and will be numbered in sequence.
        2) The Change Order will describe the change or changes, or will refer to the Proposal Requests or Field Orders involved.
        3) The Owner's Representative will issue three copies of each Change Order to the Contractor.
        4) The Contractor promptly shall sign all three copies and return them to the Owner's Representative.
        5) The Owner and Owner's Representative will retain two signed copies in their files, and will forward one signed copy to the Contractor.
        6) Should the Contractor disagree with the stipulated change in Contract Sum or change in Contract Time of Completion, or both:
            i) The Contractor promptly shall return all three of the Change Orders, unsigned by him, to the Owner's Representative with a letter signed by the Contractor stating the reason or reasons for the Contractor's disagreement.
            ii) The Contractor's disagreement with the Change Order shall not in any way relieve the Contractor of his responsibility to proceed with the change as ordered and to seek settlement of the dispute under pertinent provisions of the Contract Documents.

SECTION 012900 – PAYMENT PROCEDURES

A. SCHEDULE OF VALUES

1. Prior to the start of construction, submit a proposed Schedule of Values to the Owner's Representative which shows a detailed breakdown of the agreed Contract Sum showing values allocated to each of the various parts of the Work, as specified herein and in other provisions of the Contract Documents.
    a) The Schedule of Values is required to be compatible (in the same format) with the Application for Payment "Continuation Sheet", AIA G703.
2. If not requested to submit additional data or to modify the submitted Schedule of Values within ten (10) days of submittal, the initially submitted Schedule shall be deemed approved.

B. APPLICATIONS FOR PAYMENT

1. Progress payments will be made only if specifically called for in the Agreement. In all other cases, the Contractor may submit an Application for Payment (3 copies) upon Substantial Completion (95% of the Contract Sum), with the balance of the Contract Sum to be paid at Final Completion.
   a) **Paragraph #52 of the Supplementary General Conditions defines the documentation required for each payment request.**
   b) Applications for payment shall be delivered to the Owner's Project Manager at:

Department of Planning, Design, and Construction
Peoria Park District
Bradley Park Equipment Service
1314 N. Park Road
Peoria, Illinois 61604

SECTION 013100 - PROJECT MEETINGS

A. PRECONSTRUCTION CONFERENCE

1. Conduct a preconstruction conference prior to the start of the Work, at the location of the Work. Provide attendance by the designated personnel of the Contractor, including Sub-contractor's and/or suppliers of major components of the Work, if requested by the Owner's Representative.
   a) AGENDA. Discuss items of significance that could affect progress including such topics as:
      1) Tentative construction schedule.
      2) Critical Work sequencing.
      3) Designation of responsible personnel.
      4) Procedures for processing field decisions and Change Orders.
      5) Procedures for processing Applications for Payment.
      6) Distribution of Contract Documents.
      7) Submittal of Shop Drawings, Product Data and Samples.
      8) Preparation of record documents.
      9) Use of the premises.
      10) Office, Work and storage areas.
      11) Equipment deliveries and priorities.
      12) Safety procedures.
      13) First aid.
      14) Security.
      15) Housekeeping.
      16) Working hours.
      17) Permits and Permitting Agency Requirements

B. PROJECT MEETINGS

1. Project Meetings will be held per the schedule determined at the Preconstruction Conference, or as needed for proper coordination and administration of the project.
   a) AGENDA
      1) Review and correct or approve minutes of the previous progress meeting.
      2) Review progress of the Work since last meeting, including status of submittals for approval.
      3) Identify problems which impede planned progress.
      4) Develop corrective measures and procedures to regain planned schedule.
      5) Complete other current business.

C. REPORTING

1. Distribute copies of the minutes of each meeting to each party present, and to other parties who should have been present, no later than three business days after each meeting.

SECTION 013300 - SUBMITTALS

A. Requirements for shop drawings, samples, mock-ups, product data, etc., relative to specific elements or components of the work are called out in the various sections of the Technical Specifications.

1. Submit items to allow for Owner's Representative's review and approval, potential re-submission if full approval is not given, ordering, delivery, fabrication time, etc., so as to allow the Work to proceed in a timely manner and in conformance with the project schedule.

B. OTHER CONTRACTOR SUBMITTALS

1. Unless otherwise modified the Contractor shall also submit:
   a) A "bar chart" type proposed construction schedule, within ten days after award of the Bid.
   b) Other submittals as required by other section of Division 010000.

C. Submission of the required Bonds and Certificate of Insurance are to be made prior to the Owner's issuance of a Notice to Proceed.

SECTION 014000 – QUALITY/REGULATORY REQUIREMENTS

A. GENERAL: Contractors shall comply with all laws, rules and regulations governing the work.

1. When Contractor observes that contract documents are at variance with specified codes, notify Owner's Representative in writing immediately. Owner's Representative will issue all changes in accord with General Conditions.

2. When Contractor performs any work knowing or having reason to know that the work is contrary to such laws, rules and regulations and fails to so notify the Owner's Representative, Contractor shall pay all costs arising therefrom. However, it will not be the Contractor's primary responsibility to make certain that the contract documents are in accord with such laws, rules and regulations.

B. SAFETY:
1. Comply with all federal, state, and local laws, rules and regulations governing the installation/construction of the work.
2. Develop and utilize safety program and training for workmen and sub-contractor employees.

C. TESTING
1. TESTS AND INSPECTIONS REQUIRED
a) Provide all tests and inspections required by governmental agencies having jurisdiction, as required by provisions of the Contract Documents and/or as specifically required by sections of the Technical Specifications.
2. PAYMENT FOR TESTING
a) Include within the Contract Sum an amount sufficient to cover all testing, re-testing, and inspections required by the Contract documents and/or the Technical Specifications. Additionally pay for all testing and inspections required by all governmental agencies having jurisdiction.
1) The Owner will pay for any testing and inspecting specifically requested by the Owner's Representative which are over and above those described in Paragraph 1.a) above.
2) When initial tests (over and above those defined by 1.a) above) requested by the Owner's Representative indicate non-compliance with the Contract Documents, costs of initial tests associated with that non-compliance will be deducted by the Owner from the Contract Sum, and subsequent retesting occasioned by the non-compliance shall be performed by the same testing laboratory and the costs thereof shall be paid by the Contractor.
3. WAIVER OF INSPECTION AND/OR TESTS
a) Specified inspections and/or tests may be waived only by the specific written approval of the Owner's Representative, and **such waivers will be expected to result in credit to the Owner equal to normal cost of such inspection and/or test.**

SECTION 014200 - REFERENCE STANDARDS AND DEFINITIONS

A. Copies of Standards: Each entity engaged in construction on the Project is required to be familiar with industry standards applicable to that entity's construction activity. Copies of applicable standards are not bound with the Contract Documents.
1. Where copies of standards are needed for performance of a required construction activity the Contractor shall obtain copies directly from the publication source.
2. Although copies of standards needed for enforcement of requirements may be included as part of required submittals the Architect reserves the right to require the Contractor to submit additional copies as necessary for enforcement of requirements.

B. Abbreviations and Names: Trade association names and titles of general standards are frequently abbreviated. Where such acronyms or abbreviations are used in the Specifications or other Contract Documents they mean the recognized name of the trade association standards generating organization authority having jurisdiction or other entity applicable to the context of the text provision. Refer to the Encyclopedia of Associations, published by Gale Research Co. available in most libraries.

C. Definitions: Architect, Owner's Representative, and Owner's Project Manager
1. ARCHITECT: The Architect shall be the person or entity designated by the Owner as the Owner's Representative and shall be identified as such in the Agreement Between Owner and Contractor, and is referred to throughout the Contract Documents as if singular in number and masculine in gender.
2. OWNER'S REPRESENTATIVE: The duties of the Owner's Representative as listed in the Project Manual, include but are not limited to, construction phase observation and technical administration services.
a) LIMITS OF AUTHORITY: The Owner's Representative shall be authorized to provide approvals and interpretations concerning the plans, specifications and progress of the Work as bid, but is not authorized to change the scope of the Work on behalf of the Owner.
3. OWNER'S PROJECT MANAGER: The Owner's Project Manager will represent, act on behalf of, and provide interface between the Owner and the Contractor in respect to contract administration and/or other matters which affect the scope of the Work.
a) Unless defined otherwise in the Project Manual, the Owner's Project Manager shall be a designated member of the Planning, Design, and Construction Division of the Peoria Park District.
b) The Owner's Project Manager will also be the Owner's Representative and will provide construction phase observation and technical administration services, if a consultant Architect has not been engaged to do so, by the Owner.

SECTION 015000 – TEMPORARY FACILITIES & CONTROLS

A. MOBILIZATION
1. Furnish all labor, tools, materials, equipment, and incidentals necessary for preparatory work.
2. Provide and establish personnel, equipment, supplies, materials, offices or buildings, and other facilities necessary to work on the project.
3. Demobilize all of the above and remove temporary facilities at the completion of the project.

B. BARRIERS, PROTECTION OF SITE AND PROPERTY
1. GENERAL
a) Owner's improvements to remain, existing utilities, as well as adjacent site improvements shall be protected from damage by barriers, guards and coverings. Damaged work shall be replaced or repaired to condition prevailing at time of signing of contract, at no additional cost to Owner.
b) Provide 6' high, continuous chain link or orange plastic (used materials acceptable) construction fence to prohibit unauthorized personnel or public entry from the site of the Work. (Substitutions may be considered; submit request in writing to the Owner's Representative.)
c) Contractor shall provide, erect and maintain additional planking, fences, protective canopies, railings, shoring, lights, warning signs, etc., as needed for the protection of adjacent property and the public.

2. LANDSCAPE PROTECTION
   a) All live, healthy trees, shrubs, etc. on the site or on the street fronts of the site, not specified to be removed and not interfering with installation of new work required hereunder, shall be protected against injury from construction operations.
   b) All shade trees which are to remain and which are liable to damage during the building operations, shall be properly boxed and protected from damage during the course of construction work as directed by the Park District. **No site-related work shall occur until the required tree protection (fencing, boxing, etc.) has been installed and approved by the Owner or his representative.**
      1) LIQUIDATED DAMAGES: The Owner reserves the right to charge the Contractor for damage to existing trees, and to deduct the charges from the amounts due the Contractor, based on the following schedule:

aa)	Broken limbs 1" or over in diameter:	$50 per caliper inch of limb
bb)	Trenching or grading within the tree dripline or 20' from the trunk, whichever is less, of trees 4" or over in caliper diameter:	$100 per tree/per foot within dripline, or within 20' minimum if applicable
cc)	Damage to tree trunks, including "barking", nicking, gouging, etc.	$150 per caliper inch of tree, per each injury

3. BARRIERS/CONSTRUCTION FENCE MATERIALS
   a) 2" open mesh chain link fence, 72" high minimum, galvanized, with appropriately sized posts; gates where indicated.
   b) Alternate barrier fencing materials may be acceptable, however, no additional payments will be made on account of approval of alternate barrier/safety fencing materials.
   c) Materials may be new or used, if in serviceable condition.
4. WATCHMAN SERVICE
   a) The Owner will not be responsible for loss due to theft or other damage which is not covered under Property Insurance. The Contractor shall make such arrangements for watchman service as he considers necessary and he shall be responsible for all loss or damage of his property, equipment, material, etc., at the site, and he shall make good such damage or loss without any additional cost to the Owner.
5. EXISTING IMPROVEMENTS - PROTECTION
   a) The Contractor shall be entirely responsible for all injuries to water pipes, electric conduits or cables, drains, sewers, gas mains, poles, telephones and telegraph lines, streets, pavements, sidewalks, curbs, culverts, retaining walls, building walls, foundation walls, or other structures of any kind met with during the progress of the Work, and shall be liable for damages to public or private property resulting therefrom.

C. CONSTRUCTION ACCESS, ROADS, AND PARKING AREAS
1. CONTRACTOR'S USE OF PREMISES
   a) The Contractor shall require that all personnel who will enter upon the Owner's property certify their awareness of and familiarity with the requirements of this Section.
2. CONSTRUCTION ACCESS
   a) To avoid traffic conflict with vehicles of the Owner's employees and customers, and to avoid over-loading of streets and driveways elsewhere on the Owner's property, limit the access of trucks and equipment to the route shown (IF SHOWN) on the Drawings as "Access Route". If access route is not shown on the Drawings, coordinate construction access and routes with the Owner's Project Manager.
   b) Do not permit such vehicles to park on any street or other area of the Owner's property except in the area shown on the Drawings as "Contractor's Parking Area". If not shown on the drawings, the Contractor's Parking Area shall be as designated by the Owner's Project Manager.
   c) Provide adequate protection for curbs and sidewalks over which trucks and equipment pass to reach the job site.
3. SECURITY
   a) Restrict the access of all persons entering upon the Owner's property in connection with the Work to the Access Route and to the actual site of the Work.

D. TEMPORARY ENVIRONMENTAL CONTROLS
1. GENERAL
   a) Provide temporary environmental controls at the site of the Work to ensure that construction operations have no harmful effects on adjacent properties and on members of the public who may come in proximity to the Work, and/or the employees of the Owner who are engaged in regular daily tasks and operations and are unable to be relocated to another work site during construction operations.
   b) Owner reserves the right to stop the Work, at the Contractor's expense, until the Contractor provides necessary control measures for the conditions listed below; additionally, the Owner reserves the right to perform or have performed necessary control measures, should the Contractor refuse to do so at the time requested and to deduct the cost of those expenses from the amount due the Contractor.
2. DUST CONTROL
   a) Provide dust control materials to minimize dust from construction operations. Prevent air-borne dust from dispersing into the atmosphere.
3. WATER CONTROL
   a). Control surface water to prevent damage to the project, the site and adjoining properties.
      1) Control fill, grading, and ditching to direct surface drainage away from excavations, pits, tunnels, and other construction areas; direct drainage to proper runoff channels or storm drainage utilities.
   b) Provide, operate and maintain hydraulic equipment of adequate capacity to control surface water.
   c) Dispose of drainage water in a manner to prevent flooding, erosion silting, or runoff of silt or sediment or other damage to all portions of the site or to adjoining properties.
4. RODENT CONTROL
   a) Provide rodent control to prevent infestation of construction or storage areas.
      1) Use methods and materials which will not adversely affect conditions at the site or on adjoining properties.
5. DEBRIS CONTROL
   a) Maintain all areas free of extraneous debris, waste, and rubbish.
6. POLLUTION CONTROL
   a) Prevent contamination of soil, water or atmosphere by the discharge of noxious substances from construction operations.

b) Provide equipment and personnel, perform emergency measures to contain all spillages, and to remove contaminated soils or liquids.
1) Excavate and dispose of all contaminated earth off-site. Replace with suitable compacted fill and topsoil.
c) Take special measures, as necessary, to prevent harmful substances from entering public waters, including lakes, streams, intermittent drainage channels, and storm or sanitary sewers.

7. EROSION CONTROL
a) Plan and execute construction and earthwork in a manner to control surface drainage from cuts and fills, and from borrow and waste disposal areas, to prevent erosion and sedimentation.
1) Schedule the Work to minimize the areas of bare soil exposed at one time, if possible.
2) Provide temporary control measures such as berms, dikes, and drains to prevent runoff of silt or sediment from the site.
3) Comply with Section 015713.

E. PROJECT IDENTIFICATION AND SIGNAGE
1. GENERAL
a) Provide and install project identification sign, if located and/or called out on the Drawings.
2. SUBMITTALS
a) Provide shop drawing(s) of proposed sign/sign installation to Owner's Representative for approval, prior to installation
3. INSTALLATION
a) Provide project sign as detailed on Drawings
b) If not detailed on Drawings provide project identification sign per the following minimum requirement:
1) Content
aa) Name of project
bb) Name of Owner
cc) Name of Architect(s) and major consultants
dd) Names of Contractor and major subcontractors
ee) Allow additional 200 characters of text explaining the project

2) Construction
aa) Size: 4' x 8'
bb) Materials: Min. 5/8" AC DFPA Exterior Plywood, with (2) 4" x 4" x 12' long pressure treated post supports
cc) Paint: paint front and back, seal edges, provide content as approved by Owner's Representative. Conform to recognized sign painting standards in selection of paint materials. Use only professional sign painter with three years minimum experience to apply sign graphics and lettering.
3) Install sign in a manner consistent with length of time of construction operations. Remove sign and fill post holes at project completion.

F. FIELD OFFICES
1. TEMPORARY FACILITIES
Provide and pay for temporary (new, or used if in serviceable condition) facilities and controls needed for the Work, if called out on the Drawings, which may include, but are not necessarily limited to:
a) Temporary utilities such as heat, water, electricity, and telephone;
b) Field office for the Contractor's personnel (required if shown on the Drawings; otherwise at the Contractor's option and expense).
1) Conform with requirements for Engineer's Field Office Type B, as defined in Article 646.04 of the Standard Specifications for Road and Bridge Construction - Illinois Department of Transportation.
c) Sanitary facilities;
d) Enclosures such as tarpaulins, barricades, and canopies;
e) Temporary fencing of the construction site;
f) Project sign.
2. Comply with Federal, State, and local codes and regulations.
a) Maintain temporary facilities and controls in proper and safe condition throughout the progress of the work. The Contractor is responsible for conformance with all safety codes and regulations for all Work under his jurisdiction, including that of Sub-Contractors.
3. Locate temporary facilities as shown on the Drawings, or as approved by the Owner's Representative if not shown on the Drawings.

SECTION 015713 – EROSION & SEDIMENT CONTROL

A. RELATED DOCUMENTS
1. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

B. SUMMARY
1. This Section includes the following:
a) Site erosion and sediment control
b) Silt fencing
c) Ditch checks
d) Erosion control blankets
e) Culvert and inlet protection
f) Stabilized entrance
2. Related Sections include the following:
a) Division 31 – Earthwork.
b) Division 32 – Exterior Improvements.

3. Erosion and Sediment Control Statement: The Peoria Park District takes the issue of construction related erosion and sediment control extremely seriously. The Peoria Park District is a community leader in the conservation and protection of our area's natural resources. This project will be watched closely by both staff and citizens for compliance with erosion and sediment control regulations and specifications.

C. QUALITY ASSURANCE

1. Materials and methods of construction shall comply with the following standards:
   a) Illinois Department of Transportation
   b) City of Peoria

D. PRODUCTS

1. Silt Fencing
   a) Fabric for silt fencing shall consist of woven or nonwoven filaments of polypropylene, polyester, or polyethylene. Fabric shall be resistant to degradation by ultraviolet light and heat exposure. Fabric shall be rot, insect, and mildew proof, and have a high resistance to tearing.
      1) Fabric shall comply with the following physical properties:

aa)	Grab tensile strength (lb) – ASTM D4632	200 (min)
bb)	Grab elongation @ break (%) – ASTM D4632	12
cc)	Burst strength (psi) – ASTM D751	250 (min)
dd)	Trapezoidal tear strength (lb) – ASTM D4533	75
ee)	Width (ft)	3.5 (min)
ff)	Weight (oz/sq. yd) – ASTM D3776	4.0
gg)	Equivalent opening size	30 (nonwoven)
hh)	(EOS) sieve no. – Corps of Engrs. CS-02215	50 (woven)

2. Ditch Checks
   a) Ditch checks will consist of silt fencing with the addition of wire reinforcement.
   b) Wire shall be 9 gauge.
   c) Alternate: Straw bales may be used in lieu of silt fencing
3. Posts
   a) Posts shall be standard "T" or "U" steel posts or wood with a minimum cross section of 3 square inches. Posts shall be a minimum of 60" in length. Posts shall be driven a minimum of 24" into the ground.
4. Erosion Control Blankets
   a) Excelsior Blanket: Excelsior blanket shall consist of a machine produced mat of wood excelsior of 80% 6" or longer fiber length. The wood from which the excelsior blanket is cut shall be properly cured to achieve adequately curled and barbed fibers.
      1) The blanket shall be of consistent thickness, with the fiber evenly distributed over the entire area of the blanket. The excelsior blanket shall be covered on the top side with a 90 day biodegradable extruded plastic mesh netting having an approximate minimum opening of 16 x 16 mm (5/8 x 5/8 in.) to an approximate maximum opening of 50 x 25 mm (2 x 1 in.). The netting shall be substantially adhered to the excelsior blanket by a knitting process using biodegradable thread or by an applied degradable adhesive. The netting shall be substantially adhered to the excelsior by a knitting process using biodegradable thread. The netting shall be entwined with the excelsior blanket for maximum strength and ease of handling.
      2) The excelsior blanket shall comply with the following:

aa)	Minimum width, ± 25 mm (1 in.)	600 mm (24 in.)
bb)	Minimum mass ± 10%	0.34 kg/sm (0.63 lb/sq yd)
cc)	Minimum length of roll, approximately	45 m (150 ft)

      3) The excelsior blanket shall be smolder resistant.
5. Culvert And Inlet Protection
   a) Culvert protection shall consist of a ditch check immediately upstream of every culvert entrance. Ditch check shall be installed to protect culvert interior from sedimentation.
   b) Inlet protection shall consist of purpose made devices by:

      Dandy Products, Inc.
      P. O. Box 1980
      Westerville, Ohio 43086-1980
      Phone: 1-800-591-2284
      Fax: 740-881-2791
      www.dandyproducts.com
      dlc@dandyproducts.com

      or

      NILEX, Inc.
      15171 E. Fremont Drive
      Centennial, CO 80112
      Phone: 1-800-537-4241
      Fax: 303-766-1110
      www.nilex.com
      denver@nilex.com

   c) "Or Equal" substitutions may be made with prior approval of Owner's Representative.
6. Stabilized Entrance
   a) Stabilized entrance shall consist of coarse aggregate laid over geotextile fabric.
   b) Dimensions: 70' long by 14' wide.
   c) Geotextile Fabric: as per requirements of "silt fencing".
   d) Aggregate: IDOT Class CA-1, CA-2, cA-3, or CA-4.

E. EXECUTION

1. Site Erosion And Sediment Control
   a) Contractor is responsible for fulfilling terms of City of Peoria Erosion Control Permit and all applicable portions of the “Erosion, Sediment, and Stormwater Control Ordinance of the City of Peoria”.
   b) Install control devices as shown on erosion control plan.
   c) Install additional measures as needed to control erosion and sedimentation on the site.
2. Silt Fencing Installation
   a) Install silt fencing according to details in plans. The silt fence shall be entrenched to a minimum depth of 8”.
   b) The silt fence shall be installed on the contour, with the ends extending up-slope.
   c) Install silt fencing before commencing site clearing work.
3. Ditch Check Installation
   a) Install ditch checks according to details in plans.
   b) Install ditch checks at locations shown on plans.
   c) Install additional ditch checks as needed to control erosion within drainage swales as site conditions and weather dictate.
   d) Install ditch checks immediately after swales are graded.
4. Erosion Control Blankets Installation
   a) Install erosion control blankets as needed to control erosion in drainage swales and at the direction of the Owner’s Representative.
   b) Anchor stakes shall be driven at a spacing of 2 feet on center.
5. Culvert And Inlet Protection Installation
   a) Install culvert protection at upstream entrances to all culverts.
   b) Install culvert protection to intercept waterborne silt and sediment and prevent it from entering culvert pipes.
   c) Install immediately after culvert installation.
   d) Install inlet protection according to manufacturer’s written instructions at each inlet immediately after inlet construction.
6. Stabilized Construction Entrance Installation
   a) Install stabilized construction entrance and other approved measures as necessary to limit tracking of soil on to all paved surfaces.
   b) Comply with all City of Peoria codes limiting tracking of soil on to City streets.
7. Maintenance
   a) Inspect silt fences after each rainfall. Repair fencing, failures, end runs, and erosion cuts immediately.
   b) Remove soil from silt fencing after each rainfall.
   c) Erosion control maintenance and repair shall be considered incidental to the contract.
   d) Tracked soil and sediment shall be removed from all paved surfaces on a daily basis.
   e) Replace or provide new erosion and sediment control measures as needed during construction to provide protection to site and surrounding property for the entire time of construction, or until project is complete.
8. Close-Out
   a) Remove silt fencing and other erosion and sediment control devices after lawn or seeding has been established.
   b) Soil deposits remaining in place after silt fence is no longer required shall be dressed to conform to existing grade, and seeded with appropriate seed material.

SECTION 016000 – PRODUCT REQUIREMENTS

A. MATERIALS AND EQUIPMENT

1. STANDARD SPECIFICATIONS
   a) Reference herein to known standard specifications of governmental agencies or technical societies shall refer to the latest edition of such specifications, adopted and published at date of these Specifications.
2. MANUFACTURED ARTICLES
   a) All manufactured articles, materials and equipment to be incorporated in the work shall be new (unless otherwise specified) and of the quality specified and shall be used, erected, installed, connected, cleaned and conditioned as directed by and in conformity with job conditions to produce the best results obtainable.
      1) Field measurements for all special products and materials which requires close tolerances or fitting into other items or components of the Work shall be taken on the job by the party furnishing the materials.
3. QUALITY ASSURANCE
   a) Per the Supplementary Instructions to Bidders, the Bidder by submission of a signed bid form, agrees to install products and equipment by brand and model name or names specified in the Technical Specifications, Divisions 02-35. Substitutions are allowed only in conformance to the following:
      1) Proprietary Specification Requirement: Where only a single product or manufacturer is named, provide the product indicated. No substitutions will be permitted.
      2) Semiproprietary Specification Requirement: Where two or more products or manufacturers are named, provide one of the products indicated. No substitutions will be permitted
         aa) Where either of the two cases above prevail, and the named product is accompanied by "or approved equal" substitutions will be allowed only upon written approval of the Owner's Representative prior to submission of bids.
      3) Non-Proprietary Specification Requirement: When the Specifications lists products or manufacturers that are available and are accompanied by "or equal", the Contractor may propose any available product that complies with the Specifications' requirements; however, the Owner's Representative shall determine if the produced item complies with those requirements.
      4) Descriptive Specification Requirement: Where Specifications describe a product or assembly listing exact characteristics required, with or without use of a brand, trade, or model name, provide a product or assembly that provides the characteristics and otherwise complies with the Contract Documents.
      5) Performance Specification Requirement: Where Specifications require compliance with performance requirements, provide products or assembly that comply with these requirements and are recommended by the manufacturer for the application indicated.

6) Compliance with Standards, Codes, and Regulations: Where the Specifications only require compliance with an imposed code, standard, or regulation, select a product that complies with the standard, code, or regulation specified.

b) VISUAL MATCHING AND SELECTION. Where the Specifications require matching an established sample or call for "as selected", the Owner's Representative's decision will be final on whether a proposed product matches satisfactorily.

B. STORAGE AND PROTECTION

1. GENERAL

a) Contractor shall provide and maintain:

1) Storage for materials and equipment to be installed in Project.
2) Protection and security for stored materials and equipment, on and off site.
3) Protection of existing on-site elements to remain.
4) Protection of adjacent properties improvements

2. METHODS

a) Store off grade and cover with impervious material all moisture or water vulnerable materials.
b) Store finished products and equipment in an enclosed building, on or off site.
c) Maintain integrity of shipping cartons until ready for installation.
d) Provide separate storage for combustible and non-combustible products.
e) Follow storage recommendations of product and equipment manufacturers.
f) Other methods shall be subject to Owner's prior written approval.

3. The Contractor shall maintain an emergency phone number where a contact person can be notified at any time, Sundays and holidays included, of an emergency condition due to the work which requires immediate repair or protection.

C. SUBSTITUTIONS

1. See "SECTION 016000 – A. MATERIALS AND EQUIPMENT" for requirements pertaining to substitution of specified materials, products, equipment, etc.
2. Contractor may propose substitute materials, products, equipment, etc., after award of the Bid; however, such proposals are expected to result in a cost savings to the Owner and/or higher quality Work at no additional cost to the Owner.

D. WARRANTIES AND BONDS

1. GENERAL

a) This Section specifies general administrative and procedural requirements for warranties and bonds required by the Contract Documents, including manufacturer's standard warranties on products and special warranties.
b) Warranties for the Work and products and installations of each Contractor shall be one (1) year unless specified otherwise in the individual Sections of Divisions 02 through 35.
c) Disclaimers and Limitations:

1) Manufacturer's disclaimers and limitations on product warranties do not relieve the Contractor of the warranty on the Work that incorporates the products, nor does it relieve suppliers, manufacturers, and Contractors required to countersign special warranties with the Contractor.
2) The responsibility of the Contractor in respect to the required warranties shall not be relieved or limited in any way by the failure of installed components, equipment, materials, etc., due to naturally occurring and/or re-occurring conditions at the site or area of the Work including, but not limited to:
aa) ground and soil conditions, especially as related to frost heave;
bb) high wind velocities (except those exceeding velocities normally used for calculating wind loading at the site of the Work);
cc) rain and water damage (unless caused by winds exceeding normal design limits);
dd) ice/snow loading on structures
ee) and other naturally occurring or re-occurring site conditions
3) The Contractor shall notify the Owner's Representative, prior to the award of the contract, of any part or component of the Work that is, in his opinion, not designed to accommodate the existing, naturally occurring, or re-occurring conditions of the site, and whether or not a change in the proposed methods of construction, types of equipment, etc., will affect the bid price.
aa) Should the proposed change in construction methods, equipment type, etc., result in additional expense, the Owner reserves the right to request proposals from the other bidders and to make award the contract based on the bid amount which includes the proposed change.

2. WARRANTY REQUIREMENTS

a) Related Damages and Losses: When correcting warranted Work that has failed, remove and replace other Work that has been damaged as a result of such failure or that must be removed and replaced to provide access for correction of warranted Work.
b) Reinstatement of Warranty: When Work covered by a warranty has failed and been corrected by replacement or rebuilding, reinstate the warranty by written endorsement. The reinstated warranty shall be equal to the original warranty with an equitable adjustment for depreciation.

c) Replacement cost: Upon determination that Work covered by a warranty has failed, replace or rebuild the Work to an acceptable condition complying with requirements of the Contract Documents. The Contractor is responsible for the cost of replacing or rebuilding defective Work regardless of whether the Owner has benefited from use of the Work through a portion of its anticipated useful service life.
d) Owner's Recourse: Written warranties made to the Owner are in addition to implied warranties, and shall not limit the duties, obligations, rights and remedies otherwise available under the law, nor shall warranty periods be interpreted as limitations on time in which the Owner can enforce such other duties, obligations, rights or remedies.
aa) Rejection of Warranties: The Owner reserves the rights to reject warranties and to limit selections to products with warranties not in conflict with requirements of the Contract Documents.

e) The Owner reserves the right to refuse to accept Work for the Project where a special warranty, certification, or similar commitment is required on such Work or part of the Work, until evidence is presented that entities required to countersign such commitments are willing to do so.

f) For specific warranty requirements related to landscape materials, refer to the applicable Section.

3. SUBMITTALS

a) Submit written warranties to the Owner's Representative prior to the date certified for Substantial Completion. If the Owner's Representative's Certificate of Substantial Completion designates a commencement date for warranties other that the date of Substantial Completion for the Work, or a designated portion of the Work, submit written warranties upon request of the Owner's Representative.

1) When a designated portion of the Work is completed and occupied or used by the Owner, by separate agreement with the Contractor during the construction period, submit properly executed warranties to the Owner's Representative within fifteen days of completion of that designated portion of the Work.

b) Form of Submittal: At Final Completion, compile two copies of each required warranty and bond properly executed by the Contractor, or by the Contractor, Subcontractor, supplier, or manufacturer. Organize the warranty documents into an orderly sequence based on the table of contents of the Project Manual.

c) Bind warranties and bonds in heavy-duty, commercial quality, durable 3-ring vinyl covered loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2" by 11" paper.

d) Provide heavy paper dividers with celluloid covered tabs for each separate warranty. Mark the tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product, and the name, address and telephone number of the installer.

e) Identify each binder on the front and the spine with the typed or printed title "WARRANTIES AND BONDS", the project title or name, and the name of the Contractor.

f) When operating and maintenance manuals are required for warranted construction, provide additional copies of each required warranty, as necessary, for inclusion in each required manual.

SECTION 017300 – EXECUTION

A. GEOTECHNICAL DATA

1. If the Owner has caused borings or other subsurface investigations to be made, the data or report pursuant to these investigations will be included in the Project Manual, as an Appendix, and labeled as such.
2. The Owner and Owner's Representative do not guarantee the accuracy or validity of the data, nor do they assume any responsibility for the Contractor's interpretation of the data.
3. The Contractor's may, at his option, perform additional subsurface investigation, however, it shall be at the Contractor's sole expense.

B. FIELD ENGINEERING

Provide such field engineering services as are required for proper completion of the Work including, but not limited to:

1. Establishing and maintaining lines and levels
2. Structural design of shores, forms, and similar items provided by the Contractor as part of his means and methods of construction.
3. Verify layout information shown on the Drawings, in relation to the property survey and existing benchmarks and control points. Preserve permanent reference points during construction.

C. COORDINATION OF TRADES AND SUB-CONTRACTORS

1. The Contractor shall be responsible for the proper fitting of all work and for the coordination of the operation of all trades, sub-contractors, or materials and men engaged upon the work. He shall be prepared to guarantee to each of his subcontractors the dimensions which may be required for fitting of their work to all surrounding work and shall do, or cause his agents to do, all cutting, fitting, adjusting and patching necessary to make the several parts of the work come together properly and fit the work to receive, or be received by that of other contractors.
2. When two or more prime contracts are being executed at one time in such manner that the work on one contract may interfere with the work of another, the Owner's Representative shall decide which contractor shall cease work and which shall continue, or whether the work on both contracts may progress at the same time and in what manner.

a) The Contractor shall not cause any unnecessary hindrance or delay to any other contractors on the premises, and shall be responsible for all damages done to the work of other contractors caused by him or by his employees.

D. REFERENCE AND CONTROL POINTS PROVIDED BY OWNER

In addition to layout procedures provided by the Contractor for proper performance of the Contractor's responsibilities:

1. Locate and protect existing control points before starting work on the site.
2. Preserve permanent reference points during progress of the Work.
3. Do not change or relocate reference points or items of the Work without specific approval from the Owner's Representative.
4. Promptly advise the Owner's Representative when a reference point is lost or destroyed, or requires relocation because of other changes in the Work.
5. Upon direction of the Owner's Representative, require the field engineer to replace reference stakes or markers.
6. Locate such replacement according to the original survey control.

E. REFERENCE AND CONTROL POINTS PROVIDED BY THE CONTRACTOR

1. If not provided by the Owner (and defined as the responsibility of the Owner in the Contract Documents) establish sufficient general reference points in the form of permanent bench marks, grade stakes or other markers as will enable the Contractor to proceed with the Work.
2. The Contractor may lay out his own work, or cause the Work to be laid out by a qualified party such as a Registered Land Surveyor or a Professional Engineer, as necessary.
3. The Contractor shall establish and be responsible for all lines, elevations and measurements of the structure utilities, installations, and other Work executed by him under the contract.

a) Exercise proper precautions to verify the figures and dimensions shown on the drawings before laying out the work; be responsible for any error resulting from failure to exercise such precaution.

SECTION 017329 - CUTTING AND PATCHING

A. CHASES AND OPENINGS

1. The Contractor is responsible for the provision and/or coordination of all chases, openings and recesses required by work of his own forces, subcontractors or separate contractors.
   a) Each subcontractor or separate contractor shall be responsible for furnishing advance information to the General Contractor as to exact dimensions and locations of such chases and openings, and shall provide and set in place all necessary sleeves, inserts and forms.
   b) Openings shall be accurately located, neatly cut, and no larger than necessary. Provide all rebuilding, patching, refinishing and painting required to restore the construction to original condition.
2. Provide shoring, bracing, and support as required to maintain structural integrity of the project.
3. Provide protection from cutting and patching operations as required for other portions of the project; protect the Work and existing improvements in proximity to the cutting and patching operations from the elements.

SECTION 017419 – CONSTRUCTION WASTE MANAGEMENT & DISPOSAL

A. PERIODIC CLEANING

1. Each Contractor shall clean up after his own work as needed and/or ensure that sub-contractors clean up after their work and remove accumulations of waste, debris, and rubbish caused by construction operations.
   a) Remove all waste, rubbish and debris on a daily basis (if needed), as they accumulate, and after completion of the Work.

B. PROJECT COMPLETION

1. On completion of the project, the entire job shall be cleaned up and left in perfect condition, including adjacent areas.
   a) Marred surfaces shall be patched or repaired and touched up to match adjoining surfaces.
   b) All rubbish shall be removed from the site before acceptance.
   c) New surfaces and/or exposed elements of the Work shall be protected from stain and marring. These surfaces shall be cleaned to the satisfaction of the Owner's Representative or replaced if said stains or mars are unable to be completely removed

C. GOVERNMENTAL REGULATIONS

1. Conduct cleaning and disposal operations in compliance with Federal, State and local ordinances and anti-pollution laws and regulations.

SECTION 017700 - PROJECT CLOSEOUT

A. GENERAL

Work includes:

1. Substantial Completion.
2. Final Completion
3. Closeout submittals.
4. Instruction

B. SUBSTANTIAL COMPLETION

1. Prepare and submit the list ("punch-list") required by the first sentence of Paragraph 9.8.2 of the General Conditions.
   a) Within a reasonable time after receipt of the list the Owner's Representative will inspect to determine status of completion. Should the Owner's Representative determine that the Work is not Substantially Complete:
      1) The Owner's Representative will so notify the Contractor, in writing, giving the reasons therefore.
      2) Remedy the deficiencies and notify the Owner's Representative when ready for reinspection.
      3) The Owner's Representative will reinspect the Work.
   b) When the Owner's Representative concurs that the Work is Substantially Complete:
      1) The Owner's Representative will prepare a "Certificate of Substantial Completion" on AIA form G704, accompanied by the Contractor's list of items to be completed or corrected, as verified and approved by the Owner's Representative.
      2) The Owner's Representative will submit the Certificate to the Owner and to the Contractor for their written acceptance of the responsibilities assigned to them in the Certificate.

