



Control Number: 46120



Item Number: 47

Addendum StartPage: 0

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P.U.C. DOCKET NO. 46120  
SOAH DOCKET NO. 473-16-5823.WS

2016 DEC 16 AM 10:16

CITY OF MIDLOTHIAN NOTICE OF  
INTENT TO PROVIDE WATER  
SERVICE TO LAND DECERTIFIED  
FROM MOUNTAIN PEAK SPECIAL  
UTILITY DISTRICT

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§

BEFORE THE STATE OFFICE  
OF  
ADMINISTRATIVE HEARINGS

DUPLICATE OF ORIGINAL  
FILING CLERK

**CITY OF MIDLOTHIAN'S FIRST SUPPLEMENTAL RESPONSES TO  
MOUNTAIN PEAK SPECIAL UTILITY DISTRICT'S  
FIRST REQUESTS FOR INFORMATION**

To: Mountain Peak Special Utility District, Respondent in the above-referenced matter, by and through its Attorney of Record:

Leonard Dougal  
Mallory Beck  
JACKSON WALKER, LLP  
100 Congress, Suite 1100  
Austin, Texas 78701

David A. Miller  
MILLER MENTZER WALKER, PC  
P. O. Box 130  
Palmer, Texas 75152


Now comes CITY OF MIDLOTHIAN, TEXAS ("Midlothian"), in the above-styled proceeding, and serves its First Supplemental Responses to Mountain Peak Special Utility District's ("Mountain Peak" or "MPSUD") First Set of Requests for Information ("RFIs") in response to rulings in SOAH Order NO. 4 (Dec. 8, 2016). These responses are timely filed.

Midlothian stipulates that the supplemental responses to Mountain Peak's requests for information can be treated by all parties as if the answers were filed under oath. Midlothian reserves the right to amend or further supplement its responses.

47

Respectfully submitted,

DAVIDSON TROILO REAM & GARZA, P.C.  
601 NW Loop 410, Suite 100  
San Antonio, Texas 78216  
Telephone: (210) 349-6484  
Facsimile: (210) 349-0041

By:   
Patrick W. Lindner  
State Bar No. 12367850  
Paul M. González  
State Bar No. 00796652  
Richard Lindner  
State Bar No. 24065626

ATTORNEYS FOR CITY OF MIDLOTHIAN

### CERTIFICATE OF SERVICE

I hereby certify that a true copy of this document was served on the parties of record in this proceeding on December 16, 2016, by email:

  
Paul M. González

P.U.C. DOCKET NO. 46120  
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CITY OF MIDLOTHIAN NOTICE OF § BEFORE THE STATE OFFICE  
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**CITY OF MIDLOTHIAN, TEXAS'S FIRST SUPPLEMENTAL RESPONSES TO  
MOUNTAIN PEAK SPECIAL UTILITY DISTRICT'S  
FIRST REQUESTS FOR INFORMATION**

MPSUD RFI No. 1:

Please produce the December 16, 2013, Memorandum prepared by Freese and Nichols related to the Midlothian Community Park Water Assessment, including all exhibits and attachments.

**Supplemental Response:**

Please see the documents labeled COM-0104-0121.

Prepared/Sponsored by:

Michael Adams  
Executive Director of Engineering & Utilities  
City of Midlothian

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**CITY OF MIDLOTHIAN, TEXAS'S FIRST SUPPLEMENTAL RESPONSES TO  
MOUNTAIN PEAK SPECIAL UTILITY DISTRICT'S  
FIRST REQUESTS FOR INFORMATION**

MPSUD RFI No. 2:

Please produce all documents related to the December 16, 2013, Memorandum prepared by Freese and Nichols related to the Midlothian Community Park Water Assessment, (the "Memorandum"), including but not limited to, all communications with Freese and Nichols, all drafts or earlier versions of the Memorandum or any part thereof, and all documents reflecting any information supplied to Freese and Nichols in preparing the Memorandum.

**Supplemental Response:**

**Please see the documents labeled COM-001-0154.**

**Discovery is ongoing, and Midlothian will supplement this response as required.**

Prepared/Sponsored by:

Michael Adams  
Executive Director of Engineering & Utilities  
City of Midlothian

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**CITY OF MIDLOTHIAN, TEXAS'S FIRST SUPPLEMENTAL RESPONSES TO  
MOUNTAIN PEAK SPECIAL UTILITY DISTRICT'S  
FIRST REQUESTS FOR INFORMATION**

MPSUD RFI No. 3:

Please produce all evaluations, assessments, written communications, or reports relating to the provision of water service to the Subject Tract, including, but not limited to, any updates of the December 16, 2013, Memorandum prepared by Freese and Nichols related to the Midlothian Community Park Water Assessment.

**Supplemental Response :**

Please see the documents produced in response to RFI No. 2, No. 4, and those labeled COM0155-00171.

**Discovery is ongoing, and Midlothian will supplement this response as required.**

Prepared/Sponsored by:

Michael Adams  
Executive Director of Engineering & Utilities  
City of Midlothian

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**CITY OF MIDLOTHIAN, TEXAS'S FIRST SUPPLEMENTAL RESPONSES TO  
MOUNTAIN PEAK SPECIAL UTILITY DISTRICT'S  
FIRST REQUESTS FOR INFORMATION**

MPSUD RFI No. 4:

Please produce all correspondence, notes and documents of any kind reflecting or relating to communications between You and Mountain Peak relating to the provision of water service to the Subject Tract.

**Supplemental Response:**

**Please see the documents labeled COM-00172-00183.**

**Discovery is ongoing, and Midlothian will supplement this response as required.**

Prepared/Sponsored by:

Michael Adams  
Executive Director of Engineering & Utilities  
City of Midlothian

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**CITY OF MIDLOTHIAN, TEXAS'S FIRST SUPPLEMENTAL RESPONSES TO  
MOUNTAIN PEAK SPECIAL UTILITY DISTRICT'S  
FIRST REQUESTS FOR INFORMATION**

MPSUD RFI No. 8:

Please describe the number of LUEs to be served as of the date of decertification on the Subject Tract.

**Supplemental Response:**

Midlothian is unable to respond as it made no attempt as of the date of decertification to determine "LUEs," which term (as defined in Mountain Peak's First Request for Information) relates only to potable water. Midlothian's estimates of water needs on the park property as of the date of decertification are included in documents produced in response to RFI No. 3.

Prepared/Sponsored by:

Michael Adams  
Executive Director of Engineering & Utilities  
City of Midlothian



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**CITY OF MIDLOTHIAN, TEXAS'S FIRST SUPPLEMENTAL RESPONSES TO  
MOUNTAIN PEAK SPECIAL UTILITY DISTRICT'S  
FIRST REQUESTS FOR INFORMATION**

MPSUD RFI No. 9:

Please provide all documents relating to your response to RFI No. 8.

**Response:**

**Please see the documents produced in response to RFI No. 3.**

**Discovery is ongoing, and Midlothian will supplement this response as required.**

Prepared/Sponsored by:

Michael Adams  
Executive Director of Engineering & Utilities  
City of Midlothian



innovative approach  
pragmatic results  
outstanding service

1701 N Market St., #500, LB51 • Dallas, Texas 75202 • 214-217-2200 • fax 214-217-2201 www.freese.com

April 12, 2013

Mike Adams  
Director of Public Works  
City of Midlothian  
104 W. Avenue E  
Midlothian, TX 76065

Dear Mike:

We are pleased to submit this proposal to provide professional engineering services to the City of Midlothian for the assessment of water service to the new Midlothian Community Park located northeast of FM 663 and Ashford Lane.

#### **SCOPE OF SERVICES**

The scope of services will include an evaluation of the cost to provide water service to the new Midlothian Community Park versus supply by other service providers. The scope of services will include the following items:

1. Evaluation of infrastructure demand/need to the park site and assessment of the ability to provide such service by the City or other district.
2. Estimation of probable cost for provision of water service.
3. Preparation of a Technical Memorandum to document FNI's findings/recommendations.
4. Attendance of up to one (1) meeting to discuss FNI's recommendations.

#### **TIME OF COMPLETION**

FNI is authorized to commence work on the Project upon execution of this Agreement and agrees to complete work within two (2) months of the execution date of this Agreement.

If FNI's services are delayed through no fault of FNI, FNI shall be entitled to equitable adjustment of compensation and FNI shall be entitled to adjust contract schedule consistent with the number of days of delay.

**RESPONSIBILITIES OF CITY**

City shall perform the following in a timely manner so as not to delay the services of FNI:

- A. Designate in writing a person to act as City’s representative with respect to the services to be rendered under this Agreement. Such person shall have contract authority to transmit instructions, receive information, interpret and define City’s policies and decisions with respect to FNI’s services for the Project.
- B. As the City of Midlothian will serve as a conduit for information, the City shall provide information pertaining to applicable ordinances, studies, available data or development plans. If data is required from other public agencies or applicants for development, the City will assist in making requests for such data. When possible, electronic information should be obtained for purposes of overlaying such data with other information in geographic information systems (GIS).
- C. Coordinate meeting times and places, including notifying each study team member.
- D. Review and comment on Consultant recommendations.

**DESIGNATED REPRESENTATIVES**

FNI and CITY designate the following representatives:

CITY’s Designated Representative: Mr. Mike Adams, P.E.  
 104 W. Avenue E, Midlothian, Texas 76065  
 Phone: 972-775-7105  
 Email: Mike.Adams@Midlothian.tx.us

CITY’s Designated Representative: Name: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 Email: \_\_\_\_\_

FNI’s Project Manager: Eddie Haas, AICP  
 1701 N. Market St., #500, LB51, Dallas, Texas 75202-2001  
 Phone 214-217-2321  
 Email: eh@freese.com

FNI’s Accounting Representative: Leah Granger  
 1701 N. Market St., #500, LB51, Dallas, Texas 75202-2001  
 Phone 214-217-2258  
 Email: lkg@freese.com

**COMPENSATION**

Work for this effort shall be on an hourly not-to-exceed basis with a maximum fee of \$2,500.00. Should the need for additional services and/or budget amendments arise, the Client shall approve in writing such request prior to commencement of work.

**TERMS AND CONDITIONS OF AGREEMENT**

We propose to furnish our services as described herein in accordance with Attachment TC, "Terms and Conditions of Agreement".

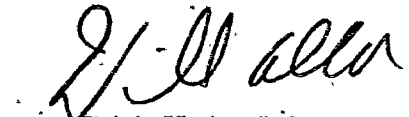
We appreciate this opportunity to submit this proposal. We look forward to meeting with you to discuss the project. If additional information or clarification is desired, please do not hesitate to contact us. If you are in agreement with the services described above and wish for us to proceed with this assignment, please sign below and return one copy of the agreement for our files

Sincerely,

Approved:

**FREESE AND NICHOLS, INC.**

**CITY OF MIDLOTHIAN, TEXAS**

  
Tricia Hatley, P.E.  
Vice President

By: \_\_\_\_\_

Print or Type Name

Title: \_\_\_\_\_

Date: \_\_\_\_\_

**Freese and Nichols, Inc. (ENGINEER) shall indemnify and save harmless the City of Midlothian (OWNER) and its officers, agents and employees from the liability of the OWNER on account of any injuries or damages received or sustained by any person or persons, or property, including court costs and reasonable attorney fees incurred by the OWNER, proximately caused by the negligent acts or omissions of the ENGINEER or its officers, agents, or employees in the execution, operation, or performance of this Agreement.**

**Disputes between the parties shall be resolved in the 40<sup>th</sup> Judicial District Court of Ellis County, Texas.**

**COMPENSATION**

**Not to Exceed:** The total fee for Basic Services in Attachment SC shall be computed on the basis of the Schedule of Charges, but shall not exceed Two Thousand Five Hundred Dollars (\$2,500.00). If FNI sees the Scope of Services changing so that Additional Services are needed, including but not limited to those services described as Additional Services in Attachment SC, FNI will notify OWNER for OWNER's approval before proceeding. Additional Services shall be computed based on the Schedule of Charges.

**Schedule of Charges:**

<u>Position</u>	<u>Rate</u>
Professional - 1	99
Professional - 2	120
Professional - 3	135
Professional - 4	156
Professional - 5	182
Professional - 6	208
Construction Manager - 1	79
Construction Manager - 2	103
Construction Manager - 3	121
Construction Manager - 4	151
CAD Technician/Designer - 1	84
CAD Technician/Designer - 2	109
CAD Technician/Designer - 3	134
Corporate Project Support - 1	80
Corporate Project Support - 2	97
Corporate Project Support - 3	129
Intern/ Coop	49

**Rates for In-House Services**

**Technology Charge**

\$8.50 per hour

**Travel**

Standard IRS Rates

**Bulk Printing and Reproduction**

Black and White	\$0.10 per copy
Color	\$0.50 per copy
Plot - Bond	\$2.50 per plot
Plot - Color	\$5.75 per plot
Plot - Other	\$5.00 per plot
Binding	\$5.75 per book

**OTHER DIRECT EXPENSES:**

Other direct expenses are reimbursed at actual cost times a multiplier of 1.15. They include outside printing and reproduction expense, communication expense, travel, transportation and subsistence away from the FNI office and other miscellaneous expenses directly related to the work, including costs of laboratory analysis, test, and other work required to be done by independent persons other than staff members. For Resident Representative services performed by non-FNI employees and CAD services performed In-house by non-FNI employees where FNI provides workspace and equipment to perform such services, these services will be billed at cost times a multiplier of 2.0. This markup approximates the cost to FNI if an FNI employee was performing the same or similar services.

These rates will be adjusted annually.

FNI  
OWNER

TERMS AND CONDITIONS OF AGREEMENT

- 1. **DEFINITIONS:** The term Owner as used herein refers to the City of Midlothian, Texas. The term FNI as used herein refers to Freese and Nichols, Inc., its employees and agents; also its subcontractors and their employees and agents. As used herein, Services refers to the professional services performed by Freese and Nichols pursuant to the AGREEMENT.
- 2. **CHANGES:** Owner, without invalidating the AGREEMENT, may order changes within the general scope of the WORK required by the AGREEMENT by altering, adding to and/or deducting from the WORK to be performed. If any change under this clause causes an increase or decrease in FNI's cost of, or the time required for, the performance of any part of the Services under the AGREEMENT, an equitable adjustment will be made by mutual agreement and the AGREEMENT modified in writing accordingly.
- 3. **TERMINATION:** The obligation to provide services under this AGREEMENT may be terminated by either party upon ten days' written notice. In the event of termination, FNI will be paid for all services rendered and reimbursable expenses incurred to the date of termination and, in addition, all reimbursable expenses directly attributable to termination.
- 4. **CONSEQUENTIAL DAMAGES:** In no event shall FNI or its subcontractors be liable in contract, tort, strict liability, warranty, or otherwise for any special, indirect, incidental or consequential damages, such as loss of product, loss of use of the equipment or system, loss of anticipated profits or revenue, non operation or increased expense of operation or other equipment or systems.
- 5. **INFORMATION FURNISHED BY OWNER:** Owner will assist FNI by placing at FNI's disposal all available information pertinent to the Project including previous reports and any other data relative to design or construction of the Project. FNI shall have no liability for defects or negligence in the Services attributable to FNI's reliance upon or use of data, design criteria, drawings, specifications or other information furnished by Owner and Owner agrees to indemnify and hold FNI harmless from any and all claims and judgments, and all losses, costs and expenses arising therefrom. FNI shall disclose to Owner, prior to use thereof, defects or omissions in the data, design criteria, drawings, specifications or other information furnished by Owner to FNI that FNI may reasonably discover in its review and inspection thereof.
- 6. **INSURANCE:** FNI shall provide to Owner certificates of insurance which shall contain the following minimum coverage (All limits in thousands):

<b>Commercial General Liability</b>		<b>Workers' Compensation</b>
General Aggregate	\$2,000	Each Accident \$500
<b>Automobile Liability (Any Auto)</b>		<b>Professional Liability</b>
CSL	\$1,000	\$3,000 Annual Aggregate

- 7. **SUBCONTRACTS:** If, for any reason, at any time during the progress of providing Services, Owner determines that any subcontractor for FNI is incompetent or undesirable, Owner will notify FNI accordingly and FNI shall take immediate steps for cancellation of such subcontract. Subletting by subcontractors shall be subject to the same regulations. Nothing contained in the AGREEMENT shall create any contractual relation between any subcontractor and Owner.
- 8. **OWNERSHIP OF DOCUMENTS:** All drawings, reports data and other project information developed in the execution of the Services provided under this AGREEMENT shall be the property of the Owner upon payment of FNI's fees for services. FNI may retain copies for record purposes. Owner agrees such documents are not intended or represented to be suitable for reuse by Owner or others. Any reuse by Owner or by those who obtained said documents from Owner without written verification or adaptation by FNI will be at Owner's sole risk and without liability or legal exposure to FNI, or to FNI's independent associates or consultants, and Owner shall indemnify and hold harmless FNI and FNI's independent associates and consultants from all claims, damages, losses and expenses including attorneys' fees arising out of or resulting therefrom. Any such verification or adaptation will entitle FNI to further reasonable compensation. FNI may reuse all drawings, report data and other project information in the execution of the Services provided under this AGREEMENT in FNI's other activities. Any reuse by FNI will be at FNI's sole risk and without liability or legal exposure to Owner, and FNI shall indemnify and hold harmless Owner from all claims, damages, losses and expenses including attorneys' fees arising out of or resulting therefrom.

FNI W

OWNER \_\_\_\_\_

9. **POLLUTANTS AND HAZARDOUS WASTES:** It is understood and agreed that FNI has neither created nor contributed to the creation or existence of any hazardous, radioactive, toxic, irritant, pollutant, or otherwise dangerous substance or condition at the site, if any, and its compensation hereunder is in no way commensurate with the potential risk of injury or loss that may be caused by exposures to such substances or conditions. The parties agree that in performing the Services required by this AGREEMENT, FNI does not take possession or control of the subject site, but acts as an invitee in performing the services, and is not therefore responsible for the existence of any pollutant present on or migrating from the site. Further, FNI shall have no responsibility for any pollutant during clean-up, transportation, storage or disposal activities.

10. **OPINION OF PROBABLE COSTS:** FNI will furnish an opinion of probable project development cost based on present day cost, but does not guarantee the accuracy of such estimates. Opinions of probable cost, financial evaluations, feasibility studies, economic analyses of alternate solutions and utilitarian considerations of operations and maintenance costs prepared by FNI hereunder will be made on the basis of FNI's experience and qualifications and represent FNI's judgment as an experienced and qualified design professional. It is recognized, however, that FNI does not have control over the cost of labor, material, equipment or services furnished by others or over market conditions or contractors' methods of determining their prices.

11. **CONSTRUCTION REPRESENTATION:** If required by the AGREEMENT, FNI will furnish Construction Representation according to the defined scope for these services. FNI will observe the progress and the quality of work to determine in general if the work is proceeding in accordance with the Contract Documents. In performing these services, FNI will endeavor to protect Owner against defects and deficiencies in the work of Contractors; FNI will report any observed deficiencies to Owner, however, it is understood that FNI does not guarantee the Contractor's performance, nor is FNI responsible for the supervision of the Contractor's operation and employees. FNI shall not be responsible for the means, methods, techniques, sequences or procedures of construction selected by the Contractor, or the safety precautions and programs incident to the work of the Contractor. FNI shall not be responsible for the acts or omissions of any person (except his own employees or agent) at the Project site or otherwise performing any of the work of the Project. If Owner designates a person to serve in the capacity of Resident Project Representative who is not a FNI's employee or FNI's agent, the duties, responsibilities and limitations of authority of such Resident Project Representative(s) will be set forth in writing and made a part of this AGREEMENT before the Construction Phase of the Project begins.

12. **PAYMENT:** Progress payments may be requested by FNI based on the amount of services completed. Payment for the services of FNI shall be due and payable upon submission of a statement for services to OWNER. Statements for services shall not be submitted more frequently than monthly. Any applicable new taxes imposed upon services, expenses, and charges by any governmental body after the execution of this AGREEMENT will be added to FNI's compensation.

If OWNER fails to make any payment due FNI for services and expenses within thirty (30) days after receipt of FNI's statement for services therefore, the amounts due FNI will be increased at the rate of one percent (1%) per month from said thirtieth (30th) day, and, in addition, FNI may, after giving seven (7) days written notice to OWNER, suspend services under this AGREEMENT until FNI has been paid in full, all amounts due for services, expenses and charges.

~~13. **ARBITRATION:** No arbitration arising out of, or relating to, this AGREEMENT involving one party to this AGREEMENT may include the other party to this AGREEMENT without their approval.~~

14. **SUCCESSORS AND ASSIGNMENTS:** OWNER and FNI each are hereby bound and the partners, successors, executors, administrators and legal representatives of OWNER and FNI are hereby bound to the other party to this AGREEMENT and to the partners, successors, executors, administrators and legal representatives (and said assigns) of such other party, in respect of all covenants, agreements and obligations of this AGREEMENT.

Neither OWNER nor FNI shall assign, sublet or transfer any rights under or interest in (including, but without limitation, moneys that may become due or moneys that are due) this AGREEMENT without the written consent of the other, except to the extent that any assignment, subletting or transfer is mandated by law or the effect of this limitation may be restricted by law. Unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under this AGREEMENT. Nothing contained in this paragraph shall prevent FNI from employing such independent associates and consultants as FNI may deem appropriate to assist in the performance of services hereunder.

