CITY COUNCIL AGENDA

Tuesday, October 7, 2014
7:00 p.m.
Coon Rapids City Center
Council Chambers

Open Mic/Public Comment

Call to Order

Pledge of Allegiance

Roll Call

Adopt Agenda

Proclamations/Presentations

Approval of Minutes of Previous Meeting

1. Approval of Minutes of August 13, 2014 Work Session.

2. Approval of Minutes of September 2, 2014 Work Session.

3. Approval of Minutes of September 16, 2014 Regular Meeting.

4. Approval of Minutes of September 23, 2014 Work Session.

5. Approval of Minutes of September 26, 2014 Special City Council Meeting.

Consent Agenda

6. Adopt Resolution 14-89 accepting the 2015 TZD Enforcement Grant from the Minnesota Office of Traffic Safety, and authorize the Police Chief or designee to administer and act as the fiscal agent for the grant.

7. Approve change orders and final payment to Geislinger and Sons, Inc. in the amount of $31,991.37 for Project 13-24, Lift Station No. 8.

8. Approve of change order and final payment to North Valley, Inc. in the amount of $34,178.59 for Project 13-8, Street Reconstruction.

9. Accept petition requesting the establishment of the Thousand Oaks IV Townhomes Association Housing Improvement Area and Order a public hearing for December 2, 2014 at 7:00 p.m.

10. Approve the Following for the 2014 General Election:

    a. Approve the Appointment of the Attached List of Election Judges;
    b. Authorize the City Clerk to Appoint and Assign Election Judges During the 25 Days Preceding the Election as Necessary;
    c. Schedule a Special Meeting to Canvass Election Results for Wednesday, November 12, 2014 at 7:30 a.m.

11. Approve Issuance of a Class A, On Sale and Sunday Liquor License for KB&J Enterprises, Inc., d/b/a Harvest Grill, 12800 Bunker Prairie Road, effective October 8, 2014, contingent upon verification of an Anoka County Food Service License for KB&J Enterprises, Inc.

12. Adopt Resolution No.14-93 to accept the $25,360 grant from the U.S. Department of Justice on behalf of all three jurisdictions with the funds redistributed in the manner prescribed by the grant; and to authorize the Chief of Police or designee to administer the grant on behalf of Anoka County and City of Fridley.

13. Accept Resignation of Ms. Amy Graves, acknowledge her contribution and Appoint Mr. Bill Peterson to the Coon Rapids Historical Commission with a term to expire on December 31, 2015.

14. Approve waiver of $77 license fee for Boy Scout Troop 212 to operate a Christmas Tree lot.

15. Accept Easement for drainage and utility purposes from Jerelyn S. Parker and Sharon Lee Parker.

New Business

16. Consider Approval of Proposed Lot Split and Variances to Minimum Lot Width, Depth, and Area Requirements for 10425 Jay Street with Conditions.

17. Consider Approval of an amendment to the City assessment policy and approve rates for the 2015 street reconstruction program.

18. Consider Approval of Use and Design Flexibility for Two Monument Signs Along Coon Rapids Boulevard for Mercy Hospital.

19. Consider Adoption of Resolution 14-94 Providing for the sale of $9,720,000 General Obligation Bonds, Series 2014A.

20. Consider Adoption of Resolution Number 14-85 establishing Coon Rapids Ice Center fees and charges, and approve the user group contracts.

21. Consider Approval of the 2014 Comprehensive Water System Plan Update.

22. Consider approval of the terms of the loan agreement with American Little League, and authorize staff to execute said agreement.

23. Consider Adoption of Resolution No. 14-92 Resolution Certifying Delinquent Utilities to Taxes.

Reports on Previous Open Mic

24. Open Mic Report Kyle Palzer, 911 110th Avenue

Public Hearing

Bid Openings and Contract Awards

Old Business

Other Business

Adjourn

City Council Regular **1.**

Meeting Date: 10/07/2014

SUBJECT: Minutes of August 13, 2014 Work Session

Attachments

August 13, 2014

COON RAPIDS CITY COUNCIL WORK SESSION OF AUGUST 13, 2014

A work session of the Coon Rapids City Council was called to order by Mayor Tim Howe on Wednesday, August 13, 2014 at 6:30 p.m. in Conference Room #1 at Coon Rapids City Hall.

Members Present: Mayor Tim Howe, Councilmembers Denise Klint, Ron Manning, Jerry Koch, Bruce Sanders and Steve Wells

Members Absent: Paul Johnson

1. CALL TO ORDER

Mayor Howe called the work session to order at 6:30 p.m.

2. 2015 PROPOSED BUDGET

City Manager Gatlin began the meeting by explaining that the proposed budget includes a six percent increase in the tax levy and a 2.5% increase in general fund expenditures per the Mayor's direction.

Finance Director Legg shared a presentation of the proposed 2015 budget including the tax levy and impacts to property owners. She noted the proposed levy will be presented at the September 2, Council meeting for adoption for Truth in Taxation notices to be mailed by the County in November.

The City Council directed staff to include a $10,000 increase in the tax levy to allow contracting with Alexandra House for police and prosecution services.

There was Council discussion regarding the effect of park bonds on the tax levy.

OTHER BUSINESS

None.

ADJOURN

Mayor Howe adjourned the work session at 9:15 p.m.

Respectfully submitted,

Sharon Legg
Finance Director

City Council Regular **2.**

Meeting Date: 10/07/2014

SUBJECT: Minutes of September 2, 2014 Work Session

Attachments

September 2, 2014 Work Session

COON RAPIDS CITY COUNCIL WORK SESSION OF SEPTEMBER 2, 2014

A work session of the Coon Rapids City Council was called to order by Mayor Tim Howe on Tuesday, September 2, 2014 at 6:30 p.m. in Conference Room #1 at Coon Rapids City Hall.

Members Present: Mayor Tim Howe, Councilmembers Denise Klint, Ron Manning, Paul Johnson, Jerry Koch, Bruce Sanders and Steve Wells

Members Absent: None.

1. CALL TO ORDER

Mayor Howe called the work session to order at 6:30 p.m.

2. COMPREHENSIVE WATER SYSTEM STUDY

City Manager Gatlin explained that staff was directed by the City Council at the last Comprehensive Water System workshop to prioritize projects and provide the impact to water rates for the improvements. Staff has done that and will discuss that at this workshop.

Finance Director Legg made a presentation which included historical information on gallons of water pumped, usage by type, projects done over the past few years, significant operating costs and water rate history. The need for and explanation of the proposed improvements was outlined by Tim Himmer, Public Works Director. A pro forma water operating statement was presented which included an annual four percent increase in water rates as well as operating costs increasing at three percent.

Staff noted that the City Council would authorize projects in the future before they were undertaken.

The City Council directed staff to present the Comprehensive Water System Plan for formal adoption at a Council meeting.

OTHER BUSINESS

None.

ADJOURN

Mayor Howe adjourned the work session at 7:00 p.m.

Respectfully submitted,

Sharon Legg
Finance Director

City Council Regular **3.**

Meeting Date: 10/07/2014

SUBJECT: Minutes of September 16, 2014 Regular Council Meeting

Attachments

September 16, 2014 Regular Meeting

UNAPPROVED

COON RAPIDS CITY COUNCIL MEETING MINUTES OF SEPTEMBER 16, 2014

OPEN MIC/PUBLIC COMMENT

No one wished to speak.

CALL TO ORDER

The second regular meeting of the Coon Rapids City Council for the month of September was called to order by Mayor Tim Howe at 7:00 p.m. on Tuesday, September 16, 2014, in the Council Chambers.

PLEDGE OF ALLEGIANCE TO THE FLAG

Mayor Howe led the Council in the Pledge of Allegiance.

ROLL CALL

Members Present: Mayor Tim Howe, Councilmembers Denise Klint, Ron Manning, Paul Johnson, Jerry Koch, Bruce Sanders and Steve Wells

Members Absent: None

ADOPT AGENDA

MOTION BY COUNCILMEMBER SANDERS, SECONDED BY COUNCILMEMBER WELLS, TO ADOPT THE AGENDA AMENDING ITEM 10, REMOVING ITEM 13 AND ADDING A CLOSED SESSION TO THE END OF THE MEETING. THE MOTION PASSED UNANIMOUSLY.

PROCLAMATIONS/PRESENTATIONS

1. ADMINISTER OATH OF OFFICE TO OFFICERS JOSH PIRKOLA AND JUSTIN HOVORKA, NEW POLICE OFFICERS FOR THE CITY OF COON RAPIDS

Police Chief Wise introduced Josh Pirkola and Justin Hovorka to the City Council as the newest members of the Coon Rapids Police Department. Badges were pinned on the new officers and a round of applause was offered by all in attendance.

Mayor Howe administered the Oath of Office to Officer Josh Pirkola and Justin Hovorka.

2. PROCLAIM SEPTEMBER 16, 2014 AS DR. MICHAEL SLAMA DAY IN THE CITY OF COON RAPIDS

Mayor Howe read a proclamation in full declaring September 16, 2014 to be Dr. Michael Slama Day in the City of Coon Rapids. It was noted the City would be installing a Dr. Michael Slama Mother Baby Drive near the new Mother Baby Center in Coon Rapids.

3. CONSIDER PROCLAIMING OCTOBER 2014 AS DOMESTIC VIOLENCE AWARENESS MONTH IN THE CITY OF COON RAPIDS

Mayor Howe read a proclamation in full declaring October 2014 to be Domestic Violence Awareness Month in the City of Coon Rapids.

APPROVAL OF MINUTES OF PREVIOUS MEETINGS

4. SEPTEMBER 2, 2014, COUNCIL MEETING
5. SEPTEMBER 9, 2014, WORK SESSION

MOTION BY COUNCILMEMBER JOHNSON, SECONDED BY COUNCILMEMBER WELLS, FOR APPROVAL OF THE MINUTES OF THE SEPTEMBER 2, 2014, COUNCIL MEETING. THE MOTION PASSED UNANIMOUSLY.

MOTION BY COUNCILMEMBER MANNING, SECONDED BY COUNCILMEMBER SANDERS, FOR APPROVAL OF THE MINUTES OF THE SEPTEMBER 9, 2014, WORK SESSION MEETING. THE MOTION PASSED UNANIMOUSLY.

CONSENT AGENDA/INFORMATIONAL BUSINESS

6. APPROVE TEMPORARY ON-SALE 3.2 PERCENT MALT LIQUOR LICENSE FOR THE CHURCH OF EPIPHANY TO USE ON OCTOBER 11, 2014 BETWEEN THE HOURS OF 5 P.M. AND 11 P.M. CONTINGENT UPON RECEIPT OF BACKGROUND INVESTIGATION REPORT FROM THE POLICE DEPARTMENT AS REQUIRED BY CIT CODE
7. APPROVE RENEWAL CONTRACT WITH ANOKA-HENNEPIN SCHOOL DISTRICT #11 FOR SCHOOL LIAISON AND PREVENTION PROGRAM OFFICER SERVICES
8. APPROVE RENEWAL OF CONTRACT WITH ANOKA-HENNEPIN SCHOOL DISTRICT #11 FOR 2014-20115 SCHOOL LIAISON SERVICES AT RIVER TRAIL LEARNING CENTER

MOTION BY COUNCILMEMBER MANNING, SECONDED BY COUNCILMEMBER

JOHNSON, FOR APPROVAL OF THE CONSENT AGENDA AS PRESENTED. THE MOTION PASSED UNANIMOUSLY.

REPORTS ON PREVIOUS OPEN MIC

9. OPEN MIC REPORT – WILLIAM TIMLIN – 58 102ND STREET

Mayor Howe discussed Mr. Timlin's comments made during Open Mic at the September 2, 2014 Council meeting.

PUBLIC HEARING

None.

BID OPENINGS AND CONTRACT AWARDS

None.

OLD BUSINESS

10. CONSIDER THE BOARD OF ADJUSTMENT AND APPEALS RECOMMENDATION TO ADOPT RESOLUTION 14-90 AND 14-91 ADOPTING 2014(2) MISCELLANEOUS SPECIAL ASSESSMENTS (CONTESTED MISCELLANEOUS ASSESSMENTS-ONE YEAR)

The Staff report was shared with Council.

MOTION BY COUNCILMEMBER JOHNSON, SECONDED BY COUNCILMEMBER KLINT, TO ADOPT RESOLUTION NO. 14-90 AND 14-91 ADOPTING 2014(2) MISCELLANEOUS SPECIAL ASSESSMENTS (CONTESTED MISCELLANEOUS ASSESSMENTS-ONE YEAR). THE MOTION PASSED UNANIMOUSLY.

NEW BUSINESS

11. CONSIDER AUTHORIZING THE NAMING OF THE PURCHASING CLERK, DEPUTY CLERK AND FINANCE DIRECTOR AS AUTHORIZED PURCHASERS USING THE WELLS FARGO BUSINESS CARD

The Staff report was shared with Council.

MOTION BY COUNCILMEMBER KOCH, SECONDED BY COUNCILMEMBER MANNING, TO AUTHORIZE NAMING THE PURCHASING CLERK, DEPUTY CLERK AND FINANCE DIRECTOR AS AUTHORIZED PURCHASERS USING THE WELLS FARGO BUSINESS CARD.

Councilmember Sanders recommended that all department heads be approved purchasers for the Wells Fargo Business Card. City Manager Gatlin reported this was a housekeeping matter. He explained that staff would be reevaluating its purchasing process.

THE MOTION PASSED UNANIMOUSLY.

12. CONSIDER NON-RENEWAL OF CHRISTIAN RESTORATION SERVICES RENTAL LICENSE NUMBER 37792 BASED ON MULTIPLE VIOLATIONS OF CITY CODE, MINNESOTA STATE BUILDING, MECHANICAL, PLUMBING AND ELECTRICAL CODES AND ADDENDUM TO RESIDENTIAL RENTAL LICENSE

Councilmember Klint recused herself from discussing this item.

The Staff report was shared with Council.

Neighborhood Coordinator DeGrande reviewed a list of concerns the City had with the sober house property being run by Christian Restoration Services. She explained the City's housing inspector found 44 violations to City Code and nine violations to the addendum between the City and CRS. After further investigation, the number of tenants allowed was being exceeded and background checks were not being completed. Because of this, seven sex offenders were living at the property between 2012 and 2014.

Matt Small, Housing Inspector, further discussed the violations observed by staff at the July 2014 inspection of the CRS property. These concerns included inoperable smoking alarms, expired fire extinguishers, blocked fire escape routes, electrical service panels without State approval, etc. He stated both the interior and exterior of the building lacked proper maintenance.

Police Chief Wise provided comment on the lease addendum noting CRS had housed seven separate sex offenders since January of 2012. He discussed Minnesota State Statute requirements for registering sex offenders. He explained that the property was not completing proper background checks on its tenants.

Community Development Director Nevinski recommended the Council approve the non-renewal of the Christian Restoration Services rental license based on the multiple violations of City Code, Minnesota State building, mechanical, plumbing and electrical codes and addendum to residential rental license.

Marcel Gariten, Christian Restoration Services, provided the Council with a written report. He explained he has been in this business for the past 20 years. He assured the Council that his goal was to keep the community safe. He admitted that background checks were not completed due to financial restrictions. He requested that the City reconsider their position on this matter and allow CRS 30 more days to correct the violations. He wanted a chance to prove himself in the community.

Councilmember Koch asked if background checks would be completed, now that the violations were being addressed. Mr. Gariten explained that background checks were now being completed on all clients.

Mayor Howe requested further information on the intake process for CRS. Mr. Gariten discussed the intake process in detail with the Council. It was noted CRS takes in homeless individuals, completes an initial screening and then runs a background check.

Mayor Howe questioned how many employees worked at CRS. Mr. Gariten reported the facility had 24/7 staffing. He then discussed the staffing level for the building and noted if he was not onsite, he was nearby at his University Avenue office.

Councilmember Manning asked if CRS was a for profit organization. Mr. Gariten reported CRS was a non-profit organization. Michael McQue, Manager of Finance and Operations for Christian Restoration Services, reviewed the profit and loss statement for CRS over the past three years.

Mayor Howe wanted to see the number of police calls to this facility addressed as well. He wanted to see the number of calls reduced and/or minimized.

Councilmember Sanders believed the maintenance and code issues at this facility were appalling. He understood the community had a need for the sober house facility; however, there were life safety issues that were not being properly managed. He was in favor of finding an exit strategy by not renewing the rental license.

Councilmember Koch agreed and was troubled by the number of violations found onsite by the Housing Inspectors. He believed there was a total disregard for the safety of the clientele by the property management. Mr. Gariten explained that he has not received any other warnings.

Councilmember Koch inquired why so many violations were found on the property in comparison to years past. Neighborhood Coordinator DeGrande stated in 2014 the City had a staffing change and Matt Small was hired as the new Housing Inspector. She discussed his expertise in this area and noted investigation and operational changes were made.

Community Development Director Nevinski added that over the past year staff has spent time addressing problematic properties.

Police Chief Wise reviewed the City's addendum with CRS noting it clearly states, the facility will

not house sex offenders. He stated it was CRS's responsibility to complete background checks on all tenants.

Councilmember Wells found it unacceptable that simple background checks were not completed on all clientele.

Councilmember Sanders commented the actions being taken by CRS now were only occurring after a recent housing inspection. He expressed concern with the serious safety issues at the facility.

Mayor Howe asked if Mr. Gariten operated any other housing facilities. Mr. Gariten reported he had been in this business for the past 20 years and has never had any problems until the July 2014 inspection. He provided comment on the expense of completing background checks on each of its tenants, given the fact tenants come and go on a daily basis. He stated that he would have the building fully operational and meeting the City's standards in the next 30 days.

Councilmember Johnson inquired if a formal background search had to be completed for each client. Police Chief Wise stated the City had not described a formal process and noted that even a Google search would have alerted Mr. Gariten of the recent sex offender's actions. Mr. Gariten reported that he was now completing background checks on each tenant.

Councilmember Johnson asked if the utility bill had been paid on the site over the past two years. Neighborhood Coordinator DeGrande reported the 2013 and 2014 utility bills had an outstanding balance of $6,600. She reported that the unpaid 2013 utility bills had been assessed against the property. She indicated that a representative of CRS paid the 2014 outstanding balance last week.

City Attorney Brodie reviewed the language included in the original intent and purpose of the CRS facility. From a legal perspective, he did not believe the property was operating under its original business model as submitted to the City in 2010.

Mayor Howe read the language within the business plan and asked if each of the clients at CRS had completed a treatment program. Mr. Gariten stated this was not always the case. He reported that most clients have successfully completed one or two treatment programs. However, some are directed to the facility by a social worker.

Councilmember Manning questioned if the property was viewed as a nuisance by the neighboring properties. Police Chief Wise reported that there were no recent complaints from the neighbors. He agreed with the City Attorney that the property was being run differently than the original business model requested by the applicant.

Mayor Howe asked if the rental license Ordinance required inspections on a yearly basis. Neighborhood Coordinator DeGrande reported the 2009 rental license Ordinance changed the program overall and impacted the way inspections were performed by the City.

Mr. Gariten discussed the impact that CRS was having on Anoka County and respectfully requested

the Council allow him 30 days to address the violations on his property.

Mayor Howe questioned where the majority of the clientele were from living in the CRS facility. Leya Drabczak, Housing Inspector, explained that the majority of the clientele previously resided in Hennepin County. Mr. Gariten respectfully disagreed with this statement noting that Anoka County funding would not be provided to his facility if the clientele were from Hennepin County.

Councilmember Koch inquired if a provisional license could be approved to allow for all repairs to be made while also requiring CRS to live up to the original intent of its business model.

Councilmember Sanders understood the social good that was being conducted at this facility. However, he could not overlook the neglect that has taken place at the facility both structurally and operationally. He believed that the tenants deserved better and for this reason, suggested an exit strategy be pursued.

Mr. Gariten stated that he could not afford to lose this building. He understood that the building looked bad, but assured the Council that it would be fixed.

Councilmember Koch would support a provisional license.

Mayor Howe asked if the City could approve a 30 day or 60 day provisional rental license. Community Development Director Nevinski did not recall the Council considering a provisional license since the 2009 rental license Ordinance was approved. He further discussed the grievances on the property and noted agreements had not been upheld. He cautioned the Council from proceeding with a provisional license given the staff time that would be needed to properly monitor the site.

Mayor Howe understood the need for the facility, but said the business was not operating under the proposed model and this was endangering both the clientele and community. He recommended the business model be rewritten to more closely define the work that was being done at the facility.

Councilmember Koch agreed with the Mayor's comments and understood the investment that has been made in the facility. He recommended that Mr. Gariten closely evaluate who was being served on the site.

MOTION BY COUNCILMEMBER WELLS, SECONDED BY COUNCILMEMBER SANDERS, TO UPHOLD THE NON-RENEWAL OF CHRISTIAN RESTORATION SERVICES RENTAL LICENSE NUMBER 37792 BASED ON MULTIPLE VIOLATIONS OF CITY CODE, MINNESOTA STATE BUILDING, MECHANICAL, PLUMBING AND ELECTRICAL CODES AND ADDENDUM TO RESIDENTIAL RENTAL LICENSE, BASED ON THE FINDING OF FACTS, AND DIRECTING THE PROPERTY TO BE VACATED IN 30 DAYS.

Councilmember Sanders believed the violations on the site were egregious and for that reason, he recommended an exit strategy be discussed by the Council. Community Development Director Nevinski stated 30 days would be a reasonable time period for the property to be vacated.

City Attorney Brodie reviewed the staff recommendations for denial and suggested a fourth finding be added to state the property does not comply with the previously agreed upon conditions.

Councilmember Koch asked how the City would address the concern of squatters in the building after the CRS facility was closed. Community Development Director Nevinski indicated the property does have a long history with squatters. He encouraged the Council to allow staff 15 days to provide the Council with options for addressing this concern.

Mr. Gariten requested the Council allow the facility to remain open for an additional 90 days to allow for the proper placement of his clientele.

Councilmember Manning was in favor of tabling action on this item for one month.