C. FINAL COMPLETION

1. Prepare and submit the notice required by the first sentence of Paragraph 9.10.1 of the General Conditions.
   a) Verify that the Work is complete including, but not necessarily limited to, the items mentioned in Paragraph 9.8.2 of the General Conditions. Certify that:
      1) the Contract Documents have been reviewed;
      2) the Work has been inspected for compliance with the Contract Documents;
      3) the Work has been completed in accordance with the Contract Documents;
      4) equipment and systems have been tested as required, and are operational;
      5) the Work is completed and ready for final inspection.
   b) The Owner's Representative will make a final inspection to verify status of completion and if all "punch-list" items have been completed, and upon receipt of the Contractor's Final Application for Payment, issue a Certificate of Final Completion. Should the Owner's Representative determine that the Work is incomplete or defective:
      1) The Owner's Representative will so notify the Contractor, in writing, listing the incomplete or defective work.
      2) Remedy the deficiencies promptly, and notify the Owner's Representative when ready for reinspection.
   c) FINAL APPLICATION FOR PAYMENT
      1) Submit a final Application for Payment to the Owner's Representative, showing all adjustments to the Contract Sum.
      2) If needed, the Owner's Representative will prepare a final Change Order showing adjustments to the Contract Sum which were not made previously by Change Orders.

3) Include final waivers of lien from the Contractor, sub-contractors, and major suppliers.
4) Final payment will not be released until all close-out submittals have been made, final cleaning has been performed, and required instruction(s) to Owner's personnel have been accomplished.

D. CLOSEOUT SUBMITTALS
1. When the Owner's Representative determines that the Work is acceptable under the Contract Documents, he will request the Contractor to make closeout submittals. Closeout submittals include, but are not necessarily limited to:
a) Project record documents described in "Section 017839".
b) Operation and maintenance manuals/data as described in "Section 017823".
c) Warranties and bonds as described in "Section 016000".
d) Keys and keying schedule;
e) Spare parts and materials extra stock;
f) Evidence of compliance with requirements of governmental agencies having jurisdiction including, but not necessarily limited to:
1) Certificates of Inspection, as required
2) Certificate(s) of Occupancy
g) Certificates of Insurance for products and completed operations;
h) Evidence of payment and release of liens.
1) Consent of Surety to Final Payment
2) Contractor's Final Waiver of Lien
3) Separate releases or Waivers of Lien for sub-contractors, suppliers and others with lien rights against the Owner, together with a list of those parties.
i) List of subcontractors, service organizations, and principal vendors, including names, addresses, and telephone numbers where they can be reached for emergency service at all times including nights, weekends, and holidays.

SECTION 017823 - OPERATING/MAINTENANCE MANUALS & INSTRUCTION

A. GENERAL
1. Compile operating/product data and related information appropriate for Owner's maintenance and operation of products and equipment provided under the Contract.
2. Instruct Owner's personnel in operation and maintenance of products, equipment and systems.

B. OPERATIONS/MAINTENANCE MANUALS - FORM OF SUBMITTAL
1. Prepare operating and maintenance manuals in the form of an instructional manual, utilizing heavy-duty, durable 3-ring vinyl covered loose-leaf binders, for use by the Owner's operating personnel. Organize into suitable sets of manageable size. Where possible, assemble instructions for similar equipment into a single binder. Provide when drawings or diagrams are required as part of the manual.
2. Provide sturdy manila or kraft envelope, accordion type file folder, or cardboard file boxes, properly labeled, of sufficient size to contain all submittals.
3. Submit one copy of data in final form at least fifteen days before final inspection. This copy will be returned within fifteen days after final inspection, with comments. After final inspection make corrections or modifications to comply with the Owner's Representative's comments and submit three copies of each approved manual to the Owner's Representative
4. WARRANTIES, BONDS AND SERVICE CONTRACTS
a) Provide a copy of each warranty, bond or service contract in the appropriate manual for the information of the Owner's operating personnel. Provide written data outlining procedures to be followed in the event of product failure. List circumstances and conditions that would affect validity of the warranty or bond. Provide list for each product containing name, address, and phone number of:
1) Contractor.
2) Subcontractor.
3) Maintenance contractor, as appropriate.
4) Local supply source for parts and replacement.
b) Identify area of responsibility of each contractor.

C. MANUAL FOR MATERIALS AND FINISHES
1. Submit two (2) copies of complete manual in final form.
2. Refer to individual Specification Sections for additional requirements on care and maintenance of materials and finishes.
3. Content for products, applied materials and finishes:
a) Manufacturer's data, giving full information on products.
1) Catalog number, size, composition.
2) Color and texture designations.
3) Information for re-ordering special-manufactured products.
4. Instructions for care and maintenance.
a) Manufacturer's recommendations for types of cleaning agents and methods.
b) Cautions against cleaning agents and methods detrimental to product.
c) Recommended cleaning and maintenance schedule.
5. Moisture-Protection and Weather-Exposed Products: Provide complete manufacturer's data with instructions on inspection, maintenance and repair of products exposed to the weather or designed for moisture-protection purposes.
6. Manufacturer's Data: Provide manufacturer's data giving detailed information, including the following, as applicable:
a) Applicable standards.
b) Chemical composition.
c) Installation details.
d) Inspection procedures.
e) Maintenance information.
f) Repair procedures.

D. INSTRUCTION

1. Instruct the Owner's personnel in proper operation and maintenance of systems, equipment, and similar items which were provided as part of the Work including, but not limited to;
   a) Mechanical
   b) Water supply
   c) Electrical service/distribution and lighting
   d) Other items or systems as required in individual sections of the Technical Specifications
2. Instructions for the Owner's Personnel: For instruction of the Owner's operating and maintenance personnel, use experienced instructors thoroughly trained and experienced in the operation and maintenance of the equipment or system involved.

SECTION 017839 - PROJECT RECORD DOCUMENTS (AS-BUILTS)

A. DOCUMENTS REQUIRED AT SITE

1. The Contractor shall maintain at the job site one copy of all Drawings, Specifications, Addenda, approved Shop Drawings, Change Orders, and other Contract modifications.
   a) Each of these project record documents shall be clearly marked "**Project Record Copy**"
   b) Shall be maintained in good condition
   c) shall be available at all times for inspection by the Park District, and shall not be used for construction purposes.

B. Project-record drawings shall be marked up to show significant changes made during construction progress, referenced to visible and accessible features of the structures. Project-record drawings shall be kept current and no work shall be concealed until required information has been recorded.

C. Record-documents shall be submitted in satisfactory condition to the Park District at the completion of the project. **FINAL COMPLETION OF THE PROJECT WILL NOT BE ATTAINED, AND FINAL PAYMENT WILL BE WITHHELD, UNTIL PROJECT "AS-BUILTS" ARE SUBMITTED TO AND APPROVED BY THE OWNER'S REPRESENTATIVE.**

END OF GENERAL REQUIREMENTS

APPENDIX B

Developer Installed Water Main
Supplemental Technical Specifications

The Technical Specification used for Developer Installed Mains shall be the "American Water Works Service Company Incorporated Standard Pipeline Specifications" dated 2008. The Supplemental Technical Specifications amend or supplement the technical specifications. All provisions, which are not so amended or supplemented by the Supplemental Technical Specifications, shall remain in full force and effect:

Developer Installed Water Main
Supplemental Technical Specifications

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Engineer shall mean Illinois American Water representative

DIVISION 2 – Site Work

Section 2020 – Dewatering

Contractor shall ensure that trench is sufficiently dewatered as outlined in the specification. Contractor shall be responsible for obtaining and paying for any permits required for dewatering and disposal shall be at the discretion of the Developer and Developer's Engineer.

Section 2025 – Existing Utilities and Structures

Part 3.01 Local Illinois American contact shall be immediately notified of any conflicts or obstructions to the approved water main alignment. No deviations of the approved water main alignment shall be made without the consent and approval by Illinois American.

Part 3.04 D (3) Encasement of proposed watermain with water main grade PVC pipe at the consent of Illinois American. The use of casing spacers are not required in encasements of less than 30 feet. The ends of the encasing pipe shall be sealed.

Part 3.04 E Separation of Water Mains, Sanitary Sewer and Storm Sewers shall be constructed according to the Illinois Environmental Protection Agency Title 35, Subtitle F, Chapter II, Part 653, Section 653.119. Alternate solutions as presented in the Illinois Society of Professional Engineers "Standard Specifications for Water and Sewer main Construction in Illinois"; Fifth Edition shall be acceptable at the discretion of the Water Company Representative and the Illinois Environmental Protection Agency.

Section 2105 – Clearing and Grubbing

Payment shall be at the discretion of the Developer and Developer's Engineer.

Section 2210– Trenching, Backfilling and Compacting

Part 2.03– Illinois American does not require the use of bedding material for ductile iron and HDPE pipe, unless trench material is unacceptable or rock has

been encountered. Trench bottom shall be flat and shall be benched at each joint to allow full contact with length of pipe.

Part 3.03 Protection of trees and their root systems shall follow the requirements of the municipality that work is being conducted and at a minimum use the requirements as indicated in Part 3.03.

Part 3.05F. Trench Depth, Part (1) General – All trenches shall provide for a minimum cover over the pipe barrel to the top of finished grade as indicated in the following table, unless otherwise authorized by the Water Company Representative.

DISTRICT	MINIMUM COVER OVER PIPE BARREL
Cairo	36-inches
Interurban	42-inches
Alton	42-inches
Champaign	42-inches
Lincoln	42-inches
Pekin	42-inches
Peoria	42-inches
Chicago Metro	66-inches
Pontiac	48-inches
Streator	48-inches
Sterling	48-inches

Part 3.06 B Illinois American does not allow the use of PVC pipe at this time.

Part 3.08 Backfill under roadways shall follow the requirements of the municipality that work is being conducted.

Section 2458– Large Scale Horizontal Directional Drilling (HDD)

Part 1.02 Related Sections– Section 01300 does not apply, however please provide submittals of material to be used and explanation of the construction technique for consideration by Illinois American as described in Section 1.05.

Part 1.05 A (4) Proposed Alignment Proposed alignment shall have in line valves prior to and immediately following directional drilled section of main, unless otherwise authorized by Illinois American.

Part 3.06 C Additional cross bracing is required near the connection of HDPE pipe and Ductile Iron pipe. Consult with Illinois American for approved bracing methods.

Section 2540– Erosion and Sedimentation Control

Part 1.02 Standards – Developer shall meet all requirements of NPDES Storm Water Phase II Rules and shall provide conformation to the Water Company that a Notice of Intent has been filed where applicable.

Section 2558– Identification/ Location Guide

Part 2.02 Location Wire – Illinois American requires that Location (Tracer) Wire be installed with Ductile Iron Main.

Part 3.02 B – Location wire shall be placed on top of the polywrapped pipe and shall be taped at the midpoint of each pipe length.

Part 3.02 C – Location wire shall not be looped into a valve box unless otherwise authorized by Illinois American. Location wire shall be extended up a fire hydrant barrel and be terminated within a Tracer Wire Access Box located behind the hydrant. The use of a Pipeline Marker/Test Station may also be acceptable at the approval of the water company.

DIVISION 15 – Mechanical

Section 15000 – Piping – General Provisions

Part 1.02 Related Work – Does not apply to this section.

Part 2.02 Petrolatum Tape Coating – Illinois American does not require the use of Petrolatum Tape Coating.

Part 2.03 Rubberized-Bitumen Based Spray-On Undercoating – Illinois American does not allow the use of field applied undercoating.

Part 3.03 C Valve Installation – Provide a valve box and a Valve Box Stabilizer, provided by Valve Box Stabilizer, Inc of Joliet, IL (815-722-2517) or approved equal for each valve.

Section 15020 – Disinfecting Pipelines

Part 1.02 Work by Owner – The Water Company will operate any existing valves required to complete the flushing and disinfection. A minimum of 24 hours notice must be given the Water Company prior to beginning this process.

The Developer will be responsible for the main being flushed and disinfected. The Contractor/ Developer's Engineer shall take turbidity samples prior to starting the disinfection process.

The Developer's Engineer or representatives of Illinois American (as directed by the Local Water Company Office) will collect bacteriological samples, record chlorine levels and deliver them to the specified laboratory directed by the Water Company by 2pm Monday through Thursday.

Part 3.03 B Slug Method – The Water Company does not allow the use of the slug method unless otherwise authorized by the Water Company Representative.

Part 3.05 A Bacteriological Sampling – Illinois Environmental Protection Agency allows for the main to be accepted on one set of samples, as long at it is the initial test. If a sample fails on the initial test then two (2) consecutive samples taken at least 24 hours apart will be required to be taken and both of these set of samples must pass or the sampling process is repeated.

Section 15030 – Pressure and Leakage Tests

Part 1.01 Scope of Work - The Developer's Engineer must complete the "Hydrostatic Pressure Test" form within the Illinois American Developer Install Packet. The Engineer and a Water Company Representative shall witness the test and sign the form prior to submission.

***ADD** Part 1.03 Work by Owner* – The Water Company will operate any existing valves required to complete the pressure testing. A minimum of 24 hours notice must be given to the Water Company prior to beginning this process.

Part 3.01 C – For system operating pressures of 100 psi or less, perform the hydrostatic test at a pressure of 140 psi without exceeding the rating of the pipe and appurtenances, unless otherwise authorized by the Water Company Representative. For system operating pressures of 101 psi to 200 psi, perform the test at a pressure of no less than 100 psi above the normal operating pressure without exceeding the rating of the pipe and appurtenances.

Section 15106 – Ductile Iron Pipe and Fittings (Contractor Furnished)

Part 2.01 – Pipe material, Subsection "A" General– The pipe shall be coated outside with a 1 mil. bituminous coating in accordance with ANSI/AWWA C151/ A21.51-96. The pipe interior shall be cement mortar lined and seal coated in compliance with the latest revision of ANSI/ AWWA C104/ A21.4-95. The cement mortar lining shall be single thickness unless otherwise noted by the Water Company.

Part 2.01 – Pipe Material, Subsection "C" Pipe Class – The ductile iron pipe sizes 4-inch to 12-inch shall be Pressure Class 350 in accordance with ANSI/AWWA C151/ A21.51-96 or approved equal. The ductile iron pipe sizes 16-inch and greater shall be Pressure Class 250 in accordance with ANSI/AWWA C151/ A21.51-96 or approved equal.

Part 2.01 – Pipe Material, Subsection "E" Joints – The Water Company shall accept Mechanical and Push-On Joints as outlined in item 1 of the specification. The Water Company shall determine the type of joint applicable to each project. Alternate solutions through the use of Flanged Joints shall be acceptable at the discretion of the Water Company.

Part 2.02 – Fittings, Subsection "A" – The Water Company shall accept Compact Ductile Iron Fittings conforming to ANSI/ AWWA C153/ A21.53-94 or approved alternative by the Water Company. The Ductile Iron Fittings shall be manufactured by one of the following approved manufacturers:

1) American Cast Iron Pipe Company

2) McWane Inc.
3) Clow Water Systems Corporation
4) Griffin
5) US Pipe

Part 2.02 – Fittings, Subsection "A", paragraph (2) – Coating and Lining - The cement mortar lining shall be single thickness unless otherwise noted by the Water Company.

Part 2.02 – Fittings, Subsection "B" Joints - The Water Company shall accept Mechanical and Push-On Joints as outlined in item 1 of the specification in accordance ANSI/ AWWA C111/ A21.11 – 95. The Water Company shall determine the type of joint applicable to each project. Alternate solutions through the use of Flanged Joints shall be acceptable at the discretion of the Water Company.

Field Lok gaskets may be permitted on valves and fittings at the discretion of the Water Company. Gaskets must be used only in approved fittings and must be manufactured for use in the fitting to ensure that fitting and pipe tolerances are acceptable. Field Lok gaskets may not be used in vertical restrained joint applications.

Part 3.01 Installation, Subsection "B" Mechanical Joints – Mechanical Joint Bolts shall be High Strength, Low Alloy Steel in accordance ANSI/ AWWA C111/ A21.11 – 95.

Part 3.01 Installation, Subsection "A", paragraph 2. Push-On – The Water Company shall accept the use of US Pipe's Field Lok Gasket, or approved equal in the restraint of Push-on joint pipe. Gasket shall be in accordance to ANSI/ AWWA C111/ A21.11- 95. Gaskets shall be manufactured by and accepted by the pipe manufacture being used for the project.

Part 3.01 Installation, Subsection "C" Restrained Joints (3) – Mechanical Joint Bolts shall be High Strength, Low Alloy Steel in accordance ANSI/ AWWA C111/ A21.11 – 95.

Section 15125 – High Density Polyethylene (HDPE) Pipe (Contractor Furnished)

Part 2.02 Pipe E – The minimum pressure rating will be 160 psi which corresponds to the use of DR 11. The Water Company may request that a minimum pressure rating of 200 psi be specified for a project that corresponds to a DR9.

Part 2.03 Fittings A - Illinois American requires the use of fused mechanical joint fitting for transition to different piping materials unless otherwise noted by the Water Company.

Part 2.04 Acceptable Manufactures - The additional approved manufacturer

ISCO Industries
926 Baxter Avenue
Louisville, Kentucky 40204

Part 3.04 Pipe and Fitting Joining D - Illinois American requires the use of fused mechanical joint fitting for transition to different piping materials unless otherwise noted by the Water Company.

Section 15131 – Piping Specialties (Contractor Furnished)

Part 2.01 Polyethylene Encasement - A – The polyethylene film supplied shall be translucent, black or blue and distinctive markings are not required.

Part 2.01 Polyethylene Encasement - D – Contractor shall supply Water Company with submittal including manufacture and technical specification of polyethylene encasement for approval of material prior to installation.

Part 2.03A Rods - A – Illinois American does not allow the use of rods for use as a restraining device unless otherwise noted by the company.

Part 2.04 Retainer Glands - The retainer glands shall be manufactured by one of the following approved manufacturers, or approved equal:

1) Ford Meters Uni-Flange Series 1400
2) EBAA, Inc Mega Lug

Part 2.05 Test/ Tracer Boxes – The additional approved manufacturer

C.P. Test Services – Valveco Inc.
P.O. Box 336
New Berlinville, PA 19545
Phone: 888-482-5826
Model – TRAB (Tracer Wire Access Box)

Part 2.06 Marking Posts – An additional approved marking post which incorporates a tracer wire testing station shall be:

Rhino TriView Flex Test Station marked for a water main.

Part 3.01 Installation – A. Polyethylene Encasement – All new main shall be encased in polyethylene unless unless otherwise noted by the Water Company.

Section 15150 – Gate Valves

Part 2.01 Small Gate Valves - Gate valves shall be installed for all mains up to and including 8-inch in diameter unless otherwise direct by the Water Company. The gate valve opening direction is specified by the District in Table 2:

Table 2: Gate Valve Opening Direction

DISTRICT		GATE VALVE OPENING DIRECTION
Southern	Alton	Right (clockwise)
	Cairo	Left (counter-clockwise)
	Interurban	Right (clockwise)
Northern	Lincoln	Left (counter-clockwise)
	Pekin	Left (counter-clockwise)
	Peoria	Left (counter-clockwise)
Eastern	Champaign	Left (counter-clockwise)
	Pontiac	Left (counter-clockwise)
	Streator	Left (counter-clockwise)
	Sterling	Left (counter-clockwise)
	Chicago Metro	Left (counter-clockwise)

The Water Company shall accept the use of Mechanical Joint or Push-On Joint Valves. The Water Company shall determine the type of joint and restraint applicable to each project.

The Small Gate Valves shall be manufactured by one of the following approved manufacturers:

1) Clow Valve Company
2) Mueller Company
3) US Pipe and Foundry
4) American Flow Control

Part 2.02 Large Gate Valves – Not applicable unless specified by the Water Company.

Section 15155 – Butterfly Valves

Part 2.01 Valves - Specified butterfly valves shall be epoxy coated in accordance with ANSI/ AWWA C550-90. All paint seal or epoxy coatings will be ANSI/ NSF 61 certified for use on potable water applications.

Butterfly valves shall be installed for all mains 12-inch or greater in diameter unless otherwise directed by the Water Company. The butterfly valve opening direction is specified by the District in Table 3:

Table 3: Butterfly Valve Opening Direction

DISTRICT		BUTTERFLY VALVE OPENING DIRECTION
Southern	Alton	Right (clockwise)
	Cairo	Left (counter-clockwise)
	Interurban	Right (clockwise)
Northern	Lincoln	Left (counter-clockwise)
	Pekin	Left (counter-clockwise)
	Peoria	Left (counter-clockwise)
Eastern	Champaign	Left (counter-clockwise)
	Pontiac	Left (counter-clockwise)
	Streator	Left (counter-clockwise)
	Sterling	Left (counter-clockwise)
	Chicago Metro	Left (counter-clockwise)

The Water Company shall accept the use of Mechanical Joint or Push-On Joint Valves. The Water Company shall determine the type of joint and restraint applicable to each project.

The Butterfly Valves shall be manufactured by one of the following approved manufacturers:

1) Mueller Company (Henry Pratt Company Division)
2) Clow Water Systems Corporation
3) Val-Matic Series 2000 or equal

Section 15171 – Tapping Sleeves, Saddles and Valves

Part 2.02 Tapping Sleeves and Valves - The Cast/ Ductile Iron Tapping Sleeves (short or long pattern) for cast, ductile iron and asbestos/ cement pipe mechanical joint ends shall be manufactured by one of the following approved manufacturers:

1) Mueller Company H615 (CI and DL pipe) or approved equal
2) Mueller Company H619 (A/C pipe) or approved equal

Resilient Seat Tapping Valves shall be manufactured by one of the following approved manufacturers:

1) Mueller Company T2360-16 (CI, DL and A/C pipe) or approved equal. Tapping valve shall have mechanical joint end.

The tapping valve opening direction is specified by the District in Table 4:

Table 4: Tapping Valve Opening Direction

DISTRICT		TAPPING VALVE OPENING DIRECTION
Southern	Alton	Right (clockwise)
	Cairo	Left (counter-clockwise)
	Interurban	Right (clockwise)
Northern	Lincoln	Left (counter-clockwise)
	Pekin	Left (counter-clockwise)
	Peoria	Left (counter-clockwise)
Eastern	Champaign	Left (counter-clockwise)
	Pontiac	Left (counter-clockwise)
	Streator	Left (counter-clockwise)
	Sterling	Left (counter-clockwise)
	Chicago Metro	Left (counter-clockwise)

Fabricated tapping sleeves for cast iron or asbestos/ cement pipe, stainless steel type, will be welded stainless steel tapping sleeve provided with a wrought, or full thickness cast, stainless steel flange, full seal gasket and 304 stainless steel bolts and nuts. Either the bolt or the nut will be coated with a plastic material to serve as a self-lubricant.

The fabricated tapping sleeve shall be manufactured by one of the following approved manufacturers:

1) JCM Industries, Inc. (Fabricated)
2) Ford Company (Fabricated)

Section 15181 – Fire Hydrants

Part 1.01 Scope – The contractor shall furnish the fire hydrant unless otherwise directed by the Water Company.

Part 2.01 Material – Fire hydrants shall be in accordance with the requirements as contained in ANSI/ AWWA C502-94 and shall have an epoxy coated in accordance with ANSI/ AWWA C550-90. The hydrant shall be a 5 ¼ inch barrel traffic model *(Peoria barrel size shall be 4 ½ inch)* with two (2) 2 ½ inch hose connections and one (1) 4 ½ inch pump nozzle, for installation in a 5 foot trench depth unless otherwise indicated by the Water Company.

Fire Hydrant Thread Type

National Standard (NS 2-1/2" Butt, 7-1/2 threads, thread O.D. 3.062")
(F-548 4-1/2" Butt, 4 threads)

Mueller Thread (D306 2-1/2" Butt, 6 threads, thread O.D. 3.082")
(F-548 4-1/2" Butt, 4 threads)

The hydrant thread type for each District are listed in Table 5:

Table 5: Hydrant Threads Type

	DISTRICT	FIRE HYDRANT THREAD TYPE	DIRECTION TO OPEN
Southern	Alton	National Standard	Left (Counter-clockwise)
	Cairo (1) *	Special Thread	Left (Counter-clockwise)
	Interurban	National Standard	Right (Clockwise)
	(Exceptions)		
	East St. Louis	Mueller Thread	Right (Clockwise)
	Alorton	Mueller Thread	Right (Clockwise)
	Brooklyn	Mueller Thread	Right (Clockwise)
	Cahokia - Maplewood	Mueller Thread	Right (Clockwise)
	Fairview – Caseyville	Mueller Thread	Right (Clockwise)
	Sauget	Mueller Thread	Right (Clockwise)
	National City	Mueller Thread	Right (Clockwise)
	Fairmont City	Mueller Thread	Right (Clockwise)
	Washington Pk	Mueller Thread	Right (Clockwise)
	Granite City	Mueller Thread	Right (Clockwise)
	Venice	Mueller Thread	Right (Clockwise)
Northern	Pekin	National Standard	Left (Counter-clockwise)
	Peoria(2)*	National Standard	Right (Clockwise)
	Lincoln	National Standard	Left (Counter-clockwise)
Eastern	Champaign	National Standard	Right (Clockwise)
	Pontiac(3)*	National Standard	Left (Counter-clockwise)
	Streator (4)*	National Standard	Left (Counter-clockwise)
	Sterling (5)*	National Standard	Left (Counter-clockwise)
	Chicago Metro	National Standard	Left (Counter-clockwise)

(1) Cairo- (A-263 2-3/8" Butt, 8 threads, thread O.D. 2.980")
(F-548 4-1/2" Butt, 4 threads, 1-3/8" pentagon operating nut)

(2) Peoria – (C-305 2-1/2" Butt, 7 threads, thread O.D. 3.068")
(Steamer Nozzle shall be 4" Butt, 4 threads, thread O.D. 4.955")

(3) Pontiac - (D-306 2-1/2" Butt. 7-1/2 threads, thread O.D. 3.062")
(4-1/2" (Large) Butt, 4 threads, 1-1/4" pentagon operating nut)

(4) Streator – (Steamer Nozzle shall be National Standard "Fine" Thread)

(5) Sterling – (Pumper nozzle shall be 4" and a 1-1/8" pentagon operating nut)

The fire hydrant shall be manufactured by one of the following approved manufacturers:

1) Mueller Company (Super Centurion)
2) Clow (Medallion)

At the discretion of the Water Company the hydrant maybe required to include Hydra Shield Security Caps for each nozzle.

The hydrants shall be provided in the specified color as indicated by the Water Company.

APPENDIX C

Developer Installed Water Main

"American Water Works Service Company Incorporated Standard Pipeline Specifications"

Dated 2008

ILLINOIS-AMERICAN WATER COMPANY

AMERICAN WATER WORKS SERVICE COMPANY INCORPORATED – STANDARD PIPELINE SPECIFICATIONS DATED 2008 FOR DEVELOPER INSTALLED WATER MAIN PACKET

The Specifications have been subdivided into Divisions and Sections in accordance with the UNIFORM CONSTRUCTION INDEX of the Construction Specifications Institute. Only those Sections pertaining to the work to be performer for the Developer Installed Water Main Packet are included and are listed below:

DIVISION 2 - SITE WORK

DIVISION 15 - MECHANICAL

SECTION 02020

DEWATERING

PART 1: GENERAL

1.01 GENERAL

A. Should water be encountered, furnish and operate pumping equipment of sufficient capacity to dewater the trench. Dewater the trench so that the laying and joining of the pipe is made in a dry environment so as to prevent water from entering the pipe during construction.

B. No additional sum will be allowed for any reasonably anticipated dewatering operation, overtime, equipment rental or any other expense incurred due to the occurrence of ground water, surface water or water from possible leakage of existing buildings, structures and piping in the vicinity of the Contractor's operations. If Contractor believes unreasonable, unanticipated wet conditions exist, immediately contact Engineer to decide appropriate measures and to determine whether Contractor is entitled to additional compensation.

C. Convey all trench water to a natural drainage channel or storm sewer without causing any property damage. Discharge shall be in strict accordance with state and/or local requirements.

D. Dispose of silt and debris which accumulates during construction in strict accordance with state and/or local requirements.

1.02 PERMITS

The Contractor shall obtain and pay for any permits required for dewatering and disposal.

PART 2: PRODUCTS

Not Used

PART 3: EXECUTION

Not Used

END OF SECTION

SECTION 02025

EXISTING UTILITIES AND STRUCTURES

PART 1: GENERAL

1.01 SCOPE OF WORK

Certain information regarding the reputed presence, size, character, and location of existing Underground Facilities such as pipes, drains, sewers, electrical lines, telephone lines, cable TV lines, gas lines, and water lines has been shown on the Contract Drawings and/or provided in the contract documents. This information with respect to Underground Facilities is provided by the Owner in accordance with conditions described in the General Conditions and for information purposes only. Contractor is responsible to determine actual location of all utilities in proximity to the work for the purposes of the preparation of their bid and during construction.

1.02 NOTIFICATION OF UTILITIES

Notify the applicable State Agency with jurisdiction over underground facilities and/or all utility companies that construction work under this Contract will pass through containing their underground facilities. Notify these parties in advance to support the construction work (**minimum 72 hours**). All excavation in the vicinity of existing underground utilities shall be performed in accordance with applicable regulations.

PART 2: PRODUCTS

2.01 MATERIALS

Furnish all materials for temporary support, adequate protection, and maintenance of all underground and surface utility structures, supports, drains, sewer and other obstructions encountered in the progress of the work.

PART 3: EXECUTION

3.01 OBSTRUCTIONS BY OTHER UTILITY STRUCTURES

Support, relocate, remove, or reconstruct existing utility structures such as conduits, ducts, pipes, branch connections to main sewers, or drains. The obstruction shall be permanently supported, relocated, removed or reconstructed where they obstruct the grade or alignment of the pipe. Contractor must do so in cooperation with the owners of such utility structures. Before proceeding, the Contractor must reach an agreement with the Engineer on the method to work around the obstruction.

No deviation shall be made from the required line or depth without the consent of the Engineer.

3.02 REPAIRS

A. Repair or replace any damage to existing structures, work, materials, or equipment incurred by Contractor's operations.

B. Repair all damage to streets, roads, curbs sidewalks, highways, shoulders, ditches, embankments, culverts, bridges, trees, shrubs or other public or private property caused by transporting equipment, materials or personnel to or from the work site. Make satisfactory and acceptable arrangements with the persons or agencies having jurisdiction over the damaged property concerning repair or replacement

C. Brace and support existing pipes or conduits crossing the trench, or otherwise exposed to prevent trench settlement from disrupting the line or grade of the pipe or conduit. Before proceeding, the Contractor must reach an agreement with the Engineer on the method of bracing and support. Repair or replace all utility services broken or damaged at once to avoid inconvenience to customers. Storm sewers shall not be interrupted overnight. Use temporary arrangements, as approved by the Engineer, until any damaged items can be permanently repaired. Maintain all items damaged or destroyed by construction and subsequently repaired.

D. Standard Detail 0201-0601-SD44 (attached) provides requirements for repair or replacement of sanitary or storm drains removed or damaged during installation of the water main.

3.03 RELOCATION

Relocate existing utilities or structures, where necessary, and restore it to a condition equal to that of the original facility. Obtain approval of the owner of the utility or structure prior to relocating and/or restoring the facility.

3.04 SEPARATION OF WATER MAINS AND SANITARY SEWERS

A. General

Consider the following factors when determining adequate separation:

(1) Materials and type of joints and restraints for water and sanitary sewer pipes,

(2) Soil conditions & backfill materials,

(3) Service and branch connections into the water main and sanitary sewer line,

(4) Compensating variations in horizontal and vertical separations,

(5) Space for repair and alterations of water and sanitary sewer pipes,

(6) Off-setting of pipes around manholes.

B. Parallel Installation

Lay water mains at least 10 feet horizontally from any existing or proposed sanitary sewer. Measure the distance from edge to edge. In cases where it is not practical to maintain a 10-foot separation, the applicable State Agency may allow deviation on a case-by-case basis, if supported by data from the Engineer. Such deviation may allow installation of the water main closer to a sanitary sewer, provided that the water main is laid in a separate trench or on an undisturbed earth shelf located on one side of the sanitary sewer at such an elevation that the bottom of the water main is at least 18 inches above the top of the sanitary sewer.

C. Crossings

Whenever water mains must cross sanitary sewer laterals or sanitary sewers, lay the water main at such an elevation that the bottom of the water main is 18 inches above the top of the sanitary sewer pipe. Maintain this vertical separation for the portion of the water main located within 10 feet horizontally of any sanitary sewer it crosses. The 10 feet is measured as a perpendicular distance from sanitary sewer line to the water line.

D. Exception

Notify the Engineer when it is impossible to obtain the proper horizontal and vertical separation as stipulated above. If directed by the Engineer, both the water main and sanitary sewer line shall be constructed of, mechanical joint ductile iron or welded joint protected steel pipe. Other types of restrained joints of equal or greater integrity may be used at the discretion of the Engineer after consultation with the applicable State Agency. Thermoplastic sanitary sewer pipe may be used provided mechanical or solvent weld pipe joints are used and accepted by the Engineer. Pressure test these joints before backfilling to assure that they are water tight. Where water mains must cross under a sanitary sewer, additional protection shall be provided by:

(1) A vertical separation of at least 18 inches between the bottom of the sanitary sewer and the top of the water line,

(2) Adequate structural support for the sanitary sewer to prevent excessive deflection of the joints and the settling on and breaking of the water line,

(3) Centering the section of water pipe at the point of the crossing so that the joints shall be equidistant and as far as possible from the sanitary sewer line.

Consult the applicable State Agency, through the Engineer, to discuss the use of double casing or concrete encasement of sanitary sewer and/or water lines as possible alternatives when the above conditions cannot be met.

3.05 SEPARATION OF WATER MAINS AND STORM SEWERS

Where water mains and storm sewers would run parallel, lay water mains at least 10 feet horizontally from the existing or proposed storm sewer (measured from edge to edge). Where storm sewers and water mains would cross, place water mains at least 12 inches from the storm sewer (measured from edge to edge). In cases were it is not practical to maintain the specified separation, the Engineer may allow deviation on a case by case basis or as clearly called out in the plans. If the Engineer deems that such deviation will be allowed, install the water main as directed by the Engineer in such a way that does not compromise more stringent and desired separation from sanitary sewers per subsection 3.04.

END OF SECTION

SECTION 02105

CLEARING AND GRUBBING

PART 1: GENERAL

1.01 PROTECTION

Protect existing trees, shrubs and bushes located outside the clearing limits from damage for the life of this Contract.

1.02 REQUIREMENTS OF REGULATORY AGENCIES

Comply with State and local code requirements when disposing of trees, shrubs and all other materials removed under this Specification Section.

1.03 DISPOSAL FEES

Bear all expenses to obtain a suitable disposal area, haul to the disposal area, pay disposal fees, and dump at the disposal area.

PART 2: PRODUCTS

2.01 MATERIALS AND EQUIPMENT

Provide all materials and equipment required to complete all clearing and grubbing in accordance with this Specification Section.

PART 3: EXECUTION

3.01 CLEARING AND GRUBBING

Clear and grub the minimum area required to provide space for construction operations.

A. Clear and grub the work site within easement and/or clearing limit lines shown on the Drawings or as shown elsewhere in the Contract Documents. Remove those items that are designated for removal or obstruct construction. This includes, but is not limited to; trees, downed timber, shrubs, bushes, vines, roots, stumps, undergrowth, rubbish, paving materials, debris, and all other objectionable materials. Site objects outside clearing limits shall not be removed. Only those portions of the construction area which are absolutely necessary and essential for construction shall be cleared. Minimize the length of time of ground disturbance as much as practical, especially within environmentally sensitive areas. Ground shall not be cleared and grubbed until immediately prior to construction.

B. Notify the Engineer of locations where additional trees and shrubs will interfere with installation of facilities. Do not remove additional trees or shrubs without written permission of Engineer. Conduct operations to

minimize disturbance of trees and shrubs. Trim trees and roots in accordance with the best horticultural practices, including sealing cuts to preserve the tree.

3.02 CLEARING (IMPROVED AREA)

A. Remove site improvement objects such as signs, lawn ornaments, etc. which interfere with construction. Removed site improvement objects shall be stored in a manner protecting objects for reinstallation after construction is complete. Relocate the mailbox as necessary. Provide temporary traffic control signs when permanent signs are removed for construction. Temporary signs shall be worded to match permanent signs, except as necessary to be compatible with construction operations.

B. Remove pavement, curb and sidewalk in accordance with applicable State Standards for Road and Bridge Construction and as specified in these Contract Documents. Saw cuts may be eliminated where paving abuts curb or roadway expansion joints or construction joints, and pavement can be removed without damaging or disturbing curbs or remaining pavement,. Remove sidewalks in full squares only. Saw cut sidewalks if no true joint exists.

3.03 DISPOSAL

A. Burning of logs, stumps, roots, cuttings and other material on the site will not be permitted.

B. All materials obtained as a result of the clearing and grubbing operations shall be disposed of in accordance with the requirements of the applicable governing agencies.

C. Chipping of brush materials will be permitted. However, Contractor shall bear all costs to dispose of the resultant chips at an approved location.

