

WATER BOARD OF TRUSTEES
Regular Meeting
February 16, 2016
3:00 PM
Location: 1208 South St.

Agenda

1. Oath of office of newly appointed Board member Jason Carter.
2. Approve agenda.
3. Approve minutes of the January 18, 2016 regular meeting.
4. Approve invoices and financial statements.
5. Customer forum.
6. Discussion of wastewater operations.
7. Discussion of billing for Red Carpet Inn.
8. Consideration and discussion of Water Capital Funding Options and Water Cashflow Analysis as prepared by Public Financial Management (PFM).
9. Public hearing for proposed water rate increase.
10. Introduction of Resolution #1601, Resolution to Increase Water Rates Effective March 1, 2016.
11. Consideration and discussion on plans and specifications for Carbonado Road Water Main Replacement.
12. General Manager's update.
13. Miscellaneous.
14. Adjourn.

INFORMATION CONCERNING AGENDA ITEMS:

Agenda Item #1

I have the oath of office for Jason. He can read it aloud, then sign it and have one other Board member attest to the signature. We will then make a copy and send the original to City Hall.

Agenda Item #5

“This is the item reserved to receive comments from the community, our customers, for concerns whether or not they are included in the current agenda. The community is encouraged to come and speak before the Water Board of Trustees and asked to keep statements brief. Any questions are to be asked of the Water Department staff and Board of Trustee members prior to speaking to the full Board of Trustees so concerns may be properly researched and answered away from the meeting. Comments are to be directed to the Board of Trustees only.”
There are none to report at this time.

Agenda Item #6

Staff has been working on completing the annual Fats, Oils, and Grease (FOG) inspections and plans to have it all completed by the end of March.

Staff has been working when possible to jet and camera sanitary sewer for upcoming projects to allow Garden & Associates to view the status of infrastructure. I have been in communication with Garden about determining which quadrants are in the worst shape to help us plan where to start with the jetting and videoing as it relates to the 28E.

Staff is waiting to see the collection system report from Garden to determine which quadrants are in the most immediate need for jetting and video inspection and will then plan accordingly. Whichever quadrant is first, the storm sewer for that quadrant will be done in conjunction.

Money was budgeted to develop a GIS/GPS system for both storm and sanitary sewers in the upcoming year. Depending on which company we choose to go with, there are software systems that will address the need for developing preventative maintenance program for each collection system, storm and sanitary.

Staff has also been asked to start compiling a weekly list of activities as they relate to system performance, production, treatment compliance and maintenance issues that will be forwarded to the City Manager for distribution to Council etc.

Fox Engineering has been selected and a contract has been presented to City Council for approval to complete the Facility Plan for wastewater.

Agenda Item #7

Greg Life has called the office to let us know that he will be in attendance representing the owner of the Red Carpet Inn to discuss water rates for this establishment. The Red Carpet Inn is located outside of city limits and as such they are charged double rates. The current water rate inside city limits is \$5.13 per unit and the rate outside of city limits is \$10.26 per unit. One unit is 748 gallons.

Agenda Item #8

Susanne Gerlach with Public Financial Management, PFM, will be here to present options for funding our capital improvements. In your packets you will see attached documents that have been prepared for this discussion. PFM has been retained to provide financial analysis services for the Water Department. This discussion is especially important as the need for a rate increase is also part of this meeting's agenda.

Agenda Item #9

On January , 2016, notice of the Public Hearing for a proposed 25% rate increase was published in the Oskaloosa Herald. This is the topic that will address the hearing. There will need to be a motion to open the hearing, ask for and listen to any comments, and then a motion to close the public hearing.

Agenda Item #10

I will attach a draft copy of the resolution to your packets. The final copy will be available at the time of the meeting. The amount of the increase has not been filled in as there is discussion that will be held prior to this agenda item that will help determine the amount sought. This resolution will need an introduction (need to be read), a second, and then you can discuss and make a motion for approval. As it relates to the necessary funding for capital improvements, staff recommends approving a 25% increase.

Agenda Item #11

Jack Pope will be here to discuss the plans and specifications for Carbonado Road. I will attach these plans and specs to the agenda packets. As part of the specifications you may see that we are looking to have bids turned in before 11:00 AM April , opened and tabulated at 11:00 AM April , and then awarded with a public hearing held at the regular meeting for April on the at 3:00. I recommend approving plans and specifications and setting these dates and times as specified.

Agenda Item #12

On top of regular operations, we have also been dealing with a few other items.

- We had Cahoy Well and Pump come back in to investigate wells 22 & 25. Staff is working on changes that were recommended and we are currently pumping this well to waste to see if the changes are effective. If they are not, we will have two wells that will become unusable and we will need to figure out how to proceed.
- We are also getting ready to have high service pump #5 reinstalled after being rebuilt. This was the first major maintenance to this pump since installation more than 15 years ago.
- The lime feeder has been experiencing failures that have caused issues. We have had DeBruin electric come in and troubleshoot and help us fix the problems.

- Staff have also been working on bench testing meters. I will be sending out the results as I compile them.
- We received a new operating permit from the Iowa DNR this last month. No big changes at this time. I will attach a copy of this in the agenda packets.
- We have received our permit to install the new main along highway 23. Staff has been out cutting back trees preparing to start installing. Plans have been modified to use the 12" main and casing that were installed in 2007 for Iowa Wood and future main. We plan to be on the southwest side of the highway from Avenue East until the crossing and then we plan to go along the northeast side of the highway once we are south of the Iowa Wood property.

Agenda Item #13

There have been two leaks in the last month.

One on the 12" along Highway 23 that happened on the day of the regular meeting last month and then also a shear break on the 6" main on Street next to the old driveway entrance to the SW wastewater plant.

Financial Planning & Capital Funding

Presented by:
Public Financial Management, Inc.

Susanne Gerlach
Senior Managing Consultant



Outline

- Understanding Your Current Financial Condition
- Capital Planning Considerations
- Making the Decision to Borrow
- Municipal Funding Sources (Internal and External)
- Financing Infrastructure
- Bonding Options
- Post-Issuance Issuer Responsibilities



UNDERSTANDING YOUR CURRENT FINANCIAL CONDITION



Financial Health Considerations

- **Water Enterprise Fund**
 - System usage trends
 - Increasing or decreasing annual usage
 - Stability of system larger users
 - Operating expense growth rates
 - Personnel costs
 - Chemicals and other treatment costs
 - Current unreserved cash balance as a percent of O & M
 - 4-6 months of operating expenses or approximately 50% of O & M expenses
 - Regular transfers out to other funds
 - Existing Enterprise Fund Revenue Debt
 - Current revenue bond covenant requirements
 - Debt service coverage requirements
 - SRF loans (1.10x or greater coverage)
 - Varies for revenue bonds (1.10x - 1.30x coverage)
 - Debt service reserve fund requirement
 - Improvement Fund requirement

CAPITAL PLANNING CONSIDERATIONS



Capital Planning Considerations

- Identify the optimal match of revenue sources with funding needs
- Maximize the revenues available for funding capital projects
- Maximize the amount of projects which can be funded
- Provide the flexibility to accommodate changes in the actual capital needs or funding sources
- Preserve the capacity to fund additional capital projects beyond the planning period
- Achieve the lowest cost of capital



Creating a Capital Improvement Plan

- Use all information gathered
 - Usage Data
 - Customer Trends
 - Existing Rate Structure
- Determine what is driving the timing of the improvements
 - Condition of the existing infrastructure?
 - Development opportunities?
 - Budget?
- Use rankings to develop priorities
- Evaluate annual budget based on priorities
- Other Considerations
 - Public input, politics, funding, etc...
- Once created, the Capital Improvement Plan should:
 - Guide decisions for a minimum of 5 years
 - Include long range needs - 20 years & out
 - Be evaluated annually



MUNICIPAL FUNDING SOURCES



Internal/External Funding Sources

INTERNAL:

- Local Option Sales Tax Revenue
- Water Utility Revenues
- Franchise Fees
- Revenue Bonding
 - Bonding options will be discussed later in more detail

EXTERNAL:

- Iowa Finance Authority
- Community Development Block Grants (CDBG)
- Federal earmarks
- USDA Rural Development
 - Grants and loans
- Source for other grant opportunities
 - Iowa Grants Enterprise Management System (GEMS)
<http://www.iagems.gov>



MAKING THE DECISION TO BORROW



Pay-As-You-Go vs. Debt Financing

Pay-As-You-Go

- Construction or acquisition as revenues become available
- Current users bear cost
- Construction/acquisition capacity limited to available revenues
- Lower total cost
- Political and economic climate considerations

Debt Financing

- Construction or acquisition as needed
- Reduced current payments
- Current and future users bear cost
- Enhanced construction/acquisition capacity
- Useful life of assets financed



FINANCING INFRASTRUCTURE



General Considerations for Issuing Debt

- **May combine legal authorities**
 - Larger bond issue may sell better
 - Consult with your Bond Counsel
- **Cumulative effect of debt**
 - Look at long-term forecasting
 - Wrap proposed debt around outstanding debt
- **Term of debt**
 - Shorter debt can result in a better interest rate and rating
 - Current outstanding debt
 - Future planned debt
- **Reimbursement resolutions**
 - Do not need one to cover preliminary costs
 - Limited to 20% of bond issue
 - Look back window is 60 days
 - Reimbursed within the later of 18 months after you expended or 18 months after the construction is complete but no later 3 years

Do not begin spending money without consulting with your bond counsel and financial advisor first.



Competitive vs. Negotiated Sale

Competitive Sale

- Simple or well-known bond structure
- Stable market conditions
- Fixed Rate Debt
- Typically has lower gross spread for underwriting costs
- Prices obtained offer potential bidders equal opportunity and yields the lowest price for the Issuer

Negotiated Sale

- Complex bond structure
- Volatile market conditions
- Variable rate debt
- Typically has higher gross spread for underwriting costs
- Leaves room for criticism as to not receiving the best available rates for the Issuer



BONDING OPTIONS



Revenue Bonds

- Authority found in the Code of Iowa
 - Chapter depends on revenue source
- Do **NOT** count against general obligation debt limit (with the exception of TIF Revenue Bonds)
- Debt to be paid solely by the revenues of the system or the source for which the debt is being issued
 - Water utility revenues
- Backed by specific revenue stream
- Matches sources of payment for bonds to the project financed
- Users pay cost of project and financing
- Variety of revenues could be pledged to pay debt service
- Covenants could limit bonding capacity

Revenue Bonds

- Current revenues available for debt service after paying operating expenses
- Other covenant requirements
 - Covenants (such as coverage and reserve funds) vary based on the type of debt issued
- Rate increases may be necessary to meet covenant requirements
- Cumulative effect of debt
- Debt structure
- Look at long-term forecasting



Utility Revenue Bonds

- Authority found in Division V of Chapter 384 of Code of Iowa
- Repaid by revenues of utility
 - **Water**
 - Sewer
 - Stormwater
 - Electric
 - Gas
 - Communications
- Utility revenue debt requires issuer to establish covenants
 - Debt service reserve fund
 - User rates
 - Parity Test
- Not general obligation debt and does not count against the general obligation debt capacity



Revenue & Rate Analysis

Considerations

- Usage
- Structure of rates
 - Base rates
 - Usage only
- Growth of current expenses
- Debt service coverage
 - 1.10x required for SRF
 - Minimum 1.30x recommended for revenue bonds
- Capital outlays
 - Pay-go
 - Bonding
- Other transfers
 - General fund, etc.
- Ending Cash
 - 50% of O & M
 - 4-6 months of reserves



State Revolving Fund

Types of Loans:

- Planning and Design Loans
 - 0% for up to 3 years
 - Can be rolled into SRF Loan or paid with permanent financing
- Construction Loans
 - 1.75% interest rate + 0.25% servicing fee
 - Origination fee of 0.5%
- SRF Source Water (SWP) Protection
 - 0% interest rate
 - Up to 20 years
 - For purchase of land or easements, or to fund SWP practices
 - Based on approved SWP plan
- Types of projects for SRF Nonpoint Source Loans
 - Stormwater best management practices
 - Brownfield cleanup
 - Landfill closure
 - Others



State Revolving Fund

SRF Loan Programs:

- Clean Water SRF
 - Loans for the following types of projects
 - Publicly owned wastewater treatment facilities
 - Sewer system rehabilitation
 - New systems for unsewered communities
 - Stormwater management for water quality
- Drinking Water SRF
 - Loans for the following types of projects
 - Improvements to public water supply systems
 - Consolidations and connections
 - Source water protection



ISSUER RESPONSIBILITIES



Issuer Responsibilities

Keep in mind that once debt is issued, you have certain responsibilities for the life of the debt:

- Disclosure Requirements (All Debt Issued Over \$1 million)
 - Final official statement
 - Annual continuing disclosure filings via EMMA
 - Material event notices via EMMA
- Bond Covenants (Revenue Debt Only)
 - Debt service reserve fund balances
 - User rates and charges
 - Debt service coverage ratios (1.10x for SRF)
 - Parity test for new debt issuance
- Rating Agency Updates (Rated Debt Only)
 - Periodic credit reviews



QUESTIONS?

For more information, please contact:

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Susanne Gerlach

Senior Managing Consultant
Phone: 515-724-5734
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February 09, 2016

Memorandum

To: Oskaloosa Water Department
From: Susanne Gerlach, Public Financial Management, Inc.
Re: Water Capital Funding Options

PFM has worked with Oskaloosa Water Department staff (the “Department”) to provide an updated Water Cashflow Analysis and to prepare certain capital funding options to assist in the FY 2016-17 budget planning and rate setting process. This update includes FY 2014-15 audited financial performance, the FY 2015-16 re-estimated budget and the proposed FY 2016-17 budget.

Attached are three different capital funding options for your consideration and discussion. This memo is intended to highlight the important considerations for each capital funding option as summarized below.

Capital Funding Options

- **Option 1:** Assumes all capital outlays are cash funded
- **Option 2:** Assumes 2018 SRF loan funds certain eligible capital outlays
- **Option 3:** Assumes 2016 water revenue bond & 2018 SRF loan funds ALL capital outlays

The following is a discussion of the main consideration for each funding option listed above.

Rate Increases

The rate increases necessary to cashflow the capital outlays will vary based on the funding option selected as summarized in the table below.

RATE INCREASES			
	Option #1	Option #2	Option #3
March 1, 2016	25.00%	22.50%	12.50%
March 1, 2017	7.50%	10.50%	7.50%

The driving factor for the March 1, 2016 rate increase recommendation is the Carbonado Road project in the amount of \$550,000. This project is expected to be bid this spring and is expected to be completed during the FY 2016-17 budget year.

- Option #1 and Option #2 assume this project is cash funded.
- Option #3 assumes this project is funded with a 2016 Water Revenue Bond.

The driving factor for the March 1, 2017 rate increase recommendation is the painting of the water towers in the amount of \$400,000. This project is expected to be completed during the FY 2017-18 budget year.

- Option #1 and Option #2 assume this project is cash funded.
- Option #3 assumes this project is funded with a 2016 Water Revenue Bond.



Total Cost of Capital

While issuing debt for projects may reduce the rate increases needed today, there are additional costs associated with issuing debt that need to be considered. In order to evaluate the total cost of capital outlays when funded by cash versus a debt issuance, you should account for:

- 1) total project costs;
- 2) cost of issuance related to a debt issuance; and
- 3) interest paid over the life of a debt issuance

These estimated total costs of capital for each of the capital funding options are summarized in the table below.

TOTAL COST OF CAPITAL			
	Option #1	Option #2	Option #3
Project Costs	\$2,775,000	\$2,775,000	\$2,775,000
2016 Water Revenue Bonds			
Cost of Issuance	\$0	\$0	\$45,330
Interest Costs¹⁾	\$0	\$0	\$171,129
2018 Water SRF Loan			
Cost of Issuance	\$0	\$33,983	\$33,988
Interest Costs²⁾	\$0	\$356,438	\$431,337
TOTAL COST OF CAPITAL	\$2,775,000	\$3,165,421	\$3,456,783

1) Based on an estimated True Interest Cost of 2.43%.

2) Based on the SRF loan interest rate of 2.00%.

Please note the costs listed above do NOT take into account any of the following:

- Water Revenue Bonds will require a debt service reserve fund.
- Inflation for projects that are delayed

Additional Project Capacity

The rate increases previously listed will generate a certain amount of cash that may be used for additional capital outlays. The table below illustrates the capacity for additional projects based on the recommended rate increases associated with each capital funding option.

ADDITIONAL PROJECT CAPACITY			
	Option #1	Option #2	Option #3
FY 2018-19	\$0	\$400,000	\$0
FY 2019-20	\$0	\$400,000	\$0
FY 2020-21	\$0	\$400,000	\$425,000
FY 2021-22	\$500,000	\$400,000	\$425,000
Total	\$500,000	\$1,600,000	\$850,000

Please note the current CIP only identifies projects through FY 2020-21. FY 2021-22 capacity listed is based on available funding for all capital projects and is not necessarily additional capacity.



Other Considerations

Listed below are other considerations that should be taken into account when selecting the appropriate capital funding option.

- Identifying the current priorities:
 - To maintaining the lowest user rate possible?
 - This could limit the amount of capital projects completed.
 - To completing the maximum amount of capital outlays possible?
 - This could require additional rate increases.
 - To optimizing project cost savings by matching the City's CIP whenever possible?
 - This could mean less control over the rate structure and less flexibility in selecting the Department's capital improvements.
 - The list could go on and on.
- The City estimates significant sewer rate increases over the next two years
 - 25% rate increase in April 2016
 - 20% rate increase in April 2017
- Quarterly billing increases the risk of possible delinquencies as user rates rise
- Coordinating Department CIP with the City's sewer CIP
 - There may be additional opportunities to collaborate with City sewer projects that are not included in the current CIP.
- Certain projects may not be eligible for SRF funding
- Low interest rates available in the municipal bond market
- Additional financial covenants required for issuing revenue bonds

SUMMARY

So should the Department cash fund or issue debt to fund the current CIP? There is no right or wrong answer. There just needs to be thoughtful planning.

The solution to finding the right mix of cash and debt funding should be based on the Department's current priorities. Keep in mind all of the considerations listed in this memo should be taken into account when selecting the appropriate capital funding option.

Also, attached for your information are excerpts from a Financial Planning & Capital Funding presentation PFM was asked to prepare and present as part of the Iowa League of Cities Small City Workshops in 2012. Hopefully you find some of this information helpful in your planning process.

PFM will update the water cashflow model based on the selected capital funding option.

PFM recommends the Department continue to update the water cashflow analysis as updated financial information becomes available in order to react to changes in actual financial performance and the actual impact of the currently identified capital outlays.

As always, please contact me with any questions you may have (phone 515-724-5734 or e-mail gerlachs@pfm.com).

OSKALOOSA MUNICIPAL WATER DEPARTMENT

Water Enterprise Fund

EXHIBIT 1

Assumes Cash Funded CIP

Growth Assumptions	
Water Usage	(2.00%)
Number of Customers	0.00%
Operating Expenses	5.00%
Interest Rate	0.20%

WATER REVENUE ADJUSTMENTS					
3/1/2010	7.50%	3/1/2014	10.00%	3/1/2018	5.00%
3/1/2011	7.50%	3/1/2015	10.00%	3/1/2019	3.00%
3/1/2012	3.50%	3/1/2016	25.00%	3/1/2020	3.00%
3/1/2013	0.00%	3/1/2017	7.50%	3/1/2021	3.00%

	Audited Financial Statements			Re-Est.	Budget	Projected	Projected	Projected	Projected	Projected
	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22
COST PER UNIT										
	Mar 2012		Mar 2014	Mar 2015	Mar 2016					
Rate per 100 Cubic Feet (Inside) 1	\$4.24	\$4.24	\$4.66	\$5.13	\$6.41	\$6.89	\$7.24	\$7.46	\$7.68	\$7.91
Rate per 100 Cubic Feet (Outside) 2	\$8.48	\$8.48	\$9.32	\$10.26	\$12.83	\$13.79	\$14.48	\$14.91	\$15.36	\$15.82
Min. Monthly Bill (200 CF) Inside 3	\$8.48	\$8.48	\$9.32	\$10.26	\$12.83	\$13.79	\$14.48	\$14.91	\$15.36	\$15.82
Min. Monthly Bill (200 CF) Outside 4	\$16.96	\$16.96	\$18.64	\$20.52	\$25.65	\$27.57	\$28.95	\$29.82	\$30.72	\$31.64
	3.73%	0.90%	8.61%	10.00%	25.00%	7.50%	5.00%	3.00%	3.00%	3.00%
Average Revenue/CCF Inside 5	\$3.34	\$3.37	\$3.66	\$4.03	\$5.03	\$5.41	\$5.68	\$5.85	\$6.03	\$6.21
WATER (CCF) 6										
	1.40%	(2.12%)	(5.49%)	(2.00%)	(2.00%)	(2.00%)	(2.00%)	(2.00%)	(2.00%)	(2.00%)
Total Water Usage 7	440,797	431,448	407,750	399,595	391,603	383,771	376,096	368,574	361,202	353,978
Number of Customers Inside 8	4,644	4,638	4,646	4,646	4,646	4,646	4,646	4,646	4,646	4,646
Number of Customers Outside 9	263	260	259	259	259	259	259	259	259	259
OPERATING REVENUES 10										
	4.71%	(1.11%)	4.70%	8.43%	23.21%	5.97%	3.51%	1.55%	1.56%	1.57%
Metered Water Sales 11	\$1,472,997	\$1,452,099	\$1,492,440	\$1,608,769	\$1,970,743	\$2,076,177	\$2,136,386	\$2,156,469	\$2,176,739	\$2,197,201
Min Monthly Billings - Inside 12	472,573	471,963	519,609	572,016	715,019	768,646	807,078	831,290	856,229	881,916
Min Monthly Billings - Outside 13	53,526	52,915	57,933	63,776	79,720	85,699	89,984	92,684	95,464	98,328
Penalties and Inspection Fees 14	37,574	40,205	45,959	38,000	38,000	38,000	38,000	38,000	38,000	38,000
Labor Charges 15	3,697	6,252	6,854	3,500	3,500	3,500	3,500	3,500	3,500	3,500
Sales Tax 16	137,971	136,654	143,739	157,119	193,584	205,137	212,341	215,631	218,990	222,421
Rental Fees 17	20,462	21,807	44,643	20,660	25,735	25,735	25,735	25,735	25,735	25,735
City Wastewater 18	0	0	0	238,787	386,723	406,059	426,362	447,680	470,064	493,567
Miscellaneous Revenues 19	46,236	64,856	91,610	27,500	32,000	32,000	32,000	32,000	32,000	32,000
Total Operating Revenues 20	\$2,245,036	\$2,246,751	\$2,402,787	\$2,730,127	\$3,445,024	\$3,640,953	\$3,771,387	\$3,842,989	\$3,916,722	\$3,992,668
OPERATING EXPENSES 21										
	3.96%	11.95%	(7.70%)	10.80%	2.84%	5.00%	5.00%	5.00%	5.00%	5.00%
Administration 22	\$650,206	\$676,209	\$671,342	\$667,855	\$665,115	\$698,371	\$733,289	\$769,954	\$808,451	\$848,874
Plant O&M 23	416,655	430,279	444,184	564,710	588,441	617,863	648,756	681,194	715,254	751,016
Distribution O&M 24	336,359	464,421	334,394	373,926	398,507	418,432	439,354	461,322	484,388	508,607
WW Operations 25	0	0	0	238,787	386,723	406,059	426,362	447,680	470,064	493,567
Sales Tax 26	138,196	136,730	143,805	157,119	193,584	205,137	212,341	215,631	218,990	222,421
Other Misc Expenses 27	0	0	0	0	0	0	0	0	0	0
Total Operating Expense 28	\$1,541,416	\$1,707,639	\$1,593,725	\$2,002,397	\$2,232,370	\$2,345,862	\$2,460,103	\$2,575,781	\$2,697,147	\$2,824,486
NET OPERATING REV 29										
	\$703,620	\$539,112	\$809,062	\$727,730	\$1,212,654	\$1,295,091	\$1,311,284	\$1,267,208	\$1,219,575	\$1,168,182
Interest on Reserves 30	9,452	7,048	6,867	2,038	1,538	1,623	1,664	1,586	1,791	1,837
Other Non-operating Income 31	0	0	0	0	0	0	0	0	0	0
Revenue for Debt Service 32	\$713,072	\$546,160	\$815,929	\$729,768	\$1,214,192	\$1,296,715	\$1,312,948	\$1,268,795	\$1,221,366	\$1,170,019

OSKALOOSA MUNICIPAL WATER DEPARTMENT

Water Enterprise Fund

EXHIBIT 1

Assumes Cash Funded CIP

<i>Growth Assumptions</i>	
Water Usage	(2.00%)
Number of Customers	0.00%
Operating Expenses	5.00%
Interest Rate	0.20%

<i>WATER REVENUE ADJUSTMENTS</i>					
3/1/2010	7.50%	3/1/2014	10.00%	3/1/2018	5.00%
3/1/2011	7.50%	3/1/2015	10.00%	3/1/2019	3.00%
3/1/2012	3.50%	3/1/2016	25.00%	3/1/2020	3.00%
3/1/2013	0.00%	3/1/2017	7.50%	3/1/2021	3.00%

Audited Financial Statements				Re-Est.	Budget	Projected	Projected	Projected	Projected	Projected
	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22
Revenue for Debt Service 33	\$713,072	\$546,160	\$815,929	\$729,768	\$1,214,192	\$1,296,715	\$1,312,948	\$1,268,795	\$1,221,366	\$1,170,019
Water Debt Service										
2009 SRF Loan 34	\$419,471	\$418,793	\$418,895	\$418,738	\$419,320	\$419,610	\$419,608	\$419,313	\$418,725	\$418,845
Reserved 35	0	0	0	0	0	0	0	0	0	0
Total Revenue Debt 36	\$419,471	\$418,793	\$418,895	\$418,738	\$419,320	\$419,610	\$419,608	\$419,313	\$418,725	\$418,845
Debt Service Coverage										
Net Revenues/ Revenue Debt 37	1.70	1.30	1.95	1.74	2.90	<i>Must at least be a 1.10x Coverage for SRF Bonds</i>				
						3.09	3.13	3.03	2.92	2.79
CASHFLOW AFTER DEBT 38	\$293,601	\$127,368	\$397,034	\$311,030	\$794,872	\$877,105	\$893,341	\$849,482	\$802,641	\$751,174
Capital Outlays 39	(\$427,105)	(\$379,526)	(\$283,037)	(\$459,010)	(\$650,000)	(\$755,000)	(\$710,000)	(\$525,000)	(\$558,000)	(\$505,000)
Other cash sources/(uses) 40	0	0	0	0	0	0	0	0	0	0
Bond Proceeds 41	0	0	0	0	0	0	0	0	0	0
Transfers (to)/from Other Funds 42	0	0	0	0	0	0	0	0	0	0
Transfers to Meter Replcmt Fund 43	(36,000)	(36,000)	(36,000)	(102,000)	(102,000)	(102,000)	(222,000)	(222,000)	(222,000)	(222,000)
Transfers to Sinking Fund 44	57	(9)	13	0	0	0	0	0	0	0
Annual Surplus/ (Deficit) 45	(\$169,447)	(\$288,167)	\$78,010	(\$249,980)	\$42,872	\$20,105	(\$38,659)	\$102,482	\$22,641	\$24,174
Debt Proceeds	0	0	0	0	0	0	0	0	0	0
Beginning Cash Balance 46	\$1,398,445	\$1,228,998	\$940,831	\$1,018,841	\$768,861	\$811,733	\$831,838	\$793,179	\$895,661	\$918,302
Ending Cash Balance 47	\$1,228,998	\$940,831	\$1,018,841	\$768,861	\$811,733	\$831,838	\$793,179	\$895,661	\$918,302	\$942,476
Cash % of O&M (net of depr) 48	80%	55%	64%	38%	36%	35%	32%	35%	34%	33%
Restricted & Designated										
Improvement Fund 49	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Sinking Fund 50	\$34,899	\$34,908	\$34,908	\$34,908	\$34,908	\$34,908	\$34,908	\$34,908	\$34,908	\$34,908
Meter Replacement Fund 51	\$138,735	\$104,813	\$43,151	\$45,151	\$47,151	\$49,151	\$51,151	\$53,151	\$55,151	\$57,151
Debt Service Reserve Fund 52	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL WATER DEPT CASH 53	\$1,402,632	\$1,080,552	\$1,096,900	\$848,920	\$893,792	\$915,897	\$879,237	\$983,719	\$1,008,360	\$1,034,534
Meter Replacement Expenditures	\$15,311	\$69,922	\$97,662	\$100,000	\$100,000	\$100,000	\$220,000	\$220,000	\$220,000	\$220,000

OSKALOOSA MUNICIPAL WATER DEPARTMENT

Water Enterprise Fund

EXHIBIT 1

Assumes Cash Funded CIP

<i>Growth Assumptions</i>	
Water Usage	(2.00%)
Number of Customers	0.00%
Operating Expenses	5.00%
Interest Rate	0.20%

<i>WATER REVENUE ADJUSTMENTS</i>					
3/1/2010	7.50%	3/1/2014	10.00%	3/1/2018	5.00%
3/1/2011	7.50%	3/1/2015	10.00%	3/1/2019	3.00%
3/1/2012	3.50%	3/1/2016	25.00%	3/1/2020	3.00%
3/1/2013	0.00%	3/1/2017	7.50%	3/1/2021	3.00%

Audited Financial Statements			Re-Est.	Budget	Projected	Projected	Projected	Projected	Projected
FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22

WATER DEPARTMENT CAPITAL OUTLAYS									
	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		
Backhoe & Vacuum	35,000	0	0	0	0	40,000	0		
Rebuild Valves C Ave W	0	0	50,000	0	0	0	0		
Computers & Phone Equip.	5,000	5,000	5,000	5,000	5,000	5,000	5,000		5,000
Turbidity Sensors & Lab Equipment	0	0	20,000	0	0	0	0		0
Vehicles	0	0	30,000	30,000	30,000	0	0		0
Equipment	2,500	0	0	0	0	15,000	0		0
Paint North Tower, South Tower	0	0	400,000	0	0	0	0		0
3rd Ave East Paving Project	200,000	0	0	0	0	0	0		0
Carbonado Road Project		550,000	0	0	0	0	0		0
High Ave W (L to Suffolk/3rd)	40,000	0	0	0	0	0	0		0
Sheriff & K Ave (Market to 3rd)	0	90,000	0	0	0	0	0		0
South D (A Ave to 6th)	0	0	250,000	0	0	0	0		0
North L & A Ave W	0	0	0	600,000	0	0	0		0
Hwy 23 East	0	0	0	0	450,000	450,000	0		0
New Well @ plant	0	0	0	75,000	0	0	0		0
Tractor @ plant	0	0	0	0	40,000	40,000	0		0
Hwy 23 East (17th St. to RR crossing)	160,000	0	0	0	0	0	0		0
Office Sign	0	5,000	0	0	0	0	0		0
Plant Computer and Operating System	16,510	0	0	0	0	8,000	0		0
Other Capital Outlays	0	0	0	0	0	0	500,000		
TOTAL WATER DEPARTMENT CAPITAL OUTLAYS	\$459,010	\$650,000	\$755,000	\$710,000	\$525,000	\$558,000	\$505,000		

OSKALOOSA MUNICIPAL WATER DEPARTMENT

Water Enterprise Fund

EXHIBIT 2

Assumes 2018 SRF Loan Funded CIP

Growth Assumptions	
Water Usage	(2.00%)
Number of Customers	0.00%
Operating Expenses	5.00%
Interest Rate	0.20%

WATER REVENUE ADJUSTMENTS					
3/1/2010	7.50%	3/1/2014	10.00%	3/1/2018	3.00%
3/1/2011	7.50%	3/1/2015	10.00%	3/1/2019	3.00%
3/1/2012	3.50%	3/1/2016	22.50%	3/1/2020	3.00%
3/1/2013	0.00%	3/1/2017	10.50%	3/1/2021	3.00%