15. **PURCHASE ORDERS:** If a Purchase Order is used to authorize FNI's Services, only the terms, conditions/instructions typed on the face of the Purchase Order shall apply to this AGREEMENT. Should there be any conflict between the Purchase Order and the terms of this AGREEMENT, then this AGREEMENT shall prevail and shall be determinative of the conflict.

FNI 

OWNER \_\_\_\_\_



1701 N Market St., #500, LB51 • Dallas, Texas 75202 • 214-217-2200 • fax 214-217-2201

April 26, 2013

Mike Adams  
Director of Public Works  
City of Midlothian  
104 W. Avenue E  
Midlothian, TX 76065

Dear Mike:

We are pleased to submit this proposal to provide professional engineering services to the City of Midlothian for the assessment of water service to the new Midlothian Community Park located northeast of FM 663 and Ashford Lane.

#### **SCOPE OF SERVICES**

The scope of services will include an evaluation of the cost to provide water service to the new Midlothian Community Park versus supply by other service providers. The scope of services will include the following items:

1. Evaluation of infrastructure demand/need to the park site and assessment of the ability to provide such service by the City or other district.
2. Estimation of probable cost for provision of water service.
3. Identification of other long-term costs such as operations/maintenance, changes in water costs over time, termination of service, or drought implementation.
4. Preparation of a Technical Memorandum to document FNI's findings/recommendations.
5. Attendance of up to one (1) meeting to discuss FNI's recommendations.

#### **TIME OF COMPLETION**

FNI is authorized to commence work on the Project upon execution of this Agreement and agrees to complete work within two (2) months of the execution date of this Agreement.

If FNI's services are delayed through no fault of FNI, FNI shall be entitled to equitable adjustment of compensation and FNI shall be entitled to adjust contract schedule consistent with the number of days of delay.



**RESPONSIBILITIES OF CITY**

City shall perform the following in a timely manner so as not to delay the services of FNI:

- A. Designate in writing a person to act as City’s representative with respect to the services to be rendered under this Agreement. Such person shall have contract authority to transmit instructions, receive information, interpret and define City’s policies and decisions with respect to FNI’s services for the Project.
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- C. Coordinate meeting times and places, including notifying each study team member.
- D. Review and comment on Consultant recommendations.

**DESIGNATED REPRESENTATIVES**

FNI and CITY designate the following representatives:

CITY’s Designated Representative: Mr. Mike Adams, P.E.  
 104 W. Avenue E, Midlothian, Texas 76065  
 Phone: 972-775-7105  
 Email: Mike.Adams@Midlothian.tx.us

CITY’s Designated Representative: Name: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 Email: \_\_\_\_\_

FNI’s Project Manager: Eddie Haas, AICP  
 1701 N. Market St., #500, LB51, Dallas, Texas 75202-2001  
 Phone 214-217-2321  
 Email: eh@freese.com

FNI’s Accounting Representative: Leah Granger  
 1701 N. Market St., #500, LB51, Dallas, Texas 75202-2001  
 Phone 214-217-2258  
 Email: lkg@freese.com

**COMPENSATION**

Work for this effort shall be on an hourly not-to-exceed basis with a maximum fee of \$5,000. Should the need for additional services and/or budget amendments arise, the Client shall approve in writing such request prior to commencement of work.

**TERMS AND CONDITIONS OF AGREEMENT**

We propose to furnish our services as described herein in accordance with Attachment TC, "Terms and Conditions of Agreement".

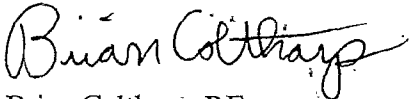
We appreciate this opportunity to submit this proposal. We look forward to meeting with you to discuss the project. If additional information or clarification is desired, please do not hesitate to contact us. If you are in agreement with the services described above and wish for us to proceed with this assignment, please sign below and return one copy of the agreement for our files

Sincerely,

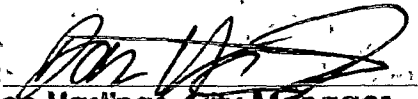
Approved:

**FREESE AND NICHOLS, INC.**

**CITY OF MIDLOTHIAN, TEXAS**



Brian Coltharp, P.E.  
Vice President

By:   
**Don Hastings, City Manager**

Print or Type Name

Title: City Manager

Date: 05-02-2013

Freese and Nichols, Inc. (ENGINEER) shall indemnify and save harmless the City of Midlothian (OWNER) and its officers, agents and employees from the liability of the OWNER on account of any injuries or damages received or sustained by any person or persons, or property, including court costs and reasonable attorney fees incurred by the OWNER, proximately caused by the negligent acts or omissions of the ENGINEER or its officers, agents, or employees in the execution, operation, or performance of this Agreement.

Disputes between the parties shall be resolved in the 40<sup>th</sup> Judicial District Court of Ellis County, Texas.

**COMPENSATION**

**Not to Exceed:** The total fee for Basic Services in Attachment SC shall be computed on the basis of the Schedule of Charges, but shall not exceed Five Thousand Dollars (\$5,000.00). If FNI sees the Scope of Services changing so that Additional Services are needed, including but not limited to those services described as Additional Services in Attachment SC, FNI will notify OWNER for OWNER's approval before proceeding. Additional Services shall be computed based on the Schedule of Charges.

**Schedule of Charges:**

<u>Position</u>	<u>Rate</u>
Professional - 1	99
Professional - 2	120
Professional - 3	135
Professional - 4	156
Professional - 5	182
Professional - 6	208
Construction Manager - 1	79
Construction Manager - 2	103
Construction Manager - 3	121
Construction Manager - 4	151
CAD Technician/Designer - 1	84
CAD Technician/Designer - 2	109
CAD Technician/Designer - 3	134
Corporate Project Support - 1	80
Corporate Project Support - 2	97
Corporate Project Support - 3	129
Intern/ Coop	49

**Rates for In-House Services**

**Technology Charge**

\$8.50 per hour

**Travel**

Standard IRS Rates

**Bulk Printing and Reproduction**

Black and White	\$0.10 per copy
Color	\$0.50 per copy
Plot - Bond	\$2.50 per plot
Plot - Color	\$5.75 per plot
Plot - Other	\$5.00 per plot
Binding	\$5.75 per book

**OTHER DIRECT EXPENSES:**

Other direct expenses are reimbursed at actual cost times a multiplier of 1.15. They include outside printing and reproduction expense, communication expense, travel, transportation and subsistence away from the FNI office and other miscellaneous expenses directly related to the work, including costs of laboratory analysis, test, and other work required to be done by independent persons other than staff members. For Resident Representative services performed by non-FNI employees and CAD services performed in-house by non-FNI employees where FNI provides workspace and equipment to perform such services, these services will be billed at cost times a multiplier of 2.0. This markup approximates the cost to FNI if an FNI employee was performing the same or similar services.

These rates will be adjusted annually.

FNI BCC  
OWNER \_\_\_\_\_

TERMS AND CONDITIONS OF AGREEMENT

- 1. **DEFINITIONS:** The term Owner as used herein refers to the City of Midlothian, Texas. The term FNI as used herein refers to Freese and Nichols, Inc., its employees and agents; also its subcontractors and their employees and agents. As used herein, Services refers to the professional services performed by Freese and Nichols pursuant to the AGREEMENT.
- 2. **CHANGES:** Owner, without invalidating the AGREEMENT, may order changes within the general scope of the WORK required by the AGREEMENT by altering, adding to and/or deducting from the WORK to be performed. If any change under this clause causes an increase or decrease in FNI's cost of, or the time required for, the performance of any part of the Services under the AGREEMENT, an equitable adjustment will be made by mutual agreement and the AGREEMENT modified in writing accordingly.
- 3. **TERMINATION:** The obligation to provide services under this AGREEMENT may be terminated by either party upon ten days' written notice. In the event of termination, FNI will be paid for all services rendered and reimbursable expenses incurred to the date of termination and, in addition, all reimbursable expenses directly attributable to termination.
- 4. **CONSEQUENTIAL DAMAGES:** In no event shall FNI or its subcontractors be liable in contract, tort, strict liability, warranty, or otherwise for any special, indirect, incidental or consequential damages, such as loss of product, loss of use of the equipment or system, loss of anticipated profits or revenue, non operation or increased expense of operation or other equipment or systems.
- 5. **INFORMATION FURNISHED BY OWNER:** Owner will assist FNI by placing at FNI's disposal all available information pertinent to the Project including previous reports and any other data relative to design or construction of the Project. FNI shall have no liability for defects or negligence in the Services attributable to FNI's reliance upon or use of data, design criteria, drawings, specifications or other information furnished by Owner and Owner agrees to indemnify and hold FNI harmless from any and all claims and judgments, and all losses, costs and expenses arising therefrom. FNI shall disclose to Owner, prior to use thereof, defects or omissions in the data, design criteria, drawings, specifications or other information furnished by Owner to FNI that FNI may reasonably discover in its review and inspection thereof.
- 6. **INSURANCE:** FNI shall provide to Owner certificates of insurance which shall contain the following minimum coverage (All limits in thousands):

<b>Commercial General Liability</b>		<b>Workers' Compensation</b>
General Aggregate	\$2,000	Each Accident \$500
<b>Automobile Liability (Any Auto)</b>		<b>Professional Liability</b>
CSL	\$1,000	\$3,000 Annual Aggregate

- 7. **SUBCONTRACTS:** If, for any reason, at any time during the progress of providing Services, Owner determines that any subcontractor for FNI is incompetent or undesirable, Owner will notify FNI accordingly and FNI shall take immediate steps for cancellation of such subcontract. Subletting by subcontractors shall be subject to the same regulations. Nothing contained in the AGREEMENT shall create any contractual relation between any subcontractor and Owner.
- 8. **OWNERSHIP OF DOCUMENTS:** All drawings, reports data and other project information developed in the execution of the Services provided under this AGREEMENT shall be the property of the Owner upon payment of FNI's fees for services. FNI may retain copies for record purposes. Owner agrees such documents are not intended or represented to be suitable for reuse by Owner or others. Any reuse by Owner or by those who obtained said documents from Owner without written verification or adaptation by FNI will be at Owner's sole risk and without liability or legal exposure to FNI, or to FNI's independent associates or consultants, and Owner shall indemnify and hold harmless FNI and FNI's independent associates and consultants from all claims, damages, losses and expenses including attorneys' fees arising out of or resulting therefrom. Any such verification or adaptation will entitle FNI to further reasonable compensation. FNI may reuse all drawings, report data and other project information in the execution of the Services provided under this AGREEMENT in FNI's other activities. Any reuse by FNI will be at FNI's sole risk and without liability or legal exposure to Owner, and FNI shall indemnify and hold harmless Owner from all claims, damages, losses and expenses including attorneys' fees arising out of or resulting therefrom.

FNI BCC

OWNER \_\_\_\_\_

9. **POLLUTANTS AND HAZARDOUS WASTES:** It is understood and agreed that FNI has neither created nor contributed to the creation or existence of any hazardous, radioactive, toxic, irritant, pollutant, or otherwise dangerous substance or condition at the site, if any, and its compensation hereunder is in no way commensurate with the potential risk of injury or loss that may be caused by exposures to such substances or conditions. The parties agree that in performing the Services required by this AGREEMENT, FNI does not take possession or control of the subject site, but acts as an invitee in performing the services, and is not therefore responsible for the existence of any pollutant present on or migrating from the site. Further, FNI shall have no responsibility for any pollutant during clean-up, transportation, storage or disposal activities.
10. **OPINION OF PROBABLE COSTS:** FNI will furnish an opinion of probable project development cost based on present day cost, but does not guarantee the accuracy of such estimates. Opinions of probable cost, financial evaluations, feasibility studies, economic analyses of alternate solutions and utilitarian considerations of operations and maintenance costs prepared by FNI hereunder will be made on the basis of FNI's experience and qualifications and represent FNI's judgment as an experienced and qualified design professional. It is recognized, however, that FNI does not have control over the cost of labor, material, equipment or services furnished by others or over market conditions or contractors' methods of determining their prices.
11. **CONSTRUCTION REPRESENTATION:** If required by the AGREEMENT, FNI will furnish Construction Representation according to the defined scope for these services. FNI will observe the progress and the quality of work to determine in general if the work is proceeding in accordance with the Contract Documents. In performing these services, FNI will endeavor to protect Owner against defects and deficiencies in the work of Contractors; FNI will report any observed deficiencies to Owner, however, it is understood that FNI does not guarantee the Contractor's performance, nor is FNI responsible for the supervision of the Contractor's operation and employees. FNI shall not be responsible for the means, methods, techniques, sequences or procedures of construction selected by the Contractor, or the safety precautions and programs incident to the work of the Contractor. FNI shall not be responsible for the acts or omissions of any person (except his own employees or agent) at the Project site or otherwise performing any of the work of the Project. If Owner designates a person to serve in the capacity of Resident Project Representative who is not a FNI's employee or FNI's agent, the duties, responsibilities and limitations of authority of such Resident Project Representative(s) will be set forth in writing and made a part of this AGREEMENT before the Construction Phase of the Project begins.
12. **PAYMENT:** Progress payments may be requested by FNI based on the amount of services completed. Payment for the services of FNI shall be due and payable upon submission of a statement for services to OWNER. Statements for services shall not be submitted more frequently than monthly. Any applicable new taxes imposed upon services, expenses, and charges by any governmental body after the execution of this AGREEMENT will be added to FNI's compensation.

If OWNER fails to make any payment due FNI for services and expenses within thirty (30) days after receipt of FNI's statement for services therefore, the amounts due FNI will be increased at the rate of one percent (1%) per month from said thirtieth (30th) day, and, in addition, FNI may, after giving seven (7) days written notice to OWNER, suspend services under this AGREEMENT until FNI has been paid in full, all amounts due for services, expenses and charges.

~~13. **ARBITRATION:** No arbitration arising out of, or relating to, this AGREEMENT involving one party to this AGREEMENT may include the other party to this AGREEMENT without their approval.~~

14. **SUCCESSORS AND ASSIGNMENTS:** OWNER and FNI each are hereby bound and the partners, successors, executors, administrators and legal representatives of OWNER and FNI are hereby bound to the other party to this AGREEMENT and to the partners, successors, executors, administrators and legal representatives (and said assigns) of such other party, in respect of all covenants, agreements and obligations of this AGREEMENT.

Neither OWNER nor FNI shall assign, sublet or transfer any rights under or interest in (including, but without limitation, moneys that may become due or moneys that are due) this AGREEMENT without the written consent of the other, except to the extent that any assignment, subletting or transfer is mandated by law or the effect of this limitation may be restricted by law. Unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under this AGREEMENT. Nothing contained in this paragraph shall prevent FNI from employing such independent associates and consultants as FNI may deem appropriate to assist in the performance of services hereunder.

15. **PURCHASE ORDERS:** If a Purchase Order is used to authorize FNI's Services, only the terms, conditions/instructions typed on the face of the Purchase Order shall apply to this AGREEMENT. Should there be any conflict between the Purchase Order and the terms of this AGREEMENT, then this AGREEMENT shall prevail and shall be determinative of the conflict.

FNI BCC

OWNER \_\_\_\_\_

**Mike Adams**

---

**From:** Mike Adams  
**Sent:** Thursday, May 16, 2013 2:54 PM  
**To:** Eddie Haas; Raquel Littlejohn; Billy King  
**Cc:** Judy Ford; Dan Prendergast; Tricia Hatley  
**Subject:** RE: F&N Engineering Service Agr.

Eddie,

We are available on Wednesday, May 22. What time(s) work best with you?

Thanks,  
Mike

Mike Adams, P.E.  
Exec. Director of Engineering & Utilities City of Midlothian  
972-775-7105

-----Original Message-----

**From:** Eddie Haas [mailto:eh@freese.com]  
**Sent:** Thursday, May 16, 2013 11:53 AM  
**To:** Mike Adams; Raquel Littlejohn; Billy King  
**Cc:** Judy Ford; Dan Prendergast; Tricia Hatley  
**Subject:** RE: F&N Engineering Service Agr.

Ok, thanks Mike.

Eddie

Edmund Haas, AICP  
Associate

Freese and Nichols, Inc.  
1701 N. Market Street, Ste. 500  
Dallas, Texas 75202  
214-217-2321 Direct  
eh@freese.com  
www.freese.com

Please consider the environment before printing this message.

-----Original Message-----

**From:** Mike Adams [mailto:Mike.Adams@Midlothian.tx.us]  
**Sent:** Thursday, May 16, 2013 11:49 AM

To: Eddie Haas; Raquel Littlejohn; Billy King  
Cc: Judy Ford  
Subject: RE: F&N Engineering Service Agr.

Eddie,

Next Wednesday works for me but let me see if it works for Billy King, our Parks Manager.

Thanks,  
Mike

Mike Adams, P.E.  
Exec. Director of Engineering & Utilities City of Midlothian  
972-775-7105

-----Original Message-----

From: Eddie Haas [mailto:eh@freese.com]  
Sent: Wednesday, May 15, 2013 8:46 PM  
To: Raquel Littlejohn  
Cc: Mike Adams; Judy Ford  
Subject: Re: F&N Engineering Service Agr.

Mike,

I am in receipt of the executed contract and would like to meet with you to discuss approach and obtain data for the analysis. How does your schedule look for next Tuesday or Wednesday? Thanks in advance,

Eddie

Sent from my iPhone

On May 15, 2013, at 4:27 PM, "Raquel Littlejohn" <Raquel.Littlejohn@Midlothian.tx.us> wrote:

> Mr. Haas,

>

> Please find attached an executed agreement for the engineering services for the assessment of water service to the new Midlothian Community Park. Also, please reference the City of Midlothian's PO# 13-17018 When submitting your invoices.

>

> Please let us know if you should have any questions,

>

> Thanks,

>

> Raquel Littlejohn

> Engineering Department

> City of Midlothian

> Direct- 972-775-7199

> Fax - 972-775-7171

>

> [cid:image003.jpg@01CE5188.EB52FE50]

>

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>

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> Please consider the environment before printing this message.

> <image003.jpg>

> <F&N Water Assessment Engr. Service Agr. 2013.pdf>

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# MEETING AGENDA



# FREESE AND NICHOLS

1110 W. 14th Street, Suite 200  
Fort Worth, Texas 76109  
Phone: 817-735-7300  
Fax: 817-735-7491  
www.freese.com

4055 International Plaza, Suite 200 • Fort Worth, Texas 76109 • 817-735-7300 • fax 817-735-7491 www.freese.com

## PURPOSE

The overall objective of the meeting should be clear and noted on the agenda.

## AGENDA

The agenda should include what is to be covered, who is responsible and how long each item will require.

## CODE OF CONDUCT

Meeting participants should respect each other by honoring the Code of Conduct.

## EXPECTATIONS

The expectations of the participants should be discussed, noted and reviewed for closure.

## ROLES

The roles of leader, scribe, minute taker, time keeper and facilitator should be clarified at the beginning of the meeting.

## MEETING:

Water Service Assessment to Community Park - Kickoff Meeting

## DATE:

5/22/13

## LOCATION:

City of Midlothian – Administrative Conference Room

## TIME:

1:30 PM

## AGENDA

### TOPIC

### WHO

1. Identify Roles and Point of Contact  
a) Eddie Haas – FNI PM  
i. Phone: 214-217-2321  
ii. Email: [eh@freese.com](mailto:eh@freese.com)  
b) Dan Prendergast – FNI Project Engineer  
i. Phone: 214-217-2216  
ii. Email: [drp@freese.com](mailto:drp@freese.com)  
c) Mike Adams – Director of Engineering (City PM)  
i. Phone: 972-775-7105  
ii. Email: [Mike.Adams@Midlothian.tx.us](mailto:Mike.Adams@Midlothian.tx.us)
2. Identify Project Budget  
a) Initial Budget of \$5000 on an hourly basis  
b) Option to add more if needed
3. Identify Project Schedule  
a) Obtain City Data by Friday May 31<sup>st</sup>  
b) Submit Preliminary Memo June 28<sup>th</sup>  
c) Review Meeting (if needed) July 10<sup>th</sup>  
d) Submit Final Memo July 22<sup>nd</sup> (2 months from today)
4. Identify Project Approach/Data Needed  
a) See attached
5. Action Items

### CODE OF CONDUCT

1. Publish an agenda and maintain minutes.
2. Challenge ideas and processes, not people.
3. Share responsibility and ownership.
4. Maintain an open, honest environment.
5. Question and participate.

6. Listen constructively.
7. Begin and end on time unless participants agree to an extension.
8. Come prepared and with action items completed.
9. Base decisions on factual data.
10. Keep confidences.

COM - 0016

## City of Midlothian Community Park Water Assessment Approach

1. Meet with Mike Adams to discuss the project and obtain info needed for assessment.
  - a. City to provide FNI with the following info:
    - i. Water demand for park
    - ii. Identification of all private water providers and water rates charged by private providers
    - iii. City based water rates (if applicable). Does the City have to pay for water it provides to City owned property?
    - iv. Recent bid tabs for water line construction work
    - v. City drought (water restriction) policies and private water drought (water restriction policies).
    - vi. Define long term (10, 50, 100 yrs?) and provide historical water rates (City and private provider).
    - vii. Locator maps of existing water infrastructure in the area
    - viii. Existing utility easements in the area
    - ix. Approximate "per SF" costs for obtaining additional easements if needed
2. Analyze existing water infrastructure and design conceptual alignment for city waterline
3. Create cost estimate for waterline construction
4. Analyze water cost data provided by City and estimate cost differences between City provided water and private water. Create excel chart detailing cost differences on per month and per year scale. Assuming City's long term costs are cheaper, show the breakeven point to recoup the City's investment to provide water.
5. Prepare a technical memorandum summarizing the total cost analysis between provided infrastructure and long term cost impacts between City water and private water.