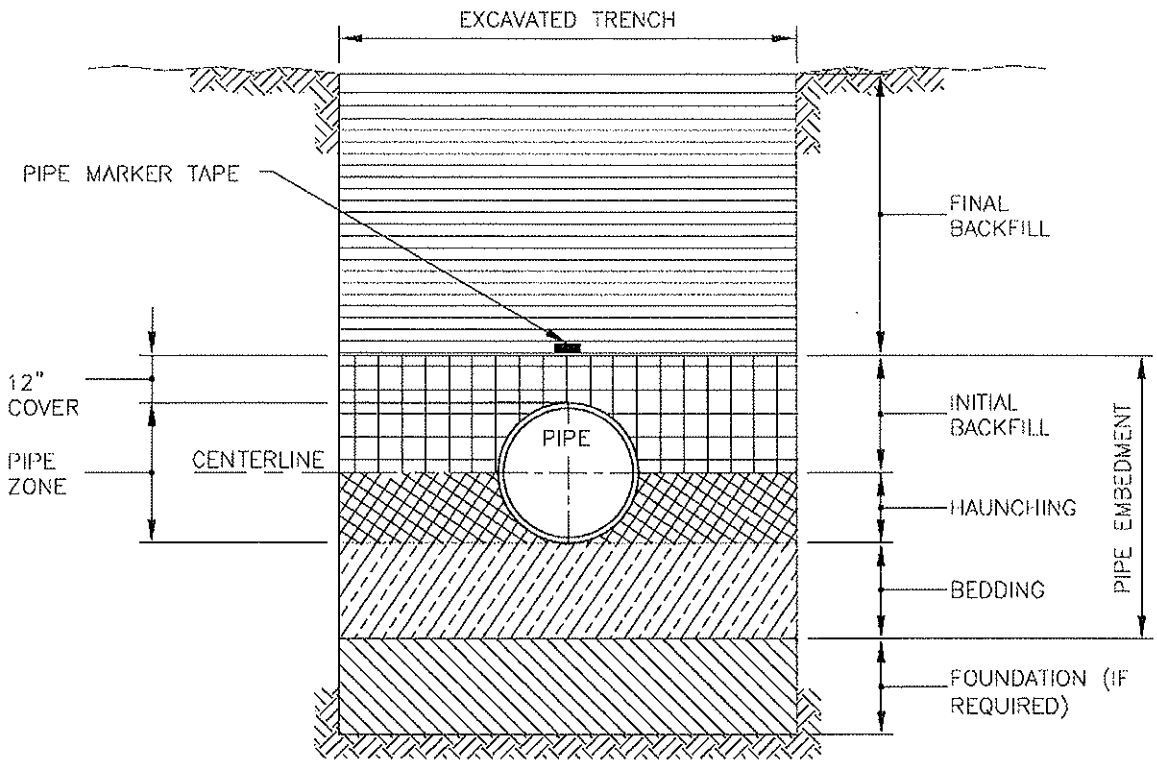
END OF SECTION

SECTION 02210

TRENCHING, BACKFILLING AND COMPACTING

PART 1: GENERAL

1.01 DEFINITIONS



TRENCH TERMINOLOGY

FOUNDATION: A FOUNDATION IS NECESSARY ONLY WHEN NATIVE SOILS ARE UNSTABLE. FOR SUCH CONDITIONS, THE TRENCH IS OVER-EXCAVATED AND A LAYER OF SUPPORTIVE MATERIAL IS PLACED AND COMPACTED TO PROVIDE A FIRM FOUNDATION FOR THE SUBSEQUENT PIPE EMBEDMENT MATERIALS.

EMBEDMENT: THIS ZONE IS THE MOST IMPORTANT IN TERMS OF PIPE PERFORMANCE. IT IS DIVIDED INTO THE FOLLOWING SUB ZONES:

- BEDDING: TYPICALLY SIX INCHES OF SUPPORTIVE, COMPACTED MATERIAL. THIS ZONE PROVIDES EVEN SUPPORT FOR THE PIPE AND BRINGS IT TO GRADE.
- HAUNCHING: EXTENDS FROM THE BOTTOM OF THE PIPE TO THE CENTERLINE OF THE PIPE. IT PROVIDES THE MOST RESISTANCE TO PIPE DEFLECTION. SPECIFYING PROPER MATERIALS AND COMPACTION ARE MOST IMPORTANT FOR THIS ZONE.
- INITIAL BACKFILL: EXTENDS FROM THE SPRINGLINE TO A POINT ABOVE THE TOP OF THE PIPE. THIS ZONE PROVIDES SOME PIPE SUPPORT AND HELPS TO PREVENT DAMAGE TO THE PIPE DURING PLACEMENT OF THE FINAL BACKFILL. THE COVER EXTENDS FROM THE TOP OF THE PIPE TO THE TOP OF THE INITIAL BACKFILL. THE DEPTH OF COVER SHOULD BE AS MUCH AS NECESSARY TO PROTECT THE PIPE DURING PLACEMENT OF THE FINAL BACKFILL. TWELVE INCHES IS A COMMON DEPTH OF COVER.

FINAL BACKFILL: THIS ZONE EXTENDS FROM THE TOP OF THE INITIAL BACKFILL TO THE TOP OF THE TRENCH. THIS ZONE HAS LITTLE INFLUENCE ON PIPE PERFORMANCE, BUT CAN BE IMPORTANT TO THE INTEGRITY OF ROADS AND STRUCTURES.

1.02 SUBMITTALS

A. All backfill materials (to be used for backfill, haunching, and bedding depending on local requirements), including common fill and selected fill [¾" clean granular fill, ¾" modified stone, ¾" minus granular fill, sand shall be approved by the Engineer prior to placing the materials in the pipe trench. Test all backfill materials, whether obtained from the trench excavation or from an off-site source, as directed by the Engineer.

B. All backfill materials must be approved by the Engineer before they are placed in the pipe trench. Submit samples of the materials to an approved testing agency for analysis as required by the Engineer. Submit the testing agency's test results and report to the Engineer. The report must state that the materials meet the requirements of these Specifications and the Specifications of Federal, State and local authorities (where applicable). Provide flowable fill in areas where it is required by the local street regulator, where the trench is subject to mine drainage and other areas specified in the drawings.

1.03 PROFILES AND TOPOGRAPHY

A. Contours, topography and profiles of the ground shown on the Drawings are believed to be reasonable approximations and are not guaranteed.

B. The Contractor accepts the construction site with the conditions that existed at the time of bidding.

PART 2: PRODUCTS

2.01 COMMON FILL

A. Common Fill shall be earth materials entirely free of: vegetation; trash; lumber; and frozen, soft or organic materials. No stones or rocks larger than the sizes listed below will be permitted in the Common Fill:

Common Fill-Type A: No stones or rocks larger than 1-inch
Common Fill-Type B: No stones or rocks larger than 4-inches (measured longest dimension). At the discretion of the Engineer and depending upon the quality of the material, stones and rocks up to a maximum of 6 inches may be allowed on the area one foot above the pipe.

B. Common fill material may be obtained from the trench excavation provided it has been tested in accordance with the requirements of Specification Section 2210.1.01 above and approved by the Engineer. Furnish the necessary approved common fill materials from an off-site source whenever approved material obtained from the trench excavation is insufficient to complete the backfill.

C. The use of common fill is permitted in some circumstances as initial backfill for HDPE pipe; however the size of stone and rock for backfill is limited in accordance with the pipe diameter. The maximum stone or rock size is

limited to 1/2" for pipes up to 4" diameter, 3/4" for pipes 6" to 8" diameter, 1" for pipes 10" to 16" diameter and 1-1/2" for larger pipes.

2.02 HAUNCHING FILL

A. Materials used for haunching around the pipe shall be coarse to fine, sandy natural soil material with maximum stone size of 1-inch or local approved selected backfill materials as noted on detail drawings and defined below in Specification Section 2210.2.03. The material shall conform to ASTM D 2487 "Standard Method for Classification of Soils for Engineering Purposes" using the "Unified Soil Classification System", except where a higher standard is required elsewhere in the Contract Documents or by rules or regulations of Federal, State or local governmental bodies having jurisdiction over the site of the Work.

B. The haunching material shall meet the Class II soil type designation. Class II soil types include GW, GP, SW and SP that are described as non-cohesive, well graded and containing some fines. Voids, finer grained soils or movement can allow undesirable migration of haunching material or migration of the trench sidewall material into the haunching material. In such instances place filter fabric, as directed by the Engineer, in the trench bottom and sides before placing the haunching material.

C. Haunching material may be obtained from the trench excavation provided it has been approved by the Engineer who may, at his discretion, require testing in accordance with the requirements of Specification Section 2210.1.01 above. Furnish the necessary approved haunching materials from an off-site source whenever approved material obtained from the trench excavation is insufficient to complete the haunching.

2.03 BEDDING FILL Bedding fill materials vary from state to state, see special conditions and detail drawings for the appropriate materials for local use.

A. ¾ inch clean granular fill material shall meet the sieve analysis requirements of AASHTO as follows 1" sieve passing 100%, ½" sieve passing 0-5% and sieve size No 4 passing 0-1%. This material may be wrapped in filter fabric (trench bottom, side, and over top of clean granular fill), as directed by the Engineer, to prevent the migration of finer grained soils into this material or the migration of this material into the trench bottom or sidewall.

B. ¾ inch Minus or Modified granular fill material contains additional fine material and may be used as noted in specific pipe specifications. Material shall meet the sieve analysis requirements of AASHTO as follows 1" sieve passing 100%, ¾" sieve passing 80-90%, No 4 sieve passing 25-50%, No 10 sieve passing 0-20% No 200 passing sieve 0-5%.

2.04 FILTER FABRIC Filter fabric shall be non-woven, synthetic fiber material with sieve design to prevent the select material in the pipe bedding and haunching from migrating into the surrounding soils. The material shall have a minimum: thickness of 15 mils, tensile strength of 130 lbs., elongation at break of 64%, and trapezoidal tear strength of 70 lbs.

2.05 FLOWABLE FILL

A. Flowable fill is suitable for use as backfilling for utility trenches. The basic requirements for furnishing, mixing, and transporting flowable fill are as follows. Materials shall conform to the following standards: Cement ASTM C 150, Fly Ash ASTM C 618, Class C or Class F. Fine Aggregate shall be natural or manufactured sand, or a combination thereof, free from injurious amounts of salt, alkali, vegetable matter or other objectionable material. It is intended that the fine aggregate be fine enough to stay in suspension in the mortar to the extent required for proper flow. The fine aggregate shall conform to the following gradation:

Sieve Size	**% Passing**
3/4 inch	100
No. 200	0-10

If a flowable mixture cannot be produced, the sand may be rejected.

B. The following are given as typical mix designs for trial mixes. Adjustments of the proportions may be made to achieve proper solid suspension and optimum flowability. Admixtures may be used if desired to improve the characteristics of the mix. The suggested quantities of dry material per cubic yard are as follows:

- **Option 1**
  Cement 50 lbs, Fly Ash 250 lbs. Fine Aggregate 2910 lbs., Water approximately 60 gallons
- **Option 2**
  Cement 100 lbs. Fly Ash 250 lbs, Fine Aggregate 2800 lbs., Water approximately 60 gallons
- **Option 3**
  Cement 100 lbs., Fly Ash 300 lbs., Fine aggregate 2600 lbs., Water approximately 70 gallons

C. Consistency may be tested by filling an open-minded three inch diameter cylinder six inches high to the top with flowable fill. The cylinder shall be immediately pulled straight up and the correct consistency of the flowable fill shall produce a minimum eight inch diameter circular-type spread with no segregation.

Materials are to be measured by weight and/or volumetric methods. The flowable fill may be mixed in a central concrete mixer, a ready mix truck, or by other acceptable methods. The flowable fill shall be transported to the point of placement in a revolving drum mixer or in an agitator unit.

D. Ductile Iron Pipe in Soil Soil shall be coarse to fine, sandy natural soil material with maximum stone size of 1-inch and shall meet ASTM D 2487 "Standard Method for Classification of Soils for Engineering Purposes". Scarify 2" deep before placing pipe.

PART 3: EXECUTION

3.01 CONSTRUCTION EQUIPMENT

All backfilling and materials handling equipment shall have rubber tires when mains are located in or adjacent to pavements. Crawler equipment shall be permitted when there is no danger of damaging pavement. It is the Contractor's responsibility, to repair, at their expense, any damages due to the use of any equipment to complete the work.

3.02 NOISE, DUST AND ODOR CONTROL

Conduct all construction activities so as to eliminate all unnecessary noise, dust and odors.

3.03 PROTECTION OF TREES

Take special care to avoid damage to trees and their root system. Open trenching shall not be used for established trees in areas marked on the plans and designated 'Root Protection Zone'. In these areas, methods to be used include tunneling or boring. In other areas where established trees are to remain with roots in the path of the trench line, the Engineer shall direct acceptable means to install pipe through tree roots. In these areas, methods to be used careful cutting (not ripping or tearing) of larger tree roots. In all cases, operate equipment within the limb spread in a manner which will not injure trees, trunks, branches or their roots. Pay particular attention when employing booms, storing materials, and handling excavated materials.

3.04 TRENCH SUPPORT

Support open cut excavation for mains where trenching may cause danger to life, unnecessary damage to street pavement, trees, structures, poles, utilities, or other private or public property. Support the sides of the excavation by adequate and suitable sheeting, shoring, bracing or other approved means in accordance with all applicable Federal, State, County, Municipal and OSHA rules and regulations during the progress of the work, whenever and wherever it is necessary. Maintain the trench support materials and equipment in place until backfilling operations have progressed to the point where the supports may be withdrawn without endangering life or property per Article 6 on safety issues.

3.05 TRENCH EXCAVATION AND BOTTOM PREPARATION

A. General Excavation

General excavation shall consist of the satisfactory removal and disposal of all material taken from within the limits of the Work contracted, meaning the material lying between the original ground line and the finished ground line as shown on the Drawings regardless of whether the original ground line is exposed to air or is covered by water. Excavation below existing ground line to enable any required construction or removals is included. It is distinctly understood that any reference to earth, rock, silt, debris or other materials on the Drawings or in the Specifications is solely for the Owner's information and shall not be taken as an indication of classified excavation or the quantity of earth, rock, silt, debris or other material encountered.

Excavation to the lines and grades indicated on the Drawings or established in the field by the Engineer. Backfill over-excavated areas with approved fill material. All labor and materials shall be furnished at the Contractor's expense.

Keep all excavations free from water. Maintain groundwater a minimum of 6 inches below excavations. Remove soil which is disturbed by pressure or flow of groundwater and replace with free draining material.

Remove pavement over excavations made in paved roadways by saw cutting, milling, or removal by a trench machine. Cut the full depth of the pavement with straight lines and squared edges.

Dispose of excess excavated materials and excavated materials unsuitable for backfilling off site. Furnish the Engineer with satisfactory evidence that an appropriate disposal site was used.

B. Rock Excavation

If the Contract includes a unit price for rock excavation, it includes the removal, hauling, stockpiling and/or proper disposal the rock per the section 01700 Basis of Payment. Rock is defined as

- boulders or loose rock having a volume of one cubic yard or more;
- material which cannot be loosened or broken down by ripping with a hydraulic ripper or other Engineer approved devices and equipment designed to remove rock; or
- material that requires systematic blasting, backhoe ramming, barring, or wedging for removal.

Notify the Engineer promptly upon encountering rock. The Engineer's determination as to whether the material meets the definition of rock and Engineer's measurement of the volume of rock removal for which the Contractor is entitled to payment will be final and conclusive. No payment will be made for rock removed without Engineer's approval.

Strip rock for measurements as directed by the Engineer. No payment will be made for rock excavated or loosened before measurement. Only rock actually removed will be paid for, and in no case will payment be made for rock removal beyond the payment limits shown for a standard trench or more than 12" beyond the edge of a pipeline or 6" below its bottom for pipes of nominal OD 24 inches and less, unless such rock has been removed at the direction of Engineer.

C. Blasting Rock

Blasting is not allowed unless expressly permitted by the Engineer. Notify the Engineer in advance of blasting activity. Provide evidence to the Engineer that the proposed blasting will comply fully with Laws or Regulations.

Do not blast where limited or prohibited by any Federal, State or local laws or regulations, or in violation of any limitation or restriction contained in any right-of-way, or wherever specifically prohibited in any Drawing or other Contract Document. Do not blast within forty (40) feet of any pipe or structure without specific permission from the Owner. Properly cover blasts and protect the pipe or structure. Warn all persons in the vicinity. Blasting shall be at the risk of the Contractor who shall be liable for all damages

to persons or property. Secure and pay for all necessary permits. Perform whatever pre-blast surveys and investigations that may be required by the circumstances and/or by Federal, State or local laws.

Prepare a blasting plan and submit it to the Engineer for approval prior to commencing any blasting work. The plan shall state all procedures and methods which will be used to monitor and mitigate the effect or impact of the proposed blasting work.

Employ an experienced blaster holding a blasting license issued by the applicable State to carry out the blasting work. Use, handle, and store explosives as prescribed by the applicable state and federal regulations. Keep all explosives in a safe place at a sufficient distance from the Work so that, in case of accident, no damage will occur to any part of the Work. Contractor shall be held responsible for and shall pay for all damage caused by blasting operations or accidental explosion.

D. Trench Width

Widths of trenches shall be held to a minimum to accommodate the pipe and appurtenances. The trench width shall be measured at the top of the pipe barrel and shall conform to the following limits:

Earth

Minimum: Outside diameter of the pipe barrel plus 8 inches, i.e., 4 inches each side.
Maximum: Nominal pipe diameter plus 24 inches.

Rock

Minimum: Outside diameter of the pipe barrel plus 24 inches, i.e., 12 inches each side.
Maximum: Normal pipe diameter plus 30 inches. (Contractor will only be compensated for the minimum described above.

E. Excessive Trench Width

Provide additional backfill, haunching, and bedding material, as specified in Specification Sections 2210.2.01, 2210.2.02, and 2210.2.03 as approved by the engineer to fill any trench excavation that exceeds the maximum trench width defined in Specification Section 2110.3.05.D. Dispose of excess excavated materials off site at no cost to the Owner. Furnish the Engineer with satisfactory evidence that an appropriate disposal site was used.

F. Trench Depth

(1) General Provide prescribed minimum cover from the top of the pipe barrel to the top of the finished grade of the roadway, unless otherwise authorized by the Engineer, or as shown on the plans.

(2) Earth Excavate to the depth required, so as to provide a uniform and continuous bearing and support for the pipe barrel on solid and undisturbed ground at every point between joints. It will be permissible to disturb the finished trench bottom over a maximum length of 18 inches

near the middle of each length of pipe by the withdrawal of pipe slings or other lifting tackle. Provide bell holes. Prepare the finished trench bottom accurately using hand tools.

(3) Rock Excavate trenches in rock or boulders 6-inches below the pipe barrel for pipe 24-inches or less in diameter. Remove all loose material from the trench bottom. Prepare a pipe bed using bedding material as specified in Specification Section 2210.2.03.

(4) Unsuitable Bottom Notify the Engineer whenever unsuitable material is found below subgrade. Remove the material over the area and to the depth determined by the Engineer. Provide compacted bedding material as specified in Specification Sections 2210.2.03 to restore the trench bottom to the required grade in these areas.

G. Open Trench Length

The length or size of excavation shall be controlled by the particular surrounding conditions, but shall always be confined to the limits prescribed by Engineer. If the excavation becomes a hazard, or if it excessively restricts traffic at any point, Engineer may require special construction procedures such as limiting the length of the open trench or prohibiting stacking excavated material in the street. Take precautions to prevent injury to the public due to open trenches. All trenches, excavated material, equipment, or other obstacles which could be dangerous to the public, shall be well lighted.

3.06 TRENCH BACKFILLING - OPEN TERRAIN

All trench backfilling shall be compacted so that no settlement occurs and is stable with surrounding soil that also shall not have settled.

A. Ductile Iron Pipe and HDPE Pipe

(1) Bedding

a. In Suitable Soil See Section 2.03(c) for definition of soil and means of bedding.

b. In Rock or Unsuitable Soil When encountering rock or unsuitable material, prepare pipe bedding immediately before pipe is laid. In this instance, compact clean granular fill as described in Specification Section 2210.2.03 from 6" below the pipe to the bottom of the pipe.

(2) Haunching

Place haunching from the bottom of the pipe barrel to the centerline (springline) of the pipe barrel with Haunching Fill (Section 2.02) or clean, granular fill as described in Specification Sections 2210.2.02 and 2210.2.03. See Drawings for required haunching material. Take care to avoid injuring or moving the pipe. Place the material in uniform 6 to 12 inch loose layers and compact each layer so as to eliminate the possibility of settlement, pipe misalignment, or damage of joints.

(3) Initial Trench Backfill

Backfill from the centerline (springline) of the pipe barrel to 12 inches above the pipe with Common Fill-Type A or clean, granular fill as described in Specification Sections 2210.2.01 and 2210.2.03. See Drawings for required initial trench backfill material. Mechanical equipment may be used to place the backfill. Place the material in such a manner that the material does not free fall, but rather flows onto the previously placed material. Consolidate the backfill in such a manner as will ensure the minimum possible settlement and the least interference with traffic. Do not compact the backfill with mechanical equipment, such as wheeled vehicles, unless sufficient cover is provided over the pipe to prevent damage to the pipe.

(4) Final Trench Backfill

Backfill trench from 12 inches above the pipe to final grade with Common Fill-Type B, as described in Specification Section 2210.2.01. Mechanical equipment may be used to place the backfill. Place the material in such a manner that the material does not free fall, but rather flows onto the previously placed material. Consolidate the backfill in such a manner as will ensure the minimum possible settlement and the least interference with traffic. Do not compact the backfill with mechanical equipment, such as wheeled vehicles, unless sufficient cover is provided over the pipe to prevent damage to the pipe.

(5) Surface Conditions

Attend to the trench surface regularly during the course of the Contract. Take prompt corrective measures to correct any settlement or wash-out. Maintain the trench surface in a safe condition that does not interfere with natural drainage.

(6) Deficiency of Backfill

Any material required for backfilling the trenches or for filling depressions caused by settlement or wash-out shall be supplied and placed by the Contractor at his expense.

B. PVC

(1) Bedding

Prepare pipe bedding immediately before pipe is laid. Use compacted clean, granular fill as described in Specification Section 2210.2.03 from 6" below the pipe to the bottom of the pipe.

(2) Haunching and Initial Backfill

Place haunching and initial backfill from the bottom of the pipe barrel to 12 inches above the top of the pipe barrel with clean, granular fill as described in Specification Section 2210.2.03. When material with high void ratios (e.g. ¾ inch clean granular fill) are used for embedment, it is possible for fines in the trench walls to migrate into the voids. This can cause some loss of support. An alternative method is to install filter fabric in the boundary between the trench

and the fill to prevent migration. Place the clean granular material in uniform 6 to 12 inch loose layers and compact each layer so as to eliminate the possibility of settlement, pipe misalignment, or damage of joints. Another alternative is to use materials containing fines, (e.g. ¾ inch minus or modified).

(3) Remaining Trench Backfill

Backfill from 12 inches above the pipe to finished grade with Common Fill-Type B, as described in Specification Section 2210.2.01. Mechanical equipment may be used to place the backfill. Place the material in such a manner that the material does not free fall, but rather flows onto the previously placed material. Consolidate the backfill in such a manner as will ensure the minimum possible settlement and the least interference with traffic. Do not compact the backfill with mechanical equipment, such as wheeled vehicles, unless sufficient cover is provided over the pipe to prevent damage to the pipe.

(4) Surface Conditions

Attend to the trench surface regularly during the course of the Contract. Take prompt corrective measures to correct any settlement or wash-out. Maintain the trench surface in a safe condition that does not interfere with natural drainage.

(5) Deficiency of Backfill

Any material required for backfilling the trenches or for filling depressions caused by settlement or wash-out shall be supplied and placed by the Contractor at his expense.

3.07 TRENCH BACKFILLING – Under or Within 18 inches of Driveways and Roads

A. Bedding

Install bedding for selected pipe material in accordance with Section 3.06.

B. Haunching and Backfill

Haunch around the pipe and fill the remainder of the excavation using clean, granular fill, as described in Specification Section 2210.2.03. Place the material in uniform 6 to 12 inch loose layers and compact each layer so as to eliminate the possibility of settlement, pipe misalignment, or damage of joints. Take care to avoid injuring or moving the pipe.

C. Surface Conditions

Attend to the trench surface regularly during the course of the Contract. Take prompt corrective measures to correct any settlement or wash-out. Maintain the trench surface in a safe condition that does not interfere with natural drainage.

D. Deficiency of Backfill

Any material required for backfilling the trenches or for filling depressions caused by settlement or wash-out shall be supplied and placed by the Contractor at his expense.

3.08 SPECIAL BACKFILLING (Under Roads – option to the Contractor)

A. Bedding

Install bedding for selected pipe material in accordance with Section 3.06.

B. Haunching and Initial Backfill

Place haunching and initial backfill from the bottom of the pipe barrel to 12 inches above the top of the pipe barrel with clean, granular fill as described in Specification Section 2210.2.03. When material with high void ratios (e.g. ¾ inch clean granular fill) are used for embedment, it is possible for fines in the trench walls to migrate into the voids. This can cause some loss of support. An alternative method is to install filter fabric in the boundary between the trench and the fill to prevent migration. Place the clean granular material in uniform 6 to 12 inch loose layers and compact each layer so as to eliminate the possibility of settlement, pipe misalignment, or damage of joints. Another alternative is to use materials containing fines, (e.g. ¾ inch minus or modified).

C. Remaining Trench Backfill

Backfill from the top of the pipe to subgrade, all cuts, excavations, or other damage done to the public right-of-way with flowable fill as described below. Use flowable fill when required as a condition of the right-of-way excavation permit.

(1) Flowable fill shall have the following characteristics:

a. Unconfined Compressive Strength (28 day) 50-150 psi.

b. Flow Test - diameter of spread $\leq$ 8 inches.

(2) Design: Submit the mix design to the Engineer for approval. A trial batch demonstration may be required. The mix design shall include a list of all ingredients, the source of all materials, the gradation of all aggregates, the names of all admixtures and dosage rates, and the batch rates. Document and justify minor mix design changes, after the trial batch verification, prior to implementation. This does not include adjustments to compensate for routine moisture fluctuations. Resubmit the mix design for approval of changes in the source of materials, the addition or deletion of admixtures, or changes in cementitious materials. The Contractor may be required to provide test data from a laboratory, inspected by the Cement and Concrete Reference Laboratory and approved by the Municipality, which shows the proposed mix design is in accordance with the requirements listed above.

(3) Flow Test: Place a three (3) inch diameter by six (6) inch high open ended cylinder on a smooth, nonporous, level surface and fill it to the top with the flowable fill. Pull the cylinder straight up within 5 seconds of filling. Measure the spread of the fill. The minimum diameter of the spread shall be eight (8) inches.

(4) Placement: Discharge the mixture from the mixing equipment into the space to be filled by a reasonable means. The flowable fill shall be brought up uniformly to the fill line. Each filling stage shall be as continuous as practicable. Do not place concrete on the flowable fill until all bleeding water has disappeared and the resistance, as measured by ASTM C403, is at least 60 psi, or as directed by Engineer. Do not place asphalt until at least 24 hours after the fill is completely in place.

(5) Limitations: Do not place flowable fill on frozen ground. Protect flowable fill from freezing until the material has stiffened and bleeding water has disappeared. As the temperature nears freezing, additional curing time may be needed.

D. Surface Conditions: Attend to the trench surface regularly during the course of the Contract. Take prompt corrective measures to correct any settlement or wash-out. Maintain the trench surface in a safe condition that does not interfere with natural drainage.

E. Deficiency of Backfill: Any material required for backfilling the trenches or for filling depressions caused by settlement or wash-out shall be supplied and placed by the Contractor at his expense.

3.09 QUALITY ASSURANCE TESTING

The Owner reserves the right to have the Contractor provide Independent Quality Assurance Testing for the backfill material, at the Contractor's expense.

3.10 TRENCH MAINTENANCE

Assume full responsibility for the condition of the trenches for a period of one (1) year from the date of the final acceptance of the Contractor's work, or as required by state, county or local authorities, and any materials required for filling depressions caused by settlement or wash-out shall be supplied and placed by the Contractor at their expense.

END OF SECTION

SECTION 02220

CASING INSTALLATION

PART 1: GENERAL

1.01 GENERAL REQUIREMENTS

The installation of casing pipe shall conform to these Specifications and any Federal, State or local Highway requirements or applicable Railroad requirements whichever may be more restrictive.

1.02 SUBMITTALS

Submit details of proposed jacking or boring pits to the Engineer showing locations, dimensions, and details of sheeting and shoring required, if requested.

1.03 RELATED WORK

Excavation, backfilling and compaction for jacking and receiving pits and for open cut installation shall conform to the requirements set forth in Specification Section 2210.

PART 2: PRODUCTS

2.01 MATERIAL

Casing pipe shall be bare wall steel pipe with a minimum yield strength of 35,000 psi and a minimum wall thickness as listed below:

Casing Outside Diameter Inches	Highway Crossings Casing Wall Thickness Inches	Railroad Crossings Casing Wall Thickness Inches
8.625	0.250	0.250
10.75	0.250	0.250
12.75	0.250	0.250
14	0.250	0.281
16	0.250	0.281
18	0.250	0.312
20	0.312	0.344
24	0.312	0.406
30	0.375	0.469
36	0.500	0.532
42	0.500	0.563
48	0.625	0.625
54	0.625	0.688
60	0.625	0.750
66	0.625	0.813
72	0.750	0.875

Smooth wall steel plates with a nominal diameter of over 54 inches shall not be permitted.

The inside diameter of the casing pipe shall be: at least four (4) inches greater than the outside diameter of the carrier pipe joints or couplings for carrier pipe less than six (6) inches in diameter; and at least six (6) inches greater than the outside diameter of the carrier pipe joints or couplings for carrier pipe six (6) inches and greater in diameter.

PART 3: EXECUTION

3.01 ALIGNMENT AND GRADE

Locate pipelines to cross roadways or tracks at approximately right angles where practicable, but preferably at not less than 45 degrees. Do not place pipelines in culverts or under bridges where there is likelihood of their restricting the area required for the purposes for which the bridges or culverts were built, or of endangering the foundations. Install the casing pipe on an even grade for its entire length and sloped to one end or as noted in a profile plan if provided. Satisfy a maximum tolerance of 1.5% (18" in one hundred feet) with the desired location of the casing or as otherwise required by regulation or specified on the plans, whichever is more restrictive.

3.02 WELDING

Connect steel casing sections by welding. Welding shall conform to AWWA Standard C206.

3.03 PROTECTION AT ENDS OF CASING

Block up both ends of casings in such a way as to prevent the entrance of foreign material, but to allow leakage to pass in the event of a carrier break.

3.04 DEPTH OF INSTALLATION

Unless the depth of casing pipe is specifically specified on the drawings, the casing pipe depth shall be in accordance with highway or railroad requirements.

3.05 CASING INSULATORS

The carrier pipe and casing shall be separated by an insulator. The insulator spacing shall be installed to support the weight of the pipe and contents. As a minimum, an insulator shall be placed a maximum of 3 foot from each side of a joint and evenly spaced along the carrier pipe with 3 insulators per each length of carrier pipe. Timber skids are not allowed. Casing insulators shall be sized according to the manufactures specifications for pipe sizes from the following list of approved manufactures and casing types.

A. Cascade Water Works Manufacturing Company (Stainless Steel only).
B. Pipeline Seal and Insulator, Inc. (Carbon Steel with polyvinyl chloride or the Ranger II model).

C. Advanced Products and Systems, Inc. (Model SI).
D. Power Seal Pipeline Products Corp. (Model 4810).
E. RACI (polyethylene model F-60 for 12-inch carrier pipe and smaller). RACI shall not be used for carrier pipe larger than 12-inch.

At the sole discretion of the Engineer, alternate manufactures in lieu of those described above and new or improved products by the same manufactures may be permitted. To seek approval, adequately describe any proposed alternate product and submit the same with shop drawings and specifications to the Engineer. The Contractor cannot proceed to employ said alternate products prior to receiving written approval of from the Engineer.

3.06 INSTALLATION

Refer to Standard Detail 0201-0601-SD45 at the end of this Specification Section for a typical casing installation detail.

Install casing pipes by one of the following methods:

A. Jacking

This method shall be in accordance with the current American Railway Engineering Association Specifications, Chapter 1, Part 4, "Jacking Culvert Pipe Through Fills", except that steel pipe shall be used with welded joints. Conduct this operation without hand mining ahead of the pipe and without the use of any type of boring, auguring or drilling equipment.

Design the bracing, backstops, and jacks so that the jacking can progress without stoppage (except for adding lengths of pipe).

B. Drilling

This method employs the use of an oil field type rock roller bit, or a plate bit made up of individual roller cutter units, welded to the pipe casing being installed. Turn the pipe for its entire length from the drilling machine to the head to give the bit the necessary cutting action against the ground being drilled. Inject high density slurry (oil field drilling mud) through a supply line to the head to act as a cutter lubricant. Inject this slurry at the rear of the cutter units to prevent any jetting action ahead of the pipe. Advance the drilling machine on a set of steel rails (thus advancing the pipe) by a set of hydraulic jacks. The method can be used to drill earth or rock.

C. Boring

This method consists of pushing the pipe into the fill with a boring auger rotating within the pipe to remove the soil. When augers or similar devices are used for pipe placement, the front of the pipe shall be provided with mechanical arrangements or devices that will positively prevent the auger and cutting head from leading the pipe so that there will be no unsupported excavation ahead of

the pipe. The auger and cutting head arrangement shall be removable from within the pipe in the event an obstruction is encountered. The over-cut by the cutting head shall not exceed the outside diameter of the pipe by more than one-half inch. The face of the cutting head shall be arranged to provide reasonable obstruction to the free flow of soft or poor material.

If an obstruction is encountered during installation that stops the forward action of the pipe, and if it becomes evident that it is impossible to advance the pipe, operations will cease and the pipe shall be abandoned in place and filled completely with grout.

Bored or jacked installations shall have a bore hole essentially the same as the outside diameter of the pipe. Grout any voids that develop. Also grout around the casing pipe when the bore hole diameter is greater than the outside diameter of the pipe by more than 1 inch.

D. Directional Drilling – see Specification 02458

This process employs a drilling bit that is guided through soil to create a round cavity, which will stay intact with suitable soils and conditions for at least several days. Consequently, soil testing may be required by the Engineer. Test hole and ream as required. The drill head is propelled and remains linked to the rig by adding segments of rod as the head proceeds forward. After the hole has been completed the drill bit is removed and a pulling adaptor is attached to the drilling stem and pipe is secured to the adaptor.

As the adaptor is pulled back to the rig, segments of drill rod are removed. Pipe is either a continuous fused material or segments of restrained pipe are added as the adaptor is pulled back to the rig. The selection of pipe material and restraints, if required must be approved by the Engineer. The process continues until the adaptor returns to the rig and all of the water main is in place.

This process may be employed only if approved by Engineer and governing transportation and or regulating authority. The drilled opening and pipe inserted cannot be less than 3 inches in tolerance. Circulate grout in annular space completely. Alignment and grade must be maintained and the drilled hole must be controllable using steering technology. Use radio equipment to track. Provide report of depth and location at 20 foot intervals during installation and submit as a report.

END OF SECTION

SECTION 02230

STREAM CROSSING

PART 1: GENERAL

1.01 SCOPE

Furnish all labor, materials, and equipment necessary to install the stream crossings as shown on the plans and described in the construction documents.

Install the stream crossings in such a manner as to protect the mains from erosion and to restore, as much as practicable, the stream banks and bottom to their original condition and in compliance with requirements of the regulating agency.

Protect the main from erosion by concrete encasement around the pipe or by a sufficient depth of compacted backfill as shown.

1.02 PROFILES AND TOPOGRAPHY

Contours, topography and profiles of the ground shown on the Drawings are believed to be reasonable approximations and are not guaranteed.

The Contractor accepts the construction site with the conditions that existed at the time of bidding.

1.03 RELATED WORK

Excavation, backfilling and compaction procedures shall conform to Specification Section 2210.

Concrete placement shall conform to Specification Section 3300.

PART 2: PRODUCTS

2.01 MATERIALS

Excavation, fill and concrete materials shall be as specified in Specification Sections 2210 and 3300.

PART 3: EXECUTION

3.01 CONSTRUCTION PROCEDURE

Comply with construction procedures if provided as a condition of the regulators stream opening permit. If methodology is not provided through permitting process, provide and submit the same to the Engineer and all Federal, State and local authorities having jurisdiction over the stream crossing for their review and approval.

3.02 STREAM BANK RESTORATION

Restore the stream banks by backfilling the main trench with mechanically compacted backfill of earth or rip rap, approved by the Engineer and in compliance with regulatory requirements, to the original ground surface (unless new contours are shown on drawings). The limits of compaction shall extend from the top of bank to top of bank on each side of the crossing as determined by the Engineer or as shown on the detail drawings provided.

Immediately following the completion of a stream crossing, place straw bales or silt-fence along the trench excavation on each stream bank from within two (2) feet of the edge of water to beyond the limits of the excavated trench width per detail on straw bale and fabric fence. Straw bales or silt-fence shall remain in place until after the stream banks have been fine graded, fertilized and seeded, and the seeding has grown sufficiently to protect the stream banks from erosion.

3.03 STREAM BOTTOM RESTORATION

If the plans call for open cut across the stream bottom, backfill the trench within the stream bottom (high water to high water) mechanically compacted earth or riprap that has been approved by the Engineer and meeting regulatory requirements. Rip rap placement must be flush with stream bottoms from upstream to downstream.

END OF SECTION

SECTION 02458

LARGE SCALE HORIZONTAL DIRECTIONAL DRILLING (HDD)
(Projects greater than 250 feet or pipe size greater than 12 inch)

PART 1: GENERAL

1.01 SCOPE

A. Furnish all labor, materials, tools and equipment as necessary to construct a pipeline crossing by the horizontal directional drilling method. Furnish all labor, equipment, materials and supplies and perform all work necessary to provide OWNER with a complete, finished water main crossing. The finished work includes proper installation testing, restoration of underground utilities and environmental protection and restoration.