	Audited Financial Statements			Re-Est.	Budget	Projected	Projected	Projected	Projected	Projected
	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22
COST PER UNIT										
	Mar 2012		Mar 2014	Mar 2015	Mar 2016					
Rate per 100 Cubic Feet (Inside) 1	\$4.24	\$4.24	\$4.66	\$5.13	\$6.28	\$6.94	\$7.15	\$7.37	\$7.59	\$7.82
Rate per 100 Cubic Feet (Outside) 2	\$8.48	\$8.48	\$9.32	\$10.26	\$12.57	\$13.89	\$14.30	\$14.73	\$15.18	\$15.63
Min. Monthly Bill (200 CF) Inside 3	\$8.48	\$8.48	\$9.32	\$10.26	\$12.57	\$13.89	\$14.30	\$14.73	\$15.18	\$15.63
Min. Monthly Bill (200 CF) Outside 4	\$16.96	\$16.96	\$18.64	\$20.52	\$25.14	\$27.78	\$28.61	\$29.47	\$30.35	\$31.26
	3.73%	0.90%	8.61%	10.00%	22.50%	10.50%	3.00%	3.00%	3.00%	3.00%
Average Revenue/CCF Inside 5	\$3.34	\$3.37	\$3.66	\$4.03	\$4.93	\$5.45	\$5.61	\$5.78	\$5.96	\$6.13
WATER (CCF)										
Total Water Usage 7	440,797	431,448	407,750	399,595	391,603	383,771	376,096	368,574	361,202	353,978
Number of Customers Inside 8	4,644	4,638	4,646	4,646	4,646	4,646	4,646	4,646	4,646	4,646
Number of Customers Outside 9	263	260	259	259	259	259	259	259	259	259
	1.40%	(2.12%)	(5.49%)	(2.00%)	(2.00%)	(2.00%)	(2.00%)	(2.00%)	(2.00%)	(2.00%)
OPERATING REVENUES										
Metered Water Sales 11	\$1,472,997	\$1,452,099	\$1,492,440	\$1,608,769	\$1,931,328	\$2,091,435	\$2,111,094	\$2,130,939	\$2,150,969	\$2,171,189
Min Monthly Billings - Inside 12	472,573	471,963	519,609	572,016	700,719	774,295	797,523	821,449	846,093	871,475
Min Monthly Billings - Outside 13	53,526	52,915	57,933	63,776	78,126	86,329	88,919	91,586	94,334	97,164
Penalties and Inspection Fees 14	37,574	40,205	45,959	38,000	38,000	38,000	38,000	38,000	38,000	38,000
Labor Charges 15	3,697	6,252	6,854	3,500	3,500	3,500	3,500	3,500	3,500	3,500
Sales Tax 16	137,971	136,654	143,739	152,655	184,243	200,601	203,603	206,667	209,794	212,986
Rental Fees 17	20,462	21,807	44,643	20,660	25,735	25,735	25,735	25,735	25,735	25,735
City Wastewater 18	0	0	0	238,787	386,723	406,059	426,362	447,680	470,064	493,567
Miscellaneous Revenues 19	46,236	64,856	91,610	27,500	32,000	32,000	32,000	32,000	32,000	32,000
Total Operating Revenues 20	\$2,245,036	\$2,246,751	\$2,402,787	\$2,725,663	\$3,380,374	\$3,657,954	\$3,726,737	\$3,797,556	\$3,870,490	\$3,945,617
	4.71%	(1.11%)	4.70%	8.43%	20.74%	8.93%	1.54%	1.55%	1.56%	1.57%
OPERATING EXPENSES										
Administration 22	\$650,206	\$676,209	\$671,342	\$667,855	\$665,115	\$698,371	\$733,289	\$769,954	\$808,451	\$848,874
Plant O&M 23	416,655	430,279	444,184	564,710	588,441	617,863	648,756	681,194	715,254	751,016
Distribution O&M 24	336,359	464,421	334,394	373,926	398,507	418,432	439,354	461,322	484,388	508,607
Wastewater Operations 25	0	0	0	238,787	386,723	406,059	426,362	447,680	470,064	493,567
Sales Tax 26	138,196	136,730	143,805	152,655	184,243	200,601	203,603	206,667	209,794	212,986
Other Misc Expenses 27	0	0	0	0	0	0	0	0	0	0
Total Operating Expense 28	\$1,541,416	\$1,707,639	\$1,593,725	\$1,997,933	\$2,223,029	\$2,341,326	\$2,451,365	\$2,566,817	\$2,687,951	\$2,815,051
	3.96%	11.95%	(7.70%)	10.80%	2.84%	5.00%	5.00%	5.00%	5.00%	5.00%
NET OPERATING REV										
Interest on Reserves 30	9,452	7,048	6,867	2,038	1,538	1,513	1,596	3,610	1,854	1,732
Other Non-operating Income 31	0	0	0	0	0	0	0	0	0	0
Revenue for Debt Service 32	\$713,072	\$546,160	\$815,929	\$729,768	\$1,158,882	\$1,318,140	\$1,276,968	\$1,234,349	\$1,184,392	\$1,132,298

OSKALOOSA MUNICIPAL WATER DEPARTMENT

EXHIBIT 2

Water Enterprise Fund

Assumes 2018 SRF Loan Funded CIP

<i>Growth Assumptions</i>	
Water Usage	(2.00%)
Number of Customers	0.00%
Operating Expenses	5.00%
Interest Rate	0.20%

<i>WATER REVENUE ADJUSTMENTS</i>					
3/1/2010	7.50%	3/1/2014	10.00%	3/1/2018	3.00%
3/1/2011	7.50%	3/1/2015	10.00%	3/1/2019	3.00%
3/1/2012	3.50%	3/1/2016	22.50%	3/1/2020	3.00%
3/1/2013	0.00%	3/1/2017	10.50%	3/1/2021	3.00%

Audited Financial Statements				Re-Est.	Budget	Projected	Projected	Projected	Projected	Projected
	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22
Revenue for Debt Service 33	\$713,072	\$546,160	\$815,929	\$729,768	\$1,158,882	\$1,318,140	\$1,276,968	\$1,234,349	\$1,184,392	\$1,132,298
Water Debt Service										
2009 SRF Loan 34	\$419,471	\$418,793	\$418,895	\$418,738	\$419,320	\$419,610	\$419,608	\$419,313	\$418,725	\$418,845
Proposed Series 2018 SRF Loan 35	0	0	0	0	0	0	95,498	97,860	98,520	98,140
Total Revenue Debt 36	\$419,471	\$418,793	\$418,895	\$418,738	\$419,320	\$419,610	\$515,106	\$517,173	\$517,245	\$516,985
Debt Service Coverage										
Net Revenues/ Revenue Debt 37	1.70	1.30	1.95	1.74	2.76	<i>Must at least be a 1.10x Coverage for SRF Bonds</i>				
						3.14	2.48	2.39	2.29	2.19
CASHFLOW AFTER DEBT 38	\$293,601	\$127,368	\$397,034	\$311,030	\$739,562	\$898,530	\$761,862	\$717,177	\$667,147	\$615,313
Capital Outlays 39	(\$427,105)	(\$379,526)	(\$283,037)	(\$459,010)	(\$650,000)	(\$755,000)	(\$1,110,000)	(\$1,375,000)	(\$508,000)	(\$405,000)
Other cash sources/uses 40	0	0	0	0	0	0	0	0	0	0
Bond Proceeds 41	0	0	0	0	0	0	1,575,000	0	0	0
Transfers (to)/from Other Funds 42	0	0	0	0	0	0	0	0	0	0
Transfers to Meter Replcmt Fund 43	(36,000)	(36,000)	(36,000)	(102,000)	(102,000)	(102,000)	(220,000)	(220,000)	(220,000)	(220,000)
Transfers to Sinking Fund 44	57	(9)	13	0	0	0	0	0	0	0
Annual Surplus/ (Deficit) 45	(\$169,447)	(\$288,167)	\$78,010	(\$249,980)	(\$12,438)	\$41,530	\$1,006,862	(\$877,823)	(\$60,853)	(\$9,687)
Beginning Cash Balance 46	\$1,398,445	\$1,228,998	\$940,831	\$1,018,841	\$768,861	\$756,424	\$797,954	\$1,804,816	\$926,993	\$866,140
Ending Cash Balance 47	\$1,228,998	\$940,831	\$1,018,841	\$768,861	\$756,424	\$797,954	\$1,804,816	\$926,993	\$866,140	\$856,452
Cash % of O&M (net of depr) 48	80%	55%	64%	38%	34%	34%	74%	36%	32%	30%
Restricted & Designated										
Improvement Fund 49	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Sinking Fund 50	\$34,899	\$34,908	\$34,908	\$34,908	\$34,908	\$34,908	\$34,908	\$34,908	\$34,908	\$34,908
Meter Replacement Fund 51	\$138,735	\$104,813	\$43,151	\$45,151	\$47,151	\$49,151	\$49,151	\$49,151	\$49,151	\$49,151
Debt Service Reserve Fund 52	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL WATER DEPT CASH 53	\$1,402,632	\$1,080,552	\$1,096,900	\$848,920	\$838,482	\$882,012	\$1,888,874	\$1,011,051	\$950,198	\$940,511
Meter Replacement Expenditures	\$15,311	\$69,922	\$97,662	\$100,000	\$100,000	\$100,000	\$220,000	\$220,000	\$220,000	\$220,000

OSKALOOSA MUNICIPAL WATER DEPARTMENT

EXHIBIT 2

Water Enterprise Fund

Assumes 2018 SRF Loan Funded CIP

<i>Growth Assumptions</i>	
Water Usage	(2.00%)
Number of Customers	0.00%
Operating Expenses	5.00%
Interest Rate	0.20%

WATER REVENUE ADJUSTMENTS					
3/1/2010	7.50%	3/1/2014	10.00%	3/1/2018	3.00%
3/1/2011	7.50%	3/1/2015	10.00%	3/1/2019	3.00%
3/1/2012	3.50%	3/1/2016	22.50%	3/1/2020	3.00%
3/1/2013	0.00%	3/1/2017	10.50%	3/1/2021	3.00%

Audited Financial Statements			Re-Est.	Budget	Projected	Projected	Projected	Projected	Projected
FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22

WATER DEPARTMENT CAPITAL OUTLAYS									
	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		
Backhoe & Vacuum	35,000	0	0	0	0	40,000	0		
Rebuild Valves C Ave W	0	0	50,000	0	0	0	0		
Computers & Phone Equip.	5,000	5,000	5,000	5,000	5,000	5,000	5,000		5,000
Turbidity Sensors & Lab Equipment	0	0	20,000	0	0	0	0		0
Vehicles	0	0	30,000	30,000	30,000	0	0		0
Equipment	2,500	0	0	0	0	15,000	0		0
Paint North Tower, South Tower	0	0	400,000	0	0	0	0		0
3rd Ave East Paving Project	200,000	0	0	0	0	0	0		0
Carbonado Road Project		550,000	0	0	0	0	0		0
High Ave W (L to Suffolk/3rd)	40,000	0	0	0	0	0	0		0
Sheriff & K Ave (Market to 3rd)	0	90,000	0	0	0	0	0		0
South D (A Ave to 6th)	0	0	250,000	0	0	0	0		0
North L & A Ave W	0	0	0	600,000	0	0	0		0
Hwy 23 East	0	0	0	0	900,000	0	0		0
New Well @ plant	0	0	0	75,000	0	0	0		0
Tractor @ plant	0	0	0	0	40,000	40,000	0		0
Hwy 23 East (17th St. to RR crossing)	160,000	0	0	0	0	0	0		0
Office Sign	0	5,000	0	0	0	0	0		0
Plant Computer and Operating System	16,510	0	0	0	0	8,000	0		0
Other Capital Outlays	0	0	0	400,000	400,000	400,000	400,000		400,000
TOTAL WATER DEPARTMENT CAPITAL OUTLAYS	\$459,010	\$650,000	\$755,000	\$1,110,000	\$1,375,000	\$508,000	\$405,000		

Oskaloosa Water Department

Proposed Water SRF Loan, Series 2018

EXHIBIT 2a

SOURCES & USES	
SOURCES	
Par Amount of Bonds	1,609,000.00
Accrued Interest	0.00
Other Moneys	0.00

Total Sources	1,609,000.00
USES	
Deposit to Construction Account	1,575,017.50
Deposit to Reserve Account	0.00
Capitalized Interest Account	0.00
Municipal Bond Insurance	0.00
Loan Origination Fee (\$5.00 per bond)	8,045.00
Costs of Issuance	25,937.50
Accrued Interest	0.00
Rounding Amount	0.00

Total Uses	1,609,000.00
ASSUMPTIONS	
Dated Date	7/1/2018
Delivery Date	7/1/2018
First Interest Date	12/1/2018
First Principal Date	6/1/2019
Last Principal Date	6/1/2038

Arbitrage Yield	2.00007%
TIC	2.05219% *
AIC	2.22276% *
Average Life	11.08 Years

PROJECTS	
North L & A Ave W	\$600,000
Hwy 23 East	900,000
New Well at Plant	75,000
Reserved	0

	\$1,575,000

DEBT SERVICE SCHEDULE						
Date	Principal	Coupon	Interest	Debt Service	Annual Debt Service	
12/1/2018			13,408	13,408		
6/1/2019	66,000	2.000%	16,090	82,090	95,498	
12/1/2019			15,430	15,430		
6/1/2020	67,000	2.000%	15,430	82,430	97,860	
12/1/2020			14,760	14,760		
6/1/2021	69,000	2.000%	14,760	83,760	98,520	
12/1/2021			14,070	14,070		
6/1/2022	70,000	2.000%	14,070	84,070	98,140	
12/1/2022			13,370	13,370		
6/1/2023	72,000	2.000%	13,370	85,370	98,740	
12/1/2023			12,650	12,650		
6/1/2024	73,000	2.000%	12,650	85,650	98,300	
12/1/2024			11,920	11,920		
6/1/2025	75,000	2.000%	11,920	86,920	98,840	
12/1/2025			11,170	11,170		
6/1/2026	76,000	2.000%	11,170	87,170	98,340	
12/1/2026			10,410	10,410		
6/1/2027	78,000	2.000%	10,410	88,410	98,820	
12/1/2027			9,630	9,630		
6/1/2028	79,000	2.000%	9,630	88,630	98,260	
12/1/2028			8,840	8,840		
6/1/2029	81,000	2.000%	8,840	89,840	98,680	
12/1/2029			8,030	8,030		
6/1/2030	82,000	2.000%	8,030	90,030	98,060	
12/1/2030			7,210	7,210		
6/1/2031	84,000	2.000%	7,210	91,210	98,420	
12/1/2031			6,370	6,370		
6/1/2032	86,000	2.000%	6,370	92,370	98,740	
12/1/2032			5,510	5,510		
6/1/2033	87,000	2.000%	5,510	92,510	98,020	
12/1/2033			4,640	4,640		
6/1/2034	89,000	2.000%	4,640	93,640	98,280	
12/1/2034			3,750	3,750		
6/1/2035	91,000	2.000%	3,750	94,750	98,500	
12/1/2035			2,840	2,840		
6/1/2036	93,000	2.000%	2,840	95,840	98,680	
12/1/2036			1,910	1,910		
6/1/2037	95,000	2.000%	1,910	96,910	98,820	
12/1/2037			960	960		
6/1/2038	96,000	2.000%	960	96,960	97,920	
12/1/2038			0	0		
6/1/2039			0			
12/1/2039			0			

	1,609,000		356,438	1,965,438	1,965,438	
Scale : SRF Rate: 2.00% = 1.75% + 0.25% Fiscal Fee						

OSKALOOSA MUNICIPAL WATER DEPARTMENT

EXHIBIT 3

Water Enterprise Fund

Assumes All CIP Debt Funded (Revenue Bonds/SRF)

<i>Growth Assumptions</i>	
Water Usage	(2.00%)
Number of Customers	0.00%
Operating Expenses	5.00%
Interest Rate	0.20%

<i>WATER REVENUE ADJUSTMENTS</i>					
3/1/2010	7.50%	3/1/2014	10.00%	3/1/2018	5.00%
3/1/2011	7.50%	3/1/2015	10.00%	3/1/2019	5.00%
3/1/2012	3.50%	3/1/2016	12.50%	3/1/2020	5.00%
3/1/2013	0.00%	3/1/2017	7.50%	3/1/2021	5.00%

Audited Financial Statements				Re-Est.	Budget	Projected	Projected	Projected	Projected	Projected
	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22
COST PER UNIT										
	Mar 2012		Mar 2014	Mar 2015	Mar 2016					
Rate per 100 Cubic Feet (Inside) 1	\$4.24	\$4.24	\$4.66	\$5.13	\$5.77	\$6.20	\$6.51	\$6.84	\$7.18	\$7.54
Rate per 100 Cubic Feet (Outside) 2	\$8.48	\$8.48	\$9.32	\$10.26	\$11.54	\$12.41	\$13.03	\$13.68	\$14.36	\$15.08
Min. Monthly Bill (200 CF) Inside 3	\$8.48	\$8.48	\$9.32	\$10.26	\$11.54	\$12.41	\$13.03	\$13.68	\$14.36	\$15.08
Min. Monthly Bill (200 CF) Outside 4	\$16.96	\$16.96	\$18.64	\$20.52	\$23.09	\$24.82	\$26.06	\$27.36	\$28.73	\$30.16
		3.73%	8.61%	10.00%	12.50%	7.50%	5.00%	5.00%	5.00%	5.00%
Average Revenue/CCF Inside 5	\$3.34	\$3.37	\$3.66	\$4.03	\$4.53	\$4.87	\$5.11	\$5.37	\$5.64	\$5.92
WATER (CCF) 6										
	1.40%	(2.12%)	(5.49%)	(2.00%)	(2.00%)	(2.00%)	(2.00%)	(2.00%)	(2.00%)	(2.00%)
Total Water Usage 7	440,797	431,448	407,750	399,595	391,603	383,771	376,096	368,574	361,202	353,978
Number of Customers Inside 8	4,644	4,638	4,646	4,646	4,646	4,646	4,646	4,646	4,646	4,646
Number of Customers Outside 9	263	260	259	259	259	259	259	259	259	259
OPERATING REVENUES 10										
	4.71%	(1.11%)	4.70%	8.43%	10.89%	5.97%	3.51%	3.52%	3.53%	3.54%
Metered Water Sales 11	\$1,472,997	\$1,452,099	\$1,492,440	\$1,608,769	\$1,773,668	\$1,868,560	\$1,922,748	\$1,978,508	\$2,035,884	\$2,094,925
Min Monthly Billings - Inside 12	472,573	471,963	519,609	572,016	643,517	691,781	726,370	762,689	800,823	840,864
Min Monthly Billings - Outside 13	53,526	52,915	57,933	63,776	71,748	77,129	80,986	85,035	89,287	93,751
Penalties and Inspection Fees 14	37,574	40,205	45,959	38,000	38,000	38,000	38,000	38,000	38,000	38,000
Labor Charges 15	3,697	6,252	6,854	3,500	3,500	3,500	3,500	3,500	3,500	3,500
Sales Tax 16	137,971	136,654	143,739	152,655	169,203	179,224	185,438	191,884	198,570	205,505
Rental Fees 17	20,462	21,807	44,643	20,660	25,735	25,735	25,735	25,735	25,735	25,735
City Wastewater 18	0	0	0	238,787	386,723	406,059	426,362	447,680	470,064	493,567
Miscellaneous Revenues 19	46,236	64,856	91,610	27,500	32,000	32,000	32,000	32,000	32,000	32,000
Total Operating Revenues 20	\$2,245,036	\$2,246,751	\$2,402,787	\$2,725,663	\$3,144,095	\$3,321,988	\$3,441,139	\$3,565,030	\$3,693,863	\$3,827,848
OPERATING EXPENSES 21										
	3.96%	11.95%	(7.70%)	10.80%	2.84%	5.00%	5.00%	5.00%	5.00%	5.00%
Administration 22	\$650,206	\$676,209	\$671,342	\$667,855	\$665,115	\$698,371	\$733,289	\$769,954	\$808,451	\$848,874
Plant O&M 23	416,655	430,279	444,184	564,710	588,441	617,863	648,756	681,194	715,254	751,016
Distribution O&M 24	336,359	464,421	334,394	373,926	398,507	418,432	439,354	461,322	484,388	508,607
Wastewater Operations 25	0	0	0	238,787	386,723	406,059	426,362	447,680	470,064	493,567
Sales Tax 26	138,196	136,730	143,805	152,655	169,203	179,224	185,438	191,884	198,570	205,505
Other Misc Expenses 27	0	0	0	0	0	0	0	0	0	0
Total Operating Expense 28	\$1,541,416	\$1,707,639	\$1,593,725	\$1,997,933	\$2,207,989	\$2,319,949	\$2,433,200	\$2,552,033	\$2,676,727	\$2,807,570
NET OPERATING REV 29										
	\$703,620	\$539,112	\$809,062	\$727,730	\$936,106	\$1,002,039	\$1,007,939	\$1,012,997	\$1,017,136	\$1,020,278
Interest on Reserves 30	9,452	7,048	6,867	2,038	1,538	3,168	2,311	4,366	2,750	2,030
Other Non-operating Income 31	0	0	0	0	0	0	0	0	0	0
Revenue for Debt Service 32	\$713,072	\$546,160	\$815,929	\$729,768	\$937,644	\$1,005,207	\$1,010,251	\$1,017,363	\$1,019,887	\$1,022,308

OSKALOOSA MUNICIPAL WATER DEPARTMENT

EXHIBIT 3

Water Enterprise Fund

Assumes All CIP Debt Funded (Revenue Bonds/SRF)

Growth Assumptions	
Water Usage	(2.00%)
Number of Customers	0.00%
Operating Expenses	5.00%
Interest Rate	0.20%

WATER REVENUE ADJUSTMENTS					
3/1/2010	7.50%	3/1/2014	10.00%	3/1/2018	5.00%
3/1/2011	7.50%	3/1/2015	10.00%	3/1/2019	5.00%
3/1/2012	3.50%	3/1/2016	12.50%	3/1/2020	5.00%
3/1/2013	0.00%	3/1/2017	7.50%	3/1/2021	5.00%

Audited Financial Statements				Re-Est.	Budget	Projected	Projected	Projected	Projected	Projected
	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22
Revenue for Debt Service 33	\$713,072	\$546,160	\$815,929	\$729,768	\$937,644	\$1,005,207	\$1,010,251	\$1,017,363	\$1,019,887	\$1,022,308
Water Debt Service										
2009 SRF Loan 34	\$419,471	\$418,793	\$418,895	\$418,738	\$419,320	\$419,610	\$419,608	\$419,313	\$418,725	\$418,845
Proposed 2016 Water Rev Bonds 35	0	0	0	0	151,345	156,706	154,665	157,468	155,105	157,594
Proposed Series 2018 SRF Loan 36	0	0	0	0	0	0	53,517	53,720	53,280	54,840
Total Revenue Debt 37	\$419,471	\$418,793	\$418,895	\$418,738	\$570,665	\$576,316	\$627,789	\$630,500	\$627,110	\$631,279
Debt Service Coverage										
Net Revenues/ Revenue Debt 38	1.70	1.30	1.95	1.74	1.64	Must at least be a 1.25x Coverage for Water Revenue Bonds				
1.74						1.74	1.61	1.61	1.63	1.62
CASHFLOW AFTER DEBT 39	\$293,601	\$127,368	\$397,034	\$311,030	\$366,978	\$428,891	\$382,462	\$386,863	\$392,777	\$391,029
Capital Outlays 40	(\$427,105)	(\$379,526)	(\$283,037)	(\$459,010)	(\$650,000)	(\$755,000)	(\$710,000)	(\$975,000)	(\$533,000)	(\$430,000)
Other cash sources/(uses) 41	0	0	0	0	0	0	0	0	0	0
Bond Proceeds 42	0	0	0	0	1,338,500	0	1,575,000	0	0	0
Transfers (to)/from Other Funds 43	0	0	0	0	0	0	0	0	0	0
Transfers to Meter Replcmt Fund 44	(36,000)	(36,000)	(36,000)	(102,000)	(102,000)	(102,000)	(220,000)	(220,000)	(220,000)	(220,000)
Transfers to Sinking / Reserve Fund 45	57	(9)	13	0	(138,500)	0	0	0	0	0
Annual Surplus/ (Deficit) 46	(\$169,447)	(\$288,167)	\$78,010	(\$249,980)	\$814,978	(\$428,109)	\$1,027,462	(\$808,137)	(\$360,223)	(\$258,971)
Beginning Cash Balance 47	\$1,398,445	\$1,228,998	\$940,831	\$1,018,841	\$768,861	\$1,583,840	\$1,155,731	\$2,183,193	\$1,375,057	\$1,014,833
Ending Cash Balance 48	\$1,228,998	\$940,831	\$1,018,841	\$768,861	\$1,583,840	\$1,155,731	\$2,183,193	\$1,375,057	\$1,014,833	\$755,862
Cash % of O&M (net of depr) 49	80%	55%	64%	38%	72%	50%	90%	54%	38%	27%
Restricted & Designated										
Improvement Fund 50	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Sinking Fund 51	\$34,899	\$34,908	\$34,908	\$34,908	\$34,908	\$34,908	\$34,908	\$34,908	\$34,908	\$34,908
Meter Replacement Fund 52	\$138,735	\$104,813	\$43,151	\$45,151	\$47,151	\$49,151	\$49,151	\$49,151	\$49,151	\$49,151
Debt Service Reserve Fund 53	\$0	\$0	\$0	\$0	\$138,500	\$138,500	\$138,500	\$138,500	\$138,500	\$138,500
TOTAL WATER DEPT CASH 54	\$1,402,632	\$1,080,552	\$1,096,900	\$848,920	\$1,804,398	\$1,378,289	\$2,405,752	\$1,597,615	\$1,237,392	\$978,420
Meter Replacement Expenditures	\$15,311	\$69,922	\$97,662	\$100,000	\$100,000	\$100,000	\$220,000	\$220,000	\$220,000	\$220,000

OSKALOOSA MUNICIPAL WATER DEPARTMENT

EXHIBIT 3

Water Enterprise Fund

Assumes All CIP Debt Funded (Revenue Bonds/SRF)

<i>Growth Assumptions</i>	
Water Usage	(2.00%)
Number of Customers	0.00%
Operating Expenses	5.00%
Interest Rate	0.20%

WATER REVENUE ADJUSTMENTS					
3/1/2010	7.50%	3/1/2014	10.00%	3/1/2018	5.00%
3/1/2011	7.50%	3/1/2015	10.00%	3/1/2019	5.00%
3/1/2012	3.50%	3/1/2016	12.50%	3/1/2020	5.00%
3/1/2013	0.00%	3/1/2017	7.50%	3/1/2021	5.00%

Audited Financial Statements			Re-Est.	Budget	Projected	Projected	Projected	Projected	Projected
FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22

WATER DEPARTMENT CAPITAL OUTLAYS									
	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		
Backhoe & Vacuum	35,000	0	0	0	0	40,000	0		
Rebuild Valves C Ave W	0	0	50,000	0	0	0	0		
Computers & Phone Equip.	5,000	5,000	5,000	5,000	5,000	5,000	5,000		5,000
Turbidity Sensors & Lab Equipment	0	0	20,000	0	0	0	0		0
Vehicles	0	0	30,000	30,000	30,000	0	0		0
Equipment	2,500	0	0	0	0	15,000	0		0
Paint North Tower, South Tower	0	0	400,000	0	0	0	0		0
3rd Ave East Paving Project	200,000	0	0	0	0	0	0		0
Carbonado Road Project	0	550,000	0	0	0	0	0		0
High Ave W (L to Suffolk/3rd)	40,000	0	0	0	0	0	0		0
Sheriff & K Ave (Market to 3rd)	0	90,000	0	0	0	0	0		0
South D (A Ave to 6th)	0	0	250,000	0	0	0	0		0
North L & A Ave W	0	0	0	600,000	0	0	0		0
Hwy 23 East	0	0	0	0	900,000	0	0		0
New Well @ plant	0	0	0	75,000	0	0	0		0
Tractor @ plant	0	0	0	0	40,000	40,000	0		0
Hwy 23 East (17th St. to RR crossing)	160,000	0	0	0	0	0	0		0
Office Sign	0	5,000	0	0	0	0	0		0
Plant Computer and Operating System	16,510	0	0	0	0	8,000	0		0
Other Capital Outlays	0	0	0	0	0	425,000	425,000		0
TOTAL WATER DEPARTMENT CAPITAL OUTLAYS	\$459,010	\$650,000	\$755,000	\$710,000	\$975,000	\$533,000	\$430,000		

SOURCES & USES	
SOURCES	
Par Amount of Bonds	1,385,000.00
Accrued Interest	
Existing Reserve Fund	
Total Sources	1,385,000.00
USES	
Deposit to Construction Account	1,200,000.00
Deposit to Reserve Account	138,500.00
Capitalized Interest Account	0.00
Municipal Bond Insurance	0.00
Underwriters' Discount (\$8.00 per bond)	11,080.00
Costs of Issuance	34,250.00
Accrued Interest	
Rounding Amount	1,170.00
Total Uses	1,385,000.00
ASSUMPTIONS	
Dated Date	9/1/2016
Delivery Date	9/1/2016
First Interest Date	6/1/2017
First Principal Date	6/1/2017
Last Principal Date	6/1/2026
Arbitrage Yield	2.27744%
TIC	2.43854%
AIC	2.94844%
Average Life	5.40 Years
PROJECTS	
Carbonado Road	\$550,000
Paint Water Towers	400,000
South D	250,000
Reserved	0
	\$1,200,000

DEBT SERVICE SCHEDULE					
Date	Principal	Coupon	Interest	Debt Service	Annual Debt Service
6/1/2017	130,000	1.350%	21,345	151,345	151,345
12/1/2017			13,353	13,353	
6/1/2018	130,000	1.570%	13,353	143,353	156,706
12/1/2018			12,332	12,332	
6/1/2019	130,000	1.690%	12,332	142,332	154,665
12/1/2019			11,234	11,234	
6/1/2020	135,000	1.750%	11,234	146,234	157,468
12/1/2020			10,053	10,053	
6/1/2021	135,000	1.860%	10,053	145,053	155,105
12/1/2021			8,797	8,797	
6/1/2022	140,000	2.100%	8,797	148,797	157,594
12/1/2022			7,327	7,327	
6/1/2023	140,000	2.240%	7,327	147,327	154,654
12/1/2023			5,759	5,759	
6/1/2024	145,000	2.440%	5,759	150,759	156,518
12/1/2024			3,990	3,990	
6/1/2025	150,000	2.590%	3,990	153,990	157,980
12/1/2025			2,048	2,048	
6/1/2026	150,000	2.730%	2,048	152,048	154,095
12/1/2026					
6/1/2027					
12/1/2027					
6/1/2028					
12/1/2028					
6/1/2029					
12/1/2029					
6/1/2030					
12/1/2030					
6/1/2031					
12/1/2031					
6/1/2032					
12/1/2032					
6/1/2033					
12/1/2033					
6/1/2034					
12/1/2034					
6/1/2035					
12/1/2035					
6/1/2036					
12/1/2036					
	1,385,000		171,129	1,556,129	1,556,129

Scale : MMD Aaa as of 02-03-2016 + NR/BQ pricing spreads + 50 bps timing

Oskaloosa Water Department

Proposed Water SRF Loan, Series 2018

EXHIBIT 3b

SOURCES & USES		DEBT SERVICE SCHEDULE					
SOURCES		Date	Principal	Coupon	Interest	Debt Service	Annual Debt Service
Par Amount of Bonds	1,610,000.00						
Accrued Interest							
Existing Reserve Fund		12/1/2018			13,417	13,417	
		0.92 6/1/2019	24,000	2.000%	16,100	40,100	53,517
Total Sources	1,610,000.00	1.92 12/1/2019			15,860	15,860	
		1.92 6/1/2020	22,000	2.000%	15,860	37,860	53,720
		2.92 12/1/2020			15,640	15,640	
USES		2.92 6/1/2021	22,000	2.000%	15,640	37,640	53,280
Deposit to Construction Account	1,575,000.00	3.92 12/1/2021			15,420	15,420	
Deposit to Reserve Account		3.92 6/1/2022	24,000	2.000%	15,420	39,420	54,840
Capitalized Interest Account	0.00	4.92 12/1/2022			15,180	15,180	
Municipal Bond Insurance	0.00	4.92 6/1/2023	26,000	2.000%	15,180	41,180	56,360
Loan Origination Fee (\$5.00 per bond)	8,050.00	5.92 12/1/2023			14,920	14,920	
Costs of Issuance	25,937.50	5.92 6/1/2024	27,000	2.000%	14,920	41,920	56,840
Accrued Interest		6.92 12/1/2024			14,650	14,650	
Rounding Amount	1,012.50	6.92 6/1/2025	28,000	2.000%	14,650	42,650	57,300
Total Uses	1,610,000.00	7.92 12/1/2025			14,370	14,370	
		7.92 6/1/2026	29,000	2.000%	14,370	43,370	57,740
		8.92 12/1/2026			14,080	14,080	
		8.92 6/1/2027	105,000	2.000%	14,080	119,080	133,160
		9.92 12/1/2027			13,030	13,030	
ASSUMPTIONS		9.92 6/1/2028	107,000	2.000%	13,030	120,030	133,060
Dated Date	7/1/2018	10.92 12/1/2028			11,960	11,960	
Delivery Date	7/1/2018	10.92 6/1/2029	109,000	2.000%	11,960	120,960	132,920
First Interest Date	12/1/2018	11.92 12/1/2029			10,870	10,870	
First Principal Date	6/1/2019	11.92 6/1/2030	111,000	2.000%	10,870	121,870	132,740
Last Principal Date	6/1/2038	12.92 12/1/2030			9,760	9,760	
		12.92 6/1/2031	114,000	2.000%	9,760	123,760	133,520
		13.92 12/1/2031			8,620	8,620	
		13.92 6/1/2032	116,000	2.000%	8,620	124,620	133,240
		14.92 12/1/2032			7,460	7,460	
		14.92 6/1/2033	118,000	2.000%	7,460	125,460	132,920
		15.92 12/1/2033			6,280	6,280	
Arbitrage Yield	2.00006%	15.92 6/1/2034	121,000	2.000%	6,280	127,280	133,560
TIC	2.04357%	16.92 12/1/2034			5,070	5,070	
Average Life	13.40 Years	16.92 6/1/2035	123,000	2.000%	5,070	128,070	133,140
		17.92 12/1/2035			3,840	3,840	
		17.92 6/1/2036	125,000	2.000%	3,840	128,840	132,680
		18.92 12/1/2036			2,590	2,590	
PROJECTS		18.92 6/1/2037	128,000	2.000%	2,590	130,590	133,180
North L & A Ave W	\$600,000	19.92 12/1/2037			1,310	1,310	
Hwy 23 East	900,000	19.92 6/1/2038	131,000	2.000%	1,310	132,310	133,620
New Well at Plant	75,000	12/1/2038					
Reserved	0						
	\$1,575,000						
			1,610,000		431,337	2,041,337	2,041,337
		Scale : SRF Rate: 2.00% = 1.75% + 0.25% Fiscal Fee					

RESOLUTION NO. 1601
RESOLUTION TO INCREASE WATER RATES EFFECTIVE MARCH 1, 2016

WHEREAS, the current funds of the Oskaloosa Municipal Water Department and the anticipated income to be received in the future based on the present water rates will not be adequate to meet the funding requirements for the daily operations and capital improvement needs;

WHEREAS, an increase in water rates is the best alternative for the department to raise the funds to meet these needs;

WHEREAS, the RR rate type has not been increased in recent years, now the RR rate type will be the same rate as other residential and commercial rates for customers inside city limits.