MOTION BY COUNCILMEMBER MANNING, SECONDED BY COUNCILMEMBER SANDERS, TO TABLE ACTION ON THIS ITEM FOR ONE MONTH. THE MOTION FAILED 2-4 (JOHNSON, KOCH, WELLS AND HOWE OPPOSED) (KLINT ABSTAINED).

Councilmember Wells was in favor of the Council addressing one issue, mainly the violations on the CRS site, prior to addressing any subsequent issues (i.e. squatters).

THE MOTION PASSED 5-1 (KOCH OPPOSED) (KLINT ABSTAINED).

13. CONSIDER ACCEPTING THE COMPREHENSIVE WATER SYSTEM PLAN

This item was removed from the agenda.

OTHER BUSINESS

City Manager Gatlin invited the Council to attend the Chuck and Don's Pet Food Warehouse Ribbon Cutting Ceremony on Saturday, September 27th at 9:00 a.m.

Councilmember Koch requested staff investigate the construction noise and trench that has been created near Riverview Park.

RECESS

MOTION BY COUNCILMEMBER SANDERS, SECONDED BY COUNCILMEMBER KOCH, TO RECESS THE MEETING AT 8:46 P.M. TO A CLOSED SESSION MEETING. THE MOTION PASSED UNANIMOUSLY.

Council reconvened the meeting at 10:17 p.m.

There was no further business to discuss and the meeting was adjourned.

_____
Tim Howe, Mayor

ATTEST:

_____
Joan Lenzmeier, City Clerk

City Council Regular **4.**

Meeting Date: 10/07/2014

SUBJECT: Minutes of September 23, 2014 Work Session

Attachments

September 23, 2014

COON RAPIDS CITY COUNCIL WORK SESSION OF SEPTEMBER 23, 2014

A work session of the Coon Rapids City Council was called to order by Mayor Tim Howe on Tuesday, September 23, 2014 at 6:30 p.m. in Conference Room #1 at Coon Rapids City Hall.

Members Present: Mayor Tim Howe, Councilmembers Denise Klint, Ron Manning, Paul Johnson, Jerry Koch, Bruce Sanders and Steve Wells

Members Absent: None.

Also present: City Manager Steve Gatlin, Public Works Director Tim Himmer, Finance Director Sharon Legg, Ryan Gunderson, Bill Ganser, Dave Brodie (later)

1. CALL TO ORDER

Mayor Howe called the work session to order at 6:30 p.m.

2. AMERICAN LITTLE LEAGUE LOAN REQUEST

American Little League is requesting a loan in the amount of up to $140,000 to be repaid over 14 years to install lights on their fields. The City Council discussed how the City could have some security that the funds would be repaid, the type of lights, the time of day the lights would need to be turned off by, etc.

Council directed staff to work with the American Little League to come up with a repayment schedule.

3. TEEN CENTER OPERATION

City Manager Gatlin explained that the School District will operate the Teen Center through the end of 2014 and the City could take over in 2015. Tim Himmer explained that $23,000 would fund the salaries which have been included in the proposed 2015 budget. The amount contributed to the School District for Community Ed summer programming would be reduced by $23,000.

Councilmember Klint stated that she would like to see some success measures implemented along with timelines for them to be obtained. Councilmember Johnson also wanted to track attendance levels.

There was Council conscientious for fee based expanded hours at the Teen Center. The situation would be reevaluated in a year or so to see where attendance levels are.

4. ICE ARENA RATES

Mayor Tim Howe talked about the Super Rink and the original contract should be reviewed since additional ice rinks were built there without City authorization. Discussion followed about the rate increase proposed for The Coon Rapids Ice Center. It was agreed to get the CRYHA rate at the same level over a three year period starting with a $5 increase for this season. The outdoor rate should be increased to $70.

OTHER BUSINESS

1. City Manager Gatlin informed the Council that staff would be meeting with Mr. Jim Stanton later this week to discuss the Letter of Intent that they offered for the Riverwalk area. Council would like to see more definition for the second and third phases.

2. Attorney David Brodie informed City Council that a special meeting has been scheduled for the Harvest Grill situation for 7:30 am Friday morning

ADJOURN

Mayor Howe adjourned the work session at 9:00 p.m.

Respectfully submitted,

Sharon Legg
Finance Director

City Council Regular **5.**

Meeting Date: 10/07/2014

SUBJECT: Minutes of September 26, 2014 Special City Council Meeting

Attachments

September 26, 2014 Special Meeting

COON RAPIDS CITY COUNCIL MEETING MINUTES OF SEPTEMBER 26, 2014

CALL TO ORDER

A special meeting of the Coon Rapids City Council was called to order by Mayor Tim Howe at 7:30 a.m. on Friday, September 26, 2014, in the Council Chambers.

ROLL CALL

Members Present: Mayor Tim Howe, Councilmembers Denise Klint, Ron Manning, Paul Johnson, Jerry Koch, Bruce Sanders and Steve Wells

Members Absent: None

NEW BUSINESS

1. CONSIDER HARVEST GRILL LEASE

The Staff report was shared with Council.

City Manager Gatlin explained the financial difficulties of Harvest Grill and noted that staff has been working on an arrangement to assign the existing lease on a temporary basis to KB & J's Enterprises, Inc.

Councilmember Klint asked about the equipment at the site. City Attorney Brodie explained that the City owns the equipment with the exception of the safe. City Attorney Brodie then explained that there is a provision in the lease and the Temporary Assignment that allows the City to inventory the items and determine condition of the equipment.

Councilmember Sanders asked for the status of liquor sales at the restaurant. City Attorney Brodie explained that there is no ability to purchase liquor based on the tax delinquency of Potluck Catering but said that the restaurant is operating with limited selections of alcohol available.

Councilmember Koch asked when the rent will be paid. City Attorney Brodie indicated that rent payments are to resume immediately.

Councilmember Manning asked what happens if KB & J is unable to obtain a liquor license to run the restaurant. City Attorney Brodie explained that it is possible the restaurant would need to close but said a closure, if any, would be short as the City is set to take possession of the facility on November 3, 2014 under the terms of the Temporary Assignment.

Mayor Howe asked for information on how the City would obtain the details for currently booked catering events. City Attorney Brodie explained that the Temporary Assignment requires Potluck Catering and KB & J to provide information to the City on all future events so that the City can ensure a smooth transition to a new vendor.

Councilmember Sanders asked what happens to the Harvest Grill sign. City Attorney Brodie indicated the sign can be negotiated but, at some point, it is anticipated that the new vendor would want to brand the restaurant with its own name and logo so the sign most likely goes away.

Councilmember Koch asked for assurances that the new vendor would assume all future events booked by Potluck Catering. City Attorney Brodie indicated that the new potential vendors have all been informed of that requirement and have indicated willingness to do so at a similar price point.

Mayor Howe asked staff to discuss the outline of necessary events in the process. City Manager Gatlin explained that staff researched possible new vendors, looked at the process from four years ago and brought in 6 or 7 possible new vendors to conduct interviews. Gatlin indicated that staff will complete the interview process and have a recommendation ready for Council by October 13, 2014.

City Manager Gatlin recommended a Committee of the Council be appointed to participate in interviews and noted the staff would be Finance Director Legg, Golf Manager Anderson, and he.

Councilmember Manning said he is impressed with how quickly this has been handled and taken care of by staff and thanked staff for their efforts.

Councilmember Klint asked if there are any assurances that Potluck Catering cannot make a claim on the City. City Attorney Brodie indicated that it is possible a claim could be made but nothing of that nature came up during the negotiations. City Attorney Brodie explained that the lease would be terminated and all issues resolved at that time.

Councilmember Sanders asked if there is any leased equipment and how that would be handled. City Attorney Brodie indicated that there is leased equipment. Finance Director Legg said that Potluck Catering informed staff they owe $75,000 in equipment and staff thinks it is for the beverage carts. Finance Director Legg indicated that the leased equipment amount outstanding may be another liability for the City.

Councilmember Manning asked if there are any plans to collect the money Potluck Catering owes the City. City Attorney Brodie indicated that everything is on the table and staff would suggest at a minimum collecting past rent.

Councilmember Koch suggested keeping the name “Harvest Grill” in play because there are a number of community partners who have worked together to market the Harvest Grill. City Attorney Brodie indicated that the name is still in play but the name of the restaurant ultimately is up to the new vendor and how they wish to brand the restaurant.

Finance Director Legg pointed out that there is real potential in this facility and it is unfortunate that Potluck Catering is having financial difficulty at other locations that is impacting the Harvest Grill at Bunker. City Manager Gatlin agreed that all the firms contacted as potential vendors were highly impressed with the venue and the financials and all see it as an opportunity.

MOTION BY COUNCILMEMBER JOHNSON, SECONDED BY COUNCILMEMBER WELLS, TO AUTHORIZE EXECUTION OF THE TEMPORARY ASSIGNMENT AGREEMENT. THE MOTION PASSED UNANIMOUSLY.

Council established a Committee to conduct vendor interviews consisting of Councilmember Wells, Councilmember Koch, and Councilmember Klint and staff as suggested by City Manager Gatlin. Councilmember Manning will serve as an alternate, if needed.

Councilmember Koch asked for clarity on the attorney client privilege and how many questions can be asked and answered. City Attorney Brodie explained that ongoing negotiations regarding lease termination may be confidential but all information discussed at this meeting is public information. City Attorney Brodie indicated that if a Councilmember receives questions that seem to be attorney client privileged or of a legal nature those should be referred to his office.

Councilmember Johnson asked if there will be an article on the website for information for anyone interested. Mayor Howe asked that any statement used be general in nature.

Councilmember Klint asked who people work with to book events at the facility for the interim time period. City Manager Gatlin indicated that they will still work with Potluck Catering and Angie, the Event Coordinator. The City would like to convey the message that everything is business as usual until November 2, 2014 and at that time, there will be a seamless transition to the new vendor.

Councilmember Koch expressed concern regarding deposits for bookings between now and November 2, 2014. City Attorney Brodie indicated that staff will work with Mr. Hines on the deposit details.

Councilmember Klint suggested an escrow account for deposits. Councilmember Sanders asked why the City would allow Potluck Catering to take the deposits for something that the business will not be a part of. Finance Director Legg indicated that staff would work with Potluck Catering and try to escrow deposits. Finance Director Legg pointed out that there may be people that have paid more on their weddings as progress payments so those details will need to be worked out.

Councilmember Koch indicated that before agreeing to the termination of the lease the City should require booking information and deposit information.

Councilmembers Sanders complimented the staff on getting this far this quickly.

OTHER BUSINESS

None.

ADJOURN

MOTION BY COUNCILMEMBER WELLS, SECONDED BY COUNCILMEMBER SANDERS, TO ADJOURN THE MEETING AT 8:13 A.M. THE MOTION PASSED UNANIMOUSLY.

_____
Tim Howe, Mayor

ATTEST:

_____
Joan Lenzmeier, City Clerk

City Council Regular **6.**

Meeting Date: 10/07/2014

Subject: Resolution to Accept a TZD Traffic Enforcement Grant from MN Office of Traffic Safety

From: Brad Wise, Police Chief

INTRODUCTION

The Coon Rapids Police Department has been awarded a Toward Zero Deaths (TZD) Traffic Enforcement Grant from the Minnesota Department of Public Safety Office of Traffic Safety to participate in seatbelt, speed and DWI enforcement efforts with ten other law enforcement agencies in Anoka County, and to administer that grant for the other departments.

DISCUSSION

The Coon Rapids Police Department has participated in many grants from the State including, Safe & Sober, Operation NightCAP, and the Anoka County DWI Task Force. This year's grant encompasses many such traffic enforcement initiatives with the goal of reducing motor vehicle crashes, injuries, and fatalities. This grant follows the Federal fiscal year starting October 1, 2014, through September 30, 2015. The grant funds will be allocated to all eleven Anoka County Law Enforcement Agencies through joint projects that are organized by representatives of each participating agency. The grant will fund administrative costs incurred by the City of Coon Rapids.

RECOMMENDATION

Adopt Resolution 14-89 accepting the 2015 TZD Enforcement Grant from the Minnesota Office of Traffic Safety, and authorize the Police Chief or designee to administer and act as the fiscal agent for the grant.

BUDGET IMPACT:

All activities related to TZD are funded through the grant, therefore, there is no fiscal impact the City.

Attachments

Grant Agreement

14-89 Resolution

Minnesota Department of Public Safety ("State") Office of Traffic Safety 445 Minnesota St Suite 150 St. Paul, MN 55101-5150	**Grant Program:** 2015 Toward Zero Deaths (TZD) Enforcement Grant **Project No.:** 15-02-06, 15-04-04, 15-03-07 **Grant Agreement No.:** A-ENFRC15-2015-CNRPDSPD-00068
Grantee: Coon Rapids Police Department 11155 Robinson Dr NW Coon Rapids, MN 55433-3761	**Grant Agreement Term:** **Effective Date:** October 1, 2014 **Expiration Date:** September 30, 2015
Grantee's Authorized Representative: Sergeant Ben Bauch 11155 Robinson Dr NW Coon Rapids, MN 55433-3761 bbautch@coonrapidsmn.gov (763) 767-6508	**Grant Agreement Amount:** Original Agreement $388,988.09 Matching Requirement $0.00
State's Authorized Representative: Bruce Johnson 445 Minnesota St Suite 150 St. Paul, MN 55101-5150 bruce.a.johnson@state.mn.us (651) 201-7067	Federal Funding: CFDA 20.600, 20.608, 20.616 State Funding: None Special Conditions: Attached and incorporated into this grant agreement. See page 3.

Under Minn. Stat. § 299A.01, Subd 2 (4) the State is empowered to enter into this grant agreement.

Term: Effective date is the date shown above or the date the State obtains all required signatures under Minn. Stat. § 16B.98, subd. 7, whichever is later. Once this grant agreement is fully executed, the Grantee may claim reimbursement for expenditures incurred pursuant to the Payment clause of this grant agreement. Reimbursements will only be made for those expenditures made according to the terms of this grant agreement. Expiration date is the date shown above or until all obligations have been satisfactorily fulfilled, whichever occurs first.

The Grantee, who is not a state employee, will:
Perform and accomplish such purposes and activities as specified herein and in the Grantee's approved 2015 Toward Zero Deaths (TZD) Enforcement Grant Application ("Application") which is incorporated by reference into this grant agreement and on file with the State at 445 Minnesota St. Suite 150 St. Paul, MN 55101-5150. The Grantee shall also comply with all requirements referenced in the 2015 Toward Zero Deaths (TZD) Enforcement Grant Guidelines and Application which includes the Terms and Conditions and Grant Program Guidelines (https://app.dps.mn.gov/EGrants), which are incorporated by reference into this grant agreement.

Budget Revisions: The breakdown of costs of the Grantee's Budget is contained in Exhibit A, which is attached and incorporated into this grant agreement. As stated in the Grantee's Application and Grant Program Guidelines, the Grantee will submit a written change request for any substitution of budget items or any deviation and in accordance with the Grant Program Guidelines. Requests must be approved prior to any expenditure by the Grantee.

Matching Requirements: (If applicable.) As stated in the Grantee's Application, the Grantee certifies that the matching requirement will be met by the Grantee.

Payment: As stated in the Grantee's Application and Grant Program Guidance, the State will promptly pay the Grantee after the Grantee presents an invoice for the services actually performed and the State's Authorized Representative accepts the invoiced services and in accordance with the Grant Program Guidelines. Payment will not be made if the Grantee has not satisfied reporting requirements.

Certification Regarding Lobbying: (If applicable.) Grantees receiving federal funds over $100,000.00 must complete and return the Certification Regarding Lobbying form provided by the State to the Grantee.

1. ENCUMBRANCE VERIFICATION

Individual certifies that funds have been encumbered as required by Minn. Stat. §§ 16A.15 and 16C.05.

Signed: _____

Date: _____

Grant Agreement No. A-ENFRC15-2015-CNRPDSPD-00068
PO No. 3-29624

2. GRANTEE

The Grantee certifies that the appropriate person(s) have executed the grant agreement on behalf of the Grantee as required by applicable articles, bylaws, resolutions, or ordinances.

By: _____

Title: _____

Date: _____

By: _____

Title: _____

Date: _____

3. STATE AGENCY

By: _____
(with delegated authority)

Title: _____

Date: _____

Distribution: DPS/FAS
Grantee
State's Authorized Representative

Special Conditions

Coon Rapids Police Department is the fiscal agent for the following agencies:

- Anoka County Sheriff's Office
- Anoka Police Department
- Blaine Police Department
- Centennial Lakes Police Department
- Columbia Heights Police Department
- Fridley Police Department
- Lino Lakes Police Department
- Ramsey Police Department
- Spring Lake Park Police Department
- St Francis Police Department

2015 TZD Enforcement

EXHIBIT A

A-ENFRC15-2015-CNRPDSPD-00068

Organization: Coon Rapids Police Department

Budget Summary

Budget				
Budget Category	**State Reimbursement**	**Local Match**		
Administration - Other				
Administration - Other	$2,604.96	$0.00		
Total	$2,604.96	$0.00		
Dispatch - Other				
Dispatch - Other	$3,633.59	$0.00		
Total	$3,633.59	$0.00		
Enforcement - DWI				
Enforcement - DWI	$266,880.00	$0.00		
Total	$266,880.00	$0.00		
Enforcement - Distracted				
Enforcement - Distracted Driving	$12,649.00	$0.00		
Total	$12,649.00	$0.00		
Enforcement - Speed & Move Over				
Enforcement - Speed & Move Over	$24,603.00	$0.00		
Total	$24,603.00	$0.00		
Enforcement - Seat Belt				
Enforcement - Seat Belt	$52,472.50	$0.00		
Total	$52,472.50	$0.00		
TZD Conference				
TZD Conference	$2,000.00	$0.00		
Total	$2,000.00	$0.00		
Administration - DWI				
Administration- DWI	$7,145.04	$0.00		
Total	$7,145.04	$0.00		
Dispatch - DWI				
Dispatch - DWI	$17,000.00	$0.00		
Total	$17,000.00	$0.00		
Total	$388,988.09	$0.00		

RESOLUTION NO. 14-89

A RESOLUTION TO ACCEPT THE GRANT OF MONIES FROM THE MINNESOTA DEPARTMENT OF PUBLIC SAFETY, OFFICE OF TRAFFIC SAFETY TO BE USED TOWARD TRAFFIC RELATED ENFORCEMENT IN ANOKA COUNTY

WHEREAS, the Minnesota Department of Public Safety, Office of Traffic Safety has awarded a Toward Zero Deaths (TZD) Enforcement Grant to be shared with eleven law enforcement agencies in Anoka County including the City of Coon Rapids Police Department for countywide speed, seatbelt and DWI enforcement initiatives; and

WHEREAS, the total grant amount is $388,988.09; and

WHEREAS, Minn. Stat. § 465.03 allows cities to accept donations of real or personal property by resolution adopted by a two-thirds majority of Council; and

WHEREAS, the City Council finds that it is in the best interest of its citizens to enter into a grant agreement with the Minnesota Department of Public Safety, for traffic safety enforcement projects for the Federal fiscal years beginning October 1, 2014 through September 30, 2015 and accept the City's portion of the offered grant money of $388,988.09; and

WHEREAS, the Coon Rapids Police Department will be the fiscal agent and administrator of the grant.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Coon Rapids, Minnesota, that the City's portion of the grant of $388,988.09 is hereby accepted on behalf of the Police Department.

BE IT FURTHER RESOLVED the Coon Rapids Police Department enter into a grant agreement with the Minnesota Department of Public Safety, for traffic safety enforcement projects for the Federal fiscal years beginning October 1, 2014 through September 30, 2015.

BE IT FURTHER RESOLVED that the Coon Rapids Police Department Chief of Police or designee is hereby authorized to execute the grant, be the fiscal agent and administer the grant on behalf of the other Anoka County law enforcement agencies.

BE IT FURTHER RESOLVED that the City of Coon Rapids hereby extends its gratitude to the Minnesota Department of Public Safety, Office of Traffic Safety for the Toward Zero Deaths Enforcement Grant.

Adopted by the Coon Rapids City Council this 7th day of October, 2014.

_____
Tim Howe, Mayor

ATTEST:

_____
Joan Lenzmeier, City Clerk

City Council Regular **7.**

Meeting Date: 10/07/2014

Subject: Final Payment for Project 13-24, Lift Station No. 8

Submitted For: Sharon Legg, Finance Director

From: Dianne Nelson, Advanced Accounting Technician

INTRODUCTION

The City Engineer has recommended final payment to Geislinger and Sons, Inc. in the amount of $31,991.37 for Project 13-24, Lift Station No. 8.

DISCUSSION

A summary of Project 13-24, Lift Station No. 8, is as follows:

Contract completion date	1/17/14
Substantial completion date	11/27/13
Final completion date	5/31/14
Contract amount	$291,439.00
Total additions/deletions	($7,861.50)
Final contract amount	$283,577.50
Actual project cost	$283,577.50
Less: previous payments by City	$251,586.13
Amount due	$31,991.37
Amount over final contract	$0.00

The changes to this project were for additional sod restoration, less concrete curb and gutter installation and less asphalt and pavement removal than originally bid.

Due to cold weather conditions, it was recommended to complete the work in the spring of 2014. Remaining work was completed after road conditions were lifted.

All of the above dates and amounts are reasonable and accurate according to the project file. No liquidated damages are recommended.

RECOMMENDATION

Approve change orders and final payment to Geislinger and Sons, Inc. in the amount of $31,991.37 for Project 13-24, Lift Station No. 8.

City Council Regular **8.**

Meeting Date: 10/07/2014

Subject: Final Payment for Project 13-8, Street Reconstruction

Submitted For: Sharon Legg, Finance Director

From: Dianne Nelson, Advanced Accounting Technician

INTRODUCTION

The City Engineer has recommended final payment to North Valley, Inc. in the amount of $34,178.59 for Project 13-8, Street Reconstruction.