1.02 RELATED SECTIONS

Submittals – Section 01300
Excavation, Backfilling and Compaction – Section 02200
Piping - General Provisions - Section 15000
Disinfecting Pipelines – Section 15020

1.03 QUALITY ASSURANCE:

A. The HDD equipment operator(s) shall be trained to operate the specific Horizontal Directional Drilling equipment for the Owner's project with at least 3 years experience in directional drilling obtained within the last five years. All pipe and appurtenances of similar type and material shall be furnished by a single manufacturer.

B. Perform HDD operations under the constant direction of a drilling supervisor who shall remain on site and be in responsible charge throughout the drilling operation. The Contractor's supervisor shall have supervised directional drilling of a minimum of 5,000 linear feet of pipe of a similar or greater diameter, of similar material, over similar lengths, and with similar subsurface conditions.

B. The requirements set forth in this Specification specify a wide range of procedural precautions necessary to insure that the basic, essential aspects of a proper Directional Bore installation are adequately controlled. Strict adherence shall be required under specifically covered conditions outlined in this Specification.

C. Perform the work in general conformance with ASTM Standard F1962-05, current revision, "Standard Guide for Use of Maxi-Horizontal Directional Drilling for Placement of Polyethylene Pipe of Conduit under Obstacles, Including River Crossings."

D. Adhere to the specifications; any changes must be expressly approved by the Engineer's. Approval of any aspect of any Directional Bore operation covered by this Specification shall in no way relieve the Contractor of its ultimate responsibility for the satisfactory completion of the work authorized under the Contract.

1.04 PROFILES AND TOPOGRAPHY

A. Contours, topography and profiles of the ground as may be shown on the Contract Drawings are believed to be reasonably correct, but are not guaranteed to be absolutely so and are presented only as an approximation. It is the Contractor's responsibility to verify all elevations required to successfully complete the crossing.

1.05 SUBMITTALS

A. Prior to beginning work, submit to the Engineer copies of a report of schedules, calculations, procedures and any supplemental subsurface soil condition investigations performed along the path of the proposed crossing. Number of copies of the report shall be as specified in Section 01300. The report will summarize the subsurface conditions that are known to the Contractor and that his proposed crossing procedure is based upon factual, best available information. If the subsurface conditions are known to the Contractor by previous work or geotechnical studies done in the immediate area, the information shall be recorded in the report along with any additional geotechnical studies performed by the Contractor. The report shall include the following:

1. Subsurface Information

   a. Record in the report subsurface conditions known to the Contractor by previous work or prior geotechnical studies performed in the immediate project area.

   b. Boring information obtained by the Owner, if any, is listed in the Supplementary Conditions section of these Specifications.

   c. Additional borings performed by the Contractor and analysis of soils along the path of the proposed crossing. The Contractor shall be responsible for obtaining and including in his bid price the cost of any additional borings along the pipe alignment which may be necessary to design the proposed directionally drilled crossing.

      At a minimum any supplemental borings performed by the Contractor shall include standard classification of soils, standard penetration tests, split spoon sampling and sieve analysis. Test borings shall be performed to a minimum depth of ten (10) feet below the proposed pipe invert unless rock is encountered in which case test borings shall penetrate at least two feet into rock.

2. Drilling Equipment and Methods

   a. Submit information on equipment and written procedure with working drawings describing in detail the proposed boring method and the entire operation to be used. This shall include, but not be limited to, entry and exit pits; settlement pit; size, capacity and arrangement of drilling and pulling equipment; layout of carrier pipe; details and spacing of pipe rollers; type of

current head; method of monitoring and controlling line and grade; method of detection of surface movement; and layout of any proposed construction staging areas.

b. In addition, submit for approval nameplate data for the drilling equipment, mobile spoils removal unit, and Material Safety Data Sheets (MSDS) information for the drilling slurry compounds. This must be submitted and reviewed by the Engineer before work can proceed.

3. Piping

Submit shop drawings showing the pipe lengths, design details, joint details, etc. for the Engineer's review. Submittals shall include, but are not limited to, the following:

a. All welding or fusion procedures to be used in fabrication of the different pipe materials and installation methods.

b. Certified records for hydrostatic testing of all pipe materials to be used.

c. An affidavit stating that all pipe materials furnished under this section have been manufactured in the United States of America and comply with all applicable provisions of referenced AWWA standards.

4. Proposed Alignment

Submit a graph in plan and profile plotting the pilot drilling hole alignment to the Engineer for review, including entry/exit angles and radius of curvature. After completion of the crossing, submit a final pipe alignment.

5. Schedule

Time schedule for completing the Directional Bore, including any delays due to anticipated soil conditions.

6. Calculations

a. Submit detailed design calculations for several representative loading conditions for the proposed crossing. If requested by the Engineer, submit calculations to support the design of any particular location of pipe anywhere along the length of the crossing at no additional cost to the Owner.

b. Design calculations shall be presented in a neat, readable format, with all figures, values and units included to facilitate ease of verification.

c. Calculations shall be submitted to demonstrate that the pipe thickness design is sufficient to meet all design criteria specified.

d. Calculations shall address the following loading conditions:

i) Pre-installation:

Hoop and longitudinal stress during hydrostatic test; spanning stress with pipe full of water and supported on installation rollers, and maximum roller / support spacing.

ii) Installation/Post-Installation

Longitudinal stress from pulling force; longitudinal curvature stress at point of entry and in final position; external pressure from drilling fluid, overburden, and loads from the obstacle being crossed.

iii) Post-Installation/In-Service

Hoop and longitudinal stress during hydrostatic test; internal working and surge pressure; buckling with internal vacuum.

e. Perform and submit to the Engineer fluids pressure versus overburden strength calculations. These calculations shall be performed to determine minimum acceptable cover requirements and prevent drilling fluids breakout to the ground surface.

f. All calculations shall bear the seal of a Registered Professional Engineer. Licensure in the State that the work is performed is preferred.

B. Approval

1. No work shall commence without approval by the Engineer. Details and design calculations shall be submitted and approved well in advance of the drilling operation to prevent delays in work. All final layout work, including grades, shall be the Contractor's responsibility.

1.06 JOB CONDITIONS:

A. Any nighttime work is strictly regulated and will be allowed only with prior approval granted by the Owner subject to regulatory agencies having jurisdiction. All crossing operations shall be accomplished during daylight hours, unless approved by the Engineer. Crossing work shall not begin after the hour pre-established as the latest starting time that will allow completion during daylight hours, unless approved by the engineer. The Contractor shall provide a Work Plan submittal indicating its proposed hours of operation and length of work week. All work plans shall be subject to compliance with all applicable regulatory requirements for construction activities and any off site impacts.

B. When hazards of night time work are carefully considered and determined to be insignificant, night time work may be allowed only to complete a properly planned crossing, and only if in the opinion of the Engineer the delay was caused by reasonably unavoidable circumstances, and that such night time work is necessary to avoid placing an undue economic hardship on the Contractor.

C. In emergency situations, or where delay would increase the likelihood of a failure, nighttime work may be allowed to complete a delayed crossing.

D. All operations shall continue on a 24-hour per day basis during pipe pull back.

1.07 COORDINATION OF WORK

A. Coordinate connections to existing pipelines that require shutdown of OWNER facilities. OWNER will designate the time for these connections that could involve work during evenings, nights, Saturdays, Sundays, or holidays. Method of connection and designated times are to cause the least amount of disruption to OWNER'S water service to its customers. The cost for connections is to be included in the contract price. No contract price adjustment will be allowed for overtime, premium time, or other related costs.

1.08 USE OF EXISTING WATER SYSTEMS:

A. All use of existing water systems during construction by the Contractor shall be with the approval and direction of the system Owner and its representatives. The Contractor shall be responsible for all permits, fees, temporary piping, temporary meter rental/provisions, temporary backflow preventer rental/provision and other water utility requirements for supplying water during construction. The Contractor shall use the existing water system only at locations, times and conditions as set forth by the system owner or its representatives.

B. If water is not readily available at the site or the Owner cannot provide the volume of flow required by the Contractor, provide potable water as needed from an off-site location at no additional cost to the Owner.

PART 2: PRODUCTS

2.01 PIPE

Unless otherwise specified in the Contract Documents, pipe installed by horizontal directional drilling shall either be high density polyethylene pipe (HDPE), steel pipe, or ductile iron pipe specifically designed for directional drilling. Unless otherwise specified in the Contract Documents, the water main pipe (carrier pipe) shall be installed without a casing pipe.

A. POLYETHYLENE PIPE

1. High Density Polyethylene (HDPE) Pipe, AWWA C-906 compliant, NSF 61 Standard Listed, and furnished in fifty (50) foot lengths.

2. Polyethylene pipe shall be furnished with an outside diameter conforming to ductile iron pipe sizes. Minimum thickness of HDPE pipe shall be determined by the contractor's calculations, but shall not be considering in-service loading shall not be less than DR 11 when measured in accordance with ASTM D-2122.

3. All polyethylene pipe and fittings shall be made of a high-density polyethylene pipe compound with extra high molecular weight that meets the requirements for Type III, Grade P34 Polyethylene material as defined in ASTM D-1248, latest revision.

4. Pipes shall be jointed to one another and to polyethylene fittings by thermal butt-fusion or by socket fusion in accordance with ASTM D-3261.

5. Joining of pipe sections shall be performed in accordance with the procedures recommended by the pipe manufacturer. Joints between pipe sections shall be smooth on the inside and internal projection beads shall not be greater than 3/16-inch.

6. The tensile strength at yield of the butt-fusion joints shall not be less than the pipe. A specimen of pipe cut across the butt-fusion joint shall be tested in accordance with ASTM D-638.

7. Polyethylene pipe shall be joined to ductile iron pipe by the use of flange adapters and back-up rings. Flange adapters shall be butt fused to the polyethylene carrier pipe. The face of the flange adapter shall have a serrated sealing face to assist in holding the flange gasket in place. Flange gaskets shall be full-faced neoprene. Back-up rings shall be Class "D" steel ring flanges in accordance with AWWA C207. Flange bolts must span the entire width of the flange joint, and provide sufficient thread length to fully engage the nut.

B. STEEL PIPE

1. Steel pipe shall meet the requirements of AWWA C-200 and Specification Section 15110.

2. Steel pipe sections shall be connected by welding. All welding shall conform to AWWA C-206, latest revision. Pipe shall be either spiral seam or longitudinally rolled pipe.

3. All steel pipe shall receive an interior and exterior factory coating of fusion-bonded epoxy, 20-mil minimum thickness. Material and application requirements shall be as specified in AWWA C213, latest edition, "Standard for Fusion - Bonded Epoxy Coating for the Interior and Exterior of Steel Water Pipelines".

4. The interior and exterior of field-welded joints shall receive a 25-mil minimum thickness coating of fusion-bonded epoxy, applied in accordance with AWWA C213.

5. Minimum thickness of steel pipe shall be determined by the contractor's calculations, but shall not be less than a diameter to thickness ratio of 180.

C. DUCTILE IRON PIPE

1. Utilize ductile iron pipe equipped with low profile flexible restrained joints such as Flex Ring or TR Flex. Gripping push on joint gaskets, or restrained joint gaskets are not permitted.

2. All ductile iron pipe shall be installed per DIPRA's Horizontal Directional Drilling with Ductile Iron Pipe Handbook to include strict adherence to maximum joint deflection allowances

D. THICKNESS DESIGN

The following design criteria shall be used in calculating pipe thickness for HDPE, steel, or ductile iron pipe:

Working Pressure	100 PSI (check with local office)
Test Pressure	150 PSI (check with local office)
Surge Pressure	Working pressure + 100 psi
Dead Load	Earth cover as shown on Drawings, but not less than 15 feet.
Buckling Design	Considering dead load, internal vacuum, H-20 Wheel Loading and a hydrostatic load over top of pipe to grade.
Max. Allowable Horizontal Deflection	3%
Radius of Curvature	90% of Actual Design Radius
Downhole Friction Factor	1.0
Factor of Safety for Drilling Fluid Density	1.5

The stresses in the pipe shall be calculated for the pre-installation, installation, and post installation loading conditions specified in Part 1 of this Specification Section. Thickness shall be selected so that stresses do not exceed the following under any of the loading conditions.

- All conditions except internal surge pressure — 50% of minimum yield point
- Internal surge pressure condition — 75% of minimum yield point

The contractor shall increase the minimum "in-service" thickness as necessary to support the expected stresses and loadings which are expected to be encountered during the installation of the HDD pipeline. The final selected thickness shall be supported by calculations as required herein. No additional cost shall be considered by the Owner for pipe thickness greater than the specified minimum "in-service" thickness.

E. DEVIATIONS

Should the Contractor choose to submit a bid using material that does not meet all the requirements of these specifications, include a description of the deviation with data showing the magnitude of the deviation. Acceptance of such deviations to these specifications shall be subject to the review and approval of the Owner before a contract can be awarded.

F. INSPECTION OF PIPE

All pipe and fittings used in the work may be factory inspected by a recognized agency engaged by the Owner. Inform the Owner and the inspection agency of the name and address of the manufacturing plant or other sources of materials to be used in the work and shall coordinate with the manufacturer to assure that the inspection agency has access at the manufacturer's plant and adequate assistance and notice so that each item may be examined. All reports will be made to the Owner and the cost of the services of the inspection agency will be borne by the Owner. Such inspection by the Owner shall not relieve the Contractor of his responsibility to furnish materials in accordance with the applicable standards.

2.02 EQUIPMENT

A. General: All equipment for the Directional Bore shall have the capacity, stability, and necessary safety features required to fully comply with the specifications and requirements of this section without showing evidence of undue stress or failure. It shall be the responsibility of the Contractor to assure that the equipment to be used in the Directional Bore is in sound operating condition. Backup equipment shall be required in the event of an equipment breakdown and where the condition of the equipment to be used indicates that routine component replacement or repair will likely be necessary during the Directional Bore.

B. Directional Drilling System: The directional drilling system shall consist of over the road transportable field power unit, mud-mixing and recycling unit, a trailer or carriage-mounted drill unit, and all other support accessory vehicles and equipment. All system components shall be in sound operating condition with no broken welds, excessively worn parts, badly bent, or otherwise misaligned components. All drill pipe, reamers, pull back heads, swivels, drill heads and collars, pipe cradles, pipe rollers, ropes, cables, clamps, and other non-mechanical but essential items shall be in sound condition and replaced immediately when need is apparent. The equipment must be capable of drilling the specified length in a single bore.

1. Mud-Mixing and Recycle Units: The mud-mixing and recycle unit shall be a self-contained system designed to provide a supply of high-pressure bentonite based cutting fluid to the drill unit. It shall contain a fluid storage tank and a complete bentonite and drilling fluid additive(s) mixing system. The cutting fluid is to be mixed on site. The cutting fluid shall be formulated for this specific project and anticipated conditions. It shall permit changes to be made to the bentonite and drilling fluid additive(s) concentrations during drilling in response to changing soil conditions. The field power unit shall contain the power-taken off-driven high pressure cutting fluid pumping system. The recycle units shall be of a capacity to minimize the production of new cutting fluid and maximize the reuse and recirculation of original cutting fluid produced.

2. Directional Drill System: A carriage-mounted version of the drill system shall include a thrust frame. Both the trailer-mounted and carriage-mounted drill system shall be designed to rotate and push 10-foot (3-meter) minimum hollow drill sections into the tunnel being created by the boring head. The drill sections shall be made of a high strength S-grade steel that permits them to bend to a 30-foot (9-meter) radius without yielding. Drill end fittings shall permit rapid makeup of the drill sections

while meeting the torque, pressure and lineal load requirements of the system. The boring head itself shall be capable of housing a probe used by the Magnetic Guidance System (MGS) to determine tool depth and location from surface and to orient the head for steering. The MGS shall have a minimum accuracy of plus (+) or minus (-) two (2) percent of the vertical depth.

The drilling equipment must be fitted with a permanent alarm system capable of detecting an electric current. The system will have an audible alarm to warn the operator when the drill head nears electrified cables. The drilling equipment shall be grounded, protected, and operated in accordance with manufacturer's requirements for electric strike safety.

The control console shall contain a calibrated display of inclination, azimuth, tool face location, mud pump rates, and torque pressures. The downhole steering system accuracy shall be plus or minus one percent (± 1.0%) of the horizontal bore length such that the difference between actual depth and machine calculated depth is not more than 1 foot per hundred feet.

3. Restrictions: Other devices or utility placement systems for providing horizontal thrust other than those previously defined in the preceding sections shall not be used unless approved by the Engineer prior to commencement of the work. The proposed device or system will be evaluated prior to approval or rejection on its potential ability to complete the pipe placement satisfactorily without undue stoppage and to maintain line and grade within the tolerances prescribed by the particular condition of the project. Water sluicing methods, jetting with compressed air, or boring or tunneling devices with vibrating type heads that do not provide positive control of the line and grade shall not be allowed.

C. Spoils Equipment: The cutting fluid removal system shall include a self-contained vacuum truck which has sufficient vacuum and tank capacity to remove excess cutting fluid mixture and cuttings from the project site as required or directed by the Engineer. Spoils are not to be discharged into sewers or storm drains.

The Contractor will contain all drilling and pipe lubricating mud by taking special measures to prevent run-off into adjacent properties and/or waterways. All surplus drilling and pipe lubricating mud will be removed from the site and properly disposed of by the Contractor. The Contractor will also be responsible for all required erosion control measures.

D. Magnetic Guidance System: A Magnetic Guidance System (MGS) probe and location of the drill head during the drilling operation. The tracker shall be capable of tracking at all depths up to one hundred feet and in any soil condition, including hard rock. It shall enable the driller to guide the drill head by providing immediate information on the tool face, azimuth (horizontal direction), and inclination (vertical direction). The tracker shall be accurate to +/-2% of the vertical depth of the borehole at sensing position at depths up to one hundred feet. Ferrous materials shall not influence or affect the MGS readings or accuracy.

Components: The Contractor shall supply all components and materials to install, operate, and maintain the MGS. This shall include, but not be limited to the following:

X MGS Probe and Interface
X Computer, Printer, and Software
X DC Power Source, Current Control Box, and Coil/Tracking Wire.

The Magnetic Guidance System (MGS) shall be a Tensor TruTracker MGS, or other licensed and industry approved wire guidance system. The Engineer shall be advised of the unit to be used and is subject to his approval. Set up and operate the MGS using personnel experienced with this system. AWalk-over" tracking systems shall not be used, except as approved by the Engineer. Contractor shall provide Engineer with current calibration certification of MGS in accordance with manufacturer's specifications.

E. If equipment breakdown or other unforeseen stoppages occur and forward motion of the directional cutting head is halted at any time other than for reasons planned in advance (addition of drill stems, etc.), the boring path shall be filled with a proper bentonite solution immediately, or as directed by the Engineer.

F. The boring tool shall have steering capability and have an electronic tool detection system. The position of the tool during operation shall be capable of being determined accurately, horizontally within 1% of the horizontal distance of the borehole and vertically within 2% of the vertical depths of the borehole. The boring tool shall have a nominal steering radius of 9 meters (30 feet).

2.03 DRILLING FLUIDS:

A. A mixture of Bentonite drilling clay, project specific cutting fluid additives, and potable water is to be used as the cutting fluid (MUD) and over ream hole filler for the Directional Bore. The drilling fluid mixture used shall have the following minimum viscosities as measured by a March Funnel:

Rock Clay	60 sec.
Hard Clay	40 sec.
Soft Clay	45 sec.
Sandy Clay	90 sec.
Stable Sand	120 sec.
Loose Sand	150 sec.
Wet Sand	150 sec.

These viscosities may be varied to best fit the soil conditions encountered as recommended by the drilling mud and fluid additive manufacturer, and as approved by the Engineer.

B. Where sandy or granular materials are encountered, a cement slurry or polymer supplement shall be considered for added strength and stability of the bore and over ream hole.

C. No chemicals or polymer surfactant shall be used in the drilling fluid without written consent of the Engineer, and after a determination is made that the chemicals to be added are not harmful or corrosive to the facility and are

environmentally safe. Clay must be totally inert and contain no risk to the environment.

D. Provide Owner, Engineer and have on site at all times the Material Safety Data Sheets (MSDS) for all drilling compounds and chemicals.

2.04 TRACER WIRE

A. When HDPE pipe is used, tracer or location wire shall be a direct burial #12 AWG Solid (.0808" diameter), steel core hard drawn extra high strength horizontal directional drill tracer wire, 1150# average tensile break load, 45 mil. High molecular weight-high density blue polyethylene jacket complying with ASTM D1248, 30 volt rating. The wire shall be contiguous except at test stations, valve boxes, and where splicing is required. All splices shall be encased with a 3M-Gel Pack model No. 054007-09053. Wire insulation shall be highly resistant to alkalis, acid and other destructive agents found in soil. Location Wire shall be from Copperhead Industries, LLC, part number 1230B-HS or approved equal

B. Tracer wire shall be installed simultaneously with pullback of the HDPE pipe. Wire shall either be wrapped around the pipe or taped to the pipe at 10 foot minimum intervals before installation.

PART 3: EXECUTION

3.01 SITE DISTURBANCE AND SOIL EROSION

A. Sediment barriers shall be constructed as shown on the Drawings or where directed by the Engineer. All soil erosion and sediment control work shall be done in accordance with the Standards for Soil Erosion and Sediment Control for the location where the work is performed. Contractor shall maintain sediment barriers until the project is deemed complete.

B. The Contractor shall be responsible for the preservation of all existing trees, plants, and other vegetation that are to remain within or adjacent to the construction site and shall also be responsible for protecting existing concrete curb, fence, utilities, and other structures that are located within or adjacent to the construction site.

C. The Contractor assumes all liability for environmental damage and cleanup due to inadvertent discharges of slurry or other causes. Slurry materials shall be selected based on the soil conditions encountered to minimize the risk of mud returns.

3.02 PERSONNEL REQUIREMENTS:

A. Provide a competent and experienced supervisor representing the Drilling Contractor who must be present at all times during actual operations. A responsible representative, who is thoroughly familiar with the equipment and type work to be performed, must be in direct charge and control of the operation at all times. In all cases the supervisor must be continually present at the job site during the actual Directional Pilot Hole, over reaming and pullback operations.

B. Have a sufficient number of competent workers on the job at all times to insure the Directional Bore is made in a timely and satisfactory manner. Adequate personnel for carrying out all phases of the actual Directional Bore operation must be on the job site at the beginning of work.

C. If HDPE is specified for the carrier pipe, HDPE pipe thermal butt fusion welding is to be completed by a welder certified by the manufacturer of the pipe or pipe welding equipment, in accordance with the Plastic Pipe Institute "Handbook of Polyethylene Pipe," Polyethylene Joining Procedures, and 49 CFR 192, Subpart F, latest edition.

D. If steel pipe is specified for the carrier or casing pipe, welding shall be performed by certified welders. The CONTRACTOR shall be responsible for the qualification of welders with qualification testing conducted by an independent testing agency in accordance with American Welding Society D1.1 requirements. Results of qualification testing shall be submitted to the ENGINEER for approval. Results of previous qualification tests performed within six months from the date of pipe installation will be acceptable. Results from qualification tests performed prior to six months from the date of pipe installation will not be acceptable. All costs associated with qualification testing shall be included in the unit prices bid.

E. The Engineer and Owner must be notified 48 hours in advance of starting each phase of the work. The Directional Bore shall not begin until the Engineer is present at the job site and agrees that proper preparations for the operation have been made. The Engineer's approval for beginning the installation shall in no way relieve the Contractor of the ultimate responsibility for the satisfactory completion of the work as authorized under the Contract. It shall be the responsibility of Owner to provide inspection personnel at such times as appropriate without causing undue hardship by reason of delay to the Contractor.

F. If the Contractor fails to begin the Directional Bore at the agreed time, the Owner will establish the next mutually convenient time to begin. To avoid undue hardship of either party, reasonable and mutual cooperation should be exercised where starting times are concerned. If one party fails to meet the agreed schedule, the other party is expected to consider a delayed start if the installation cannot be completed during daylight hours.

3.03 ALIGNMENT AND GRADE

A. Determine and physically locate the depth, location, and size of all existing underground facilities in the vicinity of the proposed crossings and provide the ENGINEER with a comprehensive report of these facilities before starting any construction. The Contractor shall be held completely and solely responsible for any damages incurred. The kinds, locations and sizes of the existing underground utilities which may be shown on the Contract Drawings are intended only as a guide to the Contractor and are not guaranteed to be even approximately correct. Notify the owners of all existing utilities along the route and in the vicinity of the crossing prior to the construction to include all test borings and excavations.

B. If utilities of unknown depth or other obstructions require grade or alignment deviations from the Plans, the grade and/or alignment may be adjusted with Engineer's approval. All adjustments shall permit gradual bends of the pipe to the original alignment beyond the directional bore section. At unusual site conditions, the Contractor may request a review of site conditions by the Engineer for additional adjustment, and such determination shall be final. An adjustment in alignment, position, or elevation approved by Engineer shall not be cause for an adjustment of costs.

C. Pipe entry and exit points are to be allowed no more than five (5) feet of deviation from the staked centerline. The entry point may be moved up to twenty-five (25) feet further from the original entry point only with Engineer's approval. Exit point lengths greater than twenty-five (25) feet from the original point require Engineer's approval. Entry and exit points normally will not be allowed closer to the banks of a waterway being crossed. Any installation that deviates from the plan may be rejected and any rejected installation shall be reconstructed at the Contractor's expense.

D. The vertical profile as shown on the drawings is the minimum depth to which the pipeline shall be installed. Contractor may, at his option and with the permission of Owner, elect to install the pipe at a greater depth than shown on the drawings, at no additional cost to the Owner.

3.04 INSTALLATION:

A. The Contractor shall be responsible for providing a Maintenance of Traffic Plan to the Engineer and local traffic law enforcement agency for review. The Maintenance of Traffic Plan shall show the location of all barricades, signs, devices and alternate routes for local traffic and pedestrian safety. Erection of the appropriate safety and warning devices in accordance with the USDOT "Manual of Uniform Traffic Control Devices" (MUTCD) shall be completed prior to beginning work and maintained until all construction is completed and the site restored.

B. Specifically note in the Maintenance of Traffic Plan street intersections that are to remain open as required during the pipe pull-back operation, or traffic detours implemented. Install a temporary sleeve across the street intersections through which the pipe can be pulled or to construct a temporary bridge for the pipe over the intersections as required. No additional payment will be made for temporary structures required in order to permit access through street intersections or the implementation of traffic detours.

C. The cost of restoring pavement, curb, sidewalk, driveways, lawns, storm drains, etc., and other landscaped facilities shall be borne by the Contractor unless otherwise noted.

D. The following is a general outline of steps for the Directional Bore operation:

1. Clear the right-of-way and temporary work space as shown on the drawings. Contractor to install and maintain all soil erosion and sediment control devices, until project completion with approved permanent site

stabilization.

2. Lay out the pipe crossing alignment using a qualified land survey team to confirm accurate horizontal distances, either physically measured or shot by Electric Distance Measurement. Entry and exit points shall be located and marked with survey hubs or markers. Payment for survey mark-out shall be included in the price bid under horizontal directional drilling.

3. Haul, string, and assemble restrained pipe. Joint air test the section prior to installation and hydrostatically test the assembled pipeline section, unless otherwise approved by Engineer. If sufficient linear footage of lay down area for the pipe string is not available, the finished pipeline may be assembled in no more than two sections, with each section joint air tested separately and hydrostatically tested when fully assembled as one piece. The CONTRACTOR will be responsible for ensuring that the drill rig has adequate pullback capacity to overcome the increased frictional resistance resulting from the stoppage of pipe pullback to perform the final weld or fusion of pipe sections. Provide adequate site security and shall be responsible for the integrity of the pipe until after the pullback, final test of the pipeline, and acceptance of the work by the Owner.

   All assembled pipe sections shall be securely plugged at the end of each work day. The pipe interior is to be protected at all times against dirt, dust, drilling mud, pipe cuttings, debris, animal access, and other sources of contamination.

4. Provide adequate support rollers for the pipeline during pullback of the pipe string into the pre-drilled hole. The rollers and cradles shall be of a type that will prevent damage to the pipe and will be of sufficient number, as recommended by pipe manufacturer, to prevent over stressing due to sag bends during the pullback procedure. The pipe shall be supported at all times, including pullback, to maintain a free stress arc which limits pipe bending and internal hoop stresses to within manufacturer's limits.

   Pipe which is not properly protected and supported and shows indications of excessive stressing, gouges, cuts, abrasions or other damage which may affect the operational performance intended for the pipe, as recommended by pipe manufacturer, shall be removed from the site and replaced at no additional cost as directed by the Owner or Engineer.

5. Mobilize the drilling equipment, erect the rig, drill a pilot hole, enlarge the hole as necessary to a minimum diameter of 1.5 times the nominal diameter of the pipe, and pullback the prefabricated pipe string under the crossing.

   Prior to beginning the Pilot Hole over reaming, furnish to the Engineer with an as-built plan and profile of the actual crossing to confirm the installation is in compliance with the Contract Documents. Pilot hole

alignment shall be accepted by Owner in writing prior to reaming and pipe installation.

The Contractor shall be responsible for selecting the reaming process to be utilized, whether forward and/or back reaming will be undertaken, and the number of reaming passes to be made.

6. Supply portable mud tanks or construct temporary mud pits to contain excess drill fluids during construction and slurry material displaced by the pipe during installation. Mud pits are to be protected at all times against unauthorized access and be stabilized at all times against surface water runoff and containment berm failure. Pump, haul and dispose of any drill cuttings and excess drill fluids to a receiving site permitted to accept the spoils, all in a manner consistent with the local and state regulations at no additional cost to the Owner.

7. Pull back the bore pipe in one continuous section and contractor using a swivel to minimize the rotation of the product pipe during pullback. Swivel shall utilize lubricated internal bearings which are fully protected from external contamination and over lubrication. Demonstrate the swivel operation prior to pullback to the Engineer prior to the operation.

8. Use potable water and disinfect all piping and hoses used for water addition to the carrier pipe to counter the pipe flotation during pullback.

9. During pullback, maintain records for submission to Owner indicating job, date, time, constant pipe footage progress, mud flow rates, pulling forces required and torque readings. Document the pull head location for each length of drill stem pipe for as build records.

10. Unless not permitted by the right of way owner, inject a low strength cement slurry into the bore hole for approximately 50 feet at each end of the drilled pipeline. Where cement slurry cannot be used, provide restraint at either end of the pipeline outside the bore to hold the pipe in place. The type of restraint shall be submitted to the Engineer in advance of the work and must be approved by the Engineer prior to the start of construction.

11. Owner and Engineer shall have access at all times to any measuring or gauging devices used for the horizontal drill as well as any drilling logs maintained by the Contractor.

12. In the event that the Contractor must abandon the drill hole before completion of the crossing, the Contractor will seal the borehole with neat cement grout starting at the low point or end of the drill hole and redrill the crossing at no extra cost to Owner.

3.05 PRESSURE TESTING AND LEAKAGE

A. Prior to pullback, perform an allowable leakage test on the full length of pipe after all sections have been welded or fused in accordance with ANSI/AWWA C600, latest revision and as described in Specification Section 15030. A hydrostatic pressure test shall also be performed on the installed pipe in accordance with ANSI/AWWA C600, latest revision and as described in Specification Section 15030.

3.06 CONNECTION TO ADJOINING PIPE

A. Install flange connections from the directionally drilled pipe to adjacent pipe installed by open cut with support by backfill material as per Specification Section 2210. Flange bolts shall be carefully tightened in increments, with a final torque value not exceeding the manufacturer's recommendations. Tightening torque increments shall not exceed 15 foot pounds.

B. Polyethylene and flange gasket will undergo some compression set. Therefore, the flange bolts shall be retightened one hour after the initial assembly, and a second time at least four hours after the second tightening.

3.07 DISINFECTION

A. The carrier pipe shall be disinfected as described in Specification Section 15020 or as otherwise approved in advance by the Engineer.

B. The carrier pipe can be filled with potable water, pressure tested and disinfected prior to insertion. Provide Engineer with full work plan to employ this alternative.

3.08 AS-BUILT RECORDS:

A. The MGS pullback data shall be recorded every pilot hole drill stem length during the actual crossing operation. The Contractor shall furnish "as-built" plan and profile drawings, on the same horizontal and vertical control datum shown on the contract documents, based on these recordings showing the actual location horizontally and vertically of the installation, and all utility facilities found during the installation.

END OF SECTION

SECTION 02540

EROSION AND SEDIMENTATION CONTROL

PART 1: GENERAL

1.01 SCOPE OF WORK

Work to be performed under this Specification Section refers to temporary and permanent vegetation covers, mulching, and baling at the construction site and all areas disturbed during construction, including borrow areas. In addition to the requirements of these Specifications, comply with all local Conservation District laws, rules and regulations and all other Federal, State, County and local requirements for erosion and sedimentation control.

1.02 STANDARDS

Comply with the highest erosion and sedimentation control standards, whether Conservation District, Federal, State or local. If in doubt as to the applicable standard, notify the Engineer and comply with the Engineer's directions concerning the prevailing jurisdiction.

PART 2: PRODUCTS

2.01 MATERIALS - GENERAL

All materials such as seeds, mulch, silt fencing and bales shall conform to the Specifications of the local Conservation District and all other applicable Federal, State, County and local requirements.

PART 3: EXECUTION

3.01 GENERAL

A. Submit plan to comply with regulators and Engineer for approval using established best practices. Construct silt fences, diversion ditches with catch basins and drains as shown on the Plans prior to any other construction activity.

B. Drain the settled water from the catch basins to the natural local drains. Clean the catch basins regularly. After final grading, seed and mulch the area per Specification Sections 1.02 and 2.01.

C. Permanent vegetation cover, mulching, and baling shall be in accordance with the Conservation District specifications and all other applicable Federal, State and local requirements.

END OF SECTION

SECTION 02558

IDENTIFICATION/LOCATION GUIDE

PART 1: GENERAL

1.01 SCOPE

A. Furnish and install identification tape and location wire over the centerline of buried potable water mains, hydrant branches, and trenched services as indicated in this specification or noted in the drawings.

PART 2: PRODUCTS

2.01 IDENTIFICATION TAPE

A. Identification Tape for Pipe

Identification tape shall be manufactured of polyethylene with a minimum thickness of 4-mils and shall have a 1-mil thick metallic foil core. The tape shall be highly resistant to alkalis, acid and other destructive agents found in soil. Tape width shall be a minimum of 3 inches and a maximum of 6 inches and shall have the background color specified below, imprinted with black letters. Imprint shall be as specified below and shall repeat itself a minimum of once every 2 feet for entire length of the tape.

B. Tape background colors and imprints shall be as follows:

Imprint	Background Color
"CAUTION CAUTION - WATER LINE BURIED BELOW"	Blue

C. Identification tape shall be "Terra Tape" as manufactured by Reef Industries, Inc., Houston, TX, or approved equal.

2.02 LOCATION WIRE

A. Location (Tracer) Wire for Polyvinyl Chloride and HDPE pipe (and other pipe where noted in the drawings or identified in special conditions)

Location wire shall be a direct burial #12 AWG Solid (.0808" diameter), 21% conductivity annealed copper-clad high carbon steel strength tracer wire, 380# average tensile break load, 30 mil. High molecular weight-high density blue polyethylene jacket complying with ASTM D1248, 30 volt rating. The wire shall be contiguous except at test stations, valve boxes, and where splicing is required. All splices shall be encased with a 3M-Gel Pack model No. 054007-09053. Wire insulation shall be highly resistant to alkalis, acid and other destructive agents found in soil.

B. Location Wire shall be from Copperhead Industries, LLC, part number 1230B-HS or approved equal.

C. If directional drilling is used for this project please refer to specification 02458 for the product description of location wire to be used with the directional drilling

2.03 RESTRAINED JOINT MARKING TAPE

A. Joint restraint tape is specifically to warn Water Company workers/contractors that the water main is joint restrained. It is not to be used in place of regular marking tape.

B. Restrained Joint Marking Tape (for with mains that are restrained joint as directed by the Engineer) shall be polyethylene 4-mill thick and 2 ½-inches wide with blue lettering on white background color and imprinted with the words "RESTRAINED JOINT" every 2 foot. The tape shall have an adhesive backer. The tape shall be highly resistant to alkalis, acid and other destructive agents found in soil.

C. Restrained Joint Gasket indicator tape shall be part number 515401-010 manufactured by St. Louis Paper & Box Company located at 3843 Garfield, St. Louis, MO 63113 or approved equal.

PART 3: EXECUTION

3.01 INSTALLATION OF IDENTIFICATION TAPE

A. Install the identification tape with all buried potable water lines in accordance with the manufacturer's installation instructions and as specified.

B. Install identification tape one foot above the top of the pipe.

3.02 INSTALLATION OF LOCATION (TRACER) WIRE

A. Install location wire with buried water lines in accordance with the manufacturer's installation instructions and as specified in Contract Documents.

B. Install the location wire directly on top of the buried pipe.

C. In all pipe installations, loop the location wire up into the valve boxes for connection to a locating device. The wire shall be one continuous piece from valve box to valve box up to 1250 feet maximum.

3.03 INSTALLATION OF RESTRAINED JOINT MARKING TAPE

A. Install the joint marking tape by adhering directly to the pipe as it is installed. The marking tape shall be installed along the entire length of pipe, including around the circumference of the bells of all fittings and valves. The pipe must be free of any foreign matter along the surface of the pipe for the marking tape installation. If clear polywrap is used, the restrained joint tape can be applied on the top of the pipe so long as it is visible. Otherwise the joint marking tape shall be applied on top of the polywrap and secured so the tape is not shifted by backfilling.

B. The tape does not adhere in wet or cold conditions. The tape should be stored in temperatures above 50 degrees F until the time of application. The pipe must be free of frost and moisture along the surface of the pipe receiving the tape.