NOW THEREFORE BE IT RESOLVED, the Oskaloosa Municipal Water Department shall increase the water rates for all customers of the Oskaloosa Municipal Water Department, with the exception of the RR rate type, by the amount of _____% increase of present rates to be effective March 1, 2016.

Chairman of the Board,
Oskaloosa Municipal Water Department

ATTEST:

The above Resolution No. 1601, Resolution to Increase Water Rates Effective March 1, 2016, came before the Board of Trustees of the Oskaloosa Municipal Water Department at its regularly scheduled meeting on the _____ of February, 2016, and the resolution was approved by the Board upon motion made and passed to approve the resolution by a vote of the members of the Board.

Secretary of the Board
Oskaloosa Municipal Water Department

Specifications

**PLANS AND SPECIFICATIONS
FOR
CARBONADO ROAD WATER MAIN REPLACEMENT
OSKALOOSA MUNICIPAL WATER DEPARTMENT**

OSKALOOSA, IOWA

2016

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DETAILED SPECIFICATION REQUIREMENTS

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<u>Division 3 – Water Main and Appurtenances</u>	Pages 1 through 11
Appendix A – Standard Specifications for Water Main Construction Oskaloosa Municipal Water Department	

STANDARD DRAWINGS

1. Standard Trench Section Pressure Pipe
3. Horizontal Thrust Blocks
4. Hydrant Installation
5. Service Connection 1” to 2”
6. Casting Detail
7. Typical Field Tile Crossing
8. Tracer Wire Installation

NOTICE TO BIDDERS
NOTICE OF PUBLIC HEARING

CARBONADO ROAD WATER MAIN REPLACEMENT
OSKALOOSA MUNICIPAL WATER DEPARTMENT
OSKALOOSA, IOWA
2016

Time and Place for Filing Sealed Proposals. Sealed bids for the work comprising the improvements as stated below must be filed before **11:00 A.M. on April 14, 2016**, in the office of the Oskaloosa Municipal Water Board, 1208 South 7th Street, Oskaloosa, Iowa 52577.

Time and Place Sealed Proposals Will be Opened and Considered. Sealed proposals will be opened and bids tabulated at 11:00 A.M. on April 14, 2016, in the office of the Oskaloosa Municipal Water Department, 1208 South 7th Street, Oskaloosa, Iowa, for consideration by the Water Board at its meeting at 3:00 P.M. on April 18, 2016 in the Oskaloosa Municipal Water Board Office, 1208 South 7th Street, Oskaloosa, Iowa. The Water Board reserves the right to reject any and all bids.

Time for Commencement and Completion of Work. Work on the improvement shall be commenced immediately upon issuance of a written Notice to Proceed and be completed as stated below.

Bid Security. Each bidder shall accompany its bid with bid security as security that the successful bidder will enter into a contract for the work bid upon and will furnish after the award of contract a corporate surety bond, in form acceptable to the City, for the faithful performance of the contract, in an amount equal to one hundred percent of the amount of the contract. The bidder's security shall be in the amount fixed in the Instruction to Bidders and shall be in the form of a cashier's check, a certified check, or a bank money order drawn on an FDIC insured bank in Iowa or on a FDIC insured bank chartered under the laws of the United States; or a certified share draft drawn on a credit union in Iowa or chartered under the laws of the United States; or a bid bond on the form provided in the contract documents with corporate surety satisfactory to the City. The bid shall contain no condition except as provided in the specifications.

Contract Documents. Bid forms, plans and specifications may be obtained from Garden & Associates, Ltd., P.O. Box 451, 1701 3rd Avenue East, Suite 1, Oskaloosa, IA 52577 upon deposit of **Sixty Dollars (\$60.00)** which shall be refunded upon return of said plans and specifications within fourteen (14) days after award of the project. If said plans and specifications are not returned within the time specified and in a reusable condition, the deposit shall be forfeited.

Public Hearing on Proposed Contract Documents and Estimated Costs for Improvement. A public hearing will be held by the Oskaloosa Municipal Water Department on the proposed contract documents (plans, specifications and form of contract) and estimated cost for the improvement at its meeting at 3:00 P.M. on April 18, 2016, in the Oskaloosa Municipal Water Board Office, 1208 South 7th Street, Oskaloosa, Iowa.

Preference of Products and Labor. Preference shall be given to domestic construction materials by the contractor, subcontractors, materialmen, and suppliers in performance of the contract and, further, by virtue of statutory authority, preference will be given to products and provisions grown

and coal produced within the State of Iowa, and to Iowa domestic labor, to the extent lawfully required under Iowa statutes.

General Nature of Improvement. The work generally consists of the following:

Mobilization – Lump Sum; Clearing and Grubbing – Lump Sum; Trench Foundation – 50 TON; Trench Compaction Testing – Water Main – Lump Sum; Water Main Trenched, PVC, 4” – 4 LF; Water Main Trenched, PVC, 8” – 5,535 LF; Water Main Trenchless, PVC, 8” – 365 LF; Steel Casing, 16” – 80 LF; Water Service Stub, Copper, 1” – 29 EA; Water Service Stub, Copper, 1”, Auger or Bored – 26 EA; Gate Valve, 8”, Install Only – 17 EA; Tapping Valve Assembly, 8” x 8” – 1 EA; Fire Hydrant Assembly, Install Only – 8 EA; Existing Fire Hydrant Removal – 5 EA; Water Main Connection – Connection No. 1 – Lump Sum; Water Main Connection – Connection No. 2 – Lump Sum; Water Main Connection – Connection No. 3 – Lump Sum; Water Service Meter Pit, Install Only – 5 EA; Removal of Sidewalk – 1 SY; Removal of Driveway – 314 SY; Sidewalk, PCC, 4” Thick – 1 SY; Driveway, Paved PCC, 6” Thick – 282 SY; Driveway, Paved HMA, 6” Thick – 37 SY; Driveway, Granular, 6” Thick – 110 TON; Full Depth Patch, HMA – 150 SY; Subbase Overexcavation – 45 TON; Pavement Removal – 150 SY; Conventional Seeding, Fertilizing, and Mulching – Lump Sum; SWPPP Preparation – Lump Sum; SWPPP Management – Lump Sum; SWPPP Qualifying Rainfall Event Inspection – 6 EA; Removal and Reinstallation of Existing Fence, Field Fence – 40 LF; Traffic Control – Lump Sum.

Building materials, supplies, and equipment incorporated into said improvement are exempt from Iowa Department of Revenue and Finance sales tax and any applicable local option sales tax and school infrastructure local option sales tax pursuant to Iowa Code Sections: 422.42 (15) & (16), and 422.47 (5). Bidder shall not include payment of Iowa sales tax in Bid. Jurisdiction will provide Purchasing Agent Authorization Letter and Designated Exempt Entity Iowa Construction Sales Tax Exemption Certificate. Contractor will coordinate sales tax exempt purchases with subcontractors and material and equipment suppliers. Contractor will maintain records identifying the materials purchased sales tax exempt and will maintain records verifying the use of said materials on said improvement.

Payment to the Contractor for said improvements will be made in monthly estimates and one final payment. Monthly estimates will be equivalent to ninety-five percent (95%) of the contract value of the work completed during the preceding calendar month. Such monthly payment will in no way be construed as an act of acceptance for any part of the work partially or totally.

In accordance with Iowa statutes, a resident bidder shall be allowed a preference as against a nonresident bidder from a state or foreign country if that state or foreign country gives or requires any preference to bidders from that state or foreign country, including but not limited to any preference to bidders, the imposition of any type of labor force preference, or any other form of preferential treatment to bidders or laborers from that state or foreign country. The preference allowed shall be equal to the preference given or required by the state or foreign country in which the nonresident bidder is a resident. In the instance of a resident labor force preference, a nonresident bidder shall apply the same resident labor force preference to a public improvement in this state as would be required in the construction of a public improvement by the state or foreign country in which the nonresident bidder is a resident.

Final payment to the Contractor will be made no earlier than thirty (30) days from and after final acceptance of the work by the Jurisdiction. Before final payment is made, the Contractor shall file with the Jurisdiction lien waivers from material suppliers and/or subcontractors showing that they were paid in full for materials supplied and/or work performed on the project.

Liquidated damages in the amount of **Seven Hundred Dollars (\$700.00)** per working day will be assessed for each day that the work shall remain uncompleted after the end of the contract period with due allowance for extension of contract period due to conditions beyond the control of the Contractor.

Successful Bidder will be required to furnish Performance, Payment and Maintenance Bond acceptable to the Oskaloosa Municipal Water Department on the form provided in the specifications in amounts equal to one hundred percent (100%) of the contract price.

Award of the contract will be to the lowest responsive, responsible, qualified bidder submitting the lowest acceptable bid. The Oskaloosa Municipal Water Department hereby reserves the right to reject any or all bids, to waive informalities and irregularities and to enter into such contract as it may deem to be for the best interest of the Oskaloosa Municipal Water Department. A bidder shall not withdraw its proposal for a period of 60 calendar days after the date designated for opening of proposals.

The work under the proposed contract shall be fully completed and ready for final payment within 80 working days. The Notice to Proceed will be issued on or about June 1, 2016.

This Notice is given by authority of the Oskaloosa Municipal Water Department.

Brad Hodges, Secretary
Oskaloosa Municipal Water Board

This Notice published in the Oskaloosa Herald.

Bid Date: April 14, 2016
Time: 11:00 A.M.

INSTRUCTIONS TO BIDDERS

Project Name CARBONADO ROAD WATER MAIN REPLACEMENT
OSKALOOSA MUNICIPAL WATER DEPARTMENT
OSKALOOSA, IOWA
2016

The work comprising the above referenced project shall be constructed in accordance with the 2016 edition of the SUDAS Standard Specifications and as further modified by supplemental specifications and special provisions included in the contract documents. The terms used in the contract revision of the documents are defined in said Standard Specifications. Before submitting your bid, review the requirements of Division 1, General Provisions and Covenants, in particular the sections regarding proposal requirements, bonding, contract execution and insurance requirements. Be certain that all documents have been completed properly, as failure to complete and sign all documents and to comply with the requirements listed below can cause your bid not to be read.

I. BID SECURITY

The bid security must be in the minimum amount of 10% of the total bid amount including all add alternates (do not deduct the amount of deduct alternates). Bid security shall be in the form of a cashier's check or a certified check, drawn on an FDIC insured bank in Iowa or drawn on an FDIC insured bank chartered under the laws of the United States; or a certified share draft drawn on a credit union in Iowa or chartered under the laws of the United States; or a bid bond executed by a corporation authorized to contract as a surety in Iowa or satisfactory to the Oskaloosa Municipal Water Department. The bid bond must be submitted on the enclosed Bid Bond form as no other bid bond forms are acceptable. All signatures on the bid bond must be original signatures in ink; facsimile (fax) of any signature or use of an electronic signature on the bid bond is not acceptable. Bid security other than said bid bond shall be made payable to the Oskaloosa Municipal Water Department. "Miscellaneous Bank Checks", and personal checks, as well as "Money Orders" and "Traveler's Checks" issued by persons, firms or corporations licensed under Chapter 533C of the Iowa Code, are not acceptable bid security.

II. SUBMISSION OF THE PROPOSAL AND IDENTITY OF BIDDER

- A. The proposal shall be sealed in an envelope, properly identified as the Proposal with the project title and the name and address of the bidder, and deposited with the Oskaloosa Municipal Water Department, at or before the time and at the place provided in the Notice to Bidders. It is the sole responsibility of the bidder to see that its proposal is delivered to the Oskaloosa Municipal Water Department prior to the time for opening bids, along with the appropriate bid

security sealed in the separate envelope identified as Bid Security and attached to the outside of the bid proposal envelope. Any proposal received after the scheduled time for the receiving of proposals will be returned to the bidder unopened and will not be considered. If the Oskaloosa Municipal Water Department provides envelopes for proposals and bid security, bidders shall be required to utilize such envelopes in the submission of their bids.

B. The following documents shall be completed, signed and returned in the Proposal envelope. The bid cannot be read if any of these documents are omitted from the Proposal envelope.

1. PROPOSAL – Complete each of the following parts:

- Part B – Acknowledgment of Addenda, if any have been issued
- Part C – Bid Items, Quantities and Prices
- Part F – Additional Requirements

The following proposal attachments must be completed and attached:

<u>ITEM NO.</u>	<u>DESCRIPTION OF ATTACHMENT</u>
1.	<u>Bidder Status Form</u>
2.	_____
3.	_____
4.	_____
5.	_____
6.	_____

- Part G – Identity of Bidder (including the Bidder Status Form)

Sign the proposal. The signature on the proposal and all proposal attachments must be an original signature in ink signed by the same individual who is the Company Owner or an authorized Officer of the Company; copies or facsimile of any signature or electronic signatures will not be accepted. The Bidder Status Form is required by the Iowa Labor Commissioner, pursuant to the Iowa Administrative Code rule 845-156.2(1). The Bidder must complete and submit the Bidder Status Form, signed by an authorized representative of the Bidder, with their bid proposal. Under Iowa Administrative Code rule 875-156.2(1), failure to provide the Bidder Status Form with the bid may result in the bid being deemed non-responsive and may result in the bid being rejected. The Worksheet: Authorized to Transact Business from the Labor Commission is including on the following page and can be used to assist Bidders in completing the Bidder Status Form.

TO: The Oskaloosa Municipal Water Department

PROPOSAL

PROPOSAL: PART A – SCOPE

The Oskaloosa Municipal Water Department hereinafter called the “Jurisdiction”, has need of a qualified contractor to complete the work comprising the below referenced improvement. The undersigned Bidder hereby proposes to complete the work comprising the below referenced improvement as specified in the contract documents, which are officially on file with the Oskaloosa Municipal Water Department, at the prices hereinafter provided in Part C of the Proposal, for the following described improvements:

**CARBONADO ROAD WATER MAIN REPLACEMENT
OSKALOOSA MUNICIPAL WATER DEPARTMENT
OSKALOOSA, IOWA
2016**

PROPOSAL: PART B – ACKNOWLEDGMENT OF ADDENDA

The Bidder hereby acknowledges that all addenda become a part of the contract documents when issued, and that each such addendum has been received and utilized in the preparation of this bid. The Bidder hereby acknowledges receipt of the following addenda by inserting the number of each addendum in the blanks below:

ADDENDUM NUMBER _____ ADDENDUM NUMBER _____

ADDENDUM NUMBER _____ ADDENDUM NUMBER _____

and certifies that said addenda were utilized in the preparation of this bid.

PROPOSAL: PART C – BID ITEMS, QUANTITIES AND PRICES

UNIT BID PRICE CONTRACTS: The Bidder must provide the Unit Bid Price, the Total Bid Price, any Alternate Prices and the Total Construction Costs on the Proposal Attachment: Part C – Bid Items, Quantities, and Prices. In case of discrepancy, the Unit Bid Price governs. The quantities shown on the Proposal Attachment: Part C – Bid Items, Quantities and Prices are approximate only, but are considered sufficiently adequate for the purpose of comparing bids. The Total Construction Cost plus any alternates selected by the City shall be used only for comparison of bids. The Total Construction Cost, including any Add-Alternates, shall be used for determining the sufficiency of the bid security.

BASE BID CONTRACTS: The Bidder must provide any Bid Prices, any Alternate Prices, and the Total of the Base Bid plus any Add-Alternates on the Proposal Attachment: Part C – Bid Items, Quantities, and Prices. The Total of the Base Bid plus any Alternates selected by the Oskaloosa Municipal Water Department shall be used only for comparison of bids. The Total of the Base Bid plus any Add-Alternates shall be used for determining the sufficiency of the bid security.

PROPOSAL: PART D – GENERAL

The Bidder hereby acknowledges that the Oskaloosa Municipal Water Department, in advertising for public bids for this project reserves the right to:

1. Reject any or all bids. Award of the contract, if any, to be to the lowest responsible, responsive bidder; and
2. Reject any or all alternates in determining the items to be included in the contract. Designation of the lowest responsible, responsive bidder to be based on comparison of the total bid plus any selected alternates; and
3. Make such alterations in the documents or in the proposal quantities as it determines necessary in accordance with the contract documents after execution of the contract. Such alterations shall not be considered a waiver of any conditions of the contract documents, and shall not invalidate any of the provisions thereof; and

The Bidder hereby agrees to:

1. Enter into a contract, if this proposal is selected, in the form approved by the Oskaloosa Municipal Water Department provide proof of registration with the Iowa Division of Labor in accordance with Chapter 91C of the Iowa Code, and furnish a performance, maintenance, and payment bond; and
2. Forfeit bid security, not as a penalty but as liquidated damages, upon failure to enter into such contract and/or to furnish said bond; and
3. Commence the work on this project on or before a date to be specified in a written notice to proceed by the Jurisdiction, and to fully complete the project within 150 working days, and to pay liquidated damages for noncompliance with said completion provisions at the rate of Seven Hundred dollars (\$700.00) for each consecutive calendar day thereafter that the work remains incomplete.

PROPOSAL: PART E – NON-COLLUSION AFFIDAVIT

The Bidder hereby certifies:

1. That this proposal is not affected by, contingent on, or dependent on any other proposal submitted for any improvement with the Oskaloosa Municipal Water Department; and
2. That no individual employed by the Bidder has employed any person to solicit or procure the work on this project, nor will any employee of the Bidder make any payment or agreement for payment of any compensation in connection with the procurement of this project; and

3. That no part of the bid price received by the Bidder was or will be paid to any person, corporation, firm, association, or other organization for soliciting the bid, other than the payment of their normal compensation to persons regularly employed by the Bidder whose services in connection with the construction of the project were in the regular course of their duties for the Bidder; and
4. That this proposal is genuine and not collusive or sham; that the Bidder has not colluded, conspired, connived or agreed, directly or indirectly, with any bidder or person, to submit a sham bid or to refrain from bidding, and has not in any manner, directly or indirectly, sought, by agreement or collusion, or communication or conference, with any person, to fix the bid price of the Bidder or of any other bidder, and that all statements in this proposal are true; and
5. That the individual(s) executing this proposal have the authority to execute this proposal on behalf of the Bidder.

PROPOSAL: PART F – ADDITIONAL REQUIREMENTS

The Bidder hereby agrees to comply with the additional requirements listed below which are included in this proposal and identified as proposal attachments:

<u>ITEM NO.</u>	<u>DESCRIPTION OF ATTACHMENT</u>
1.	None
2.	
3.	
4.	
5.	
6.	

PROPOSAL: PART G – IDENTITY OF BIDDER

The Bidder shall indicate whether the bid is Submitted by a/an:

- Individual, Sole Proprietorship
- Partnership
- Corporation
- Limited Liability Company
- Joint-venture: all parties must join-in and execute all documents
- Other

Bidder

Signature

By _____
Name (Print/Type)

Title

The Bidder’s Public Registration Number, issued by the Iowa Commissioner of Labor pursuant to Section 91C.5 of the Iowa Code, is as follows:

Number ____ - ____

Street Address

City, State, Zip Code

Telephone Number

The Bidder should contact 515-242-5871 for registration information.

Failure to provide said Registration Number shall result in the bid being read under advisement. A contract will not be executed until the Contractor is registered.

Type or print the name and title of the company’s owner, president, CEO, etc. if a different person than entered above.

Name

Title

PROPOSAL

PROPOSAL ATTACHMENT: PART C - BID ITEMS, QUANTITIES AND PRICES

This is a UNIT BID PRICE CONTRACT. The bidder must provide the Unit Bid Price, the Total Bid Price, any Alternate Price(s) and the Total Construction Cost; in case of discrepancy, the Unit Bid Price governs. The quantities shown on the Proposal Attachment: Part C - Bid Items, Quantities and Prices are approximate only, but are considered sufficiently adequate for the purpose of comparing bids. The Total Construction Cost shall be used for determining the sufficiency of the bid security.

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>ESTIMATED UNITS</u>	<u>UNIT PRICE</u>	<u>AMOUNT</u>
1	1090-105-D Mobilization	1 LS	\$ XXXXX	\$ _____
2	2010-108-A-0 Clearing and Grubbing	1 LS	\$ XXXXX	\$ _____
3	3010-108-C-0 Trench Foundation	50 TON	\$ _____	\$ _____
4	3010-108-F-0 Trench Compaction Testing - Water Main	1 LS	\$ XXXXX	\$ _____
5	5010-108-A-1 Water Main Trenched, PVC, 4"	4 LF	\$ _____	\$ _____
6	5010-108-A-1 Water Main Trenched, PVC, 8"	5,535 LF	\$ _____	\$ _____
7	5010-108-A-2 Water Main Trenchless, PVC, 8"	365 LF	\$ _____	\$ _____
8	XXXX-XXX-X-X Steel Casing, 16"	80 LF	\$ _____	\$ _____
9	5010-108-D-0 Water Service Stub, Copper, 1"	29 EA	\$ _____	\$ _____
10	5010-108-D-0 Water Service Stub, Copper, 1", Auger or Bored	26 EA	\$ _____	\$ _____
11	5020-108-A-0 Gate Valve, 8", Install Only	17 EA	\$ _____	\$ _____
12	5020-108-B-0 Tapping Valve Assembly, 8" x 8"	1 EA	\$ _____	\$ _____
13	5020-108-C-0 Fire Hydrant Assembly, Install Only	8 EA	\$ _____	\$ _____
14	XXXX-XXX-X-X Existing Fire Hydrant Removal	5 EA	\$ _____	\$ _____
15	XXXX-XXX-X-X Water Main Connection - Connection No. 1	1 LS	\$ XXXXX	\$ _____
16	XXXX-XXX-X-X Water Main Connection - Connection No. 2	1 LS	\$ XXXXX	\$ _____
17	XXXX-XXX-X-X Water Main Connection - Connection No. 3	1 LS	\$ XXXXX	\$ _____
18	XXXX-XXX-X-X Water Service Meter Pit, Install Only	5 EA	\$ _____	\$ _____
19	7030-108-A-0 Removal of Sidewalk	1 SY	\$ _____	\$ _____
20	7030-108-A-0 Removal of Driveway	314 SY	\$ _____	\$ _____
21	7030-108-E-0 Sidewalk, PCC, 4" Thick	1 SY	\$ _____	\$ _____
22	7030-108-H-1 Driveway, Paved PCC, 6" Thick	282 SY	\$ _____	\$ _____
23	7030-108-H-1 Driveway, Paved HMA, 6" Thick	37 SY	\$ _____	\$ _____
24	7030-108-H-2 Driveway, Granular, 6" Thick	110 TON	\$ _____	\$ _____
25	7040-108-A-0 Full Depth Patch, HMA	150 SY	\$ _____	\$ _____
26	7040-108-B-0 Subbase Overexcavation	45 TON	\$ _____	\$ _____
27	7040-108-H-0 Pavement Removal	150 SY	\$ _____	\$ _____
28	9010-108-A-0 Conventional Seeding, Fertilizing, and Mulching	1 LS	\$ XXXXX	\$ _____

29	9040-108-A-1	SWPPP Preparation	1	LS	\$	XXXXXX	\$	_____
30	9040-108-A-2	SWPPP Management	1	LS	\$	XXXXXX	\$	_____
31	9040-108-A-3	SWPPP Qualifying Rainfall Event Inspection	6	EA	\$	_____	\$	_____
32	9060-108-D-0	Removal and Reinstallation of Existing Fence, Field Fence	40	LF	\$	_____	\$	_____
33	XXXX-XXX-X-X	Traffic Control	1	LS	\$	XXXXXX	\$	_____
							TOTAL BID \$	_____

NOTE: THE ABOVE PRICES **DO NOT** INCLUDE SALES TAX FOR BUILDING MATERIALS, SUPPLIES AND EQUIPMENT INCORPORATED INTO SAID IMPROVEMENTS THAT ARE EXEMPT FROM IOWA DEPARTMENT OF REVENUE AND FINANCE SALES TAX AND APPLICABLE LOCAL OPTION SALES TAX AND SCHOOL INFRASTRUCTURE LOCAL OPTION SALES TAX PURSUANT TO IOWA CODE SECTIONS. BIDDER SHALL INCLUDE ALL OTHER APPLICATION FEES AND TAXES IN BID.

NOTE: IT IS UNDERSTOOD THAT THE ABOVE QUANTITIES ARE ESTIMATED FOR THE PURPOSE OF THIS BID. ALL QUANTITIES ARE SUBJECT TO REVISION BY THE OSKALOOSA MUNICIPAL WATER DEPARTMENT. QUANTITY CHANGES WHICH AMOUNT TO TWENTY (20) PERCENT OR LESS OF THE TOTAL BID SHALL NOT AFFECT THE UNIT BID PRICE UNLESS OTHERWISE NOTED IN THE CONTRACT DOCUMENTS.

Bidder Status Form

To be completed by all bidders

Part A

Please answer "Yes" or "No" for each of the following:

- Yes No My company is authorized to transact business in Iowa.
(To help you determine if your company is authorized, please review the worksheet on the next page).
- Yes No My company has an office to transact business in Iowa.
- Yes No My company's office in Iowa is suitable for more than receiving mail, telephone calls, and e-mail.
- Yes No My company has been conducting business in Iowa for at least 3 years prior to the first request for bids on this project.
- Yes No My company is not a subsidiary of another business entity or my company is a subsidiary of another business entity that would qualify as a resident bidder in Iowa.

If you answered "Yes" for each question above, your company qualifies as a resident bidder. Please complete Parts B and D of this form.

If you answered "No" to one or more questions above, your company is a nonresident bidder. Please complete Parts C and D of this form.

To be completed by resident bidders

Part B

My company has maintained offices in Iowa during the past 3 years at the following addresses:

Dates: ____ / ____ / ____ to ____ / ____ / ____ Address: _____

City, State, Zip: _____

Dates: ____ / ____ / ____ to ____ / ____ / ____ Address: _____

City, State, Zip: _____

Dates: ____ / ____ / ____ to ____ / ____ / ____ Address: _____

You may attach additional sheet(s) if needed. City, State, Zip: _____

To be completed by non-resident bidders

Part C

1. Name of home state or foreign country reported to the Iowa Secretary of State:

2. Does your company's home state or foreign country offer preferences to bidders who are residents? Yes No

3. If you answered "Yes" to question 2, identify each preference offered by your company's home state or foreign country and the appropriate legal citation.

You may attach additional sheet(s) if needed.

To be completed by all bidders

Part D

I certify that the statements made on this document are true and complete to the best of my knowledge and I know that my failure to provide accurate and truthful information may be a reason to reject my bid.

Firm Name: _____

Signature: _____ Date: _____

**You must submit the completed form to the governmental body requesting bids
per 875 Iowa Administrative Code Chapter 156.**

This form has been approved by the Iowa Labor Commissioner.

Worksheet: Authorization to Transact Business

This worksheet may be used to help complete Part A of the Resident Bidder Status form. If at least one of the following describes your business, you are authorized to transact business in Iowa.

- Yes No My business is currently registered as a contractor with the Iowa Division of Labor.
- Yes No My business is a sole proprietorship and I am an Iowa resident for Iowa income tax purposes.
- Yes No My business is a general partnership or joint venture. More than 50 percent of the general partners or joint venture parties are residents of Iowa for Iowa income tax purposes.
- Yes No My business is an active corporation with the Iowa Secretary of State and has paid all fees required by the Secretary of State, has filed its most recent biennial report, and has not filed articles of dissolution.
- Yes No My business is a corporation whose articles of incorporation are filed in a state other than Iowa, the corporation has received a certificate of authority from the Iowa secretary of state, has filed its most recent biennial report with the secretary of state, and has neither received a certificate of withdrawal from the secretary of state nor had its authority revoked.
- Yes No My business is a limited liability partnership which has filed a statement of qualification in this state and the statement has not been canceled.
- Yes No My business is a limited liability partnership which has filed a statement of qualification in a state other than Iowa, has filed a statement of foreign qualification in Iowa and a statement of cancellation has not been filed.
- Yes No My business is a limited partnership or limited liability limited partnership which has filed a certificate of limited partnership in this state, and has not filed a statement of termination.
- Yes No My business is a limited partnership or a limited liability limited partnership whose certificate of limited partnership is filed in a state other than Iowa, the limited partnership or limited liability limited partnership has received notification from the Iowa secretary of state that the application for certificate of authority has been approved and no notice of cancellation has been filed by the limited partnership or the limited liability limited partnership.
- Yes No My business is a limited liability company whose certificate of organization is filed in Iowa and has not filed a statement of termination.
- Yes No My business is a limited liability company whose certificate of organization is filed in a state other than Iowa, has received a certificate of authority to transact business in Iowa and the certificate has not been revoked or canceled.

BID BOND

KNOW ALL BY THESE PRESENTS:

That we, _____, as Principal, and _____, as Surety, are held and firmly bound unto The Oskaloosa Municipal Water Department, as Obligee, (hereinafter referred to as the Jurisdiction), in the penal sum of _____ dollars (\$ _____), lawful money of the United States, for which payment said Principal and Surety bind themselves, their heirs, executors, administrators, successors, and assigns jointly and severally, firmly by these presents.

The condition of the above obligation is such that whereas the Principal has submitted to the Jurisdiction a certain proposal, in a separate envelope, and hereby made a part hereof, to enter into a contract in writing, for the following described improvements;

**CARBONADO ROAD WATER MAIN REPLACEMENT
OSKALOOSA MUNICIPAL WATER DEPARTMENT
OSKALOOSA, IOWA
2016**

The Surety hereby stipulates and agrees that the obligations of said Surety and its bond shall be in no way impaired or affected by any extension of the time within which Jurisdiction may accept such bid or execute such Contract; and said Surety does hereby waive notice of any such extension.

In the event that any actions or proceedings are initiated with respect to this Bond, the parties agree that the venue thereof shall be Mahaska County, State of Iowa. If legal action is required by the Jurisdiction against the Surety or Principal to enforce the provisions of the bond or to collect the monetary obligation incurring to the benefit of the Jurisdiction, the Surety or Principal agrees to pay the Jurisdiction all damages, costs, and attorney fees incurred by enforcing any of the provisions of this Bond. All rights, powers, and remedies of the Jurisdiction hereunder shall be cumulative and not alternative and shall be in addition to all rights, powers and remedies given to the Jurisdiction, by law. The Jurisdiction may proceed against Surety for any amount guaranteed hereunder whether action is brought against Principal or whether Principal is joined in any such action or actions or not.

NOW, THEREFORE, if said proposal by the Principal be accepted, and the Principal shall enter into a contract with the Jurisdiction in accordance with the terms of such proposal, including the provision of insurance and of a bond as may be specified in the contract documents, with good and sufficient surety for the faithful performance of such contract, for the prompt payment of labor and material furnished in the prosecution thereof, and for the maintenance of said improvements as may be required therein, then this obligation shall become null and void; otherwise, the Principal shall pay to the Jurisdiction the full amount of the bid bond, together with court costs, attorney's fees, and any other expense of recovery.

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

SURETY:

PRINCIPAL:

Surety Company

By _____
Signature Attorney-in-Fact/Officer

Name of Attorney-in-Fact/Officer

Company Name

Company Address

City, State, Zip Code

Company Telephone Number

Bidder

By _____
Signature

Name (Print/Type)

Title

Address

City, State, Zip Code

Telephone Number

NOTE: All signatures on this bid bond must be original signatures in ink; copies or facsimile of any signature will not be accepted. This bond must be sealed with the Surety's raised, embossing seal. The Certificate or Power of Attorney accompanying this bond must be valid on its face and sealed with the Surety's raised, embossing seal.

NOTICE OF AWARD

Dated _____

TO: _____
(BIDDER)

ADDRESS: _____

Contract: _____

Project: _____

OWNER's Contract No. _____

You are notified that your Bid dated _____ for the above Contract has been considered. You are the apparent Successful Bidder and have been awarded a Contract for _____

The Contract Price of your Contract is _____ Dollars (\$ _____).

___ copies of each of the proposed Contract Documents (except Drawings) accompany this Notice of Award. ___ sets of the Drawings will be delivered separately or otherwise made available to you immediately.

You must comply with the following conditions precedent within 15 days of the date you receive this Notice of Award.

1. Deliver to the "Jurisdiction" three (3) fully executed counterparts of the Contract Documents. [Each of the Contract Documents must bear your signature.]

2. Deliver with the executed Contract Documents the Contract security (Bonds) as specified in the Notice to Bidders and Public Hearing and General Provisions and Covenants.

3. (List other conditions precedent).

Failure to comply with these conditions within the time specified will entitle “Jurisdiction” to consider your Bid in default, to annul this Notice of Award and to declare your Bid security forfeited.

Within ten days after you comply with the above conditions, “Jurisdiction” will return to you one fully executed counterpart of the Contract Documents.