DISCUSSION

A summary of Project 13-8 is as follows:

Contract completion date	9/6/13
Substantial completion date	8/27/13
Final completion date	9/9/14

Contract amount	$1,646,916.58
Total additions	$6,805.66
Final contract amount	$1,653,722.24
Actual project cost	$1,708,929.04
Less: previous payment by City	$1,674,750.45
Amount due	$34,178.59
Amount over final contract	$55,206.80

The addition to the project was for gravel that was hauled in for the project. The actual project costs were more than the final contract amount due to more work performed that actual bid.

The final completion was extended until 2014 to ensure turf restoration was established.

All of the above dates and amounts are reasonable and accurate according to the project file. No liquid damages are recommended.

RECOMMENDATION

Approve of change order and final payment to North Valley, Inc. in the amount of $34,178.59 for Project 13-8, Street Reconstruction.

City Council Regular **9.**

Meeting Date: 10/07/2014

Subject: Accept Petition for the Establishment of Thousand Oaks IV Townhomes Association Housing Improvement Area and Set Date for Public Hearing

Submitted For: David Brodie, City Attorney

From: Kim Reid, Administrative Legal Assistant

INTRODUCTION

The City has received a petition from the Thousand Oaks IV Townhomes Association to establish a housing improvement area.

DISCUSSION

State law authorizes a city to establish a housing improvement area if petitioned by the owners of at least 50% of the housing units within the proposed area. The area is established by ordinance after Council holds a public hearing on the proposal.

The Thousand Oaks IV Townhomes Association consists of 23 units. The attached petition has been signed by the owners of 12 of those units and therefore meets the 50% requirement.

The Association is asking the City to assist in making repairs to the units by financing the project. The City would be repaid through a special assessment against the units. The City has participated in several similar projects in the past. Acceptance of the petition does not obligate the City to establish the housing improvement area. That decision would be made after the public hearing.

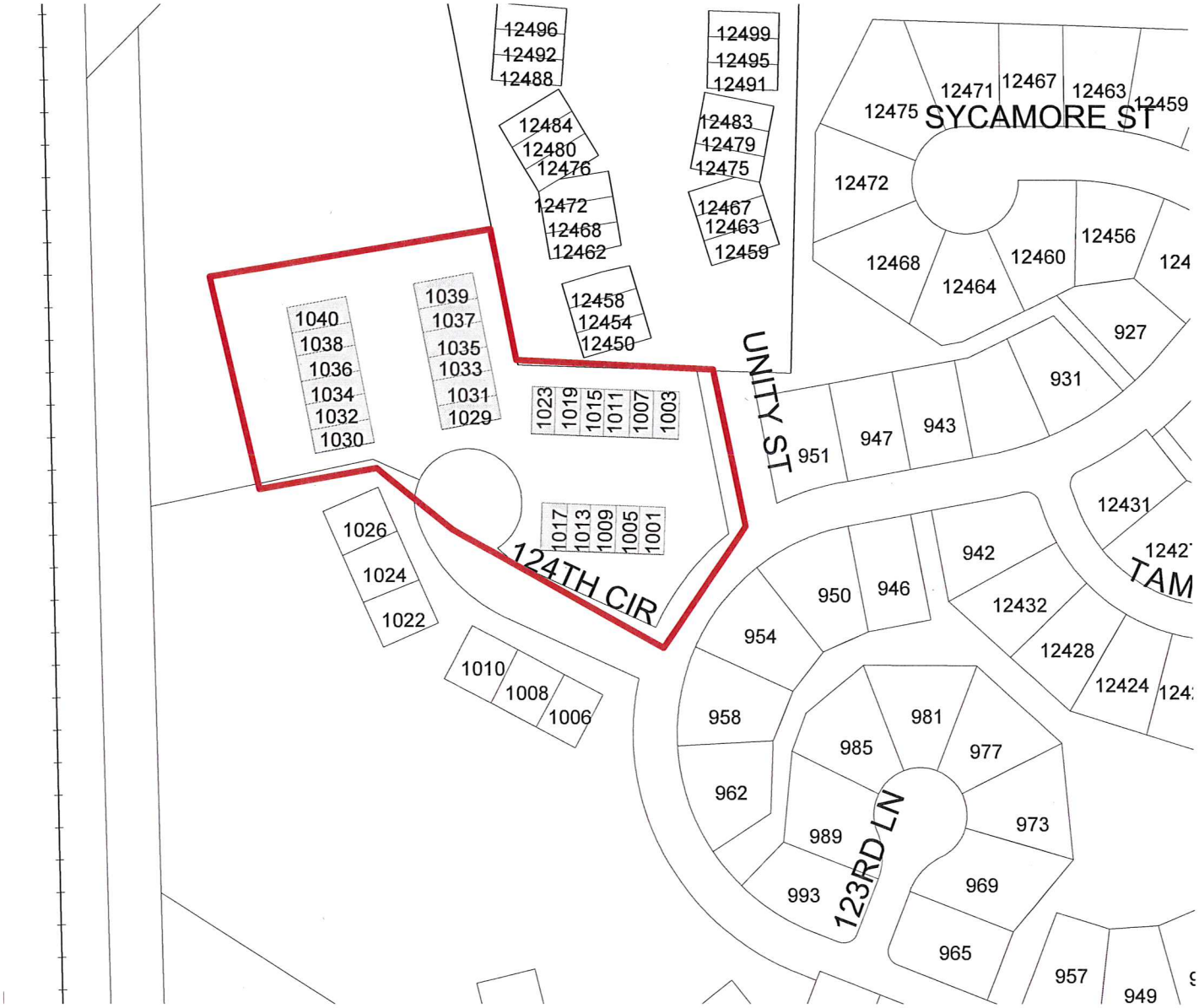
RECOMMENDATION

Accept petition requesting the establishment of the Thousand Oaks IV Townhomes Association Housing Improvement Area and Order a public hearing for December 2, 2014 at 7:00 p.m.

Attachments

Map

Petition



COON RAPIDS
Minnesota

0 100 200 Feet

PETITION TO THE CITY OF COON RAPIDS TO ESTABLISH A HOUSING IMPROVEMENT AREA PURSUANT TO MINN. STAT. §428a.13, *ET SEQ.*

The undersigned owners of housing units as herein specified file this petition, pursuant to Minn. Stat. §428A.12, to request a public hearing to propose the adoption of an ordinance establishing a housing improvement area under Minn. Stat. §428A.13, and further petition to request a public hearing on any proposed or imposed fee with respect to such area, pursuant to Minn. Stat. §428A.14. Said petition will allow the governing body of the City of Coon Rapids to adopt such an ordinance, and impose such a fee, only if owners of 50 percent or more of the housing units in the proposed housing improvement area sign this petition. (File this petition with the City Clerk.)

The EXACT street addresses, within the corporate limits of the City of Coon Rapids, proposed to be included in the housing improvement area, are as follows: (If owned by more than one person, each should fill in a line. If owned by a corporation or partnership, list the name of the entity and the name, title, and signature of the officer authorized to transfer property to the entity.)

Printed Name of Owner	Exact Ownership Address	Telephone Number	Owner's Signature
Tammy Sakry	1023 124th Circle Bonley	763 712 8752	[redacted]
Patricia Buer	1015 124th Cir.	763 493 5571	
Bette Fritze	1009 124th Cir	763-202-2945	
Cathy Stoeckel	1034 124th Circle	763-767-7785	
Terry Sorensen	1030 124th Cir	651-587-8935	
Judy Anderson	1013 124 Cir.	763-767-2566	
Judy Anderson	1037-124th Cir.	763-755-3793	
Jeff Mayasich	1035 124th cir.	763-248-5883	
Michael Larson	1039 124th Circle NW	763-767-2244	
ANDREW CHRISTENSEN	1001 124th Circle NW	715-529-0726	
John Johnston	1005 124th Circle NW	763-862-9626	
Georgia Greve	1038 124th Circle NW	763-432-2734	

City Council Regular **10.**

Meeting Date: 10/07/2014

Subject: Election Judges and General Election Canvass

From: Joan Lenzmeier, City Clerk

INTRODUCTION

Pursuant to Minnesota election law and City Charter, Council must appoint election judges and schedule a special meeting to canvass the November 4, 2014 General Election results. Staff is also requesting authority to appoint election judges during the time leading up to the election as is necessary.

DISCUSSION

Minnesota Statutes require that election judges be appointed by the Council at least 25 days prior to the election. Staff is requesting Council to authorize the City Clerk to make appointments and substitutions as necessary should the need arise in the 25 days prior to the election. Election law allows emergency appointments on election day, if necessary.

RECOMMENDATION

Approve the Following for the 2014 General Election:

a. Approve the Appointment of the Attached List of Election Judges;
b. Authorize the City Clerk to Appoint and Assign Election Judges During the 25 Days Preceding the Election as Necessary;
c. Schedule a Special Meeting to Canvass Election Results for Wednesday, November 12, 2014 at 7:30 a.m.

Attachments

Election Judge List

Judge Board Report, 2014 State Election

General Election, Tuesday, November 4, 2014

Coon Rapids W-1 P-1

Coon Rapids Free Church (W1P1), 2650 128th AVE NW, Coon Rapids, MN 55448

JoAnn Lawrence, Head Judge
Valerie Behling, Assistant Head Judge
Dana Higgins, Election Judge
Karen Hudoba, Election Judge
Kathleen Kelly, Election Judge
Jennifer Koch, Election Judge
Jane Kolpin, Election Judge
Linda McCollum, Election Judge
Bernard Meyerring, Election Judge
Bernice Olson, Election Judge
Darlene Ray, Election Judge
John Sanders, Election Judge
Lynn Vanasse, Election Judge

Coon Rapids W-1 P-2

Coon Rapids Free Church (W1P2), 2650 128th AVE NW, Coon Rapids, MN 55448

Chuck McGee, Head Judge
Michael Donohue, Assistant Head Judge
Wilma Carling, Election Judge
Susan Howard, Election Judge
Judy Jung, Election Judge
Karen Lewis, Election Judge
Sandra Longfellow, Election Judge
Gail Owen, Election Judge
Douglas Sherlock, Election Judge
Sharon Thompson, Election Judge
Carol Wulf, Election Judge

Coon Rapids W-1 P-3

Morris Bye Elementary (W1P3), 11931 Crooked Lake Blvd, Coon Rapids, MN 55433

Juanita (Boo) Mills, Head Judge
Patti Peters, Assistant Head Judge
Robin Duclos, Election Judge
Patricia Gordon, Election Judge
Rene Kisrow, Election Judge
Florence Laughter, Election Judge
Patricia McGee, Election Judge
Elizabeth Mercier, Election Judge
Kimberly Myers, Election Judge
Barbara Sherlock, Election Judge

Coon Rapids W-1 P-4

Redeemer Lutheran Church (W1P4), 2135 Northdale Blvd, Coon Rapids, MN 55433

Trace Ludewig, Head Judge
Lila Redberg, Assistant Head Judge
Diana Wyvell, Assistant Head Judge
Rodney Garberson, Election Judge
Bob Minell, Election Judge
Alvina Powell, Election Judge
Patrick Sullivan, Election Judge
Arlene Wilson, Election Judge

Coon Rapids W-2 P-1

Chapel Hill Church (W2P1), 12691 Hanson Blvd NW, Coon Rapids, MN 55448

Marsha Ocel, Head Judge
Naomi Peterson, Assistant Head Judge
Robin Benson, Election Judge
Juan Cervantes, Election Judge
Talitha Davey, Election Judge
Richard Evans, Election Judge
Ellen Friday, Election Judge
Anthony Jaros, Election Judge
Barbara J Olson, Election Judge
Patricia Warzecha, Election Judge

Coon Rapids W-2 P-2

Bunker Hills Clubhouse, 12800 Bunker Prairie Road NW, Coon Rapids, MN 55448

Judy Herrmann, Head Judge
Judith Willenbring, Assistant Head Judge
Tom Hyland, Election Judge
Ted Ingemansen, Election Judge
Roger Mathisen, Election Judge
Jim McQuay, Election Judge
Linda Molitor, Election Judge
Sheila Monson, Election Judge
Lois Willock, Election Judge

Coon Rapids W-2 P-3

Sand Creek Elementary (W2P3), 12156 Olive Street NW, Coon Rapids, MN 55448

Christine Bennett-Gagner, Head Judge
Angela Monson, Assistant Head Judge
Isla Fichtner, Election Judge
Carol Hatcher, Election Judge
Thomas Hoffelder, Election Judge
Delores Ingemansen, Election Judge
Judith Lakeman, Election Judge
Mary Mans, Election Judge
Diane Olsen, Election Judge
Henry Wesley, Election Judge

Coon Rapids W-2 P-4

Sorteberg Early Childhood (W2P4), 11400 Magnolia Street NW, Coon Rapids, MN 55448

Kristine Gernes, Head Judge
Marilyn Akerman, Assistant Head Judge
Maria Jepson, Assistant Head Judge
Meryce Unruh, Assistant Head Judge
Tom Berkner, Election Judge
Richard Casey, Election Judge
Michele Elliott, Election Judge
Jan Ferrier, Election Judge

Coon Rapids W-2 P-5

Faith Lutheran Church W2P5), 11115 Hanson Blvd NW, Coon Rapids, MN 55433

Mary Kay Huizel, Head Judge
Christy Weispfenning, Assistant Head Judge
Violet Becker, Election Judge
Bette Fritze, Election Judge
Michael Gazelka, Election Judge

Richard Mans, Election Judge
Mark Olson, Election Judge
Melody Olson, Election Judge
Gale White-Queck, Election Judge

Coon Rapids W-3 P-1

Hoover Elementary School (W3 P1), 2369 109th Avenue NW, Coon Rapids, MN 55433

Kevin Olson, Head Judge
Carol Duoos, Assistant Head Judge
Jan Monson, Assistant Head Judge
Cody Blosberg, Election Judge
Andrew Borne, Election Judge
Arlene Cook, Election Judge
Anthony Hirman, Election Judge
Sonja Kempfert, Election Judge
Don Manion, Election Judge
Arnold Olson, Election Judge

Coon Rapids W-3 P-2

Epiphany Catholic Church, 11001 Hanson Blvd NW, Coon Rapids, MN 55433

Robert Hammer, Head Judge
Harland Wyvell, Assistant Head Judge
Muritala Akinwale, Election Judge
Mary Berkner, Election Judge
Diane Cich, Election Judge
Emmet Ferwerda, Election Judge
Michael Olson, Election Judge
Christine Welsh, Election Judge
Mary Ann Williams, Election Judge

Coon Rapids W-3 P-3

Coon Rapids VFW Post 9625, 1919 Coon Rapids Boulevard NW, Coon Rapids, MN 55433

Brynn Hofstedt, Head Judge
Vangy Vanstrom, Assistant Head Judge
Carolyn Bing, Election Judge
William Caverley, Election Judge
Jeff Cosman, Election Judge
Kathleen Grimes, Election Judge
Dave Jones, Election Judge
Laura Kraft, Election Judge
Mary Lindsey, Election Judge
Lonni McCauley, Election Judge

Coon Rapids W-3 P-4

Spirit of Grace Church, 10110 Woodcrest Drive NW, Coon Rapids, MN 55433

Linda Westrom, Head Judge
Constance Glover, Assistant Head Judge
Karri Hausker, Election Judge
Elizabeth Livingston, Election Judge
Susan Owens, Election Judge
Mary Paye, Election Judge
Loretta Phillips, Election Judge
James Trombley, Election Judge

Coon Rapids W-4 P-1

American Legion Post 334, 11640 Crooked Lake Blvd NW, Coon Rapids, MN 55433

Tim Price, Head Judge

David McCauley, Assistant Head Judge
Sharon L. Gawreluk, Election Judge
Teresa Holland, Election Judge
Denise Hosch, Election Judge
Doug Looyen, Election Judge
Kenneth Smith, Election Judge
Rita Smith, Election Judge
Janet Toensing, Election Judge

Coon Rapids W-4 P-2

American Legion Post 334, 11640 Crooked Lake Blvd NW, Coon Rapids, MN 55433

Donald Heikkila, Head Judge
Mary Kalk, Assistant Head Judge
Deanne Evertz, Election Judge
Tim Farmer, Election Judge
Kathleen Fox, Election Judge
Romon Gawreluk, Election Judge
Harold Schrenk, Election Judge
Rosemary Zurn, Election Judge

Coon Rapids W-4 P-3

Coon Rapids Ice Center, 11000 Crooked Lake Blvd NW, Coon Rapids , MN 55433

Jennifer Geisler, Head Judge
Eugene Cichowicz, Assistant Head Judge
Don Hallblade, Election Judge
Jerome Jarosz, Election Judge
Michael Lohse, Election Judge
Mary Russell, Election Judge
Sue Ann Schrenk, Election Judge
Donna Stephan, Election Judge

Coon Rapids W-4 P-4

United Methodist Church (W4P4), 10506 Hanson Blvd NW, Coon Rapids, MN 55433

Tracy Wigen, Head Judge
Sheila Beutler, Assistant Head Judge
Shirley Amundson, Election Judge
C. Elaine Burgess, Election Judge
Laura Camp, Election Judge
Carolyn Casey, Election Judge
Donald Fields, Election Judge
Rose Griffith, Election Judge
Darlene Landrus, Election Judge
Mary Vivier, Election Judge
John Wolkerstorfer, Election Judge

Coon Rapids W-5 P-1

Crosspoint Church, 10936 Foley Blvd NW, Coon Rapids, MN 55448

Stephen Bray, Head Judge
Kay Barrett, Election Judge
Emily Benson, Election Judge
Todd Gabrielson, Election Judge
Jen Graham, Election Judge
Lorna Kloepper, Election Judge
Dorothy Maki, Election Judge
Janet Moberg, Election Judge
Dawn Nelson, Election Judge

Greg Schueler, Election Judge

Coon Rapids W-5 P-2

Peace Lutheran Church (W5P2), 20 Northdale Blvd NW, Coon Rapids, MN 55448

Gordon Smith, Head Judge
Irene Kadry, Assistant Head Judge
Jeff Kurland, Assistant Head Judge
Joan Becker, Election Judge
Robert Etelamaki, Election Judge
Milo Hartmann, Election Judge
Marilyn Herbold, Election Judge
Barbara Hyland, Election Judge
Sherryl McQuay, Election Judge
Krista Wigen, Student Judge

Coon Rapids W-5 P-3

Word Of Life Church (W5P3), 10730 University Ave NW, Coon Rapids, MN 55448

David Teske, Head Judge
Amber Eisenschenk, Assistant Head Judge
Margaret Theisen, Assistant Head Judge
Karen Hayden, Election Judge
Elmer Herr, Election Judge
Diana Larson, Election Judge
Jeanine Patterson, Election Judge
David Thielman, Election Judge

Coon Rapids W-5 P-4

Emma B. Howe YMCA, 8950 Springbrook Drive NW, Coon Rapids, MN 55433

Sondra Davison, Head Judge
James Davis, Assistant Head Judge
Helen McClintock, Assistant Head Judge
Catherine Angus, Election Judge
Joanne Case, Election Judge
Roxanne Chambliss, Election Judge
Kathleen Hoppe, Election Judge

Coon Rapids W-5 P-5

Adams Elementary School, 8989 Sycamore Street NW, Coon Rapids, MN 55433

Laurel Jedamus, Head Judge
Barbara Kaczmarczyk, Assistant Head Judge
Eunice Dokken, Election Judge
Evonne Herman, Election Judge
Ken Jensen, Election Judge
Melvin Molitor, Election Judge
John Paye, Election Judge
Sharon Shake, Election Judge
Jeanette Staiert, Election Judge

City Council Regular **11.**

Meeting Date: 10/07/2014

Subject: Class A On Sale and Sunday Liquor License for KB&J Enterprises, Inc. d/b/a Harvest Grill

From: Joan Lenzmeier, City Clerk

INTRODUCTION

Council is asked to approve a Class A On Sale and Sunday Liquor License for KB&J Enterprises, Inc., d/b/a Harvest Grill.

DISCUSSION

KB&J Enterprises, Inc. has applied for a Class A On Sale and Sunday Liquor License to operate Harvest Grill, 12800 Bunker Prairie Road. A criminal background check has been run on the necessary corporate officer and a Certificate of Liability Insurance evidencing liquor liability insurance has been received.

RECOMMENDATION

Approve Issuance of a Class A, On Sale and Sunday Liquor License for KB&J Enterprises, Inc., d/b/a Harvest Grill, 12800 Bunker Prairie Road, effective October 8, 2014, contingent upon verification of an Anoka County Food Service License for KB&J Enterprises, Inc.

City Council Regular **12.**

Meeting Date: 10/07/2014

Subject: Accepting a Grant from U.S. Department of Justice

Submitted For: Brad Wise, Police Chief **From:** Kim Reid, Administrative Legal Assistant

INTRODUCTION

The Coon Rapids Police Department has been awarded FY2014 Edward Byrne Memorial Justice Assistance Grant (JAG) from the U.S. Department of Justice, along with Anoka County Sheriff's Office and Fridley Police. The City of Coon Rapids entered into an agreement (Memorandum of Understanding) with Anoka County and City of Fridley to administer the grant on behalf of all three agencies.

DISCUSSION

The USDOJ provides grants to local law enforcement organizations to address crime in communities by improving the effectiveness and efficiency of criminal justice systems, processes, and procedures. Through the FY2014 JAG the City of Coon Rapids, Anoka County, and the City of Fridley were awarded a grant in the combined amount of $25,360. A requirement of the USDOJ is that a single entity administer the grant on behalf of all eligible agencies. Coon Rapids has been previously chosen by Fridley and Anoka County as the administration entity. Memorandum of Understanding (MOU) between the three entities was executed earlier this year. The agreement allocates $15,107 to Coon Rapids, and $10,253 to Fridley. No money will be going to Anoka County per the Department of Justice.

The Coon Rapids Police Department and the Fridley Police Department agreed the best use of these JAG funds would be for the purchase of law enforcement equipment not otherwise budgeted. The Coon Rapids Police Department wishes to purchase ballistic shields, hearing protection for range officers, and bike patrol jackets. Fridley wishes to purchase microphones for their officers that are configured to record sound for their squad mounted camera systems.

RECOMMENDATION

Adopt Resolution No.14-93 to accept the $25,360 grant from the U.S. Department of Justice on behalf of all three jurisdictions with the funds redistributed in the manner prescribed by the grant; and to authorize the Chief of Police or designee to administer the grant on behalf of Anoka County and City of Fridley.