END OF SECTION

SECTION 15000

PIPING - GENERAL PROVISIONS

PART 1: GENERAL

1.01 DRAWINGS

Dimensions shown on Contract Drawings are approximate only. Verify all piping geometry in the field and to ensure proper alignment and fit of all piping consistent with the intent of the Contract Drawings. Submit field layout drawings as required for approval.

1.02 RELATED WORK

See Specification Section 01600.3.03-Responsibility for Material and Equipment.

PART 2: PRODUCTS

2.0l CONTRACTOR'S RESPONSIBILITY FOR MATERIAL

A. Examine all material carefully for defects. Do not install material which is known, or thought to be defective.

B. The Engineer reserves the right to inspect all material and to reject all defective material shipped to the job site or stored on the site. Failure of the Engineer to detect damaged material shall not relieve the Contractor from his total responsibility for the completed work if it leaks or breaks after installation.

C. Lay all defective material aside for final inspection by the Engineer. The Engineer will determine if corrective repairs may be made, or if the material is rejected. The Engineer shall determine the extent of the repairs.

D. Classify defective pipe prior to Engineer's inspection as follows:

1. Damage to interior and/or exterior paint seal coatings.
2. Damage to interior cement-mortar or epoxy lining.
3. Insufficient interior cement-mortar lining or epoxy thickness .
4. Excessive pitting of pipe.
5. Poor quality exterior paint seal coat.
6. Pipe out of round.
7. Pipe barrel area damaged to a point where pipe class thickness is reduced (all pipe).
8. Denting or gouges in plain end of pipe (all pipe).
9. Excessive slag on pipe affecting gasket seal (DI).
10. Any visible cracks, holes.
11. Embedded foreign materials.
12. Non-uniform color, density and other physical properties along the length of the pipe.

E. The Contractor shall be responsible for all material, equipment, fixtures, and devices furnished. These materials, equipment, fixtures and devices shall comply with the requirements and standards of all Federal, State, and local laws, ordinances, codes, rules, and regulations governing safety and health.

E. Take full responsibility for the storage and handling of all material furnished until the material is incorporated in the completed project and accepted by the Engineer. Contractor shall be solely responsible for the safe storage of all material furnished to or by him until incorporated in the completed project and accepted by the Engineer.

F. Load and unload pipe, fittings, valves, hydrants and accessories by lifting with hoists or skidding to avoid shock or damage. Do not drop these materials. Pipe handled on skidways shall not be skidded or rolled against other pipe. Handle this material in accordance with AWWA C600, C605 or C906 whichever is applicable.

G. Drain and store fittings and valves prior to installation in such a manner as to protect them from damage due to freezing of trapped water. Drain, store, and protect fittings and valves in accordance with Specification Section 01600.

2.02 PETROLATUM TAPE COATING

A. The tape coating shall be a cold applied, saturant tape made from either petrolatum or petroleum wax with a noncellulosic synthetic fiber fabric. The fabric shall be encapsulated and coated on both sides with the petrolatum or petroleum wax. The thickness of the tape shall be no less than 40 mil. The petrolatum or petroleum wax shall be at least 50% of the product by weight.

B. The tape coating shall be supplied in sheets, pads or rolls. Pads and sheets shall be sized to fit the area that is to be covered, allowing for an overlap per AWWA Standards.

2.03 RUBBERIZED-BITUMEN BASED SPRAY-ON UNDERCOATING

Subject to approval by the ENGINEER, an alternative corrosion protection for exposed buried metal is an aerosol applied rubberized coating. The material shall be rapid dry and specifically designed for corrosion protection. 3M Rubberized Underseal Undercoating 08883 or any equivalent rubberized-bitumen based spray-on undercoating may be used. Follow manufacturer's recommendations for storage and application.

PART 3: EXECUTION

3.01 INSTALLATION - GENERAL REQUIREMENTS

A. Lay and maintain all pipe to the required lines and depths. Install fittings, valves and hydrants in strict accordance with the Specifications at the required locations with joints centered, spigots home, and all valve and hydrant stems plumb. Do not deviate from the required alignment, depth or grade without the written consent of the Engineer.

B. Buried steel lugs, rods, brackets, and flanged joint nuts and bolts are not permitted unless specifically shown on the drawings or approved in writing by the ENGINEER. Cover any and all buried steel lugs, rods, brackets, and flanged joint nuts and bolts with approved coating in accordance with AWWA Standard C217 prior to backfilling. Encase the same in polyethylene encased if the specifications require polyethylene encasement of the pipe.

C. Lay all pipe to the depth specified. Measure the depth from the final surface grade to the top of the pipe barrel. The minimum pipe cover shall be as shown on the Drawings or as specified in the Specifications Special Conditions.

D. Do not lay pipe in a wet trench, on subgrade containing frost, or when trench conditions are unsuitable for such work. If all efforts fail to obtain a stable dry trench bottom and the Engineer determines that the trench bottom is unsuitable for such work, the Engineer will order the kind of stabilization to be constructed, in writing. In all cases, water levels must be at least 6" below the bottom of the pipe. See section 02020, Dewatering.

E. Thoroughly clean the pipes and fittings before they are installed. Keep these materials clean until the acceptance of the completed work. Lay pipe with the bell ends facing in the direction of laying, unless otherwise shown on the Drawings, or directed by the Engineer. Exercise care to ensure that each length abuts the next in such a manner that no shoulder or unevenness of any kind occurs in the pipe line.

F. Do not wedge or block the pipe during laying unless by written order of the Engineer.

G. Before joints are made, bed each section of pipe the full length of the barrel, at the required grade, and at the invert matching the previously laid pipe. Dig bell holes sufficiently large to permit proper joint making. Do not bring succeeding pipe into position until the preceding length is embedded and secure in place.

H. Take up and relay pipe that is out of alignment or grade, or pipe having disturbed joints after laying. Take up, such in-place pipe sections found to be defective and replace them with new pipe. Take up, relaying, and replacement will be at the Contractor's expense.

I. Place enough backfill over the center sections of the pipe to prevent floating. Take all other necessary precautions to prevent the floating of the pipeline by the accumulation of water in the trench, or the collapse of the pipeline from any cause. Place enough backfill over the center sections of the pipe to prevent floating. Should floating or collapse occur, restoration will be at the Contractor's expense.

J. Bedding materials and concrete work for the pipe bedding and thrust restraint shall be as specified in Divisions 2, 3, and 15 as well as detail drawings.

K. Prevent foreign material from entering the pipe while it is being placed. Do not place debris, tools, clothing, or other materials in the pipe during laying operations. Close all openings in the pipeline with watertight plugs when pipe laying is stopped at the close of the day's work, or for other reasons such as rest breaks or meal periods.

L. Only cut pipe with equipment specifically designed for cutting pipe such as an abrasive wheel, a rotary wheel cutter, a guillotine pipe saw, or a milling wheel saw. Do not use chisels or hand saws. Grind cut ends and rough edges smooth. Bevel the cut end slightly for push-on connections as per manufacturer recommendations.

M. In distributing material at the site of the Work, unload each piece opposite or near the place where it is to be laid in the trench. If the pipe is to be strung out, do so in a straight line or in a line conforming to the curvature of the street. Block each length of pipe adequately to prevent movement. Block stockpiled pipe adequately to prevent movement. Do not place pipe, material, or any other object on private property, obstructing walkways or driveways, or in any manner that interferes with the normal flow of traffic.

N. Exercise special care to avoid damage to the bells, spigots or flanged ends of pipe during handling, temporary storage, and construction. Replace damaged pipe that cannot be repaired to the Engineer's satisfaction, at the Contractor's expense.

O. Remove all existing pipe, fittings, valves, pipe supports, blocking, and all other items necessary to provide space for making connections to existing pipe and installing all piping required under this Contract.

P. Maintain the minimum required distance between the water line and other utility lines in strict accordance with all Federal, State, and local requirements and all right-of-way limitations.

Q. Provide and install polyethylene encasement for ductile iron pipe as required by the Drawing or Specification Special Conditions. See Specification Section 15130 or 15131, as applicable.

R. The maximum allowable deflection at the joints for push-on joint pipe shall be the lesser of manufacturer's recommendations or as described in the DIPRA Guideline, *Ductile Iron Pipe Joints and Their Uses*, as follows:

Size of Pipe	Deflection Angle	Maximum Deflection (18-ft. Length)	Maximum Deflection (20-ft. Length)
3"-12"	5 degrees	19"	21"
14"-42"	3 degrees	11"	12"
48"-64"	3 degrees	N/A	12"

S. Use short lengths of pipe (minimum length 3 feet, no more than three short sections), when approved by the Engineer, to make curves that cannot be made with full length sections of pipe without exceeding the allowable deflection. Making these curves will be at no additional cost to the Owner.

T. Furnish air relief valve assemblies in accordance with detail drawings provided or as specificied in the specification Special Conditions section. Engineer will provide standard detail for additional air release valve assemblies. Any deviation from the standard detail proposed by contractor must be approved in advance.

U. Exercise particular care so that no high points are established where air can accumulate. Install an air release valve and manhole, as extra Work to the Contract, when the Engineer determines that unforeseen field conditions necessitate a change in the pipe profile that requires the installation of an air release valve and manhole. If the Contractor requests a change in the pipe profile solely for ease of construction, and the requested change requires the installation of an air release valve and manhole as determined by the Engineer, the cost of furnishing and installing the air release valve and manhole will be at the expense of the Contractor.

3.02 CONSTRUCTION METHODS TO AVOID CONTAMINATION

A. Heavy particulates generally contain bacteria and prevent even very high chlorine concentrations from contacting and killing such organisms. It is essential that the procedures of this Specification Section be observed to assure that a water main and its appurtenances are thoroughly clean for the final disinfection by chlorination.

B. Take precautions to protect the interior of pipes, fittings, and valves against contamination. String pipe delivered for construction so as to keep foreign material out of the pipe. Close all openings in the pipeline with watertight plugs when pipe laying is stopped at the close of the day's work or for other reasons, such as rest breaks or meal periods. Use rodent-proof plugs approved by Enginner, where it is determined that watertight plugs are not practical and where thorough cleaning will be performed.

C. Delay in placement of delivered pipe invites contamination. The more closely the rate of delivery is correlated to the rate of pipe laying, the lower the likelihood of contamination. Complete the joints of all pipe in the trench before stopping work. If water accumulates in the trench, keep the plugs in place until the trench is dry.

D. When encountering conditions on pre-existing pipe that requires packing, employ yarning or packing material made of molded or tubular rubber rings, or rope of treated paper or other approved materials. Do not use materials such as jute, asbestos, or hemp. Handle packing material in a manner that avoids contamination.

E. Do not use contaminated material or any material capable of supporting prolific growth of microorganisms for sealing joints. Handle sealing material or gaskets in a manner that avoids contamination. The lubricant used in the installation of sealing gaskets shall be suitable for use in potable water. Deliver the lubricant to the job in closed containers and keep it clean.

F. If dirt enters the pipe, and in the opinion of the Engineer the dirt will not be removed by the flushing operation, clean the interior of the pipe by mechanical means, then swab with a 1% hypochlorite disinfecting solution. Clean using a pig, swab, or "go-devil" only when the Engineer has specified such and has determined that such operation will not force mud or debris into pipe joint spaces.

G. If the main is flooded during construction, the flooded section must be isolated from the remainder of the installation as soon as practical. Submit a plan to the Engineer on correcting the condition and do not proceed until authorized by the Engineer. Replace or fully clean and disinfect the affected pipe at no additional cost to the Owner.

3.03 VALVE INSTALLATION

A. Prior to installation, inspect valves for direction of opening, freedom of operation, tightness of pressure containing bolting, cleanliness of valve ports and especially of seating surfaces, handling damage, and cracks. Correct defective valves or hold for inspection by the Engineer.

B. Set and join to the pipe in the manner specified in Specification Section 3.01. Provide valves with adequate support, such as crushed stone and concrete pads, so that the pipe will not be required to support the weight of the valve. Set truly vertical. After field installation of the valve all exposed ferrous restraint materials and external bolts except the operating nut shall receive a layer of petrolatum tape coating or, where approved, rubberized-bitumen based spray-on undercoating applied before backfill. If polyethylene is applied to the pipe, the entire valve shall be encased in polyethylene encasement prior to backfill. The polyethylene encasement shall be installed up to the operating nut leaving the operating nut exposed and free to be operated.

C. Provide a valve box for each valve. Set the top of the valve box neatly to existing grade, unless directed otherwise by the Engineer. Do not install in a way that allows the transfer shock or stress to the valve. Center and plumb the box over the wrench nut of the valve. Do not use valves to bring misaligned pipe into alignment during installation. Support pipe in such manner as to prevent stress on the valve. See Standard Detail 0201-0601-SD59 for a typical valve box installation detail.

D. Provide valve marking posts, when authorized by the Owner, at locations designated by the Engineer and in accordance with detaiL drawings (included at the end of this Specification Section). Payment will be made per post in accordance with supplemental unit price schedule.

3.04 THRUST RESTRAINT

A. Provide all plugs, caps, tees, and bends (both horizontal and vertical) with concrete thrust blocking and/or restrained joint pipe as represented on the Drawings, or specified in the Specification Special Conditions.

B. Place concrete thrust blocking between undisturbed solid ground and the fitting to be anchored. Install the concrete thrust blocking in accordance with Specification Section 3300 and standard details provided. Locate the thrust blocking to contain the resultant thrust force while keeping the pipe and fitting joints accessible for repair, unless otherwise shown or directed.

C. Provide temporary thrust restraint at temporary caps and plugs. Submit details of temporary restraint to the Engineer for approval.

D. At connections with existing water mains where there is a limit on the time the water main may be removed from service, use metal harnesses of anchor clamps, tie rods and straps; mechanical joints utilizing set-screw retainer glands; or restrained push-on joints as permitted by Engineer. No restraining system can be installed without the approval of the Engineer. Submit details of the proposed installation to the Engineer for approval. For pipe up to 12 inches in size, use a minimum of two 3/4-inch tie rods. If approved for use, install retainer glands in accordance with the manufacturer's instructions. Material for metal harnessing and tie-rods shall be ASTM A36 or A307, as a minimum requirement.

E. Protection of Metal Harnessing: Protect ties rods, clamps and other metal components against corrosion by hand application of petrolatum tape and by encasement of the entire assembly with 8-mil thick (12 mil thick in corrosive soils) loose polyethylene film in accordance with AWWA C105. Apply tape on all exposed tie rods prior to installing polyethylene.

3.05 TYPICAL INSTALLATION DETAILS

The list of Standard Details listed below are attached to the specification 01010.

END OF SECTION

SECTION 15020

DISINFECTING PIPELINES

PART 1: GENERAL

1.01 SCOPE OF WORK

Flush and disinfect all pipelines installed under this Contract if indicated in the summary of work. This would include furnishing the necessary labor, tools, transportation, and other equipment for the operation of valves, hydrants, and blowoffs during the chlorination. Install, and if directed remove, all chlorination taps required for disinfection. The cost of this work shall be included in the bid item for pipe installation. The disinfection will be performed under the supervision of Owner.

1.02 WORK BY OWNER

The Owner reserves the option to provide/furnish the chlorine and chlorination equipment. The Owner will furnish water for testing, flushing and disinfecting pipelines. The Owner will also perform bacteriological testing and may collect the sample.

1.03 PROTECTION

Chlorine disinfection and dechlorination shall be under the direct supervision of someone familiar with the physiological, chemical, and physical properties of the form of chlorine used. They shall be trained and equipped to handle any emergency that may arise. All personnel involved shall observe appropriate safety practices to protect working personnel and the public.

The forwards of AWWA Standards B300 and B301 contain information and additional reference material regarding the safe handling of hypochlorites and liquid chlorine. The Contractor shall familiarize himself with this information prior to performing any disinfection work.

1.04 RELATED WORK

Observe the precautions described in Specification Section 15000 to avoid contamination during installation of the pipeline.

1.05 REFERENCES

Refer to current AWWA Standard for Disinfecting Water Mains C651.

PART 2: PRODUCTS

2.01 MATERIALS AND EQUIPMENT

A. Furnish liquid chlorine and injection equipment and/or calcium hypochlorite (HTH) as needed to disinfect all pipelines and appurtenances.

B. Liquid chlorine contains 100% available chlorine and is packaged in steel containers, usually of 100 lb, 150 lb, or 1 ton net chlorine weight. Liquid chlorine is to be furnished in accordance with AWWA B301.

C. Calcium hypochlorite is available in granular form or in approximately 5-g tablets, and contains approximately 65% available chlorine by weight. The material should be stored in a cool, dry, and dark environment to minimize its deterioration. Do not use calcium hypochlorite intend for swimming pool disinfection, as this material (containing trichloroisocyanuric acid) has been sequestered and is extremely difficult to eliminate from the pipe after the desired contact time had been achieved.

D. Calcium hypochlorite must conform to AWWA B300.

PART 3: EXECUTION

3.01 PREPARATION

All pipelines shall be pressure and leak tested, flushed, and cleaned of debris and dirt prior to application of the disinfectant. Flushing shall continue until the volume in the newly installed main has turned over at least one time unless the Engineer determines that conditions do not permit the required volume to be safely discharged to waste.

3.02 APPLICATION OF DISINFECTANT

Methods to be used for disinfection are those detailed in ANSI/AWWA C651 Disinfecting Water Mains.

3.03 WATER MAINS

Three (3) methods of chlorination are described below. The third method, using tablets of hypochlorite, is only permitted by expressed approval of the Engineer and under no circumstance allowed for projects of 2000 feet or more. Otherwise, information in the forward of AWWA Standard C651 will be helpful in determining the best method to be used.

A. Continuous Feed Method

1. Set up

The continuous feed method consists of completely filling the main to remove all air pockets, flushing the completed main to remove particulates, and then refilling the main with chlorinated potable water. The potable water shall be chlorinated, so that after a 24-hour holding period in the main, there will be a free chlorine residual of not less than 10 mg/L in collected samples.

Chlorine can be applied in advance of preliminary flushing by swabbing joints with bleach or placing hypochlorite granules in the pipe in areas where contamination is suspected. In any such case, the contractor shall make sure and take appropriate action to make sure that the flushed water is dechlorinated.

Preliminary flushing. Prior to being chlorinated, fill the main to eliminate air pockets and flush to remove particulates. The flushing velocity in the main shall be not less than 2.5 fps unless the Engineer determines that conditions do not permit the required flow to be discharged to waste. Table 1 shows the rates of flow required to produce a velocity of 2.5 fps in pipes of various sizes.

NOTE: Flushing is no substitute for preventive measures during construction. Certain contaminants such as caked deposits resist flushing at any feasible velocity.

TABLE 1
Required Flow and Openings to Flush Pipelines
(40 psi Residual Pressure in Water Main)*

Pipe Diameter (inches)	Flow required to produce 2.5 fps velocity in main (gpm)	Size of Tap. (inches) Number of taps on Pipe† 1	1-1/2	2	Number of 2-1/2 in. Hydrant Outlets to Use
4	100	1	-	-	1
6	200	-	1	-	1
8	400	-	2	1	1
10	600	-	3	2	1
12	900	-	-	2	2
16	1600	-	-	4	2

*With a 40 psi pressure in the main with the hydrant flowing to atmosphere, a 2½-inch hydrant outlet will discharge approximately 1,000 gpm and a 4½-inch hydrant outlet will discharge approximately 2,500 gpm.

† Number of taps on pipe based on discharging through 5 feet of galvanized iron pipe with one 90 degree elbow.

In mains of 24-inches or larger diameter, an acceptable alternative to flushing is to broom-sweep the main, carefully removing all sweepings prior to chlorinating the main.

2. Chlorinating the Main.

a. Flow water from the existing distribution system or other approved source of supply at a constant, measured rate into the newly laid water main. In the absence of a meter, approximate the rate by placing a pitot gauge in the discharge or measuring the time to fill a container of known volume.

b. At a point not more than 10 feet downstream from the beginning of the new main, dose the water entering the new main with chlorine fed at a constant rate such that the water will have not less than 25 mg/L free chlorine. Measure the chlorine concentration at regular intervals to

ensure that this concentration is provided. Measure chlorine in accordance with the procedures described in the current edition of the AWWA Manual M12 or of *Standard Methods for the Examination of Water and Wastewater.*

c. Table 2 gives the amount of chlorine required for each 100 feet of pipe of various diameters. Solutions of 1 percent chlorine may be prepared with calcium hypochlorite. The solution requires 1 pound of calcium hypochlorite in 8 gallons of water.

TABLE 2
Chlorine Required to Produce 25 mg/L
Concentration in 100 feet of Pipe by Diameter

Pipe Diameter inches	100 Percent Chlorine lbs	1 Percent Chlorine Solutions gallons
4	0.013	0.16
6	0.030	0.36
8	0.054	0.65
10	0.085	1.02
12	0.120	1.44
16	0.217	2.60

d. During the application of chlorine, position valves so that the strong chlorine solution in the main being treated will not flow into water mains in active service. Do not stop the chlorine application until the entire main is filled with heavily chlorinated water. Keep the chlorinated water in the main for at least 24 hours. During this time, operate all valves and hydrants in the section treated in order to disinfect the appurtenances. At the end of this 24-hour period, the treated water in all portions of the main shall have a residual of not less than 10 mg/L free chlorine.

e. Hypochlorite solution may be applied to the water main with a gasoline or electrically powered chemical feed pump designed for feeding chlorine solutions. Feed lines shall be of such material and strength as to safely withstand the corrosion caused by the concentrated chlorine solutions and the maximum pressures that may be created by the pumps. Check all connections shall for tightness before the solution is applied to the main.

f. If gaseous chlorine in solution is permitted by the Engineer and proposed by the contractor, the preferred equipment for the gas application employs a feed vacuum-operated chlorinator to mix the chlorine gas, in combination with a booster pump for injecting the chlorine gas solution water into the main to be disinfected. Direct feed chlorinators cannot be used. (A direct feed chlorinator is one which operates solely from the pressure in the chlorine cylinder.)

B. Slug Method

1. Setup

a. The slug method consists of placing calcium hypochlorite granules in the main during construction; completely filling the main to eliminate all air pockets, flushing the main to remove particulates, and slowly flowing a slug of water containing 100 mg/L of free chlorine through the main so that all parts of the main and its appurtenances will be exposed to the highly chlorinated water for a period of not less than 3 hours.

2. Chlorinating the main.

a. At the option of the OWNER, place calcium hypochlorite granules in the main during construction. The purpose of this procedure is to provide a strong chlorine concentration in the first flow of flushing water especially to fill annular spaces in pipe joints. Flush the main to eliminate air and remove particulates to include management of dechlorination and discharged water.

b. At a point not more than 10 feet downstream from the beginning of the new main, dose the water entering the new main with chlorine fed at a constant rate such that the water will have not less than 100 mg/L free chlorine. Measure the chlorine concentration at regular intervals to ensure that this concentration is provided. Measure chlorine in accordance with the procedures described in the current edition of the AWWA Manual M12 or of *Standard Methods for the Examination of Water and Wastewater*. The chlorine shall be applied continuously and for a sufficient period to develop a solid column or "slug" of chlorinated water that will, as it moves through the main, expose all interior surfaces to a concentration of approximately 100 mg/L for at least 3 hours.

c. The free chlorine residual shall be measured in the slug as it moves through the main. If at any time it drops below 50 mg/L, stop the flow, relocate the chlorination equipment to the head of the slug, and as flow is resumed, apply chlorine to restore the free chlorine in the slug to not less than 100 mg/L.

d. As the chlorinated water flows past fittings and valves, operate related valves and hydrants so as to disinfect appurtenances and pipe branches.

C. Tablet Method

1. Setup

a. The tablet method consists of adhering calcium tablets in the water main as it is being installed and then filling the main with potable water when installation is completed. This method may be used only if the pipes and appurtenances are kept clean and dry during construction and with permission by the Engineer for short main installations.

2. Chlorinating the Main –

a. Placing of calcium hypochlorite tablets - *Placing of calcium hypochlorite tablets.* During construction, 5-g calcium hypochlorite tablets shall be placed in each section of pipe. Also, one such tablet shall be placed in each hydrant, hydrant branch, and other appurtenance. The number of 5-g tablets required for each pipe section shall be *0.0012* d^2L rounded to the next higher integer, where *d is* the inside pipe diameter, in inches, and L is the length of the pipe section, in feet. Table *1* shows the number of tablets required for commonly used sizes of pipe. The tablets shall be attached by a food-grade NSF approved adhesive. There shall be no adhesive on the tablet except on the broadside attached to the surface of the pipe and no adhesive applied or spilled on the pipe surface. Excess adhesive must be removed immediately using mechanical means or an NSF approved adhesive solvent. Attach all the tablets inside and at the top of the main, with approximately equal numbers of tablets at each end of a given pipe length. If the tablets are attached before the pipe section is placed in the trench, their position shall be marked on the section so it can be readily determined that the pipe is installed with the tablets at the top.

		Length of Pipe Section, ft (m)				
Pipe Diameter		**13(4.0) or less**	**18(5.5)**	**20(6.1)**	**30(9.1)**	**40(12.2)**
in.	(*mm*)	Number of 5-g Calcium Hypochlorite Tablets				
6	(150)	1	1	1	2	2
8	(200)	1	2	2	3	4
12	(300)	3	4	4	6	7
16	(400)	4	6	7	10	13

b. *Filling and contact.* When installation has been completed, the main shall be filled with water at a rate such that water within the main will flow at a velocity no greater than 1 ft/s (0.3 m/s). Precautions shall be taken to ensure that air pockets are eliminated. This water shall remain in the pipe for at least 24 hours. If the water temperature is less than 41°F (5°C), the water shall remain in the pipe for at least 48 hours.

3.04 DISPOSAL OF HEAVILY CHLORINATED WATER

A. Do not keep heavily chlorinated water in contact with pipe for more than 48 hours after the applicable retention period. In order to prevent damage to the pipe lining or corrosion damage to the pipe itself, flush the heavily chlorinated water from the main fittings, valves, and branches until chlorine measurements show that the concentration in the water leaving the main is no higher than that generally prevailing in the system or is acceptable for domestic use. Take all

steps necessary to dechlorinate water where required per section 3.04B and 3.04C below. Contact the local sewer department to arrange for disposal of the heavily chlorinated water to the sanitary sewer if applicable.

B. Neutralize the chlorine residual of the water being disposed of by treating with one of the chemicals listed in Table 3. Select an alternative disposal site if a sanitary sewer system is unavailable for disposal of the chlorinated water.

C. The proposed alternative disposal site shall be inspected and approved of by the Engineer. Apply a reducing agent to the chlorinated water to be wasted to completely neutralize the chlorine residual remaining in the water. (See Table 3 for neutralizing chemicals. Do not overdose neutralizing chemicals as this may result in adverse environmental impacts. Only dose the amount required to neutralize the amount of chlorine present). Contact federal, state and local regulatory agencies, where necessary, to determine special provisions for the disposal of heavily chlorinated water.

Table 3
Pounds of chemicals required to neutralize various residual chlorine concentrations in 100,000 gallons of water.

Residual Chlorine Concentration	Sulfur Dioxide	Sodium Bisulfite	Sodium Sulfite	Sodium Thiosulfate	Ascorbic Acid
mg/L	(SO_2)	($NaHSO_3$)	(Na_2SO_3)	($Na_2S_2O_3 \cdot 5H_2O$)	($C_6O_8H_6$)
1	0.8	1.2	1.4	1.2	2.1
2	1.7	2.5	2.9	2.4	4.2
10	8.3	12.5	14.6	12.0	20.9
50	41.7	62.6	73.0	60.0	104.0

D. Test for chlorine residual throughout the disposal process to be sure that the chlorine is neutralized

E. Submit a plan of disposal of flushed water to the Engineer for approval

3.05 BACTERIOLOGICAL TESTING

A. After final flushing and before the water main is placed in service, the first of two consecutive sets of acceptable samples can be collected from the new main. The second set of samples must be taken at least 24 hours after the first set of samples. The main should not be flushed between collection of the first and second set of samples except to clear the sample site to collect the second sample. At least one set of samples shall be collected from every 1,200 feet, of the new water main, plus one set from the end of the line and at least one set from each branch when possible or as required by regulatory requirements.

B. Samples shall be collected by a person knowledgeable in collecting samples for bacteriological sampling or arrange for the Owner to collect the sample.

Coordinate with Owner and submit samples to the Owner for testing of bacteriological (chemical and physical) quality. Testing will be in accordance with Standard Methods of the Examination of Water and Wastewater. Samples shall show the absence of coliform organisms; and the presence of a chlorine residual. Samples shall also be tested for turbidity, pH, and standard heterotrophic plate count (HPC). HPC levels must be consistent with levels normally found in the distribution system to which the new main is connected.

C. Bacteriological tests must show complete absence of coliforms and acceptable HPCs. If tests show the presence of coliform or unacceptable HPCs, perform additional flushing and disinfection of the pipeline until acceptable tests are obtained, all at no cost to the Owner. The Contractor will not be charged for the additional testing performed by the Owner.

3.06 RETESTING AND TESTING SOURCE WATER

A. At the time of initial flushing the main to remove material, and test for air pockets, Contractor may request the Owner to continue flushing until the desired chlorine residual is met at the discharge point. Notification must be provided in advance and the Contractor shall be prepared to test for chlorine at intervals of no more than five minutes as the water clears. This will provide the Contractor with some assurance that the source water is chlorinated.

B. If the subsequent tests for bacteriological contamination conducted by the Contractor fail, the Contractor may request the Owner to continue flush from the source water into the new pipe system until a chlorine residual is found at the discharge point. Notification must be provided in advance and the Contractor shall be prepared to test for chlorine at intervals of no more than five minutes as the water clears. The operation of all existing system valves shall be by the Owner at the Contractor expense and the discharge point must be opened prior to opening existing valves to avoid contamination. This will provide the Contractor with some assurance that the source water is chlorinated for subsequent tests.

END OF SECTION

SECTION 15030

PRESSURE AND LEAKAGE TESTS

PART 1: GENERAL

1.01 SCOPE OF WORK

Test all piping, valves, and appurtenances installed under these Contract Documents. Testing shall be performed concurrent with installation. Do not install more than 1,200 feet of pipe without being tested, unless approved by the Engineer.

1.02 SUBMITTALS

Prepare and submit schedules and procedures to the Engineer for testing of all parts of the water main installed in accordance with these Contract Documents. Submit the schedule at least seven days prior to any testing.

PART 2: PRODUCTS

2.01 EQUIPMENT

Furnish the pump, pipe connections, and all necessary apparatus for the pressure and leakage tests including gauges and metering devices. The Owner reserves the option to furnish the gauges and metering devices for the tests. Excavate, backfill, and furnish all necessary assistance for conducting the tests.

PART 3: EXECUTION

3.01 GENERAL

A. Perform hydrostatic pressure and leak tests in accordance with AWWA C600, Section 4 - Hydrostatic Testing after the pipe or section of pipe has been laid, thrust blocking cured (min. 5 days), and the trench is completely or partially backfilled. Where practical, testing shall be performed fully isolated from the active distribution system.

B. The Contractor may, at his option, completely backfill the trench or partially backfill the trench over the center portion of each pipe section to be tested. However, the Engineer may direct the Contractor to completely backfill the trench if local traffic or safety conditions require.

C. For system operating pressures of 200 psi or less, perform the hydrostatic test at a pressure of no less than 100 psi above the normal operating pressure without exceeding the rating of the pipe and appurtenances. For system operating pressures in excess of 200 psi, perform the hydrostatic test at a pressure that is 1.5 times the normal operating pressure, but no more than the design rating of the pipe and appurtenances.

D. Valves shall not be operated in either direction at a differential pressure exceeding the rated valve working pressure. A test pressure greater than the rated valve working

pressure can result in trapped test pressure between the gates of a double-disc gate valve. For tests exceeding the rated valve working pressure, the test setup should include a provision, independent of the valve, to reduce the line pressure to the rated valve working pressure on completion of the test. The valve can then be opened enough to equalize the trapped pressure with the line pressure, or the valve can be fully opened if desired.

E. The test pressure shall not exceed the rated working pressure or differential pressure of the valves when the pressure boundary of the test section includes closed, resilient-seated gate valves or butterfly valves.

F. Attach a tapping sleeve and valve assembly to the main. Pressure test the assembly prior to making the tap. The required test pressure shall be determined in the same manner as for pipe. The test is acceptable if there is no pressure drop in 15 minutes at test pressure.

3.02 FILLING AND TESTING

A. Slowly fill each segregated section of pipeline with water ensuring that all air is expelled. Extreme care must be taken to ensure that all air is expelled during the filling of pipe. The line shall stand full of water for at least twenty-four hours prior to testing to allow all air to escape. If necessary, tap the main at points of highest elevation to expel air as the pipe is filled. Remove the corporation stops and plug the taps after successfully filling the pipeline and expelling all air as approved by the Engineer.

B. Apply the specified test pressure, measured at the point of lowest elevation, using a pump connected to the pipe in a manner satisfactory to the Engineer. If the elevation of the high point of the pipeline being tested is such that the pressure during testing will be below 85% of the required test pressure, the Engineer will require a separate test to be performed on this section of pipeline. In lieu of a separate test, the test pressure measured at the lowest elevation may be increased, within the pressure rating of the pipeline material, such that the resulting pressure at the highest point exceeds 85% of the required test pressure. The test will be conducted for at least two hours at the required test pressure ± 5 psi.

C. Conduct a leakage test concurrently with the pressure test. Leakage is defined as the volume of the water that must be supplied into the newly laid pipeline to maintain pressure within 5 psi of the test pressure after it is filled and purged of air. Measure the volume of water using a calibrated container or meter.

D. No pipeline installation will be accepted by the Engineer if the leakage is greater than that shown in the following table:

Allowable Leakage per 1000 ft. of Pipeline*---gph

Avg. Test Pressure	Nominal Pipe Diameter—*in.*													
psi	4	6	8	10	12	14	16	18	20	24	30	36	42	48
450	0.57	0.86	1.15	1.43	1.72	2.01	2.29	2.58	2.87	3.44	4.30	5.16	6.02	6.88
400	0.54	0.81	1.08	1.35	1.62	1.89	2.16	2.43	2.70	3.24	4.05	4.86	5.68	6.49
350	0.51	0.76	1.01	1.26	1.52	1.77	2.02	2.28	2.53	3.03	3.79	4.55	5.31	6.07
300	0.47	0.70	0.94	1.17	1.40	1.64	1.87	2.11	2.34	2.81	3.51	4.21	4.92	5.62
275	0.45	0.67	0.90	1.12	1.34	1.57	1.79	2.02	2.24	2.69	3.36	4.03	4.71	5.38
250	0.43	0.64	0.85	1.07	1.28	1.50	1.71	1.92	2.14	2.56	3.21	3.85	4.49	5.13
225	0.41	0.61	0.81	1.01	1.22	1.42	1.62	1.82	2.03	2.43	3.04	3.65	4.26	4.86
200	0.38	0.57	0.76	0.96	1.15	1.34	1.53	1.72	1.91	2.29	2.87	3.44	4.01	4.59
175	0.36	0.54	0.72	0.89	1.07	1.25	1.43	1.61	1.79	2.15	2.68	3.22	3.75	4.29
150	0.33	0.50	0.66	0.83	0.99	1.16	1.32	1.49	1.66	1.99	2.48	2.98	3.48	3.97
125	0.30	0.45	0.60	0.76	0.91	1.06	1.21	1.36	1.51	1.81	2.27	2.72	3.17	3.63
100	0.27	0.41	0.54	0.68	0.81	0.95	1.08	1.22	1.35	1.62	2.03	2.43	2.84	3.24

*If the pipeline under test contains sections of various diameters, the allowable leakage will be the sum of the computed leakage for each size. The table has been generated from the formula: $L = \frac{S*D*P^{1/2}}{148,000}$ where L is the allowable leakage in gallons per hour, S is the length of pipe in feet, D is the nominal pipe diameter in inches, and P is the test pressure in psig.

E. Should any test disclose damaged or defective materials or leakage greater than that permitted, the Contractor shall, at Contractor's expense, locate and repair and/or replace the damaged or defective materials. Materials used for repair must be approved by the Engineer and meet the specifications. Repeat the tests until the leakage is within the permitted allowance and is satisfactory to the Engineer.

END OF SECTION

SECTION 15106

DUCTILE IRON PIPE AND FITTINGS
(Contractor Furnished)

PART 1: GENERAL

1.01 COORDINATION OF WORK

Connection to existing pipelines may require shutdown of Owner facilities. Closely coordinate construction work and connections with the Owner through the Engineer. The Engineer, in consultation with the Owner, may select the time for connection to existing pipelines, including Saturdays, Sundays, or holidays, which, in the opinion of the Engineer, will cause the least inconvenience to the Owner and/or its customers. Make such connections at such times as may be directed by the Owner, at the Contract prices, with no claim for premium time or additional costs.

1.02 RELATED WORK

Piping - General Provisions - Specification Section 15000

1.03 SUBMITTALS

Submit shop drawings and manufacturer's literature for all Contractor supplied materials promptly to the Engineer for approval in accordance with Specification Section 1300.

1.04 REFERENCES

Refer to current AWWA Standards:

AWWA C104 - American National Standard for Cement-Mortar Lining for Ductile-Iron Pipe and Fittings for Water

AWWA C105 - American National Standard for Polyethylene Encasement for Ductile-Iron Pipe Systems

AWWA C110 - American National Standard for Ductile-Iron and Gray-Iron Fittings, 3-inch through 48-inch, for Water and Other Liquids

AWWA C111 - American National Standard for Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings

AWWA C115 - American National Standard for Flanged Ductile-Iron Pipe with Ductile-Iron or Gray-Iron Threaded Flanges

AWWA C116 - American National Standard for Protective Fusion-Bonded Epoxy Coatings for the Interior and Exterior Surfaces of Ductile-Iron and Gray-Iron Fittings for Water Supply Service

AWWA C150 - American National Standard for the Thickness Design of Ductile-Iron Pipe

AWWA C151 - American National Standard for Ductile-Iron Pipe, Centrifugally Cast, for Water

AWWA C153 - American National Standard for Ductile-Iron Compact Fittings, 3-inch through 24-inch and 54-inch through 64-inch, for Water Service

AWWA C600 -- AWWA Standard for Installation of Ductile-Iron Water Mains and Their Appurtenances

PART 2: PRODUCTS

Research has documented that certain elastomers (such as those used in gasket material) may be subject to permeation by lower-molecular weight organic solvents or petroleum products. Products supplied under this Specification Section assume that petroleum products or organic solvents will not be encountered. If during the course of pipeline installation the Contractor identifies, or suspects the presence of petroleum products or any unknown chemical substance, notify the Engineer immediately. Stop installing piping in the area of suspected contamination until direction is provided by the Engineer.