(JURISDICTION)

By: _____
(AUTHORIZED SIGNATURE)

(TITLE)

CONTRACT

CONTRACT NO. _____
DATE _____

THIS CONTRACT, made and entered into at Oskaloosa, Iowa this ____ day of _____, 2014, by and between the Oskaloosa Municipal Water Department, hereinafter called the "Jurisdiction", and _____, hereinafter called the "Contractor".

WITNESSETH:

The Contractor hereby agrees to complete the work comprising the below referenced improvement as specified in the contract documents, which are officially on file with the Jurisdiction in the office of the Oskaloosa Municipal Water Department, 1208 South 7th Street, Oskaloosa, Iowa 52577. This contract includes all contract documents. The work under this contract shall be constructed in accordance with the SUDAS Standard Specifications, 2016 Edition and as further modified by the supplemental specifications and special provisions included in said contract documents, and the Contract Attachment which is attached hereto. The Contractor further agrees to complete the work in strict accordance with said contract documents, and guarantee the work as required by law, for the time required in said contract documents, after its acceptance by the Jurisdiction.

This contract is awarded and executed for completion of the work specified in the contract documents for the bid prices shown on the Contract Attachment: Bid Items, Quantities and Prices which were proposed by the Contractor in its proposal submitted in accordance with the Notice to Bidders for the following described improvements:

**CARBONADO ROAD WATER MAIN REPLACEMENT
OSKALOOSA MUNICIPAL WATER DEPARTMENT
OSKALOOSA, IOWA
2016**

The Contractor agrees to perform said work for and in consideration of the Jurisdiction's payment of the bid amount of _____ dollars (\$ _____) which amount shall constitute the required amount of the performance, maintenance, and payment bond. The Contractor hereby agrees to commence work under this contract on or before a date to be specified in a written Notice to Proceed by the Jurisdiction. Work shall be fully complete and ready for final payment within 80 working days. Liquidated damages in the amount of Seven Hundred Dollars (\$700.00) per working day will be assessed for each day that the work shall remain uncompleted after the end of the contract period.

IN WITNESS WHEREOF, the Parties hereto have executed this instrument, in triplicate on the date first shown written.

JURISDICTION

CONTRACTOR

By _____

Contractor

(Seal)
ATTEST:

By _____
Signature

Title

Street Address

City, State, Zip Code

Telephone

CONTRACTOR PUBLIC REGISTRATION INFORMATION To Be Provided By:

1. All Contractors: The Contractor shall enter its Public Registration Number ____ - ____ - ____ - ____ - ____ issued by the Iowa Commissioner of Labor pursuant to Section 91C.5 of the Iowa Code.
2. Out-of-State Contractors:
 - A. Pursuant to Section 91C.7 of the Iowa Code, an out-of-state contractor, before commencing a contract in excess of five thousand dollars in value in Iowa, shall file a bond with the Division of Labor Services of the Department of Workforce Development. The contractor should contact 515-242-5871 for further information. Prior to contract execution, the City Engineer may forward a copy of this contract to the Iowa Department of Workforce Development as notification of pending construction work. It is the contractor's responsibility to comply with said Section 91C.7 before commencing this work.
 - B. Prior to entering into contract, the designated low bidder, if it be a corporation organized under the laws of a state other than Iowa, shall file with the Jurisdictional Engineer a certificate from the Secretary of the State of Iowa showing that it has complied with all provisions of Chapter 490 of the Code of Iowa, or as amended, governing foreign corporations. For further information contact the Iowa Secretary of State Office at 515-281-5204.

NOTE: All signatures on this contract must be original signatures in ink; copies or facsimile of any signature will not be accepted.

CORPORATE ACKNOWLEDGMENT

State of _____)
) SS
_____ County)

On this ____ day of _____, 20____, before me, the undersigned, a Notary Public in and for the State of _____, personally appeared _____ and _____, to me known, who, being by me duly sworn, did say that they are the _____, and _____, respectively, of the corporation executing the foregoing instrument; that (no seal has been procured by) (the seal affixed thereto is the seal of) the corporation; that said instrument was signed (and sealed) on behalf of the corporation by authority of this Board of Directors; that _____ and _____ acknowledged the execution of the instrument to be the voluntary act and deed of the corporation, by it and by them voluntarily executed.

Notary Public in and for the State of _____
My commission expires _____, 20____

PARTNERSHIP ACKNOWLEDGMENT

State of _____)
) SS
_____ County)

On this ____ day of _____, 20 ____, before me, the undersigned, a Notary Public in and for the State of _____, personally appeared _____ to me personally known, who being by me duly sworn, did say that the person is one of the partners of _____, a partnership, and that the instrument was signed on behalf of the partnership by authority of the partners and the partner acknowledged the execution of the instrument to be the voluntary act and deed of the partnership by it and by the partner voluntarily executed.

Notary Public in and for the State of _____
My commission expires _____, 20____

INDIVIDUAL ACKNOWLEDGMENT

State of _____)
) SS
_____ County)

On this ____ day of _____, 20____, before me, the undersigned, a Notary Public in and for the State of _____, personally appeared _____ and _____, to me known to be the identical person(s) named in and who executed the foregoing instrument, and acknowledged that (he) (she) (they) executed the instrument as (his) (her) (their) voluntary act and deed.

Notary Public in and for the State of _____
My commission expires _____, 20____

LIMITED LIABILITY COMPANY ACKNOWLEDGMENT

State of _____)
) SS
_____ County)

On this ____ day of _____, 20____, before me a Notary Public in and for said county, personally appeared _____, to me personally known, who being by me duly sworn did say that person is _____ of said _____, that (the seal affixed to said instrument is the seal of said OR no seal has been procured by the said) _____, and that said instrument was signed and sealed on behalf of the said _____, by authority of its managers and the said _____ acknowledged the execution of said instrument to be the voluntary act and deed of said _____, by it voluntarily executed.

Notary Public in and for the State of _____
My commission expires _____, 20____

CONTRACT ATTACHMENT: ITEM 1: BID ITEMS, QUANTITIES AND PRICES

THIS CONTRACT IS AWARDED AND EXECUTED FOR COMPLETION OF THE WORK SPECIFIED IN THE CONTRACT DOCUMENTS FOR THE BID PRICES TABULATED BELOW AS PROPOSED BY THE CONTRACTOR IN ITS PROPOSAL SUBMITTED IN ACCORDANCE WITH NOTICE OF LETTING AND NOTICE OF PUBLIC HEARING. ALL QUANTITIES ARE SUBJECT TO REVISION BY THE OWNER. QUANTITY CHANGES WHICH AMOUNT TO TWENTY (20) PERCENT OR LESS OF THE AMOUNT BID SHALL NOT AFFECT THE UNIT BID PRICE.

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>ESTIMATED UNITS</u>	<u>UNIT PRICE</u>	<u>AMOUNT</u>
_____	_____	_____	\$ _____	\$ _____
_____	_____	_____	\$ _____	\$ _____
_____	_____	_____	\$ _____	\$ _____
_____	_____	_____	\$ _____	\$ _____
_____	_____	_____	\$ _____	\$ _____
_____	_____	_____	\$ _____	\$ _____
_____	_____	_____	\$ _____	\$ _____
_____	_____	_____	\$ _____	\$ _____
_____	_____	_____	\$ _____	\$ _____
_____	_____	_____	\$ _____	\$ _____
_____	_____	_____	\$ _____	\$ _____
_____	_____	_____	\$ _____	\$ _____
_____	_____	_____	\$ _____	\$ _____
TOTAL CONSTRUCTION COST				\$ _____

PERFORMANCE, PAYMENT AND MAINTENANCE BOND

KNOW ALL BY THESE PRESENTS:

That we, _____, as Principal (hereinafter the “Contractor” or “Principal” and _____, as Surety are held and firmly bound unto the Oskaloosa Municipal Water Department, as Obligee (hereinafter referred to as “the Jurisdiction”), and to all persons who may be injured by any breach of any of the conditions of this Bond in the penal sum of _____ DOLLARS (\$_____), lawful money of the United States, for the payment of which sum, well and truly to be made, we bind ourselves, our heirs, legal representatives and assigns, jointly or severally, firmly by these presents.

The conditions of the above obligations are such that whereas said Contractor entered into a contract with the “Jurisdiction”, bearing date the _____ day of _____, _____, (hereinafter the “Contract”) wherein said Contractor undertakes and agrees to construct the following described improvements:

**CARBONADO ROAD WATER MAIN REPLACEMENT
OSKALOOSA MUNICIPAL WATER DEPARTMENT
OSKALOOSA, IOWA
2016**

and to faithfully perform all the terms and requirements of said Contract within the time therein specified, in a good and workmanlike manner, and in accordance with the Contract Documents. Provided, however, that one year after the date of acceptance as complete of the work under the above referenced Contract, the maintenance portion of this Bond shall continue in force but the penal sum for maintenance shall be reduced to the sum of _____ DOLLARS (\$_____), which is the cost associated with those items shown on the proposal and in the Contract which require a maintenance bond period in excess of one year.

It is expressly understood and agreed by the Contractor and Surety in this bond that the following provisions are a part of this Bond and are binding upon said Contractor and Surety, to-wit:

1. **PERFORMANCE:** The Contractor shall well and faithfully observe, perform, fulfill and abide by each and every covenant, condition and part of said Contract and Contract Documents, by reference made a part hereof, for the above referenced improvements, and shall indemnify and save harmless the “Jurisdiction” from all outlay and expense incurred by the “Jurisdiction” by reason of the Contractor’s default of failure to perform as required. The Contractor shall also be responsible for the default or failure to perform as required under the Contract and Contract Documents by all its subcontractors, suppliers, agents, or employees furnishing materials or providing labor in the performance of the Contract.
2. **PAYMENT:** The Contractor and the Surety on this Bond are hereby agreed to pay all just claims submitted by persons, firms, subcontractors, and corporations furnishing materials for

or performing labor in the performance of the Contract on account of which this Bond is given, including but not limited to claims for all amounts due for labor, materials, lubricants, oil, gasoline, repairs on machinery, equipment and tools, consumed or used by the Contractor or any subcontractor, wherein the same are not satisfied out of the portion of the contract price which the "Jurisdiction" is required to retain until completion of the improvement, but the Contractor and Surety shall not be liable to said persons, firms, or corporations unless the claims of said claimants against said portion of the contract price shall have been established as provided by law. The Contractor and Surety hereby bind themselves to the obligations and conditions set forth in Chapter 573, Code of Iowa, which by this reference is made a part hereof as though fully set out herein.

3. MAINTENANCE: The Contractor and the Surety on this Bond hereby agree, at their own expense:
 - A. To remedy any and all defects that may develop in or result from work to be performed under the Contract within the period of four (4) years from the date of acceptance of the work under the Contract, by reason of defects in workmanship or materials used in construction of said work;
 - B. To keep all work in continuous good repair; and
 - C. To pay the "Jurisdiction" reasonable costs of monitoring and inspection to assure that any defects are remedied, and to repay the "Jurisdiction" all outlay and expense incurred as a result of Contractor's and Surety's failure to remedy any defect as required by this section.

Contractor's and Surety's agreement herein made extends to defects in workmanship or materials not discovered or known to the "Jurisdiction" at the time such work was accepted.

4. GENERAL: Every Surety on this Bond shall be deemed and held bound, any contract to the contrary notwithstanding, to the following provisions:
 - A. To consent without notice to any extension of time to the Contractor in which to perform the Contract;
 - B. To consent without notice to any change in the Contract or Contract Documents, which thereby increases the total contract price and the penal sum of this bond, provided that all such changes do not, in the aggregate, involve an increase of more than twenty percent of the total contract price, and that this bond shall then be released as to such excess increase; and
 - C. To consent without notice that this Bond shall remain in full force and effect until the Contract is completed, whether completed within the specified contract period, within an extension thereof, or within a period of time after the contract period has elapsed and the liquidated damage penalty is being charged against the Contractor.

The Contractor and every Surety on the bond shall be deemed and held bound, any contract to the contrary notwithstanding, to the following provisions:

- D. That no provision of this Bond or of any other contract shall be valid which limits to less than five years after the acceptance of the work under the Contract the right to sue on this Bond.

- E. That as used herein, the phrase “all outlay and expense” is not to be limited in any way, but shall include the actual and reasonable costs and expenses incurred by the “Jurisdiction” including interest, benefits and overhead where applicable. Accordingly, “all outlay and expense” would include but not be limited to all contract or employee expense, all equipment usage or rental, materials, testing, outside experts, attorneys fees (including overhead expenses of the “Jurisdiction’s” staff attorneys), and all costs and expenses of litigation as they are incurred by the “Jurisdiction”. It is intended the Contractor and Surety will defend and indemnify the “Jurisdiction” on all claims made against the “Jurisdiction” on account of Contractor’s failure to perform as required in the Contract and Contract Documents, that all agreements and promises set forth in the Contract and Contract Documents, in approved change orders, and in this Bond will be fulfilled, and that the “Jurisdiction” will be fully indemnified so that it will be put into the position it would have been in had the Contract been performed in the first instance as required.

In the event the “Jurisdiction” incurs any “outlay and expense” in defending itself with respect to any claim as to which the Contractor or Surety should have provided the defense, or in the enforcement of the promises given by the Contractor in the Contract, Contract Documents, or approved change orders, or in the enforcement of the promises given by the Contractor and Surety in this Bond, the Contractor and Surety agree that they will make the “Jurisdiction” whole for all such outlay and expense, provided that the Surety’s obligation under this bond shall not exceed 125% of the penal sum of this bond.

In the event that any actions or proceedings are initiated with respect to this Bond, the parties agree that the venue thereof shall be Mahaska County, State of Iowa. If legal action is required by the “Jurisdiction” to enforce the provisions of this Bond or to collect the monetary obligation incurring to the benefit of the “Jurisdiction”, the Contractor and the Surety agree, jointly and severally, to pay the “Jurisdiction” all outlay and expense incurred therefor by the “Jurisdiction”. All rights, powers, and remedies of the “Jurisdiction” hereunder shall be cumulative and not alternative and shall be in addition to Surety for any amount guaranteed hereunder whether action is brought against the Contractor or whether Contractor is joined in any such action or actions or not.

NOW THEREFORE, the condition of this obligation is such that if said Principal shall faithfully perform all the promises of the Principal, as set forth and provided in the Contract, in the Contract Documents, and in this Bond, then this obligation shall be null and void, otherwise it shall remain in full force and effect.

When a word, term, or phrase is used in this Bond, it shall be interpreted or construed first as defined in this Bond, the Contract, or the Contract Documents; second, if not defined in the Bond, Contract, or Contract Documents, it shall be interpreted or construed as defined in applicable provisions of the Iowa Code; third, if not defined in the Iowa Code, it shall be interpreted or construed according to its generally accepted meaning in the construction industry; and fourth, if it

has no generally accepted meaning in the construction industry, it shall be interpreted or construed according to its common or customary usage.

Failure to specify or particularize shall not exclude terms or provisions not mentioned and shall not limit liability hereunder. The Contract and Contract Documents are hereby made a part of this Bond.

Witness our hands, in triplicate, this _____ day of _____, _____.

Surety Countersigned By:

PRINCIPAL:

Signature of Iowa Resident Commission Agent as Prescribed by Chapter 515.52-57, Iowa Code. (Require only if Attorney-in-Fact is not also an Iowa Resident Commission Agent).

Contractor

By: _____
Signature

Name of Resident Commission Agent

Title

Company Name

SURETY:

Company Address

Surety Company

City, State, Zip Code

By: _____
Signature Attorney-in-Fact Officer

Company Telephone Number

Name of Attorney-in-Fact Officer

FORM APPROVED BY:

Attorney for Jurisdiction

Company Name

Company Address

City, State, Zip Code

Company Telephone Number

- NOTE:**
1. All signatures on this performance, maintenance & payment bond must be original signatures in ink; copies or facsimile of any signature will not be accepted.
 2. This bond must be sealed with the Surety's raised, embossing seal.
 3. The Certificate or Power of Attorney accompanying this bond must be valid on its face and sealed with the Surety's raised, embossing seal.
 4. The name and signature of the Surety's Attorney-in-Fact/Officer entered on this bond must be exactly as listed on the Certificate or Power of Attorney accompanying this bond.

SUPPLEMENTARY CONDITIONS

Supplementary Conditions

These Supplementary Conditions amend or supplement the Division 1 - General Provisions and Covenants of the SUDAS Standard Specifications and other provisions of the Contract Documents as indicated below. All provisions which are not so amended or supplemented remain in full force and effect.

The terms used in these Supplementary Conditions will have the meanings indicated in the General Provisions and Covenants. Additional terms used in the Supplementary Conditions have the meanings indicated below, which are applicable to both the singular and plural thereof.

SECTION 1010 - DEFINITIONS

Section 1.03 Definitions and Terms.

The term "Jurisdiction" as it is used throughout the contract documents shall mean "The Oskaloosa Municipal Water Department". The term "Jurisdiction's Engineer" shall mean "Garden & Associates, Ltd. of Oskaloosa, Iowa".

SECTION 1020 – PROPOSAL REQUIREMENTS AND CONDITIONS

Add the following new paragraph immediately after paragraph 1.04 E:

“F. No drawings or physical testing of conditions in or relating to existing surface or subsurface structures or conditions have been utilized by the ENGINEER in the preparation of the Drawings and Specifications. It is the CONTRACTOR's responsibility to become familiar with and satisfied as to local and site conditions that may affect cost, progress, performance and finishing of the work.”

Section 1020 - 1.08 B Alternate Sales and Use Tax (Optional Special Exemption Certificate) shall apply to this project. The Jurisdiction will issue sales tax exemption certificates to contractors and subcontractors, allowing them to purchase, or withdraw from inventory, materials for the contract free from sales tax pursuant to Iowa Code Sections 423.2 and 423.45.

NOTICE TO PROCEED

Dated: _____

TO: _____
(Contractor)

ADDRESS: _____

PROJECT: _____

JURISDICTION's CONTRACT NO. _____

CONTRACT FOR _____

You are notified that the Contract Times under the above contract will commence to run on _____, 20____.
By that date, you are to start performing your obligations under the Contract Documents. In accordance with the contract, the work will be fully completed and ready for final payment on or before _____, _____.

Before you may start any Work at the site, the General Provisions and Covenants provides that you deliver (with copies to ENGINEER and other identified additional insured) certificates of insurance which you are required to purchase and maintain in accordance with the Contract Documents.

Also, before you may start any Work at the site, you must

(Jurisdiction)

By: _____
(Authorized Signature)

(Title)

APPLICATION FOR PAYMENT NO. _____

To: _____ (JURISDICTION)

From: _____ (CONTRACTOR)

Contract: _____

Project: _____

JURISDICTION's Contract No.: _____ ENGINEER's Project No.: _____

For Work Accomplished Through the Date of: _____

-
1. Original Contract Price: _____
 2. Net Change by Change Orders and Written Amendments (+ or -): _____
 3. Current Contract Price (1 plus 2): _____
 4. Total Completed and Stored to Date: _____
 5. Retainage (Per Agreement):
 - 5% of Completed Work: _____
 - 0% of Stored Material: _____
 - Total Retainage: _____
 6. Total Completed and Stored to Date Less Retainage (4 minus 5): _____
 7. Less Previous Application for Payments: _____
 8. **DUE THIS APPLICATION (6 MINUS 7)** _____

Accompanying Documentation:

CONTRACTOR'S Certification:

The undersigned CONTRACTOR certifies that (1) all previous progress payments received from JURISDICTION on account of Work done under the Contract referred to above have been applied on account to discharge CONTRACTOR's legitimate obligations incurred in connection with Work covered by prior Applications for Payment numbered -- through -- inclusive; (2) title of all Work, materials and equipment incorporated in said Work or otherwise listed in or covered by this Application of Payment will pass to JURISDICTION at time of payment free and clear of all Liens, security interests and encumbrances (except such as are covered by a Bond acceptable to JURISDICTION indemnifying JURISDICTION against any such Lien, security interest or encumbrance); and (3) all Work covered by this Application for Payment is in accordance with the Contract Documents and not defective.

Payment of the above AMOUNT DUE THIS APPLICATION is **requested**.

Dated: _____
By: _____ (CONTRACTOR)

Payment of the above AMOUNT DUE THIS APPLICATION is **recommended**.

Dated: _____
By: _____ (ENGINEER)

Payment of the above AMOUNT DUE THIS APPLICATION is **approved**.

Dated: _____
By: _____ (JURISDICTION)

ATTACHMENT NO. 1 TO PAY ESTIMATE NO. _____

Application No. _____

Date: _____

No.	Item	CONTRACTOR'S Schedule of Values			Work Completed		Total
		Unit Price	Quantity	Amount	Quantity Completed	Amount	
1.							
2.							
3.							
4.							
5.							
6.							
7.							
8.							
9.							
10.							
11.							
12.							
13.							
14.							
15.							
16.							
17.							
18.							
19.							
20.							
21.							
22.							
23.							
24.							
25.							
26.							
27.							
28.							
29.							
30.							
TOTALS							

Note: Total Schedule of Values Amount should equal the current Contract Price.

CHANGE ORDER

No. _____

DATE OF ISSUANCE _____ EFFECTIVE DATE _____

JURISDICTION _____

CONTRACTOR _____

Contract: _____

Project: _____

JURISDICTION's Contract No. _____ ENGINEER's Contract No. _____

ENGINEER _____

You are directed to make the following changes in the Contract Documents:

Description:

Reason for Change Order:

Attachments: (List documents supporting change)

CHANGE IN CONTRACT PRICE:
Original Contract Price: \$ _____
Net Increase (Decrease) from previous Change Orders No. ____ to ____: \$ _____
Contract Price prior to this Change Order: \$ _____
Net Increase (Decrease) of this Change Order: \$ _____
Contract Price with all approved Change Orders: \$ _____

CHANGE IN CONTRACT TIMES:
Original Contract Times: Substantial Completion: _____ Ready for final payment: _____ (days or dates)
Net change from previous Change Orders No. ____ to No. ____: Substantial Completion: _____ Ready for final payment: _____ (days)
Contract Times prior to this Change Order: Substantial Completion: _____ Ready for final payment: _____ (days or dates)
Net Increase (Decrease) this Change Order: Substantial Completion: _____ Ready for final payment: _____ (days)
Contract Times with all approved Change Orders: Substantial Completion: _____ Ready for final payment: _____ (days or dates)

RECOMMENDED:

APPROVED:

ACCEPTED:

By: _____
ENGINEER(Authorized Signature)

By: _____
JURISDICTION(Authorized Signature)

By: _____
CONTRACTOR(Authorized Signature)

Date: _____

Date: _____

Date: _____

EJCDC 1910-8-B (1996 Edition)

Prepared by the Engineers Joint Contract Documents Committee and endorsed by The Associated General Contractor of America and the Construction Specifications Institute.

CERTIFICATE OF SUBSTANTIAL COMPLETION

DATE OF ISSUANCE _____

OWNER _____

CONTRACTOR _____

Contract: _____

Project: _____

OWNER's Contract No. _____

ENGINEER's Project No. _____

This Certificate of Substantial Completion applies to all Work under the Contract Documents or to the following specified parts thereof:

To _____

OWNER

And To _____

CONTRACTOR

The Work to which this Certificate applies has been inspected by authorized representatives of OWNER, CONTRACTOR and ENGINEER, and that Work is hereby declared to be substantially complete in accordance with the Contract Documents on

DATE OF SUBSTANTIAL COMPLETION

A tentative list of items to be completed or corrected is attached hereto. This list may not be all-inclusive, and the failure to include an item in it does not alter the responsibility of CONTRACTOR to complete all the Work in accordance with the Contract Documents. The items in the tentative list shall be completed or corrected by CONTRACTOR within _____ days of the above date of Substantial Completion.

The responsibilities between OWNER and CONTRACTOR for security, operation, safety, maintenance, heat, utilities, insurance and warranties and guarantees shall be as follows:

OWNER: _____

CONTRACTOR: _____

The following documents are attached to and made a part of this Certificate:

[For items to be attached see definition of Substantial Completion as supplemented and other specifically noted conditions precedent to achieving Substantial Completion as required by Contract Documents.]

This certificate does not constitute an acceptance of Work not in accordance with the Contract Documents nor is it a release of CONTRACTOR's obligation to complete the Work in accordance with the Contract Documents.

Executed by ENGINEER on _____
Date

ENGINEER

By: _____
(Authorized Signature)

CONTRACTOR accepts this Certificate of Substantial Completion on _____
Date

CONTRACTOR

By: _____
(Authorized Signature)

OWNER accepts this Certificate of Substantial Completion on _____
Date

OWNER

By: _____
(Authorized Signature)

WAIVER AND RELEASE OF LIEN

WHEREAS, the undersigned, _____
Name of Manufacturer, Materialman, or Subcontractor

has furnished to _____ the following:
Name of Contractor

_____ for use in the construction
Kind of Material and Services Furnished

of a project belonging to _____, and
designated as, _____.
Name of Project

NOW, THEREFORE, the undersigned, _____,
Name of Manufacturer, Materialman, or Subcontractor

for and in consideration of \$ _____, and other good and valuable consideration,
the receipt whereof is hereby acknowledged, do(es) hereby waive and release any and all liens,
or right to or claim of lien, on the above described project and premises, under any law, common
or statutory, on account of labor or materials, or both, hereto or hereafter furnished by the
undersigned to or for the account of said _____ for said project.
Name of Contractor

Given under my (our) hand(s) and seal(s) this _____ day of _____, 20____.

Name of Manufacturer, Materialman, or Subcontractor

By: _____

President, Vice-President, Partner, or Owner, or, if signed by other than one of the foregoing, accompanied by
Power of Attorney signed by one of the foregoing in favor of the signer. (Use designation applicable)

DETAILED SPECIFICATION REQUIREMENTS

DETAILED SPECIFICATION REQUIREMENTS

Index

Part 1 General

- 1.01 Section Includes
- 1.02 Modifications and/or Addenda
- 1.03 Water Main Materials
- 1.04 Traffic Control
- 1.05 Connection to Existing Water Main
- 1.06 Remove Existing Hydrant and Valve Assembly
- 1.07 Owner Furnished Materials

Part 1 General

1.01 Section Includes

- A. Modifications and/or addenda to the SUDAS Standard Specifications and OMWD Standards.
- B. Project specific materials and products to be incorporated into the work.
- C. Project specific special construction procedures or requirements applicable to the work.
- D. Additional payment items not set forth in the specific Section of the specifications for which the work pertains.

1.02 Modifications and/or Addenda

- A. On Page 4 of Section 1080 – PROSECUTION AND PROGRESS, delete subparagraph 1.06 B. 2. in its entirety and substitute the following:
 - “2. After Commencement of Work: One full working day will be charged for any weekday, exclusive of Saturdays, Sundays, or a recognized legal holiday, when weather or other conditions (not under control of the Contractor) will permit construction operations to proceed for not less than 3/4 of a normal workday in the performance of a controlling item of work as determined by the Engineer. If such conditions allow operations to proceed for at least 1/2 but less than 3/4 of the normal working hours, one-half working day will be charged.

Working days will not be charged for Saturdays (unless a mandatory six-day work week is specified in the contract documents), Sundays, and recognized legal holidays the Contractor does not work. Working days will be charged for Saturdays, Sundays, and recognized legal holidays the contractor does work. It is the intent of the contract documents to charge working days for any day the Contractor works. A mandatory six-day work week is not required.”

- B. On page 2 of Section 5010, delete paragraph “C. Fittings” in its entirety. Separate payment for water main fittings will not be made. Cost for water main fittings shall be included in unit price for water main and considered incidental to construction.
- C. On Page 1 of Section 5020 under paragraph 1.08 A. Valve (Butterfly or Gate), delete subparagraph 3 in its entirety and substitute the following:
 - “3. Includes: Unit price includes all equipment, materials and labor to install valve furnished by the Oskaloosa Municipal Water Department (OMWD) including excavation, installation, and backfill. Contractor shall be required to furnish all fittings including valve box and cover, valve box and stem extensions if necessary, T-bolts, gland units, tracer wire, and miscellaneous associated materials for complete installation. OMWD will deliver the valves to the job site”.
- D. On Page 2 of Section 5020 under paragraph 1.08 C. Fire Hydrant Assembly, delete subparagraph 3 in its entirety and substitute the following:
 - “3. Includes: Unit price includes all equipment, materials and labor to install hydrant and gate valve assembly furnished by the Oskaloosa Municipal Water Department (OMWD) including excavation, installation, and backfill. Contractor shall be required to furnish all fittings including anchor tee, anchor pipe, thrust block, valve box and cover, valve box and stem extensions if necessary, T-bolts, gland units, tracer wire, tracer wire terminal box and splice kits, and miscellaneous associated materials for complete installation. OMWD will deliver hydrants and valves to the job site”.
- E. OMWD Standards – Division 3 – Water Main and Appurtenances
 - 1. On page 2 under subheading 2.1 Water Main, delete subparagraph 7 under paragraph A and substitute the following:
 - “7. Bolts: Bolts and studs shall be 304 Stainless Steel.”
 - a. Apply “Never Sieze” to bolts.
 - 2. On page 3 under subheading 2.4 Tracer Wire and Appurtenances, add the following under subparagraph A:
 - “1. For directional drilled water main, high tensile strength wire required.
 - 3. On page 3 under subheading 2.4 Tracer Wire and Appurtenances, delete paragraph C and substitute the following:
 - “C. Splice Kit: Dryconn Waterproof Connector 90220 or equal.”
 - 4. On page 4 under subheading 2.10 Retainer Glands, delete all references to EBAA Iron, Inc. and Megalug and substitute “Romac Industries, Inc. Grip Ring Pipe Restrainer with stainless steel T-bolts and nuts.”
 - 5. On page 5 under subheading 2.12 Water Services, delete paragraph C and substitute the following:
 - “C. Service Saddles: Brass service saddle; Ford 202BS or equal.”

1.03 Water Main Materials

- A. All water main materials incorporated into the project shall meet the requirements of Division 3 – Water Main and Appurtenances of the Standard Specifications for Water Main Construction, Oskaloosa Municipal Water Department (see Appendix A contained herein) in lieu of those specified in SUDAS Standard Specification Sections 5010 and 5020.
- B. Water main pipe material shall be Polyvinyl Chloride Pipe, PVC.
- C. Water service pipe material shall be Copper, CU.

1.04 Traffic Control

- A. Provide traffic control in accordance with the plans and specifications including furnishing, installing, maintaining and removing signs, barricades, lights, flaggers and other traffic control devices as required.
- B. Measurement and Payment:
 - 1. Traffic Control will be paid for at the contract lump sum price bid. The lump sum bid price shall be full compensation for the work required.

1.05 Connection to Existing Water Main

- A. General:
 - 1. Furnish and install all labor, equipment, and materials to connect new water main to the existing system as shown on plans.
- B. Measurement and Payment:
 - 1. Connections to Existing Water Main will be paid for at the contract lump sum price bid. Lump sum price includes excavation, removal of existing pipe, all fittings required (excluding valves), thrust blocks, backfill, and miscellaneous associated work. Lump sum price bid shall be full compensation for all work and material required excluding valves and straight pipe.
- C. Products:
 - 1. Furnish products in accordance with the Standard Specification for Water Main Construction, Oskaloosa Municipal Water Department.
- D. Execution:
 - 1. Install pipe, fittings and valves as required to make connections to the existing water main system as shown on plans and in accordance with Sections 5010 and 5020 of the specifications.
 - 2. Construct trench and place backfill material in accordance with Section 3010 of the specifications.

1.06 Remove Existing Hydrant and Valve Assembly

- A. General:
 - 1. Remove existing fire hydrant and valve assembly where shown on plans.
- B. Measurement and Payment:
 - 1. Each fire hydrant and valve assembly removed will be counted.
 - 2. Payment will be made at the unit price for each fire hydrant and valve assembly removed.
 - 3. Unit price includes, but is not limited to, excavation, removal of fire hydrant, valve and connecting pipe, capping or plugging the water main pipe, thrust blocks, backfill and miscellaneous associated work.
- C. Products:
 - 1. All products shall meet the requirements of the Standard Specifications for Water Main Construction, Oskaloosa Municipal Water Department.
- D. Execution:
 - 1. Excavate and remove existing fire hydrant and valve assembly. Cap and provide thrust block for water mains to remain in service. Plug water mains that are to be abandoned with concrete.

2. Construct trench and place backfill material in accordance with Section 3010 of the specifications.

1.07 Owner Furnished Materials

- A. Owner will furnish the following listed materials for installation by Contractor.
 1. Gate Valves: Clow Valve Co. R/W. (Valve boxes by Contractor)
 2. Hydrants and auxiliary valves.
 3. Meter pits.
- B. T-bolts and gland units shall be supplied by Contractor for each valve and hydrant.
- C. Owner shall deliver materials to Contractor to job storage area; upon acceptance by Contractor, materials shall be responsibility of Contractor.

APPENDIX A

Division 3 – Water Main and Appurtenances

Standard Specifications for Water Main Construction Oskaloosa Municipal Water Department

DIVISION 3
WATER MAIN AND APPURTENANCES

Part 1 General

1.1 Section Includes

- A. Water main and appurtenances.
- B. Water services and appurtenances.
- C. Installation of water main and appurtenances and services.
- D. Disinfection and testing.

1.2 Submittals

- A. Submit the following to the Superintendent prior to beginning the work:
 - 1. Pipe material, wall thickness, class, type and/or schedule number.
 - 2. Certification that pipe material conforms to applicable specifications.
 - 3. Catalog data for valves, hydrants and other appurtenances showing compliance with specifications.
- B. Submit the following to Superintendent before placing work in operation:
 - 1. Results of pressure tests and leakage tests showing compliance with specifications.
 - 2. Results of bacteriologic tests showing compliance with specifications.