Attachments

14-93 Resolution

RESOLUTION NO. 14-93

A RESOLUTION TO ACCEPT THE GRANT OF MONIES TO BE USED TOWARD LAW ENFORCEMENT EQUIPMENT FROM UNITED STATES DEPARTMENT OF JUSTICE EDWARD BYRNE MEMORIAL JUSTICE ASSISTANCE GRANT PROGRAM (JAG) AND AUTHORIZING FISCAL AGENT/GRANT ADMINISTRATOR

WHEREAS, Edward Byrne Memorial Justice Assistance Grant Program (JAG) of the United States Department of Justice has awarded a grant of $25,360 to Coon Rapids and Fridley communities; and

WHEREAS, in agreement with the other community, the City of Coon Rapids Police Department has been named to administer the grant monies; and

WHEREAS, administering the grant allows the Police Department to be awarded 10 percent of Fridley's allocation for administrative fees amounting to $1,139; and

WHEREAS, the Coon Rapids Police Department's share of the JAG grant is $13,968 for a total of $15,107 to be used toward the purchase of public safety equipment; and

WHEREAS, Minn. Stat. § 465.03 allows cities to accept donations of real or personal property by resolution adopted by a two-thirds majority of Council; and

WHEREAS, the City Council finds the offered donation to be in the public interest;

NOW THEREFORE BE IT RESOLVED by the City Council of Coon Rapids, Minnesota that the grant of $25,360 is hereby accepted.

BE IT FURTHER RESOLVED that the City of Coon Rapids hereby extends its gratitude to the U.S. Department of Justice, Edward Byrne Memorial Justice Assistance Grant Program for its generosity.

BE IT FURTHER RESOLVED that the Chief of Police of the Coon Rapids Police Department or his designee is hereby authorized to be the fiscal agent and administer this grant on behalf of the City of Coon Rapids and the Coon Rapids Police Department and the participating Fridley community.

Adopted by the Coon Rapids City Council this 7th day of October, 2014.

_____
Tim Howe, Mayor

ATTEST:

_____
Joan Lenzmeier, City Clerk

City Council Regular **13.**

Meeting Date: 10/07/2014

Subject: Historical Commission Members

Submitted For: Ned Storla, City Assessor **From:** Debbie Miller, Assessment Clerk I

INTRODUCTION

The Coon Rapids Historical Commission has a vacancy as well as a citizen willing to serve on the Commission.

DISCUSSION

Amy Graves has served on the Historical Commission since July 2013 and is resigning for personal reasons.

The Coon Rapids Historical Commission recommends the appointment of Mr. Bill Peterson to the Historical Commission. Mr. Peterson has served on the Commission in the past and would like to serve again. In the past, Mr. Peterson has made significant contributions to the Commission with his research on the City.

RECOMMENDATION

Accept Resignation of Ms. Amy Graves, acknowledge her contribution and Appoint Mr. Bill Peterson to the Coon Rapids Historical Commission with a term to expire on December 31, 2015.

City Council Regular **14.**

Meeting Date: 10/07/2014

Subject: Waiver of Christmas Tree Sales Fee for Boy Scout Troop 212

From: Stephanie Lincoln, Deputy City Clerk

INTRODUCTION

Jim Baham, on behalf of Boy Scout Troop 212, has requested Council consider a waiver of the $77 license fee for operating a Christmas Tree lot.

DISCUSSION

Boy Scout Troop 212 has submitted an application to operate a Christmas Tree lot. The Troop has requested this in years past and the Council has always granted the waiver. The Boy Scouts are a non-profit organization.

RECOMMENDATION

Approve waiver of $77 license fee for Boy Scout Troop 212 to operate a Christmas Tree lot.

City Council Regular **15.**

Meeting Date: 10/07/2014

Subject: Accept Easement from Jerelyn S. Parker and Sharon Lee Parker

Submitted For: Mark Hansen, Assistant City Engineer

From: Mark Hansen, Assistant City Engineer

INTRODUCTION

Council is asked to accept an easement from Jerelyn S. Parker and Sharon Lee Parker for drainage and utility purposes over portions of their property located at 11533 Flintwood Street NW.

DISCUSSION

The City is planning to perform maintenance that involves storm sewer outlet repairs and grading on the property located at 11533 Flintwood Street. Public storm sewers from adjacent neighborhood streets are located on this property, and they discharge storm water from these streets at the rear of said property. City records show that there is not currently a drainage and utility easement located anywhere on the property. This easement will allow the City to access the area where storm water outlets for future maintenance, and to repair the storm sewers currently located on the property if and when any future repairs are needed.

ACTION REQUESTED

Accept Easement for drainage and utility purposes from Jerelyn S. Parker and Sharon Lee Parker.

Attachments

Parker Easement Agreement

Proposed Utility Easement Map

Location Map

EASEMENT AGREEMENT ( )

THIS INDENTURE, made this _____ day of _____, _____, between JERELYN S. PARKER AND SHARON LEE PARKER, husband and wife, herein referred to as the Landowner, and the CITY OF COON RAPIDS, a municipal corporation organized under the laws of the State of Minnesota, hereinafter referred to as the "City".

WITNESSETH:

That the said Landowner in consideration of the sum of One Dollar and other good and valuable consideration to it in hand paid by the City, the receipt and sufficiency of which is hereby acknowledged, does hereby grant and convey unto the said City, its successors and assigns, forever, a permanent easement for drainage and utility purposes over, under and across the following described property:

Drainage and utility easement over, under and across the following described property:

Lot 5, Block 1, COUNTRY ACRES ADDITION, Anoka County, Minnesota, according to the recorded plat thereof.

The easement described as follows:

Southerly 30 feet of Lot 5, Block 1, COUNTRY ACRES ADDITION.

Together with that part of said Lot 5 lying easterly of the following described line:

Said line connecting a point on the north line of said Lot 5, a distance of 155.00 feet west of the Northeast corner of said Lot 5 with a point on the south line of said Lot 5, a distance of 55.00 feet west of the Southeast corner of said Lot 5.

EXEMPT FROM STATE DEED TAX

This easement shall convey to the City, its contractors, agents, officers and employees the right to enter upon said premises at all reasonable times for the purpose of construction, grading, sloping and restoration purposes, and all such purposes ancillary thereto, together with the right of said City, its contractors, agents, officers and employees to remove trees, brush, undergrowth and other obstructions from the easement area, as well as the right to deposit earthen materials within the easement area.

The City agrees to indemnify and hold the Landowner harmless from damages or claims resulting directly and solely from the use of the easements. This indemnification, however, shall not include and the City shall not be responsible for any and all costs, expenses, damages, demands, obligations, including penalties and reasonable attorney's fees, and losses resulting from any claims, actions, suits, or proceedings based upon a release or threat of release of any hazardous substances, pollutants, or contaminants which may have existed on, or which relate to, the property prior to the date hereof and which were not caused by the City.

Upon the completion of any construction, maintenance, or replacement project, the City will restore any disturbed areas including, but not limited to, the replacement of any damaged sod and plantings.

Nothing contained herein shall be deemed a waiver by the City of any governmental immunity defenses, statutory or otherwise. Further, any and all claims brought by Landowner, its successors or assigns, shall be subject to any governmental immunity defenses of the City and the maximum liability limits provided in Minnesota Statutes Chapter 466.

And the said Landowner, for itself, its successors and assigns, does covenant with the City, its successors and assigns, that it is well seized in fee of the lands and premises aforesaid and has good right to grant and convey the easement herein to said City.

IN WITNESS WHEREOF, the said Landowner has caused this agreement to be executed as of the day and year first above written.

[Signatures continue on following page]

By: [redacted]

By [redacted]

CITY OF COON RAPIDS

By: _____
Tim Howe, Mayor

By: _____
Steven D. Gatlin, City Manager

STATE OF MINNESOTA)
) ss.
COUNTY OF ANOKA)

On this 22nd day of September, 2014, before me a Notary Public within and for said County, personally appeared Jerelyn S. Parker and Sharon Lee Parker, husband and wife.

[redacted]

KIMBERLY L. REID
Notary Public-Minnesota
My Commission Expires Jan 31, 2015

STATE OF MINNESOTA)
) ss.
COUNTY OF ANOKA)

On this ___ day of _____, before me a Notary Public within and for said County, personally appeared Tim Howe and Steven D. Gatlin, the Mayor and City Manager for the City of Coon Rapids, a municipal corporation under the laws of the State of Minnesota, on behalf of the municipal corporation.

_____
Notary Public

This instrument was Drafted by:

David J. Brodie
Coon Rapids City Attorney
11155 Robinson Drive
Coon Rapids, Minnesota 55433
(763) 767-6495

Proposed Drainage & Utility Easement

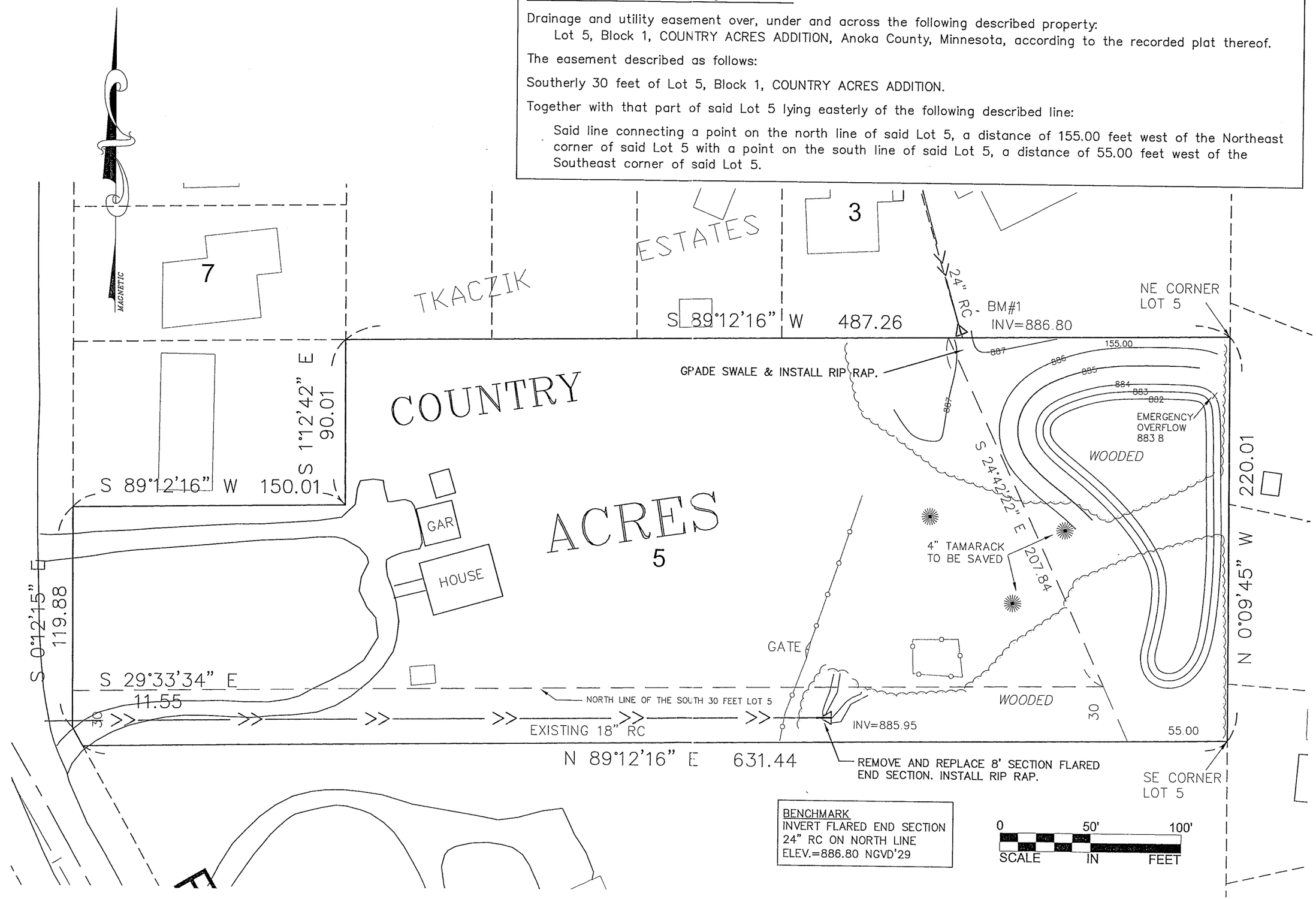
Drainage and utility easement over, under and across the following described property:
Lot 5, Block 1, COUNTRY ACRES ADDITION, Anoka County, Minnesota, according to the recorded plat thereof.

The easement described as follows:

Southerly 30 feet of Lot 5, Block 1, COUNTRY ACRES ADDITION.

Together with that part of said Lot 5 lying easterly of the following described line:

Said line connecting a point on the north line of said Lot 5, a distance of 155.00 feet west of the Northeast corner of said Lot 5 with a point on the south line of said Lot 5, a distance of 55.00 feet west of the Southeast corner of said Lot 5.



I hereby certify that this plan specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the State of Minnesota.

Date: ____ MN Reg. No.: ____

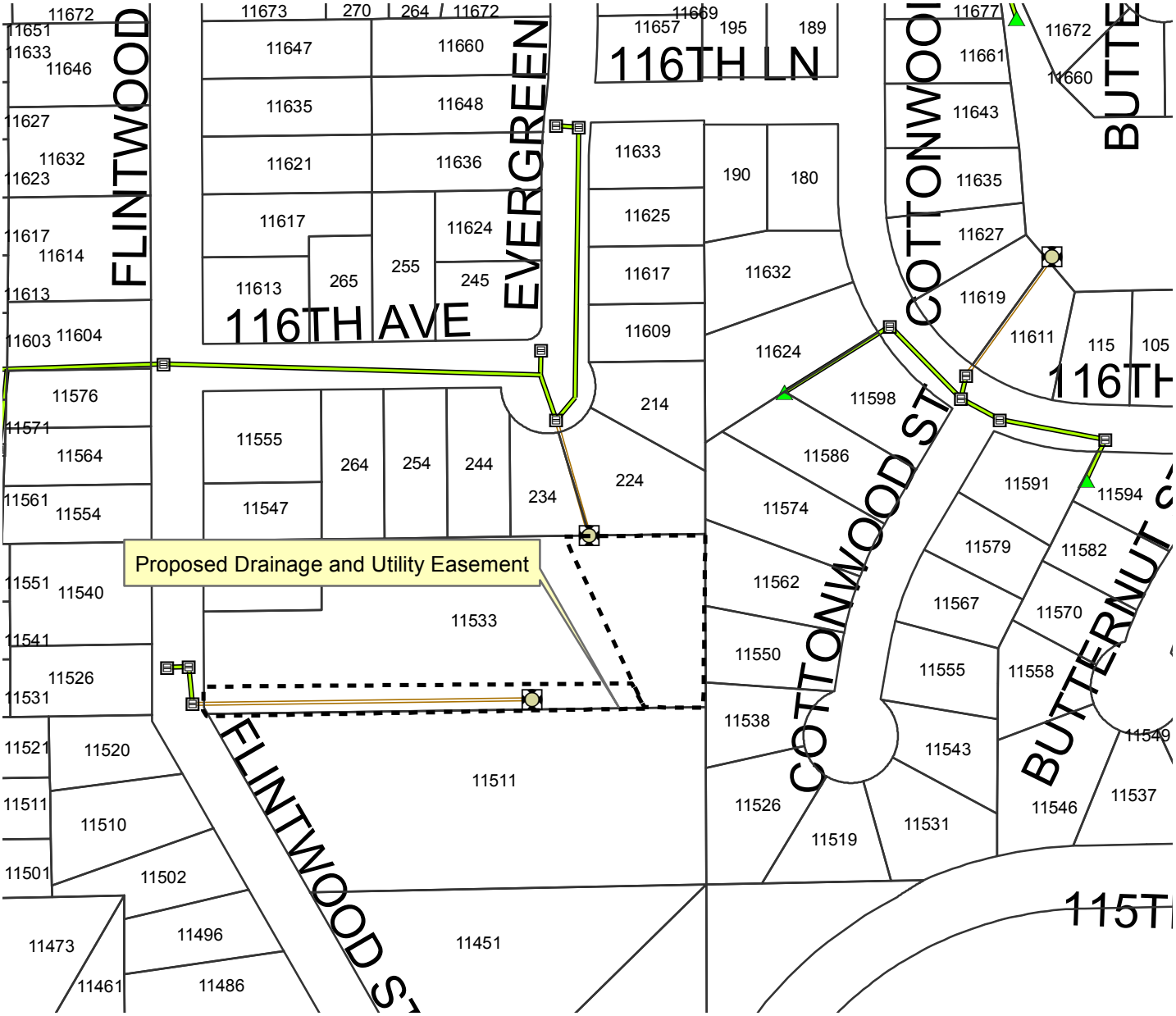
INITIAL	REVISIONS

DESIGNED BY: ____
DRAWN BY: D.M.Z.
ORIGINAL DATE: ____
SCALE ____ HORIZ. ____

14-105
11533 FLINTWOOD ST NW

COON RAPIDS Minnesota

SHEET 1 / 1



COON RAPIDS
Minnesota

N

0 125 250 Feet

City Council Regular **16.**

Meeting Date: 10/07/2014

Subject: PC 14-12, Lot Split, 10425 Jay Street, Dan Super

From: Scott Harlicker, Planner

INTRODUCTION

The applicant is requesting approval of a lot split and variances to lot depth, lot width and lot area requirements to subdivide an existing parcel into two lots.

DISCUSSION

Project Description

The applicant is proposing to subdivide a 19,406 square foot parcel (.445 acres.) into two lots. There is an existing non-conforming detached garage on the property. The applicant is proposing to remove the garage prior to construction of the new house. The existing lot is 129.4 feet deep and 150 feet wide. The proposed lots will have dimensions of 75 feet wide by 129.4 feet deep; the minimum lot width is 80 feet and the minimum depth is 135 feet. Lot A will be 9,675 square feet in area and Lot B 9,709; the minimum lot area is 10,800 square feet. Both lots will have frontage on Jay Street. Both lots will require variances to lot depth, lot width and lot area requirements.

The City Engineer has reviewed the proposed lot split and has the following comments:

- Per City ordinance, all existing overhead power services crossing the property, and intended to serve the future lots, shall be buried. The costs for burying the services shall be at the developers expense.
- The property is incorrectly identified as being located in Hennepin County within the section, township and range statement.
- Information regarding proposed grading and drainage shall be submitted to the City for review. The new lots shall not alter existing drainage patterns or flows onto existing adjacent lots.
- Drainage and utility easements shall be provided along all four sides of the new lots. A 10' wide minimum drainage and utility easement shall be provided along both the front and rear lot lines, and a 5' wide minimum drainage and utility easement shall be provided along all side lot lines.
- Permit and hookup fees shall apply to the installation of new sewer and water services to Parcel B.
- The City shall require a bond or escrow, in an amount equal to the cost of the street pavement excavation/patch, that will be necessary for the installation of the new utility services. The bond or escrow is to ensure the proper patching and restoration of the Jay Street pavement

Park Dedication

The original lot was platted as part of Forest Park in 1923, predating park dedication fees. Park dedication should be paid for the two new lots at this time.

Variance to Lot Depth Requirement

The proposed lot split requires a variance to the minimum lot depth requirement. Both lots are 129 feet deep and the code requires a minimum lot depth of 135 feet. This lot was platted as part of Forest Park in 1923, prior to minimum lot depth requirements. The plat shows the lots as 130.5 feet deep with a 14 foot alley in the rear. The

applicant could apply to the city to vacate the alley. He could then combine his portion of the alley with the existing lots and would then meet the minimum lot depth requirement. There has been one other lot split in the neighborhood, PC 91-39. A variance to lot depth was granted as part of that approval. Variance to Lot Width The proposed lot split requires a variance to the minimum lot width requirement. Both lots are 75 feet wide; the minimum lot width requirement is 80 feet. Forest Park was platted as 25 foot wide lots A builder could purchase as many 25 foot wide lots as they needed. There is a wide range of lot widths within the two block area of this property. They range in width from 75 to 175 feet. There are 11 lots within the two blocks that are 75 feet wide.

Variance to Lot Area

The proposed lots are 9,697 square feet. and 9,709 square feet; the minimum lot area requirement is 10,800 square feet. There is a wide range in lot size within this area. They range is size from 19,575 square feet to 9,707 square feet. There are 11 lots that are less than the required 10,800 square feet. If the applicant were to apply to vacate the alley, the additional area would make each lot about 10,200 square feet.

The Subdivision Regulations permit the granting of variances. The variances can be granted provided the following are met:

Criteria for Granting a Variance	
The intent of this Chapter is met	Yes - The granting of the variance will allow the subdivision of a parcel that is not out of character with other lots in the area.
The granting of the variance will not be detrimental to the public safety, health or welfare, or injurious to other property or improvements in the neighborhood in which the property is located	Yes - The granting of this variance will not be detrimental to the public or neighborhood. The lots have sufficient size, depth and width so that all setbacks can be met.
The conditions upon which the request for a variance is based are unique to the property for which the variance is sought and are generally not applicable to other property	Yes - The conditions for the variance are unique and are not generally applicable to other lots in the City.
The literal interpretation of the provisions of this Chapter would deprive the applicant of rights commonly enjoyed by other properties in the same zoning district	Yes - There are other lots that are located in the area that do not meet the lot depth, width and size requirements.
The special conditions and circumstances do not result from the actions of the applicant	Yes - The special conditions are a result of the original plat.
Because of the particular natural surroundings, shape, or topographical conditions of the specific property involved, unusual hardship to the owner would result, as distinguished from a mere inconvenience, if the strict letter of these regulations were carried out	Yes - The original lots were platted in such a way that they do not comply with current standards. Without the variance the applicant will not be able to subdivide the lot and make use of the existing services.