2.01 PIPE MATERIAL

A. General

Ductile iron pipe shall conform to the latest specifications as adopted by the American National Standards Institute, Inc., (ANSI) and the American Water Works Association (AWWA). Specifically, ductile iron pipe shall conform to AWWA Standard C151.

The pipe or fitting exterior shall be coated with a bituminous coating in accordance with AWWA Standard C151. The pipe or fitting interior shall be cement mortar lined and seal coated in compliance with the latest revision of AWWA Standard C104.

B. Quality

Pipe and fittings shall meet the following minimum quality requirements by conforming to the following:

1. AWWA C105 / ANSI A21.5 Cement-Mortar Lining for Ductile-Iron Pipe and Fittings for Water Polyethylene Encasement for Ductile-Iron Pipe Systems
2. AWWA C110 / ANSI A21.10 Ductile Iron and Gray Iron Fittings, 3 NPS through 48 NPS for Water AWWA C111 / ANSI A21.11 Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings
3. AWWA C115 / ANSI A21.15 Flanged Ductile-Iron Pipe with Ductile-Iron or Gray-Iron Threaded Flanges
4. AWWA C116 / ANSI A21.16 Protective Fusion-Bonded Epoxy Coating for the Interior and Exterior Surfaces of Ductile-Iron and Gray-Iron Fittings for Water Supply Service
5. AWWA C150 / ANSI A21.50 Thickness Design of Ductile-Iron Pipe

6. AWWA C151 / ANSI A21.51 Ductile-Iron Pipe, Centrifugally Cast, for Water
7. AWWA C153 / ANSI A21.53 Ductile-Iron Compact Fittings, 3 NPS through 24 NPS and 54 NPS through 64 NPS, for Water Service

Ductile iron water pipe and fittings will be accepted on the basis of the Manufacturer's certification that the material conforms to this specification. The certification for iron fittings shall list a fitting description, quantity, bare fitting weight and source, (AWWA Standard C110, C153 or Manufacturer, if fitting is not listed in either standard). The certification shall accompany the material delivered to the project site. The Owner reserves the right to sample and test this material subsequent to delivery at the project site. If foreign manufactured fittings are provided, then the Contractor is obligated to notify the Engineer with a submittal and provide the necessary documentation to satisfy the Engineer and the Owner that the materials provided meet the specified AWWA standards and, among other documentation that may be required, provide certificates of compliance on the component supplied.

C. Pipe Class

The pressure class of pipe to be furnished shall be in accordance with Table 1 and the notes listed below.

Table 1
MINIMUM RATED WORKING PRESSURE
FOR DUCTILE IRON PIPE MANUFACTURED IN ACCORDANCE
WITH AWWA Standard C151

Pipe Size (Inch)	Pressure Class
6	350
8	350
12	350
16	300
20	300
24	250

NOTES:

1. Larger pipe sizes up to 54-inch can be installed as pressure Class 200 with cover up to nine (9) feet and an operating pressure of 200 psi, where approved by the Engineer. When trench depths exceed fifteen (15) feet for pipe sizes of 16-inch or larger, the Engineer shall direct the Contractor on the proper class pipe to use.

2. The noted pressure class is adequate to support 3/4 and 1-inch corporation stops. Use a full saddle for larger taps (e.g.., air relief valves or larger corporations) due to limited wall thickness.

3. There are special conditions where a larger wall thickness is required. The Engineer shall direct the Contractor on the proper pressure class pipe to use in specific instances; e.g. at treatment plant or booster station sites where frequent excavation can be anticipated in the vicinity of pipe, where

the pipeline is laid on a river channel bottom to prevent external damage to the pipe and minimize the potential for costly pipe replacement, etc.

D. Testing

Perform a hydrostatic test of all pipe and appurtenances as required by AWWA Standard C151 and Specification Section 15030.

E. Joints

1. Mechanical and Push-On

Mechanical and push-on joints including accessories shall conform to AWWA Standard C111.

2. Flanged

Flanged joints shall conform to AWWA Standard C110 or ANSI B16.1 for fittings and AWWA Standard C115 for pipe. Do not use flanged joints in underground installations except within structures.

Furnish all flanged joints with 1/8-inch thick, red rubber or styrene butadiene rubber gaskets. The bolts shall have American Standard heavy unfinished hexagonal head and nut dimensions all as specified in American Standard for Wrench Head Bolts and Nuts and Wrench Openings (ANSI B18.2). For bolts of 1-3/4-inches in diameter and larger, bolt studs with a nut on each end are recommended. The high-strength, low-alloy steel for bolts and nuts shall have the characteristics listed in Table 6 of AWWA Standard C111. Exposed bolts and nuts in aggressive
soils shall be Xylan or FluoroKote #1.

3. Restrained Joint Pipe

Restrained joints for pipes shall be of the boltless push-on type which provides joint restraint independent of the joint seal. Restrained push-on joints allowed for pipe only shall have accessories conforming to AWWA Standard C111. Restrained system shall be suitable for the following minimum working pressures:

Size (Inch)	Pressure (psi)
Less than 20"	350
20"	300
24"	250
30" - 64"	200

F. Suppliers

Suppliers acceptable to American Water are

1. United States Pipe & Foundry Co.
   1101 East Pearl Street
   Burlington, NJ 08016

2. Griffin Pipe Products Company
   1100 West Front Street
   Florence, NJ 08518

3. McWane Cast Iron Pipe Co.
   P. O. Box 607
   Birmingham, AL 35201

4. American Cast Iron Pipe Company
   2916 16h Street North
   Birmingham, AL 35207

2.02 FITTINGS

A. Ductile Iron Fittings

Standard fittings shall be ductile iron conforming to AWWA Standard C110. Compact ductile iron fittings shall meet the requirements of AWWA Standard C153.

1. Working Pressures

Fittings shall be suitable for the following working pressures unless otherwise noted in AWWA Standard C110 or C153:

	Pressure (psi)	
	Compact Fittings	Standard Fittings
Size	Ductile Iron	Ductile Iron
3" - 24"	350	250 , 350 (with special gaskets)
30" - 48"	250	250
54" - 64"	150	N/A

The use of standard ductile iron fittings having a 250 psi pressure rating with ductile iron pipe (having a rating of 350 psi) is not permitted except by the expressed written approval by the Engineer.

2. Coating and Lining

The fittings shall be coated on the outside with a petroleum asphaltic coating in accordance with AWWA Standard C110 or fusion coated epoxy in accordance with AWWA Standard C116 and lined inside with cement-mortar and seal coated in accordance with AWWA Standard C104 or fusion coated epoxy in accordance with AWWA Standard C116.

B. Suppliers acceptable to American Water are

1. (Sigma through) United States Pipe & Foundry Co.
   1101 East Pearl Street
   Burlington, NJ 08016

2. (Tyler Union –domestic only)
   McWane Cast Iron Pipe Co.
   P. O. Box 607
   Birmingham, AL 35201

3. American Cast Iron Pipe Company
   2916 16h Street North
   Birmingham, AL 35207

B. Joints

1. Mechanical and Push-On

Mechanical and push-on joints including accessories shall conform to AWWA Standard C111. Anti-Rotation I T-Bolts shall be used on mechanical joints shall be of domestic origin, high strength, low alloy steel bolts only, meeting the current provisions of American National Standard ANSI/AWWA C111/A21.1-90 for rubber gasket joints for cast iron or ductile iron pipe and fittings. Bolt manufacturer's certification of compliance must accompany each shipment. T-bolts shall be Xylan or FluoroKote #1, (corrosion resistant) to handle corrosive conditions on any buried bolts.

2. Flanged

Flanged joints shall meet the requirements of AWWA Standard C115 or ANSI B16.1. Do not use flanged joints in underground installations except within structures. Furnish all flanged joints with a minimum 1/8-inch, thick red rubber or styrene butadiene rubber gasket. The bolts shall have American Standard heavy unfinished hexagonal head and nut dimensions all as specified in ANSI B18.2. Xylan or FluoroKote #1 Hex Bolts (corrosion resistant) to handle corrosive conditions shall be used on any buried flanged bolts. Flange gaskets shall be rubber in composition; paper gaskets are not permitted.

Bolts and nuts hall be threaded in accordance with ASME/ANSI B1.1, Unified Inch Screw Threads (UN and UNR Thread Form) class 2A external and class 2B internal. For bolts of 1-3/4-inches in diameter and larger, bolt studs with a nut on each end are recommended. Material for bolts and nuts shall conform to ASTM A307, 60,000 PSI Tensile Strength, Grade B, unless otherwise specified. Bolt manufacturer's certification of compliance must accompany each shipment.

3. Restrained

Restrained joints for valves and fittings shall be of the boltless push-on type which provides joint restraint independent of the joint seal. Field Lok gaskets are not permitted on valves or fittings. Restrained push-on joints allowed for pipe only shall have accessories conforming to AWWA Standard C111.

Restrained system shall be suitable for the following minimum working pressures:

Size	Pressure (psi)
Less than 20"	350
20"	300
24"	250
30" - 64"	250

Where adjacent fittings are to be placed (as in a mechanical joint hydrant tee and a mechanical joint hydrant valve), the use of a suitably sized Foster adaptor is permitted to facilitate restraint between the fittings.

PART 3: EXECUTION

3.01 INSTALLATION

Follow the provisions of Specification Section 15000 and 02210 in addition to the following requirements:

A. Push-On Joints

Clean the surfaces that the gasket will contact thoroughly, just prior to assembly using a bacteria free solution (bleach, potable water or NSF approved material). Insert the gasket into the groove in the bell. Apply a liberal coating of special lubricant to the gasket and the spigot end of the pipe before assembling the joint. Center the spigot end in the bell and push home the spigot end.

B. Mechanical Joints

Clean and lubricate all components with soapy water prior to assembly. Slip the follower gland and gasket over the pipe plain end making sure that the small side of the gasket and lip of the gland face the bell socket. Insert the plain end into socket. Push gasket into position with fingers. Seat gasket evenly. Slide gland into position, insert bolts, and tighten nuts by hand. Tighten bolts alternately (across from one another) to the recommended manufacturing rating or if not provided, to the following normal torques:

Bolt Size	Range of Torque In Foot-Pounds
5/8"	40 - 60
3/4"	60 - 90
1"	70 - 100
1-1/4"	90 - 120

After field installation, all bolts shall receive petrolatum tape or petroleum wax protection or other approved coating material. Protection shall be applied before applying polywrap per specification 15131.

C. Restrained Joints

1. Ball and Socket

Assemble and install the ball and socket joint according to the manufacturer's recommendations. Thoroughly clean and lubricate the joint. Check the retainer ring fastener.

2. Push-On

Assemble and install the push-on joint according to the manufacturer's recommendations. Thoroughly clean and lubricate the joint. Check the retainer ring fastener.

Protect pipe from damage from the jacking device (backhoe bucket, pipe jack, etc.) when "pushing home" any pipe by using wood or other suitable (non metallic) material.

(3) Mechanical Joint

Assemble and install the mechanical joint according to the manufacturer's recommendations. Thoroughly clean and lubricate the joint. Use approved restrained joint device on fittings and valves where required and approved for use by Engineer.

D. Pipe Protection

Protect pipe from damage from the jacking device (backhoe bucket, pipe jack, etc.) when "pushing home" any pipe. Wood or other suitable material (non metallic) shall be used to push home the pipe.

E. Gaskets

Gaskets shall be as provided or recommended by the manufacturer and satisfy AWWA standard C111 in all respects. As noted in the products section of this specification, some gasket materials are prone to permeation of certain hydrocarbons which may exist in the soil (see part 2). Under these conditions and at the Engineer's discretion require contractor to provide FKM (Viton, Flourel) gasket material in areas of concern.

END OF SECTION

SECTION 15125

HIGH DENSITY POLYETHYLENE (HDPE) PIPE AND FITTINGS FOR WATER DISTRIBUTION AND TRANSMISSION (Contractor Furnished)

PART 1: GENERAL

1.01 SECTION INCLUDES

Furnishing and installing 4 inch through 63 inch high density polyethylene (HDPE) pipe and fittings for water distribution and transmission.

1.02 REFERENCES

A. AWWA Standard C906: Polyethylene (PE) Pressure Pipe and Fittings, 4 In. (100 mm) though 63 In. (1,575 mm), for Water Distribution and Transmission.

B. ASTM D3350: Standard Specification for Polyethylene Plastics Pipe and Fittings Materials.

C. ASTM D2683: Standard Specification for Socket-Type Polyethylene Fittings for Outside Diameter-Controlled Polyethylene Pipe and Tubing.

D. ASTM D3261: Standard Specification for Butt Heat Fusion Polyethylene (PE) Plastic Fittings for Polyethylene (PE) Plastic Pipe and Tubing.

E. ASTM F1055: Standard Specification for Electrofusion Type Polyethylene Fittings for Outside Diameter Controlled Polyethylene Pipe and Tubing.

F. ASTM D2774: Standard Practice for Underground Installation of Thermoplastic Pressure Piping.

1.03 SUBMITTALS

Submit manufacturer's product data, installation instructions, and certification for all materials to be furnished in accordance with Specification Section 1300. Submit classification and gradation test results for material(s) to be used for pipe embedment and backfill.

PART 2: PRODUCTS

2.01 MATERIALS

A. Research has documented that certain pipe materials (such as polyethylene, polybutylene, polyvinyl chloride, and asbestos cement) and elastomers, such as used in jointing gaskets and packing glands, may be subject to permeation by lower molecular weight organic solvents or petroleum products. Products supplied under this Specification Section

assume that petroleum products or organic solvents will not be encountered. If during the course of pipeline installation the Contractor identifies, or suspects the presence of petroleum products or any unknown chemical substance, notify the Engineer immediately. Stop installing piping in the area of suspected contamination until direction is provided by the Engineer.

B. Pipe and fittings shall be made from the same resin meeting the requirements of the Plastic Pipe Institute (PPI) material designation PE 3408 with an ATSM D3350 minimum cell classification of PE 345464C.

C. The material shall have a minimum Hydrostatic Design Basis (HDB) of 1,600 psi at 73 degrees F.

D. All materials which come in contact with water, including lubricants, shall be evaluated, tested, and certified for conformance with ANSI/NSF Standard 61.

2.02 PIPE

A. All pipe and fittings shall be manufactured in ductile iron pipe sizes (DIPS) only in accordance with AWWA Standard C906.

B. The pipe shall contain no recycled compound except for rework material generated in the manufacturer's own plant that has the same cell classification as the material to which it is being added. The pipe shall be homogeneous throughout and free of visible cracks, holes, voids, foreign inclusions, or other defects that may affect the wall integrity.

C. Permanent identification of water piping service shall be provided by co-extruding longitudinal blue stripes into the pipe outside surface. The striping material shall be the same material as the pipe material except for color. Stripes printed or painted on the outside surface shall not be acceptable.

D. The nominal pipe diameter is specified on the Contract Drawings. The DR (dimension ratio) and the pressure rating of the pipe shall be as noted on the plans.

E. The minimum pressure rating will be 200 psi.

F. HDPE may be deflected subject to approval by the Engineer. The following table shows maximum deflection based upon the allowable strain of the pipe wall. Potential flow restrictions, surge and other non-trench stability and pipe strain issues may reduce the values shown here per the Engineer's recommendations. The bend radius multiplier determines the minimum radius of the pipe curvature and is calculated by multiplying the outside diameter of the pipe by the multiplier from the appropriate DR used. Bending radius allowed by the manufacturer can vary. Verify the multiplier with the manufacturer. In no case shall the

radius be less than 125% of the manufacturer's permitted multiplier.

PE pipe Dimension Ratio (DR)	Allowable deflection (percent)	Bend Radius Multiplier
32.5	8.1	50
26.0	6.5	45
21.0	5.2	40
19.0	4.7	37.5
17.0	4.2	32.5
15.5	3.9	30
13.5	3.4	27.5
11.0	2.7	25

2.03 FITTINGS

A. Plain end butt fused fittings and electrofusion couplings shall be used when joining polyethylene materials. Mechanical (compression) fittings shall be used only when joining polyethylene materials to different piping materials and approved by the Engineer.

B. The fittings shall contain no recycled compound except for rework material generated in the manufacturer's own plant that has the same cell classification as the material to which it is being added. The fittings shall be homogeneous throughout and free of visible cracks, holes, voids, foreign inclusions, or other defects that may affect the wall integrity.

C. Butt fusion fittings shall comply with ASTM D3261.

D. Electrofusion fittings shall comply with ASTM F1055.

E. Mechanical (compression) fittings used with polyethylene pipe shall be specifically designed for, or tested and found to be acceptable for, use with polyethylene pipe.

2.04 ACCEPTABLE MANUFACTURERS

A. CPChem Performance Pipe
5085 West Park Blvd., Suite 500
P.O. Box 269006
Plano, Texas 75093

B. KWH Pipe Ltd.
5225 Canyon Crest Drive
Building 300, Suite 353
Riverside, California 92507

PART 3: EXECUTION

3.01 PACKAGING, HANDLING, AND STORAGE

A. The manufacturer shall ensure that the interior of all pipe is clean and install plastic cleanliness plugs in all pipes to keep the pipe interiors clean. The manufacturer shall package the pipe in a manner designed to ensure that it arrives at the project neat, clean, intact, and without physical damage. The transportation carrier shall use appropriate methods and intermittent checks to assure that the pipe is properly supported, stacked, and restrained during transport such that the pipe is not nicked, gouged, or physically damaged.

B. Inspect pipe and appurtenances for defects prior to installation in the trench. Set aside defective, damaged or unsound material and hold material for inspection by the Engineer.

C. Pipe shall be stored on clean, level ground to prevent undue scratching or gouging. If the pipe must be stacked for storage, such stacking shall be done in accordance with the pipe manufacturer's recommendations. The pipe shall be handled in such a manner that it is not pulled over sharp objects or cut by chokers or lifting equipment.

D. Sections of pipe having been discovered with cuts or gouges in excess of 10% of the pipe wall thickness shall be cut out and removed. The undamaged portions of the pipe shall be rejoined by butt fusing or the use of electrofusion fittings.

3.03 PIPE INSTALLATION

A. Refer to Specifications 15000 and referenced drawings that are part of these Contract Documents. Trenching shall be performed in accordance with ASTM D2774 and embedment materials shall be in accordance with ASTM D2321.

B. Remove all dirt and foreign matter from pipe before lowering into the trench. Do not place debris, hand tools, clothing or other materials in the pipe. Keep pipe clean during and after laying.

C. Maximum pipe bending radius shall be in conformance with the manufacturer's recommendation for the specific diameter and dimension ratio (DR) of the pipe. Whenever possible, changes in direction shall be accomplished by bending the pipe in lieu of installing a fitting, except as approved by the Engineer.

D. Place location wire immediately above the initial backfill material, directly over the pipe. The wire shall be contiguous except at test stations, valve boxes, and where splicing is required. All splices shall be encased with a 3M-Gel Pack model No. 054007-09053. Wire insulation shall be highly resistant to alkalis, acid and other destructive agents found in soil.

E. Prevent flotation of sealed pipe during work stoppages.

F. HDPE pipe will not be employed with directional drilling through rock and other abrasive conditions unless it is encased.

3.04 PIPE AND FITTING JOINING

A. Butt fusion and electrofusion procedures shall be in accordance with the manufacturer's recommendations. Surfaces must be clean and dry before joining. The fusion equipment operator shall be fully trained in the use of the respective equipment. The wall thicknesses of the adjoining pipes shall have the same DR at the point of fusion.

B. Butt fusion equipment shall be equipped with a Datalogger. Records of each weld (including, as a minimum, heater temperature, fusion pressure, and a graph of the fusion cycle) shall be appropriately identified and provided to the Engineer.

C. Electrofusion reports of each weld shall be appropriately identified and provided to the Engineer. The reports shall include, as a minimum, the fusion date, time, ambient temperature, fitting type and size, user ID, and the manufacturer of the part.

D. Mechanical (compression) joining of pipe and fittings is only permissible when joining polyethylene pipe to unlike materials. HDPE stiffeners shall be utilized with all mechanical (compression) fittings. Blocking must be provided at changes in direction for any mechanical fittings. Use of positive restrained joints fittings (non-friction type) is permissible when approved by the Engineer.

3.05 SERVICE CONNECTIONS

A. Sidewall fused polyethylene hot-tapping tees shall be used for 3/4 inch and 1 inch service lines off mains 3 inches to 12 inches in diameter. For larger sized mains, polyethylene service saddles may be used, sidewall fused, and then tapped with a tapping tool or machine.

B. For large mains (>12 inch), mechanical clamps or tapping saddles may be used provided they are designed for HDPE pipe and acceptable to the manufacturer of the pipe.

3.06 TESTING AND DISINFECTION

A. Pressure testing shall be conducted in accordance with the Manufacturer's recommended procedure or as recommended by the Engineer. Pressure testing shall use water as the test media. Pneumatic (air) testing is prohibited. Air must be completely removed before pressure testing. Under no circumstances shall HDPE pipe be pressure tested when the temperature of the pipe is above 80 degrees F.

END OF SECTION

SECTION 15131

PIPING SPECIALTIES
(Contractor Furnished)

PART 1: GENERAL

1.01 SCOPE

This Specification Section covers the furnishing and installation of miscellaneous piping specialties as shown on the Drawings or as required to fulfill the intent of the project.

PART 2: PRODUCTS

2.01 POLYETHYLENE ENCASEMENT

A. Polyethylene encasement shall conform to AWWA Standard C105. The polyethylene film supplied shall be translucent and blue in color (or as specified in secrtion 01011) and distinctly marked (at minimum 2 foot intervals) with the following information:
   1. manufacturer's name (or trademark),
   2. year manufactured,
   3. minimum film thickness and material type (LLDPE or HDCLPE),
   4. range of nominal pipe diameter size
   5. ANSI/AWWA C105/A21.5 (compliance)
   6. A warning "WARNING–CORROSION PROTECTION-REPAIR ANY DAMAGE
   7. labeled "WATER"

B. Tape shall be polyethylene compatible adhesive and a minimum of 1.5" wide. Shall be Scotchwrap #50, Fulton #355, or Polyken #900.

C. Store all polyethylene encasement out of the sunlight. Exposure of wrapped pipe should be kept to a minimum.

D. Suppliers of polyethylene encasement include .....

2.02 VALVE BOXES

A. All valves shall be provided with valve boxes of a design approved by the Engineer. Valve boxes shall be of the standard, adjustable, cast iron extension type, multiple piece, 5-1/4-inch shaft, screw type, and of such length as necessary to extend from the valve to finished grade. Cast iron valve boxes shall be hot coated inside and out with an asphaltic compound.

B. Valve boxes shall be manufactured by one of the following "approved manufacturers: Bingham & Taylor, Mueller, Handley Industries, A.Y. McDonald, Quality Water Products, or Clay and Bailey.

C. Valve box bases shall conform to the following:

Valve Size	Base
4" and smaller	round, 8" in height, 10-7/8" diameter at bottom
6" and 8"	round, 11" in height, 14-3/8" diameter at bottom
10" and larger	oval, 11" in height, 15" x 11-1/8" diameter at bottom

2.03 RODS, BOLTS, LUGS AND BRACKETS

A. All steel rods, bolts, lugs and brackets, shall be ASTM A36 or A307 carbon steel with xylan coating as a minimum requirement. The bolts shall have American Standard heavy unfinished hexagonal head and nut dimensions all as specified in ANSI B18.2. Xylan or FluoroKote #1 T-Bolts, corrosion resistant to handle corrosive conditions shall be used on any buried flanged bolts.

B. After field installation, all steel surfaces shall receive a petrolatum wax tape coating in accordance with AWWA Standard C217. Suppliers include, but are not limited to, Tapecoat® Envirotape® and Denso Densyl Tape. Surface preparation and tape installation shall be in accordance with ASTM C217 and the manufacturer's recommendations. Subject to approval by the ENGINEER, an alternative corrosion protection for exposed buried metal is an aerosol applied rubberized coating. The material shall be rapid dry and specifically designed for corrosion protection. 3M Rubberized Underseal Undercoating 08883 or any equivalent rubberized-bitumen based spray-on undercoating may be used. Follow manufacturer's recommendations for storage and application.

2.04 RETAINING GLANDS

A. All retaining glands shall be ductile iron with ductile iron set screws. Pressure ratings for use with ductile iron pipe shall be a minimum of 250 psi. Retainer Glands shall be coated with electrostaticaly applied baked-on polyurethane coating or approved equal. Locking wedges, bolts, and set screws shall be coated with Xylan or FluoroKote #1.

B. Retaining glands shall be manufactured by one of the following "approved manufacturers."

EBBA Iron, Inc.
PO Box 857
Eastland Texas 76448

2.05 TEST /TRACER BOXES

A. All test/tracer boxes shall be 18" plastic box flared and squared at base and have a 4" I.D. with a 1 ½" cast iron flange. Lid shall be a one piece locking lid with "Test Station" marked on lid and shall contain 5 screw-type brass terminals on a non conductive terminal board.

B. Test/tracer boxes shall be manufactured by one of the following "approved manufacturers":

Handley Industries, Inc.
2101 Brooklyn Rd.
Jackson, MI 49203
Model T-45

2.06 MARKING POSTS

A. All marking posts shall be Rhino FiberCurve™ with PolyTechCoating or equivalent fiber-composite marking posts. The color shall be standard blue for water and the length shall be a minimum 66-inches. The decals be UV stable all weather type with a no dig symbol and white and contrasting white and blue vertical lettering: Butterfly and Gate Valves decals (Rhino GD-5226C) Blow-Offs decals (Rhino GD-5411C) Pipeline decals (Rhino GD-1333C).

B. Marking Posts shall be manufactured by one of the following "approved manufacturers":

Rhino
280 University Drive Southwest
Waseca, MN 56093
1-800-522-4343

Carsonite International
605 Bob Gifford Boulevard
Early Branch, SC 29916
1-800-648-7916

PART 3: EXECUTION

3.01 INSTALLATION

Install "piping specialties" in accordance with the general provisions provided in Specification Sections 01100 and15000 and the following:

A. Polyethylene Encasement

1. Encase piping in polyethylene as required to prevent contact with surrounding backfill and bedding material in all areas shown on the plans or designated by the Engineer. Polyethylene shall be 12 mils .

2. Install the polyethylene wrap material in accordance with the DIPRA Field Polyethylene Installation Guide and AWWA Standard C105. Polyethylene shall fit snugly and not tightly stretched. All holes or tears shall be repaired with tape. Large holes or tears shall be

repaired by taping another piece of polyethylene over the hole. Tape or plastic tie straps at joint overlaps and at every 3 foot interval.

3. Dig bell holes and slide polywrap over the adjacent pipe and provide a minimum of 1 foot of overlap. Tightly secure bottom of polywrap using two to three passes of polyethylene tape on the pipe to polywrap connection and the overlap polywrap to polywrap connection.

4. Where polyethylene wrapped pipe being installed connects to a pipe that is not wrapped (including existing pipe), extend the wrap a minimum of 3 feet onto the previously uncovered pipe. This includes service lines which may be wrapped in polyethylene or dielectric tape.

5. Exposure of wrapped pipe to sunlight should be kept to a minimum. Pipe can be stored with the polywrap on for a maximum of 30 days.

6. At no time shall the polywrapped pipe be subjected to a point load during handling, temporary storage, or installation. The polywrap must be moved away from the timbers or hoisting device while on the pipe to prevent point loads and resulting pin holes.

7. Direct service taps for polyethylene encased pipe shall follow the procedure described in AWWA Standard C600. Access to the main for tapping through polyethylene is accomplished by making two to three passes of polyethylene tape around the pipe and over the polywrap. The tap is to be made directly through the tape and polywrap.

8. Tape shall be polyethylene compatible adhesive and a minimum of 1.5" wide. Shall be Scotchwrap #50, Fulton #355, or Polyken #900.

B. Valve Boxes

Valve boxes shall be supported so that no load can be transmitted from the valve box to the valve. See Detail Drawing 0201-0601-SD59. Install a self-centering alignment ring at the operating nut American Flow Control, or equal or otherwise make sure that the bottom of the box is centered over the operating and runs perpendicular to the horizontal.

C. Test/Tracer Wire Boxes

Boxes shall placed at areas designated in the plans and shall be flush with existing grade unless otherwise noted.

D. Marker Posts

Install Marker Posts using equipment designed for its installation per manufacturer guidelines and place at locations noted in the drawings or as approved by Engineer.

E. Corporations and Curb Stops

Service line piping shall be compatible with corporation and curbs stops provided with appropriate protection between dissimilar materials and a minimum of interconnecting fittings

END OF SECTION

SECTION 15151

GATE VALVES
(Contractor Furnished)

PART 1: GENERAL

1.01 SCOPE

Furnish, install, and test all gate valves shown on the Drawings.

1.02 SUBMITTALS

Submit shop drawings and manufacturer's literature to the Engineer for approval in accordance with Specification Section 1300.

1.03 RELATED WORK

Specification Section 15000 - Piping - General Provisions.

PART 2: PRODUCTS

2.01 SMALL GATE VALVES

A. All gate valves, 3 inches through 12 inches NPS, shall be iron body, resilient-seated, nut-operated, non-rising stem gate valves suitable for buried service. The valve interior and exterior shall be epoxy coated at the factory by the valve manufacturer in accordance with AWWA Standard C550 (6-8 mil average, 4 mil minimum). The valves shall be designed for a minimum differential pressure of 250 psi and a minimum internal test pressure of 500 psi unless otherwise noted on the plans. Valves shall be designed to operate in the vertical position.

B. Valves shall comply fully with AWWA Standard C509. Valve ends shall be push on joint or MJ (when restrained), or as shown on the plans or approved in writing in accordance with AWWA Standard C111. Stems shall be made of a low zinc alloy in accordance with AWWA C509 4.2.2.4.3. Stem seals shall be double O-ring stem seals. Square operating nuts conforming to AWWA Standard C509 shall be used. Valves shall open (left or right) in accordance with the Owner's standard. All valve materials shall meet the requirements of NSF 61.

C. Test valves (Operation Test and Hydrostatic Tests) at the manufacturer's plant in accordance with AWWA Standard C509. Provide the Engineer with certified copies of all tests prior to shipment. The Engineer reserves the right to observe all tests.

D. Acceptable manufacturers: Mueller Company, Decatur, Illinois; Clow Canada, Hamilton, Ontario; M&H Valve, Anniston, Alabama; United State Pipe and Foundry Burlington, New Jersey; American Flow Control, Birmingham, Alabama.

2.02 LARGE GATE VALVES

A. Gate valves larger than 12-inches NPS shall be iron body, double disc (metal to metal seat), parallel seats, bronze mounted, rubber O-ring packing seals, epoxy coated interior and exterior meeting the requirements of AWWA Standard C550, and conforming to AWWA Standard C500. Stems shall be made of a low zinc alloy in accordance with AWWA C500 4.2.2.4.3. All valves shall have openings through the body of the same circular area as that of the pipe to which they are attached. All valves furnished shall open (left or right) in accordance with the Owner's standard. All valve materials shall meet the requirements of NSF 61.

B. Test valves (Operation Test and Hydrostatic Tests) at the manufacturer's plant in accordance with AWWA Standard C515. Provide the Engineer with certified copies of all tests prior to shipment. The Engineer reserves the right to observe all tests.

C. Valves shall have mechanical joint ends unless otherwise designated on the plans or approved by the Engineer.

D. The valves shall be designed for a minimum differential pressure of 150 psi and a minimum internal test pressure of 300 psi, unless otherwise noted on the plans. Make all valves tight under their working pressures after they have been placed and before the main is placed in operation. Any defective parts shall be replaced at the Contractor's expense.

E. Acceptable manufacturers: Mueller Company, ACIPCO (American Flow Control division, Waterous only), McWane, Inc. (Clow and M&H Divisions only), U.S. Pipe, and Crane Co. (Stockham Division only).

PART 3: EXECUTION

3.01 INSTALLATION

Install the valves in strict accordance with the requirements contained in Specification Section 15000 and detail drawings. All large gate valves shall be restrained.

3.02 PROTECTION

After field installation of the valve all external bolts except the operating nut shall receive a layer of tape coating or approved rubberized-bitumen based spray-on undercoating applied before backfill. If polyethylene is applied to the pipe, the entire valve shall be encased in polyethylene encasement prior to backfill. The polyethylene encasement shall be installed up to the operating nut leaving the operating nut exposed and free to be operated. Valve box shall be installed per Piping Specialties Specification 15130 or 15131.

END OF SECTION

SECTION 15155

BUTTERFLY VALVES
(Contractor Furnished)

PART 1: GENERAL

1.01 SCOPE

Furnish and install all butterfly valves shown on the Drawings and/or the Specification Special Conditions.

1.02 RELATED WORK

Specification Section 15000 - Piping - General Provisions.

1.03 SUBMITTALS

Submit shop drawings and manufacturer's literature to the Engineer for approval in accordance with Specification Section 1300.

PART 2: PRODUCTS

2.01 VALVES

A. Furnish and install rubber-seated butterfly valves as shown on the Contract Drawings. Butterfly valves shall conform to Class 150B of the AWWA Standard C504 and this specification unless working pressure is greater than 150 psi in which case, the butterfly valve shall conform to Class 250B of the AWWA Standard C504. All valves furnished shall open (left or right) in accordance with the Owner's standard.

B. Valve bodies shall be ductile iron with mechanical joint ends. Mechanical joint ends shall conform to AWWA Standard C111. All valve materials shall meet the requirements of NSF 61.

C. Valve shafts shall consist of one-piece units extending through the discs of 18-8 stainless steel Type 303 or 304. Shaft diameter shall be in accordance with Table 3 of AWWA Standard C504.

1. Valve discs shall be Ni-Resist, Type 1, or cast iron with stainless steel edges.

2. Valve seats shall be hycar or natural rubber mounted in the valve body.

3. Valve bearings shall be nylon or Teflon.

D. The valve interior and exterior shall be epoxy coated at the factory by the valve manufacturer in accordance with AWWA Standard C550 (6-8 mil average, 4 mil minimum).

E. All elastomers used in the butterfly valves must be suitable for service in the following water conditions:

- Chlorine concentration up to 12 mg/L
- Chloramine concentrations up to 6 mg/L
- Ozone concentrations up to 2.0 mg/L (AWWA Standard says 0.5 ppm) pH range of 4-11

F. Manual buried operators, if provided, shall be either worm gear or traveling nut type and shall be furnished with 2-inch AWWA nuts and extension shafts. Input required at nuts to produce specified output torque shall be less than 150 ft.-lbs. Operators shall be designed to withstand an input at the nut of 300 ft.-lb. without damage to any operator components.

G. Acceptable manufacturers: Mueller Company (Henry Pratt Company Division only) and DeZurik Water Controls.

PART 3: EXECUTION

3.01 SETTING VALVES

Install the valves in strict accordance with the requirements of Specification Section 15000. All butterfly valves shall be restrained.

3.02 PROTECTION

After field installation of the valve all external bolts except the operating nut shall receive a layer of tape coating or approved rubberized-bitumen based spray-on undercoating applied before backfill. If polyethylene is applied to the pipe, the entire valve shall be encased in polyethylene encasement prior to backfill. The polyethylene encasement shall be installed up to the operating nut leaving the operating nut exposed and free to be operated.

END OF SECTION

SECTION 15171

TAPPING SLEEVES, SADDLES AND VALVES
(Contractor Furnished)

PART 1: GENERAL

1.01 SCOPE

Furnish, install and test all tapping sleeves, tapping valves, and tapping saddles as shown on the Drawings.

1.02 RELATED WORK

Specification Section 15000 - Piping - General Provisions

1.03 SUBMITTALS

Submit shop drawings and manufacturer's literature to the Engineer for approval in accordance with Specification Section 1300.

PART 2: PRODUCTS

2.01 GENERAL

All tapping sleeves, saddles and valves shall be designed for a working pressure of at least 250 psig for 12-inch and smaller. The valves shall be designed for a minimum differential pressure of 250 psi and a minimum internal test pressure of 500 psi unless otherwise noted on the plans.

2.02 DUCTILE IRON TAPPING SLEEVES

Verify the type of existing pipe and the outside diameter of the pipe on which the tapping sleeve is to be installed.

Tapping sleeves shall be ductile iron dual compression type unless otherwise specified on the Drawings. The Drawings may require the use of corrosion resistant tapping sleeves in addition to polywrap in areas with corrosive soils. The sleeves shall be made in two halves which can be assembled and bolted around the main. Sleeves shall meet the requirements of NSF 61. Outlet flanges shall conform to the flange requirements of AWWA C110. All valves furnished shall open (left or right) in accordance with the Owner's standard.

Acceptable manufacturers: McWane (Clow and M&H), U.S. Pipe (Mueller), and AFC (Waterous).

2.03 TAPPING VALVES

The horizontal tapping valve shall conform to the applicable requirements of AWWA Standard C509. All tapping valves, 3 inches through 12 inches NPS, shall be ductile iron body, resilient-seated, nut-operated, non-rising stem gate valves suitable for buried service. The valve interior and exterior shall be epoxy coated at the factory by the valve manufacturer in accordance with AWWA Standard C550 (6-8 mil average, 4 mil minimum). The tapping valves shall have flanged inlets with mechanical joint outlets, enclosed bevel gears, bypass valve, rollers, tracks and scrapers. All valves furnished shall open (left or right) in accordance with the Owner's standard.