1.3 Related Work

- A. Section 1 - General Requirements.
- B. Section 2 - Excavation and Backfill.

1.4 Quality Assurance

- A. Furnish new pipe, valves, hydrants and appurtenances meeting AWWA requirements and as specified herein.
- B. Install pipe, valves, hydrants and appurtenances in accordance with AWWA requirements and as specified herein.
- C. Test and disinfect work in accordance with AWWA requirements and as specified herein.
- D. Comply with "Chapter 8 - Iowa Standards for Water Supply Distribution System" of Iowa Water Supply Facilities Standards.

1.5 References

- A. Pipe and Fittings:
 - 1. AWWA C104 - American National Standard for Cement-Mortar Lining for Ductile Iron Pipe and Fittings for Water.
 - 2. AWWA C105 American National Standard for Polyethylene Encasement for Ductile-Iron Pipe Systems.
 - 3. AWWA C110 American National Standard for Ductile-Iron and Gray-Iron Fittings, 2 In. through 48 In. (75 mm through 1200 mm), for Water and other Liquids.
 - 4. AWWA C111 American National Standard for Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and fittings.
 - 5. AWWA C150 American National Standard for the Thickness Design of Ductile-Iron Pipe.
 - 6. AWWA C153 American National Standard for Ductile-Iron Compact Fittings, 3 In. through 24 In. (76 mm through 610 mm) and 54 In. through 64 In. (1,400 mm through 1,600 mm) for Water Service.
 - 7. AWWA C901 Standard for Polyethylene (PE) Pressure Pipe and Tubing, 1/2 In. through 3 In. for Water Service.

- B. Valves and Hydrants:
 1. AWWA C502 Standard for Dry-Barrel Fire Hydrants (includes Addendum C502a-95).
 2. AWWA C509 Standard for Resilient-Seated Gate Valves for Water Supply Service (Includes addendum C509a-95).
- C. Pipe Installation:
 1. AWWA C600 Standard for Installation of Ductile-Iron Water Mains and their Appurtenances.
 2. AWWA C605 Standard for Underground Installation of Polyvinyl Chloride (PVC) Pressure Pipe and Fittings for Water.
- D. Disinfection of Facilities:
 1. AWWA C651 Standard for Disinfecting Water Mains.
- E. Service Lines:
 1. AWWA C800 Standard for Underground Service Line Valves and Fittings.
 2. AWWA C901 Standard for Polyethylene (PE) Pressure Pipe and Tubing, 1/2 In. through 3 In. for Water Service.

Part 2 Products

2.1 Water Main

- A. Ductile Iron Pipe, DIP: Ductile Iron Pipe with mechanical or push-on joints manufactured in accordance with AWWA C151 and manufactured in the U.S.A.
 1. Minimum Pressure Class: 350 psi in accordance with AWWA C150 for pipes 12" diameter or less; for pipe diameters larger than 12" and special laying conditions, selected pipe thickness in accordance with AWWA C150 for laying condition and depth of cover.
 2. Joints: Push-on or mechanical joints manufactured in accordance with AWWA C111.
 3. Fittings:
 - a. Ductile iron mechanical joint fittings manufactured in accordance with AWWA C110 or AWWA C153 and manufactured in the U.S.A.
 - b. Push-on mechanical joint fitting.
 4. Pipe and Fitting Lining: Cement lined in accordance with AWWA C104.
 5. Pipe and Fitting Exterior Coating: Asphaltic coating in accordance with AWWA C151.
 6. Pipe and Fitting Markings: Mark pipe in accordance with AWWA C151 and fittings in accordance with AWWA C110 or AWWA C153.
 7. Bolts: Bolts and studs of high strength steel with hexagon nuts and coated with corrosion resistant coating; COR-TEN or 304 Stainless Steel.
 - a. Spray all COR-TEN T-Bolts with rust proof coating.
- B. Restrained Joint Ductile Iron Pipe, RJ-DIP: Ductile Iron Pipe as specified herewith restrained push-on or mechanical joints; Clow Push-on Restrained Joint Pipe, Griffin Snap-Lok or Bolt-Lok, or equal.
- C. Polyvinyl Chloride Pipe, PVC: Polyvinyl Chloride pressure pipe and couplings with cast iron equivalent outside dimensions and manufactured in accordance with AWWA C900; Minimum pressure class: 150 psi; maximum DR: 18.
 1. Joints: Push-on joints with elastomeric gaskets manufactured in accordance with AWWA C900.
 2. Fittings: Ductile iron fittings and bolts as specified under Ductile Iron Pipe.
- D. Restrained Joint Polyvinyl Chlorine Pipe, RJ-PVC: AWWA C900 PVC Pipe with restrained joints, Certa-Lok C9001RJ, Certainteed or equal.
 1. Mechanical Joint Adapters: Restrained joint mechanical joint adapter designed for use with ductile iron mechanical joint fittings or pipe, Certa-Lok C9001RJ Gland Adapters or equal.
 2. Materials:
 - a. Gland: Ductile Iron A 536 Grade 70-50-05 or 60-42-10.
 - b. Spline: High strength polyamide thermoplastic.
 - c. Gaskets: Vulcanized SBR in accordance with AWWA C111.
 - d. Tee Bolts: As specified for Ductile Iron Pipe.

2.2 Polyethylene Pipe Encasement

- A. Polyethylene encasement tubing and sheeting meeting requirements of AWWA C105.
- B. Tube size or sheet width: As listed in AWWA C105.
- C. Tape: 2" wide, 10 mil thick pressure-sensitive polyethylene tape.

2.3 Thrust Blocks

- A. 3,000 psi cast-in-place concrete meeting requirements of IDOT Class C4 mix concrete.

2.4 Tracer Wire and Appurtenances

- A. Wire: No. 12 continuous solid copper wire, Type TW or THHN.
- B. Ground Rod: 60" by 3/4" copper ground rods with clamps designed to connect tracer wire to rod.
- C. Splice Kit: 3M 3832 or equal.
- D. Terminal Box: Neptune ARB receptacle or equal.

2.5 Couplings

- A. Bolted, straight and transition couplings, Smith-Blair 442 Stainless Steel.
 - 1. Sleeve: Ductile Iron ASTM A-536.
 - 2. Gaskets: Grade 30 compounded rubber of new materials.
 - 3. Follower Flanges: Ductile Iron ASTM A-536.
 - 4. Bolts and Nuts: 304 stainless steel.
 - 5. Coating: Shopcoat enamel.
- B. Alternate Coupling: Hymax 2000, as manufactured by Total Piping Solutions, Inc.:
 - 1. Sleeve: Carbon Steel NSF-61.
 - 2. Gasket: 2-layered EPDM Gasket.
 - 3. Bolts and Nuts: 304 stainless steel with coated nuts.
 - 4. Coating: Fusion-bonded epoxy.
- C. Alternate Coupling & Romac Macro.
 - 1. Sleeve: Ductile Iron.
 - 2. Gasket: 2-layered Nitrile Butadiene Rubber (NBR)
 - 3. Bolts & Nuts: 304 Stainless Steel.
 - 4. Coating: Fusion-bonded epoxy.

2.6 Gate Valves

- A. Resilient seated valve manufactured in accordance with AWWA C509; Clow Valve Co. R/W, Figure 6100; working pressure: 200 psi.
 - 1. 2" operating wrench nut.
 - 2. Open counter clockwise.
 - 3. Non-rising stem.
- B. Joints: Mechanical joints with 304 stainless steel bolts.
- C. Materials of construction:
 - 1. Body and Bonnet: Cast iron, ASTM A126 Class B.
 - 2. Wedge: Cast iron, ASTM A2126 Class B and completely encapsulated with urethane rubber.
 - a. Permanently bond urethane sealing rubber to wedge to meet ASTM tests for rubber metal bond.
 - 3. Stem: Cast bronze, ASTM B584 CDA68, with integral collars and cast bronze stem nut, ASTM B584 CDA844.
 - 4. O-rings: Buna-N.
 - 5. Exposed Hex Bolts: 304 stainless steel.
- D. Coating: Coat interior and exterior of valve with fusion bonded epoxy meeting requirements of AWWA C-550.
- E. Valve Box: Fit each valve with valve box as specified herein.

2.7 Valve Boxes

- A. Heavy duty cast iron valve box, screw type, Tyler Pipe Two Piece 6850 Series, or equal.
- B. Complete unit consisting of bottom, adjustable top stem and drop cover; mark drop cover with "Water".
 - 1. Provide extension pieces as required for complete installation.

2.8 Hydrants

- A. Dry barrel type fire hydrant manufactured in accordance with AWWA C502; Clow Valve Co. F-2545 Medallion Hydrant Assembly with 5 1/4" main valve and 6" inlet.
 - 1. Provide with two 2-1/2" NST hose nozzles and one 4-1/2" NST pumper nozzle with Type G nozzle caps.
 - 2. Type G, 7/8" square operating nut with weather cap; open counter clockwise (left).
 - 3. Bronze main valve seat ring.

 - 4. Stainless steel, 18-8 bolts.
 - 5. Mechanical joint bolts and nuts: 18-8 stainless steel.
- B. Factory apply interior, exterior and above ground coatings in accordance with AWWA C502; exterior, above ground: factory primed.
- C. Auxiliary Valve: Resilient seated valve manufactured in accordance with AWWA C509 as specified herein.
- D. Auxiliary Valve Box: Heavy cast iron valve box as specified herein.
- E. Anchoring Fittings: Anchoring fittings designed to provide positive joint restraint from hydrants to main connection, Clow Valve Co., Tyler Pipe or equal.
 - 1. Coupling: Mechanical joint anchoring coupling with integrally cast gland and rotating ring gland.
 - 2. Anchoring Pipe: Fit with rotating ring gland at one end and solid (non-rotating) gland on other end.
 - 3. Bolts and Nuts: Corrosion resistant bolts and nuts as specified Ductile Iron Pipe.
 - 4. Lining and Coatings: Cement line and coat exterior as specified for Ductile Iron Pipe.

2.9 Tapping Valve and Sleeve

- A. Sleeve: Stainless steel tapping sleeve, Ford Style FAST, or equal.
 - 1. 18-8 stainless steel body, bolts, nuts, lifter bar, armors, and outlet: carbon steel outlet flange conforming to AWWA C207 Class ASI 150 lb. drilling.
 - 2. GRP compound gasket designed to give 360° pipe coverage.
 - 3. Buna-N outlet gasket.
 - 4. Minimum pressure rating: 150 psi.
- B. Valve: Resilient seated valve manufactured in accordance with AWWA C509 as specified above with flanged and mechanical joints and designed for tapping, Clow Valve Co. F-6114.
- C. Valve Box: Heavy cast iron valve box as specified herein.

2.10 Retainer Glands

- A. Ductile Iron Pipe: Ductile iron glands designed with restraining mechanism which increases resistance as pressure increases; EBAA Iron, Inc., Megalug Series 1100 or equal.
 - 1. Gland: ASTM A536.
 - 2. Restraining Device: Ductile iron heat treated to minimum hardness of 370 BHN.
 - 3. Dimensions: Dimension for use with standardized mechanical joint bell.
 - 4. Minimum Working Pressure: 250 psi with 2:1 factor of safety.
- B. PVC Pipe: Ductile iron restraining gland as specified except restraining system designed specially for AWWA C900 PVC Pipe, EBAA Iron, Inc., Series 2000 PV Megalug or equal.
 - 1. Restraining Device: Plurality of individual activated gripping surfaces designed to maximize restraint capability and not damage pipe.
 - 2. Minimum Pressure Rating: Standardized rating of PVC Pipe on which it is used.

2.11 Casing Pipe and Accessories

- A. Casing Pipe: New, smooth wall steel pipe manufactured in accordance with ASTM A53; minimum yield strength of steel: 35,000 psi.
 - 1. Minimum wall thickness: 3/8".
 - 2. Coat inside and outside with asphaltic varnish.
 - 3. Welded joints in accordance AWS.
- B. Chocks: Center restrained type casing chocks made in two sections with elastomeric liner to isolate shell from carrier pipe and low friction runners, PowerSeal Model 4810 or equal.
 - 1. Metal Components: Type 304 (18-8) stainless steel.
 - 2. Liner: Neoprene rubber with antioxidant and antiozonant properties.
 - 3. Runners: UHMW Polyethylene, or equal, with high abrasion resistance and low friction coefficient.
- C. Wood Runners: Hardwood runners banded or strapped to carrier pipe with stainless steel banding; wire or galvanized steel bands not acceptable.
- D. Casing Seals: Modular, mechanical type seals of interlocking synthetic rubbers shaped to continuously fill annular space between casing and carrier pipe to provide watertight closure; provide complete with bolts designed to cause sealing elements to expand; Link-Seal Model PL, Thunderline Corporation or equal.

2.12 Water Services

- A. Pipe services through 2" in diameter. Minimum allowable size 1" diameter.
 - 1. Copper, CU: Type K copper conforming to ASTM B88 and AWWA C800.
 - 2. Polyethylene, PE: O.D. based, iron pipe size polyethylene pipe and fittings manufactured in accordance with AWWA C901 for PE 3408 materials; minimum pressure class: 200 psi.
- B. Corporation Stops: Through 2" Service:
 - 1. Copper Pipe: Ford Corporation Stops F1000 with AWWA/CC taper thread inlet by pack joint outlet for copper or F600 AWWA ICC taper thread inlet by flared copper outlet, or equal.
 - 2. Polyethylene Pipe: Ford F1001 Corporation Stops with AWWA/CC taper thread inlet by pack joint outlet for PE Pipe, or equal.
 - a. Install stainless steel inserts, Ford 70 series for PE Pipe, or equal.
- C. Service Saddles: Nylon coated, ductile iron, double strap stainless steel service saddles; Smith-Blair 317, or equal.
- D. Curb Stops: Through 2" services manufactured to meet AWWA C800 requirements.
 - 1. Copper Pipe: Ford Ball Valves B22 series with flared copper both ends or Ford B44 series with pack joint for copper, or equal.
 - 2. Polyethylene, PE Pipe: Ford Ball Valves, B66 series with pack joint for PE Pipe, or equal.
 - a. Install stainless steel inserts at each pack joint, Ford 70 series, or equal.
- E. Curb Boxes: Ford Arch Pattern Curb Boxes, or equal, with curb box base sized for curb stop installed.
 - 1. Upper Section Diameter: 1-1/4" diameter.
 - 2. Lid: 2 hole, Erie pattern.
 - 3. Stationary Rod: 304 stainless steel.
- F. Couplings
 - 1. Copper Pipe, CU: Ford C22 series flare copper to flare copper, or equal. Ford C24 Series for pack joint both ends.
 - 2. Polyethylene Pipe: Ford Series C66 pack joint both ends for PE Pipe or equal with Ford 70 stainless steel inserts at each pack joint.
 - 3. PE Pipe to CU Pipe: Ford C26 Series flare copper to PE Pipe or equal with Ford Series 70 stainless steel insert at pack joint.
- G. Service pipe and accessories for services larger than 2": Pipe and accessories as approved by Superintendent.

Part 3 - Execution

3.1 General Installation

- A. Protect pipe joints, valves, hydrants and appurtenances from damage and free of foreign material while handling and storing.
- B. Check pipe for defects prior to lowering in trench; use no deformed, defective, gouged, or otherwise impaired pipe joints or damaged pipe.
- C. Before laying pipe or installing appurtenances, verify all measurements at site and make necessary field measurements to accurately determine required pipe length.
- D. Clean pipe interior of foreign material before lowering into trench; keep clean at all times by securely closing open ends of pipe and fittings.
- E. Install watertight bulkheads on exposed ends of pipe when pipe installation not in progress.
- F. Place in trench in sound, undamaged conditions; do not injure pipe coating or lining; use webbed sling to install or move pipe; do not use end hooks.
- G. Deflect pipe joints in accordance with manufacturer's recommendations; use suitable fittings where grade and alignment requires offsets of more than 1/2" per foot.
- H. Install pipe and appurtenances as shown on Standard Drawings.

3.2 Minimum Depth of Cover

- A. Standard Depth of Cover: Bury pipe and appurtenances with minimum 5 feet of cover from top of pipe to finish grade or bottom of street surfacing unless otherwise directed by Superintendent.
- B. Service Lines Below Street Surfacing: Bury pipe and appurtenances with minimum 4-1/2 feet of cover from top of pipe to bottom of street surfacing unless otherwise directed by Superintendent.

3.3 Ductile Iron Pipe Installation

- A. Install and join pipe in accordance with AWWA C600 and as specified.
- B. Cut pipe in neat and workmanlike manner without damage to pipe coating or lining.
 - 1. Grind smooth cut ends and rough edges.
 - 2. For push-on joints, bevel cut ends as recommended by manufacturer.
 - 3. Completely coat damaged ends of cuts with bituminous sealer recommended by manufacturer.
- C. Joining-Mechanical Joint Pipe:
 - 1. Thoroughly clean last 8" outside of the spigot and inside of bell to remove oil, grit, excess coating and other foreign matter.
 - 2. Soap end of pipe and slip gland on the spigot end of pipe with lip extension of gland towards socket, or bell end.
 - 3. Paint rubber gasket with soap solution or approved lubricant and place on the spigot with thick edge toward gland.
 - 4. Push entire section of pipe forward to seal the spigot in bell; press gasket in place.
 - 5. Bolt and tighten with torque limiting wrench; torque as follows:

<u>Size, Inch</u>	<u>Torque, Ft-Lb</u>
5/8	45-60
3/4	75-90
1 ----	100-120
1 1/4	120-150

- 6. Tighten bolts alternately 180° apart to produce equal pressure on all parts of gland.
- D. Joining Push-on Joints Pipe:
 - 1. Thoroughly clean inside of bell and outside of spigot end to remove oil, grit, excess coating and other foreign material.
 - 2. Insert gasket as recommended by pipe manufacturer.
 - 3. Apply gasket lubricant as recommended by pipe manufacturer.

4. Place spigot end into socket with care to prevent joint from contacting ground; complete joint by forcing plain end to the bottom of the socket; join with forked tool or jack-type tool; do not force home with backbone.

3.4 PVC Pipe Installation

- A. Install PVC Pipe in accordance with AWWA C605 and as specified.
- B. Cut pipe in neat and workmanlike manner without damage to pipe.
 1. Cut to provide smooth end at a right angle to the longitudinal axis of the pipe.
 2. Debur and bevel spigot end of pipe to match factory bevels and re-mark with insertion line.
- C. Clean immediately before assembly; joint and spigot end shall be free of dirt, sand, grit, grease, or any foreign material.
- D. Apply manufacturer approved lubricant to joint.
- E. Joining Push-on Joints:
 1. Assemble joints under conditions that ensure clean mating and sealing surfaces.
 2. Position gasket in annular groove of bell and insert spigot end of pipe into bell.
 3. Use only gaskets supplied by pipe manufacturer.
- F. Joining Mechanical Joints: Assemble joint in accordance with the fitting manufacturer's recommendation.

3.5 Carrier Pipe Installation in Casing

- A. Install carrier pipe in casing as shown on Standard Drawing and in manner to allow removal of pipe.
 1. Use restrained joint pipe.
- B. Wood Skids: Provide minimum of 4 skids banded in place at 90° axis points along full length of pipe, excluding bell and spigot at each end of pipe; round or bevel leading edges of skids and cut notches for banding.
 1. Provide and install wood skids of sufficient thickness to prevent bell from resting on casing.
- C. Casing Chocks: Casing chocks used in lieu of wood skids.
 1. Minimum number of chocks: At both sides of each joint (1/2 to 1 foot from joint) and at the following chock spacing.

Pipe Size Inches	Max. Support Spacing, Ft.
6	6.5
8	7.5
10	8.0
12	8.0

- D. Push or pull pipe in place by hand or equipment in slow, uniform manner to prevent damage to pipe or pipe joints; if pulled in place, attach wood cross member to cable to prevent damage to end of pipe.
- E. Install casing seals after installation of carrier pipe.

3.6 Installation in Uncased Hole

- A. Install carrier pipe in uncased hole using trenchless construction techniques, and in manner to prevent damage to pipe; use restrained joint pipe.
- B. Push or pull pipe in place in slow, uniform manner; do not jerk pipe in place.
- C. If pulled in place, attach wood cross member to cable to prevent damage to end of pipe.
- D. Install to minimize number of joints in hole.
- E. If excess annular space between wall of bore hole and pipe, fill voids or space with flowable mortar.

3.7 Valve Installation

- A. Install with stems vertical and centered in box, as shown on Standard Drawing.
- B. Check all valve bolts when installed; tighten as necessary after valves are in operation and up to operating pressure.
- C. Support valves as required.
- D. Carefully tamp earth around each valve box or manhole to distance of 4 feet on all sides of box or to undisturbed trench face, if less than 4 feet; install as shown on Standard Drawing.

3.8 Hydrant Installation

- A. Install Plumb; set at elevation so that cover will not be less than for adjacent main; set grade mark on hydrant barrel at finished ground level.
- B. Set on concrete foundation and backfill with clean granular fill as shown on Standard Drawing.
- C. Carefully tamp backfill around hydrant to a distance of 4 feet on all sides of hydrant or to undisturbed trench face, if less than 4 feet.
- D. Tighten all stuffing boxes as hydrant is installed; operate hydrant in open and closed position to assure all parts are in working condition.
- E. Block hydrant in place.
- F. Install as shown on Standard Drawing.
- G. Install extension section on hydrants as required to meet finish grade.

3.9 Polyethylene Encasement Installation

- A. Protect pipe, fittings and appurtenances as directed by Superintendent.
- B. Install polyethylene encasement as specified in AWWA C105 and as specified.
- C. Pipe:
 - 1. Place tube of polyethylene encasement on pipe prior to lowering into trench.
 - 2. Pull material of length of pipe and tape tube to pipe; fold material around the adjacent spigot end and wrap with tape to hold tube in place.
 - 3. Overlap first tube with adjacent and secure with tape.
 - 4. Neatly draw excess material around pipe barrel, fold on top and tape in place.
- D. Valves, Hydrants and Fittings:
 - 1. Wrap with two layers of sheet polyethylene material and extend minimum of one (1) foot beyond the fitting joints onto adjacent pipe and fasten with tape.
 - 2. Tape as necessary to hold wrap in place.

3.10 Thrust Block Installation

- A. Provide concrete thrust blocks where piping changes direction or deadends.
- B. Carry thrust block to undisturbed edge of trench for bearing.
- C. Minimum thickness of thrust blocks: 18".
- D. Bearing Area of Thrust Blocks, SF:

Pipe Size (inches)	<u>90 Degree Bend</u>	<u>45 Degree Bend</u>	<u>Deadend</u>
4	4	2	3
6	6	3	4
8	11	6	8
10	17	9	12
12	24	13	17
14	33	18	23
16	43	23	31
18	54	29	38
20	66	36	47
24	97	52	68

- E. Refer to Standard Drawing for general arrangement of thrust blocks; place plywood between fittings and thrust block; do not plug end of fitting with concrete.

3.11 Tracer Wire Installation

- A. Install tracer wire at all locations other than public rights-of-way or where directed by Superintendent.
- B. Install as shown on Standard Drawing.
- C. Install tracer wire on all water line services.

3.12 Service Installation

- A. Install service connection for each building or residence requiring meter; minimum size: 1" diameter.
- B. Extend service pipe from corporation stop and terminate at curb stop approximately six (6) feet from property line or street side of sidewalk.
- C. Install tapping saddle for services connecting to PVC water main.

3.13 Connections to Existing System

- A. Connect to existing system with tapping valve and sleeve unless otherwise approved by Superintendent.
- B. Contractor shall furnish all labor, equipment and material to make connection; Water Department will furnish tapping machine and make tap.

3.14 Protection of Water Supplies

- A. Minimum horizontal separation of water mains from gravity sewer; 10 feet, unless:
 - 1. Bottom of the water main is at least 18" above the top of the sewer.
 - 2. Water main is placed in a separate trench or in the same trench on a bench of undisturbed earth at a minimum horizontal separation of 3 feet from the sewer.
 - 3. Should physical conditions prevent required horizontal clearance of 3 feet and the vertical separation of 18" between water mains and sewer, replace sewer with water main materials, meeting a minimum pressure rating of 150 psi.
 - a. Linear separation of at least two feet shall be provided.
- B. Minimum horizontal separation of water mains from sewer force mains: 10 feet, unless:
 - 1. Force main is constructed of water main materials meeting a minimum pressure rating of 150 psi.
 - 2. Water main is laid at least four (4) linear feet from the sewer force main.
- C. Separation of Water Main and Sewer Crossovers:
 - 1. Vertical separation of water mains crossing over any sanitary sewer should be at least 18" when measured from the bottom of the water main to the top of the sewer; if physical conditions prohibit this separation, the water main shall not be placed closer than 6" above a sewer or 18" below a sewer.
 - a. The separation distance shall be the maximum feasible in all cases.
 - 2. Where the water main crosses a sewer, one full length of water pipe shall be located so both joints are as far as possible from the sewer.
 - a. Adequately support water and sewer pipes and provide watertight joints.
 - b. Use low permeability soil for backfill material within 10 feet of the point of crossing.
- D. Should physical conditions exist such that exceptions to specifications are necessary, the design engineer must detail how the water main and sewer installation are to be engineered to provide protection equal to that provided by these specifications.
- E. Separation from Sewer Manholes:
 - 1. No water pipe shall pass through or come in contact with any part of a sewer manhole.
 - 2. A minimum horizontal separation of 3 feet shall be maintained.

3.15 Water Crossings

- A. Surface Water Crossings: Pipe for above-water crossings shall be adequately supported and anchored, protected from damage and freezing, and accessible for repair or replacement.
- B. Underwater Crossings: A minimum cover of five feet shall be provided over the pipe. When crossing water courses which are greater than 15 feet in width, the following shall be provided:
 - 1. The pipe shall be of special construction, having flexible, restrained or welded watertight joints.
 - 2. Valves shall be provided at both ends of water crossings so that the section can be isolated for testing or repair; the valves shall be easily accessible, and not subject to flooding.
 - 3. Permanent taps or other provisions to allow insertion of a small meter to determine leakage and obtain water samples shall be made on each side of the valve closest to the supply source.
 - 4. The stream bank shall be seeded, sodded or otherwise protected from erosion upon completion of the project.

3.16 Tests

- A. Test all piping after installation in accordance to AWWA C600 after backfill and thrust restraints are in place.
- B. Isolate new piping from existing system.
- C. Hydrostatic Test:
 - 1. Fill and Flush main with potable water before test to remove air; insert taps to release trapped air.
 - 2. Test at 150 psi for 2 hours; allowable pressure drop during test period: 5psi.
- D. Leakage Test:
 - 1. Conduct leakage test concurrently with pressure test; measure water loss by pumping from drum or by similar means.
 - 2. Maximum allowable leakage (L) in gallons per hour:

Ductile Iron Pipe:

$$L = \frac{SD \times P}{133,200} \times \frac{1}{2}, \text{ where}$$

S = Length of pipe tested in feet
D = Pipe nominal diameter in inches.
P = Average test pressure, psig

PVC Pipe:

$$L = \frac{ND \times P}{7,400} \times \frac{1}{2}$$

N = Number of joints in length of pipe being tested
D = Normal diameter of pipe, inches
P = Average test pressure, psig

- 3. Provide all test pumps, test plugs, pipe and gauges, and make all required piping connections.
- 4. Examine trench for leakage during test; replace all defective pipe and fittings that do not pass leakage test; repeat test until requirements have been met.
- 5. Leakage and hydrostatic tests can be conducted simultaneously.

3.17 Disinfection

- A. Arrange with Superintendent to notify customers in affected areas that service will be discontinued or water will be unpalatable during disinfection period.
- B. Disinfect by injecting a solution of calcium hypochlorite and water at slow rate to provide a minimum residual chlorine content of 10 ppm in water main after 24 hour period; allow system to stand full of solution for 24 hours; disinfect in accordance to AWWA C651, Section 5.2.

1. Placing of Calcium Hypochlorite Granules: Place granules at upstream end of first pipe upstream, upstream end of each branch main and at maximum 500 foot intervals; quantity of granules shall be as follows:

<u>Pipe Diameter, Inches</u>	<u>Granules, Ounces</u>
4	0.5
6	1.0
8	2.0
10	3.0
12	4.0

- C. Hypochlorite Tablet method may be used with approval of Superintendent and in accordance with AWWA C651, Section 5.1.

1. Place tablets to provide average free chlorine residual concentration of 25 ppm (mg/l); place tablets in each section of pipe, one tablet in each hydrant, hydrant branch and other appurtenances; minimum number of 5g tablets for each pipe section as follows:

<u>Pipe Diameter, In.</u>	<u>Length of Pipe, Ft.</u>		
	<u>13 or Less</u>	<u>18</u>	<u>20</u>
4	1	1	1
6	1	1	1
8	1	2	2
10	2	3	3
12	3	4	4

- D. Minimum free chlorine residual at pipe extremities: 10 ppm at end of test period; if requirement is not met, repeat disinfection procedure.
- E. Operate all valves and hydrants in new main to assure full disinfection; repeat test procedure if necessary.
- F. Thoroughly flush main after test until extremities indicate same chlorine residual as supply water.
 1. Dispose of heavy chlorination to protect environment, neutralize with chemicals listed in AWWA C651 if potential for environmental damage exists.

3.18 Bacteriological Tests

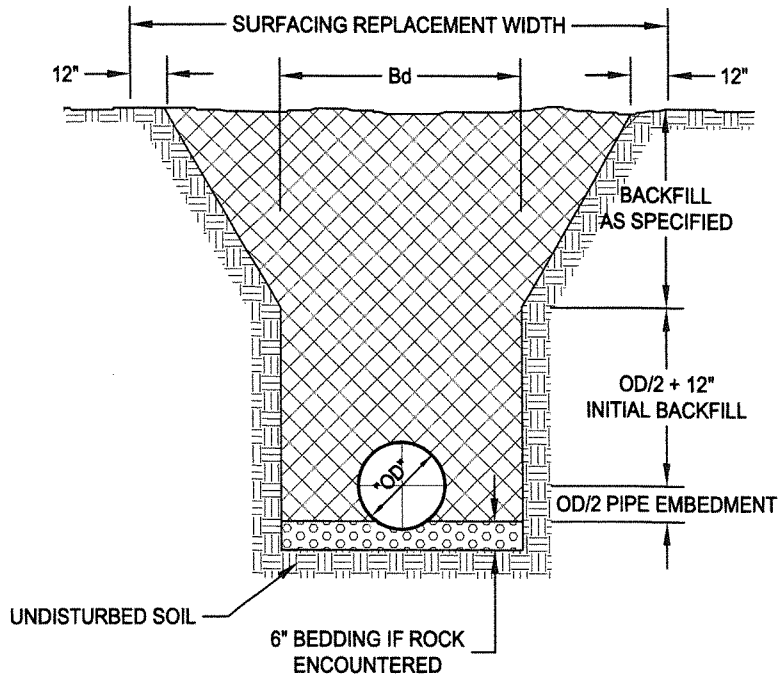
- A. Five (5) days after completion of disinfection, Superintendent will collect a bacteriological sample from section of main disinfected.
- B. Sample must test "SAFE"; if a sample tests "UNSATISFACTORY" or "UNSAFE", repeat disinfection procedure until sample tests "SAFE".
- C. Contractor provide sample containers and pay costs for testing and transportation.
- D. After final flushing and before the new water main is connected to the distribution system, two consecutive sets of acceptable samples, taken at least 24 hours apart, shall be collected from the new main. At least one set of samples shall be collected from every 1,200 ft of the new water main, plus one set from the end of the line and at least one set from each branch. All samples shall be tested for bacteriological (chemical and physical) quality in accordance with Standard Methods for the Examination of Water and Wastewater.

3.19 Lead and Steel Services

- A. Contractor shall notify Oskaloosa Municipal Water Department when existing lead or steel services are encountered.

- End of Division 3 -

STANDARD DRAWINGS

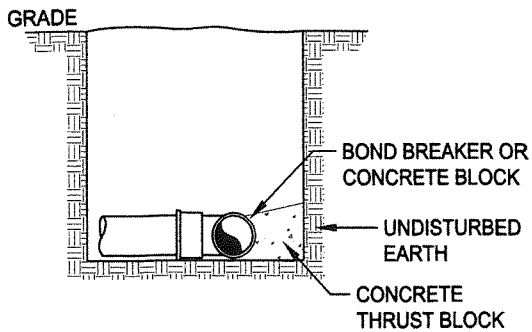


NOTES:

1. **Bd** - TRENCH WIDTH AT TOP OF PIPE:
 MINIMUM **Bd**: 18" OR $OD + 12"$, WHICHEVER IS GREATER
 MAXIMUM **Bd**: $OD + 24$ INCHES
 OD - OUTSIDE DIAMETER OF PIPE
2. PIPE EMBEDMENT = $1/2$ PIPE OD.
3. INITIAL BACKFILL = $1/2$ PIPE OD PLUS 12".
4. INITIAL BACKFILL AND FINAL BACKFILL; USE EXCAVATED MATERIALS SPECIFIED.
5. EMBEDMENT MATERIAL: USE SELECT BACKFILL MATERIAL AS SPECIFIED, WORK MATERIAL UNDER PIPE TO PROVIDE SUPPORT OF PIPE.
6. ROCK EXCAVATION: OVER EXCAVATE MINIMUM 6" AND BACKFILL TRENCH BOTTOM WITH PIPE BEDDING MATERIAL.
7. SUPPORT AND SLOPE TRENCH WALLS AS REQUIRED TO MEET OSHA SAFETY STANDARDS AND PREVENT CAVE-INS, SLIDES, AND ROLLOVERBACKS.