## Dennis Sims

---

**From:** Dennis Sims [dsims@dssland.com]  
**Sent:** Wednesday, February 13, 2013 4:40 PM  
**To:** 'Billy King'  
**Subject:** irrigation numbers

Billy

This is how I arrived at the irrigation number.

75AC to water at 27154 GPA

Equal 2036550 GPW

Divide by 4 days =509137 GPD

Divide by 6 hours = 84856GPH

Divide by 60 min = 1414GPM

Divide by 80% efficiency rate 1767 GPM

Dennis G. Sims, RLA, ASLA



**DUNKIN SIMS STOFFELS, INC**  
Landscape Architects/Planners

9603 White Rock Trail #210  
Dallas, Texas 75238  
(T) 214-553-5778  
(F) 214-553-5781

## Mike Adams

---

**From:** Billy King  
**Sent:** Thursday, May 23, 2013 1:00 PM  
**To:** Randel Kirk (RANDELKIRK@MTPEAKWATER.COM)  
**Cc:** robertc@childress-engineers.com; Eddie Haas (eh@freese.com); drp@freese.com; dsims@dssland.com; Mike Adams  
**Subject:** Community Park Water Supply

Randy,

Just dropping a line to let you know that we have hired a firm to do a cost analysis to determine the Community Park's irrigation water supply.

Freese and Nichols will be conducting the study, and they will be contacting yourself and Robert Childress to get some information pertaining to your water system. Eddie Haas and Dan Prendergast with Freese and Nichols will be the ones contacting you guys.

If you have any questions feel free to contact me.

Thanks,  
Billy King

Billy King  
Parks and Recreation Manager  
104 W. Ave E  
Midlothian, TX 76065

P 972-775-7176  
F 972-775-7171

**Mike Adams**

---

**From:** Dan Prendergast <drp@freese.com>  
**Sent:** Tuesday, June 11, 2013 8:35 AM  
**To:** Mike Adams; Billy King; dsims@dssland.com  
**Cc:** Eddie Haas  
**Subject:** RE: Midlothian Community Park - Existing 8" WL along Ashford Ln  
**Attachments:** Midlothian Water Rate Analysis-future projections.pdf

Mike,

Please see the attached cost analysis spreadsheet updated with Midlothian's water rate increases.

Thanks,

**Dan Prendergast, P.E., LEED Green Associate**

**URBAN PLANNING + DESIGN GROUP**

**Freese and Nichols, Inc.**  
1701 N. Market St., Suite 500  
Dallas, Texas 75202  
214-217-2216

[www.freese.com](http://www.freese.com)



---

**From:** Mike Adams [mailto:Mike.Adams@Midlothian.tx.us]  
**Sent:** Wednesday, June 05, 2013 3:04 PM  
**To:** Dan Prendergast; Billy King; dsims@dssland.com  
**Cc:** Eddie Haas  
**Subject:** RE: Midlothian Community Park - Existing 8" WL along Ashford Ln

Dan,

Our rates will increase a little over the next 2 – 3 years (should show on the rate schedule that I provided). In order to more closely represent the cost difference, will you project out the next 2 or 3 years (depending on the last rate we show) and then do your future year projections using the last (highest rate). We know that this is just hypothetical and that rates will change (both Midlothian and Mt. Peak) but it will at least provide a general order of magnitude.

Thanks,  
Mike

Mike Adams, P.E.  
Exec. Director of Engineering & Utilities  
City of Midlothian

972-775-7105

---

**From:** Dan Prendergast [<mailto:drp@freese.com>]  
**Sent:** Wednesday, June 05, 2013 11:35 AM  
**To:** Mike Adams; Billy King; [dsims@dssland.com](mailto:dsims@dssland.com)  
**Cc:** Eddie Haas  
**Subject:** RE: Midlothian Community Park - Existing 8" WL along Ashford Ln

Mike,

I'm working with our water planner to determine what city water infrastructure improvements would be needed to serve the park at 1,767 gpm. After I receive that info, I'll work with Dennis to modify their existing cost estimate if needed.

The yearly estimate I sent out last week was based on 52 weeks of watering a year. Dennis notified me that only 35 weeks per year should be included due to rainfall. The updated estimate is attached.

Also, I requested info on Mount Peak's water system last week from Rob Childress and haven't heard back. I told him that we want to complete the analysis based on 1,767 gpm.

Thank you,

**Dan Prendergast, P.E., LEED Green Associate,**

**URBAN PLANNING + DESIGN GROUP**

Freese and Nichols, Inc.  
1701 N. Market St., Suite 500  
Dallas, Texas 75202  
214-217-2216

[www.freese.com](http://www.freese.com)



---

**From:** Mike Adams [<mailto:Mike.Adams@Midlothian.tx.us>]  
**Sent:** Tuesday, June 04, 2013 10:48 AM  
**To:** Billy King; Dan Prendergast; [dsims@dssland.com](mailto:dsims@dssland.com)  
**Cc:** Eddie Haas  
**Subject:** RE: Midlothian Community Park - Existing 8" WL along Ashford Ln

Dan,

I had a chance to discuss this with Billy and the City needs the flexibility to be able to water this park as the situation dictates. It may ultimately turn out that Billy operates the park's irrigation system similar to how Cleburne operates their system but he needs to know that the water distribution system has the ability to provide him more water in a shorter period of time if needed. I believe that the number that Dennis has provided (1,767 gpm) is a maximum volume and if the needed upgrades can accommodate this demand without an undue impact on the remainder of the system, then Billy will have the ability to experiment with the irrigation system/schedule and come up with an approach that works best for his needs.

Also, F&N has developed both our water and wastewater master plans and has modeled our water system for us in the past. We'll need for you all to rerun the model on our system and determine the size of the main that would be needed to adequately serve the park and not impact our system (if we are to serve the park).

If you should have any questions or need any additional information, please let me know.

Thanks,  
Mike

Mike Adams, P.E.  
Exec. Director of Engineering & Utilities  
City of Midlothian  
972-775-7105

---

**From:** Billy King  
**Sent:** Thursday, May 30, 2013 10:12 AM  
**To:** Dan Prendergast; Mike Adams; [dsims@dssland.com](mailto:dsims@dssland.com)  
**Cc:** Eddie Haas  
**Subject:** RE: Midlothian Community Park - Existing 8" WL along Ashford Ln

Dan,

I see where Mr. Childress is coming from he mentioned the Cleburne park in the past.

We would prefer not to water 7 or 6 days a week as we mentioned in our meeting.

But as we stated in the meeting we being the city are leaning towards using our water source.

With the cost estimate you provided based on their current prices and with ours it is logical for us to supply the water.

I hope that Mr. Childress will reply to you on the information you requested to complete the analysis.

Mike Adams is out of the office this week and I would like to consult with him on Mr. Childress's response.

Thanks,  
Billy

Billy King  
Parks and Recreation Manager  
104 W. Ave E  
Midlothian, TX 76065

P 972-775-7176  
F 972-775-7171

---

**From:** Dan Prendergast [<mailto:drp@freese.com>]  
**Sent:** Thursday, May 30, 2013 10:01 AM  
**To:** Mike Adams; Billy King; [dsims@dssland.com](mailto:dsims@dssland.com)  
**Cc:** Eddie Haas  
**Subject:** FW: Midlothian Community Park - Existing 8" WL along Ashford Ln

Billy/Dennis,

Please see Robert's response below about our request for waterline info based on the demand the City wants for the new park. I haven't responded yet but my plan is to tell him we are tasked with comparing costs based on the demand the City feels it needs for the park (1767 GPM). My understanding from Dennis was that 1767 GPM is the demand the City feels it needs for watering and that you do not want to water over longer periods of time (reduce the gallons per minute demand). Let me know what your thoughts are and I'll respond to Robert.

Also, when comparing only the differences in water rates the City saves a little over \$700,000 per year by not using Mountain Peak (see attached). Depending on what the cost estimate is for a new waterline to serve the park, the gallons per minute demand may not be significant.

Thank you,

Dan Prendergast, P.E., LEED Green Associate

URBAN PLANNING + DESIGN GROUP

Freese and Nichols, Inc.

1701 N. Market St., Suite 500

Dallas, Texas 75202

214-217-2216

[www.freese.com](http://www.freese.com)



---

**From:** Robert Childress [<mailto:robertc@childress-engineers.com>]

**Sent:** Thursday, May 30, 2013 7:53 AM

**To:** Dan Prendergast

**Subject:** RE: Midlothian Community Park - Existing 8" WL along Ashford Ln

Dan,

Please read the excerpt from a previous email below and then call to discuss the demands. I believe that we need to determine a realistic demand before we start sizing or designing improvements.

Thanks,

Dear Mr. King,

We have reviewed the preliminary information provided by the City of Midlothian and your consultants concerning the irrigation demands for the Midlothian Community Park and Sports Complex. Due to our previous irrigation experience and having designed a sports complex for the City of Cleburne that is almost the exact same size as the one under consideration, we would like to offer a few comments that may save some money.

We agree with Mr. Sims weekly irrigation number that equates to 1" per week. However, the demands can be greatly reduced by extending both the watering hours and days. While we understand that you want to get the watering done at night to allow for play and maintenance of the fields in the day. The watering schedules can vary to allow for late games/tournaments by allowing some of the common areas to run a little later in the morning. The Cleburne complex was designed and is operated on 600 gpm. After a lengthy discussion about its operation with grounds manager Burton Barr, it was evident that there is no way to just program the sprinklers and forget about them. He constantly adjusts watering times and schedules depending on the



heat, wind, maintenance schedules and complex activities. The Midlothian park could operate at approximately 600 gpm by watering 7 days for 8 hours or if you don't want to water on Friday nights / Saturday mornings you could water 6 days for 9.5 hours. Start at 11 and end at 8:30 or start common areas or unused fields earlier for an earlier finish.

Let's consider options to reduce the demand requirements before we model the system and start sizing pipes. The Cleburne system pumps out of a small 1 ac pond that is filled with either potable or reuse water. If you used your pond, you could water at whatever rate you want without causing a large demand on the water distribution system. If you are concerned with the evaporation loss, periods of 1" of loss per week would only equate to 1% of the water being used to irrigate. That is a small price to pay for the additional flexibility a pond would provide.

Although I do not have a working hydraulic model of the City's water system, I am somewhat familiar with the system. Mt. Peak's elevated tanks are 49 feet taller than the City's which equates to an additional pressure of 21 psi being available. I have heard a 10" line mentioned several times as the line size needed to supply the requested 1,750-2,000 gpm. However, at those flow rates the velocities would be 7.15 fps – 8.17 fps respectively. In a water distribution system, we typically consider 5 fps as the upper limit for a pipeline due to the excessive head loss. If you were to run a 10" line from the City's 12" line at Mt. Zion road, the resulting head losses from the City's elevated tank to the park would be 95'-121'. If we assume that the tank is ten feet down from the overflow of 940', that would result in 33 psi-21 psi respectively at the lowest elevation of the park. Based on the velocity alone, a 14" line would be the minimum to consider.

Let's see if we can work something out with the operation of the irrigation system that will allow the required line size to be minimized as well as the demand on the distribution system. Then, we can move forward with a cost saving design. Please let us know if you have any additional questions or if you would like to discuss this matter further.

Childress Engineers  
Texas Registered Eng. Firm F-702  
Robert T. Childress, III, P.E.  
211 North Ridgeway Drive  
Cleburne, Texas 76033  
Email: [robertc@childress-engineers.com](mailto:robertc@childress-engineers.com)  
Voice: 817-645-1118  
Fax: 817-645-7235

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---

**From:** Dan Prendergast [<mailto:drp@freese.com>]  
**Sent:** Tuesday, May 28, 2013 2:01 PM  
**To:** [robertc@childress-engineers.com](mailto:robertc@childress-engineers.com)  
**Cc:** Randel Kirk ([RANDELKIRK@MTPEAKWATER.COM](mailto:RANDELKIRK@MTPEAKWATER.COM)); Eddie Haas; [Billy.King@Midlothian.tx.us](mailto:Billy.King@Midlothian.tx.us)  
**Subject:** Midlothian Community Park - Existing 8" WL along Ashford Ln

Hi Robert,

My name is Dan Prendergast and I'm working with the City of Midlothian on a water assessment study for their new Community Park. In meeting with the City I was told that there is an existing 8" waterline along Ashford Ln that would need to be upsized to serve the new Community Park. Can you provide me with additional information on the limits of waterline improvements needed and the proposed size needed in order to handle the parks demand of 1767 GPM (2,036,550 GPW)? Please see the attached exhibit for more information on the location of the park and the waterline.

Thank You,

Dan Prendergast, P.E., LEED Green Associate

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Freese and Nichols, Inc.  
1701 N. Market St., Suite 500  
Dallas, Texas 75202  
214-217-2216

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2013 Mountain Peak Weekly Water Cost (2,036,550 GPM)			
Usage (gal)	Units	Water Rate*	Cost
0-1000	1	\$22.84	\$22.84
1001-5000	5	\$4.00	\$20.00
5001-10000	5	\$4.60	\$23.00
10001-20000	10	\$5.40	\$54.00
20001-30000	10	\$6.00	\$60.00
30001-40000	10	\$6.60	\$66.00
40001-50000	10	\$7.40	\$74.00
50001-2036550	1986.55	\$9.60	\$19,070.88
Weekly Cost of Mountain Peak Water Service			\$19,980.72

2012-2015 City of Midlothian Weekly Water Cost (2,036,550 GPM)			
Usage (gal)	Units	Water Rate	Cost
2036550	2036.55	\$2.91	\$5,926.36
Weekly Cost of City Water Service			\$5,926.36

Cost Difference Per Week \$13,464.36

Cost Difference Per Year (2012-2015) \$471,252.54

\* Mountain Peak water rates were not increased for 2013-2015.

2013 Mountain Peak Weekly Water Cost (2,036,550 GPM)			
Usage (gal)	Units	Water Rate*	Cost
0-1000	1	\$22.84	\$22.84
1001-5000	5	\$4.00	\$20.00
5001-10000	5	\$4.60	\$23.00
10001-20000	10	\$5.40	\$54.00
20001-30000	10	\$6.00	\$60.00
30001-40000	10	\$6.60	\$66.00
40001-50000	10	\$7.40	\$74.00
50001-2036550	1986.55	\$9.60	\$19,070.88
Weekly Cost of Mountain Peak Water Service			\$19,980.72

2013-2014 City of Midlothian Weekly Water Cost (2,036,550 GPM)			
Usage (gal)	Units	Water Rate	Cost
2036550	2036.55	\$5.08	\$6,272.57
Weekly Cost of City Water Service			\$6,272.57

Cost Difference Per Week \$15,118.15

Difference Per Year (2013-2014) \$499,135.11

2013 Mountain Peak Weekly Water Cost (2,036,550 GPM)			
Usage (gal)	Units	Water Rate*	Cost
0-1000	1	\$22.84	\$22.84
1001-5000	5	\$4.00	\$20.00
5001-10000	5	\$4.60	\$23.00
10001-20000	10	\$5.40	\$54.00
20001-30000	10	\$6.00	\$60.00
30001-40000	10	\$6.60	\$66.00
40001-50000	10	\$7.40	\$74.00
50001-2036550	1986.55	\$9.60	\$19,070.88
Weekly Cost of Mountain Peak Water Service			\$19,980.72

2014-2015 City of Midlothian Weekly Water Cost (2,036,550 GPM)			
Usage (gal)	Units	Water Rate	Cost
2036550	2036.55	\$3.23	\$6,578.06
Weekly Cost of City Water Service			\$6,578.06

Cost Difference Per Week \$12,812.66

Cost Difference Per Year (2014-2015) \$418,443.22

2013 Mountain Peak Weekly Water Cost (2,036,550 GPM)			
Usage (gal)	Units	Water Rate*	Cost
0-1000	1	\$22.84	\$22.84
1001-5000	5	\$4.00	\$20.00
5001-10000	5	\$4.60	\$23.00
10001-20000	10	\$5.40	\$54.00
20001-30000	10	\$6.00	\$60.00
30001-40000	10	\$6.60	\$66.00
40001-50000	10	\$7.40	\$74.00
50001-2036550	1986.55	\$9.60	\$19,070.88
Weekly Cost of Mountain Peak Water Service			\$19,980.72

2015-2016 City of Midlothian Weekly Water Cost (2,036,550 GPM)			
Usage (gal)	Units	Water Rate	Cost
2036550	2036.55	\$3.39	\$6,903.90
Weekly Cost of City Water Service			\$6,903.90

Cost Difference Per Week \$12,486.82

Cost Difference Per Year (2015-2016) \$437,038.54

20 Year Savings	\$8,808,486.14
50 Year Savings	\$21,919,642.41

## Mike Adams

---

**From:** Mike Adams  
**Sent:** Monday, July 1, 2013 8:50 AM  
**To:** 'Dan Prendergast'; Billy King; 'dsims@dssland.com'  
**Cc:** 'Eddie Haas'  
**Subject:** RE: Midlothian Community Park - Draft Memo

Thanks Dan. We'll take a look at it over the next week or so and get back with you. I've just glanced at it and have a few quick, key questions/statements:

1. The proposed 16" City water line (remember this is a shotgun line with no additional taps or services) – was this size determined based on the results of your hydraulic model of our water system?
2. I've always been of the assumption that a 12" line would be more than adequate. Unless your model shows differently, we have a different route for this line that I will provide to you after I've had a chance to fully review your draft memo.
3. Did you get any feedback from Mountain Peak about their system and its capabilities, existing infrastructure, keep upgrades, etc. (in particular, the size of their existing main along Ashford)?

Thanks,  
Mike,

Mike Adams, P.E.  
Exec. Director of Engineering & Utilities  
City of Midlothian  
972-775-7105

---

**From:** Dan Prendergast [mailto:drp@freese.com]  
**Sent:** Monday, July 01, 2013 8:28 AM  
**To:** Mike Adams; Billy King; dsims@dssland.com  
**Cc:** Eddie Haas  
**Subject:** RE: Midlothian Community Park - Draft Memo

Mike,

Attached is a draft memo on providing water service to the new community park. Please don't hesitate to contact us with any questions/comments.

Thanks,

**Dan Prendergast, P.E., LEED Green Associate**

**URBAN PLANNING + DESIGN GROUP**

Freese and Nichols, Inc.  
1701 N. Market St., Suite 500  
Dallas, Texas 75202  
214-217-2216

[www.freese.com](http://www.freese.com)



---

**From:** Mike Adams [<mailto:Mike.Adams@Midlothian.tx.us>]  
**Sent:** Tuesday, June 11, 2013 9:07 AM  
**To:** Dan Prendergast; Billy King; [dsims@dssland.com](mailto:dsims@dssland.com)  
**Cc:** Eddie Haas  
**Subject:** RE: Midlothian Community Park - Existing 8" WL along Ashford Ln

Thanks Dan.

Mike

Mike Adams, P.E.  
Exec. Director of Engineering & Utilities  
City of Midlothian  
972-775-7105

---

**From:** Dan Prendergast [<mailto:drp@freese.com>]  
**Sent:** Tuesday, June 11, 2013 8:35 AM  
**To:** Mike Adams; Billy King; [dsims@dssland.com](mailto:dsims@dssland.com)  
**Cc:** Eddie Haas  
**Subject:** RE: Midlothian Community Park - Existing 8" WL along Ashford Ln

Mike,

Please see the attached cost analysis spreadsheet updated with Midlothian's water rate increases.

Thanks,

Dan Prendergast, P.E., LEED Green Associate

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Dallas, Texas 75202  
214-217-2216

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---

**From:** Mike Adams [<mailto:Mike.Adams@Midlothian.tx.us>]  
**Sent:** Wednesday, June 05, 2013 3:04 PM  
**To:** Dan Prendergast; Billy King; [dsims@dssland.com](mailto:dsims@dssland.com)

**Cc:** Eddie Haas

**Subject:** RE: Midlothian Community Park - Existing 8" WL along Ashford Ln

Dan,

Our rates will increase a little over the next 2 – 3 years (should show on the rate schedule that I provided). In order to more closely represent the cost difference, will you project out the next 2 or 3 years (depending on the last rate we show) and then do your future year projections using the last (highest rate). We know that this is just hypothetical and that rates will change (both Midlothian and Mt. Peak) but it will at least provide a general order of magnitude.

Thanks,  
Mike

Mike Adams, P.E.  
Exec. Director of Engineering & Utilities  
City of Midlothian  
972-775-7105

---

**From:** Dan Prendergast [<mailto:drp@freese.com>]  
**Sent:** Wednesday, June 05, 2013 11:35 AM  
**To:** Mike Adams; Billy King; [dsims@dssland.com](mailto:dsims@dssland.com)  
**Cc:** Eddie Haas  
**Subject:** RE: Midlothian Community Park - Existing 8" WL along Ashford Ln

Mike,

I'm working with our water planner to determine what city water infrastructure improvements would be needed to serve the park at 1,767 gpm. After I receive that info, I'll work with Dennis to modify their existing cost estimate if needed.

The yearly estimate I sent out last week was based on 52 weeks of watering a year. Dennis notified me that only 35 weeks per year should be included due to rainfall. The updated estimate is attached.

Also, I requested info on Mount Peak's water system last week from Rob Childress and haven't heard back. I told him that we want to complete the analysis based on 1,767 gpm.