Planning Commission Meeting

At the Planning Commission meeting held on September 18th, two residents spoke at the public hearing. One resident was concerned about how many trees would be removed to build the homes. The other resident wanted to ensure that there was enough room on the lots to build a house and meet setback requirements, wanted to know what style of house would be built and had questions regarding the water connections because she operated a day care in her home. Typically a builder will try to minimize the removal of trees because they add value to the lot. The lots are large enough to accommodate a home within the setback requirements and the city does not regulate the style of homes that can be built. Water shut off will be minimized with respect to how many homes are affected and how long it will take. Affected property owners are notified in advance and are also give a time range as to how long it will be shut off.

The Commission voted unanimously to recommend approval of the lot split and the request for variances to lot width, depth and size.

Alley Vacation

One of the conditions in the recommendation of approval is that the applicant apply to vacate the alley that is located to the rear of his parcel. The applicant has submitted a petition to the City to vacate that alley from the north end of the block to the south end. By vacating this alley all of the abutting properties will gain additional area so that they meet the lot depth requirement. However, vacating the entire alley is proving difficult and cumbersome due to utilities and easements located in the alley way. Staff has discussed these difficulties at length and concluded that vacating the alleyway has little public benefit, solves a significant public problems, or creates significant benefit to the adjacent properties. Furthermore, similar alleyways would remain on adjacent blocks. Therefore, due to the high-cost/low-benefit of vacating the alleyway, staff recommends striking condition #4 in the recommendation.

In Planning Case 14-12, Staff recommends the City Council approve the proposed lot split and the variances to minimum lot width, depth and area requirement with the following conditions:

1. All comments of the City Engineer must be addressed.
2. Compliance with Title 11, Land Development Regulations.
3. Park dedication for the two lots be paid in the amount of $2,000 per lot prior to releasing the lot split for recording.

And striking the following condition:
4. The applicant must apply to the City to vacate the alley located to the rear of the properties

RECOMMENDATION

Consider Approval of Proposed Lot Split and Variances to Minimum Lot Width, Depth, and Area Requirements for 10425 Jay Street with Conditions.

Attachments

Location Map

Survey

Lots les than 80 ft wide and 10,800 sf

Location Map

Established in 1962

LOT SURVEYS COMPANY, INC.

LAND SURVEYORS

REGISTERED UNDER THE LAWS OF STATE OF MINNESOTA

7601 73rd Avenue North
Minneapolis, Minnesota 55428
(763) 560-3093
Fax No. 560-3522

Surveyors Certificate

INVOICE NO. 82961
F.B.NO. 1064-43
SCALE: 1" = 20'

● Denotes Found Iron Monument
○ Denotes Iron Monument
x000.0 Denotes Existing Elevation

VICINITY MAP

no scale

LOT DIVISION FOR:

SUPER 1 PROPERTIES, LLC

8700 Mississippi Blvd.
Coon Rapids, MN 55433

Property located in Section 22, Township 31, Range 24, Hennepin County, Minnesota.

Property Address: 10425 Jay Street NW, Coon Rapids, MN 55433

EXISTING LEGAL DESCRIPTION:

Lots 7 to 12 inclusive, Block B, FOREST PARK.

PROPOSED LEGAL DESCRIPTION:

PARCEL A : (Area of Parcel = 9697 sq.ft)
Lots 10 to 12 inclusive, Block B, FOREST PARK.

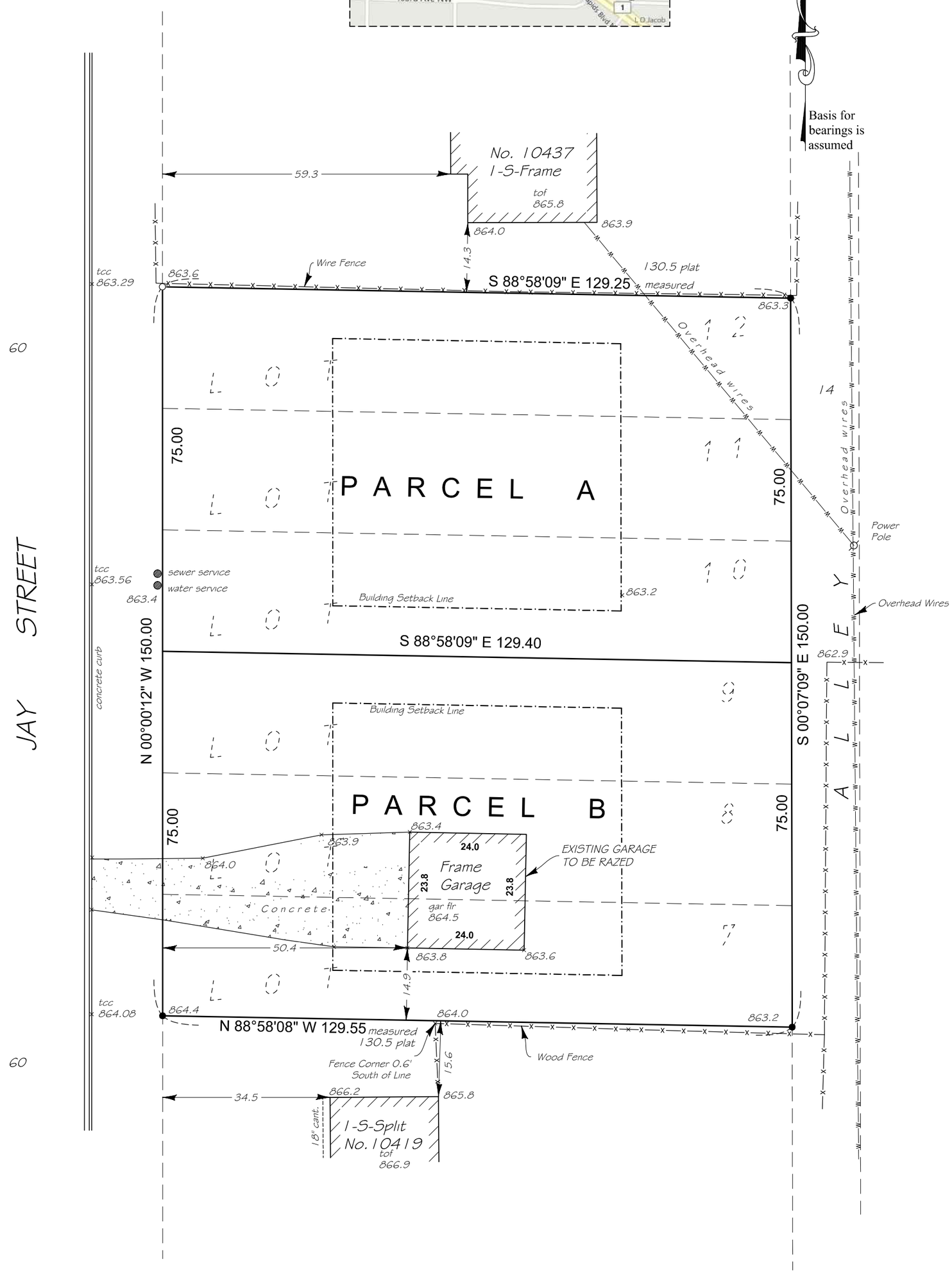
PARCEL B : (Area of Parcel = 9709 sq.ft)
Lots 7 to 9 inclusive, Block B, FOREST PARK.

Property zoned LDR-2 Low-Density Residential District

Zoning Requirements:
Minimum lot area = 10,800 sq.ft
Minimum lot width = 80 feet
Minimum lot depth = 135 feet
Building Setback Requirements (principal structure):
Front - 35 feet
Rear - 35 feet
Side - 10 feet

Maximum building height = 40 feet

Refer to City Code for additional requirements or restrictions.



The only easements shown are from plats of record or information provided by client.

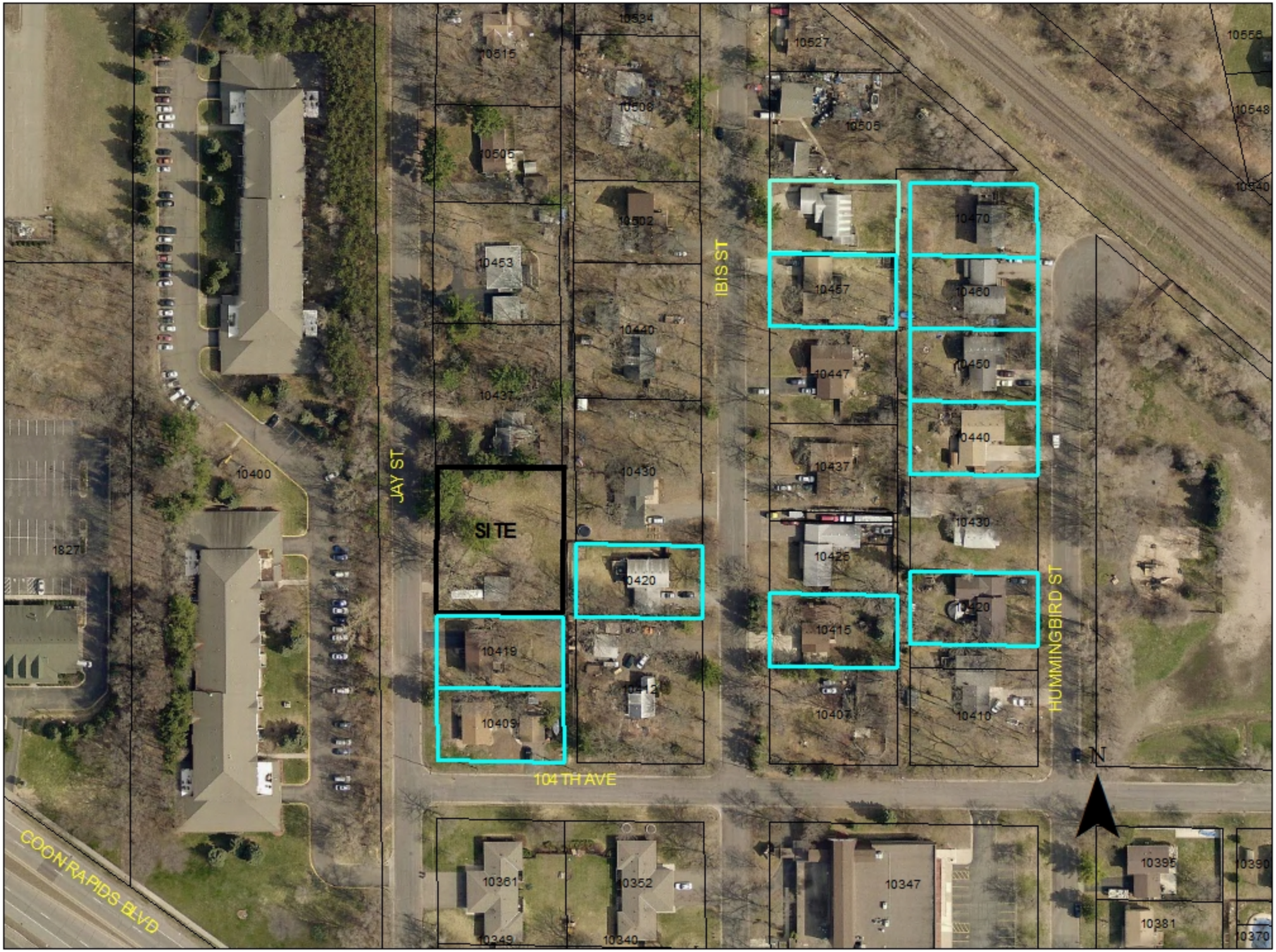
I certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed land Surveyor under the laws of the State of Minnesota.

Surveyed this 12th day of August 2014.

Signed _____
Gregory R. Prasch, Minn. Reg. No. 24992

Rev	Drawn By DJE
	File Name fp-7-12-binv82961lotdiv.dwg

Lots Less Than 80 feet wide and 10,800 Square Feet



City Council Regular **17.**

Meeting Date: 10/07/2014

Subject: Amendment to the City's Street Reconstruction Assessment Policy, and Adopt 2015 Rates

Submitted For: Mark Hansen, Assistant City Engineer

From: Mark Hansen, Assistant City Engineer

INTRODUCTION

Staff is seeking approval of an amendment to the City assessment policy, and approval of rates that will be used for the 2015 street reconstruction program. At the City Council work session on August 6, 2014, Council reviewed the proposed 2015 program, and directed staff to proceed with the street segments identified in the program. At that meeting staff also introduced and outlined the benefits of another form of street maintenance that hasn't been utilized to a great extent in the past on City projects; the mill and overlay.

DISCUSSION

The proposed 2015 program is to include streets that are to be rehabilitated using a combination of reconstruction, and mill and overlay methods. The reconstruction method of rehabilitation will follow the City's past standards and practices for street reconstruction. The mill and overlay method of rehabilitation will involve the grinding up (or milling) and removal of the top 2 1/2" of asphalt pavement, as well as the overlay or placement of an equal thickness of new asphalt pavement surface.

The typical life span of a roadway rehabilitated based on the City's standards for reconstruction is about 34 years. The typical life span of a roadway rehabilitated using mill and overlay methods is approximately 17 years. Both methods of rehabilitation require proper and proactive maintenance throughout their life cycle. The mill and overlay method of rehabilitation can only be done on state aid or collector roadways where pavement thicknesses are 6" or greater. A pavement coring investigation confirms that the roadway can support a mill and overlay.

A summary of the assessment rates for the past three years are as follows:

	2014 RATES	2013 RATES	2012 RATES
Single Family Lot	$1,667.00	$1,620.00	$1,575.00
Higher Density Residential (per front foot)	$20.83	$20.24	$19.69
Commercial (per front foot)	$41.65	$40.48	$39.38

Assessment rates have generally risen approximately 3% each year over this span consistent with the Construction Cost Index (CCI).

Staff has estimated the typical per mile construction cost (street work only) for state aid roadways using mill and overlay methods to be approximately $600,000 per mile. The typical per mile construction cost for the same segment of roadway using the City's previous standard for reconstruction is estimated to be about $1,400,000 per mile. The per mile cost for reconstruction is therefore about twice as much as that for mill and overlay.

Based on the City's policy for establishing assessment rates, staff has used the CCI to compute the proposed

assessment rates for 2015.

Staff recommends the following assessment rates for the 2015 street reconstruction program:

	2015 Reconstruction Assessment Rates	2015 Mill & Overlay Assessment Rates
Single Family Lot	$1,803.00	$901.50
Higher Density Residential (per front foot)	$22.53	$11.27
Commercial (per front foot)	$45.04	$22.52

The 2015 rates reflect an 8.14% increase over 2014, as computed using the current CCI. The sharper increase is in line with general construction industry trends toward higher material and labor costs. Since streets rehabilitated using mill and overlay methods are expected to last about half as long as streets using previous City standards for reconstruction, assessment rates are proposed to be half as much.

RECOMMENDATION

Consider Approval of an amendment to the City assessment policy and approve rates for the 2015 street reconstruction program.

BUDGET IMPACT:

The estimated street construction costs for the proposed 2015 street reconstruction projects are as follows:

Project 15-1	Residential Road Reconstruction	$1,638,000
Project 15-2A	State Aid Road Reconstruction	$2,156,000
Project 15-2B	State Aid Road Mill and Overlay	$1,020,000
Project 15-3	Residential Road Reconstruction	$1,521,000
	TOTAL ESTIMATED COST	$6,335,000

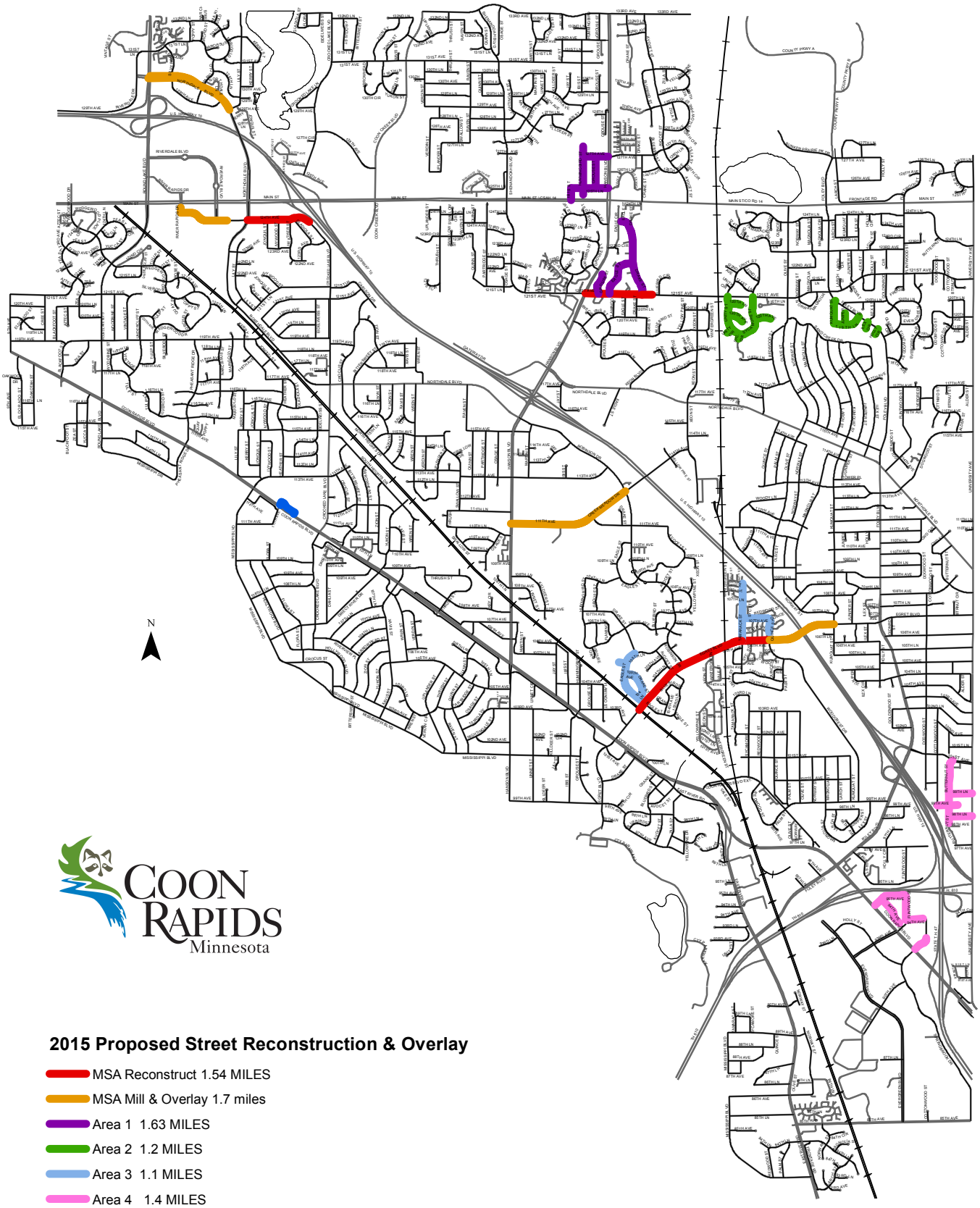
Based on the proposed assessment rates, the following amounts are anticipated to be collected from assessments:

Project 15-1	$531,564.80
Project 15-2A	$420,257.95
Project 15-3	$496,725.72
TOTAL ESTIMATED ASSESSMENT AMOUNT	$1,448,548.47

The assessed share of the street construction project cost is approximately 23% for all the projects combined. The difference in cost ($4,886,451.53) would be financed through a combination of annual state aid allotments and tax levies.

Attachments

Proposed 2015 Street Reconstruction Areas



COON RAPIDS
Minnesota

2015 Proposed Street Reconstruction & Overlay

- MSA Reconstruct 1.54 MILES
- MSA Mill & Overlay 1.7 miles
- Area 1 1.63 MILES
- Area 2 1.2 MILES
- Area 3 1.1 MILES
- Area 4 1.4 MILES
- Area 5 .13 MILES

June 20, 2014

City Council Regular **18.**

Meeting Date: 10/07/2014

Subject: PC 14-14, Site Plan approval to allow design and use flexibility for two monument signs for Mercy Hospital, 4050 Coon Rapids Blvd

From: Scott Harlicker, Planner

INTRODUCTION

The applicant is requesting use and design flexibility for two monument signs along Coon Rapids Boulevard.

DISCUSSION

Background

Earlier this year Mercy Hospital updated the signage at the hospital complex. The update included a request for design flexibility for a larger monument sign along Coon Rapids Boulevard and larger directional signs. That upgrade included eliminating two pylon signs near the Blackfoot Street entrance, one was 17 foot tall and the other was 10 feet tall, and combining them in a single 15 foot tall monument sign. The Council approved the use of design flexibility at their April 1, 2014 meeting. The 15 foot tall sign was installed this summer.

In a separate sign application they replaced a 15 foot tall pylon sign at Dakotah Street and Coon Rapids Boulevard with a 10 foot tall monument sign. No flexibility was requested with this change over.

The hospital has found that there is still some confusion with traffic finding the appropriate entrances and internal drive aisles. To rectify that, the hospital is requesting design flexibility to replace the sign on Dakota Street with a taller and larger sign, and use and design flexibility to add a second monument sign at Blackfoot Street.

Dakotah Street Sign

The applicant is proposing a 15 foot tall monument sign that is 120 square feet in size. The maximum height allowed for a monument sign is 10 feet and the maximum size allowed is 100 square feet. The sign will have 10" letters and will meet the setback requirement. The current sign is 10 feet tall and 100 square feet.

Blackfoot Street Sign

The applicant is proposing a 20 foot tall monument sign that is 160 square feet with 10" letters. The sign is the third monument sign along Coon Rapids Boulevard. With the amount of frontage along Coon Rapids Boulevard (835 feet) and multiple entrances, a third monument sign would not be unreasonable or out of place. The sign will meet the setback requirements.

Design and Use Flexibility

The applicant is requesting design flexibility under section 11-1003.16. Design flexibility may be approved provided the applicant demonstrates an alternative approach to meeting the design standards is necessary to respond to site conditions, will result in better integration of uses or additional public amenities, and will further the intent of this Section.