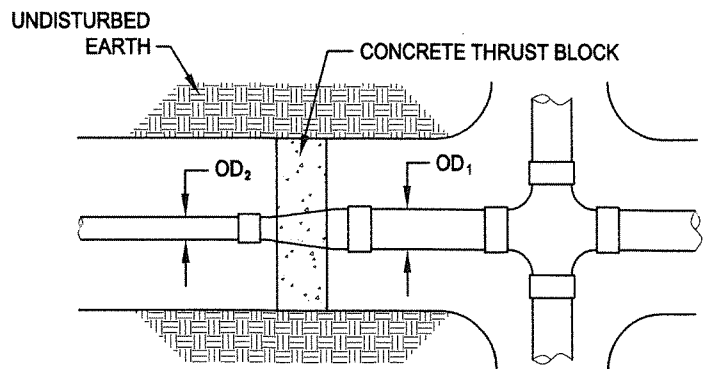
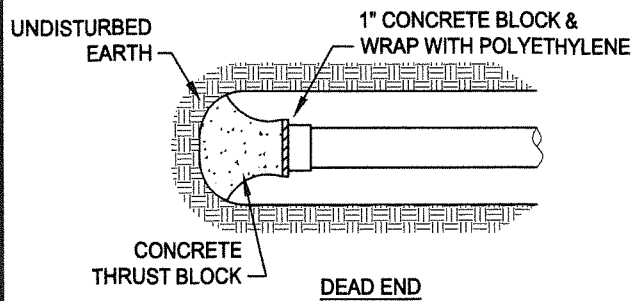
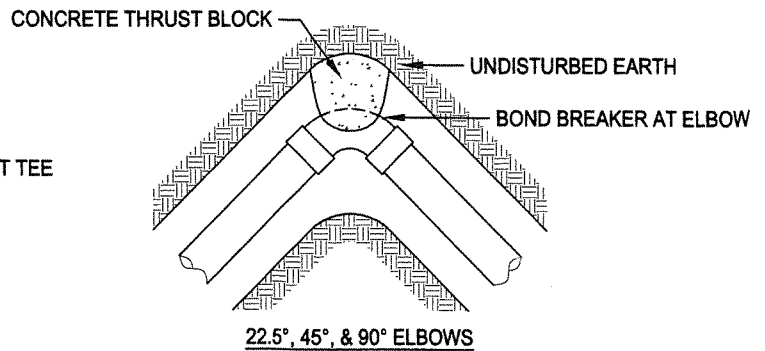
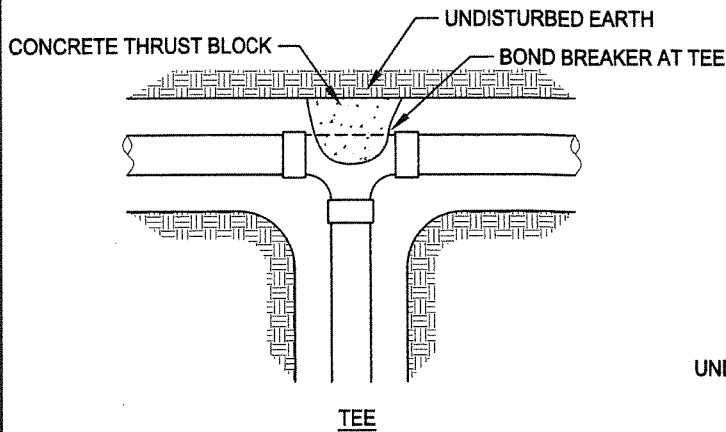
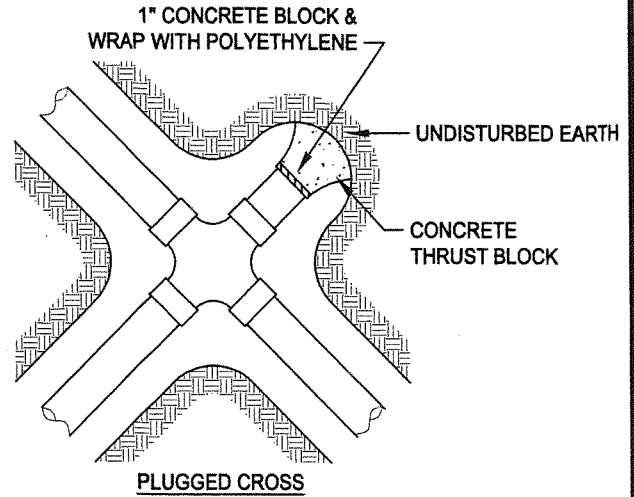
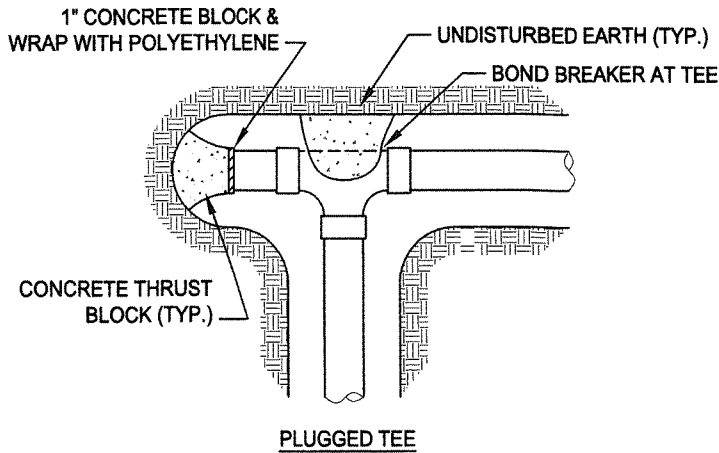
OSKALOOSA MUNICIPAL WATER DEPARTMENT

REVISIONS			GARDEN & ASSOCIATES, LTD. ENGINEERS & SURVEYORS <small>OSKALOOSA, IOWA 641-672-2526</small>		STANDARD TRENCH SECTION PRESSURE PIPE		
REV. NO.	DATE	DESCRIPTION			DATE: 03/11	DRN. KJR	APP. JP
			DWG. NO. 1	REV.			



NOTES:

1. TO DETERMINE BLOCK SIZE, SEE SPECIFICATIONS.
2. BEAR THRUST BLOCKS AND PLUG BRACES AGAINST UNDISTURBED EARTH.
3. USE CONCRETE AS SPECIFIED.
4. ALL FLANGES AND BOLTS SHALL BE COVERED WITH POLYETHYLENE; DO NOT COVER JOINTS, BOLTS, OR PLUGS WITH CONCRETE.



THRUST BLOCK BEARING AREA, $SF = 0.12(OD_1^2 - OD_2^2)$

REDUCER

OSKALOOSA MUNICIPAL WATER DEPARTMENT

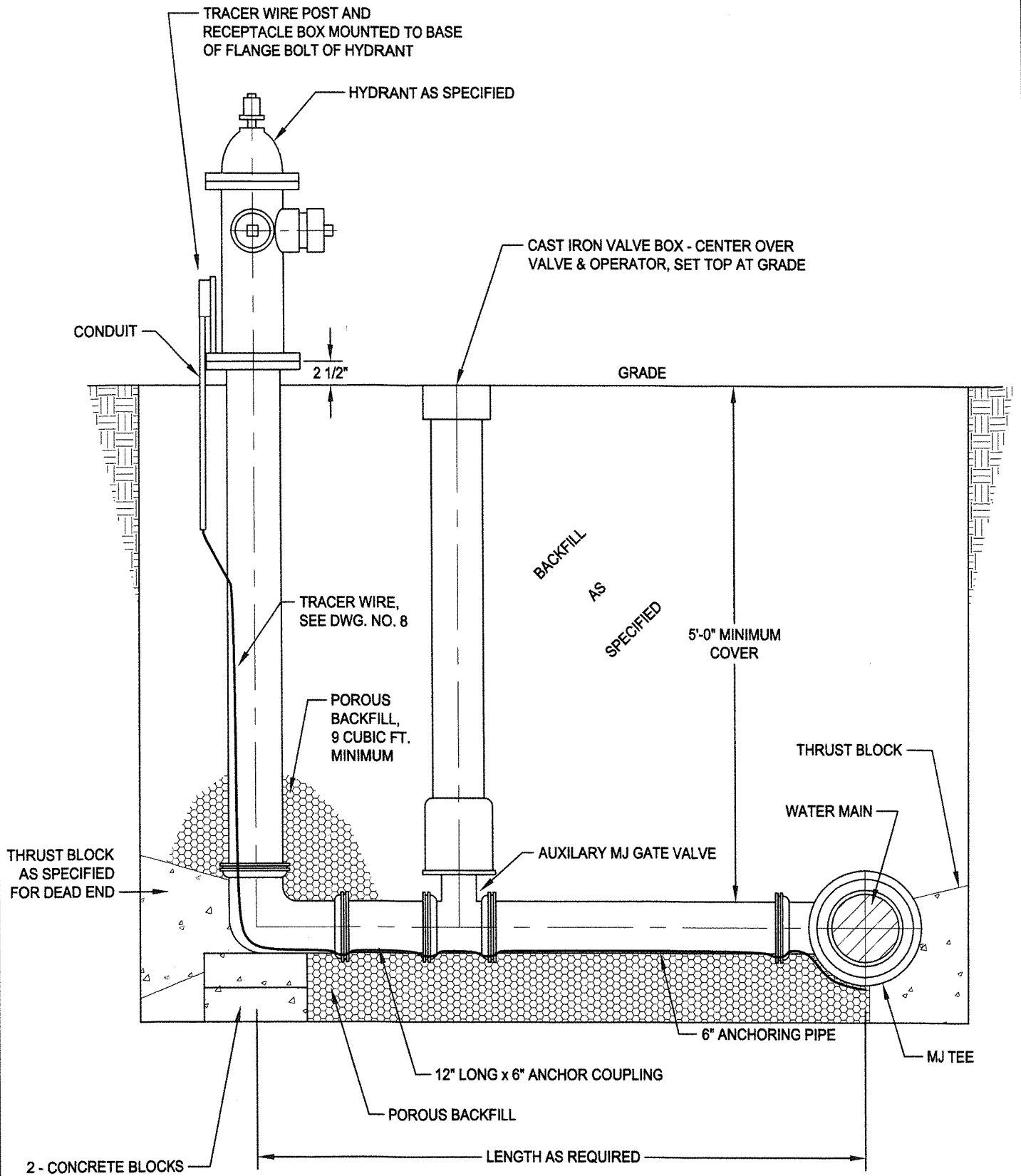
REVISIONS

REV. NO.	DATE	DESCRIPTION

G GARDEN & ASSOCIATES, LTD.
ENGINEERS & SURVEYORS
 OSKALOOSA, IOWA 641-672-2526

HORIZONTAL THRUST BLOCKS

DATE: 03/11	DRN. KJR	APP. JP
DWG. NO. 3	REV.	



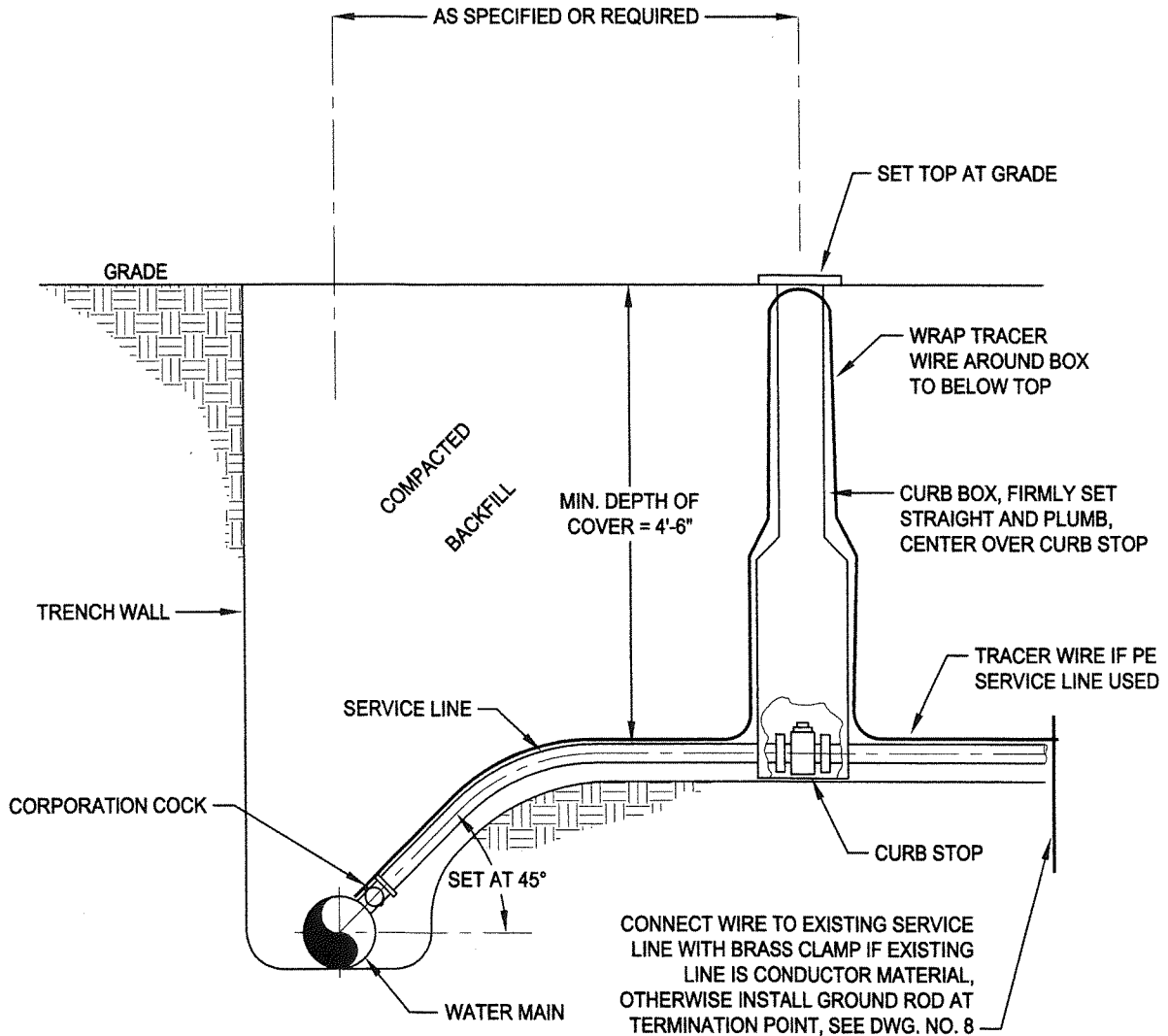
OSKALOOSA MUNICIPAL WATER DEPARTMENT

REVISIONS		
REV.NO.	DATE	DESCRIPTION

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HYDRANT INSTALLATION

DATE: 03/11	DRN. KJR	APP. JP
DWG. NO. 4	REV.	



NOTES:

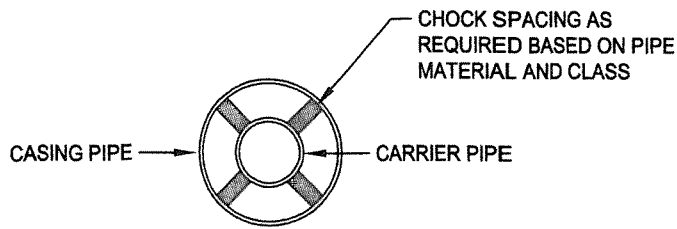
1. PVC WATER MAIN: PROVIDE AND INSTALL SERVICE SADDLE AS SPECIFIED.
2. DUCTILE IRON WATER MAIN: DIRECT TAP OR PROVIDE SADDLE FOR SERVICE.
3. IF SERVICE IS BELOW STREET SURFACING, PROVIDE MINIMUM 4'-6" OF COVER FROM BOTTOM OF SURFACING TO TOP OF SERVICE PIPE.
4. INSTALL TRACER WIRE AS SHOWN (TRACER WIRE FOR SERVICE LINES SHALL BE CONTINUOUS WITH TRACER WIRE FOR WATER MAIN).

OSKALOOSA MUNICIPAL WATER DEPARTMENT

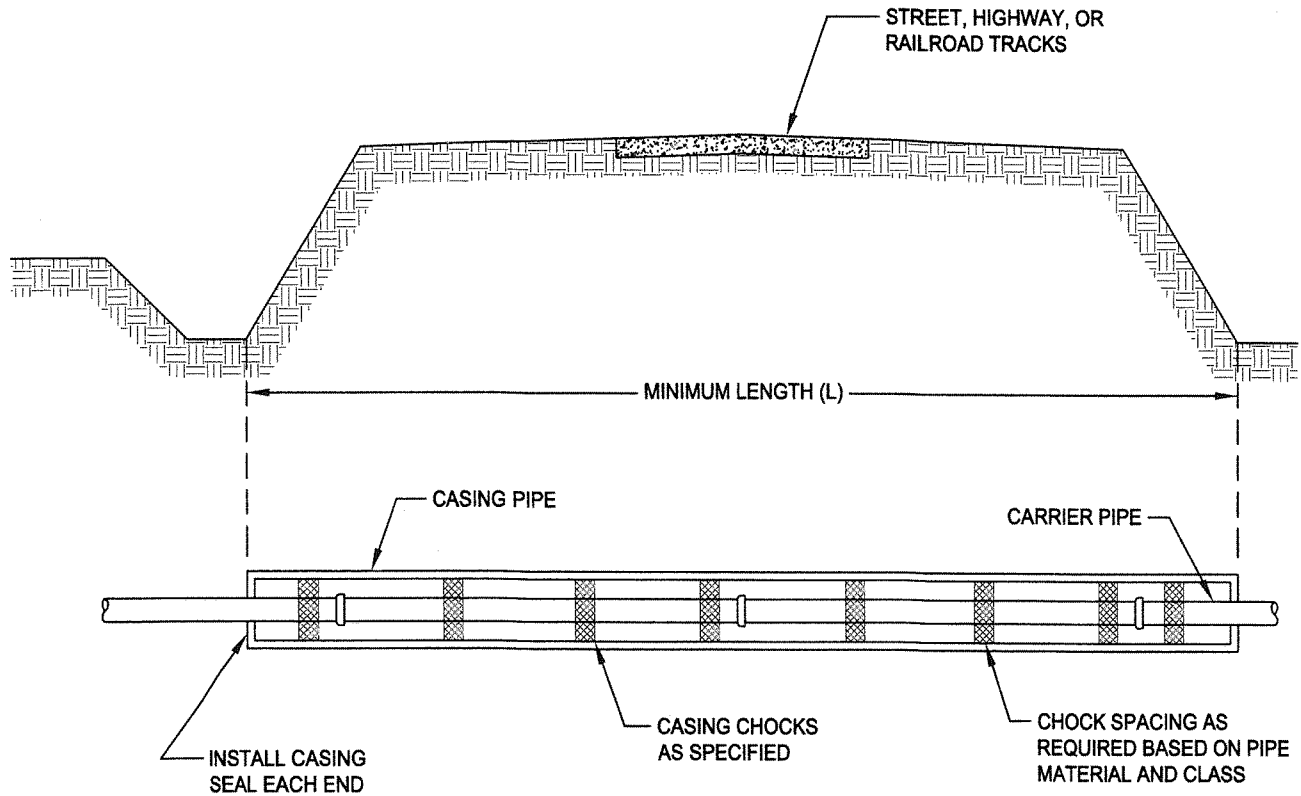
REVISIONS		
REV.NO.	DATE	DESCRIPTION

G GARDEN & ASSOCIATES, LTD.
ENGINEERS & SURVEYORS
OSKALOOSA, IOWA 641-672-2526

SERVICE CONNECTION 1" TO 2"		
DATE: 03/11	DRN. KJR	APP. JP
DWG. NO. 5	REV. 7/11	



END SECTION

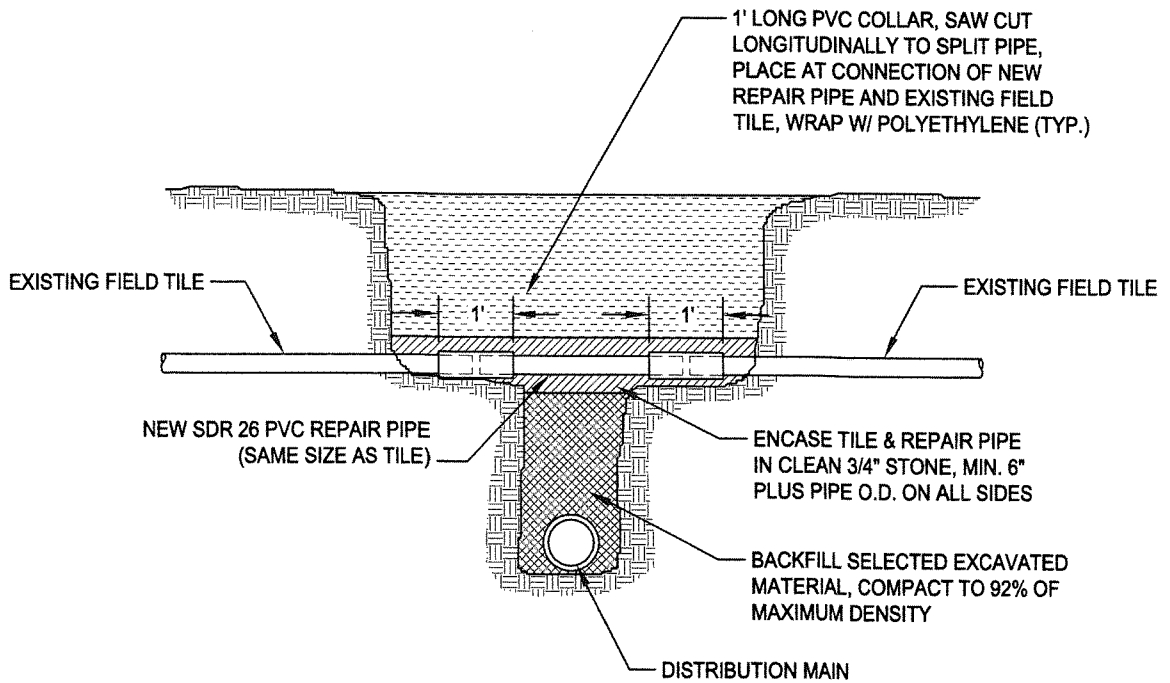


NOTES:

1. USE CASING CHOCKS AS SPECIFIED.
2. CAP ENDS WITH CASING SEAL AS SPECIFIED.
3. MINIMUM LENGTH (L):
 RAILROAD R.O.W.: AS REQUIRED BY PERMITTING RAILROAD AUTHORITY.
 HIGHWAY R.O.W.: R.O.W. TO R.O.W. UNLESS OTHERWISE ALLOWED BY I.D.O.T.
 COUNTY R.O.W.: AS REQUIRED BY MAHASKA COUNTY.
 CITY STREETS: AS REQUIRED BY CITY OF OSKALOOSA.

OSKALOOSA MUNICIPAL WATER DEPARTMENT

REVISIONS				CASING DETAIL		
REV.NO.	DATE	DESCRIPTION		DATE: 03/11	DRN. KJR	APP. JP
			OSKALOOSA, IOWA 641-672-2526	DWG. NO. 6	REV.	

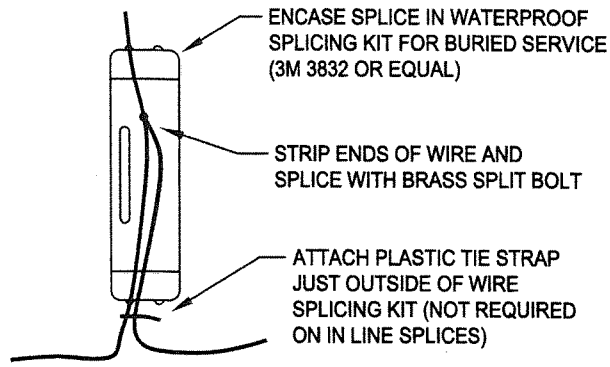


OSKALOOSA MUNICIPAL WATER DEPARTMENT

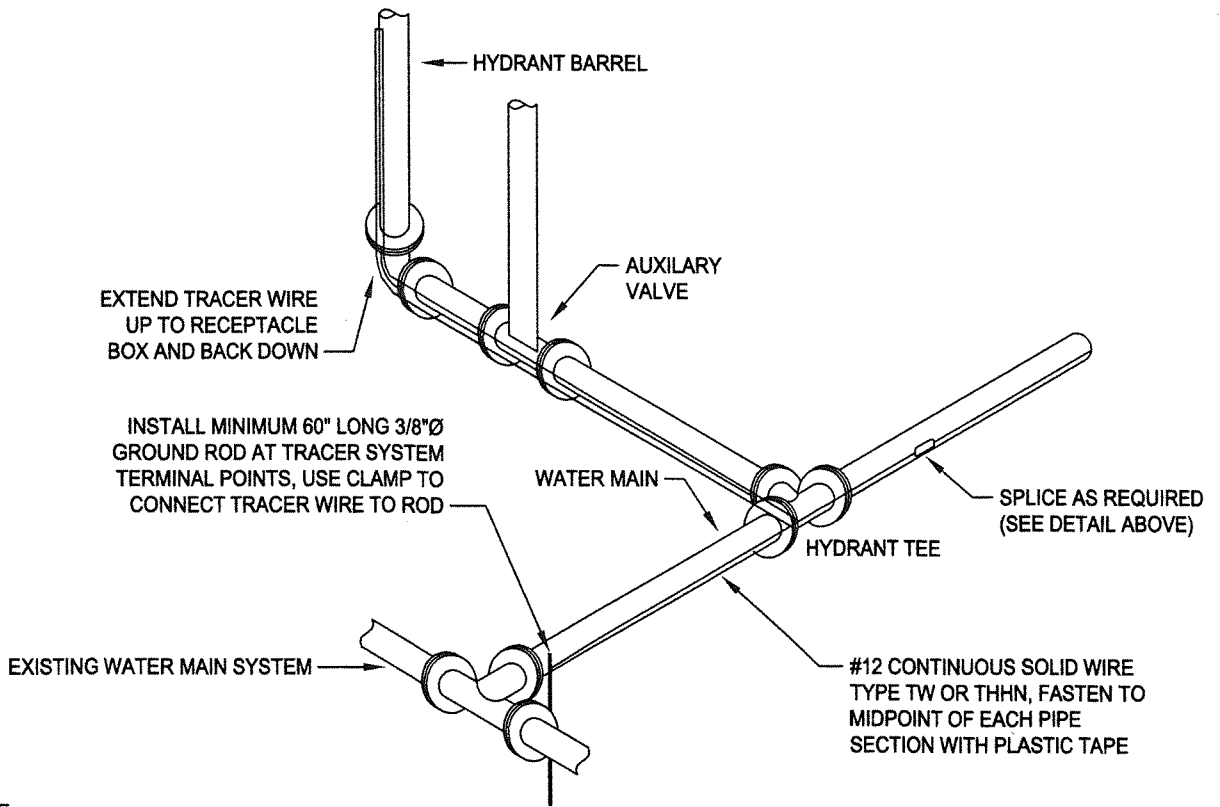
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REV.NO.	DATE	DESCRIPTION

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 OSKALOOSA, IOWA 641-672-2526

TYPICAL FIELD TILE CROSSING		
DATE: 03/11	DRN. KJR	APP. JP
DWG. NO. 7	REV.	



TRACER WIRE SPLICE DETAIL



TRACER WIRE DETAIL

NOTE:
CARE MUST BE EXERCISED TO PRESERVE THE INTEGRITY OF THE INSULATION ON THE TRACER WIRE.

OSKALOOSA MUNICIPAL WATER DEPARTMENT

REVISIONS		
REV.NO.	DATE	DESCRIPTION

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TRACER WIRE INSTALLATION

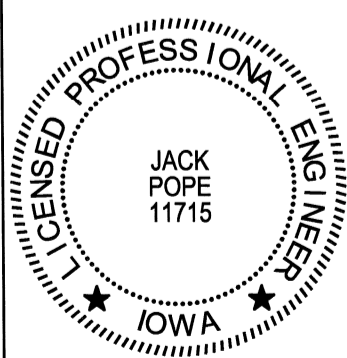
DATE: 03/11	DRN. KJR	APP. JP
DWG. NO. 8	REV.	

CARBONADO ROAD WATER MAIN REPLACEMENT OSKALOOSA MUNICIPAL WATER DEPARTMENT OSKALOOSA, IOWA 2016

Materials and construction shall be in accordance with the SUDAS Standard Specifications, 2016 Edition, plus current Supplemental Specifications and Special Provisions.


Water main materials and construction shall be in accordance with the standard specifications of Oskaloosa Municipal Water Dept. of Oskaloosa, Iowa which specifications are on file with the Iowa Department of Natural Resources.