Thank you,

**Dan Prendergast, P.E., LEED Green Associate**

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Dallas, Texas 75202  
214-217-2216

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---

**From:** Mike Adams [<mailto:Mike.Adams@Midlothian.tx.us>]  
**Sent:** Tuesday, June 04, 2013 10:48 AM  
**To:** Billy King; Dan Prendergast; [dsims@dssland.com](mailto:dsims@dssland.com)  
**Cc:** Eddie Haas  
**Subject:** RE: Midlothian Community Park - Existing 8" WL along Ashford Ln

Dan,

I had a chance to discuss this with Billy and the City needs the flexibility to be able to water this park as the situation dictates. It may ultimately turn out that Billy operates the park's irrigation system similar to how Cleburne operates their system but he needs to know that the water distribution system has the ability to provide him more water in a shorter period of time if needed. I believe that the number that Dennis has provided (1,767 gpm) is a maximum volume and if the needed upgrades can accommodate this demand without an undue impact on the remainder of the system, then Billy will have the ability to experiment with the irrigation system/schedule and come up with an approach that works best for his needs.

Also, F&N has developed both our water and wastewater master plans and has modeled our water system for us in the past. We'll need for you all to rerun the model on our system and determine the size of the main that would be needed to adequately serve the park and not impact our system (if we are to serve the park).

If you should have any questions or need any additional information, please let me know.

Thanks,  
Mike

Mike Adams, P.E.  
Exec. Director of Engineering & Utilities  
City of Midlothian  
972-775-7105

---

**From:** Billy King  
**Sent:** Thursday, May 30, 2013 10:12 AM  
**To:** Dan Prendergast; Mike Adams; [dsims@dssland.com](mailto:dsims@dssland.com)  
**Cc:** Eddie Haas  
**Subject:** RE: Midlothian Community Park - Existing 8" WL along Ashford Ln

Dan,

I see where Mr. Childress is coming from he mentioned the Cleburne park in the past.

We would prefer not to water 7 or 6 days a week as we mentioned in our meeting.

But as we stated in the meeting we being the city are leaning towards using our water source.

With the cost estimate you provided based on their current prices and with ours it is logical for us to supply the water.

I hope that Mr. Childress will reply to you on the information you requested to complete the analysis.

Mike Adams is out of the office this week and I would like to consult with him on Mr. Childress's response.

Thanks,  
Billy

Billy King  
Parks and Recreation Manager  
104 W. Ave E  
Midlothian, TX 76065  
P 972-775-7176  
F 972-775-7171

---

**From:** Dan Prendergast [<mailto:drp@freese.com>]  
**Sent:** Thursday, May 30, 2013 10:01 AM  
**To:** Mike Adams; Billy King; [dsims@dssland.com](mailto:dsims@dssland.com)  
**Cc:** Eddie Haas  
**Subject:** FW: Midlothian Community Park - Existing 8" WL along Ashford Ln

Billy/Dennis,

Please see Robert's response below about our request for waterline info based on the demand the City wants for the new park. I haven't responded yet but my plan is to tell him we are tasked with comparing costs based on the demand the City feels it needs for the park (1767 GPM). My understanding from Dennis was that 1767 GPM is the demand the City feels it needs for watering and that you do not want to water over longer periods of time (reduce the gallons per minute demand). Let me know what your thoughts are and I'll respond to Robert.

Also, when comparing only the differences in water rates the City saves a little over \$700,000 per year by not using Mountain Peak (see attached). Depending on what the cost estimate is for a new waterline to serve the park, the gallons per minute demand may not be significant.

Thank you,

Dan Prendergast, P.E., LEED Green Associate

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1701 N. Market St., Suite 500  
Dallas, Texas 75202  
214-217-2216

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---

**From:** Robert Childress [<mailto:robertc@childress-engineers.com>]  
**Sent:** Thursday, May 30, 2013 7:53 AM  
**To:** Dan Prendergast  
**Subject:** RE: Midlothian Community Park - Existing 8" WL along Ashford Ln

Dan,  
Please read the excerpt from a previous email below and then call to discuss the demands. I believe that we need to determine a realistic demand before we start sizing or designing improvements.



Thanks,

Dear Mr. King,

We have reviewed the preliminary information provided by the City of Midlothian and your consultants concerning the irrigation demands for the Midlothian Community Park and Sports Complex. Due to our previous irrigation experience and having designed a sports complex for the City of Cleburne that is almost the exact same size as the one under consideration, we would like to offer a few comments that may save some money.

We agree with Mr. Sims weekly irrigation number that equates to 1" per week. However, the demands can be greatly reduced by extending both the watering hours and days. While we understand that you want to get the watering done at night to allow for play and maintenance of the fields in the day. The watering schedules can vary to allow for late games/tournaments by allowing some of the common areas to run a little later in the morning. The Cleburne complex was designed and is operated on 600 gpm. After a lengthy discussion about its operation with grounds manager Burton Barr, it was evident that there is no way to just program the sprinklers and forget about them. He constantly adjusts watering times and schedules depending on the heat, wind, maintenance schedules and complex activities. The Midlothian park could operate at approximately 600 gpm by watering 7 days for 8 hours or if you don't want to water on Friday nights / Saturday mornings you could water 6 days for 9.5 hours. Start at 11 and end at 8:30 or start common areas or unused fields earlier for an earlier finish.

Let's consider options to reduce the demand requirements before we model the system and start sizing pipes. The Cleburne system pumps out of a small 1 ac pond that is filled with either potable or reuse water. If you used your pond, you could water at whatever rate you want without causing a large demand on the water distribution system. If you are concerned with the evaporation loss, periods of 1" of loss per week would only equate to 1% of the water being used to irrigate. That is a small price to pay for the additional flexibility a pond would provide.

Although I do not have a working hydraulic model of the City's water system, I am somewhat familiar with the system. Mt. Peak's elevated tanks are 49 feet taller than the City's which equates to an additional pressure of 21 psi being available. I have heard a 10" line mentioned several times as the line size needed to supply the requested 1,750-2,000 gpm. However, at those flow rates the velocities would be 7.15 fps – 8.17 fps respectively. In a water distribution system, we typically consider 5 fps as the upper limit for a pipeline due to the excessive head loss. If you were to run a 10" line from the City's 12" line at Mt. Zion road, the resulting head losses from the City's elevated tank to the park would be 95'-121'. If we assume that the tank is ten feet down from the overflow of 940', that would result in 33 psi-21 psi respectively at the lowest elevation of the park. Based on the velocity alone, a 14" line would be the minimum to consider.

Let's see if we can work something out with the operation of the irrigation system that will allow the required line size to be minimized as well as the demand on the distribution system. Then, we can move forward with a cost saving design. Please let us know if you have any additional questions or if you would like to discuss this matter further.

Childress Engineers  
Texas Registered Eng. Firm F-702  
Robert T. Childress, III, P.E.  
211 North Ridgeway Drive  
Cleburne, Texas 76033  
Email: [robertc@childress-engineers.com](mailto:robertc@childress-engineers.com)  
Voice: 817-645-1118  
Fax: 817-645-7235

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**From:** Dan Prendergast [mailto:drp@freese.com]  
**Sent:** Tuesday, May 28, 2013 2:01 PM  
**To:** robertc@childress-engineers.com  
**Cc:** Randel Kirk (RANDELKIRK@MTPEAKWATER.COM); Eddie Haas; Billy.King@Midlothian.tx.us  
**Subject:** Midlothian Community Park - Existing 8" WL along Ashford Ln

Hi Robert,

My name is Dan Prendergast and I'm working with the City of Midlothian on a water assessment study for their new Community Park. In meeting with the City I was told that there is an existing 8" waterline along Ashford Ln that would need to be upsized to serve the new Community Park. Can you provide me with additional information on the limits of waterline improvements needed and the proposed size needed in order to handle the parks demand of 1767 GPM (2,036,550 GPW)? Please see the attached exhibit for more information on the location of the park and the waterline.

Thank You,

**Dan Prendergast, P.E., LEED Green Associate**

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**Mike Adams**

---

**From:** Mike Adams  
**Sent:** Monday, July 15, 2013 4:38 PM  
**To:** 'DRP@freese.com'  
**Cc:** MDL13336-Team@freese.com; Billy King; dsims@dssland.com; DS@freese.com; THH@freese.com; THH@freese.com  
**Subject:** RE: Midlothian Community Park Water Assessment - One Page Report

Thanks Dan. We've had a chance to review your memo and will be getting back with you shortly with our comments but we have some internal items to discuss before getting you to finalize what you've prepared.

I do have another question based on Mt. Peak's system for us to consider but not act on yet until we have a chance to discuss some outstanding issues on our side. If Mt. Peak's consultant is requesting a 16" main along Ashford Lane, it's my understanding that this main is fed from a 12" line along FM 663 and I'm not sure about other lines in the area and how their system is looped. Based on this, what other improvements would be needed to accommodate the park's needs besides upsizing the 6" along Ashford? Just something to think about at this time.

Thanks again,  
Mike

Mike Adams, P.E.  
Exec. Director of Engineering & Utilities  
City of Midlothian  
972-775-7105

---

**From:** [DRP@freese.com](mailto:DRP@freese.com) [<mailto:DRP@freese.com>]  
**Sent:** Monday, July 15, 2013 4:17 PM  
**To:** Mike Adams  
**Cc:** MDL13336-Team@freese.com; Billy King; dsims@dssland.com; DS@freese.com; THH@freese.com; THH@freese.com  
**Subject:** Midlothian Community Park Water Assessment - One Page Report

Mike,

Please see the attached one page report for an update on the project status.

Thanks,  
Dan Prendergast, P.E.

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# MEMORANDUM



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**TO:** Mike Adams, P.E.  
**CC:** Eddië Haas, AICP  
**FROM:** Dan Prendergast, P.E.  
**SUBJECT:** Midlothian Community Park Water Assessment  
**DATE:** 6/28/13  
**PROJECT:** MDL13336

Freese and Nichols Inc. (FNI) was tasked with performing an analysis on short and long term cost implications for providing water service to a planned community park. FNI studied two different options for providing service to the park. The first option involved utilizing Mountain Peak Special Utility District to serve the irrigation needs of the park. The second option involved utilizing the City of Midlothian's water supply system to serve the irrigation needs of the park.

FNI compared both options based on the following criteria:

1. Evaluation of existing infrastructure and proposed infrastructure needed to serve the park with conceptual estimation of probable cost of proposed improvements
2. Analysis of existing and future water rates
3. Analysis of existing drought implementation policies and associated impacts

## 1. Evaluation of Existing Infrastructure

Criteria/Assumptions:

- o Maximum Demand of 1,767 GPM
- o \$7/dia-in/ft cost for proposed water line improvements
- o No onsite storage
- o 20% contingency

The first component of the analysis was the study of existing infrastructure in the area and the Mountain Peak Special Utility District currently has a 12" waterline running along Ashford Ln from FM 663 to the proposed park site. In order to serve the demand of 1,767 GPM the 12" waterline would need to be upsized to a 16" waterline for approximately 2,500 linear feet (see figure 1). The total estimated cost of improvements is \$336,000.

The City of Midlothian currently has an existing 16" waterline running along U.S. 287 at FM 663. In order to serve the demand of 1,767 GPM approximately 6800 linear feet of proposed 16" waterline would need to connect from U.S. 287 and run south to the park location (see figure 1). The total estimated cost of improvements is \$914,000. FNI assumed no fire demand and assumed City would have the ability to shut off park irrigation if emergency occurs within the distribution system. Further investigation is recommended to determine impact on future system operations/improvements.

MDL13336



**2. Analysis of Existing and Future Water Rates**

Criteria/Assumptions:

- o 2,036,550 GPW
- o 35 weeks per year

City of Midlothian's water rate increase data was available through the 2015-2016 year. Therefore a four year outlook was first analyzed by using the City of Midlothian's planned rate increases over four years compared to Mountain Peak's 2012-2013 water rate (water rate increase data was not available for Mountain Peak).

The information below shows the weekly and yearly cost difference to serve the park based on current water rates over the next 4 years. Water rates and calculations are shown on Figure 2.

	2012-2013		2013-2014	
	Weekly Cost	Yearly Cost	Weekly Cost	Yearly Cost
Mountain Peak	\$19,390.72	\$678,675.20	\$19,390.72	\$678,675.20
City of Midlothian	\$5,926.36	\$207,422.62	\$6,272.57	\$219,540.09
<b>Cost Difference</b>	<b>\$13,464.36</b>	<b>\$471,252.58</b>	<b>\$13,118.15</b>	<b>\$459,135.11</b>

	2014-2015		2015-2016	
	Weekly Cost	Yearly Cost	Weekly Cost	Yearly Cost
Mountain Peak	\$19,390.72	\$678,675.20	\$19,390.72	\$678,675.20
City of Midlothian	\$6,578.06	\$230,231.98	\$6,903.90	\$241,636.66
<b>Cost Difference</b>	<b>\$12,812.66</b>	<b>\$448,443.22</b>	<b>\$12,486.82</b>	<b>\$437,038.54</b>

Four Year Cost Summary		
	Mountain Peak	City of Midlothian
2012-2013	\$678,675.20	\$207,422.62
2013-2014	\$678,675.20	\$219,540.09
2014-2015	\$678,675.20	\$230,231.98
2015-2016	\$678,675.20	\$241,636.66
<b>Total</b>	<b>\$2,714,700.80</b>	<b>\$898,831.34</b>
<b>4-YR Difference</b>	<b>\$1,815,869.46</b>	

**3. Analysis of Existing Drought Implementation Policies**

Drought implementation policy was the last criteria studied for this analysis. The policies were studied in order to see the differences in water restriction implementation during drought. The policies are similar however the City of Midlothian limits automatic sprinkler watering at stage 3. Mountain Peak does not limit irrigation by automatic sprinkler until stage 4. Limiting irrigation by automatic sprinkler heads would result in increased landscape maintenance costs. More information is needed on the history of water restriction implementation for both water districts to better estimate possible monetary impacts. A summary table is provided in Figure 3.



**SUMMARY**

Based on existing infrastructure and infrastructure needed to serve the park site, utilizing Mountain Peak's system would have a lower up front cost by \$578,000. However, the component with the largest impact to overall cost is the discrepancy between water rates. As shown above in section two, the four year difference based on water rates is \$1,815,870 in favor of using the City of Midlothian's water system. In addition, no water rate increases were assumed for Mountain Peak therefore \$1,815,870 is a conservative estimate. The summary table below shows total estimated costs over a 20 year period. The 20 year cost difference is \$7,759,263.51 in favor of using the City of Midlothian's water system. Water rates were held constant after year 3 because no data was available. In addition, maintenance costs were not included with this study because FNI believes they would not have a significant cost impact.

Long Term Cost Summary			
No.	Year	Mountain Peak Cost	City of Midlothian Cost
1	2012-2013	\$336,000.00	\$914,000.00
2	2013-2014	\$678,675.20	\$219,510.09
3	2014-2015	\$678,675.20	\$230,231.98
4	2015-2016	\$678,675.20	\$241,636.66
5	2016-2017	\$678,675.20	\$241,636.66
6	2017-2018	\$678,675.20	\$241,636.66
7	2018-2019	\$678,675.20	\$241,636.66
8	2019-2020	\$678,675.20	\$241,636.66
9	2020-2021	\$678,675.20	\$241,636.66
10	2021-2022	\$678,675.20	\$241,636.66
11	2022-2023	\$678,675.20	\$241,636.66
12	2023-2024	\$678,675.20	\$241,636.66
13	2024-2025	\$678,675.20	\$241,636.66
14	2025-2026	\$678,675.20	\$241,636.66
15	2026-2027	\$678,675.20	\$241,636.66
16	2027-2028	\$678,675.20	\$241,636.66
17	2028-2029	\$678,675.20	\$241,636.66
18	2029-2030	\$678,675.20	\$241,636.66
19	2030-2031	\$678,675.20	\$241,636.66
20	2031-2032	\$678,675.20	\$241,636.66
20 Year Total		\$13,230,828.80	\$5,471,565.29
20 Year Difference		\$7,759,263.51	

Based on the above data, FNI recommends that the City of Midlothian serve the irrigation needs for the new community park.

# Figure 1

- Proposed WL
- Park Site
- Existing Water
- Midlothian City Limits
- Streams
- Lakes



0 500 1,000 Feet

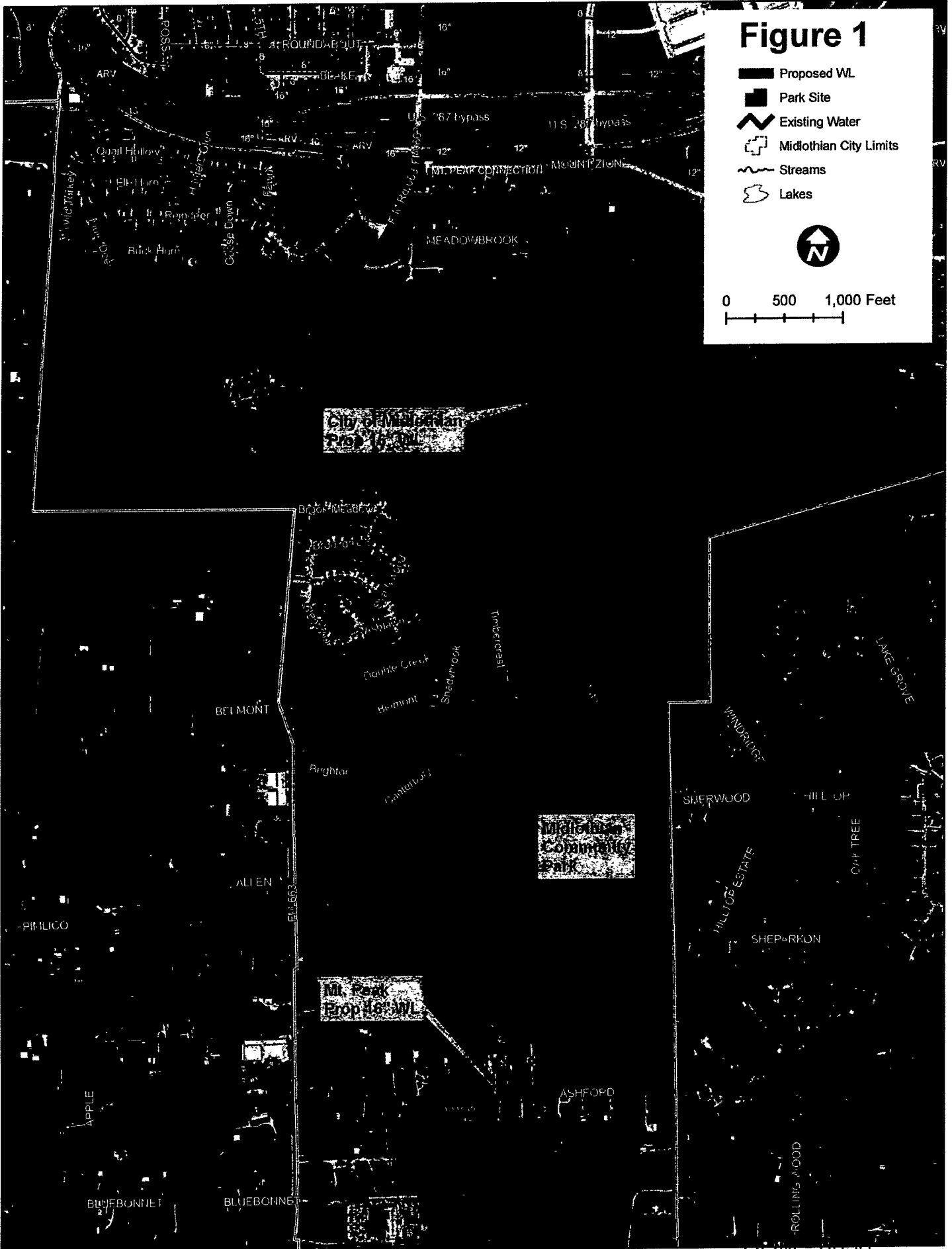


FIGURE 2

2012-2013			
2013 Mountain Peak Weekly Water Cost (2,036,550 GPW)			
Usage (gal)	Units	Water Rate*	Cost
0-1000	1	\$22.84	\$22.84
1001-5000	5	\$4.00	\$20.00
5001-10000	5	\$4.60	\$23.00
10001-20000	10	\$5.40	\$54.00
20001-30000	10	\$6.00	\$60.00
30001-40000	10	\$6.60	\$66.00
40001-50000	10	\$7.40	\$74.00
50001-2036550	1986.55	\$9.60	\$19,070.88
Weekly Cost of Mountain Peak Water Service			\$19,390.72

2012-2013 City of Midlothian Weekly Water Cost (2,036,550 GPW)			
Usage (gal)	Units	Water Rate	Cost
2036550	2036.55	\$2.81	\$5,926.36
Weekly Cost of City Water Service			\$5,926.36

Cost Difference Per Week \$13,464.36

Cost Difference Per Year (2012-2013) \$471,252.58

Mountain Peak water rates were not increased from 2013 current rates

2013-2014			
2013 Mountain Peak Weekly Water Cost (2,036,550 GPW)			
Usage (gal)	Units	Water Rate*	Cost
0-1000	1	\$22.84	\$22.84
1001-5000	5	\$4.00	\$20.00
5001-10000	5	\$4.60	\$23.00
10001-20000	10	\$5.40	\$54.00
20001-30000	10	\$6.00	\$60.00
30001-40000	10	\$6.60	\$66.00
40001-50000	10	\$7.40	\$74.00
50001-2036550	1986.55	\$9.60	\$19,070.88
Weekly Cost of Mountain Peak Water Service			\$19,390.72