Acceptable manufacturers: McWane (Clow and M&H), U.S. Pipe (Mueller), and AFC (Waterous).

2.04 STAINLESS STEEL TAPPING SLEEVES

The stainless steel band flange shall be manufactured in compliance with AWWA C207, Class D ANSI B.16.1 drilling, recessed for tapping valve MSS-SP60. Mechanical Joint tapping sleeve outlet shall meet or exceed all material specifications as listed below and be suitable for use with standard mechanical joint by mechanical joint resilient wedge gate valves per ANSI/AWWA C509-94 and be NSF 61 approved.

A. Tapping sleeves from 4" through 12"
Tapping sleeves to be attached to 4" through 12" nominal pipe diameter shall meet the following minimum requirements.

1. The entire fitting shall be stainless steel type 304 (18-8). The body, lug, and gasket armor plate shall be in compliance with ASTM A240. The Flange shall be cast stainless steel in compliance with ASTM A743. The MJ outlet shall be one-piece casting made of stainless steel. The test plug shall be ¾" NPT in compliance with ANSI B2.1 and shall be lubricated or coated to prevent galling. All metal surfaces shall be passivated after fabrication in compliance with ASTM A-380.

2. The gasket shall provide a 360-sealing surface of such size and shape to provide and adequate compressive force against the pipe after assembly, to affect a positive seal under the combinations of joint and gasket tolerances. The materials used shall be vulcanized natural or vulcanized synthetic rubber with antioxidant and antiozonant ingredients to resist set after installation. No reclaimed rubber shall be used. A heavy-gauge-type 304-stainless armor plate shall be vulcanized into the gasket to span the lug area.

3. The lugs shall be heliarc welded (GMAW) to the shell. The lug shall have a pass-through-bolt design to avoid alignment problems and allow tightening from either side of the main. Bolts shall NOT BE integrally welded to the sleeve. Finger Lug designs are not approved; it is the intent of these specifications to allow a tapping sleeve that has a lug design similar to the approved models.

4. Bolts and nuts shall be type 304 (18-8) stainless steel and Teflon coated or as specified in the bolt section below at the discretion of the Engineer. Bent or damaged units will be rejected.

5. Quality control procedures shall be employed to insure that the shell, Lug, (4" and Larger Nominal Pipe Diameter) armor plate, gasket and related hardware are manufactured to be free of any visible defects. Each unit, after proper installation, shall have a working-pressure rating up to 250 psi.

6. The sleeve construction shall provide a positive means of preventing gasket cold flow and/or extrusion.

7. Each sleeve shall be stenciled, coded or marked in a satisfactory manner to identify the size range. The markings shall be permanent type, water resistant, that will not smear or become illegible.

B. Tapping sleeves from 16" and larger

Tapping sleeves attached to 16" and larger nominal pipe diameter shall meet the following minimum requirements:

1. The body shall be in compliance with ASTM A285, Grade C or ASTM A36. The test plug shall be ¾" NPT conforming to ANSI B2.1.

2. The gasket shall provide a watertight sealing surface of such size and shape to provide an adequate compressive force against the pipe. After assembly, the gasket will insure a positive seal under all combinations of joint and gasket tolerances. Gaskets shall be formed from vulcanized natural or vulcanized synthetic rubber with antioxidant ingredients to resist set after installation. No reclaimed rubber shall be used.

3. Bolts and nuts shall be high strength, corrosion resistant, low alloy, pre AWWA C111, ANSI A21.11 and as specified in the subsection on bolts in this specification.

4. Quality control procedures shall be employed to insure that the shell, gaskets, and related hardware area are manufactured to be free of visible defects. Each unit, after proper installation, shall have a working-pressure rating up to 200 psi.

5. Unless otherwise noted, unit shall be protected by electrostatically applied baked epoxy or polyurethane.

6. Units for concrete, steel cylinder pipe shall be furnished with load bearing setscrews on the gland flange to transfer loads on the outlet away from the steel cylinder and onto the sleeve. Epoxy –coated tapping sleeves do not require grout seal cavity (AWWA M-9 Manual).

7. Each sleeve shall be stenciled, coded or marked in a satisfactory manner to identify the size range. The marking shall be permanent type, water resistant, that will not smear or become illegible.

2.05 FABRICATED STEEL TAPPING SLEEVES

The fabricated steel tapping sleeve shall be manufactured in compliance with AWWA C207. Sleeves shall be fabricated of minimum three-eights (3/8) inch carbon steel meeting ASTM A285 Grade C. Outlet flange shall meet AWWA C-207, Class "D" ANSI 150 lb. drilling and be properly recessed for the tapping valve. Bolts and nuts shall be high strength low alloy steel to AWWA C111 (ANSI A21.11). Gasket shall be vulcanized natural or synthetic rubber. Sleeve shall have manufacturer applied fusion bonded epoxy coating, minimum 12 mil thickness., Class D ANSI B.16.1 drilling, recessed for tapping valve MSS-SP60. Mechanical Joint tapping sleeve outlet shall meet or exceed all material specifications as listed below and be suitable for use with standard mechanical joint by mechanical joint resilient wedge gate valves per ANSI/AWWA C509-94 and be NSF 61 approved.

2.06 TAPPING SADDLES

Unless otherwise specified by the Drawings, tapping saddles conform to the requirements of AWWA Standard C800 for the High Pressure class tapping saddles. Tapping saddles shall consist of ductile iron outlet castings, attached to the pipeline with high strength stainless steel straps. Castings shall be sealed to pipeline with O-ring seals. Saddles shall have ANSI A21.10 flanged outlets counterbored for use with tapping valves and tapping equipment.

2.06 BOLTS

All bolts shall have American Standard heavy unfinished hexagonal head and nut dimensions all as specified in ANSI B18.2. Bolts shall be Xylan or FluoroKote #1 suitable for direct bury in corrosive soils.

PART 3: EXECUTION

3.01 INSTALLATION

Install the tapping sleeves, saddles, and valves in strict accordance with the requirements of Specification Section 15000. Install the tapping sleeves, tapping saddles, and tapping valves in accordance with the manufacturer's instructions. The tapping procedure is to be in accordance with the tapping machine manufacturer's instructions.

3.02 PROTECTION

After field installation of the valve all external bolts except the operating nut shall receive a layer of tape coating or approved rubberized-bitumen based spray-on undercoating applied before backfill. If polyethylene is applied to the pipe, the entire sleeve and valve assembly shall be encased in polyethylene encasement prior to backfill. The

polyethylene encasement shall be installed up to the operating nut leaving the operating nut of the tapping valve exposed and free to be operated

3.03 PRELIMINARY TESTING

Perform a hydrostatic test of the tapping sleeve and valve assembly in accordance with Specification Section 15030 after installation of the tapping sleeve and valve, but prior to making the tap. The test shall be made with the valve open using a tapped mechanical joint cap. No leakage is acceptable. The test pressure shall be maintained for a minimum of 15 minutes.

Perform hydrostatic test of tapping saddles in accordance with AWWA Standard C800.

END OF SECTION

SECTION 15181

FIRE HYDRANTS
(Contractor Furnished)

PART 1: GENERAL

1.01 SCOPE

Furnish all labor, material, tools, and equipment required to install fire hydrants at the location shown on the plans, or where designated by the Engineer.

PART 2: PRODUCTS

2.01 MATERIAL

A. All fire hydrants shall be ductile iron and conform to the requirements of AWWA C502, traffic-model break-away type fire hydrants.

B. Contact the local water district and obtain written fire hydrant mechanical details for the water district prior to ordering any fire hydrants for the Work. All fire hydrants shall open left or right as required and be clearly marked on the top of the hydrant with a 1-1/2" pentagon top nut and have not less than two (2) O- ring stem seals. The number and sizes of hose nozzle outlets is dependent on the local regulation. (Most typical is two (2) bronze male threaded 2-1/2" hose outlet nozzles and one (1) bronze male threaded 4-1/2" pumper outlet nozzle with American National Fire Hose Connection Screw Threads (NH).) The hydrant shall be break-away traffic flange, 5-1/4" valve opening, 6" mechanical joint pipe connection. The hydrant interior and exterior shall be epoxy coated at the factory by the hydrant manufacturer in accordance with AWWA Standard C550 (6-8 mil average, 4 mil minimum). The Contractor shall contact the local water district and obtain written fire hydrant mechanical details for the water district prior to ordering any fire hydrants in accordance with the drawings

D. All hydrant materials shall meet the requirements of NSF 61.

E. Acceptable manufacturers and models, subject to the specifications set forth, include:

- American Darling B-84-B, 5-1/4" valve opening (by the American Flow Control Division of ACIPCO)
- Kennedy Guardian, 5-1/4" valve opening (by Kennedy Valve Company Division of McWane, Inc.)
- Mueller Super Centurion 250, Model A-423, 5-1/4" valve opening

PART 3: EXECUTION

3.01 INSPECTION PRIOR TO INSTALLATION

A. Contractor shall inspect all fire hydrants upon receipt. Cycle each hydrant to full open and full closed positions to ensure that no internal damage or breakage has occurred during shipment and handling. Check all external bolts for proper tightness.

B. After inspection, close the hydrant valves and replace the outlet nozzle caps to prevent the entry of foreign matter. Protect stored hydrants from the weather/elements with the inlets facing downward.

3.02 INSTALLATION

A. Locate hydrants on the plans or as directed by the Engineer and in compliance with local regulations. The location shall provide complete accessibility and minimize the possibility of damage from vehicles or injury to pedestrians. When placed behind the curb, the hydrant barrel shall be set so that no portion of the pumper or hose nozzle cap will be less than eighteen to twenty- four inches, depending on local requirements, from the gutter face of the curb. All hydrants shall stand plumb with the pumper nozzle facing the curb. Set hydrants with nozzles at least eighteen inches above the finished grade as shown on the plans. Set the break flange at least two but no more than six inches above finished grade, or as directed by the Engineer. Connect each hydrant to the main with a six inch branch connection controlled by an independent six inch gate valve, unless otherwise shown on the plans. All hydrants assemblies must be restrained from the hydrant back to the main.

B. The Engineer may authorize hydrant protection using steel pipe bollards when hydrant installations have a greater than normal exposure to vehicular damage (e.g. parking lot installations, unusual driving situation, etc.). Install all such protection designated by the Engineer. Locate bollards as necessary adjacent to the hydrant and in such a manner as to not interfere with the ability to connect hoses or operate the hydrant as per detail drawing. Additionally, locate the bottom of the bollard and encasement above the hydrant supply piping and valve to prevent the possibility of damage to the piping should the bollard be displaced when hit. Payment for bollards shall be per the supplemental unit price schedule.

C. Unless otherwise directed by the Engineer, excavate a drainage pit two feet in diameter and two feet deep below but not beyond each hydrant. Fill the pit with compacted ¾ inch clean granular under and around the base of the hydrant to a level 12 inches above the hydrant drain opening. No hydrant drainage pit shall be connected to a sewer.

D. Cover the drainage area with geotextile fabric. The fabric shall completely isolate the gravel or stone so that no fill material or adjacent earth comes in contact with pit material.

E. Notify the Engineer of situations where the ground water table is above the drain opening of dry barrel hydrants. If directed by Engineer, plug the drain opening using a method acceptable to the hydrant manufacturer. No drainage pit is required when the hydrant drain is plugged. Mark the hydrant, in a manner acceptable to the Owner, to indicate that the drain opening has been plugged. Operation of a hydrant with plugged drain leaves the hydrant barrel full of water. Pump the hydrant barrel dry after each use.

F. Reaction or thrust blocking at the base of each hydrant must not obstruct the drainage outlet of the hydrant. The size and shape of concrete thrust backing and the number and size of tie rods, when required, shall be approved by the Engineer. Use the thrust blocking material specified in Specification Section 3300. See Specification Section 15000 for tie rod requirements.

3.03 TESTING

After installation and before backfilling (and after pressure testing the water main) test the hydrant as follows:

A. Pressure Test

1. Open the hydrant fully and fill with water; close all outlets.
2. To prevent caps from being blow off dry-barrel hydrants and to prevent other possible damage, vent air from the hydrant by leaving one of the caps slightly loose as the hydrant is being filled. After all air has escaped, tighten the cap before proceeding.
3. Apply line pressure.
4. Check for leakage at flanges, nozzles and operating stem.
5. If leakage is noted, repair or replace components or complete hydrant until no leaks are evident.

B. Drainage Test for Dry-Barrel Hydrants

1. Following the pressure test, close hydrant.
2. Remove one nozzle cap and place pylon or hand over nozzle opening.
3. Drainage rate should be sufficiently rapid to create a noticeable suction.
4. After backfilling, operate the hydrant to flush out any foreign material.
5. Tighten nozzle caps, them back them off slightly so that they will not be excessively tight; leave tight enough to prevent removal by hand.

C. Paint all hydrant above the bury line in accordance with the local operations standards. Touch up paint (as specified by the OWNER under Special Conditions) shall be applied upon completion of installation as needed. Take extreme care to avoid getting any paint on the "O" ring under the top operating nut or on the hydrant nozzles. Should paint be found on the "O" ring, the Contractor shall remove the paint and replace the "O" ring at his expense. Any paint on the hydrant nozzles shall be removed at the Contractor's expense.

END OF SECTION

SECTION 15191

AIR RELEASE, BLOW-OFF OUTLETS AND RELATED COMPONENTS
(Contractor Furnished)

PART 1: GENERAL

1.01 SCOPE

Furnish and install air release and blow-off outlets at the locations shown on the Drawings or as directed by the Engineer.

1.02 SUBMITTALS

Submit shop drawings and manufacturer's literature for equipment to be supplied to the Engineer for approval in accordance with Specification Section 1300. All Products shall meet the requirements of NSF 61

1.03 REFERENCES

Refer to current AWWA Standards: AWWA Standard for Air-Release, Air/Vacuum, and Combination Air Valves for waterworks Service C512

PART 2: PRODUCTS

2.01 COMBINATION AIR/VACUUM RELEASE VALVES

Provide 1" APCO Model No. 143C as manufactured by Valve and Primer Corporation (Schaumburg, IL) or 1" Valvematic (Elmhurst, IL) Model 201 for mains 12" and smaller unless noted otherwise on the plans. Provide 2" APCO Model No. 145C as manufactured by Valve and Primer Corporation or Valvematic Model 202C for mains 16" and larger unless noted otherwise on the plans. Combination valves shall be double acting to prevent accumulation of air in the pressurized main and to permit air to enter the pipe when pressure seriously drops. Bodies shall be cast iron with stainless steel floats.

2.02 BLOWOFF FLUSHING HYDRANT ASSEMBLY

Blow off assembly for underground applications shall be designed to fit within a standard valve box. In areas prone to cold weather they shall be self draining and non-freezing. All working parts shall be serviceable from above with no digging required. They shall be operated such that the device goes from full open to full close in a ¼ turn clockwise turn. Approved types of flushing hydrants are Tru-Flo Model TF 500 by the Kupferle Foundry or equal.

2.03 COPPER PIPE

Copper pipe shall be Type L or Type K, as specified in plans, meeting the requirements of ASTM Standard B88.

2.04 CORPORATION STOPS

Corporation stops shall be of the brass ball valve type manufactured in accordance with AWWA Standard C800. The inlet connection shall have standard AWWA tapered threads unless otherwise required by the Engineer. The outlet connection shall be a compressed fitting end. The sizes shall range from 1/2" to 2" and shall match the size of specified copper pipe material.

Acceptable manufacturers and model numbers are:

- Ford Meter Box Company - FB400 thru FB1600
- Mueller – B-25000
- A.Y. McDonald – 4701B Series

2.06 CURB STOPS

Curb stops shall be bronze body construction, ball valves, with Double O-ring stem seals. Curb stops shall conform to AWWA Standard C800. End connections shall be suitable for flared copper connection. If required by the Engineer, valves shall be furnished with square gate valve operating nuts. Sizes shall be from 3/4" to 2" and shall match the service line size.

Acceptable manufacturers and model numbers:

- Ford Meter Box Company – B22 Series
- Mueller - B-25204
- A.Y. McDonald - 6100 Series

2.07 CURB BOXES

Curb boxes shall be standard cast iron, sliding or screw type, 1" or 2-1/2" as required, complete with lid and head bolt. Boxes shall be adjustable from 18-inches to 66-inches. The box size will be determined by the Engineer.

Acceptable manufacturers:

- Bingham & Taylor
- Mueller
- Handley Industries
- Clay & Bailey
- A.Y. McDonald
- Quality Water Products

2.08 MISCELLANEOUS SERVICE LINE FITTINGS

Miscellaneous service line fittings such as couplings, adaptors, saddles, bends, plugs, water service electrical insulators, etc. shall conform to AWWA Standard C800.

Acceptable manufacturers:

- Ford Meter Box
- Mueller
- A.Y. McDonald

PART 3: EXECUTION

3.01 INSTALLATION

See Specification Section 15000 for pipe installation. See Detail Drawings showing installation details for air/vacuum release valve assemblies and air blow-off assemblies. See section 15200 for information about selected components (copper pipe, corporation stops, curb stops, curb boxes) common to service lines.

3.02 INSTALLATION OF CORPORATION STOPS

A. Use experienced craftsmen familiar with installation of water service lines when tapping water mains. Make all taps with a suitable tapping machine (Mueller, Ford, Hays or Dresser type) using the proper combined drill and tap. Hand held drilling equipment is not acceptable.

B. Inspect corporation stops for cleanliness, damaged threads, and proper operation of the ball valve prior to installation. Do not install corporation stops that fail this inspection.

C. The main may be tapped at the horizontal centerline on the top of the pipe as shown on Detail Drawings. Use a tapping saddle when the water main wall thickness or material (plastic, concrete or asbestos cement pipeline material) make it unsuitable for direct tapping.

D. Install all corporation stops so that between 2 and 3 threads extend beyond the inside wall of the main. If necessary, make a test tap with the boring bar marked to the proper depth. The corporation stop, when properly installed, will not be shouldered with the main. Do not use lubricants of any type when installing the corporation stop.

E. Use the procedure outlined in AWWA Standard C600 for installing taps on grey iron or ductile iron mains encased in polyethylene.

3.03 INSTALLATION OF BLOWOFF/DISCHARGE LINE AND FITTINGS

A. Excavate, backfill, and restore the surface in accordance with Division 2 of these Specifications.

B. Install copper pipe between the corporation stop and the curb stop or air release valve location making only gradual changes in grade or alignment, as required. Do not make bends greater than 15 degrees in any direction. Install curb stops with the operating nut in the vertical position

C. Open the corporation stop slowly to fill the service line. When the line is full and all air has been removed, completely open the corporation. Perform a visual leak inspection of all piping, fittings, and taps prior to backfilling. Zero leakage is allowed in 10 minutes.

D. Provide polyethylene encasement, or other protective wrap approved by the Engineer, on all Service Lines (pile, valves, stops, etc.) unless they are made of different materials than the grey-iron or ductile iron main or not subject to aggressive soils. Polyethylene encasement shall extend along the service line for its entire length.

E. Install the curb box centered over the nut. Install and adjust the curb boxes to be flush with finished grade. Install and lock the lids on the curb boxes. Discharge piping tp the surface, if provided ,shall be schedule 40 galvanized steel ro schedule 40 PVC and properly supported.

END OF SECTION

ATTACHMENT A.6
INSURANCE REQUIREMENTS
ROUTINE CONSTRUCTION, MAINTENANCE AND REPAIR PROJECTS

Contractor shall obtain insurance of the types and in the amounts listed below.

A. COMMERCIAL GENERAL AND UMBRELLA LIABILITY INSURANCE

Contractor shall maintain commercial general liability (CGL) and, if necessary, commercial umbrella insurance with a limit of not less than $1,000,000 each occurrence. If such CGL insurance contains a general aggregate limit, it shall apply separately to this project/location.

CGL insurance shall be written on Insurance Services Office (ISO) occurrence form CG 00 01 10 93, or a substitute form providing equivalent coverage, and shall cover liability arising from premises, operations, independent contractors, products-completed operations, personal injury and advertising injury, and liability assumed under an insured contract (including the tort liability of another assumed in a business contract).

Owner shall be included as an insured under the CGL, using ISO additional insured endorsement CG 20 10 or a substitute providing equivalent coverage, and under the commercial umbrella, if any. This insurance shall apply as primary insurance with respect to any other insurance or self-insurance afforded to Owner.

There shall be no endorsement or modification of the CGL limiting the scope of coverage for liability arising from pollution, explosion, collapse, or underground property damage.

B. CONTINUING COMPLETED OPERATIONS LIABILITY INSURANCE

Contractor shall maintain commercial general liability (CGL) and, if necessary, commercial umbrella liability insurance with a limit of not less than $1,000,000 each occurrence for at least one (1) year following substantial completion of the work.

Continuing CGL insurance shall be written on ISO occurrence form CG 00 01 10 93, or substitute form providing equivalent coverage, and shall, at minimum, cover liability arising from products-completed operations and liability assumed under an insured contract.

Continuing CGL insurance shall have a products-completed operations aggregate of at least two times its each occurrence limit.

Continuing commercial umbrella coverage, if any, shall include liability coverage for damage to the insured's completed work equivalent to that provided under ISO form CG 00 01.

C. BUSINESS AUTO AND UMBRELLA LIABILITY INSURANCE

Contractor shall maintain business auto liability and, if necessary, commercial umbrella liability insurance with a limit of not less than $1,000,000 each accident. Such insurance shall cover liability arising out of any auto including owned, hired and non-owned autos.

Business auto insurance shall be written on Insurance Services Office (ISO) form CA 00 01, CA 00 05, CA 00 12, CA 00 20, or a substitute form providing equivalent liability coverage. If necessary, the policy shall be endorsed to provide contractual liability coverage equivalent to that provided in the 1990 and later editions of CA 00 01.

D. WORKERS COMPENSATION INSURANCE

Contractor shall maintain workers compensation as required by statute and employers liability insurance. The commercial umbrella and/or employers liability limits shall not be less than $1,000,000 each accident for bodily injury by accident or $1,000,000 each employee for bodily injury by disease.

If Owner has not been included as an insured under the CGL using ISO additional insured endorsement CG 20 10 under the Commercial General and Umbrella Liability Insurance required in this Contract, the Contractor waives all rights against Owner and its officers, officials, employees, volunteers and agents for recovery of damages arising out of or incident to the Contractor's work.

E. GENERAL INSURANCE PROVISIONS

1. Evidence of Insurance. Prior to beginning work, Contractor shall furnish Owner with a certificate(s) of insurance and applicable policy endorsement(s), executed by a duly authorized representative of each insurer, showing compliance with the insurance requirements set forth above.

All certificates shall provide for 30 days written notice to Owner prior to the cancellation or material change of any insurance referred to therein. Written notice to Owner shall be by certified mail, return receipt requested.

Failure of Owner to demand such certificate, endorsement or other evidence of full compliance with these insurance requirements or failure of Owner to identify a deficiency from evidence that is provided shall not be construed as a waiver of Contractor's obligation to maintain such insurance.

Owner shall have the right, but not the obligation, of prohibiting Contractor or any subcontractor from entering the project site until such certificates or other evidence that insurance has been placed in complete compliance with these requirements is received and approved by Owner.

Failure to maintain the required insurance may result in termination of this Contract at Owner's option.

With respect to insurance maintained after final payment in compliance with a requirement above, an additional certificate(s) evidencing such coverage shall be promptly provided to Owner whenever requested.

Contractor shall provide certified copies of all insurance policies required above within 10 days of Owner's written request for said copies.

2. Acceptability of Insurers. For insurance companies which obtain a rating from A.M. Best, that rating should be no less than A VII using the most recent edition of the A.M. Best's Key Rating Guide. If the Best's rating is less than A VII or a Best's rating is not obtained, the Owner has the right to reject insurance written by an insurer it deems unacceptable.

3. Cross-Liability Coverage. If Contractor's liability policies do not contain the standard ISO separation of insureds provision, or a substantially similar clause, they shall be endorsed to provide cross-liability coverage.

4. Deductibles and Self-Insured Retentions. Any deductibles or self-insured retentions must be declared to the Owner. At the option of the Owner, the Contractor may be asked to eliminate such deductibles or self insured retentions as respects the Owner, its officers, officials, employees, volunteers and agents or required to procure a bond guaranteeing payment of losses and other related costs including but not limited to investigations, claim administration and defense expenses.

5. Subcontractors. Contractor shall cause each subcontractor employed by Contractor to purchase and maintain insurance of the type specified above. When requested by the Owner, Contractor shall furnish copies of certificates of insurance evidencing coverage for each subcontractor.

F. INDEMNIFICATION

To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Owner and the Architect and their officers, officials, employees, volunteers and agents from and against all claims, damages, losses and expenses including but not limited legal fees (attorney's and paralegal's fees and court costs), arising

out of or resulting from the performance of the Contractor's work, provided that any such claim, damage, loss or expense (1) is attributable to bodily injury, sickness, disease or death, or injury to or destruction of tangible property, other than the work itself, including the loss of use resulting therefrom and (2) is caused in whole or I part by any wrongful or negligent act or omission of the Contractor, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, except to the extent it is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or otherwise reduce any other right or obligation of indemnity which would otherwise exist as to any party or person described in this Paragraph. Contractor shall similarly protect, indemnify and hold and save harmless the Owner, its officers, officials, employees, volunteers and agents against and from any and all claims, costs, causes, actions and expenses including but not limited to legal fees, incurred by reason of Contractor's breach of any of its obligations under, or Contractor's default of, any provision of the Contract.

SAMPLE LIABILITY INSURANCE ENDORSEMENT

The following spaces preceded by an asterisk (*) need not be completed if this endorsement and policy have the same inception date.

ATTACHED TO AND FORMING PART OF POLICY NUMBER	*EFFECTIVE DATE OF ENDORSEMENT	*ISSUED TO

This endorsement changes the policy. Please read it carefully.

AUTOMATIC ADDITIONAL INSUREDS

The following provision is added to (SECTION II), Who Is An Insured.

5. Any entity you are required in a written contract (hereinafter called Additional Insured) to name as an insured is an insured but only with respect to liability arising out of your premises, "your work" for the Additional Insured, or acts or omissions of the Additional Insured in connection with the general supervision of "your work" to the extent set forth below.

a. The Limits of Insurance provided on behalf of the Additional Insured are not greater than those required by such contract.

b. The coverage provided to the Additional Insured(s) is not greater than that customarily provided by the policy forms specified in and required by the contract.

c. All insuring agreements, exclusions and conditions of this policy apply.

d. In no event shall the coverages or Limits of Insurance in this Coverage Form be increased by such contract.

Except when required otherwise by contract, this insurance does not apply to:

1) "Bodily injury" or "property damage" occurring after

a) All work on the project (other than service, maintenance or repairs) to be performed by or on behalf of the Additional Insured(s) at the site of the covered operations has been completed; or

b) That portion of "your work" out of which the injury or damage arises has been put to its intended use by any person or organization other than another contractor or subcontractor engaged in performing operations for a principal as a part of the same project.

2) "Bodily injury" or "property damage" arising out of any act or omission of the Additional Insured(s) or any of their employees, other than the general supervision of work performed for the Additional Insured(s) by you.

3) "Property damage" to

a) Property owned, used or occupied by or rented to the Additional Insured(s);

b) Property in the care, custody or control of the Additional Insured(s) or over which the Additional Insured(s) is for any purpose exercising physical control; or

c) “Your work” for the Additional Insured(s).

With respect to Additional Insureds who are architects, engineers or surveyors, this insurance does not apply “bodily injury”, “property damage”, “personal injury” or “advertising injury” arising out of the rendering of or the failure to render any professional services by or for you, including:

a) The preparing, approving, or failing to prepare or approve maps, drawings, opinions, reports, surveys, change orders, designs or specifications; and

b) Supervisory, inspection or engineering services.

Any coverages provided hereunder shall be excess over any other valid and collectible insurance available to the Additional Insured(s) whether primary, excess, contingent or on any other basis unless a contract specifically requires that this insurance be primary or you request that it apply on a primary basis.

No person or organization is an Additional Insured with respect to the conduct of any current or past partnership or joint venture that is not shown as a Named Insured in the Declarations.

END OF ATTACHMENT A.6

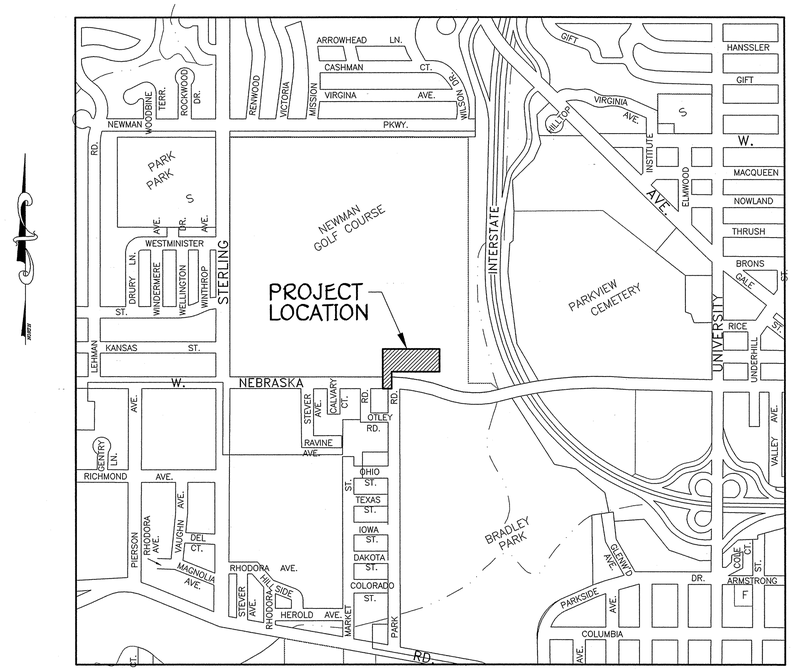
CONSTRUCTION PLANS
NEWMAN GOLF COURSE CLUBHOUSE
PRIVATE FIRE SERVICE MAIN
FOR
PEORIA PARK DISTRICT
PEORIA, ILLINOIS

INDEX OF SHEETS

LIST OF UTILITY COMPANIES

ATT (DISTRIBUTION)	JOHN O'FLAHERTY (309-686-3316)
OMNILEC "ITV-3" (FIBER LINE)	BRANDON HENRICKS (309-670-0641)
AMEREN GAS & ELECTRIC	SUE SALRIN (309-253-7122)
COMCAST (CABLE & TELEPHONE)	KIRK KROMPHARDT (309-686-2616)
GREATER PEORIA SANITARY DISTRICT	MARIA ZAVALA (309-272-4844)
FRONTIER COMMUNICATIONS	DARRELL SENIOR (309-827-1253)
I.A.W.C.	JIM RAY (309-566-4108)
WINDSTREAM/PAETEC (FIBER)	CARL ATTEBERRY (217-519-0464)
	DAVID FEREIRA (309-253-0930)
CITY OF PEORIA	JANE GERDES (309-494-8819)
RVP FIBER/US XCHANGE	CHRIS LENTINE (616-988-7194)

THE LIST PROVIDED IS FOR INFORMATION ONLY AND MAY INCLUDE ADDITIONAL UTILITIES NOT LISTED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING J.U.L.I.E FOR UTILITY LOCATIONS PRIOR TO BEGINNING ANY WORK.



LOCATION MAP

SUMMARY OF QUANTITIES

ITEM	QUANTITY	
FIRE SERVICE MAIN, DIRECTIONAL DRILL, RESTRAINT JOINT, D.I., 8" (W/ TRACER WIRE)	75	FT
FIRE SERVICE MAIN, (OPEN CUT) D.I., PRESS. CL. 350, 8" (W/ TRACER WIRE & BURY TAPE)	545	FT
TRENCH BACKFILL (FLOWABLE) (@ TAP LOCATION)	6	FT
TRENCH BACKFILL (GRANULAR)	18	FT
TAPPING SLEEVE 8" x 8", & 8" GATE VALVE (INSTALLED BY I.A.W.C.)	1	EA
FIRE SERVICE DETECTOR VAULT (COMPLETE) (I.A.W.C. STANDARDS)	1	L.SUM
MJ GATE VALVE & BOX, 6"	1	EA
MJ 22.5° ELBOW, 8"	2	EA
MJ 45° ELBOW, 8"	1	EA
MJ ANCHOR REDUCER, 8" x 6"	1	EA
MUELLER 3-WAY HYDRANT, 6"	1	EA
P.C.C. CURB & GUTTER REMOVAL & REPLACEMENT (CITY STND.) (@ TAP LOCATION)	6	FT
BITUMINOUS PAVEMENT REMOVAL & REPLACEMENT, 4"	15	SY
P.C.C. PAVEMENT REMOVAL & REPLACEMENT, 8" (OR MATCH EX. THICKNESS AT TAP LOCATION)	6	SY
PERMANENT SEEDING, FERT., & MULCHING (BY PEORIA PARK DISTRICT)	1	L.SUM
TRAFFIC CONTROL & PROTECTION	1	L.SUM

DEVIN L. BIRCH
59419
REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

LICENSE EXPIRES 11/30/15

AUSTIN ENGINEERING CO., INC.
PEORIA, ILLINOIS

BY: _____
DEVIN L. BIRCH, P.E.

DATE: 8/27/14

APPROVED
CITY OF PEORIA FIRE DEPARTMENT
PEORIA, ILLINOIS

BY: _____
CAPTIAN DANIEL MCGANN
FIRE PREVENTION DIVISION

DATE: _____

PLANS FOR BID

J.U.L.I.E. 1-800-892-0123
NOTE: VISIBLE UTILITY STRUCTURES WERE LOCATED BY FIELD SURVEY AS SHOWN. UNDERGROUND UTILITY LOCATIONS WERE OBTAINED FROM AVAILABLE RECORD DRAWINGS AND ARE APPROXIMATE AND MAY NOT BE COMPLETE. CONTACT J.U.L.I.E. BEFORE EXCAVATING.

NEWMAN GOLF COURSE CLUBHOUSE – PRIVATE FIRE SERVICE MAIN

FOR: PEORIA PARK DISTRICT

DATE 5/29/14 | SCALE | BOOK

REVISED 6/12/14
REVISED 8/27/14
REVISED

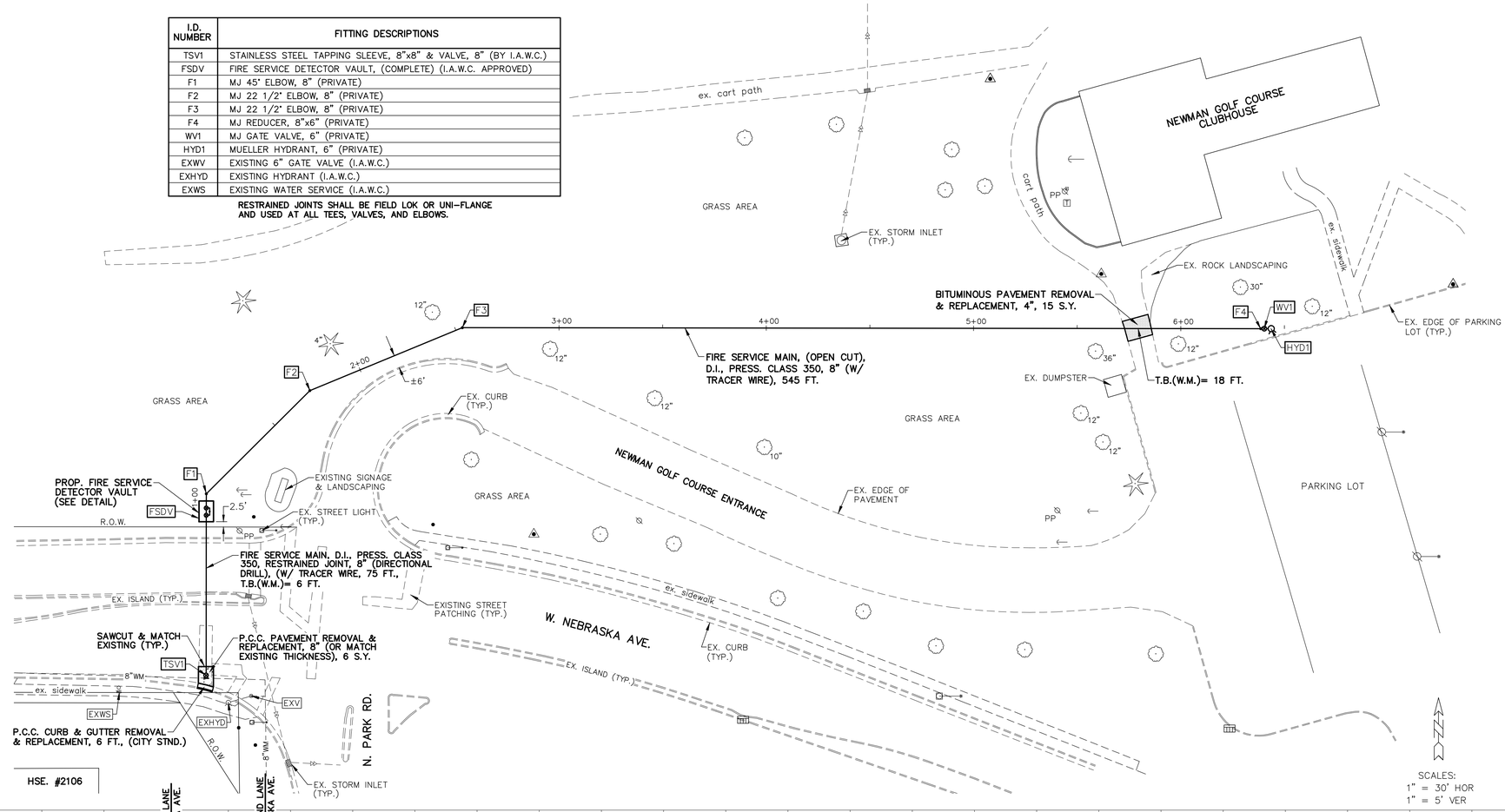
AUSTIN ENGINEERING, CO., INC.
Consulting Engineers / Surveyors
8100 North University Street
Peoria, Illinois 61615-1879
License No. 184-001143

PROJECT NUMBER 90-14-001
SHEET NO. 1 OF 3

I.D. NUMBER	FITTING DESCRIPTIONS
TSV1	STAINLESS STEEL TAPPING SLEEVE, 8"x8" & VALVE, 8" (BY I.A.W.C.)
FSDV	FIRE SERVICE DETECTOR VAULT, (COMPLETE) (I.A.W.C. APPROVED)
F1	MJ 45° ELBOW, 8" (PRIVATE)
F2	MJ 22 1/2° ELBOW, 8" (PRIVATE)
F3	MJ 22 1/2° ELBOW, 8" (PRIVATE)
F4	MJ REDUCER, 8"x6" (PRIVATE)
WV1	MJ GATE VALVE, 6" (PRIVATE)
HYD1	MUELLER HYDRANT, 6" (PRIVATE)
EXWV	EXISTING 6" GATE VALVE (I.A.W.C.)
EXHYD	EXISTING HYDRANT (I.A.W.C.)
EXWS	EXISTING WATER SERVICE (I.A.W.C.)