Because of the amount of information that has to be displayed, the applicant is requesting the taller monument signs along Coon Rapids Boulevard. The larger signs will allow for larger letters that are more legible from cars on Coon Rapids Boulevard. It is essential that traffic coming to the hospital have legible directions to get where they need to go. That, along with the fact that the hospital building and skyway provide a backdrop to the sign, will reduce the impact. There will also be 200 square feet of landscaping around the base of the signs.

The applicant is also requesting use flexibility for an additional monument sign under Section 11-1003.16. Use flexibility may be approved based on the following findings:
(a) The modification significantly advances the intent of this Section;
(b) The modification is necessary to develop the property in an efficient, well-organized way;
(c) The plan provides significant site amenities, buffers, and other elements to offset any potential harmful effects that could be caused by the use; and
(d) The use does not detract from uses in Port Districts.

The modification will advance the intent of the Section in that it will protect the health and safety of individuals coming to the hospital by providing clearer and more legible information and directions. Because of the way the property has been developed and the length of frontage along Coon Rapids Boulevard, a third sign along Coon Rapids Boulevard will advance the goal of having the site function in an efficient and well organized manner. The third sign will be buffered with the backdrop of the skyway, existing landscaping and the hospital building. The additional sign will not detract from the other uses in the PORT.

Planning Commission Meeting

At the Planning Commission meeting held on September 18th, no one spoke at the public hearing. The applicant explained that they are applying for larger signs because of the feedback they have receive from patients, venders and visitors. People are finding it difficult to locate the appropriate entrances and driveways. The Commission voted unanimously to recommend approval of the request.

In Planning Case 14-14 the City Council approve the request for design and use flexibility to allow a 15 foot tall monument sign and a 20 foot tall monument sign based on the following findings:

1. The applicant demonstrated that the modification is necessary to respond to site conditions. The large building and the amount of information that has to be displayed creates the need for taller signs to ensure that lettering is legible.
2. The larger signs will result in better integration of uses. The signs can better direct traffic into and around the site.
3. The placement of the monument sign away from Coon Rapids Boulevard and the fact the the hospital building and skyway provide a backdrop for the sign will mitigate potential adverse effects of the taller sign.
4. The uniform design of the signs will help people identify that they are on the Mercy Hospital complex and not an adjacent site.
5. The modification will advance the intent of the Section in that it will protect the health and safety of individuals coming to the hospital by providing clearer and more legible information and directions.
6. Because of the way the property has been developed and the length of frontage along Coon Rapids Boulevard, a third sign along Coon Rapids Boulevard will advance the goal of having the site function in an efficient and well organized manner.
7. The third sign will be buffered with the backdrop of the skyway, existing landscaping and the hospital building.
8. The additional sign will not detract from the other uses in the PORT.

RECOMMENDATION

Consider Approval of Use and Design Flexibility for Two Monument Signs Along Coon Rapids Boulevard for Mercy Hospital.

Attachments

Location Map
Applicant Narrative
Narrative from hospital
sign drawings and location

Location Map

VisualCommunications
475 Cleveland Avenue North Suite 223 Ivy League Place Saint Paul, MN 55104

MEMORANDUM

TO: Scott Harlicker
City of Coon Rapids

DATE: 9.8.14 (revised)

RE: Narrative for Sign Design Review
Allina Health Mercy Hospital Signage

Visual Communications is a representative of the Allina Health sign design team, As requested, we are submitting this narrative on the need for Design Standard Flexibility for the primary pylon sign and EMERGENCY entrance sign on Coon Rapids Blvd. for the Allina Health Mercy Hospital.

We recently presented to Coon Rapids Planning and Commission for Design Standard Flexibility for this project and received approval of the primary directional on Blackfoot Drive as well as approval of the Coon Rapids Blvd/Dakota Avenue directional sign for the EMERGENCY entrance. We reduced the signage to meet the best possible requirements with minimal design flexibility to city code. These signs have been installed and Mercy Hospital senior leadership is not pleased with the result. They have received multiple complaints from consumers that cannot read the letters or see the signs because of their setbacks and smaller letter height. They are requesting that we re-analyze the locations and address the letter height and sign size for the sign at the north west corner (Coon Rapids Blvd/Dakota) and replacing the main pylon that was removed due to the building of the skyway connecting Mercy Professional Building. This sign was not pursued in the original request.

We ask the city staff to support this alternate approach in meeting the design standard of the project. On the attached drawings we are showing the site setbacks and viewing distances. These show that a letter of 10" in height would be an adequate readable height for a driver going 45mph on Coon Rapids Blvd. We are also requesting that the height be allowed at 20'. This again will allow the visibility required for a campus of this size, and a setback that is deeper than most because of county easements. We understand that the 'Medical Port' has a maximum height of 10' and believe that this would meet the needs of a medical office building - but a hospitals needs are different; especially with highly stressed clients trying to make the right turn onto the property. In the city of Coon Rapids ordinance there are many areas that allow pylons from 20' - 36' in height.

With Mercy Hospital being one of the largest complexes in the city of Coon Rapids and a vital asset to the community we would hope that Design Flexibility could adjust the 10' height in the 'Medical Port' to a more visible size. An example of the taller pylons would be the Pet Hospital located two miles down the road from Mercy Hospital. They are allowed a pylon that is approximately 20' in height. Yet the hospital that receives hundreds of visitors a day is only allowed 10 feet in height.

We have also completed a study of other similar area hospitals - including North Memorial Robbinsdale and Maple Grove locations. These locations meet the sign needs of their communities with more readable signs and less setbacks.

We have asked the hospital administration to write a synopsis of the complaints from patients, doctors and staff regarding this issue. That will be forthcoming and an administrative representative will be in attendance at the Planning and Council meet. I will also be in attendance to answer questions on September 18 and October 7. Let me know if you have any questions. I can be reached at 651-644-4494 or at odonnell@visualcomm.com.

651.644.4494

FAX 651.644.4289

odonnell@visualcomm.com

Allina Health
MERCY HOSPITAL

4050 Coon Rapids Blvd.
Coon Rapids, MN 55433
763-236-6000

September 9, 2014

Scott Harlicker
City of Coon Rapids
Coon Rapids City Hall
11155 Robinson Drive
Coon Rapids, MN 55433

Dear Mr. Harlicker,

For nearly 50 years, Mercy Hospital has been a cornerstone of the north metro community both as a nationally recognized health care provider and thriving employer. The reputation of being a top hospital, recent recognitions include U.S. News & World Report and Truven Health Analytics, has resulted in more people choosing and traveling longer distances to Mercy for emergency, cardiac, surgical and other specialty care including having a baby. In response, Mercy is committed to enhancing its facility and services to ensure a superior experience as well as excellent clinical care for patients and families.

Individuals coming to a hospital are experiencing a high level of anxiety, stress and even confusion. After the recent signage replacement, many of these patients and their families have expressed concern on the ability to see hospital entrance locations and poor visibility of the signage on Coon Rapids Blvd. This concern has also been expressed by our physicians, volunteers and staff members. While we can't prevent the emotional or physical state in which people arrive, we need to be able to effectively communicate the location and where to turn to get help. We are requesting design flexibility in our efforts improve our signage because when someone is experiencing a heart attack, stroke or having a baby a few weeks early, minutes and seconds can literally save a life. This concern is heightened when considering the very high level of traffic coming to the campus on a busy divided road at high speeds, and that in several instances individuals are unfamiliar with Coon Rapids. It is important to note:

- Mercy has the 4th busiest Emergency Room in the Twin Cities (56,652 visits in 2013).
- Nearly 25 percent of patients admitted in 2013 lived outside of Coon Rapids and its immediate surrounding areas.
- Approximately 40 percent of patients admitted to Mercy are age 65 or older
- More than 137,000 individuals came to Mercy for tests, follow-up care and other services in 2013.
- Mercy delivers nearly 2,000 newborns each year. This number is expected to significantly increase with the opening of The Mother Baby Center at Mercy with Children's in summer 2015.
- Mercy employees more than 2,000 staff members and is affiliated with more than 700 physicians who see patients throughout the north metro communities.

In closing, we would like to restate our request for design flexibility in our quest to serve and care for communities.

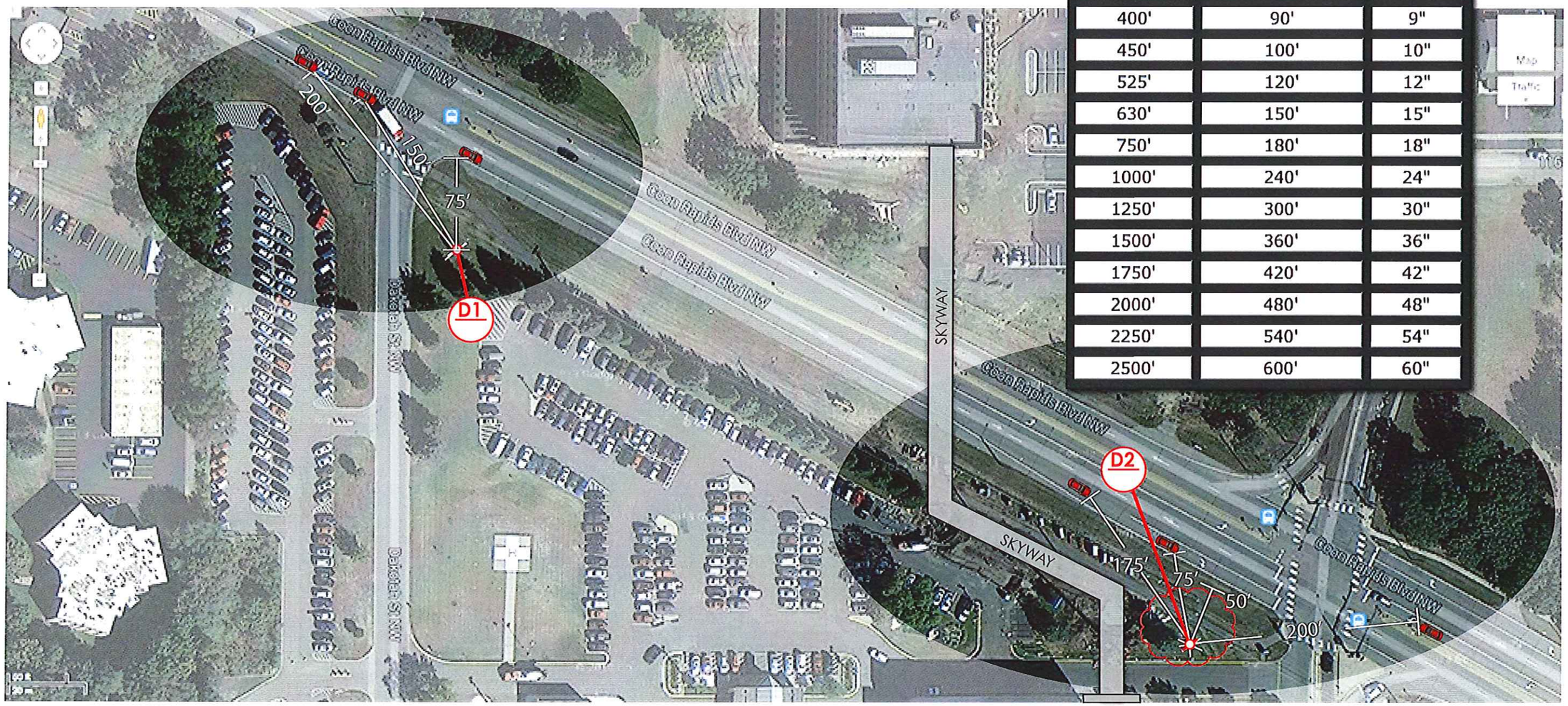
Thank you

Sara Criger
System Vice President
President, Mercy Hospital

SIGNAGE VISIBILITY STANDARDS

A MOTORIST MOVING 45 MPH
REQUIRES A 10" LETTER (AT MINIMUM)
FOR MAXIMUM READABILITY FROM
A DISTANCE OF 100FT

MAXIMUM READABLE DISTANCE	READABLE DISTANCE FOR MAXIMUM IMPACT	LETTER HEIGHT
100'	30'	3"
150'	40'	4"
200'	60'	6"
350'	80'	8"
400'	90'	9"
450'	100'	10"
525'	120'	12"
630'	150'	15"
750'	180'	18"
1000'	240'	24"
1250'	300'	30"
1500'	360'	36"
1750'	420'	42"
2000'	480'	48"
2250'	540'	54"
2500'	600'	60"



Allina Health
MERCY HOSPITAL

4050 Coon Rapids Blvd.
Coon Rapids, MN 55433

Exterior
Sign Design

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Communications
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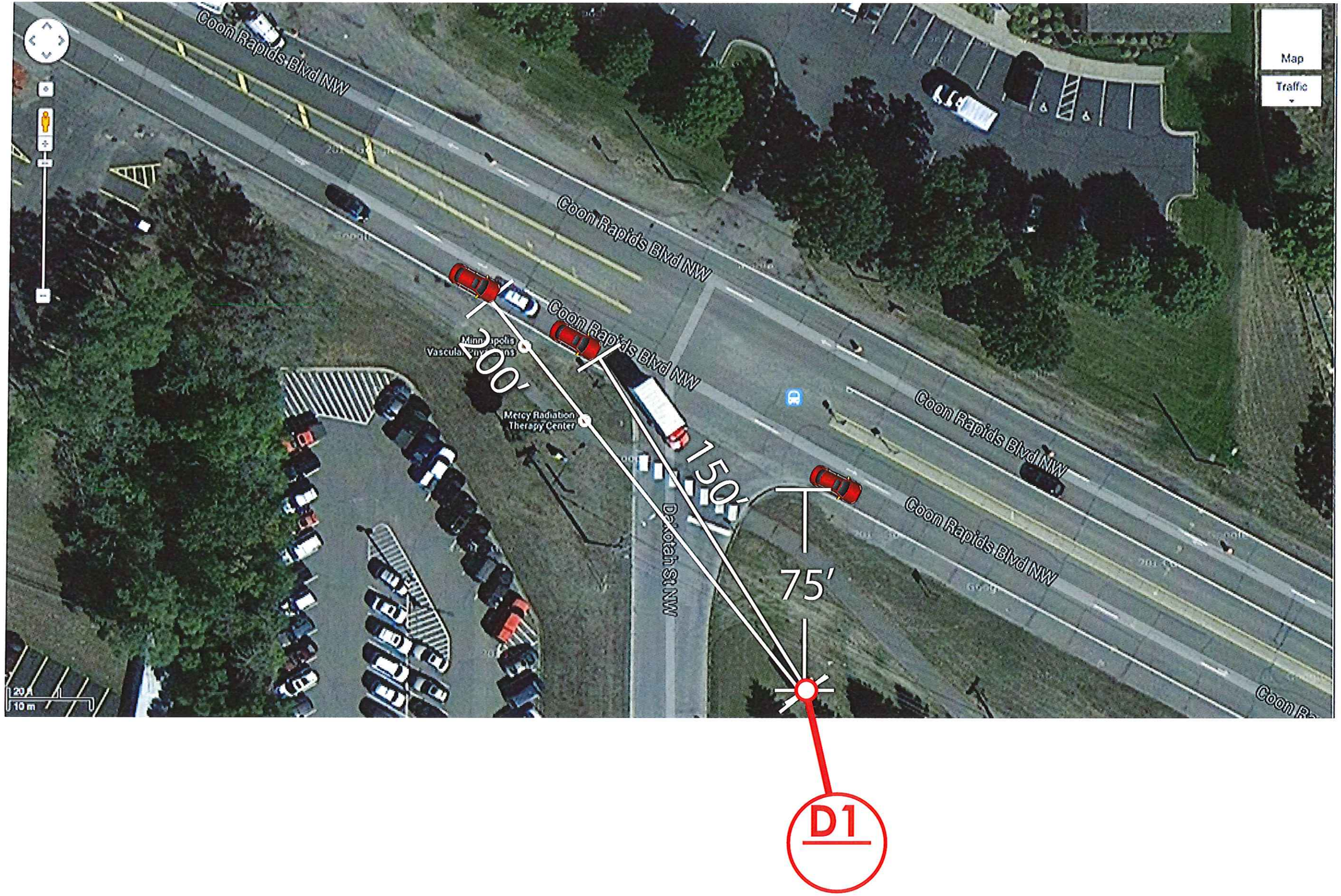
Date: 08/11/14 nv
08/12/14 nv
09/02/14 nv



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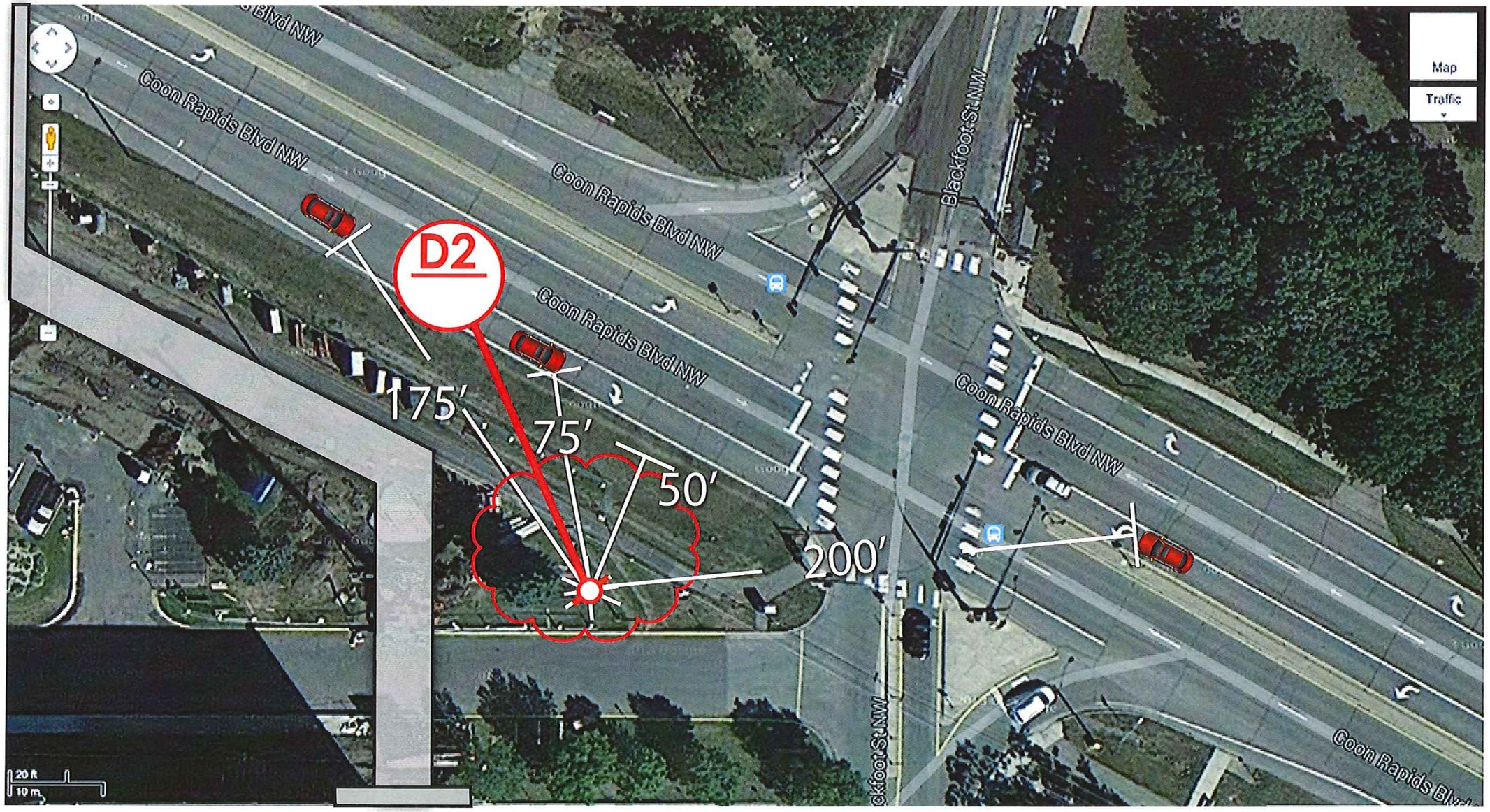