2013-2014 City of Midlothian Weekly Water Cost (2,036,550 GPW)			
Usage (gal)	Units	Water Rate	Cost
2036550	2036.55	\$3.08	\$6,272.57
Weekly Cost of City Water Service			\$6,272.57

Cost Difference Per Week \$13,118.15

Cost Difference Per Year (2013-2014) \$459,135.11

2014-2015			
2013 Mountain Peak Weekly Water Cost (2,036,550 GPW)			
Usage (gal)	Units	Water Rate*	Cost
0-1000	1	\$22.84	\$22.84
1001-5000	5	\$4.00	\$20.00
5001-10000	5	\$4.60	\$23.00
10001-20000	10	\$5.40	\$54.00
20001-30000	10	\$6.00	\$60.00
30001-40000	10	\$6.60	\$66.00
40001-50000	10	\$7.40	\$74.00
50001-2036550	1986.55	\$9.60	\$19,070.88
Weekly Cost of Mountain Peak Water Service			\$19,390.72

2014-2015 City of Midlothian Weekly Water Cost (2,036,550 GPW)			
Usage (gal)	Units	Water Rate	Cost
2036550	2036.55	\$3.23	\$6,578.06
Weekly Cost of City Water Service			\$6,578.06

Cost Difference Per Week \$12,812.66

Cost Difference Per Year (2014-2015) \$448,443.22

2015-2016			
2013 Mountain Peak Weekly Water Cost (2,036,550 GPW)			
Usage (gal)	Units	Water Rate*	Cost
0-1000	1	\$22.84	\$22.84
1001-5000	5	\$4.00	\$20.00
5001-10000	5	\$4.60	\$23.00
10001-20000	10	\$5.40	\$54.00
20001-30000	10	\$6.00	\$60.00
30001-40000	10	\$6.60	\$66.00
40001-50000	10	\$7.40	\$74.00
50001-2036550	1986.55	\$9.60	\$19,070.88
Weekly Cost of Mountain Peak Water Service			\$19,390.72

2015-2016 City of Midlothian Weekly Water Cost (2,036,550 GPW)			
Usage (gal)	Units	Water Rate	Cost
2036550	2036.55	\$3.39	\$6,903.90
Weekly Cost of City Water Service			\$6,903.90

Cost Difference Per Week \$12,486.82

Cost Difference Per Year (2015-2016) \$437,038.54

20 Year Savings	\$8,808,486.14
50 Year Savings	\$21,919,642.41



Figure 3

Drought Implementation Policy Comparison			
City of Midlothian		Mountain Peak	
Stage	Response	Stage	Response
1	Landscape irrigation limited to twice a week (varying by odd/even addresses)	1	Landscape irrigation limited to twice a week between (8pm and 10am)
2	landscape irrigation limited to twice a week - Require reductions by City facilities and operations of non-essential water use and reductions in landscape watering	2	Landscape irrigation limited to twice a week between (8pm and 9am)
3	Watering allowed only by drip irrigation or hand held buckets or hoses - water rationing initiated	3	twice a week - watering by automatic sprinkler system is allowed. Hose end sprinklers are not allowed
4	Irrigation of landscaped areas is prohibited	4	Automatic sprinkler watering not allowed - hand watering and drip irrigation of landscape allowed between 6am-10am and 8pm-12am twice a week
Emergency	Outdoor water uses are prohibited (including foundation watering)	5	Watering landscape is prohibited
		6	Water Allocation

**Mike Adams**

**From:** Dan Prendergast <drp@freese.com>  
**Sent:** Friday, July 5, 2013 1:27 PM  
**To:** Mike Adams; Billy King; dsims@dssland.com  
**Cc:** Eddie Haas  
**Subject:** RE: Midlothian Community Park - Draft Memo

Mike,

I hope you all had a great holiday. Please see below for answers to your questions:

1. The proposed 16" City water line (remember this is a shotgun line with no additional taps or services) – was this size determined based on the results of your hydraulic model of our water system?  
The table below shows the velocity and headloss for a flow of 2.54 mgd (1,767 gpm).

	Velocity (ft/s)	Headloss Gradient at C=130 (ft/1,000ft)	Length of Pipe to Park (ft)	Headloss (ft)
12-inch	5.0	7.3	6,800	49.6
16-inch	2.8	1.8	6,800	12.2

With ground elevations within the park area ranging from 750-820 feet, 35 psi could not be maintained with a 12-inch line. Stephanie Neisés performed the analysis.

2. I've always been of the assumption that a 12" line would be more than adequate. Unless your model shows differently, we have a different route for this line that I will provide to you after I've had a chance to fully review your draft memo.  
Please see above on why a 16" line is needed: I remember the 12" conceptual WL alignment came from the northeast. A different alignment is needed for a 16" WL because it must tie in west of FM 663. We can modify the remainder of the 16" WL alignment however we need to. However, the lengths shouldn't vary too much.
3. Did you get any feedback from Mountain Peak about their system and its capabilities, existing infrastructure, keep upgrades, etc. (in particular, the size of their existing main along Ashford)?  
I had a phone conversation with Robert Childress. He stated that the limits shown along Ashford in the original exhibit were accurate. When I asked if he could provide me with a pdf of existing infrastructure in the area he said he didn't have one and that the limits that we were showing are correct. He looked at a 12" WL in analysis but felt that velocities were too high so he recommended upsizing the existing line to 16". I don't remember what size the existing line is. I'll check with him.

Thanks,

Dan Prendergast, P.E., LEED Green Associate

URBAN PLANNING + DESIGN GROUP

Freese and Nichols, Inc.  
1701 N. Market St., Suite 500  
Dallas, Texas 75202  
214-217-2216



---

**From:** Mike Adams [<mailto:Mike.Adams@Midlothian.tx.us>]  
**Sent:** Monday, July 01, 2013 8:50 AM  
**To:** Dan Prendergast; Billy King; [dsims@dssland.com](mailto:dsims@dssland.com)  
**Cc:** Eddie Haas  
**Subject:** RE: Midlothian Community Park - Draft Memo

Thanks Dan. We'll take a look at it over the next week or so and get back with you. I've just glanced at it and have a few quick, key questions/statements:

1. The proposed 16" City water line (remember this is a shotgun line with no additional taps or services) – was this size determined based on the results of your hydraulic model of our water system?
2. I've always been of the assumption that a 12" line would be more than adequate. Unless your model shows differently, we have a different route for this line that I will provide to you after I've had a chance to fully review your draft memo.
3. Did you get any feedback from Mountain Peak about their system and its capabilities, existing infrastructure, keep upgrades, etc. (in particular, the size of their existing main along Ashford)?

Thanks,  
Mike

Mike Adams, P.E.  
Exec. Director of Engineering & Utilities  
City of Midlothian  
972-775-7105

---

**From:** Dan Prendergast [<mailto:drp@freese.com>]  
**Sent:** Monday, July 01, 2013 8:28 AM  
**To:** Mike Adams; Billy King; [dsims@dssland.com](mailto:dsims@dssland.com)  
**Cc:** Eddie Haas  
**Subject:** RE: Midlothian Community Park - Draft Memo

Mike,

Attached is a draft memo on providing water service to the new community park. Please don't hesitate to contact us with any questions/comments.

Thanks,

Dan Prendergast, P.E., LEED Green Associate

URBAN PLANNING + DESIGN GROUP

Freese and Nichols, Inc.  
1701 N. Market St., Suite 500

Dallas, Texas 75202  
214-217-2216

[www.freese.com](http://www.freese.com)



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**From:** Mike Adams [<mailto:Mike.Adams@Midlothian.tx.us>]  
**Sent:** Tuesday, June 11, 2013 9:07 AM  
**To:** Dan Prendergast; Billy King; [dsims@dssland.com](mailto:dsims@dssland.com)  
**Cc:** Eddie Haas  
**Subject:** RE: Midlothian Community Park - Existing 8" WL along Ashford Ln

Thanks Dan.

Mike

Mike Adams, P.E.  
Exec. Director of Engineering & Utilities  
City of Midlothian  
972-775-7105

---

**From:** Dan Prendergast [<mailto:drp@freese.com>]  
**Sent:** Tuesday, June 11, 2013 8:35 AM  
**To:** Mike Adams; Billy King; [dsims@dssland.com](mailto:dsims@dssland.com)  
**Cc:** Eddie Haas  
**Subject:** RE: Midlothian Community Park - Existing 8" WL along Ashford Ln

Mike,

Please see the attached cost analysis spreadsheet updated with Midlothian's water rate increases.

Thanks,

Dan Prendergast, P.E., LEED Green Associate

URBAN PLANNING + DESIGN GROUP

Freese and Nichols, Inc.  
1701 N. Market St., Suite 500  
Dallas, Texas 75202  
214-217-2216

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**From:** Mike Adams [<mailto:Mike.Adams@Midlothian.tx.us>]  
**Sent:** Wednesday, June 05, 2013 3:04 PM  
**To:** Dan Prendergast; Billy King; [dsims@dssland.com](mailto:dsims@dssland.com)  
**Cc:** Eddie Haas  
**Subject:** RE: Midlothian Community Park - Existing 8" WL along Ashford Ln

Dan,

Our rates will increase a little over the next 2 – 3 years (should show on the rate schedule that I provided). In order to more closely represent the cost difference, will you project out the next 2 or 3 years (depending on the last rate we show) and then do your future year projections using the last (highest rate). We know that this is just hypothetical and that rates will change (both Midlothian and Mt. Peak) but it will at least provide a general order of magnitude.

Thanks,  
Mike

Mike Adams, P.E.  
Exec. Director of Engineering & Utilities  
City of Midlothian  
972-775-7105

---

**From:** Dan Prendergast [<mailto:drp@freese.com>]  
**Sent:** Wednesday, June 05, 2013 11:35 AM  
**To:** Mike Adams; Billy King; [dsims@dssland.com](mailto:dsims@dssland.com)  
**Cc:** Eddie Haas  
**Subject:** RE: Midlothian Community Park - Existing 8" WL along Ashford Ln

Mike,

I'm working with our water planner to determine what city water infrastructure improvements would be needed to serve the park at 1,767 gpm. After I receive that info, I'll work with Dennis to modify their existing cost estimate if needed.

The yearly estimate I sent out last week was based on 52 weeks of watering a year. Dennis notified me that only 35 weeks per year should be included due to rainfall. The updated estimate is attached.

Also, I requested info on Mount Peak's water system last week from Rob Childress and haven't heard back. I told him that we want to complete the analysis based on 1,767 gpm.

Thank you,

**Dan Prendergast, P.E., LEED Green Associate**

**URBAN PLANNING + DESIGN GROUP**

Freese and Nichols, Inc.  
1701 N. Market St., Suite 500  
Dallas, Texas 75202  
214-217-2216



---

**From:** Mike Adams [<mailto:Mike.Adams@Midlothian.tx.us>]  
**Sent:** Tuesday, June 04, 2013 10:48 AM  
**To:** Billy King; Dan Prendergast; [dsims@dssland.com](mailto:dsims@dssland.com)  
**Cc:** Eddie Haas  
**Subject:** RE: Midlothian Community Park - Existing 8" WL along Ashford Ln

Dan,

I had a chance to discuss this with Billy and the City needs the flexibility to be able to water this park as the situation dictates. It may ultimately turn out that Billy operates the park's irrigation system similar to how Cleburne operates their system but he needs to know that the water distribution system has the ability to provide him more water in a shorter period of time if needed. I believe that the number that Dennis has provided (1,767 gpm) is a maximum volume and if the needed upgrades can accommodate this demand without an undue impact on the remainder of the system, then Billy will have the ability to experiment with the irrigation system/schedule and come up with an approach that works best for his needs.

Also, F&N has developed both our water and wastewater master plans and has modeled our water system for us in the past. We'll need for you all to rerun the model on our system and determine the size of the main that would be needed to adequately serve the park and not impact our system (if we are to serve the park).

If you should have any questions or need any additional information, please let me know.

Thanks,  
Mike

Mike Adams, P.E.  
Exec: Director of Engineering & Utilities  
City of Midlothian  
972-775-7105

---

**From:** Billy King  
**Sent:** Thursday, May 30, 2013 10:12 AM  
**To:** Dan Prendergast; Mike Adams; [dsims@dssland.com](mailto:dsims@dssland.com)  
**Cc:** Eddie Haas  
**Subject:** RE: Midlothian Community Park - Existing 8" WL along Ashford Ln

Dan,

I see where Mr. Childress is coming from he mentioned the Cleburne park in the past.

We would prefer not to water 7 or 6 days a week as we mentioned in our meeting.

But as we stated in the meeting we being the city are leaning towards using our water source.

With the cost estimate you provided based on their current prices and with ours it is logical for us to supply the water.

I hope that Mr. Childress will reply to you on the information you requested to complete the analysis.

Mike Adams is out of the office this week and I would like to consult with him on Mr. Childress's response.

Thanks,  
Billy

Billy King  
Parks and Recreation Manager  
104 W. Ave E  
Midlothian, TX 76065

P 972-775-7176  
F 972-775-7171

---

**From:** Dan Prendergast [<mailto:drp@freese.com>]  
**Sent:** Thursday, May 30, 2013 10:01 AM  
**To:** Mike Adams; Billy King; [dsims@dssland.com](mailto:dsims@dssland.com)  
**Cc:** Eddie Haas  
**Subject:** FW: Midlothian Community Park - Existing 8" WL along Ashford Ln

Billy/Dennis,

Please see Robert's response below about our request for waterline info based on the demand the City wants for the new park. I haven't responded yet but my plan is to tell him we are tasked with comparing costs based on the demand the City feels it needs for the park (1767 GPM). My understanding from Dennis was that 1767 GPM is the demand the City feels it needs for watering and that you do not want to water over longer periods of time (reduce the gallons per minute demand). Let me know what your thoughts are and I'll respond to Robert.

Also, when comparing only the differences in water rates the City saves a little over \$700,000 per year by not using Mountain Peak (see attached). Depending on what the cost estimate is for a new waterline to serve the park, the gallons per minute demand may not be significant.

Thank you,

**Dan Prendergast, P.E., LEED Green Associate**

**URBAN PLANNING + DESIGN GROUP**

Freese and Nichols, Inc.  
1701 N. Market St., Suite 500  
Dallas, Texas 75202  
214-217-2216

[www.freese.com](http://www.freese.com)



---

**From:** Robert Childress [mailto:robertc@childress-engineers.com]  
**Sent:** Thursday, May 30, 2013 7:53 AM  
**To:** Dan Prendergast  
**Subject:** RE: Midlothian Community Park - Existing 8" WL along Ashford Ln

Dan;

Please read the excerpt from a previous email below and then call to discuss the demands. I believe that we need to determine a realistic demand before we start sizing or designing improvements.

Thanks,

Dear Mr. King,

We have reviewed the preliminary information provided by the City of Midlothian and your consultants concerning the irrigation demands for the Midlothian Community Park and Sports Complex. Due to our previous irrigation experience and having designed a sports complex for the City of Cleburne that is almost the exact same size as the one under consideration, we would like to offer a few comments that may save some money.

We agree with Mr. Sims weekly irrigation number that equates to 1" per week. However, the demands can be greatly reduced by extending both the watering hours and days. While we understand that you want to get the watering done at night to allow for play and maintenance of the fields in the day. The watering schedules can vary to allow for late games/tournaments by allowing some of the common areas to run a little later in the morning. The Cleburne complex was designed and is operated on 600 gpm. After a lengthy discussion about its operation with grounds manager Burton Barr, it was evident that there is no way to just program the sprinklers and forget about them. He constantly adjusts watering times and schedules depending on the heat, wind, maintenance schedules and complex activities. The Midlothian park could operate at approximately 600 gpm by watering 7 days for 8 hours or if you don't want to water on Friday nights / Saturday mornings you could water 6 days for 9.5 hours. Start at 11 and end at 8:30 or start common-areas or unused fields earlier for an earlier finish.

Let's consider options to reduce the demand requirements before we model the system and start sizing pipes. The Cleburne system pumps out of a small 1 ac pond that is filled with either potable or reuse water. If you used your pond, you could water at whatever rate you want without causing a large demand on the water distribution system. If you are concerned with the evaporation loss, periods of 1" of loss per week would only equate to 1% of the water being used to irrigate. That is a small price to pay for the additional flexibility a pond would provide.

Although I do not have a working hydraulic model of the City's water system, I am somewhat familiar with the system. Mt. Peak's elevated tanks are 49 feet taller than the City's which equates to an additional pressure of 21 psi being available. I have heard a 10" line mentioned several times as the line size needed to supply the requested 1,750-2,000 gpm. However, at those flow rates the velocities would be 7.15 fps - 8.17 fps respectively. In a water distribution system, we typically consider 5 fps as the upper limit for a pipeline due to the excessive head loss. If you were to run a 10" line from the City's 12" line at Mt. Zion road, the resulting head losses from the City's elevated tank to the park would be 95'-121'. If we assume that the tank is ten feet down from the overflow of 940', that would result in 33 psi-21 psi respectively at the lowest elevation of the park. Based on the velocity alone, a 14" line would be the minimum to consider.

Let's see if we can work something out with the operation of the irrigation system that will allow the required line size to be minimized as well as the demand on the distribution system. Then, we can move forward with a cost saving design. Please let us know if you have any additional questions or if you would like to discuss this matter further.

Childress Engineers  
Texas Registered Eng. Firm F-702  
Robert T. Childress, III, P.E.  
211 North Ridgeway Drive  
Cleburne, Texas 76033



Email: [robertc@childress-engineers.com](mailto:robertc@childress-engineers.com)  
Voice: 817-645-1118  
Fax: 817-645-7235

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**From:** Dan Prendergast [<mailto:drp@freese.com>]  
**Sent:** Tuesday, May 28, 2013 2:01 PM  
**To:** [robertc@childress-engineers.com](mailto:robertc@childress-engineers.com)  
**Cc:** Randel Kirk ([RANDELKIRK@MTPEAKWATER.COM](mailto:RANDELKIRK@MTPEAKWATER.COM)); Eddie Haas; [Billy.King@Midlothian.tx.us](mailto:Billy.King@Midlothian.tx.us)  
**Subject:** Midlothian Community Park - Existing 8" WL along Ashford Ln

Hi Robert,

My name is Dan Prendergast and I'm working with the City of Midlothian on a water assessment study for their new Community Park. In meeting with the City I was told that there is an existing 8" waterline along Ashford Ln that would need to be upsized to serve the new Community Park. Can you provide me with additional information on the limits of waterline improvements needed and the proposed size needed in order to handle the parks demand of 1767 GPM (2,036,550 GPW)? Please see the attached exhibit for more information on the location of the park and the waterline.

Thank You,

**Dan Prendergast, P.E., LEED Green Associate**

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**PROJECT NO.:** MDL13336

**DATE:** 7/15/2013

**PROJECT:** Midlothian Community Park Water Assessment

**TO:** Mike Adams, P.E.

**FROM:** Dan Prendergast, P.E.

**CC:** MDL13336, Billy King, Dennis Sims, Eddie Haas

## PROJECT UPDATES

- FNI submitted preliminary draft of Water Assessment memo on 7/1/13 and responded to City questions on 7/5/13. Project is on hold pending City comments.
- FNI contacted Robert Childress on 7/9/13 about the size of the existing waterline along Ashford Ln. Robert stated that the existing waterline is a 6" line.

## UPCOMING SUBMITTALS AND MEETINGS

- Final memo due 7/22/13 pending comments from City

## ADDITIONAL ISSUES

- None at this time

## Mike Adams

---

**From:** Mike Adams  
**Sent:** Sunday, August 4, 2013 12:37 PM  
**To:** 'Dan Prendergast'; Billy King; 'dsims@dssland.com'  
**Cc:** 'Eddie Haas'; Adam Mergener; Alberto Mares  
**Subject:** RE: Midlothian Community Park - Draft Memo

Dan,

Sorry for the delayed response but we've been exploring some other potential options for the park. As part of your assessment, I'd like to include or address the following:

1. If a 16" line is needed along Ashford Lane for Mt. Peak, what other improvements may be needed to their overall system since we would be tying the 16" into a 12" along Ashford Lane?
2. Include a pass-through rate concept (i.e., we utilize our water (our water rate) and use Mt. Peak's system and are charged a pass-through rate by Mt. Peak (which would be in addition to our current water rate)). We will need to get with you on what range we should use for the pass-through rate (may need to check with Thomas Haster and see what his experience is with this concept).
3. We are exploring two additional concepts:
  - A. Using the two park ponds to hold water bought to the site via pipeline (either Midlothian or Mt. Peak) and pulling from the ponds to irrigate the site (this would allow for a smaller main to the site and more of a constant volume going into the ponds).
  - B. Using the two park ponds to hold water from a new on-site well (drilling approximately 1,600 – 2,000' deep into the Trinity aquifer).

I understand that we are adding to the original scope and as such, will need to adjust the compensation. Once you've had an opportunity to review this information, please email me back with some dates and times that work on your end and we'll schedule a conference call to discuss.

Thanks,  
Mike

Mike Adams, P.E.  
Exec. Director of Engineering & Utilities  
City of Midlothian  
972-775-7105

**From:** Dan Prendergast [mailto:drp@freese.com]  
**Sent:** Monday, July 01, 2013 8:28 AM  
**To:** Mike Adams; Billy King; dsims@dssland.com  
**Cc:** Eddie Haas  
**Subject:** RE: Midlothian Community Park - Draft Memo

Mike,

Attached is a draft memo on providing water service to the new community park. Please don't hesitate to contact us with any questions/comments.