SHEET INDEX	
SHEET NO.	DESCRIPTION
A.01	TITLE SHEET
A.02	LEGEND, LOCATION MAP AND GENERAL NOTES
B.01	ESTIMATED PROJECT QUANTITIES
C.01-C.04	WATER MAIN PLAN
C.05	CONNECTION DETAILS
8	TOTAL SHEETS

	<p>I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.</p> <p style="text-align: right;"><i>Jack Pope</i> 1-29-2016 Date</p> <p>Jack Pope, P.E. License number: 11715 My license renewal date is December 31, 2017 Pages or sheets covered by this seal: SHEETS A.01-C.05</p>
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**CARBONADO ROAD
WATER MAIN REPLACEMENT
OSKALOOSA, IOWA**
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SHEET TITLE
TITLE SHEET

SCALE:
NO SCALE

FIELD BOOK:

DRAWN BY:
TRH

APPROVED:
JP

REVISIONS:

DATE:
JAN. 29, 2016

PROJECT NO.:
4015097

SHEET NO.:
A.01

GENERAL SYMBOLS LEGEND	
●	= PROPERTY CORNER FOUND
▲	= SECTION CORNER FOUND
-800-	= EXISTING GROUND CONTOUR LINE
-W-	= EXISTING WATER LINE (SIZE VARIES)
⊕	= EXISTING FIRE HYDRANT
⊕	= EXISTING WATER VALVE
⊕	= EXISTING WATER SERVICE SHUTOFF
⊕	= EXISTING WATER METER PIT
⊕	= EXISTING WATER WELL
⊕	= WATER METER
-S7-	= EXISTING STORM SEWER LINE (SIZE VARIES)
⊕	= EXISTING STORM SEWER ACCESS
⊕	= EXISTING SEPTIC TANK
⊕	= EXISTING SANITARY SEWER ACCESS
-SS-	= EXISTING SANITARY SEWER MAIN (SIZE VARIES)
⊕	= CLEANOUT
⊕	= ELECTRIC MANHOLE
-OE-	= OVERHEAD ELECTRIC LINE
-UE-	= UNDERGROUND ELECTRIC LINE
⊕	= ELECTRIC METER
-FO-	= FIBEROPTIC LINE
⊕	= TELEPHONE MANHOLE
⊕	= TELEPHONE PEDESTAL
⊕	= TELEPHONE LINE
⊕	= TELEVISION PEDESTAL
-TV-	= TELEVISION LINE
⊕	= GAS METER
⊕	= GAS VALVE
-G-	= EXISTING GAS LINE
⊕	= UTILITY POLE
⊕	= GUY WIRE
⊕	= LUMINAIRE
⊕	= TRANSFORMER
+	= SIGN
⊕	= BOLLARD
⊕	= RAILROAD GATE OR SIGNAL
⊕	= MAILBOX
⊕	= FLAGPOLE
⊕	= DOWNSPOUT
⊕	= STUMP
-x-	= FIELD FENCELINE
-o-	= CHAIN LINK FENCELINE
-w-	= WOOD FENCELINE
-s-	= SILT FENCE
⊕	= BENCHMARK OR ELEVATION MARKER
⊕	= PROPERTY CORNER SET
⊕	= SECTION CORNER SET
-W-	= PROPOSED WATER MAIN (SIZE VARIES)
⊕	= PROPOSED FIRE HYDRANT
⊕	= PROPOSED WATER VALVE
⊕	= PROPOSED WATER SHUTOFF
⊕	= PROPOSED SANITARY SEWER MANHOLE
⊕	= PROPOSED SANITARY SEWER END LINE CLEANOUT
⊕	= PROPOSED SANITARY SEWER DOUBLE CLEANOUT
⊕	= PROPOSED SANITARY SEWER MAIN (SIZE VARIES)
⊕	= PROPOSED LIFT STATION
-FM-	= PROPOSED SANITARY SEWER FORCE MAIN
⊕	= PROPOSED STORM SEWER ACCESS
⊕	= PROPOSED STORM SEWER MAIN
-SST-	= PROPOSED SECONDARY STORM SEWER
-800-	= PROPOSED GROUND CONTOUR LINE
⊕	= SURFACING REMOVAL
⊕	= CONCRETE SURFACING REPLACEMENT
→	= FLOW DIRECTION ARROW
1000.00	= FINISH GRADE ELEVATION MARKER

GENERAL ABBREVIATIONS LEGEND	
R/W	= RIGHT OF WAY
R.O.W.	= RIGHT OF WAY
P.C.	= POINT OF CURVATURE
P.I.	= POINT OF INTERSECTION
P.T.	= POINT OF TANGENCY
CL	= CENTERLINE
TC	= TOP OF CURB
GU	= GUTTER
FL	= FLOW LINE
SB	= SOIL BORING
R	= RADIUS
BTM	= BOTTOM
HWL	= HIGH WATER LEVEL
LWL	= LOW WATER LEVEL
EA	= EACH
GPM	= GALLONS PER MINUTE
IN.	= INCHES
FT	= FOOT OR FEET
SF	= SQUARE FEET
LF	= LINEAR FOOT
SY	= SQUARE YARD
CY	= CUBIC YARD
MJ	= MECHANICAL JOINT
PE	= PLAIN END JOINT
FE	= FLANGED JOINT
UT	= UNION TITE JOINT
S.S.	= STAINLESS STEEL
O.C.	= ON CENTER
I.D.	= INSIDE DIAMETER
O.D.	= OUTSIDE DIAMETER
Ø	= DIAMETER
#	= NUMBER
TYP	= TYPICAL
INV	= INVERT
PVC	= POLYVINYL CHLORIDE PIPE
DIP	= DUCTILE IRON PIPE
CIP	= CAST IRON PIPE
CMP	= CORRUGATED METAL PIPE
RCP	= REINFORCED CONCRETE PIPE

PAVEMENT SURFACING LEGEND

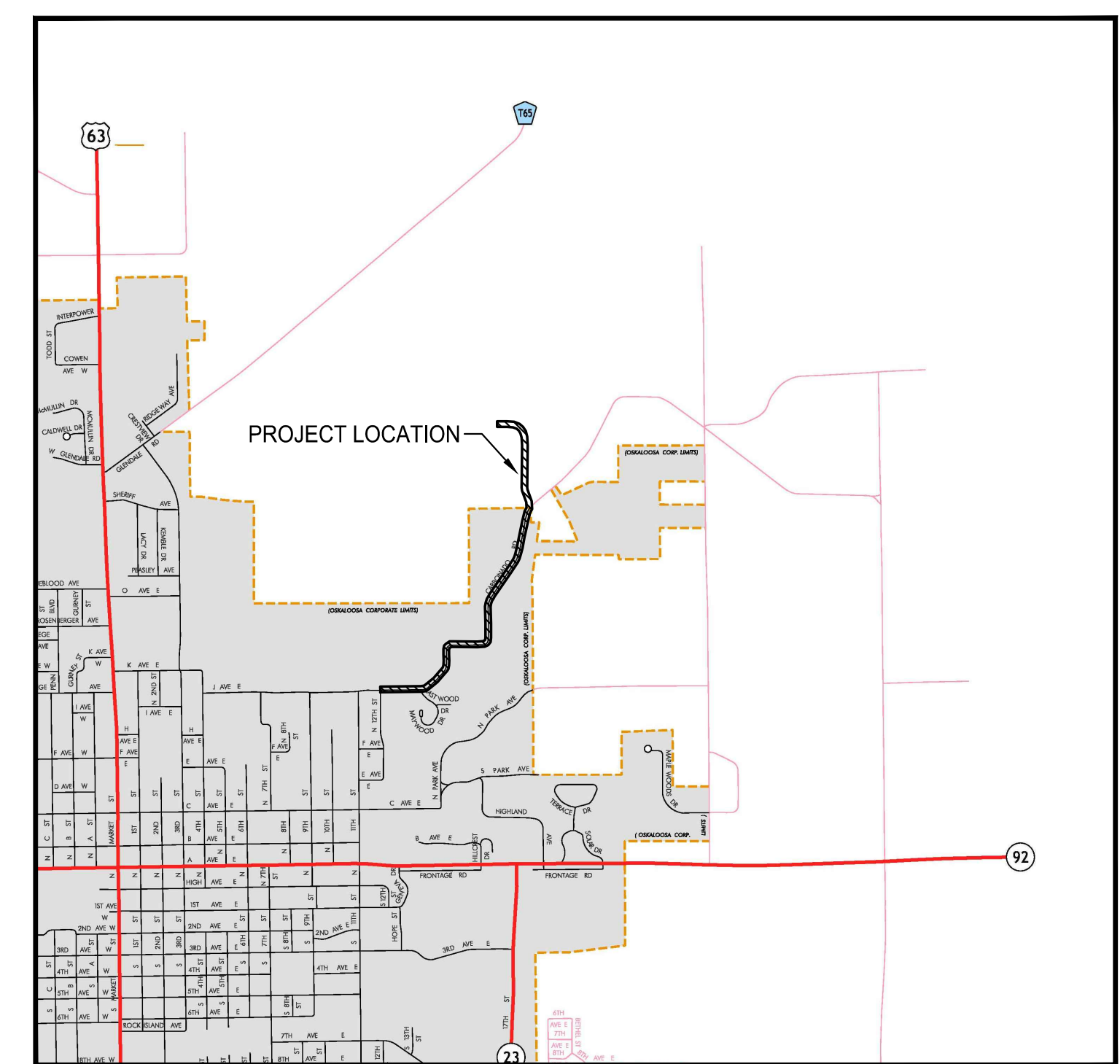
■	= 7" THICK HMA PAVEMENT
■	= 6" THICK PCC DRIVEWAYS AND SIDEWALKS
■	= 6" THICK GRANULAR SURFACING

CONSTRUCTION STAGING NOTES

- PRIOR TO BEGINNING WORK ON THE PROJECT, CONTRACTOR SHALL SUBMIT A DETAILED CONSTRUCTION SCHEDULE AND STAGING PLAN FOR APPROVAL BY THE JURISDICTION.
- NEW WATER SERVICES ACROSS CARBONADO ROAD SHALL BE BORED OR AUGERED IN PLACE.
- CARBONADO ROAD TO REMAIN OPEN TO THRU TRAFFIC. ANY WORK ACROSS CARBONADO SHALL BE DONE HALF WIDTH IN ORDER TO MAINTAIN TRAFFIC.

GENERAL NOTES

- ALL WORK SHALL BE IN ACCORDANCE WITH THE SUDAS STANDARD SPECIFICATIONS, 2015 EDITION AND CURRENT SUPPLEMENTAL SPECIFICATIONS AND THE DETAILED SPECIFICATION REQUIREMENTS. SPECIFICATION MANUALS CAN BE ORDERED FROM THE INSTITUTE FOR TRANSPORTATION (FORMERLY CTRE) - ATTENTION: BETH RICHARDS, 2711 SOUTH LOOP DRIVE, SUITE 4700, AMES, IOWA 50010-8664, PHONE: 515-294-2869. SPECIFICATIONS CAN ALSO BE VIEWED AT THE SUDAS WEB SITE (WWW.IOWASUDAS.ORG). WATER MAIN CONSTRUCTION SHALL MEET THE REQUIREMENTS OF THE "STANDARD SPECIFICATIONS FOR WATER MAIN CONSTRUCTION, OSKALOOSA MUNICIPAL WATER DEPARTMENT". CONTRACTOR SHALL HAVE A MINIMUM OF ONE SET OF PLANS AND SPECIFICATIONS ON THE JOB SITE AT ALL TIMES DURING CONSTRUCTION.
- NOTIFY AKHILESH PAL, DIRECTOR OF PUBLIC WORKS, CITY OF OSKALOOSA AT 641-673-7472 2 WEEKS PRIOR TO COMMENCING WORK ON THE PROJECT.
- COORDINATE ALL WATER MAIN WORK WITH CHAD COON, SUPERINTENDENT, OSKALOOSA MUNICIPAL WATER DEPARTMENT (OMWD), CELL PHONE: 641-860-5555.
- COORDINATE WORK AND COOPERATE WITH OMWD PERSONNEL AND ENGINEER.
- LOCATION OF EXISTING UTILITIES IS APPROXIMATE. VERIFY LOCATION OF EXISTING UTILITIES IN LINE OF CONSTRUCTION PRIOR TO BEGINNING CONSTRUCTION BY EXCAVATING AHEAD OF WORK. CONTRACTOR IS RESPONSIBLE FOR NOTIFYING ALL UTILITY COMPANIES LOCATED IN THE WORK ZONE DURING CONSTRUCTION AT LEAST 48 HOURS PRIOR TO EXCAVATION.
- PROTECT ALL UTILITIES FROM DAMAGE DURING CONSTRUCTION UNLESS OTHERWISE SHOWN ON PLANS. ANY UTILITIES DAMAGED DUE TO CONTRACTOR'S NEGLIGENCE WILL BE REPAIRED AT CONTRACTOR'S EXPENSE.
- THERE MAY BE BURIED UTILITIES NOT SHOWN ON PLANS THAT ARE IN LINE OF CONSTRUCTION.
- NOTIFY PROPERTY OWNERS 48 HOURS IN ADVANCE IF ACCESS TO PROPERTY WILL BE INTERRUPTED. ACCESS TO PRIVATE PROPERTY SHALL BE MAINTAINED AT ALL TIMES FOR EMERGENCY VEHICLES. PROVIDE PEDESTRIAN ACCESS TO RESIDENCES AND BUSINESSES DURING THE CONSTRUCTION PERIOD.
- CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL PLAN AND IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND THE CITY OF OSKALOOSA REQUIREMENTS. TRAFFIC CONTROL SHALL CONSIST OF BARRICADES, SIGNAGE AND LIGHTS AS NECESSARY TO PROTECT VEHICLES AND PEDESTRIAN TRAFFIC. CONTRACTOR SHALL MAINTAIN, CLEAN AS NECESSARY AND REPLACE DAMAGED TRAFFIC CONTROL DEVICES THROUGHOUT DURATION OF CONSTRUCTION.
- CONTRACTOR SHALL PRESERVE ALL MONUMENTS, STAKES, REFERENCE POINTS AND BENCHMARKS. IN CASE OF DESTRUCTION BY CONTRACTOR'S NEGLIGENCE OR CARELESSNESS, CONTRACTOR WILL BE RESPONSIBLE FOR COST OF REPLACEMENT, MISTAKES, AND/OR LOSS OF TIME.
- REMOVE AND DISPOSE OF EXISTING STRUCTURES AND PIPES WHERE SHOWN ON THE PLANS. REMOVE ENTIRE RUNS OF PIPE WHERE IN DIRECT CONFLICT WITH NEW CONSTRUCTION. PLUG PIPES TO BE ABANDONED WITH CONCRETE. REMOVAL AND DISPOSAL OF PIPES IS INCIDENTAL TO CONSTRUCTION. REMOVAL OF STRUCTURES WILL BE PAID AT THE CONTRACT UNIT PRICE.
- CONTRACTOR SHALL MAINTAIN POSTAL SERVICE IN ACCORDANCE WITH SECTION 1070 2.14 OF THE SPECIFICATIONS. WORK IS INCIDENTAL TO CONSTRUCTION.
- SIGNS AND SIGN POSTS IN LINE OF CONSTRUCTION SHALL BE REMOVED, SALVAGED, AND STORED BY THE CONTRACTOR. UPON COMPLETION OF CONSTRUCTION, REPLACE SIGNS AT A LOCATION DETERMINED BY THE OWNER. SIGNS SHALL BE RESET IN A MINIMUM 4 FOOT DEEP BY 12 INCH DIAMETER GRAVEL PACKED HOLE. REMOVAL AND RESETTING OF SIGNS IS INCIDENTAL TO CONSTRUCTION. COORDINATE SIGN WORK WITH JURISDICTION.
- REMOVE TREES AND STUMPS AS SHOWN ON PLANS. PROTECT TREES NOT SHOWN FOR REMOVAL. TRIM TREE CANOPIES ONLY WITH APPROVAL OF JURISDICTION. TRIMMING OF TREE CANOPIES IS INCIDENTAL TO CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL DEBRIS RESULTING FROM TREE/STUMP REMOVAL AND TRIMMING.
- ALL MAILBOXES AND SIGNS IN LINE OF CONSTRUCTION SHALL BE REMOVED AND REPLACED BY CONTRACTOR. MAILBOXES AND SIGNS TO BE REINSTALLED WITHIN 24 HOURS. WORK IS INCIDENTAL TO CONSTRUCTION.
- CONTRACTOR SHALL DISPOSE OF ALL CONSTRUCTION DEBRIS, UNSUITABLE MATERIAL FOR TRENCH BACKFILL AND SURFACE RESTORATION AND EXCESS EXCAVATED MATERIAL. DISPOSAL SHALL MEET FEDERAL, STATE AND LOCAL SAFETY, HEALTH AND ENVIRONMENTAL REQUIREMENTS. WORK IS INCIDENTAL TO CONSTRUCTION.
- CONTRACTOR RESPONSIBLE FOR MAINTAINING THE AS-BUILT LOCATION OF ALL UTILITIES.
- CONCRETE MIX SHALL BE IDOT C-3WR-C OR C-4WR-C FOR ALL PAVEMENT, DRIVEWAYS AND SIDEWALKS. COARSE AGGREGATE SHALL BE CLASS 3 DURABILITY. USE OF FLY ASH AND GROUND GRANULATED BLAST FURNACE SLAG (GGBFS) SHALL BE IN ACCORDANCE WITH SECTION 7010 2.02 C OF THE SPECIFICATIONS.
- COARSE AND FINE AGGREGATES SHALL BE FURNISHED FROM AN APPROVED SOURCE IN ACCORDANCE WITH THE SPECIFICATIONS. METHOD OF ACCEPTANCE FOR COARSE AND FINE AGGREGATES SHALL BE BY QUALITY CERTIFICATION FURNISHED BY THE CONTRACTOR. CERTIFIED PLANT INSPECTION IS NOT REQUIRED.
- FERTILIZE, SEED AND MULCH ALL AREAS DISTURBED BY CONSTRUCTION. USE TYPE 1 LAWN MIXTURE.
- THE JURISDICTION WILL PROVIDE CONSTRUCTION STAKING ONE TIME ONLY FOR THE FOLLOWING OPERATIONS:
1) WATER MAIN - PIPE LOCATION AND APPURTENANCES
ADDITIONAL STAKING AND REPLACEMENT OF STAKES DAMAGED AS A RESULT OF CONTRACTOR'S NEGLIGENCE SHALL BE AT CONTRACTOR'S EXPENSE.
- SCHEDULE WORK TO MINIMIZE INTERRUPTION OF CONTINUOUS SERVICE OF ALL UTILITY SYSTEMS. DO NOT ALLOW ANY UTILITY SYSTEM SERVICE TO BE INTERRUPTED WITHOUT PRIOR APPROVAL OF THE AFFECTED PARTY(S) OR THE OWNER.
- SCHEDULE WORK SO THAT UTILITY SERVICE IS RESTORED DURING NON-WORKING HOURS AND DURING WEEKENDS. PROVIDE TEMPORARY CONNECTIONS AND SERVICE CONNECTIONS AS REQUIRED TO PROVIDE UTILITY SERVICE DURING THESE PERIODS. COST FOR PROVIDING TEMPORARY SERVICES AND CONNECTIONS IS INCIDENTAL TO CONSTRUCTION.
- REPAIR OR REPLACE ALL CUT OR OTHERWISE DAMAGED SUBSURFACE DRAINAGE TILES, CULVERTS, OR PIPES.
- KEEP WORK WITHIN RIGHTS-OF-WAY AND EASEMENTS PROVIDED. STORE EQUIPMENT AND MATERIALS WITHIN EASEMENTS PROVIDED; CONTRACTOR RESPONSIBLE FOR LOCATING ADDITIONAL STORAGE AREAS IF NEEDED.
- STRIP TOPSOIL SEPARATELY AND STOCKPILE FOR SURFACE RESTORATION; CONTRACTOR SHALL REPLACE A MINIMUM OF ONE (1) FOOT OF TOPSOIL IN ALL AREAS OF EXCAVATION.
- REMOVE EXISTING SURFACING IN NEAT UNIFORM LINES PARALLEL TO THE WATER MAIN CONSTRUCTION. REPLACE SURFACING WITH MATERIALS NOTED ON PLANS AND SPECIFIED.
- REMOVE FENCING AS REQUIRED AND REPLACE USING NEW MATERIALS IN KIND. CHAIN LINK AND DECORATIVE FENCING MATERIALS CAN BE REUSED IF NOT DAMAGED DURING REMOVAL. PROVIDE TEMPORARY FENCING AS REQUIRED TO PREVENT LIVESTOCK FROM ENTERING CONSTRUCTION AREA OR FROM ESCAPING CONFINEMENT AREA.
- DO CLEANUP AND SURFACE RESTORATION AND REPLACEMENT AS WORK PROGRESSES.
- CONTRACTOR RESPONSIBLE FOR REPLACING/RESTORING SURFACE AS NEAR AS PRACTICAL TO CONDITION PRIOR TO CONSTRUCTION.
- UNLESS OTHERWISE SPECIFIED OR DIRECTED BY OWNER, ALL SALVAGED EQUIPMENT, PIPING, AND MATERIALS SHALL REMAIN PROPERTY OF OWNER. STORE SALVAGE ON SITE AS DIRECTED BY OWNER; CONTRACTOR SHALL DISPOSE OF ALL WASTE EQUIPMENT, MATERIALS, AND RUBBLE AT NO ADDITIONAL COST TO OWNER.
- WRAP VALVES AND FITTINGS WITH POLYETHYLENE AS SPECIFIED. ALL BOLTS FOR FITTINGS AND APPURTENANCES SHALL BE CORROSION RESISTANT AS SPECIFIED.
- CONTRACTOR SHALL INSTALL TRACER WIRE WITH ALL NONMETALLIC WATER MAIN, AS SPECIFIED.



VICINITY MAP
SCALE: NONE

WATER SERVICE CONNECTIONS

- REPLACE EXISTING WATER SERVICES AND INSTALL NEW SERVICES AS SHOWN ON PLANS. EXTEND NEW WATER SERVICE CONNECTIONS FROM NEW WATER MAIN TO NEW CURB STOP AND MAKE CONNECTION TO EXISTING SERVICE PIPE TO CUSTOMER UNLESS SHOWN OTHERWISE. REMOVING EXISTING CURB STOP AND BOX IS INCIDENTAL TO CONSTRUCTION.
- NEW SERVICE INCLUDES 1" COPPER OR PE SERVICE PIPE, UNLESS OTHERWISE SHOWN. CORPORATION STOP AT MAIN AND NEW CURB STOP WITH BOX WHERE SHOWN ON PLANS. CONTRACTOR TO VERIFY EXISTING SERVICE LOCATION, SIZE, AND MATERIAL BEFORE BEGINNING INSTALLATION OF NEW SERVICE PIPE.
- AUGER OR BORE NEW SERVICE PIPE IN PLACE BENEATH EXISTING PAVEMENT. OPEN CUT CONSTRUCTION NOT ALLOWED UNLESS OTHERWISE SHOWN ON PLANS. MINIMUM DEPTH OF BURY BELOW PAVEMENT: 5 FEET.
- VERIFY LOCATION OF EXISTING UTILITIES BENEATH PAVEMENT BEFORE BEGINNING INSTALLATION OF NEW SERVICE PIPE.
- CONTRACTOR SHALL NOTIFY OWNER AND ENGINEER WHEN LEAD SERVICES ARE ENCOUNTERED. CONTRACTOR SHALL NOT DEACTIVATE EXISTING SERVICE UNTIL DECISION HAS BEEN MADE RELATIVE TO THE WORK TO BE PERFORMED IN THE REPLACEMENT OF SERVICE. CONTRACTOR SHALL HAVE ON SITE THE VARIOUS LEAD-SIZED COMPRESSION FITTINGS.

HORIZONTAL DIRECTIONAL DRILLING

- VERIFY LOCATION OF BURIED UTILITIES WHICH MAY CONFLICT WITH NEW CONSTRUCTION. LOCATIONS AND/OR DEPTHS OF EXISTING UTILITIES SHOWN ARE APPROXIMATE AND SHALL BE VERIFIED BY CONTRACTOR PRIOR TO BEGINNING CONSTRUCTION. DAMAGE CAUSED TO UTILITIES SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE AS DIRECTED BY UTILITY OWNER.
- IN AREAS WHERE POTENTIAL SANITARY SEWER AND SANITARY SEWER SERVICES MAY CONFLICT WITH INSTALLATION OF NEW MAIN, CONTRACTOR SHALL LOCATE AND EXPOSE (POTHOLE) SANITARY SEWER AND SANITARY SEWER SERVICES PRIOR TO HORIZONTAL DIRECTIONAL DRILLING OPERATIONS.

UTILITY CONTACT INFORMATION		
UTILITY	ORGANIZATION/REPRESENTATIVE	PHONE
SANITARY SEWER	CITY OF OSKALOOSA PUBLIC WORKS - AKHILESH PAL, P.E.	641-673-7472
STORM SEWER	CITY OF OSKALOOSA PUBLIC WORKS - AKHILESH PAL, P.E.	641-673-7472
WATER	OSKALOOSA MUNICIPAL WATER DEPARTMENT - CHAD COON	641-860-5555
NATURAL GAS (DISTRIBUTION)	MID AMERICAN ENERGY - JEFF FERGUSON	641-860-3068
ELECTRIC	MID AMERICAN ENERGY - JASON SANDIFER	641-860-7217
COMMUNICATIONS	MAHASKA COMMUNICATION GROUP - ANDY PADGETT	641-676-1000
COMMUNICATIONS	IOWA NETWORK SERVICES - CHRIS HARBOUR	515-238-2648
COMMUNICATIONS	WINDSTREAM - CLARK LUNDY	515-309-1172
TELEVISION	MEDIACOM - DARREN WALKER	319-753-6589
TELEPHONE	CENTURY LINK - DUSTIN WITHERS	515-263-7202

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**CARBONADO ROAD
WATER MAIN REPLACEMENT
OSKALOOSA, IOWA**

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SHEET TITLE
**LEGEND, LOCATION
MAP AND GENERAL
NOTES**

SCALE:
AS NOTED

FIELD BOOK:

DRAWN BY:
TRH

APPROVED:
JP

REVISIONS:

DATE:
JAN. 29, 2016

PROJECT NO.:
4015097

SHEET NO.:
A.02

ESTIMATED PROJECT QUANTITIES

Item No.	Bid Item Description No.	Bid Item Description	Unit	Estimated Quantity	Remarks
1	1090-105-D	Mobilization	LS	XXX	
2	2010-108-A-0	Clearing and Grubbing	LS	XXX	Clearing and grubbing includes removal of existing tree and stumps in line of construction. Stumps are to be ground below grade to a depth of 1' below curb. Cost of grinding stumps shall be included in lump sum price for clearing and grubbing of trees per unit. Remove only trees that are shown for removal on the plans.
3	3010-108-C-0	Trench Foundation	TON	50	Use only where authorized by Jurisdiction. The limitation for increase or decrease in work outlined in Specification Section 1040 1.06 does not apply to this bid item. Owner may authorize use of all, part, or none of the estimated quantity at the unit price as bid.
4	3010-108-F-0	Trench Compaction Testing - Water Main	LS	XXX	Item is for testing trench backfill for water main construction.
5	5010-108-A-1	Water Main Trenched, PVC, 4"	LF	4	
6	5010-108-A-1	Water Main Trenched, PVC, 8"	LF	5535	
7	5010-108-A-2	Water Main Trenchless, PVC, 8"	LF	365	Use RJ-PVC pipe as specified in Division 3 - Water Main and Appurtenances. Standard Specifications for Water Main Construction, Oskaloosa Municipal Water Department.
8	XXXX-XXX-X-X	Steel Casing - 16"	LF	80	
9	5010-108-D-0	Water Service Stub, Copper or PE, 1"	EA	29	Item includes; saddle, corporation, service line, curb stop and box, and connection to existing service line as specified.
10	5010-108-D-0	Water Service Stub, Copper or PE, 1", Auger or Bore	EA	26	Item includes; saddle, corporation, service line, curb stop and box and connection to existing service line as specified. Auger or bore in place.
11	5020-108-A-0	Gate Valve, 8" - Install Only	EA	17	Gate valve will be supplied by the Oskaloosa Municipal Water Department. See plan notes and specifications for more information.
12	5020-108-B-0	Tapping Valve Assembly, 8"x8"	EA	1	
13	5020-108-C-0	Fire Hydrant Assembly - Install Only	EA	8	Fire hydrant and valve will be supplied by the Oskaloosa Municipal Water Department. See plan notes and specifications for more information.
14	XXXX-XXX-X-X	Existing Fire Hydrant Removal	EA	5	Item includes removal and disposal of existing hydrant and valve assemblies and plugging or capping of any pipe that remains in place.
15	XXXX-XXX-X-X	Water Main Connection - Connection No. 1	LS	XXX	
16	XXXX-XXX-X-X	Water Main Connection - Connection No. 2	LS	XXX	
17	XXXX-XXX-X-X	Water Main Connection - Connection No. 3	LS	XXX	
18	XXXX-XXX-X-X	Water Service Meter Pit - INSTALL ONLY	EA	5	
19	7030-108-A-0	Removal of Sidewalk	SY	1	
20	7030-108-A-0	Removal of Driveway	SY	314	
21	7030-108-E-0	Sidewalk, PCC, 4" Thick	SY	1	
22	7030-108-H-1	Driveway, Paved PCC, 6" Thick	SY	282	
23	7030-108-H-1	Driveway, Paved HMA, 4" Thick	SY	37	
24	7030-108-H-2	Driveway, Granular, 6" Thick	TON	110	Material shall be IDOT 4120 Gradation No. 11, Class A Crushed Stone compacted in place.
5	7040-108-A-0	Full Depth Patch, HMA	SY	150	Full Depth HMA (Repair) Patches shall be minimum 6" thick on a 6" thick compacted granular subbase (7040-108-B-0 Subbase Overexcavation).
26	7040-108-B-0	Subbase Overexcavation	TON	45	Material shall be IDOT 4120 Gradation No. 11, Class A Crushed Stone 6" thick compacted in place.
27	7040-108-H-0	Pavement Removal	SY	150	Item includes removal of all existing asphaltic pavement, asphalt over concrete pavement, asphalt over brick pavement, concrete pavement and concrete curb and gutter as noted on the plans.
28	9010-108-A-0	Conventional Seeding, Fertilizing, and Mulching	LS	XXX	Use Type 1 Permanent Lawn Mixture.
29	9040-108-A-1	SWPPP Preparation	LS	XXX	
30	9040-108-A-2	SWPPP Management	LS	XXX	No separate payment will be made for installation, maintaining or removing structural controls required to meet the requirements of the Storm Water Pollution Prevention Plan. Installation of silt fence, filter socks, etc. to prevent sediment and pollutants from entering the storm sewer system and/or leaving the construction site is incidental to construction.
31	9040-108-A-3	SWPPP Qualifying Rainfall Event Inspection	EA	6	
32	9060-108-D-0	Removal and Reinstallation of Existing Fence, Field Fence	LF	40	Fence type and size to match existing.
33	XXXX-XXX-X-X	Traffic Control	LS	XXX	

STATION	SIDE	TYPE OF SURFACING	EXISTING DRIVEWAY SURFACING REMOVAL AREA (SY)	NEW DRIVEWAY SURFACING TYPE			REMARKS
				6" PCC (SY)	HMA	GRANULAR (TONS)	
0+74	LT	GRANULAR				8	
1+73	LT	GRANULAR				8	
2+90	LT	PCC	24	24			
3+31	LT	GRANULAR				8	
5+43	LT	PCC & SEALCOAT	23	23			
6+50	LT	PCC & GRANULAR	6	6		5	
8+05	RT	PCC	18	18			
10+37	RT	GRANULAR				8	
11+33	RT	PCC	21	21			
12+18	RT	PCC & SEALCOAT	30	30			
13+42	RT	GRANULAR				5	
16+12	RT	GRANULAR				5	
18+00	RT	PCC	38	38			
19+37	RT	PCC	45	45			
20+46	RT	PCC	16	16			
20+58	RT	HMA	37		37		
24+18	RT	GRANULAR				5	
27+51	LT	GRANULAR				5	
28+63	RT	PCC & GRANULAR	25	30			
29+68	LT	PCC	31	31			
29+85	RT	GRANULAR				8	
32+17	RT	GRANULAR				8	
33+58	LT	GRANULAR				8	
42+70	RT	GRANULAR				8	
57+50	RT	GRANULAR				20	
TOTALS			314	282	37	110	

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SHEET TITLE
ESTIMATED PROJECT QUANTITIES

SCALE:
AS NOTED

FIELD BOOK:

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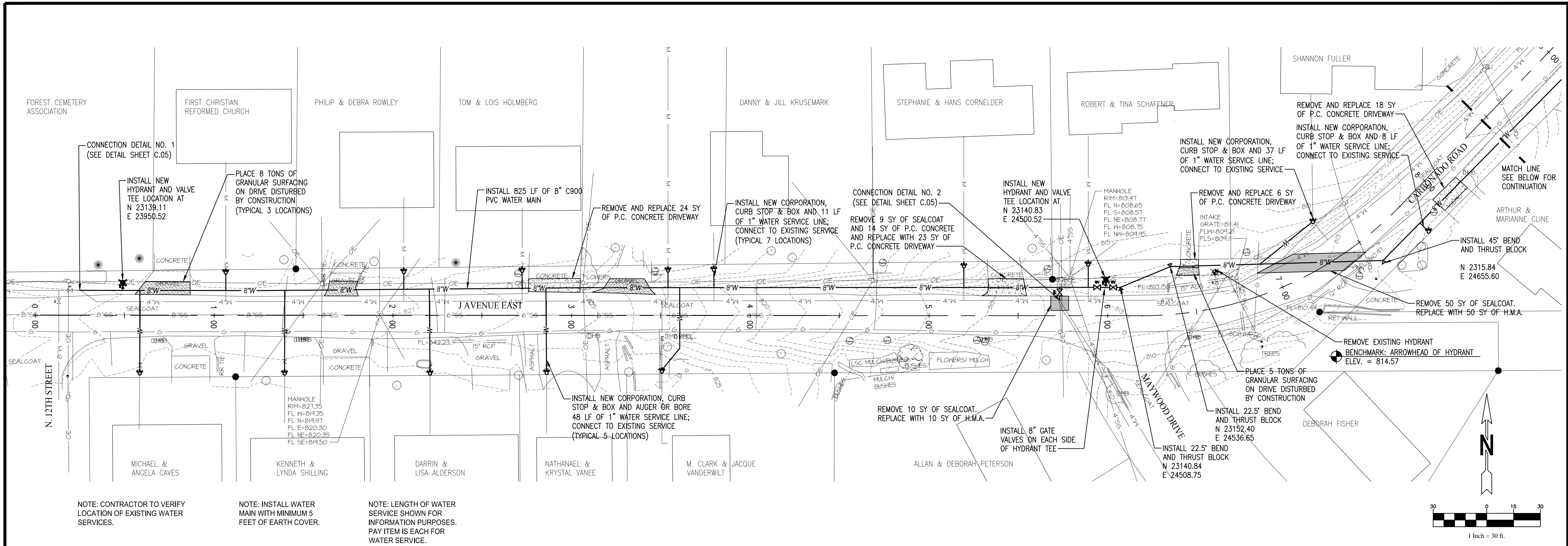
APPROVED:
JP

REVISIONS:

DATE:
JAN. 29, 2016

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SHEET NO.:
B.01



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SHEET TITLE
WATER MAIN PLAN

SCALE:
1"=30'

FIELD BOOK:

DRAWN BY:
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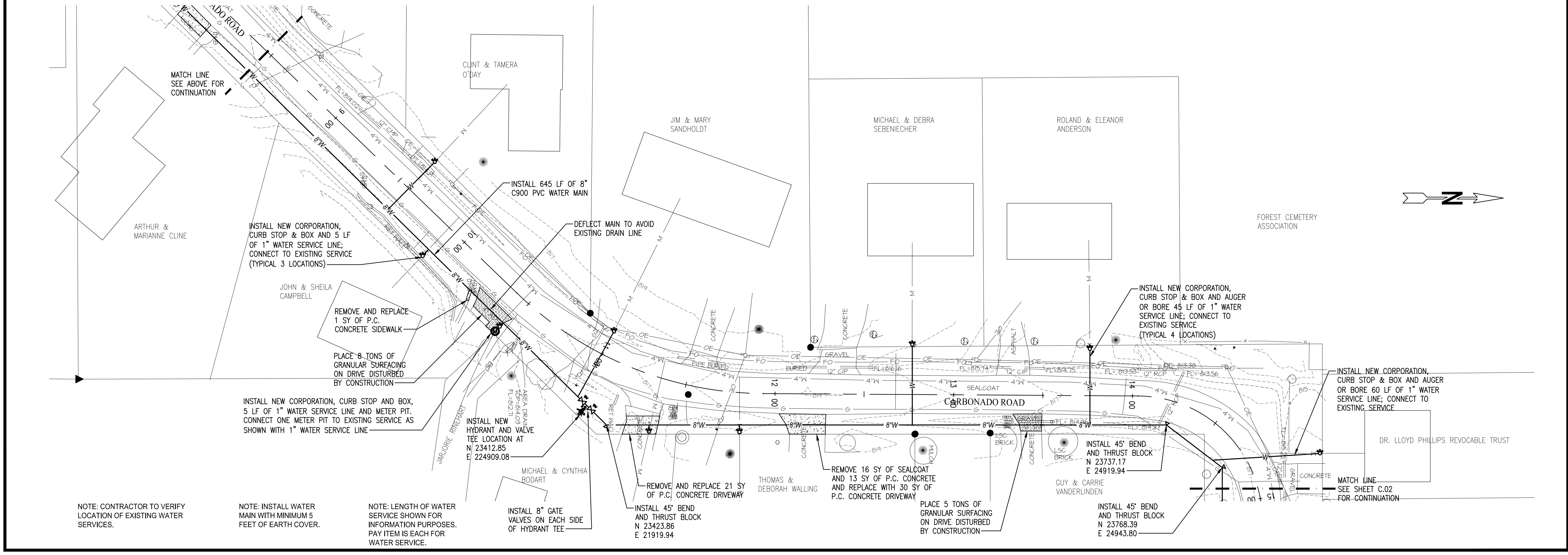
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 JP