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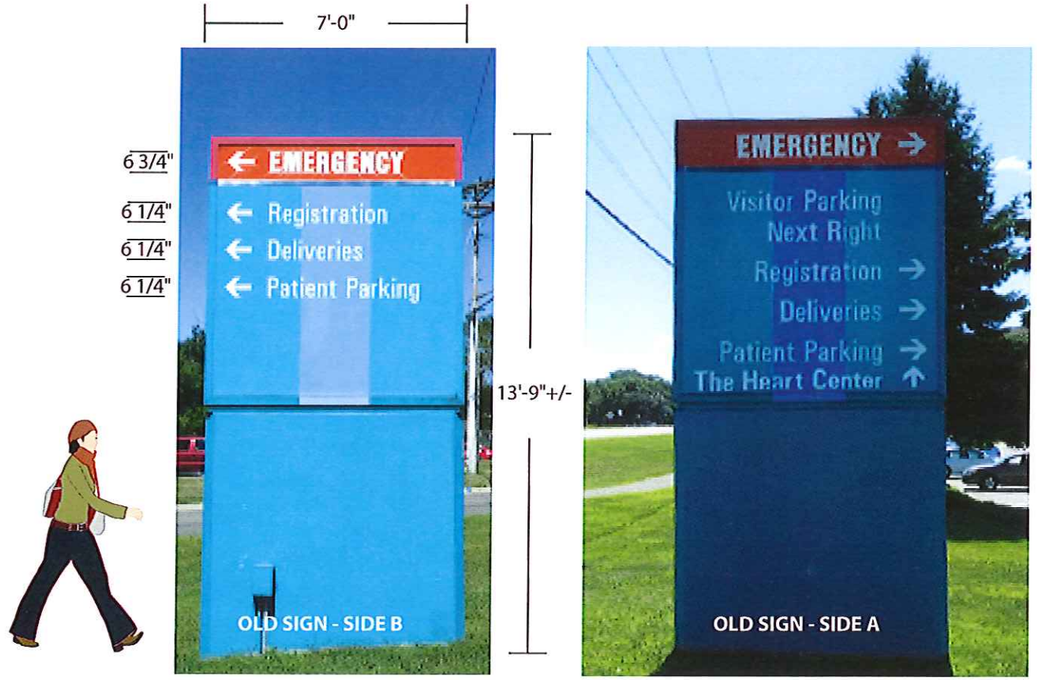
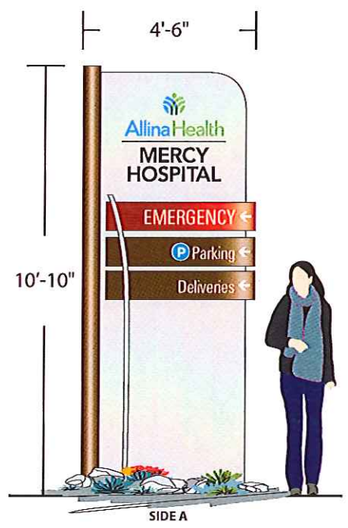
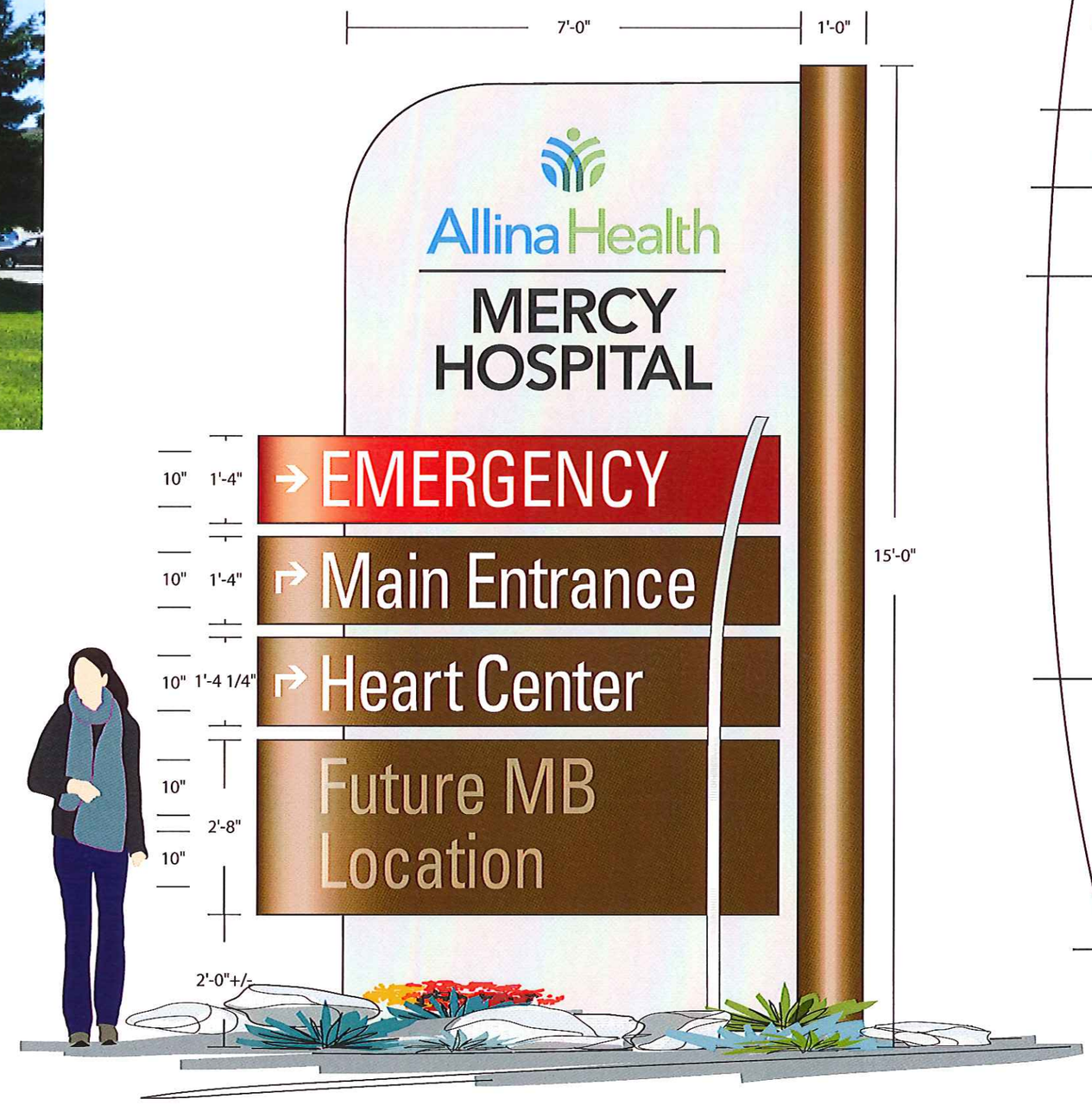


OLD FREESTANDING DIRECTIONAL SIGN / SCALE: 1/4" = 1' - 0"



CURRENT FREESTANDING DIRECTIONAL SIGN
NOT TO SCALE



DIRECTIONAL - REPLACE EXISTING

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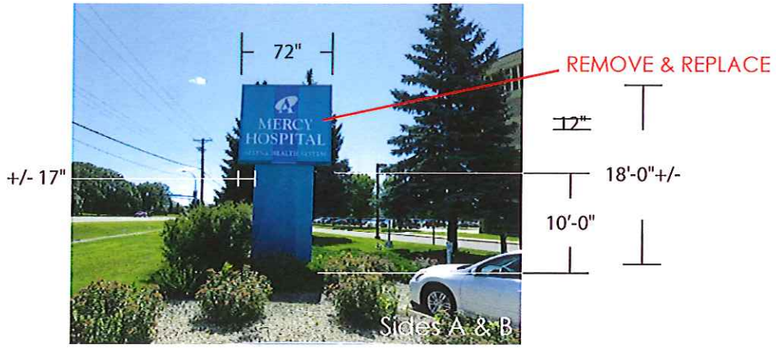
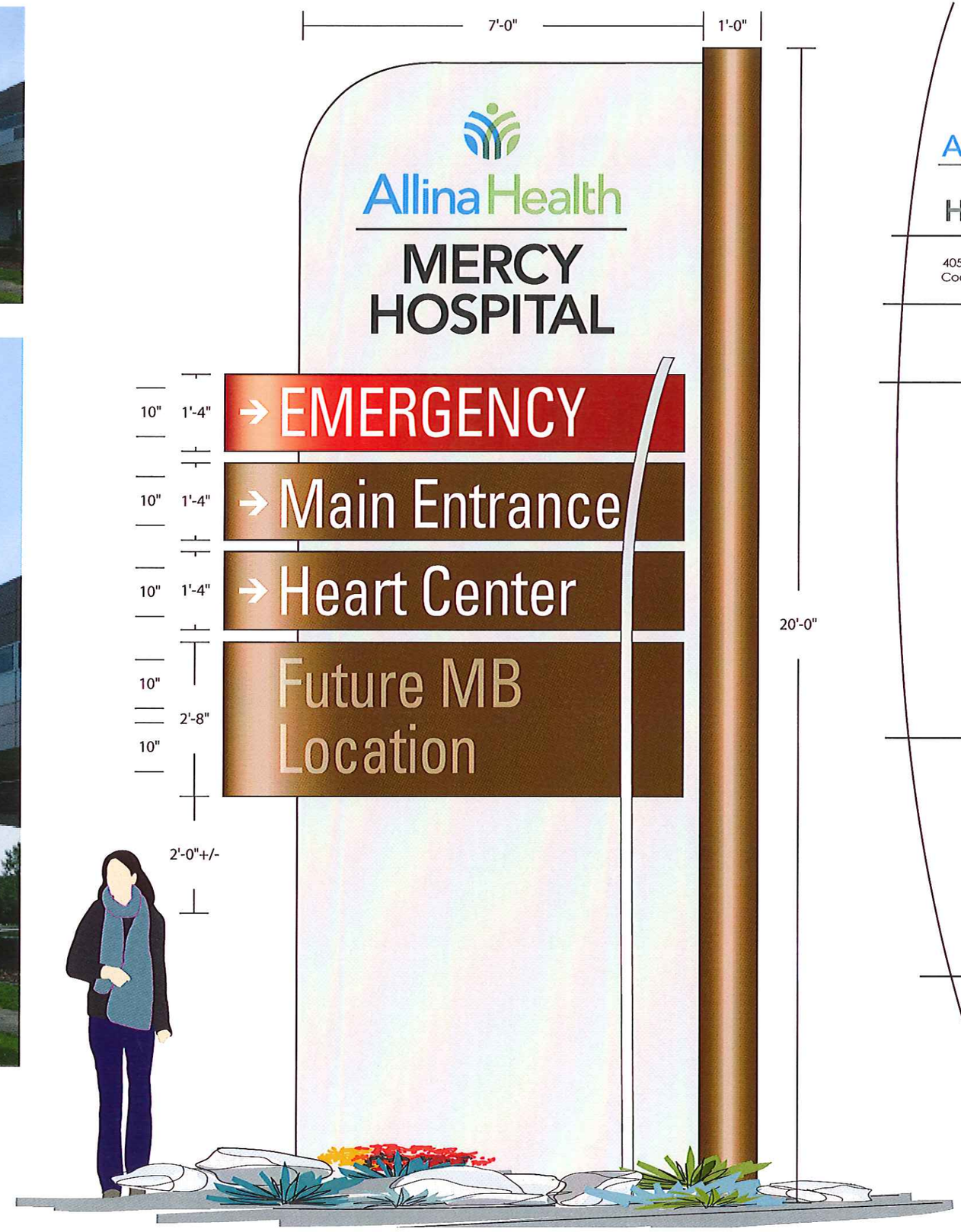


4 Original Main Entry Pylon - Illuminated

LOCATION OPTION 1 OUTSIDE OF SKYWAY
NOT TO SCALE

ADD NEW IDENTITY



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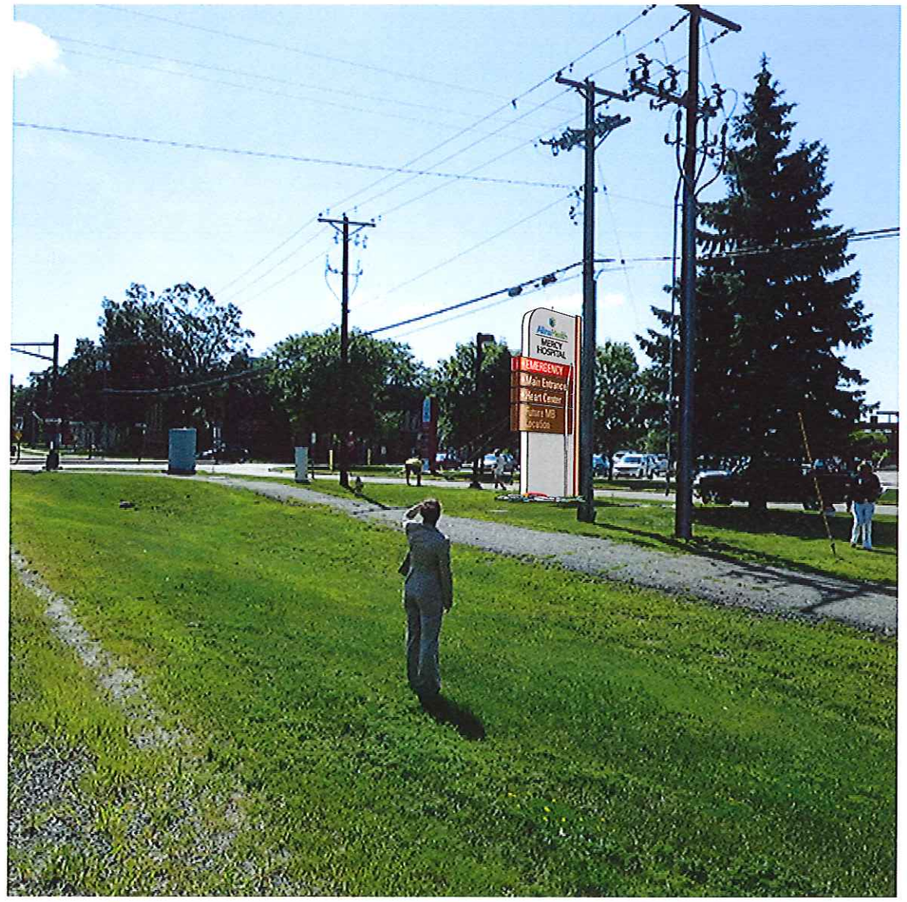

LOCATION OUTSIDE OF SKYWAY
NOT TO SCALE

ADD NEW IDENTITY

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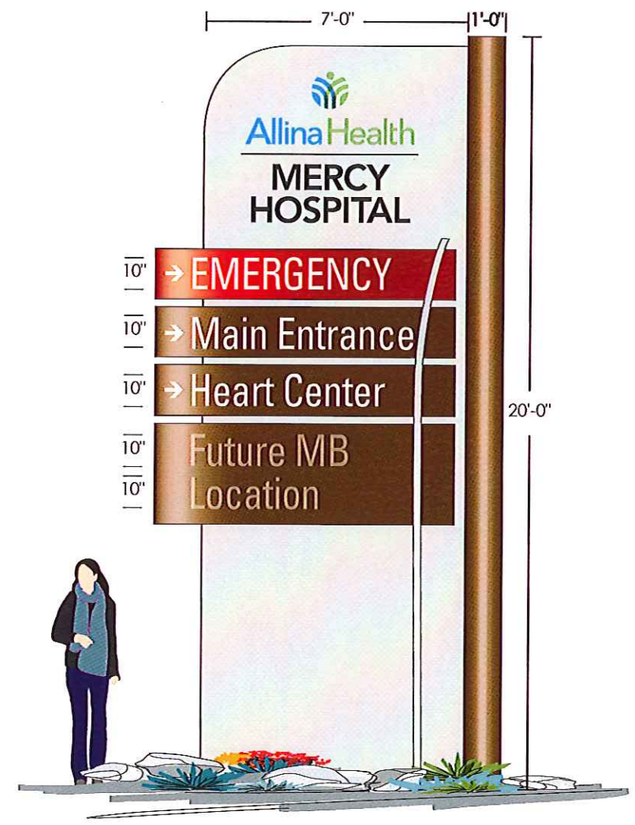

DESIRED SIZE

PYLON COMPARISON

NOT TO SCALE

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Project: 13.04.06
Date: 09/08/14 nv

City Council Regular **19.**

Meeting Date: 10/07/2014

Subject: Bond Issuance

Submitted For: Sharon Legg, Finance Director **From:** Sharon Legg, Finance Director

INTRODUCTION

A bond issue is being proposed to be sold on October 21, 2014.

DISCUSSION

Staff is recommending that the City Council authorize the attached resolution providing for the issuance of G.O. Improvement Bonds, Series 2014A. The bonds will fund the following street projects:

Project 12-26 Coon Rapids Boulevard and Springbrook Drive
Project 12-29 Crooked Lake & Northdale Boulevards Signals and Turn Lanes
Project 14-01 2014 Street Reconstruction
Project 14-02 2014 Street Reconstruction
Project 14-03 2014 Street Reconstruction
Project 14-04 2014 Street Reconstruction

Additionally, bonds will be sold for $4,635,000 of water improvements and $860,000 for storm drainage improvements. The water improvements include costs incurred along with the above mentioned street projects as well as $950,000 for the proposed SCADA system for the water treatment plant.

RECOMMENDATION

Consider Adoption of Resolution 14-94 Providing for the sale of $9,720,000 General Obligation Bonds, Series 2014A.

Attachments

RS 14-94

Resolution No. 14-94

Resolution Providing for the Sale of
$9,720,000 General Obligation Bonds, Series 2014A

A. WHEREAS, the City Council of the City of Coon Rapids, Minnesota has heretofore determined that it is necessary and expedient to issue the City's $9,720,000 General Obligation Bonds, Series 2014A (the "Bonds"), to finance various street and utility improvement projects in the City; and

B. WHEREAS, the City has retained Ehlers & Associates, Inc., in Roseville, Minnesota ("Ehlers"), as its independent financial advisor for the Bonds and is therefore authorized to solicit proposals in accordance with Minnesota Statutes, Section 475.60, Subdivision 2(9);

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Coon Rapids, Minnesota, as follows:

1. Authorization; Findings. The City Council hereby authorizes Ehlers to solicit proposals for the sale of the Bonds.

2. Meeting; Proposal Opening. The City Council shall meet at 7:00 p.m. on October 21, 2014, for the purpose of considering sealed proposals for and awarding the sale of the Bonds.

3. Official Statement. In connection with said sale, the officers or employees of the City are hereby authorized to cooperate with Ehlers and participate in the preparation of an official statement for the Bonds and to execute and deliver it on behalf of the City upon its completion.

Adopted by the Coon Rapids City Council this 7th day of October 2014.

_____
Tim Howe, Mayor

_____
Joan Lenzmeier, City Clerk

City Council Regular **20.**

Meeting Date: 10/07/2014

Subject: Adopt 2014-2015 Coon Rapids Ice Center Rental Rates and Approve User Contracts

Submitted For: Tim Himmer, Public Works Director **From:** Cher Ridout, Admin Secretary II

INTRODUCTION

Staff is recommending that the City Council consider increasing ice rental fees for the Coon Rapids Ice Center for the 2014-2015 season.

DISCUSSION

Fees for hourly ice rentals, services and activities were last reviewed and approved by City Council in July of 2013 prior to the beginning of the 2013-2014 skating season. The attached 2014-2015 Market Study represents the results compiled from surrounding arenas for the upcoming season.

The City's current and proposed ice rental rates are as follows:

	Current	Proposed
Winter Prime (Sept. - March)	$195	$195
Winter Prime (Sept. - March) CRYHA	$180	$185
Winter Non-Prime (Sept. - March) Off Peak Hours	N/A	$145
Spring (April - May)	$145	$145
Summer (June - Aug.)	$140	$145
Outdoor Ice (Public)	$75	$75
Outdoor Ice (CRYHA)	$60	$70

Last year the Winter Prime and Spring rates were increased $5.00 for all users, and the Summer rate increased by $10.00, which kept us competitive with surrounding arenas.

Staff is proposing to establish a new rate for the upcoming season; a Winter Non-Prime rate. This would include the months of Sept. through March, and be effective Monday through Friday before 3 pm and after 10 pm, and Saturday and Sunday after 10 pm (with the exception of Anoka Hennepin School District non school days.). This new rate is being proposed to encourage additional facility usage during non-prime hours, and is consistent with what other area arenas offer.

Staff is also proposing to combine the Spring & Summer rates into one category, so the rate structure would be consistent for all users from April through August.

As discussed with Council in work session on September 23rd, the rates charged to the Coon Rapids Youth Hockey Association (CRYHA) will increase sequentially over the next three years to bring them in line with what other users are currently paying. This rate revision is in response to changes in their user contract that occurred last fall, whereby CRYHA is no longer staffing warming houses for the City. Additional features are still included in their contract that allows them usage of rooms at no charge, free advertising, and free room rentals for certain events

throughout the year.

All the above revisions are being proposed to simplify our rate structures, while positioning the Ice Center competitively with local hourly rates (excepting association run arenas). Staff believes these revisions are justified to remain competitive with other area arenas, to maintain our state of the art facility, and to help offset operating costs.

No other adjustments in services or activities are recommended.

RECOMMENDATION

Consider Adoption of Resolution Number 14-85 establishing Coon Rapids Ice Center fees and charges, and approve the user group contracts.

Attachments

Resolution 14-85
2014-15 Market Study
CRYHA Contract
Coon Rapids High School Contract

RESOLUTION 14-85

A RESOLUTION ESTABLISHING COON RAPIDS ICE CENTER FEES AND CHARGES

WHEREAS, the fees and charges for Coon Rapids Ice Center do not currently reflect competitive prices within the metro area; and

WHEREAS, the City Council finds that it is in the best interest of the City for the fees and charges for the Coon Rapids Ice Center to be competitive within the metro area to the extent practical; and

WHEREAS, the City Council further finds that certain fees and charges for Coon Rapids Ice Center should be increased to more ensure competitiveness within the metro area; and

NOW, THEREFORE, BE IT RESOLVED by the City Council of Coon Rapids, Minnesota that that effective upon adoption the fees and charges (including sales tax where applicable) for the Coon Rapids Ice Center shall be as follows:

Winter Season 2014- 2015 (September 1st through March 31st)..... ..... $195.00 per hour
Winter Non Prime 2014-2015 (Monday – Friday before 3 p.m. and after 10 p.m. and Saturday and Sunday after 10 p.m. with the exception of Anoka Hennepin School District non school days)……..$145.00 per hour
Spring Season 2015 (April 1st through May 31st) ..... $145.00 per hour
Summer Season 2015 (June 1st through August 31st) ..... $145.00 per hour

Coon Rapids Youth Hockey Association,
Winter Season 2014 – 2015 (September 1st through March 31st) ..... $185.00 per hour

Outdoor Rink $75.00
Outdoor Rink – Coon Rapids Youth Hockey Association $70.00

Public Skating per Session
Adults.....$5.00
Youth (6 years to 18) $4.00
Children 5 years and under accompanied by a paid admission $0.00

School Groups (includes skate rental) ..... $3.00 per person/per hour

ARCC Intramural per session ..... $8.00 per player

Adult Open Hockey per session.....$7.00

Stick and Puck Session $5.00
Children 5 years and under accompanied by a paid admission $0.00

Skate Rental per session $3.00

Skate Sharpening
Overnight $4.00
Same Day $5.00
Prepaid Punch Card for seven sharpenings.....$25.00

Adopted by the Coon Rapids City Council this 7th day of October, 2014

_____
Tim Howe, Mayor

ATTEST:

_____
Joan Lenzmeier, City Clerk

COON RAPDIS ICE CENTER RATE - MARKET STUDY

JULY 2014

		CRIC		Proposed		Proposed 2014-2015 rates				
	2011-'12	2012-'13	2013-2014	2014-0215	Andover	Anoka	Brklyn Pk	Champlin	Fogerty	Schwans
Winter	$185	$190	$195	$195	$195	$195	$210	$200	$165	$200
Winter-non prime	xxx	xxx	xxx	$145	$145	$195				
Spring	$140	$140	$140	$145	$140	$130	$165	$155	$145	$200
Summer	$120	$120	$145	$145	$140	$130		$155	$145	$200
CRYHA	$175	$175	$180	$185	same	$165			same	$200
Outdoor Rink	$65	$75	$75	$75						
Outdoor Rink-CRYHA	$50	$60	$60	$70						
Public Skating										
Adult	$5	$5	$5	$5	$5	N/A	$4	$5	$3	$4
Youth & Seniors	$4	$4	$4	$4	$4	NA	$3	$4	$3	$4
5 & Under	N/C	N/C	N/C	N/C	N/C	N/A	N/C	N/C	$3	$4
Family	N/A	N/A	N/A	N/A	N/A	N/A	$11		$7	N/A
School Groups	$3	$3	$3	$3	$3-4	N/A			N/A	$5
ARCC Intramural	$8	$8	$8	$8	N/A	N/A	N/A	N/A	N/A	N/A
Adult Open Hockey	$7	$7	$7	$7	$5	NA	$7	$5	N/A	$5
Stick & Puck	$5	$5	$5	$5	$5	NA	N/A	N/A	N/A	$3-4
5 & Under	N/C	N/C	N/C	N/C						
Skate Sharpening										
Overnight	$4	$4	$4	$4	$4	$5	$4.00	$4	N/A	$4
Same day	$5	$5	$5	$5		N/A	N/A	N/A	3	N/A
Skate Rental	$3	$3	$3	$3	$3	N/A	$3	$3	N/A	$3
Lessons/5 & Under	$2	$2	$2	$2				N/A		

COON RAPIDS ICE CENTER ICE TIME RENTAL
AND FACILITY USE AGREEMENT -
COON RAPIDS YOUTH HOCKEY ASSOCIATION

THIS AGREEMENT is made and entered into on this _____ day of October, 2014 by and between the CITY OF COON RAPIDS, a Minnesota municipal corporation (the "City") located in Anoka County, Minnesota and COON RAPIDS YOUTH HOCKEY ASSOCIATION, a Minnesota non-profit corporation ("CRYHA"), located in Anoka County, Minnesota.