Thanks,

Dan Prendergast, P.E., LEED Green Associate

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---

**From:** Mike Adams [<mailto:Mike.Adams@Midlothian.tx.us>]  
**Sent:** Tuesday, June 11, 2013 9:07 AM  
**To:** Dan Prendergast; Billy King; [dsims@dssland.com](mailto:dsims@dssland.com)  
**Cc:** Eddie Haas  
**Subject:** RE: Midlothian Community Park - Existing 8" WL along Ashford Ln

Thanks Dan.

Mike

Mike Adams, P.E.  
Exec. Director of Engineering & Utilities  
City of Midlothian  
972-775-7105

---

**From:** Dan Prendergast [<mailto:drp@freese.com>]  
**Sent:** Tuesday, June 11, 2013 8:35 AM  
**To:** Mike Adams; Billy King; [dsims@dssland.com](mailto:dsims@dssland.com)  
**Cc:** Eddie Haas  
**Subject:** RE: Midlothian Community Park - Existing 8" WL along Ashford Ln

Mike,

Please see the attached cost analysis spreadsheet updated with Midlothian's water rate increases.

Thanks,

Dan Prendergast, P.E., LEED Green Associate

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---

**From:** Mike Adams [<mailto:Mike.Adams@Midlothian.tx.us>]  
**Sent:** Wednesday, June 05, 2013 3:04 PM  
**To:** Dan Prendergast; Billy King; [dsims@dssland.com](mailto:dsims@dssland.com)  
**Cc:** Eddie Haas  
**Subject:** RE: Midlothian Community Park - Existing 8" WL along Ashford Ln

Dan,

Our rates will increase a little over the next 2 – 3 years (should show on the rate schedule that I provided). In order to more closely represent the cost difference, will you project out the next 2 or 3 years (depending on the last rate we show) and then do your future year projections using the last (highest rate). We know that this is just hypothetical and that rates will change (both Midlothian and Mt. Peak) but it will at least provide a general order of magnitude.

Thanks,  
Mike

Mike Adams, P.E.  
Exec. Director of Engineering & Utilities  
City of Midlothian  
972-775-7105

---

**From:** Dan Prendergast [<mailto:drp@freese.com>]  
**Sent:** Wednesday, June 05, 2013 11:35 AM  
**To:** Mike Adams; Billy King; [dsims@dssland.com](mailto:dsims@dssland.com)  
**Cc:** Eddie Haas  
**Subject:** RE: Midlothian Community Park - Existing 8" WL along Ashford Ln

Mike,

I'm working with our water planner to determine what city water infrastructure improvements would be needed to serve the park at 1,767 gpm. After I receive that info, I'll work with Dennis to modify their existing cost estimate if needed.

The yearly estimate I sent out last week was based on 52 weeks of watering a year. Dennis notified me that only 35 weeks per year should be included due to rainfall. The updated estimate is attached.

Also, I requested info on Mount Peak's water system last week from Rob Childress and haven't heard back. I told him that we want to complete the analysis based on 1,767 gpm.

Thank you,

Dan Prendergast, P.E., LEED Green Associate

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---

**From:** Mike Adams [<mailto:Mike.Adams@Midlothian.tx.us>]  
**Sent:** Tuesday, June 04, 2013 10:48 AM  
**To:** Billy King; Dan Prendergast; [dsims@dssland.com](mailto:dsims@dssland.com)  
**Cc:** Eddie Haas  
**Subject:** RE: Midlothian Community Park - Existing 8" WL along Ashford Ln

Dan,

I had a chance to discuss this with Billy and the City needs the flexibility to be able to water this park as the situation dictates. It may ultimately turn out that Billy operates the park's irrigation system similar to how Cleburne operates their system but he needs to know that the water distribution system has the ability to provide him more water in a shorter period of time if needed. I believe that the number that Dennis has provided (1,767 gpm) is a maximum volume and if the needed upgrades can accommodate this demand without an undue impact on the remainder of the system, then Billy will have the ability to experiment with the irrigation system/schedule and come up with an approach that works best for his needs.

Also, F&N has developed both our water and wastewater master plans and has modeled our water system for us in the past. We'll need for you all to rerun the model on our system and determine the size of the main that would be needed to adequately serve the park and not impact our system (if we are to serve the park).

If you should have any questions or need any additional information, please let me know.

Thanks,  
Mike

Mike Adams, P.E.  
Exec. Director of Engineering & Utilities  
City of Midlothian  
972-775-7105

---

**From:** Billy King  
**Sent:** Thursday, May 30, 2013 10:12 AM  
**To:** Dan Prendergast; Mike Adams; [dsims@dssland.com](mailto:dsims@dssland.com)  
**Cc:** Eddie Haas  
**Subject:** RE: Midlothian Community Park - Existing 8" WL along Ashford Ln

Dan,

I see where Mr. Childress is coming from he mentioned the Cleburne park in the past.

We would prefer not to water 7 or 6 days a week as we mentioned in our meeting.

But as we stated in the meeting we being the city are leaning towards using our water source.

With the cost estimate you provided based on their current prices and with ours it is logical for us to supply the water.

I hope that Mr. Childress will reply to you on the information you requested to complete the analysis.

Mike Adams is out of the office this week and I would like to consult with him on Mr. Childress's response.

Thanks,  
Billy

Billy King  
Parks and Recreation Manager  
104 W. Ave E  
Midlothian, TX 76065

P 972-775-7176  
F 972-775-7171

---

**From:** Dan Prendergast [<mailto:drp@freese.com>]  
**Sent:** Thursday, May 30, 2013 10:01 AM  
**To:** Mike Adams; Billy King; [dsims@dssland.com](mailto:dsims@dssland.com)  
**Cc:** Eddie Haas  
**Subject:** FW: Midlothian Community Park - Existing 8" WL along Ashford Ln

Billy/Dennis,

Please see Robert's response below about our request for waterline info based on the demand the City wants for the new park. I haven't responded yet but my plan is to tell him we are tasked with comparing costs based on the demand the City feels it needs for the park (1767 GPM). My understanding from Dennis was that 1767 GPM is the demand the City feels it needs for watering and that you do not want to water over longer periods of time (reduce the gallons per minute demand). Let me know what your thoughts are and I'll respond to Robert.

Also, when comparing only the differences in water rates the City saves a little over \$700,000 per year by not using Mountain Peak (see attached). Depending on what the cost estimate is for a new waterline to serve the park, the gallons per minute demand may not be significant.

Thank you,

Dan Prendergast, P.E., LEED Green Associate

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Dallas, Texas 75202  
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**From:** Robert Childress [mailto:robertc@childress-engineers.com]  
**Sent:** Thursday, May 30, 2013 7:53 AM  
**To:** Dan Prendergast  
**Subject:** RE: Midlothian Community Park, - Existing 8" WL along Ashford Ln

Dan,  
Please read the excerpt from a previous email below and then call to discuss the demands. I believe that we need to determine a realistic demand before we start sizing or designing improvements.

Thanks,

Dear Mr. King,

We have reviewed the preliminary information provided by the City of Midlothian and your consultants concerning the irrigation demands for the Midlothian Community Park and Sports Complex. Due to our previous irrigation experience and having designed a sports complex for the City of Cleburne that is almost the exact same size as the one under consideration, we would like to offer a few comments that may save some money.

We agree with Mr. Sims weekly irrigation number that equates to 1" per week. However, the demands can be greatly reduced by extending both the watering hours and days. While we understand that you want to get the watering done at night to allow for play and maintenance of the fields in the day. The watering schedules can vary to allow for late games/tournaments by allowing some of the common areas to run a little later in the morning. The Cleburne complex was designed and is operated on 600 gpm. After a lengthy discussion about its operation with grounds manager Burton Barr, it was evident that there is no way to just program the sprinklers and forget about them. He constantly adjusts watering times and schedules depending on the heat, wind, maintenance schedules and complex activities. The Midlothian park could operate at approximately 600 gpm by watering 7 days for 8 hours or if you don't want to water on Friday nights / Saturday mornings you could water 6 days for 9.5 hours. Start at 11 and end at 8:30 or start common areas or unused fields earlier for an earlier finish.

Let's consider options to reduce the demand requirements before we model the system and start sizing pipes. The Cleburne system pumps out of a small 1 ac pond that is filled with either potable or reuse water. If you used your pond, you could water at whatever rate you want without causing a large demand on the water distribution system. If you are concerned with the evaporation loss, periods of 1" of loss per week would only equate to 1% of the water being used to irrigate. That is a small price to pay for the additional flexibility a pond would provide.

Although I do not have a working hydraulic model of the City's water system, I am somewhat familiar with the system. Mt. Peak's elevated tanks are 49 feet taller than the City's which equates to an additional pressure of 21 psi being available. I have heard a 10" line mentioned several times as the line size needed to supply the requested 1,750-2,000 gpm. However, at those flow rates the velocities would be 7.15 fps - 8.17 fps respectively. In a water distribution system, we typically consider 5 fps as the upper limit for a pipeline due to the excessive head loss. If you were to run a 10" line from the City's 12" line at Mt. Zion road, the resulting head losses from the City's elevated tank to the park would be 95'-121'. If we assume that the tank is ten feet down from the overflow of 940', that would result in 33 psi-21 psi respectively at the lowest elevation of the park. Based on the velocity alone, a 14" line would be the minimum to consider.

Let's see if we can work something out with the operation of the irrigation system that will allow the required line size to be minimized as well as the demand on the distribution system. Then, we can move forward with a cost saving design. Please let us know if you have any additional questions or if you would like to discuss this matter further.



Childress Engineers  
Texas Registered Eng. Firm F-702  
Robert T. Childress, III, P.E.  
211 North Ridgeway Drive  
Cleburne, Texas 76033  
Email: [robertc@childress-engineers.com](mailto:robertc@childress-engineers.com)  
Voice: 817-645-1118  
Fax: 817-645-7235

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**From:** Dan Prendergast [<mailto:drp@freese.com>]  
**Sent:** Tuesday, May 28, 2013 2:01 PM  
**To:** [robertc@childress-engineers.com](mailto:robertc@childress-engineers.com)  
**Cc:** Randel Kirk ([RANDELKIRK@MTPEAKWATER.COM](mailto:RANDELKIRK@MTPEAKWATER.COM)); Eddie Haas; [Billy.King@Midlothian.tx.us](mailto:Billy.King@Midlothian.tx.us)  
**Subject:** Midlothian Community Park - Existing 8" WL along Ashford Ln

Hi Robert,

My name is Dan Prendergast and I'm working with the City of Midlothian on a water assessment study for their new Community Park. In meeting with the City I was told that there is an existing 8" waterline along Ashford Ln that would need to be upsized to serve the new Community Park. Can you provide me with additional information on the limits of waterline improvements needed and the proposed size needed in order to handle the parks demand of 1767 GPM (2,036,550 GPW)? Please see the attached exhibit for more information on the location of the park and the waterline.

Thank You,

Dan Prendergast, P.E., LEED Green Associate

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## Mike Adams

---

**From:** Mike Adams  
**Sent:** Friday, August 9, 2013 9:30 AM  
**To:** 'Dan Prendergast'; 'Eddie Haas'  
**Cc:** Billy King; Adam Mergener; Alberto Mares  
**Subject:** RE: Conference Call

Thanks Dan.

Mike,

Mike Adams, P.E.  
Exec. Director of Engineering & Utilities  
City of Midlothian  
972-775-7105

**From:** Dan Prendergast [mailto:drp@freese.com]  
**Sent:** Friday, August 09, 2013 9:26 AM  
**To:** Mike Adams; Eddie Haas  
**Cc:** Billy King; Adam Mergener; Alberto Mares  
**Subject:** RE: Conference Call

Mike,

I'll set one up and send it to everyone

Thanks

Dan Prendergast, P.E., LEED Green Associate

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---

**From:** Mike Adams [mailto:Mike.Adams@Midlothian.tx.us]  
**Sent:** Friday, August 09, 2013 9:23 AM  
**To:** Dan Prendergast; Eddie Haas  
**Cc:** Billy King; Adam Mergener; Alberto Mares  
**Subject:** RE: Conference Call

Dan,

Let's schedule for Monday (8/19) at 1:30. Do you have a specific conference number we need to call?

Thanks,  
Mike

Mike Adams, P.E.  
Exec. Director of Engineering & Utilities  
City of Midlothian  
972-775-7105

**From:** Dan Prendergast [mailto:drp@freese.com]  
**Sent:** Friday, August 09, 2013 8:38 AM  
**To:** Mike Adams; Eddie Haas  
**Cc:** Billy King; Adam Mergener; Alberto Mares  
**Subject:** RE: Conference Call

Mike,

For the week of 8/19 we have the following available:

Monday 8/19: 1-3pm  
Wednesday 8/21: 1-3pm  
Thursday 8/22: anytime except 10-11am  
Friday 8/23: 9-11:30am

Let us know if any of those times work.

Enjoy your vacation Billy!

Thanks

**Dan Prendergast, P.E., LEED Green Associate**

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---

**From:** Mike Adams [mailto:Mike.Adams@Midlothian.tx.us]  
**Sent:** Thursday, August 08, 2013 5:23 PM

**To:** Dan Prendergast; Eddie Haas  
**Cc:** Billy King; Adam Mergener; Alberto Mares  
**Subject:** RE: Conference Call

Dan,

How about the following week (week of August 19<sup>th</sup>)? Things are a little busy next week during these times.

Thanks,  
Mike

Mike Adams, P.E.  
Exec. Director of Engineering & Utilities  
City of Midlothian  
972-775-7105

**From:** Dan Prendergast [<mailto:drp@freese.com>]

**Sent:** Thursday, August 08, 2013 1:51 PM

**To:** Mike Adams; Eddie Haas

**Cc:** Billy King; Adam Mergener; Alberto Mares

**Subject:** RE: Conference Call

Mike,

Below are the times that we're available to talk next week:

Tuesday 2-4pm

Wednesday 2-5pm

Friday 2-5pm

Let us know if any of those times work for you

Thanks!

Dan Prendergast, P.E., LEED Green Associate

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---

**From:** Mike Adams [<mailto:Mike.Adams@Midlothian.tx.us>]

**Sent:** Thursday, August 08, 2013 8:09 AM

**To:** Dan Prendergast; Eddie Haas  
**Cc:** Billy King; Adam Mergener; Alberto Mares  
**Subject:** RE: Conference Call

Thanks Dan.

Mike

Mike Adams, P.E.  
Exec. Director of Engineering & Utilities  
City of Midlothian  
972-775-7105

**From:** Dan Prendergast [<mailto:drp@freese.com>]  
**Sent:** Thursday, August 08, 2013 7:31 AM  
**To:** Mike Adams; Eddie Haas  
**Cc:** Billy King; Adam Mergener; Alberto Mares  
**Subject:** RE: Conference Call

Mike,

I think having Scott Cole and Stephanie Neises participate in the discussion would be beneficial. I think the earliest we could conference call is Tuesday but I'll confirm and send specific dates/times when I have a chance to coordinate with everyone on the FNI side.

Thanks

**Dan Prendergast, P.E., LEED Green Associate**

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---

**From:** Mike Adams [<mailto:Mike.Adams@Midlothian.tx.us>]  
**Sent:** Wednesday, August 07, 2013 3:39 PM  
**To:** Eddie Haas; Dan Prendergast  
**Cc:** Billy King; Adam Mergener; Alberto Mares  
**Subject:** Conference Call

Eddie and Dan,

We'd like to schedule a time with you for a conference call to discuss the park water assessment. We just had a project meeting this morning and we have a better feel for what we need you all to do in order to complete the assessment. Please provide me with several dates and times and I'll arrange on our end.

Thanks,  
Mike

Mike Adams, P.E.  
Exec. Director of Engineering & Utilities  
City of Midlothian  
972-775-7105

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**PROJECT NO.:** MDL13336  
**PROJECT:** Midlothian Community Park Water Assessment  
**TO:** Mike Adams, P.E.  
**FROM:** Dan Prendergast, P.E.  
**CC:** MDL13336, Billy King, Dennis Sims, Eddie Haas

**DATE:** 8/14/2013

## PROJECT UPDATES

- FNI completed analyses and submitted a draft memorandum on 7/1/13.
- FNI received notice from Mike Adams of possible scope changes on 8/4/13.

## UPCOMING SUBMITTALS AND MEETINGS

- Conference call on Monday 8/19/13 to discuss additional scope including:
  - Additional Mt. Peak improvements needed if a 16" WL is required along Ashford Ln
  - Analyze a "pass-through" rate concept
  - Utilizing park pond to hold water to decrease the size of the main needed
  - Utilizing an onsite well to provide water for irrigation

Mike, we're looking forward to speaking with you on Monday. Let us know if you need anything else before the meeting. Thanks!

## Mike Adams

---

**From:** Mike Adams  
**Sent:** Tuesday, September 3, 2013 10:57 AM  
**To:** Eddie Haas  
**Subject:** RE: Community Park Assessment Project Amendment

Thanks Eddie.

Mike

Mike Adams, P.E.  
Exec. Director of Engineering & Utilities  
City of Midlothian  
972-775-7105

---

**From:** Eddie Haas [mailto:eh@freese.com]  
**Sent:** Tuesday, September 03, 2013 10:29 AM  
**To:** Mike Adams  
**Subject:** RE: Community Park Assessment Project Amendment

Mike,  
I have put a note to the team to find out where they can cut corners. I will let you know as soon as possible. Thanks,

Eddie

---

**From:** Mike Adams [mailto:Mike.Adams@Midlothian.tx.us]  
**Sent:** Tuesday, September 03, 2013 9:09 AM  
**To:** Eddie Haas  
**Subject:** RE: Community Park Assessment Project Amendment

Eddie,

I'd like to see if we can keep the total cost to \$10,000 or less (\$5,000 amendment).

Please let me know what you think.

Thanks,  
Mike

Mike Adams, P.E.  
Exec. Director of Engineering & Utilities  
City of Midlothian  
972-775-7105

---

**From:** Eddie Haas [mailto:eh@freese.com]  
**Sent:** Friday, August 30, 2013 2:43 PM  
**To:** Mike Adams



**Cc:** Dan Prendergast; Tricia Hatley; Scott Cole; Eddie Haas  
**Subject:** Community Park Assessment Project Amendment  
**Importance:** High

Mike,  
Attached please find a project amendment per our discussion of the infrastructure cost for service to the community park. We are ready to proceed with work upon receiving execution of the amendment by your office. Please call with any questions, thanks.

**Eddie**

**Edmund Haas, AICP**  
Associate

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1701 N. Market Street, Ste. 500  
Dallas, Texas 75202  
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## Mike Adams

---

**From:** Mike Adams  
**Sent:** Monday, September 16, 2013 4:06 PM  
**To:** DRP@freese.com  
**Cc:** MDL13336-Team@freese.com; Billy King; dsims@dssland.com; DS@freese.com; THH@freese.com; THH@freese.com  
**Subject:** RE: Midlothian Community Park Water Assessment - One Page Report

Thanks Dan. I plan to review your proposal this week and will get back with you.

Mike

Mike Adams, P.E.  
Exec. Director of Engineering & Utilities  
City of Midlothian  
972-775-7105

**From:** DRP@freese.com [mailto:DRP@freese.com]  
**Sent:** Monday, September 16, 2013 3:41 PM  
**To:** Mike Adams  
**Cc:** MDL13336-Team@freese.com; Billy King; dsims@dssland.com; DS@freese.com; THH@freese.com; THH@freese.com  
**Subject:** Midlothian Community Park Water Assessment - One Page Report

Mike,

Please see the attached one page report for an update on the project status.

Thanks,  
Dan Prendergast, P.E.

Please consider the environment before printing this message.

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This electronic mail message is intended exclusively for the individual or entity to which it is addressed. This message, together with any attachment, may contain the sender's organization's confidential and privileged information. The recipient is hereby notified to treat the information as confidential and privileged and to not disclose or use the information except as authorized by sender's organization. Any unauthorized review, printing, retention, copying, disclosure, distribution, retransmission, dissemination or other use of, or taking of any action in reliance upon, this information by persons or entities other than the intended recipient is prohibited. If you received this message in error, please immediately contact the sender by reply email and delete all copies of the material from any computer. Thank you for your cooperation.

**Mike Adams**

---

**From:** Mike Adams  
**Sent:** Tuesday, September 24, 2013 9:10 AM  
**To:** 'Dan Prendergast'  
**Cc:** 'Eddie Haas'; Billy King; Adam Mergener; Alberto Mares  
**Subject:** RE: Midlothian Community Park Water Assessment

Dan and Eddie,

I you would, please send me a brief letter proposal for this work, with this cost and we'll get this approved so that I can turn you loose.

Thanks,  
Mike

Mike Adams, P.E.  
Exec. Director of Engineering & Utilities  
City of Midlothian  
972-775-7105

**From:** Dan Prendergast [mailto:drp@freese.com]  
**Sent:** Wednesday, September 11, 2013 3:01 PM  
**To:** Mike Adams  
**Cc:** Eddie Haas  
**Subject:** Midlothian Community Park Water Assessment

Hi Mike,

Attached is an updated scope for the additional work on the Water Assessment memo. We can get the fee down to \$5500 if the City handles the research and coordination with Mountain Peak for us. Let us know if you have any questions/comments.