RESTRAINED JOINTS SHALL BE FIELD LOK OR UNI-FLANGE AND USED AT ALL TEES, VALVES, AND ELBOWS.

- ALL EXISTING UTILITIES LOCATIONS ARE APPROXIMATE AND SHOWN FOR INFORMATION ONLY. CONTRACTOR SHALL NOTIFY J.U.L.I.E. FOR LOCATING PRIOR TO STARTING CONSTRUCTION.
- WATER MAINS, UNLESS OTHERWISE NOTED IN THE PLANS SHALL BE NO LESS THAN 42" DEEP AND NO DEEPER THAN 54" WITHOUT ENGINEER APPROVAL.
- THE CONTRACTOR SHALL VERIFY LOCATIONS OF ANY EXISTING LANDSCAPING AND NOTIFY THE PEORIA PARK DISTRICT PRIOR TO REMOVING ANY MATERIALS OR PLANTINGS A MINIMUM OF 3 DAYS BEFORE STARTING THE PROJECT.
- ANY LANDSCAPING STRUCTURES, CURB, SIDEWALK, PAVEMENT OR STREET PAVEMENT DAMAGED WITHIN THE CITY R.O.W. OR PARK DISTRICT PROPERTY DURING THE CONSTRUCTION OF THE PRIVATE FIRE SERVICE MAIN DUE TO NEGLECT BY THE CONTRACTOR SHALL BE REMOVED AND REPLACED WITH LIKE MATERIAL AT NO ADDITIONAL COST.
- ALL WATER MAIN CONSTRUCTION SHALL FOLLOW THE CITY OF PEORIA PLUMBING CODE. I.A.W.C. WILL MAKE THE TAP TO THE EXISTING 8" WATER MAIN. THE CONTRACTOR SHALL INSTALL THE FIRE SERVICE MAIN PER PLAN AND USE **MJ JOINT FITTINGS.**



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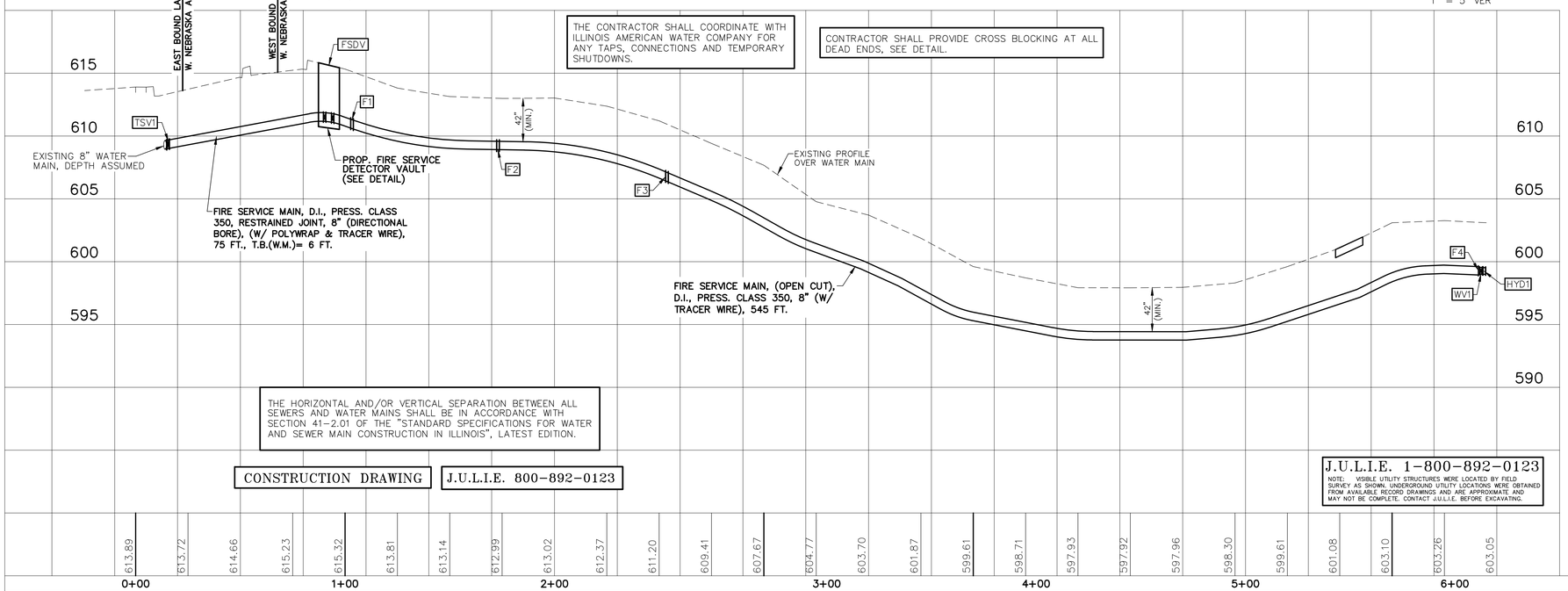


THE CONTRACTOR SHALL COORDINATE WITH ILLINOIS AMERICAN WATER COMPANY FOR ANY TAPS, CONNECTIONS AND TEMPORARY SHUTDOWNS.

CONTRACTOR SHALL PROVIDE CROSS BLOCKING AT ALL DEAD ENDS, SEE DETAIL.

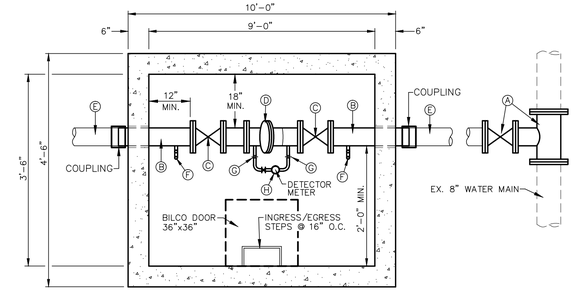
THE HORIZONTAL AND/OR VERTICAL SEPARATION BETWEEN ALL SEWERS AND WATER MAINS SHALL BE IN ACCORDANCE WITH SECTION 41-2.01 OF THE "STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS", LATEST EDITION.

CONSTRUCTION DRAWING

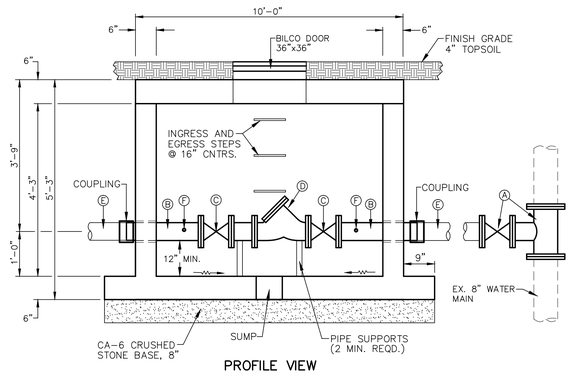
J.U.L.I.E. 800-892-0123

J.U.L.I.E. 1-800-892-0123

NOTE: VISIBLE UTILITY STRUCTURES WERE LOCATED BY FIELD SURVEY AS SHOWN. UNDERGROUND UTILITY LOCATIONS WERE OBTAINED FROM AVAILABLE RECORD DRAWINGS AND ARE APPROXIMATE AND MAY NOT BE COMPLETE. CONTACT J.U.L.I.E. BEFORE EXCAVATING.



PLAN VIEW



PROFILE VIEW

FIRE SERVICE DETECTOR VAULT

(FITTINGS AND METER SIZES TO BE DETERMINED)

N.T.S.

LEGEND

- (A) TAPPING SLEEVE & VALVE WITH BOX, (INSTALLED BY I.A.W.C.)
- (B) FIRE SERVICE LINE, D.I., PRESSURE CLASS 350, (CONTRACTOR SHALL USE D.I., CLASS 350 PIPE WITHIN THE DETECTOR VAULT)
- (C) FLANGED OS&Y GATE VALVE, WHEEL OPERATED (I.A.W.C. STD.)
- (D) SINGLE DETECTOR CHECK ASSEMBLY, BY-PASS PIPING SHOULD INCLUDE CHECK VALVE AND ⅝" METER. THE ⅝" METER WILL BE SUPPLIED, INSTALLED AND MAINTAINED BY I.A.W.C. (SIZE TO BE DETERMINED BY I.A.W.C.)
- (E) PIPE MATERIAL FROM THE TAP TO THE DETECTOR VAULT & FROM THE DETECTOR VAULT TO THE PRIVATE HYDRANT SHALL BE DUCTILE IRON, CLASS 350 OR PER CITY OF PEORIA PLUMBING CODE.
- (F) PRESSURE GAGE (PLASTIC CASE) WITH ISOLATION VALVES.
- (G) 3/4" QUARTER TURN BALL VALVE UNLESS METER SETTER IS USED.
- (H) SINGLE CHECK VALVE AS NOTED IN ABOVE -D-

LEGEND

SECURE THE FLANGED PIPE TO A CONCRETE THRUST BLOCK OUTSIDE THE VAULT.

DETECTOR CHECK ASSEMBLY SHALL BE UL LISTED AND FM APPROVED.

CONTRACTOR TO CONSTRUCT THE FIRE SERVICE WITHIN THE VAULT AS PER I.A.W.C. STANDARDS AND SIZES. CONTRACTOR TO CONTACT I.A.W.C. FOR A ITEMIZED LIST OF MATERIAL AND SIZES NEEDED TO CONSTRUCT THE FIRE METER ASSEMBLIES.

SUBMIT VAULT DESIGN FOR APPROVAL BEFORE CONSTRUCTING.

AUSTIN ENGINEERING CO., INC.
PEORIA, ILLINOIS

PLANS FOR BID

NEWMAN GOLF COURSE CLUBHOUSE - PRIVATE FIRE SERVICE MAIN (PEORIA PARK DISTRICT), PEORIA, ILLINOIS

GENERAL FIRE SERVICE MAIN NOTES:

THIS PROJECT IS BEING DESIGNED FOR PEORIA PARK DISTRICT TO SERVICE THE NEWMAN GOLF COURSE CLUBHOUSE WITH A PRIVATE FIRE MAIN & HYDRANT. THE CONTRACTOR SHALL COORDINATE ALL WORK WITH AUSTIN ENGINEERING COMPANY, AND THE PEORIA PARK DISTRICT, WITH I.A.W.C. PROVIDING THE LABOR FOR THE TAP TO THE EXISTING 8" WATER MAIN AT W. NEBRASKA AVE.

THE PEORIA PARK DISTRICT CONTACT IS MICHAEL FRIBERG AT 309-686-3386. AUSTIN ENGINEERING CONTACT IS JEFF DUPAGE AT 309-691-0224.

PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE THE PEORIA PARK DISTRICT OR ENGINEER WITH A VIDEO DOCUMENTATION OF THE SITE.

THE CONTRACTOR SHALL CONTACT THE PEORIA PARK DISTRICT FOR EXISTING UTILITIES WITHIN THE LIMITS OF THE PROJECT PRIOR TO BEGINNING CONSTRUCTION.

CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARING AND SUBMITTING AS-BUILT DRAWINGS TO THE PEORIA PARK DISTRICT WITHIN 14 DAYS OF RECEIPT OF THE CERTIFICATE OF SUBSTANTIAL COMPLETION.

THE FIRE SERVICE MAIN & DETECTOR VAULT INSTALLATION SHALL BE CONSTRUCTED IN ACCORDANCE WITH "THE STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS", CURRENT EDITION; THE STANDARDS AND SPECIFICATIONS OF ILLINOIS AMERICAN WATER COMPANY, AND THE CITY OF PEORIA PLUMBING CODE.

WHEN POSSIBLE, MAINTAIN 10 FEET HORIZONTAL CLEARANCE BETWEEN THE FIRE SERVICE MAIN AND ANY SANITARY SEWER, STORM SEWER, AND/OR SANITARY SERVICES.

THE CONTRACTOR SHALL COORDINATE WITH AND GIVE ILLINOIS AMERICAN WATER COMPANY AT LEAST A 2 DAY NOTICE FOR ALL TAPS, CONNECTIONS AND TEMPORARY SHUTDOWNS.

THE FIRE SERVICE MAIN SHALL BE DUCTILE IRON, PRESSURE CLASS 350, CEMENT LINED, AND MEET THE REQUIREMENTS OF ANSI/AWWA A21.51/C151. CONTRACTOR SHALL FOLLOW THE CITY OF PEORIA PLUMBING CODES, AND MATERIAL & FITTING REQUIREMENTS. THE NEW FIRE SERVICE MAIN WILL NOT BE OWNED BY I.A.W.C., BUT WILL REQUIRE ALL PIPING WITHIN THE DETECTOR VAULT TO BE D.I. PRESSURE CLASS 350.

RESTRAINED JOINTS SHALL BE UNI-FLANGE AND USED AT ALL TEES, VALVES, AND ELBOWS.

THE FIRE SERVICE MAIN UNLESS OTHERWISE NOTED IN THE PLANS SHALL BE NO LESS THAN 42" DEEP AND AND NO DEEPER THAN 54" WITHOUT ENGINEER APPROVAL.

THE PRIVATE FIRE HYDRANT SHALL BE 3-WAY, 4 1/4" VALVE OPENING, 6" INLET, AND CONFORM TO THE CITY OF PEORIA FIRE DISTRICT STANDARDS.

CONTRACTOR SHALL PROVIDE PERMANENT AND TEMPORARY RESTRAINTS AND THRUST BLOCKS AS NEEDED FOR PRESSURE TESTING THE FIRE SERVICE MAIN. CONTRACTOR SHALL FILL THE MAIN AS SLOWLY SO AS NOT TO GENERATE MOMENTUM CHANCES AT FITTINGS. THE AIR IS TO BE EXPELLED UPON FILLING AND/ALL AIR IS TO BE EXPELLED PRIOR TO PRESSURE TESTING.

THE CONTRACTOR SHALL COORDINATE THE PRESSURE TEST OF THE FIRE SERVICE MAIN WITH THE ENGINEER, I.A.W.C., & PEORIA PARK DISTRICT REPRESENTATIVES PRIOR TO PERFORMING THE TEST. I.A.W.C. WILL BE PRESENT TO EXERCISE THE VALVE, WITH THE ENGINEER AND PEORIA PARK DISTRICT REPRESENTATIVES PRESENT FOR THE 2 HOUR TEST.

THE FIRE SERVICE MAIN TRENCH WITHIN THE CITY R.O.W. THAT CROSSES OR IS WITHIN TWO (2) FEET OF THE EDGE OF PAVEMENT, CURB, GUTTERS, CURB AND GUTTER, OR SIDEWALK, SHALL BE BACKFILLED WITH CONTROLLED LOW STRENGTH MATERIAL (FLOWABLE FILL) IN ACCORDANCE WITH THE CITY OF PEORIA STANDARDS AND NOTED IN THE CONSTRUCTION PLANS. PRIOR TO PLACING THE FLOWABLE FILL, THE CONTRACTOR SHALL PLACE 1'-0" OF SAND MATERIAL OVER THE FIRE SERVICE MAIN, AND THE SAND MATERIAL SHALL BE CONSIDERED INCIDENTAL TO THE PAY ITEM "FIRE SERVICE MAIN, (OPEN CUT), D.I., PRESS. CL. 350, 8". ALL WORK WITHIN THE CITY OF PEORIA RIGHT-OF-WAY SHALL BE INSPECTED BY A CITY OF PEORIA REPRESENTATIVE PRIOR TO PLACING ANY MATERIALS.

THE FIRE SERVICE MAIN TRENCH WITHIN PARK DISTRICT PROPERTY THAT CROSSES ANY PAVEMENT, CURB, GUTTERS, CURB AND GUTTER, OR SIDEWALKS SHALL BE BACKFILLED WITH APPROVED (GRANULAR MATERIAL) AT LOCATIONS SHOWN ON THE CONSTRUCTION PLANS, AND COMPACTED IN LIFTS NO GREATER THAN 1'-0" AT 95% PROCTOR. TRENCH TESTING SHALL BE CONSIDERED INCIDENTAL TO THE PAY ITEM "FIRE SERVICE MAIN, (OPEN CUT), D.I., PRESS. CL. 350, 8". ALL WORK SHALL BE INSPECTED BY THE ENGINEER OR A PEORIA PARK DISTRICT REPRESENTATIVE PRIOR TO PLACING ANY MATERIALS..

EARTHEN TRENCH BACKFILL WITHIN BOTH THE CITY R.O.W. & PARK DISTRICT PROPERTY SHALL BE BACKFILLED WITH LIFTS NO GREATER THAN 1'-0" AND COMPACTED TO 85% PROCTOR. TRENCH TESTING SHALL BE CONSIDERED INCIDENTAL TO THE PAY ITEM, "FIRE SERVICE MAIN, (OPEN CUT), D.I., PRESS. CL. 350, 8". ALL WORK SHALL BE INSPECTED BY THE ENGINEER, CITY ENGINEER OR A PEORIA PARK DISTRICT REPRESENTATIVE.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND PROTECTING ALL UNDERGROUND UTILITIES DURING CONSTRUCTION IN ACCORDANCE WITH THE SPECIFICATIONS AND CONSTRUCTION CONTRACT DOCUMENTS.

THE CONTRACTOR SHALL FURNISH, ERECT AND MAINTAIN ALL MARKINGS AND ASSOCIATED HAZARD WARNING LIGHTS, DELINEATOR FENCING, AND OTHER ASSOCIATED FACILITIES AS REQUIRED FOR OPEN TRENCHES, EXCAVATIONS, TEMPORARY MATERIAL STOCK PILES AND PARKED CONSTRUCTION EQUIPMENT THAT MAY POSE A POTENTIAL HAZARD AS PART OF THE DAILY OPERATIONS ON THE SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SITE SAFETY.

THE CONTRACTOR SHALL CONTINUOUSLY INSPECT ALL LINES AND GRADES AS SHOWN IN THE PLANS WITH THE ACTUAL LINES AND GRADES PLACED ON SITE. ANY DISCREPANCIES THAT MAY AFFECT THE PERFORMANCE OF THE WORK IN ACCORDANCE WITH THE INTENT OF THE CONTRACT SHALL BE IMMEDIATELY REPORTED TO THE ENGINEER IN WRITING BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL TAKE FULL RESPONSIBILITY FOR ANY WORK COMPLETED PRIOR TO REPORTING ANY DISCREPANCIES TO THE OWNER OR ENGINEER WITH NO ADDITIONAL COMPENSATION ALLOWED FOR CORRECTION OF THE WORK.

THE CONTRACTOR SHALL REMOVE ALL EARTHEN MATERIALS, EXISTING SURFACES AND STRUCTURES AS REQUIRED OR NOTED ON THE PLANS. ALL WASTE MATERIAL SHALL BE PROPERLY DISPOSED OFF-SITE UNLESS OTHERWISE NOTED ON THE PLANS. THIS SHALL BE CONSIDERED INCIDENTAL TO THE PAY ITEM "FIRE SERVICE MAIN, D.I., PR. CL. 350, 8", WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, REMOVALS, AND DISPOSALS NECESSARY TO COMPLETE THE WORK.

THE CONTRACTOR, WITH I.A.W.C., CITY OF PEORIA, PEORIA PARK DISTRICT, AND THE ENGINEER WILL HAVE A PRE-CONSTRUCTION MEETING PRIOR TO STARTING THE PROJECT AND SHALL FOLLOW THE PLANS AS DISCUSSED IN THE PRE-CONSTRUCTION MEETING. DURING THE PRE-CONSTRUCTION MEETING THE CONTRACTOR WILL SIGNOFF ON HIS RESPONSIBILITIES AS OUTLINED IN THE PLANS AND WILL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY CITY OF PEORIA PERMITS, AND PAYMENT OF ASSOCIATED FEES PRIOR TO BEGINNING ANY CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE CITY OF PEORIA & THE PEORIA PARK DISTRICT 48 HOURS PRIOR TO PERFORMING ANY WORK WITHIN THE R.O.W. & PARK DISTRICT PROPERTY. ANY CHANGES TO THE PLANS DURING CONSTRUCTION WILL NOT BE PERMITTED WITH OUT APPROVAL FROM THE CITY OF PEORIA, THE PEORIA PARK DISTRICT AND THE ENGINEER.

CONSTRUCTION STAKING, LAYOUT, GRADING AND MATERIAL TESTING SHALL BE THE RESPONSIBILTY OF THE CONTRACTOR.

THE CONTRACTOR SHALL BE RESPONSIBLE DURING CONSTRUCTION FOR THE PROTECTION AND CLEANING FOR ALL WORK WITHIN THE LIMITS OF THE PROJECT UNTIL FINAL COMPLETION AND ACCEPTANCE THEREFOR. THE CONTRACTOR SHALL PROVIDE REMOVAL OF ALL DEBRIS FROM THE SITE AT A MINIMUM OF A DAILY BASIS. THE CONTRACTOR SHALL KEEP THE ROADWAY CLEAR OF MUD, DIRT AND DEBRIS AT ALL TIMES DURING CONSTRUCTION. CLEANING SHALL BE DONE IN AN ACCEPTABLE MANNER. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE PAY ITEM "FIRE SERVICE MAIN, (OPEN CUT), D.I., PRESS. CL 350, 8", WHICH SHALL INCLUDE ALL LABOR, REMOVAL, DISPOSAL AND EQUIPMENT NECESSARY TO COMPLETE THE WORK.

THE CONTRACTOR SHALL REMOVE EXISTING CURB, DRIVES, STREET PAVEMENT AND SIDEWALK AT LOCATIONS INDICATED ON THE PLANS AND NOTED ON THE SUMMARY OF QUANTITIES AS REQUIRED FOR THE UTILITY INSTALLATION WHEN APPLICABLE. FULL DEPTH SAW CUTS ARE REQUIRED. THE LABOR, MATERIALS, DISPOSALS AND EQUIPMENT USED FOR THE REMOVALS & REPLACEMENTS OF SAID ITEMS SHALL BE INCLUDED IN THE UNIT PRICE FOR THE ITEM BEING REMOVED & REPLACED. ANY EXISTING ADJACENT CURB, DRIVES, STREET PAVEMENT AND SIDEWALKS DAMAGED DURING REMOVAL SHALL BE REPLACED TO DEPTHS AND SIZES WITH LIKE MATERIALS AT NO ADDITIONAL COST. **THE CONTRACTOR SHALL ALSO POINT OUT ANY EXISTING DAMAGE THAT MAY BE PRESENT THAT IS ADJACENT TO THE WORK PRIOR TO COMMENCING CONSTRUCTION, IF NOT NOTED PRIOR. EXISTING DAMAGE NOT BROUGHT TO THE ATTENTION OF THE CITY OF PEORIA OR THE ENGINEER WILL BE ASSUMED CAUSED BY THE CONTRACTOR.** ALL WORK WILL REQUIRE INSPECTION AND APPROVAL FROM THE CITY OF PEORIA AND THE PEORIA PARK DISTRICT PRIOR TO PLACING OF LIKE MATERIALS WHERE APPLICABLE.

FINAL ACCEPTANCE BY THE PEORIA PARK DISTRICT FOR IMPROVEMENTS IS BASED ON THE CONDITION OF THE IMPROVEMENTS AT THE TIME THE FINAL INSPECTION IS MADE WITHIN PEORIA PARK DISTRICT PROPERTY.

WORK OPERATION NOTES:

WORK BY OTHERS:

THE CONTRACTOR SHALL COORDINATE AND NOTIFY THE CITY OF PEORIA & UTILITY COMPANIES AS TO WHEN WORK MAY BEGIN. I.A.W.C. SHALL BE NOTIFIED NO LESS THAN 48 HOURS FOR ANY MAIN SHUTDOWNS, TAPS, VALVE WORK OR HYDRANT FLUSHING. THE CONTRACTOR WILL **NOT** BE ALLOWED TO EXERCISE OR REMOVE ANY EXISTING VALVES, WATER SERVICES OR HYDRANTS.

PRIOR TO CONSTRUCTING THE FIRE SERVICE MAIN, ANY UTILITY ADJUSTMENTS OR RELOCATIONS IF NEEDED, MAY BE DONE BY THE FOLLOWING: AMEREN GAS & ELECTRIC, ALL LOCAL AND LONG DISTANCE CARRIERS, ALL CABLE & FIBER OPTIC SYSTEMS, AND THE GREATER PEORIA SANITARY DISTRICT IF APPLICABLE.

SEQUENCE OF OPERATIONS:

ONCE THE CONTRACTOR HAS RECEIVED ALL NECESSARY PERMITS, AND NOTIFIED I.A.W.C. 48 HOURS IN ADVANCE, I.A.W.C. WILL MAKE THE TAP TO THE EXISTING 8" WATER MAIN. AFTER THE TAP IS COMPLETED, THE CONTRACTOR CAN THEN BEGIN CONSTRUCTING THE FIRE SERVICE MAIN AT DEPTHS AND LOCATIONS AS NOTED ON THE PLANS, AND FOLLOW THE REQUIREMENTS FOR TRENCH BACKFILL WHERE NOTED ON THE PLANS WHEN APPLICABLE, INCLUDING ANY TESTING. THIS WORK ALSO INCLUDES, BUT IS NOT LIMITED TO THE INSTALLATION OF THE DETECTOR VAULT, SELECT VALVES AND BOXES, MISCELLANEOUS FITTINGS AND APPURTENANCES, EXCAVATION FOR CONNECTIONS TO THE EXISTING WATER MAIN, ALL SITE RESTORATIONS AND ALL TRAFFIC CONTROL AS DETAILED AND NOTED ON THE PLANS.

TRAFFIC CONTROL:

THE CONTRACTOR SHALL COORDINATE WITH LOCAL OFFICIALS PRIOR TO PLACING ANY TRAFFIC CONTROL FOR PART-TIME OR APPROVED PERMANENT LANE CLOSURES ALONG BOTH THE EAST & WEST BOUND LANES OF W. NEBRASKA AVE., AND THE ENTRANCE TO NEWMAN GOLF COURSE CLUBHOUSE PARKING LOT TO ENSURE THE SAFETY OF THE PUBLIC IN ADDITION TO KEEPING THE ROADS ACCESSIBLE TO CITY OF PEORIA FIRE, POLICE AND AMBULATORY SERVICES A MINIMUM OF 3 WORKING DAYS IN ADVANCE.

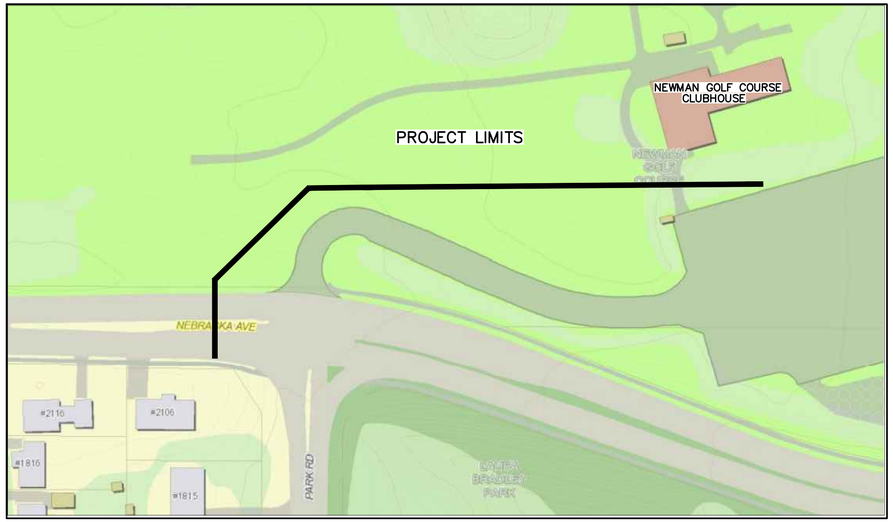
TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" OR THE APPLICABLE GUIDELINES CONTAINED IN THE "ILLINOIS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS", CURRENT EDITIONS. ALL TRAFFIC CONTROL SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT. IF TRAFFIC CONTROL IS NOT MAINTAINED TO THE SATISFACTION OF THE ENGINEER, OR IF FLAGGERS ARE NOT PROVIDED WHEN REQUIRED, CONSTRUCTION SHALL BE STOPPED UNTIL TRAFFIC CONTROL IS RESET TO THE SATISFACTION OF THE ENGINEER.

THE CONTRACTOR WILL BE RESPONSIBLE FOR SCHEDULING HIS OPERATIONS TO PROVIDE CONTINUOUS ACCESS TO BUSINESSES OR HOMEOWNERS LOCATED ALONG THE IMPROVEMENTS THAT HAVE CURRENT ACCESS TO THE STREET OR BUSINESS.

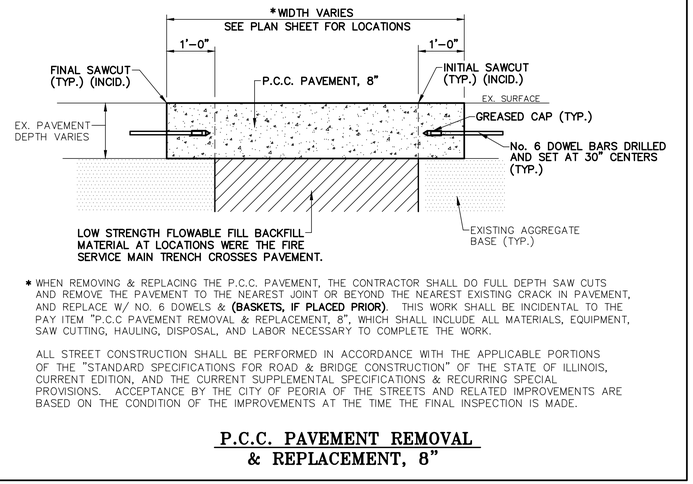
APPROVAL WILL BE NEEDED FOR ANY DAY TIME ONE LANE CLOSURES FROM 8:00 a.m. TO 4:00 p.m. FROM THE CITY OF PEORIA.

AT THE PRE-CONSTRUCTION MEETING, THE CONTRACTOR SHALL FURNISH THE NAME OF THE INDIVIDUAL IN HIS DIRECT EMPLOYMENT WHO WILL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF THE TRAFFIC CONTROL FOR THIS PROJECT. IF THE ACTUAL INSTALLATION AND MAINTENANCE ARE TO BE ACCOMPLISHED BY A SUBCONTRACTOR, CONSENT SHALL BE REQUESTED FROM THE PEORIA PARK DISTRICT REPRESENTATIVE AT THE TIME OF THE PRE-CONSTRUCTION MEETING. THIS SHALL NOT RELIEVE THE CONTRACTOR OF THE FOREGOING REQUIREMENT FOR A RESPONSIBLE INDIVIDUAL IN HIS DIRECT EMPLOYMENT. THE CITY OF PEORIA WILL PROVIDE THE CONTRACTOR WITH THE NAME OF ITS REPRESENTATIVE WHO WILL BE RESPONSIBLE FOR THE ADMINISTRATION OF THE TRAFFIC CONTROL PLAN.

THE CONTRACTOR MAY BE ASKED TO PROVIDE THE CITY OF PEORIA A TRAFFIC CONTROL PLAN FOR APPROVAL SHOWING THEIR SEQUENCE OF OPERATIONS FOR ANY LANE CLOSINGS, AND THE PLACEMENT OF REQUIRED TRAFFIC CONTROL PRIOR TO BEGINNING ANY WORK. WHEN WORKING WITHIN THE CITY RIGHT-OF-WAY OF W. NEBRASKA AVE., THE CONTRACTOR WILL BE REQUIRED TO HAVE A FLAGGER POSITIONED AT ALL TIMES WHILE CONSTRUCTION EQUIPMENT IS ENTERING AND EXITING THE SITE. THIS WILL BE CONSIDERED INCIDENTAL TO THE ITEM, "TRAFFIC CONTROL & PROTECTION", WHICH WILL INCLUDE ALL LABOR, AND ANY FEES ASSOCIATED WITH THIS ITEM.



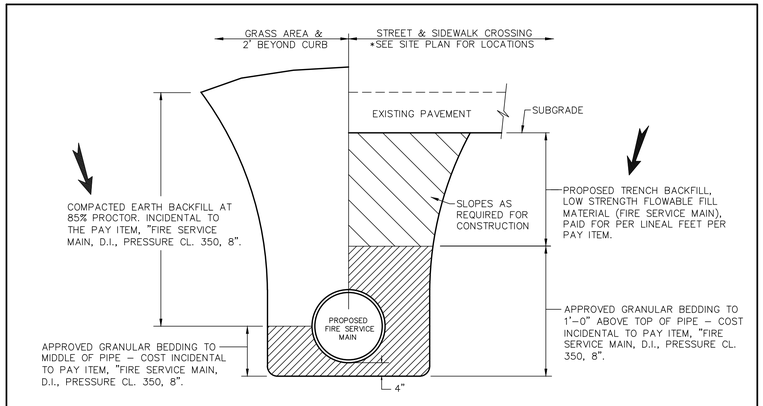
LOCATION MAP



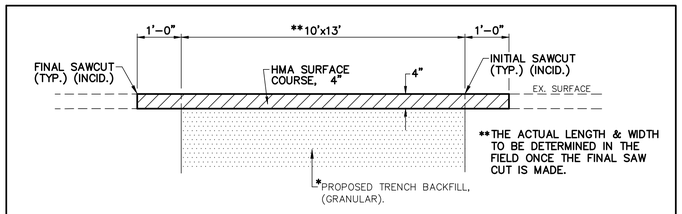
* WHEN REMOVING & REPLACING THE P.C.C. PAVEMENT, THE CONTRACTOR SHALL DO FULL DEPTH SAW CUTS AND REMOVE THE PAVEMENT TO THE NEAREST JOINT OR BEYOND THE NEAREST EXISTING CRACK IN PAVEMENT, AND REPLACE W/ NO. 6 DOWELS & **(BASKETS, IF PLACED PRIOR)**. THIS WORK SHALL BE INCIDENTAL TO THE PAY ITEM "P.C.C PAVEMENT REMOVAL & REPLACEMENT, 8", WHICH SHALL INCLUDE ALL MATERIALS, EQUIPMENT, SAW CUTTING, HAULING, DISPOSAL, AND LABOR NECESSARY TO COMPLETE THE WORK.

ALL STREET CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH THE APPLICABLE PORTIONS OF THE "STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION" OF THE STATE OF ILLINOIS, CURRENT EDITION, AND THE CURRENT SUPPLEMENTAL SPECIFICATIONS & RECURRING SPECIAL PROVISIONS. ACCEPTANCE BY THE CITY OF PEORIA OF THE STREETS AND RELATED IMPROVEMENTS ARE BASED ON THE CONDITION OF THE IMPROVEMENTS AT THE TIME THE FINAL INSPECTION IS MADE.

P.C.C. PAVEMENT REMOVAL & REPLACEMENT, 8"



WATER MAIN TRENCH DETAIL



* PROPOSED TRENCH BACKFILL (GRANULAR) PAID FOR PER LINEAL FEET. COMPACTION TO BE BY MECHANICAL METHODS TO A MINIMUM OF 95% OF THE STANDARD LABORATORY DENSITY. TEST COSTS TO BE INCID. TO THE PAY ITEM, "BITUMINOUS PAVEMENT REMOVAL & REPLACEMENT, 4", AND SHALL INCLUDE ALL MATERIALS, EQUIPMENT, SAW CUTTING, HAULING, DISPOSAL, AND LABOR NECESSARY TO COMPLETE THE WORK. CONTRACTOR SHALL MAKE FINAL SAW CUT TO BITUMINOUS PATH TO MAKE FOR A CLEAN MATCH TO EXISTING.

BITUMINOUS PAVEMENT REMOVAL & REPLACMENT, 4"
(AT NEWMAN GOLF COURSE CLUBHOUSE CART PATH)

PLANS FOR BID

GENERAL NOTES AND DETAILS

NEWMAN GOLF COURSE CLUBHOUSE - PRIVATE FIRE SERVICE MAIN

FOR: PEORIA PARK DISTRICT

DATE 5/29/14 | SCALE N.T.S. | BOOK

AUSTIN ENGINEERING, CO., INC.
Consulting Engineers / Surveyors
8100 North University Street
Peoria, Illinois 61615-1879
License No. 184-001143

REVISED 6/12/14 | REVISED | REVISED 8/27/14 | REVISED

PROJECT NUMBER 90-14-001

SHEET NO. 3 OF 3