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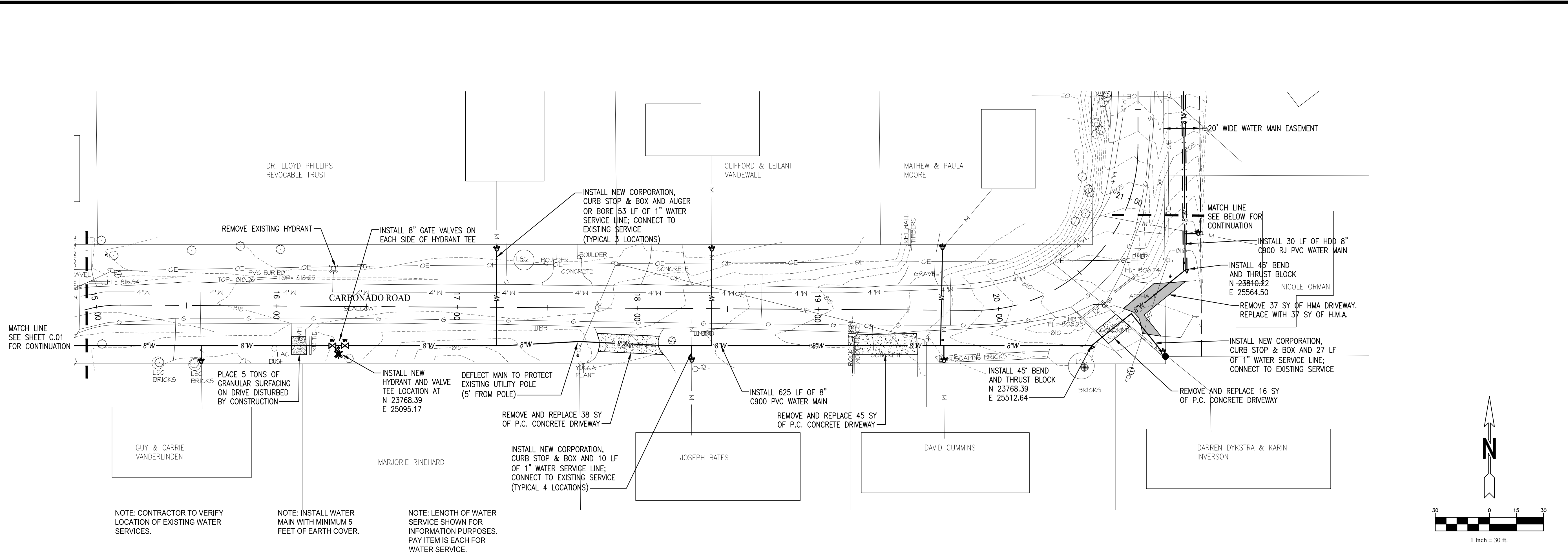
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PROJECT NO.:
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SHEET NO.:
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SHEET TITLE
WATER MAIN PLAN

SCALE:
1"=30'

FIELD BOOK:
 DRAWN BY:
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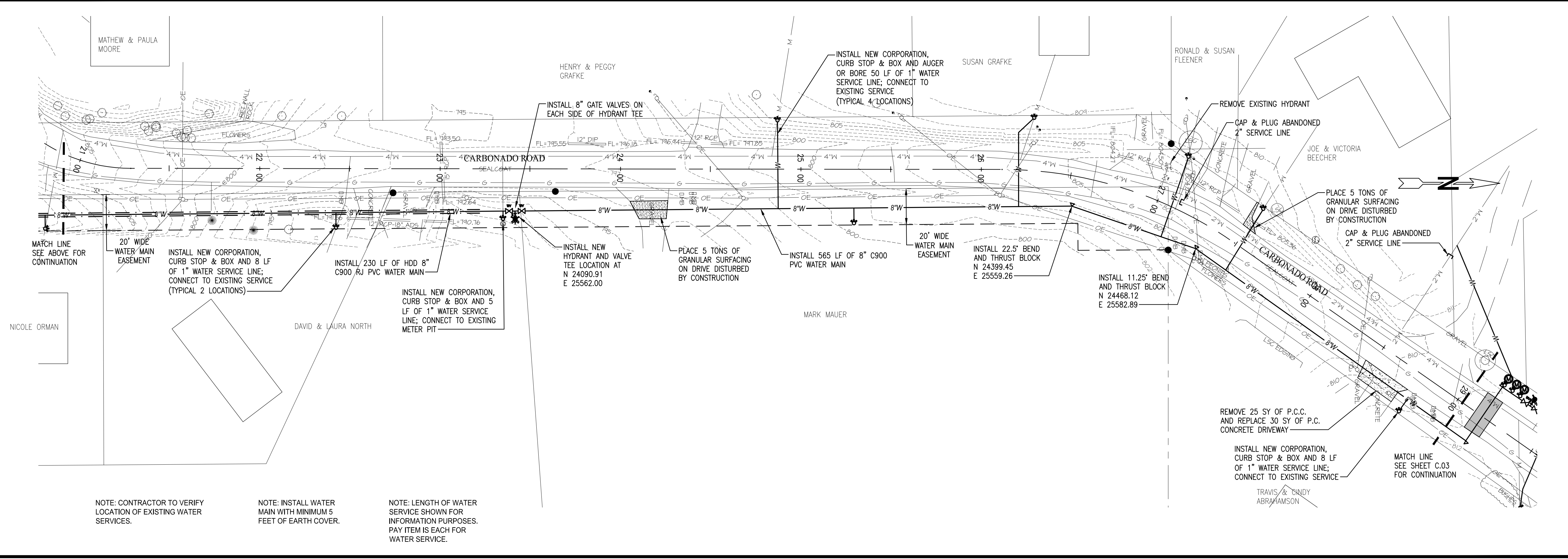
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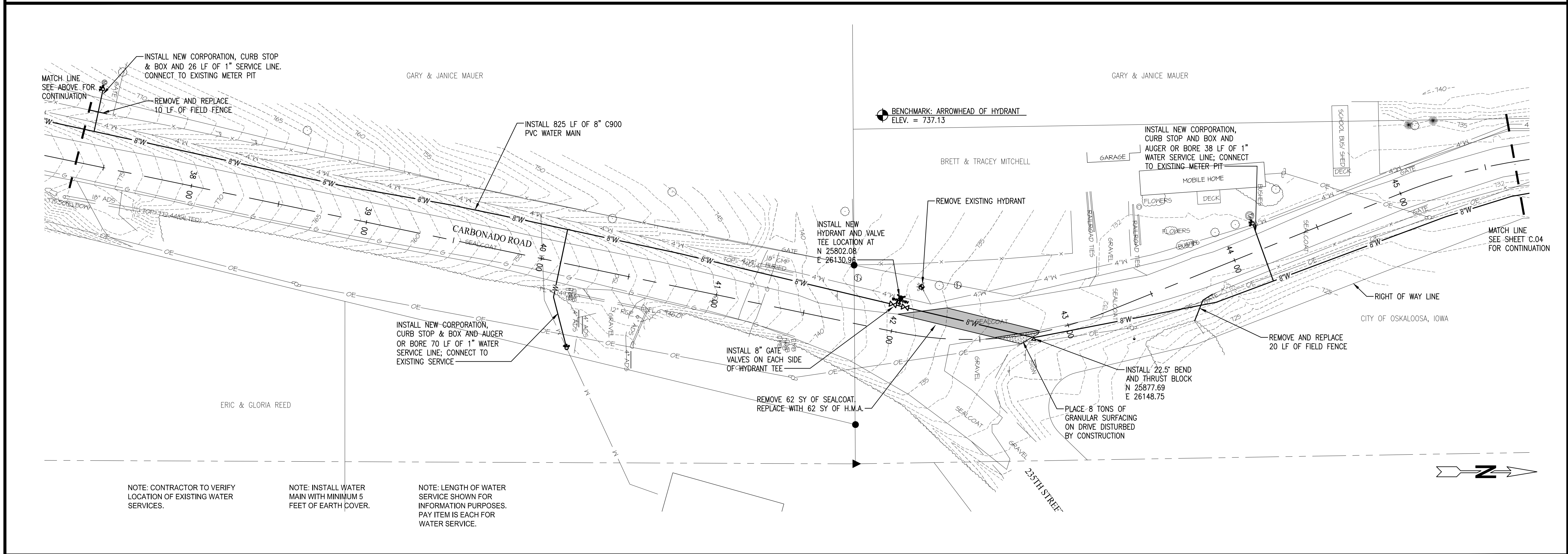
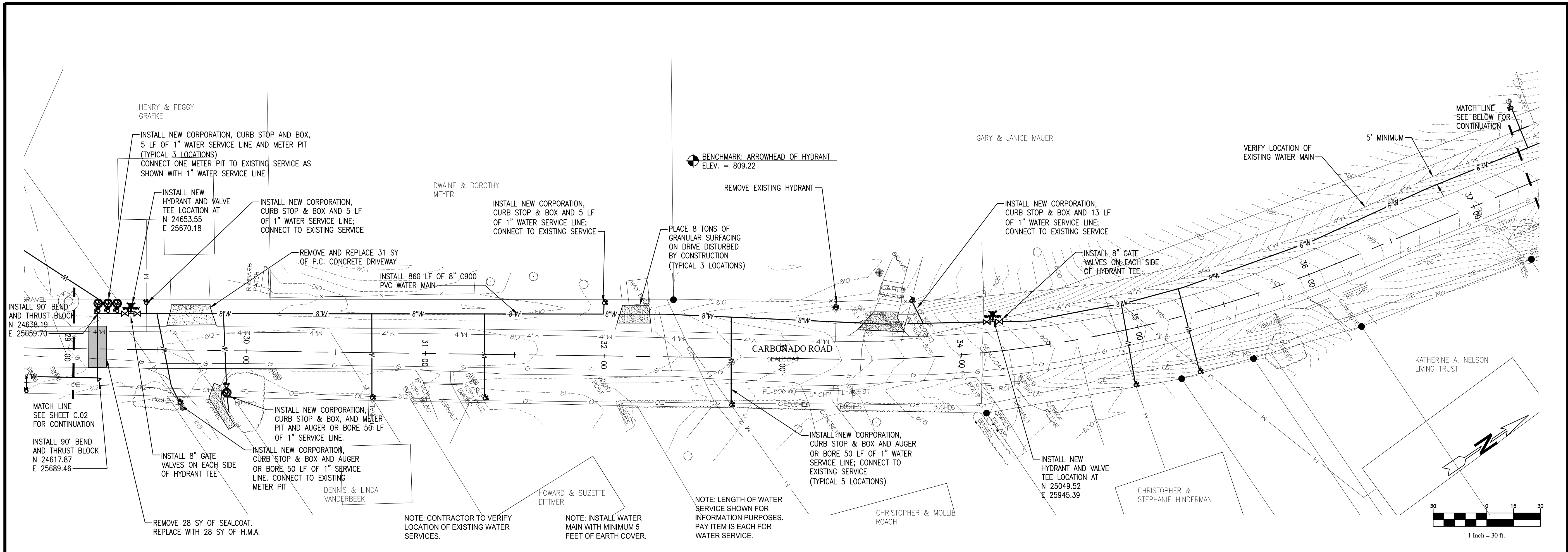
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PROJECT NO.:
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SHEET TITLE
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SCALE:
 1"=30'

FIELD BOOK:

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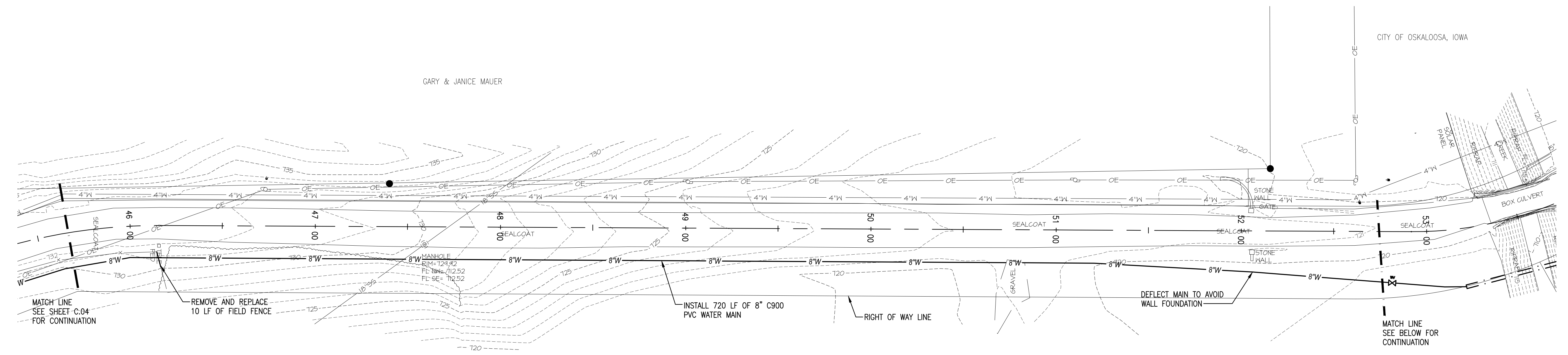
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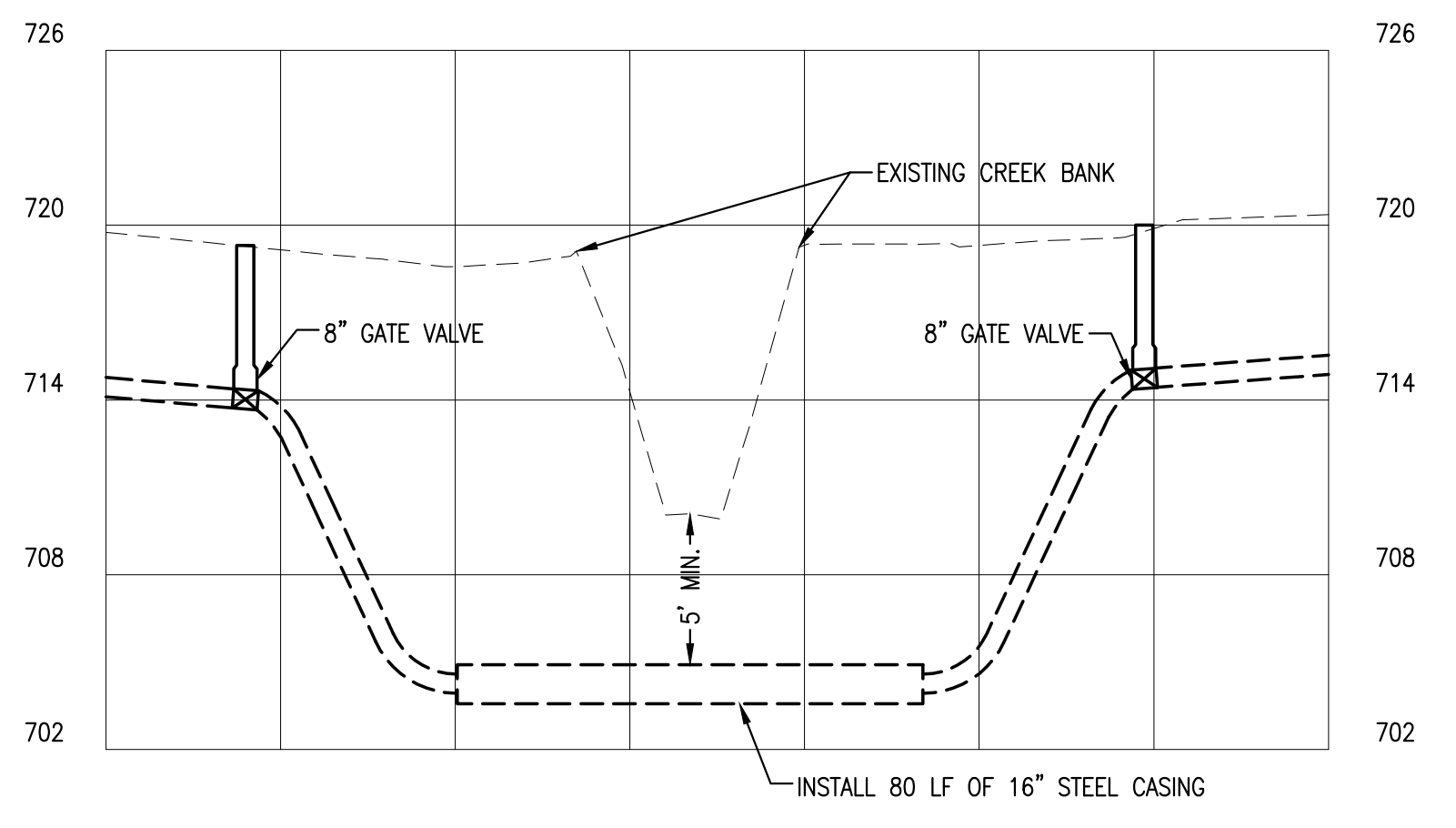
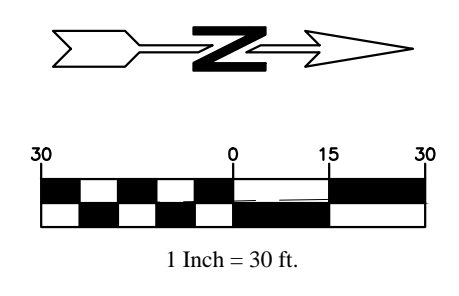
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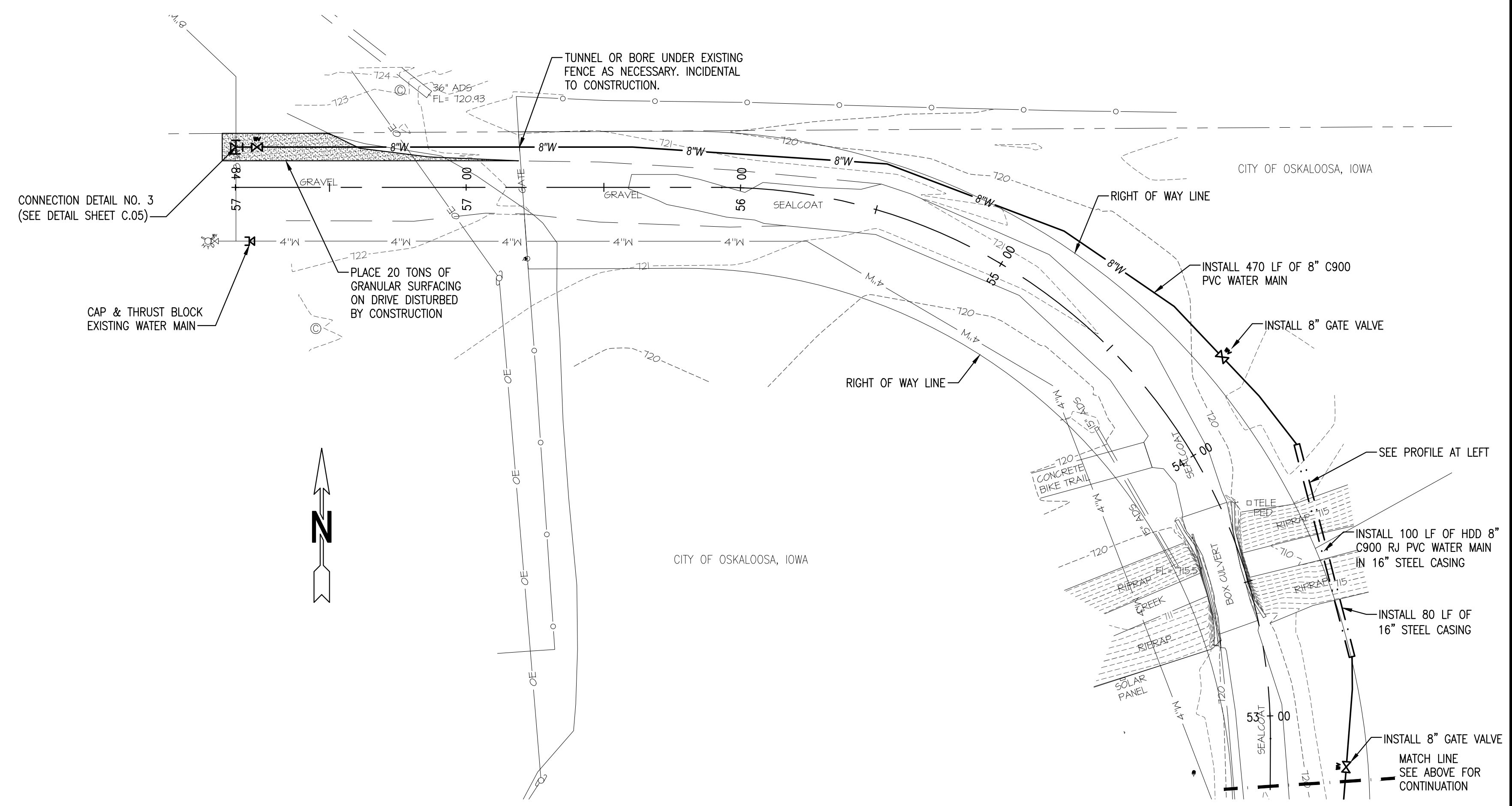


NOTE: REMOVE AND DISPOSE OF TREES AS REQUIRED FOR WATER MAIN INSTALLATION.



CREEK CROSSING DETAIL
SCALE: 1"=30' HORIZ.
1"=6' VERT.

NOTE: USE FITTING AS REQUIRED (INCIDENTAL TO CONSTRUCTION)



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SHEET TITLE
WATER MAIN PLAN

SCALE:
1"=30'

FIELD BOOK:

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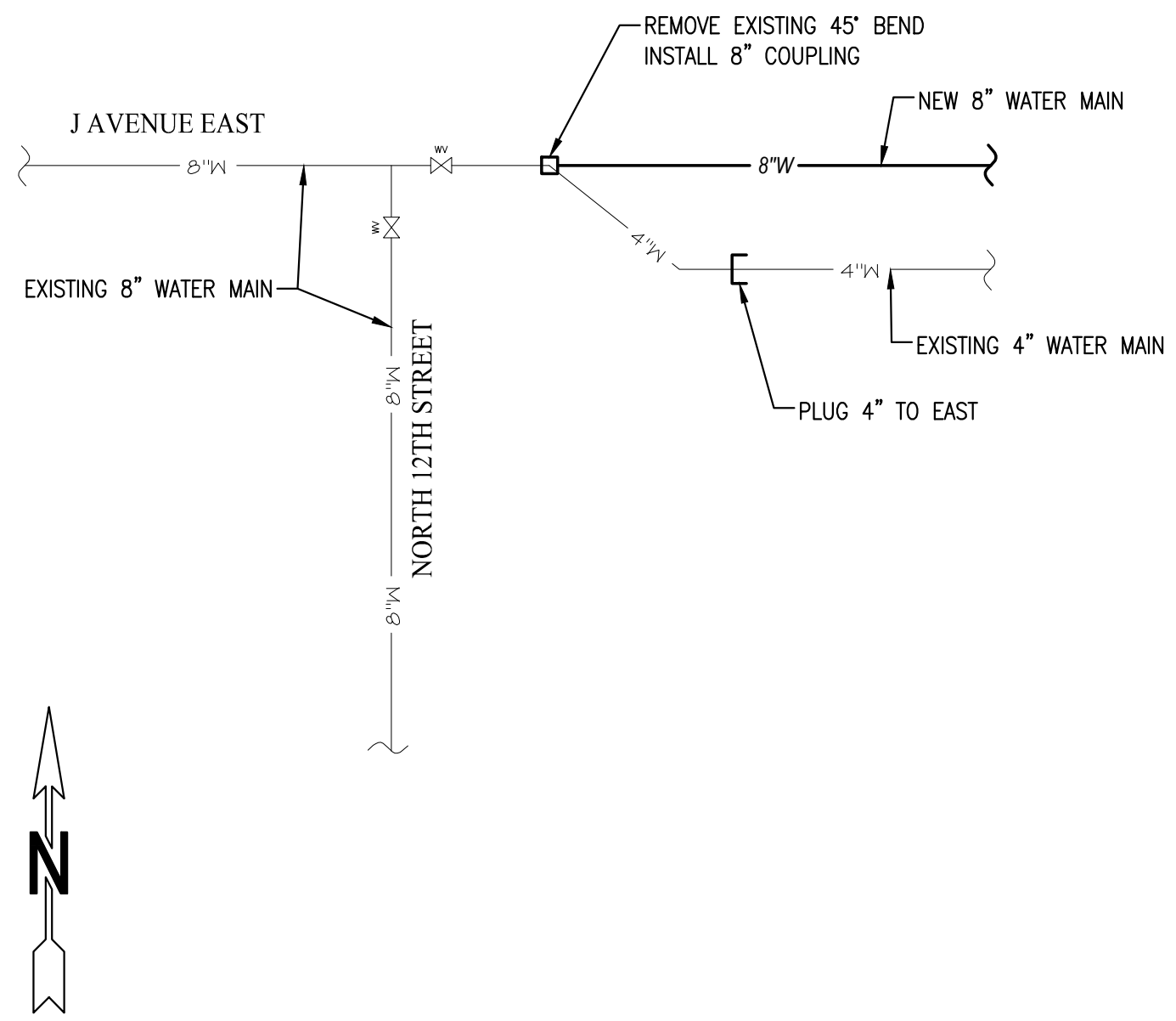
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REVISIONS:

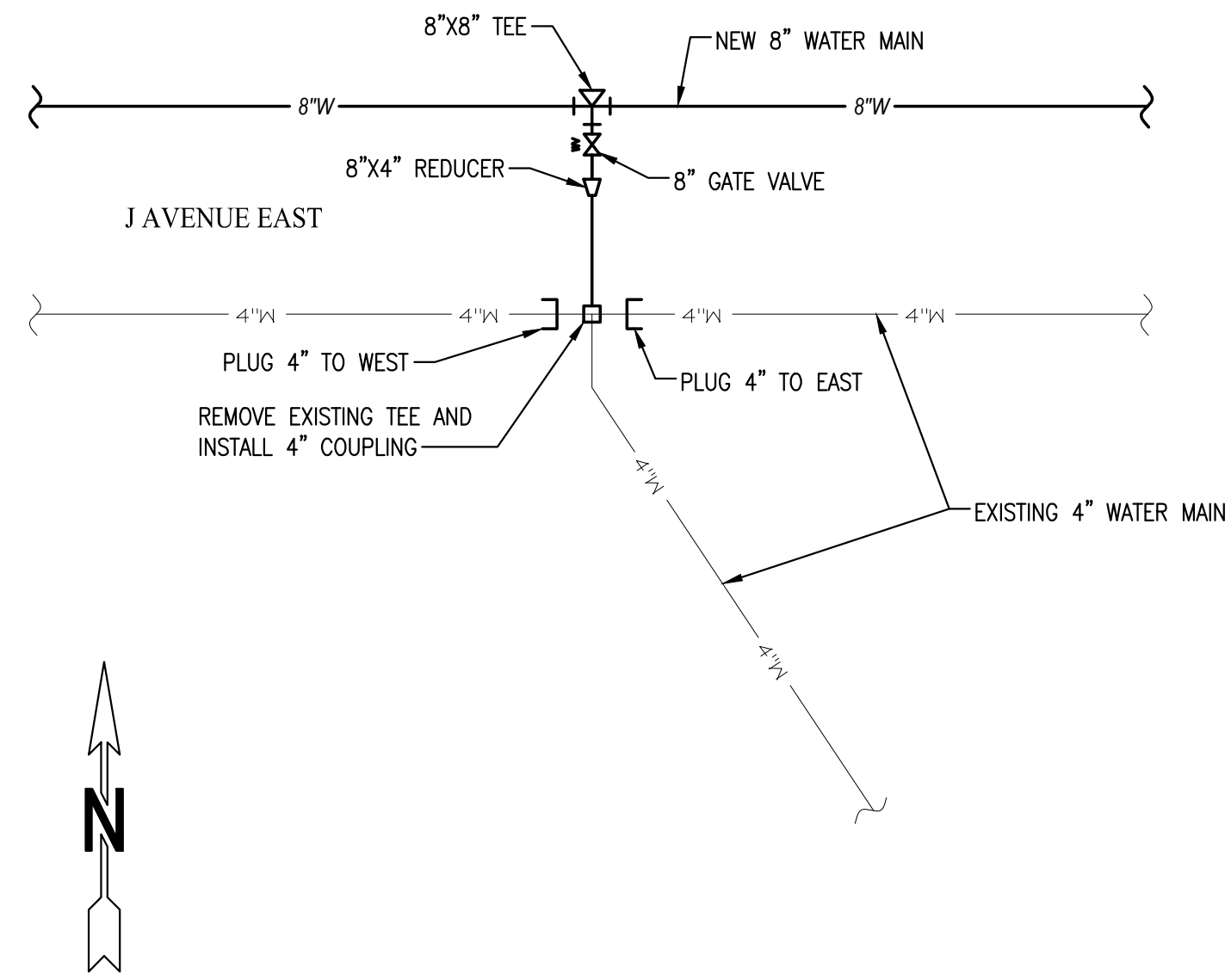
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PROJECT NO.:
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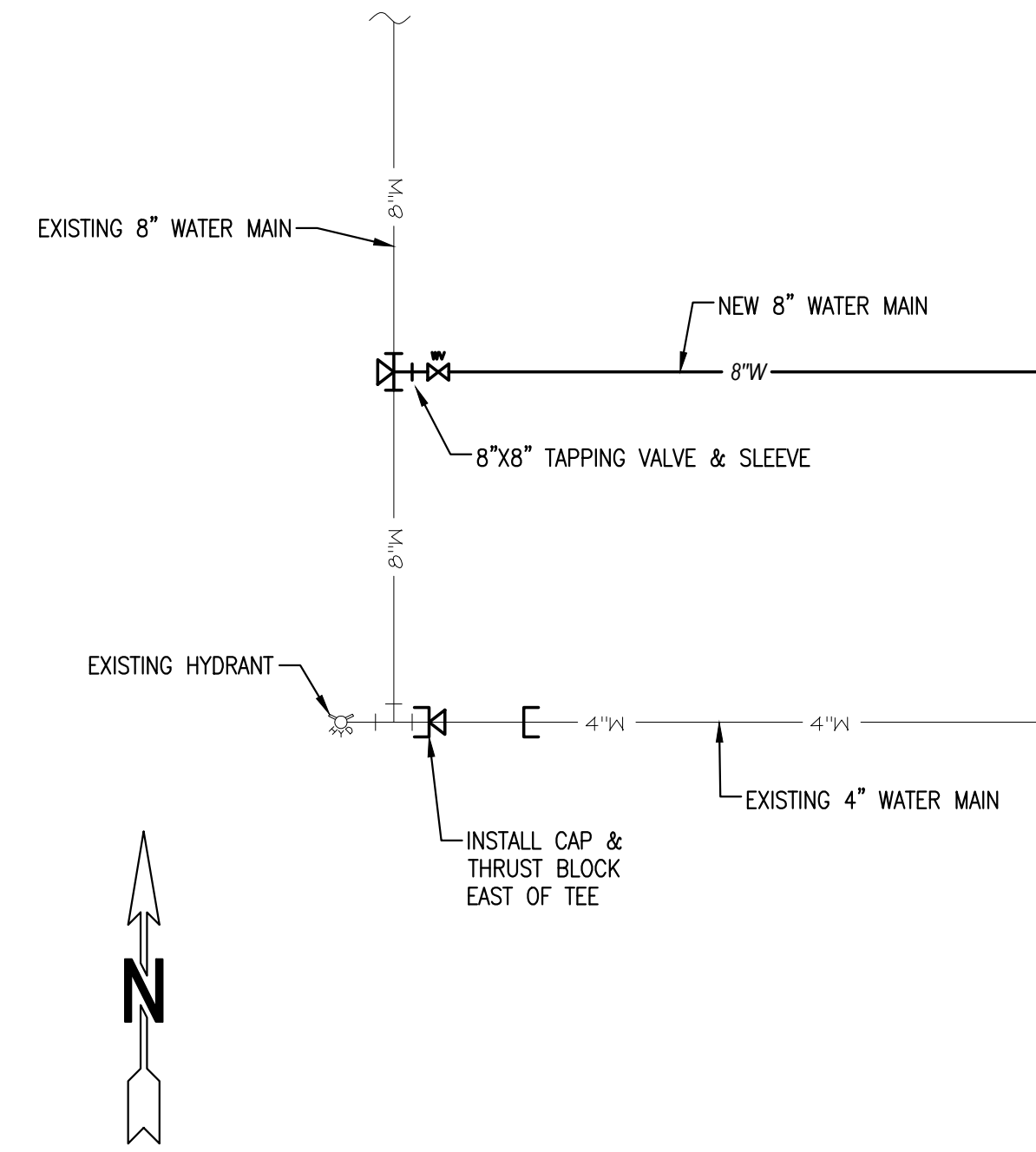
SHEET NO.:
C.04



CONNECTION NO. 1
SCALE: NONE



CONNECTION NO. 2
SCALE: NONE



CONNECTION NO. 3
SCALE: NONE

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SHEET TITLE
CONNECTION
DETAILS

SCALE:
1"=30'

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JAN. 29, 2016

PROJECT NO.:
4015097

SHEET NO.:
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