Thanks

**Dan Prendergast, P.E., LEED Green Associate**

**URBAN PLANNING + DESIGN GROUP**

**Freese and Nichols, Inc.**  
1701 N. Market St., Suite 500  
Dallas, Texas 75202  
214-217-2216

[www.freese.com](http://www.freese.com)



## Mike Adams

---

**From:** Mike Adams  
**Sent:** Wednesday, October 9, 2013 3:58 PM  
**To:** Billy King  
**Subject:** FW: Midlothian Water Assessment - Amendment 1  
**Attachments:** F&N Water Assessment Engr. Service Agr. Contract Change Form Amend #1 \_....pdf

Billy,

When you get back, please get with me on this since we are going to have to do some of the legwork.

Thanks and hope you're enjoying Galveston.  
Mike

Mike Adams, P.E.  
Exec. Director of Engineering & Utilities  
City of Midlothian  
972-775-7105

**From:** Dan Prendergast [mailto:drp@freese.com]  
**Sent:** Monday, October 07, 2013 11:20 AM  
**To:** Mike Adams  
**Cc:** Eddie Haas  
**Subject:** Midlothian Water Assessment - Amendment 1

Hi Mike,

We received the signed amendment (attached). FNI is getting started on items 1 and 2d while the City is gathering the info needed to complete the other tasks. Please don't hesitate to call if you have any questions. I'll be out of the office the rest of the day but will be in all day tomorrow.

Thanks!

Dan Prendergast, P.E., LEED Green Associate

URBAN PLANNING + DESIGN GROUP

Freese and Nichols, Inc.  
2711 North Haskell Avenue, Suite 3300  
Dallas, Texas 75204  
214-217-2216

[www.freese.com](http://www.freese.com)





CONTRACT CHANGE AUTHORIZATION FORM  
Amend #1

<b>Client:</b> City of Midlothian, Texas 104 W. Ave E Midlothian, Texas 76065 Attn: Mike Adams, Director of Public Works	<b>FNI Project No.:</b> MDL13336	
	<b>Client Contract Ref.:</b>	
	<b>Date:</b> September 26, 2013	
<b>Project Description:</b> Assessment of Water Service to Midlothian Community Park		
<b>Description of Services Added:</b> Please see Attachment A		
<b>Compensation shall be adjusted as follows:</b> Shall be a not to exceed fee of Five Thousand Five Hundred Dollars (\$5,500)		
	<b>Original Contract</b>	\$5,000.00
	<b>Amended Amount</b>	\$5,500.00
	<b>Revised Total Contract</b>	\$10,500.00
<b>Schedule shall be adjusted as follows:</b>		
1. Data Collection and Coordination with Mountain Peak (City)	3 Weeks from authorization	
2. Pre-Final Memo (FNI)	5 Weeks from authorization	
3. Final Memo (FNI)	8 Weeks from authorization	

*The above described services shall proceed upon return of this Contract Change Authorization. Services will be billed as they are done. All other provisions, terms, and conditions of the agreement for services which are not expressly amended shall remain in full force and effect.*

- A contract modification will be submitted.
- This Contract Change Authorization will serve as contract modification.

**FREESE AND NICHOLS, INC.:**

**CITY OF MIDLOTHIAN, TEXAS:**

BY:

BY:

Edmund Haas  
Print or Type Name

Dan Hastings  
Print or Type Name

TITLE: Associate

TITLE: City Manager

DATE: October 1, 2013

DATE: 10-3-13

## ATTACHMENT A

### Midlothian Community Park Water Assessment Revised Scope of Services (Amendment #1)

1. Revise Projected Water Demands: FNI will evaluate the water system based on an adjusted park water demand of 1063gpm based on a requirement of 850gpm with an 80% irrigation efficiency rate.
2. Evaluate Water Supply Scenarios: FNI will further analyze alternatives for Mountain Peak SUD to serve the park by completing the following tasks:
  - a. **Option #1 – City Water Supply**
    - i. FNI will adjust the size of the proposed waterline based on the updated demand if necessary. FNI will also update the waterline alignment to the park based on discussions with the City.
  - b. **Option #2 - Mountain Peak SUD Supply**
    - i. City will coordinate with Mountain Peak SUD on additional upgrades needed if a 12-inch waterline is constructed along Ashford Lane. FNI will make adjustments to Mountain Peak infrastructure costs based on data obtained from the City.
    - ii. City will provide as-built plans for Lawson Farms development. FNI will analyze utilization of an existing waterline in Belmont Drive based on provided as built plans.
  - c. **Option #3 - Pass-through Agreement with Mountain Peak SUD**
    - i. City will research local DFW area water system pass through rates and provide to FNI in order to develop an estimate for use with Mountain Peak SUD's system. The estimated pass-through rate is intended for evaluation purposes only as the actual rate charged by Mountain Peak SUD is unknown at this time. This scope does not include negotiations with Mountain Peak SUD to develop a pass-through rate.
    - ii. FNI will analyze the pass through rate for short and long term cost implications.
  - d. **Option #4 - On-site Well**
    - i. FNI will analyze utilization of an onsite well. Analysis will consist of the following items:
      1. Assume a well depth of 2,000 feet.
      2. Develop planning level well construction cost.
      3. Apply a groundwater conservation district fee of \$0.20/1000 gallons and inflate cost 3% per year.
      4. Include cost of \$7,000/month for chemical wellhead treatment.
3. Evaluate On-site Ponds: FNI will analyze the utilization of two on-site ponds (one existing and one proposed) to store water for irrigation for use with any of the above water supply scenarios. Analysis will consist of the following items:
  - a. Pond and supply line construction costs
  - b. Maintain constant water elevation for aesthetic purposes
  - c. Ponds are located along an existing creek
  - d. General opinion of water rights implications

4. Update Technical Memorandum: FNI will revise the Technical Memorandum to include the additional analyses described in this scope of work.
5. Review Meeting: FNI will attend a meeting with City staff to review the analyses and findings of the study.

**Mike Adams**

---

**From:** Mike Adams  
**Sent:** Tuesday, October 15, 2013 3:07 PM  
**To:** Billy King; Adam Mergener  
**Subject:** FW: Midlothian Community Park Water Assessment - One Page Report  
**Attachments:** MDL13336\_20131015\_OnePageReport.pdf

Billy,

There are items that F&N has identified for us to cover (primarily getting information and feedback from MP) that we need to see if we can get someone to start bird dogging in order to keep this moving forward.

Please let me know if you want to discuss.

Thanks,  
Mike

Mike Adams, P.E.  
Exec. Director of Engineering & Utilities  
City of Midlothian  
972-775-7105

**From:** DRP@freese.com [mailto:DRP@freese.com]  
**Sent:** Tuesday, October 15, 2013 3:02 PM  
**To:** Mike Adams  
**Cc:** MDL13336-Team@freese.com; Billy King; dsims@dssland.com; DS@freese.com; THH@freese.com; THH@freese.com  
**Subject:** Midlothian Community Park Water Assessment - One Page Report

Mike,

Please see the attached one page report for an update on the project status.

Thanks,  
Dan Prendergast, P.E.

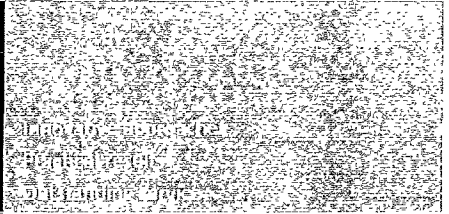
Please consider the environment before printing this message.

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# STATUS REPORT



1701 N Market St., #500, LB51 • Dallas, Texas 75202 • 214-217-2200 • fax 214-217-2201

www.fni.com

**PROJECT NO.:** MDL13336 **DATE:** 10/15/2013  
**PROJECT:** Midlothian Community Park Water Assessment  
**TO:** Mike Adams, P.E.  
**FROM:** Dan Prendergast, P.E.  
**CC:** MDL13336, Billy King, Dennis Sims, Eddie Haas

## PROJECT UPDATES

- FNI received executed contract amendment #1 from City on 10/3/13.
- FNI is currently working on scope items 1 and 2d while the City is gathering data needed for other scope items.

## UPCOMING SUBMITTALS AND MEETINGS

- City Data Collection due 10/24/13
- FNI Pre-Final Memo due 11/7/13
- FNI Final Memo due 11/27/13

Mike, if you need anything or have any questions please don't hesitate to call/email me. Thanks!

## Mike Adams

---

**From:** Mike Adams  
**Sent:** Monday, October 21, 2013 3:02 PM  
**To:** 'Dan Prendergast'  
**Cc:** 'Eddie Haas'; Billy King; Adam Mergener; Kevin Lasher  
**Subject:** RE: Midlothian Water Assessment - Amendment 1  
**Attachments:** 20131021144437504.pdf

Dan,

Please find attached a copy of Mt. Peak's water line map in relation to Lawson Farms Subdivision and the City park property. Please note that the lines highlighted in yellow (12" water lines) have recently been installed or are being installed as part of the Lawson Farms development. However, Mt. Peak is requiring that the City upsize the existing 6" water line along Ashford Lane from a 6" to 12" main and run the line through the park and loop back to the existing 12" main in Heatherstone Drive (highlighted in orange). As part of the costs, at least two fire hydrants will need to be included along Ashford Lane and one existing hydrant relocated and FM 663 would need to be bored and cased since the existing 12" water line is along the west side of 663. From our perspective, we believe that no matter what option we go with, we will discharge into our upper pond and then pull/pump from the pond (this includes the Mt. Peak scenario as well).

Regarding the pass-through option, Mt. Peak indicated a pass-through rate of \$1.00 per 1,000 gallons (which will need to be added to our standard water rate).

Finally, we do not believe that we will need to expend \$7,000/month in chemical costs for treating the well water based on what Mt. Peak is experiencing with Trinity aquifer water in the area (they are only having to add chlorine). However, due to uncertainties, please adjust this number down to \$4,000.

Thanks and if I've missed anything or you need any additional information, please let me know.

Mike

Mike Adams, P.E.  
Exec. Director of Engineering & Utilities  
City of Midlothian  
972-775-7105

---

**From:** Dan Prendergast [mailto:drp@freese.com]  
**Sent:** Monday, October 07, 2013 11:20 AM  
**To:** Mike Adams  
**Cc:** Eddie Haas  
**Subject:** Midlothian Water Assessment - Amendment 1

Hi Mike,

We received the signed amendment (attached). FNI is getting started on items 1 and 2d while the City is gathering the info needed to complete the other tasks. Please don't hesitate to call if you have any questions. I'll be out of the office the rest of the day but will be in all day tomorrow.

Thanks!

Dan Prendergast, P.E., LEED Green Associate

URBAN PLANNING + DESIGN GROUP

Freese and Nichols, Inc.

2711 North Haskell Avenue, Suite 3300

Dallas, Texas 75204

214-217-2216

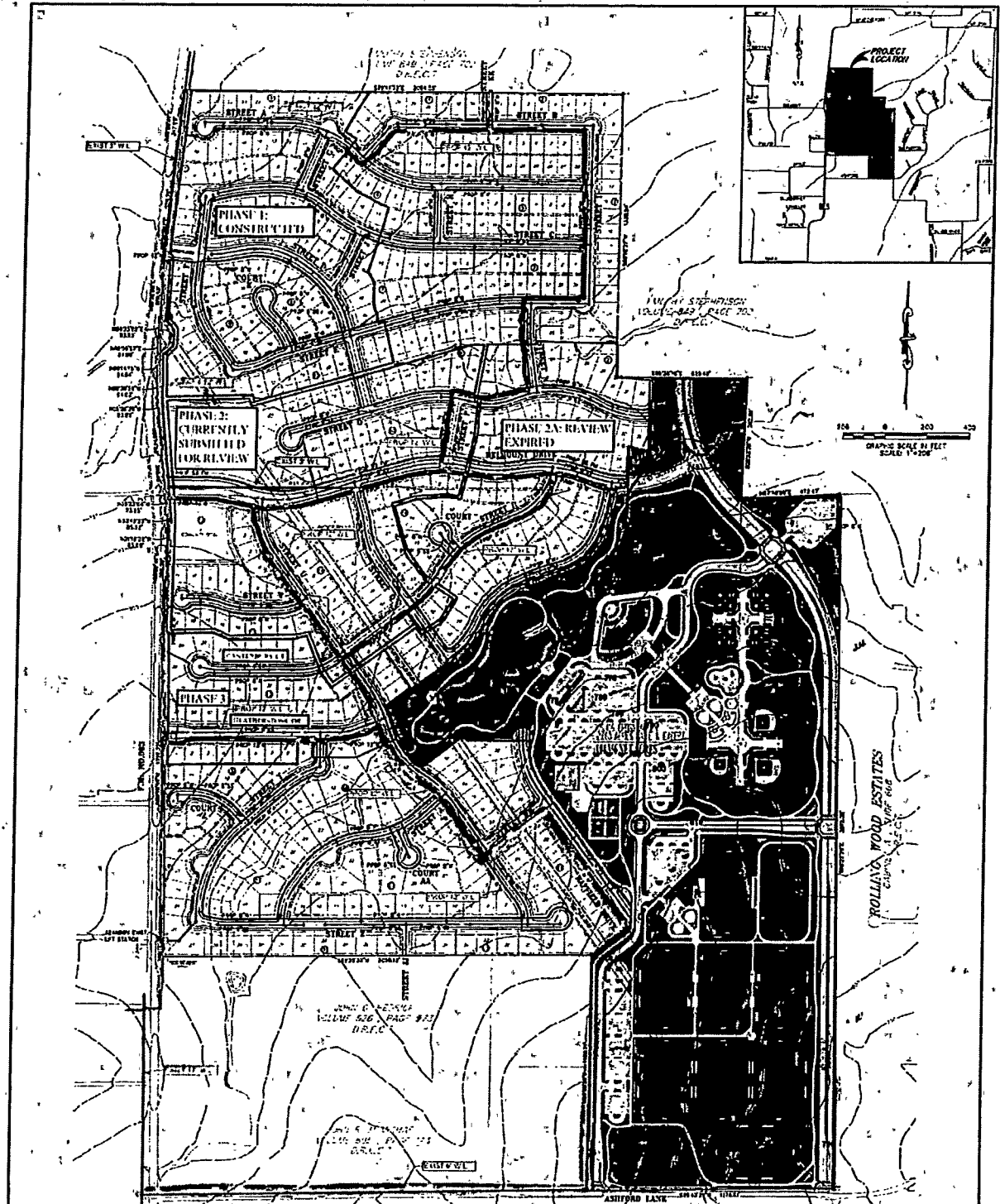
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**A PRELIMINARY UTILITY PLAN FOR**

LOTS 1-38, BLOCK 1; LOTS 1-59, BLOCK 2; LOTS 1-28, BLOCK 3; LOTS 1-16, BLOCK 4; LOTS 1-20, BLOCK 5; LOTS 1-19, BLOCK 6; LOTS 1-34, BLOCK 7; LOTS 1-23, BLOCK 8; LOTS 1-22, BLOCK 9; LOTS 1-43, BLOCK 10; LOT 1, BLOCK 11; LOTS 1-54, BLOCK 13; LOTS 1-13, BLOCK 14; LOT 1, BLOCK 15; LOTS 1-21, BLOCK 16; LOTS 1-28, BLOCK 17; LOTS 1-40, BLOCK 18; LOTS 1-8, BLOCK 19; LOTS 1-23, BLOCK 20; LOTS 1-32, BLOCK 21; LOTS 1-40, BLOCK 22; LOTS 1-27, BLOCK 23; LOTS 1-13, BLOCK 24; LOTS 1-25, BLOCK 25; LOT 1, BLOCK 26; LOTS 1-12, BLOCK 27; LOTS 1-36, BLOCK 28; LOTS 1-29, BLOCK 29; LOTS 1-28, BLOCK 30; LOTS 1-36, BLOCK 31

**LAWSON FARMS**

AN ADDITION TO THE CITY OF MIDLOTHIAN, ELLIS COUNTY, TEXAS  
AND BEING SITUATED IN THE MARTHA BRENNAN SURVEY, ABSTRACT NO. 43, THE J.M. GARVH SURVEY, ABSTRACT NO. 424,  
THE J.M. GARVH SURVEY, ABSTRACT NO.424, THE M.T. HAWKINS SURVEY, ABSTRACT NO. 463

JANUARY 2004 752 RESIDENTIAL LOTS 290.131 ACRES  
2 COMMUNITY RETAIL LOTS  
13 OPEN SPACE LOTS  
3 PARK AREAS  
1 AMENITY CENTER LOT  
1 SCHOOL SITE

**LEGEND**

	PROPOSED WATER LINE AND VALVE
	PROPOSED FIRE HYDRANT
	PROPOSED SEWER LINE WITH MANHOLE
	PROPOSED SANITARY SEWER FORCE MAIN
	EXISTING WATER LINE AND VALVE
	EXISTING FIRE HYDRANT
	EXISTING SEWER LINE WITH MANHOLE
	EXISTING SANITARY SEWER FORCE MAIN
	EXISTING WATER MAIN AND ALLEY
	EXISTING DRIVEWAY

**OWNER/DEVELOPER:**  
863 LAWSON FARMS DEVELOPMENT, LP  
411 W. 7th STREET, SUITE 1001  
FORT WORTH, TEXAS 76102  
(817) 877-0122  
KCM OLL

**ENGINEER:**  
WELCH ENGINEERING, INC.  
4108 CARLE DRIVE, SUITE D  
NORTH ROCKLAND HILLS, TEXAS 76180  
(817) 540-2900  
THE WELCH

**SURVEYOR:**  
WHITFIELD-HALL SURVEYORS  
3559 WILLIAMS ROAD, SUITE 107  
FORT WORTH, TEXAS 76116  
(817) 540-2816  
JONAH WILLIAMS

**Mike Adams**

---

**From:** Mike Adams  
**Sent:** Monday, December 2, 2013 1:23 PM  
**To:** Billy King  
**Subject:** RE: Midlothian Community Park Water Assessment Draft Memo

Thanks again.

Mike

Mike Adams, P.E.  
Exec. Director of Engineering & Utilities  
City of Midlothian  
972-775-7105

---

**From:** Billy King  
**Sent:** Monday, December 02, 2013 1:21 PM  
**To:** Mike Adams  
**Subject:** Re: Midlothian Community Park Water Assessment Draft Memo

Just got off the phone with the guy and said they had some issues over the holidays, but will get it to us sometime this week.

Billy

Sent from my iPhone

On Dec 2, 2013, at 1:15 PM, "Mike Adams" <[Mike.Adams@Midlothian.tx.us](mailto:Mike.Adams@Midlothian.tx.us)> wrote:

Thanks.  
Mike

Mike Adams, P.E.  
Exec. Director of Engineering & Utilities  
City of Midlothian  
972-775-7105

---

**From:** Billy King  
**Sent:** Monday, December 02, 2013 12:00 PM  
**To:** Mike Adams  
**Subject:** Re: Midlothian Community Park Water Assessment Draft Memo

No I did not.

I will call the guy to check the status.

Billy

Sent from my iPhone

On Dec 2, 2013, at 10:59 AM, "Mike Adams" <[Mike.Adams@Midlothian.tx.us](mailto:Mike.Adams@Midlothian.tx.us)> wrote:

Billy,

Did you ever receive this information?

Thanks,  
Mike

Mike Adams, P.E.  
Exec. Director of Engineering & Utilities  
City of Midlothian  
972-775-7105

**From:** Billy King  
**Sent:** Friday, November 22, 2013 9:41 AM  
**To:** Mike Adams; Dan Prendergast  
**Cc:** Eddie Haas; Scott Cole; Stephanie Neises; Kevin Lasher; Dennis Sims ([dsims@dssland.com](mailto:dsims@dssland.com))  
**Subject:** RE: Midlothian Community Park Water Assessment Draft Memo

Mike,

Following up on the conversation we had about the well cost. Todd Watson with JL Meyers will be sending me an estimated cost for a 10x6 standard well, depth being at 2500 ft, with an average flow rate of 500 gpm with the VFD motor, pumps, etc. Pretty much a turnkey job.

I should be receiving this around the middle of next week and we can then submit this information back to FNI for the final assessment.

Thanks,  
Billy

Billy King  
Parks and Recreation Manager  
104 W. Ave E  
Midlothian, TX 76065

P 972-775-7176  
F 972-775-7171

**From:** Mike Adams  
**Sent:** Friday, November 22, 2013 8:01 AM  
**To:** Dan Prendergast; Billy King  
**Cc:** Eddie Haas; Scott Cole; Stephanie Neises; Kevin Lasher; Dennis Sims ([dsims@dssland.com](mailto:dsims@dssland.com))  
**Subject:** RE: Midlothian Community Park Water Assessment Draft Memo

Dan,

We've had a chance to review your draft memo and Billy is checking around with both a local WSC and well driller to get a better idea about the cost of drilling a well at the site. It appears from the information that he's received to date that we should be able to drill a single 600 gpm well (2,500 feet in depth) at a cost ranging between \$1.1 and \$1.5 million. This well would continually discharge into our ponds and we would pull out of the ponds (as part of the park development cost) as needed to meet the irrigation requirements. That being said, we will not need any type of storage tanks or costs associated with pumps or pumping from the ponds since we will more than likely discharge into the ponds and pull from them for irrigation purposes, regardless of the option (City water, well, Mt. Peak direct or pass-through). Please don't make any final revisions to your draft until Billy gets some more feedback on the well option costs. Once he has what he needs, we can give you a call to discuss so that you can finalize this assessment. As it stands now, your draft looks to be in pretty good shape, with mainly some well items needing to be addressed.

Thanks,  
Mike

Mike Adams, P.E.  
Exec. Director of Engineering & Utilities  
City of Midlothian  
972-775-7105

**From:** Dan Prendergast [<mailto:drp@freese.com>]  
**Sent:** Friday, November 15, 2013 9:11 AM  
**To:** Mike Adams; Billy King  
**Cc:** Eddie Haas; Scott Cole; Stephanie Neises  
**Subject:** Midlothian Community Park Water Assessment Draft Memo

Mike/Billy,

Please see the attached draft memo for the Community Park Water Assessment. Please feel free to call/email with any questions. Have a great Friday.

Thanks!

**Dan Prendergast, P.E., LEED Green Associate**

**URBAN PLANNING + DESIGN GROUP**

**Freese and Nichols, Inc.**  
2711 North Haskell Avenue, Suite 3300  
Dallas, Texas 75204  
214-217-2216

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<image001.gif>

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## Mike Adams

---

**From:** Dan Prendergast <drp@freese.com>  
**Sent:** Friday, November 15, 2013 9:11 AM  
**To:** Mike Adams; Billy King  
**Cc:** Eddie Haas; Scott Cole; Stephanie Neises  
**Subject:** Midlothian Community Park Water Assessment Draft Memo  
**Attachments:** Midlothian Park Water Assessment Memo.pdf

Mike/Billy,

Please see the attached draft memo for the Community Park Water Assessment. Please feel free to call/email with any questions. Have a great Friday.

Thanks!

Dan Prendergast, P.E., LEED Green Associate

URBAN PLANNING + DESIGN GROUP

Freese and Nichols, Inc.  
2711 North Haskell Avenue, Suite 3300  
Dallas, Texas 75204  
214-217-2216

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## Mike Adams

---

**From:** Mike Adams  
**Sent:** Monday, December 9, 2013 4:10 PM  
**To:** Dan Prendergast (drp@freese.com)  
**Cc:** Billy King; eh@freese.com; 'Scott Cole'; Kevin Lasher; Dennis Sims (dsims@dssland.com); 'Stephanie Neises'  
**Subject:** Midlothian Community Park Water Assessment Draft Memo  
**Attachments:** 20131209155914367.pdf

Dan,

We've had an opportunity to review the above referenced memo and have attached our comments. Please note that the majority of the comments pertain to the on-site well option, based on Billy talking to both Sardis-Lone Elm Water Supply Corporation and a well drilling company. Please refer back to my email to you, dated Friday, November 22, for additional information. Basically, regardless of the option, our plan is to dump into the on-site ponds and then pull water from the ponds for irrigation purposes. That being said, this assessment will not need to consider what happens outside of the pond, since the cost will be the same for each of the options. For the on-site well, please use a conservative cost of \$1.5 million, turnkey for a complete, operating well, with a depth of 2,500 feet.

Once you've had an opportunity to review our comments and if you should have any questions or need clarification, please let me know. We have a Utility Advisory Board meeting scheduled for Monday evening, December 16 (a week from today) and would like to present this assessment to them at this time (if possible).

Thanks,  
Mike

Mike Adams, P.E.  
Exec. Director of Engineering & Utilities City of Midlothian  
972-775-7105

-----Original Message-----

From: mpc3001@midlothian.tx.us [mailto:mpc3001@midlothian.tx.us]  
Sent: Monday, December 09, 2013 2:59 PM  
To: Mike Adams  
Subject: Message from "RNP0026732E6050"

This E-mail was sent from "RNP0026732E6050" (Aficio MP C3001).

Scan Date: 12.09.2013 15:59:14 (-0500)  
Queries to: mpc3001@midlothian.tx.us

# MEMORANDUM



Innovative approaches  
Practical results  
Outstanding service

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www.freese.com

**TO:** Mike Adams, P.E.  
**CC:** Eddie Haas, AICP  
Jessica Vassar, P.E.  
**FROM:** Dan Prendergast, P.E.  
Scott Cole, P.E.  
**SUBJECT:** Midlothian Community Park Water Assessment  
**DATE:** 11/15/13  
**PROJECT:** MDL13336

Freese and Nichols Inc. (FNI) was tasked with performing an analysis on short and long term cost implications for providing water service to a planned community park. FNI studied four different options for providing service to the park.

- Option 1: Utilize the City of Midlothian's water supply system to serve the irrigation needs of the park.
- Option 2: Utilize Mountain Peak Special Utility District to serve the Irrigation needs of the park.
- Option 3: Utilize Mountain Peak Special Utility District infrastructure, but utilizing a pass-through agreement for service.
- Option 4: Utilize an on-site well for irrigation.

FNI also evaluated utilizing two on-site ponds to store water for irrigation. The park has one existing pond and a second pond would be constructed on the site.

FNI compared both options based on the following criteria:

1. Evaluation of existing infrastructure and proposed infrastructure needed to serve the park with conceptual estimation of probable cost of proposed improvements
2. Analysis of existing and future water rates
3. Analysis of existing drought implementation policies and associated impacts

## 1. Evaluation of Existing Infrastructure

Criteria/Assumptions:

- o Maximum Demand of 1,063 gpm
- o \$7/dia-in/ft cost for proposed water line improvements
- o No onsite storage



November 15, 2013  
 Page 2 of 8

- o 20% contingency
- o 15% engineering cost

The first option evaluated utilized the City of Midlothian's water supply system to serve the park. The City of Midlothian currently has an existing 16-inch waterline running along U.S. 287 bypass at Mount Zion Road. In order to serve the demand of 1,063 gpm, approximately 5,400 linear feet of proposed 12-inch waterline would need to connect from U.S. 287 bypass and run south to the park location (see Figure 1). The total estimated cost of improvements is presented in Table 1. FNI assumed no fire demand and assumed City would have the ability to shut off park irrigation if emergency occurs within the distribution system. Further investigation is recommended to determine impact on future system operations/improvements.

**Table 1: Option 1 Midlothian Water Supply Infrastructure Costs**

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
1	12" Pipe	5,400	LF	\$84	\$453,600
SUBTOTAL:					\$453,600
CONTINGENCY				20%	\$90,720
SUBTOTAL:					\$544,320
ENG/SURVEY				15%	\$81,650
TOTAL:					\$625,970

The second and third alternatives evaluated using the Mountain Peak Special Utility District infrastructure to serve the park. Mountain Peak Special Utility District currently has a 6-inch waterline running along Ashford Ln from FM 663 to the proposed park site. In order to serve the demand of 1,063 gpm, the 6-inch waterline would need to be upsized to a 12-inch waterline and connected to the existing 12-inch line along Heatherstone Drive for approximately 5,300 linear feet (see Figure 1). The 12-inch water line also includes boring and casing under FM 663, two new fire hydrants, and relocating one fire hydrant. The proposed water lines are presented on Figure 1. The total estimated cost of improvements is presented in Table 2.

Table 2: Option 2 and 3 Mountain Peak Water Supply Infrastructure Costs

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
1	12" Pipe	5,300	LF	\$84	\$445,200
2	20" Boring and Casing	200	LF	\$300	\$60,000
3	Relocate Fire Hydrant	1	EA	\$1,000	\$1,000
4	Fire Hydrants	2	EA	\$3,500	\$7,000
SUBTOTAL:					\$513,200
CONTINGENCY				20%	\$102,640
SUBTOTAL:					\$615,840
ENG/SURVEY				15%	\$92,380
TOTAL					\$708,220

The fourth option evaluated was drilling on on-site well. The well was assumed to have a depth of ~~2,000~~<sup>2,500</sup> feet. The park is located in the Prairielands Groundwater Conservation District, and the district will need to approve the well before it can be drilled. Drilling a new well will also require TCEQ approval. FNI evaluated drilling three 355 gpm wells in the park. Three separate wells were evaluated to produce the recommended water demand for the park. The well costs were developed based on experience with similar sized wells in the Trinity aquifer. The total estimated cost of improvements for Option 4 is presented in Table 3. Further exploration of this option with a well driller is recommended to develop a more detailed cost estimated.

Table 3: Option 4 On-site Well Water Supply Infrastructure Costs

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
1	Well (355 gpm)	3	EA	\$400,000 <sup>(1)</sup>	\$1,200,000
2	<del>100,000 Gallon Ground Storage Tank</del>	<del>1</del>	EA	\$300,000	\$300,000
3	<del>1,000 gpm Booster Pump Station</del>	<del>1</del>	EA	\$800,000	\$800,000
SUBTOTAL:					\$2,300,000
CONTINGENCY				20%	\$460,000
SUBTOTAL:					\$2,760,000
ENG/SURVEY				15%	\$414,000
TOTAL					\$3,174,000

(1) Based on experience with similar sized wells in the Trinity aquifer

2. Analysis of Existing and Future Water Rates

Criteria/Assumptions:

- o 2,036,550 GPW
- o 35 weeks per year



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City of Midlothian's water rate increase data was available through the 2015-2016 year. Therefore a four year outlook was first analyzed by using the City of Midlothian's planned rate increases over four years compared to Mountain Peak's 2012-2013 water rate (water rate increase data was not available for Mountain Peak). The pass-through rate for Mountain Peak was assumed to be \$1.00 per 1,000 gallons.

For the on-site wells, the weekly pumping costs were calculated for the well operation, as well as the pumps from the ground storage tank. For pumping water, the power required equation is as follows:

$$P = hQ/3956\eta_p$$

Where  $P$  = power required (hp)  
 $h$  = head added (ft)  
 $Q$  = flow rate (gpm)  
 $\eta_p$  = pump efficiency

Assuming a pump efficiency of 75%, the power required to pump 1,063 gpm from the well at a head of 2,000 feet is:

$$P = (2000 \text{ ft})(1063)/(3956)(0.75) = 717 \text{ hp}$$

Assuming a pump efficiency of 75%, the power required to pump 1,063 gpm from the ground storage tank at a head of 150 feet is:

$$P = (150 \text{ ft})(1063)/(3956)(0.75) = 54 \text{ hp}$$

Based on the above calculation, the total power required for the wells is 771 hp. It is assumed that the pumps will run for 1,118 hours per year to meet the required watering schedule. Assuming an average electrical rate of \$0.10/kW-h and a motor efficiency of 92%, the yearly power cost for pumping can be estimated with the following equation:

$$\text{Cost} = \text{cost per kW-h}(Pt/\eta_m)$$

Where  $P$  = power required (hp)  
 $t$  = time (hr)  
 $\eta_m$  = motor efficiency

$$\text{Annual Cost} = (\$0.10/\text{kW-h})(0.7457 \text{ kW/hp})(771 \text{ hp})(1,118 \text{ hr})/(0.92)$$

$$\text{Annual Cost} = \$69,867/\text{year}$$

$$\text{Weekly Cost (assuming 35 weeks)} = \$1,996/\text{week}$$

update based on above

The well costs also include \$4,000 per month for chemical wellhead treatment and \$30,000 per year for staffing and maintenance costs. A groundwater conservation district fee of \$0.20/1,000 gallons was applied and inflated 3% per year.

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Table 4 shows the weekly and yearly cost difference to serve the park based on current water rates over the next 4 years. Table 5 presents the four year operating cost summary. Water rates and calculations are shown in Appendix A.

**Table 4: Four Year Weekly and Yearly Costs**

2012-2013			2013-2014		
	Weekly Cost	Yearly Cost <sup>(1)</sup>		Weekly Cost	Yearly Cost <sup>(1)</sup>
City of Midlothian	\$5,926	\$207,423	City of Midlothian	\$6,273	\$219,540
Mountain Peak	\$19,391	\$678,675	Mountain Peak	\$19,391	\$678,675
Mountain Peak Pass-Through	\$7,963	\$278,702	Mountain Peak Pass-Through	\$8,309	\$290,819
On-Site Well	\$4,183	\$146,415	On-Site Well	\$4,195	\$146,842
2014-2015			2015-2016		
	Weekly Cost	Yearly Cost <sup>(1)</sup>		Weekly Cost	Yearly Cost <sup>(1)</sup>
City of Midlothian	\$6,578	\$230,232	City of Midlothian	\$6,904	\$241,637
Mountain Peak	\$19,391	\$678,675	Mountain Peak	\$19,391	\$678,675
Mountain Peak Pass-Through	\$8,615	\$301,511	Mountain Peak Pass-Through	\$8,940	\$312,916
On-Site Well	\$4,208	\$147,283	On-Site Well	\$4,221	\$147,736

(1) Yearly costs are based on 35 weeks

**Table 5: Four Year Operating Cost Summary**

	Option1: City of Midlothian	Option2: Mountain Peak	Option3: Mountain Peak Pass-Through	Option4: On-Site Well
2012-2013	\$207,423	\$678,675	\$278,702	\$146,415
2013-2014	\$219,540	\$678,675	\$290,819	\$146,842
2014-2015	\$230,232	\$678,675	\$301,511	\$147,283
2015-2016	\$241,637	\$678,675	\$312,916	\$147,736
<b>Total</b>	<b>\$898,831</b>	<b>\$2,714,701</b>	<b>\$1,183,948</b>	<b>\$588,276</b>

**3. Analysis of Existing Drought Implementation Policies**

Drought implementation policy was the last criteria studied for this analysis. The policies of the City and Mountain Peak were studied in order to see the differences in water restriction implementation during drought.



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The policies are similar; however, the City of Midlothian limits automatic sprinkler watering at Stage 3. Mountain Peak does not limit irrigation by automatic sprinkler until Stage 4. Limiting irrigation by automatic sprinkler heads would result in increased landscape maintenance costs. More information is needed on the history of water restriction implementation for both water districts to better estimate possible monetary impacts. A summary table is provided on **Appendix B**.

#### 4. Analysis of On-site Ponds

FNI evaluated on-site ponds for irrigation. The park has one existing pond and a second proposed pond was evaluated. The desire is for the ponds to maintain a constant water elevation for aesthetic purposes. The proposed pond was assumed to be similar in size to the existing pond. The cost estimate for the ponds is summarized in **Table 6**. Permitting, administrative costs, and source of water were not included in the cost estimate. Water rights costs are difficult to predict and may vary significantly. Using ponds for storage may reduce the infrastructure cost of an on-site well. The existing pond does not have an existing water right. If the existing pond is used for recreation or irrigation it will require a water right. It is recommended that the proposed pond be constructed off-channel with no diversions from the creek to avoid requiring a water right. A memorandum detailing the water rights implications is provided in **Appendix C**.



Table 6: On-site Ponds Cost Estimate

New Pond				
Site Clearing	1	LS	\$15,000.00	\$15,000
Excavation and Haul	12,100	CY	\$15.00	\$181,500
Headwalls	2	EA	\$3,000.00	\$6,000
Outlet Pipe	50	LF	\$180.00	\$9,000
Rock Riprap	100	SY	\$75.00	\$7,500
Turf Reinforcement Matting	1,400	SY	\$20.00	\$28,000
Block Sod	1,400	SY	\$4.00	\$5,600
Landscaping	1	LS	\$50,000.00	\$50,000
<b>SUBTOTAL:</b>				<b>\$302,600</b>
Existing Pond				
Outlet Pipe	50	LF	\$180.00	\$9,000
Rock Riprap	100	SY	\$75.00	\$7,500
Care of Water During Construction	1	LS	\$10,000.00	\$10,000
<b>SUBTOTAL:</b>				<b>\$26,500</b>
<b>SUBTOTAL:</b>				<b>\$329,100</b>
Erosion and Sediment Controls	1	%	\$3,300	\$3,300
Mobilization	10	%	\$32,900	\$32,900
<b>SUBTOTAL:</b>				<b>\$365,300</b>
Water Rights	1	LS	\$20,000	\$20,000
<b>SUBTOTAL:</b>				<b>\$385,300</b>
Contingency	20	%	\$77,100	\$77,100
<b>SUBTOTAL:</b>				<b>\$462,400</b>
<b>OPINION OF PROBABLE CONSTRUCTION COST:</b>				<b>\$462,400</b>
Engineering	15	%	\$69,400	\$69,400
<b>SUBTOTAL:</b>				<b>\$69,400</b>
<b>OPINION OF PROBABLE DESIGN COST:</b>				<b>\$69,400</b>
<b>PROJECT TOTAL</b>				<b>\$531,800</b>
Notes: Permitting, administrative costs, and source of water are not included in this estimate. Water rights costs are difficult to predict and may vary significantly.				

*on-site well*

**SUMMARY**

Based on the cost analysis, the least expensive option is service by the City of Midlothian. Service by the City has the lowest initial infrastructure cost and the second lowest yearly costs. Constructing on-site wells has lowest cost of operation over the four year time period, but has the highest up front cost. Constructing wells requires approval from multiple agencies and make take longer to implement. Table 7 shows total estimated costs over a 20 year period. Water rates were held constant for the City and Mountain Peak after year 3 because no data was available, but the groundwater conservation district fee continued to inflate 3% per year.



Table 7: 20 Year Estimated Costs

No. Years	Year	Option 1: City of Midlothian	Option 2: Mountain Peak	Option 3: Mountain Peak Pass-Through	Option 4: On-Site Well
		Cost	Cost	Cost	Cost
1	2012-2013	\$833,121	\$1,386,891	\$986,918	\$3,320,415
2	2013-2014	\$219,510	\$678,675	\$290,819	\$146,842
3	2014-2015	\$230,232	\$678,675	\$301,511	\$147,283
4	2015-2016	\$241,637	\$678,675	\$312,916	\$147,736
5	2016-2017	\$241,637	\$678,675	\$312,916	\$148,204
6	2017-2018	\$241,637	\$678,675	\$312,916	\$148,685
7	2018-2019	\$241,637	\$678,675	\$312,916	\$149,181
8	2019-2020	\$241,637	\$678,675	\$312,916	\$149,692
9	2020-2021	\$241,637	\$678,675	\$312,916	\$150,218
10	2021-2022	\$241,637	\$678,675	\$312,916	\$150,759
11	2022-2023	\$241,637	\$678,675	\$312,916	\$151,317
12	2023-2024	\$241,637	\$678,675	\$312,916	\$151,892
13	2024-2025	\$241,637	\$678,675	\$312,916	\$152,484
14	2025-2026	\$241,637	\$678,675	\$312,916	\$153,094
15	2026-2027	\$241,637	\$678,675	\$312,916	\$153,722
16	2027-2028	\$241,637	\$678,675	\$312,916	\$154,369
17	2028-2029	\$241,637	\$678,675	\$312,916	\$155,035
18	2029-2030	\$241,637	\$678,675	\$312,916	\$155,721
19	2030-2031	\$241,637	\$678,675	\$312,916	\$156,428
20	2031-2032	\$241,637	\$678,675	\$312,916	\$157,156
<b>20 Year Total</b>		<b>\$5,390,686</b>	<b>\$14,281,720</b>	<b>\$6,898,819</b>	<b>\$6,200,234</b>

Option 1 and Option 4 are the lowest cost alternatives. For Option 4, the reliability and availability of groundwater as long-term supply needs to be considered.

## Mike Adams

---

**From:** Eddie Haas <eh@freese.com>  
**Sent:** Monday, December 9, 2013 4:47 PM  
**To:** Mike Adams; Dan Prendergast  
**Cc:** Billy King; Scott Cole; Kevin Lasher; Dennis Sims (dsims@dssland.com); Stephanie Neises  
**Subject:** RE: Midlothian Community Park Water Assessment Draft Memo

Thanks Mike. We'll get the memo updated and out to you as soon as possible.

Eddie

Edmund Haas, AICP  
Associate

Freese and Nichols, Inc.  
2711 N. Haskell Avenue, Suite 3300  
Dallas, Texas 75204  
214-217-2321 Direct  
eh@freese.com  
www.freese.com

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-----Original Message-----

**From:** Mike Adams [mailto:Mike.Adams@Midlothian.tx.us]  
**Sent:** Monday, December 09, 2013 4:10 PM  
**To:** Dan Prendergast  
**Cc:** Billy King; Eddie Haas; Scott Cole; Kevin Lasher; Dennis Sims (dsims@dssland.com); Stephanie Neises  
**Subject:** Midlothian Community Park Water Assessment Draft Memo

Dan,

We've had an opportunity to review the above referenced memo and have attached our comments. Please note that the majority of the comments pertain to the on-site well option, based on Billy talking to both Sardis-Lone Elm Water Supply Corporation and a well drilling company. Please refer back to my email to you, dated Friday, November 22, for additional information. Basically, regardless of the option, our plan is to dump into the on-site ponds and then pull water from the ponds for irrigation purposes. That being said, this assessment will not need to consider what happens outside of the pond, since the cost will be the same for each of the options. For the on-site well, please use a conservative cost of \$1.5 million, turnkey for a complete, operating well, with a depth of 2,500 feet.

Once you've had an opportunity to review our comments and if you should have any questions or need clarification, please let me know. We have a Utility Advisory Board meeting scheduled for Monday evening, December 16 (a week from today) and would like to present this assessment to them at this time (if possible).

Thanks,

Mike

Mike Adams, P.E.  
Exec. Director of Engineering & Utilities City of Midlothian  
972-775-7105

-----Original Message-----

From: mpc3001@midlothian.tx.us [mailto:mpc3001@midlothian.tx.us]  
Sent: Monday, December 09, 2013 2:59 PM  
To: Mike Adams  
Subject: Message from "RNP0026732E6050"

This E-mail was sent from "RNP0026732E6050" (Aficio MP C3001).

Scan Date: 12.09.2013 15:59:14 (-0500)  
Queries to: mpc3001@midlothian.tx.us

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