WITNESSETH:

WHEREAS, the City owns and operates the Coon Rapids Ice Center, located at 11100 Crooked Lake Boulevard, Coon Rapids, Minnesota (the "Arena"); and

WHEREAS, CRYHA desires to rent ice time and use portions of the Arena for its youth hockey programs.

NOW, THEREFORE, in consideration of the premises and the mutual promises and covenants contained herein, it is agreed:

1. Arena Use. The City hereby grants to CRYHA the use of space within the Arena on a nonexclusive basis, according to the terms and conditions hereinafter set forth.

2. Term. The term of this agreement shall commence on September 1, 2014, and end on August 31, 2015.

3. Rent. CRYHA shall pay hourly ice rental fees to the City as follows:

a. Ice Fees Indoor.
$185.00 per hour for the period September 1, 2014 through March 31, 2015
$145.00 per hour for the period April 1, 2015 through May 31, 2015
$145.00 per hour for the period June 1, 2015 through August 31, 2015

b. Ice Fees Outdoor.
$70.00 per hour when the outdoor rink is available.

4. Arena Meeting Rooms. CRYHA may the schedule the use of available Arena meeting or party rooms without charge for association meetings, tournament administration, team meetings, parent conferences, or other non social business functions. Room reservations must be made through the Arena Manager or his designee prior to the use of the meeting rooms or party rooms. The City reserves the right to deny any reservation request or withdraw any reservation if the City wishes to use the requested meeting or party rooms or if the meeting or party rooms are

requested by another Arena user. The City will provide CRYHA with reasonable notice of any reservation denial or reservation withdrawal and will attempt to provide the use of alternate space, if available. The City has sole discretion in granting reservation requests.

5. Office and Storage Space. CRYHA may use Arena Room 210 without charge for office and storage use. The City will furnish one set of office furniture consistent with other Arena furnishings. The City will furnish all utilities except for telephone service. CRYHA may not alter, modify, or paint the room without prior written approval of the Arena Manager. CRYHA must maintain the room and the furnishings in a clean and orderly condition and ensure that the furnishings are well cared for. CRYHA must provide insurance for its personal property and for the property of its players, employees and agents. The City assumes no responsibility for such property and CRYHA agrees to hold the City harmless from any claims for damage, theft or loss of any property referenced in this section.

6. Multipurpose Training Rooms. CRYHA may use the Arena Multipurpose Training Rooms 1(207A) and 2(207B) without charge for association training activities. Training room reservations must be made through the Arena Manager or his designee prior to the use of the training rooms. The City reserves the right to deny any reservation request or withdraw any reservation if the City wishes to use the requested training rooms or if the training rooms are requested by another Arena user. CRYHA agrees that it will not allow sticks or pucks to be used in Training Room 1. Stick handling drills may be done without pucks in Training Room 2.

CRYHA players, participants and guests must be supervised by an association coach who obtains the room key(s) from front desk Arena staff in accordance with the Arena's room reservation procedure.

7. Shooting Station. CRYHA may use Arena Room 171 for use as a shooting station. Equipment installed by CRYHA must have prior written approval from the Arena Manager. Any CRYHA equipment installed must be removed by CRYHA upon request of the City upon reasonable notice. The City reserves the right to use Room 171 at any time to house the refrigeration equipment for the outdoor skating trail. If the City determines it is necessary to use Room 171 for refrigeration equipment the City will provide CRYHA notice that it must remove its equipment within 30 days. Notice will be provided to CRYHA in writing to the President or Vice President.

8. Duty of Care. CRYHA agrees that it will use the Arena facilities with due care and in a manner not to cause unnecessary wear on the Arena, Arena facilities and equipment. CRYHA agrees to reimburse the City for any damage to the Arena, Arena facilities and equipment caused by CRYHA, its members, employees, agents and invitees beyond normal wear and tear.

9. Scheduling of Ice Time. The City will provide CRYHA's ice schedule representative "committed but unspecified" hours of ice through March 2015. These hours must be either utilized by CRYHA or cancelled in accordance with the cancellation policy in section 10 below.

The City will grant CRYHA up to 16 hours of free ice time at the CRIC for programs directed at recruitment of beginning players.

10. Ice Time Cancellation. CRYHA may cancel scheduled practice and/or game times upon providing written cancellation notice to the Arena Manager at least 14 days prior to the scheduled practice or game. Upon proper notice the Arena Manager will cancel the scheduled practice and/or game time and adjust the rent payable by CRYHA accordingly. If a scheduled practice and/or game is canceled due to inclement weather or as a result of unusual circumstances beyond the control of CRYHA, the Arena Manager may adjust the rent payable by CRYHA accordingly. The Arena Manager shall have sole discretion in determining whether the cancellation was necessary.

The City will not be responsible for the cancellation of ice time for any reason. Typical reasons for cancelling ice time include but are not limited to equipment failure, loss of power or severe weather. In the event of such an occurrence, the Arena Manager will attempt to reschedule CRYHA's ice rental times. If the ice rental time cannot be rescheduled CRYHA will not be charged.

11. Payment. The City will submit an itemized invoice for rent to CRYHA on a monthly basis for ice time used during the preceding month in accordance with the rates identified in Paragraph 3. CRYHA shall pay the invoice to the City within 20 business days after the date of the invoice. Any invoice not paid by the due date will result in a late-payment fee being assessed to CRYHA in the amount of 10 percent of the invoice.

12. Concessions. The City will operate a food and beverage concession stand within the Arena that will operate during CRYHA games and tournaments. The City is the sole operator of concessions and will retain all proceeds from sales through the concession facility. Except as otherwise provided in this Section or as otherwise agreed to in writing, CRYHA will not sell or provide any food or beverage at the Arena. This prohibition on selling or providing food and beverages includes the Arena building, outdoor rink, parking areas and all other Arena property. CRYHA agrees that it will not communicate to others any direct or implied authority to bring food or beverage into the Arena for resale.

During CRYHA-sponsored tournaments, CRYHA may bring in hospitality breakfast items for free distribution to teams. Hospitality breakfast items may be distributed and consumed only in the Arena room(s) designated by the City from the hours of 5:00 am to 10:00 am. Hospitality breakfast items include only those items typically referred to as a "continental breakfast."

13. Sale of Association Merchandise. CRYHA may sell CRYHA merchandise, programs and souvenirs in the Arena during CRYHA games, tournaments and events. CRYHA will retain all proceeds from the sale of said items. CRYHA may grant permission to a commercial vendor to sell CRYHA merchandise; however, any commercial vendor may be required to pay a permit fee to the City. CRYHA may not sell items similar in nature to items stocked by the City in the Arena Pro Shop. Sale locations and sale items must be approved in advance by the Arena Manager.

14. Outdoor Refrigerated Ice. Subject to availability, CRYHA will be allowed to use up to four hours per week of non-prime ice time on the outdoor refrigerated rink for its Mites program at no charge. Use of ice time pursuant to this paragraph must be scheduled through the Arena Manager or designee. For the purpose of this paragraph non-prime ice time is defined as Monday through Friday from 3:30 p.m. to 5:50 p.m., Saturday from 11:00 a.m. to 1:00 p.m. and 5:00 p.m. to 10:00 p.m., and on Sunday from 11:00 a.m. to 1:00 p.m. and 5:00 p.m. to 9:00 p.m.

15. Arena Advertising. CRYHA may sell or otherwise use two dasher board advertising spaces on the indoor rink of the Arena. The City reserves the right to approve any advertising sold or used by CRYHA. CRYHA shall reimburse the City for any expenses incurred by the City, during the Arena operational season, for any installation, repair or removal of said advertising.

CRYHA may place team banners, motivational banners, and Association banners in designated locations at the Arena. CRYHA shall obtain approval from the Arena Manager prior to installing, repairing, replacing, removing or modifying any advertising. The Arena Manager may request CRYHA to remove any banner by providing written notice to the President or Vice President of CRYHA. Any banner not removed by CRYHA within seven days of the notice may be removed by the City.

16. General Liability Insurance and Indemnification. CRYHA agrees to hold harmless, defend and indemnify the City, its officers, employees and agents, from and against any and all demands, claims, and/or damages to persons or property, losses, and liabilities (collectively "Claims"), to the extent that such Claims arise out of or are caused by the negligence or willful misconduct of CRYHA, its officers, agents, employees or players in connection with the rights granted by this Agreement. For that purpose, CRYHA shall purchase and maintain liability insurance in an amount of $1,000,000 which shall name the City as an additional insured for defense and indemnification purposes. A certificate showing this insurance coverage and the City's position as an additional insured shall be filed with the City Clerk prior to the City's execution of this agreement. The policy and certificate shall indicate that the insurer is to provide the City with at least thirty (30) days notice of its intent to cancel the policy. This Agreement shall immediately terminate upon expiration of this liability insurance policy.

17. Notices. Any notice by either party shall be in writing and shall be considered to

be duly given if delivered personally or if mailed by certified mail, postage prepaid, addressed as follows:

City of Coon Rapids	Coon Rapids Youth Hockey Association
11555 Robinson Drive	11000 Crooked Lake Boulevard
Coon Rapids, MN 55433	Coon Rapids, MN 55433

18. Binding Effect. This Agreement shall inure to the benefit of and be binding upon the parties hereto, their respective successors and assigns. CRYHA may not assign its interest in the agreement to any other party without prior written approval from the Coon Rapids City Council.

19. Laws and Regulations. CRYHA shall be solely responsible for compliance with all laws, orders and regulations of federal, state, county and municipal authorities and shall obtain all licenses and permits which may be required for the conduct of its business within the terms of this agreement. All rules and policies of the Arena will be enforced by CRYHA accordingly.

20. Independent Contractor. It is understood that this agreement does not create an employer/employee relationship between the City and CRYHA and that at all times CRYHA's members, employees, agents and participants are acting as an independent contractor while performing any role authorized by this Agreement.

21. Data Practices Act. CRYHA shall at all times abide by the Minnesota Data Practices Act, Minn. Stat. Sec. 13.01, et seq., to the extent that the Act is applicable to data and documents in the possession of the CRYHA.

22. Termination. The City may terminate this Agreement upon 14 days' written notice by the Arena Manager in the event the City determines that CRYHA is in noncompliance with the terms and/or requirements of this Agreement or is in noncompliance with the written rules of the Arena. Upon such notice CRYHA shall have the right to a hearing before the City Council. CRYHA must request the hearing within 7 days of receiving the written notice of termination. Upon such written request the hearing may be conducted at a regularly scheduled City Council meeting or at a special City Council meeting called for the purpose of conducting the hearing. The hearing will be held within 30 days of the written request for a hearing.

IN WITNESS WHEREOF the parties hereto have executed this Agreement the day and year first above written.

CITY OF COON RAPIDS

By: _____
Tim Howe, Mayor

By: _____
Steven D. Gatlin, City Manager

APPROVED AS TO FORM:

_____
David J. Brodie, City Attorney

COON RAPIDS YOUTH HOCKEY ASSOCIATION

By: _____
Darcy Hanson, President

COON RAPIDS ICE CENTER CONTRACT

This ice facility use agreement is made and entered into this _____ day of October, 2014 between the City of Coon Rapids, a Minnesota municipal corporation, herein after referred to as (PROVIDER) and the Anoka-Hennepin Independent School District No. 11, a tax exempt entity, herein after referred to as (USER). PROVIDER and USER agree to the following use of an ice skating facility known as Coon Rapids Ice Center located at 11000 Crooked Lake Boulevard, Coon Rapids, MN 55433 for the period September 1, 2014 to August 31, 2015.

1. SCHEDULE OF TIME: PROVIDER agrees to make ice time available to the USER at the time and dates shown on the attached ice use schedule for one of USER's high schools. Such schedule may be amended from time to time upon the written agreement of both parties' representatives.

2. RATES: USER agrees to pay the following rates for Ice Center usage:

a. $ 195.00 Prime Indoor Ice Hourly Rate
b. $ 75.00 Outdoor Ice Hourly Rate
b. $ NA Non Prime Hourly Rate
c. $ 550.00 Indoor Ice or Outdoor Ice Rental Fee for Games.
d. $ 10.00 per ice hour used (Locker Room Cleaning Fee)

(Note: do not include hourly ice charge in the Ice Center rental fee for games. Include the charge for game ice time along with other ice time hourly rate charges)

e. 35% PROVIDER Share of the proceeds of the Net Gate Receipts.

3. PRIME HOURS: Prime and Non-Prime Hours are described in the attached ice use schedule.

4. SERVICES: PROVIDER agrees to provide a useable ice surface, secure and clean locker facilities, parking facilities and, on the day of games, Ice Center seating for spectators. In addition, on game dates, PROVIDER shall provide appropriate management, ticket seller(s), time/score keeper(s), penalty box attendant(s), Zamboni driver(s) and security personnel as needed and any cleanup/maintenance staff required by PROVIDER. Appropriate staffing will be determined by agreement between the PROVIDER and the high school activity director.

5. LOCKER ROOM CONDITION: User shall be entitled to exclusive use of certain locker rooms as determined by Provider during the term of this agreement. In exchange for exclusive use of the assigned locker rooms USER agrees to keep the locker rooms in a clean, safe and sanitary condition, free of debris, unsightly conditions and unreasonable odor. PROVIDER shall clean the locker rooms and bathrooms on a regular schedule as determined by PROVIDER. PROVIDER will furnish bathroom tissue and paper towels.

6. PROVIDER shall have the right to use the locker rooms for outside of the high school hockey season, said events will be coordinated with the USER. PROVIDER and USER will conduct a locker room inspection before and after each high school hockey season to evaluate locker room physical conditions.

7. COON RAPIDS ICE CENTER ACCESS: Keys and/or electronic access cards to the Ice Center and/or locker rooms are the exclusive property of the City of Coon Rapids and will be issued as deemed necessary by Ice Center management to USER's approved coaches. Keys and/or access cards must be signed for at the beginning of each High School season and returned no later than two weeks after the last day of the season. Keys and/or electronic access cards may not be duplicated by USER or any of USER's coaches or personnel. Duplication of keys and/or electronic access cards or other security breaches may be considered a breach of this agreement and, in addition to other remedies, may result in restriction or loss of after hours access privileges. If PROVIDER determines that a breach of security has resulted due to a violation of this paragraph PROVIDER may change the locks or change electronic access codes to the Ice Center at USER's expense.

8. ANCILLARY USE OF FACILITIES: PROVIDER will allow USER and the USER's hockey booster clubs (Boys and Girls) reasonable access to and use of the Ice Center training and meeting rooms for activities ancillary to the USER's ice hockey activities without charge. Ancillary uses are defined as parent meetings, team meetings when a coach is present, booster club meetings, and booster club-sponsored team meals. PROVIDER will also allow USER access to and use of Multi-use Training Rooms 1 and 2 and the shooting station without charge as an ancillary use. USER and USER's booster clubs shall have exclusive access to and use of the Graber Skybox without charge for four home hockey games to accommodate parents' and seniors' night activities as an ancillary use. USER and USER's booster club shall have use of appropriate space, as determined by the PROVIDER, without expense to conduct two "youth nights" per season. USER and USER's booster clubs will be allowed to bring food and beverages into the skybox during parents' and seniors' nights but agree not to do so in a manner that competes with PROVIDER's concession stand. Ancillary use of the facilities must be scheduled with PROVIDER in advance. PROVIDER has discretion to assign use of rooms or to modify room assignments to accommodate other priority or paid users. USER agrees to keep the facilities in a clean and orderly condition and in at least as good a condition as existed prior to USER's ancillary use. USER agrees to pay for the actual costs of cleanup as determined by PROVIDER if the PROVIDER determines the ancillary requires additional cleaning services.

9. PAYMENTS AND REMISSION OF GATE RECEIPTS: PROVIDER shall bill USER by submitting an itemized list of hourly practice and game ice usage to the high school which utilized the ice time. In addition, PROVIDER shall submit a full and complete accounting of the total gate receipts received by PROVIDER and pay to the school district an amount equal to the total gate receipts minus the Ice Center rental fee and minus their percentage share of net gate receipts set forth in Section 2e above or, if the gate receipts are less than the Ice Center rental fee, bill USER the amount necessary to cover the Ice Center rental fee. Documentation of

the gate receipts will be provided on the attached Gate Receipt Worksheet and will be calculated to include the value of the punch tickets presented at the gate.

Upon proper billing and documentation, USER will promptly pay PROVIDER, any required deposits and an amount equal to the number of hours of practice and game ice usage at the rate agreed to. The billing will include Gate Receipt Worksheets for any game(s) conducted during the billing period. If the School's share on the Gate Receipt Worksheet(s) is a positive amount, the PROVIDER shall remit that amount as a payment to the school. If the School's share on the Gate Receipt Worksheet is a negative amount, the PROVIDER shall submit that amount as a bill.

10. CANCELLATIONS: PROVIDER may cancel this agreement for any material default by the USER in the terms of this agreement. PROVIDER may also reschedule the dates or times of the scheduled ice usage upon five days written notice to the USER. PROVIDER shall not be held responsible for the cancellation of ice time for reasons beyond the reasonable control of PROVIDER, its agents or employees, such as but not limited to equipment failure, loss of power, severe weather or acts beyond PROVIDER'S control. In the event of such an occurrence, PROVIDER will attempt to reschedule USER'S ice times or USER may cancel and promptly receive a return of any fees paid.

11. ASSIGNMENT: If scheduled ice-time cannot be used by the USER, they shall promptly notify the PROVIDER in writing and the PROVIDER will attempt to reassign that time to another group. If the time cannot be assigned to another group, the USER will pay the charged fees for their scheduled time.

12. RULES AND REGULATIONS: USER agrees to use the facilities according to the Rules and Regulations of PROVIDER which will be adopted and posted from time to time within the facility

13. SIGNAGE: USER recognizes that it does not have rights to post any signs without the express written consent of PROVIDER and any signs so consented shall conform to and be consistent with the sign usage policy of PROVIDER.

14. LIABILITY: USER acknowledges that PROVIDER has not asserted or accepted any responsibilities for supervision, security or control of USER'S property or activities. USER shall be solely responsible to provide security for its equipment kept on the premises and shall be solely responsible to provide supervision of its students, staff and spectators, on and off the ice. PROVIDER shall be solely responsible for the actions of its employees, agents and invitees as provided in Article 4.

USER assumes all risks of personal injury arising from its usage of the Ice Center or any part connected or contiguous thereto which result from an act or failure to act on the part of the USER or others over whom it has supervisory responsibility. USER assumes responsibility for damages to the property of PROVIDER arising out of the negligence of USER under its performance of this agreement. PROVIDER will notify the USER of any damages and allow the USER a reasonable opportunity to review the damage before repairs are made. PROVIDER is

responsible for the repair or replacement of PROVIDER'S property and will invoice the USER for the damages. USER'S obligation shall be to reimburse to PROVIDER the cost of labor and replacement of like-kind and quality equipment.

PROVIDER agrees to indemnify and hold harmless USER from and against all claims, costs, expenses (including attorney fees) and liabilities of whatever nature arising from (i) any negligent or wrongful act or omission of PROVIDER, its licensees, agents, or employees; or (ii) arising from any accident, injury, including death, or damage to any person or property occurring on the premises and caused by the negligence or other wrongful conduct of PROVIDER, excluding claims arising from USER'S performance under this agreement. This paragraph shall not act as a waiver of any tort liability caps or legal immunities that may exist to protect the PROVIDER.

USER agrees to indemnify and hold harmless PROVIDER from and against all claims, costs, expenses (including attorney fees) and liabilities of whatever nature arising from (i) any negligent or wrongful act or omission of USER, its licensees, agents, or employees; or (ii) arising from any accident, injury, including death, or damage to any person or property occurring on the premises and caused by the negligence or other wrongful conduct of USER, excluding claims arising from PROVIDER'S performance under this agreement.

INSURANCE: Both USER and PROVIDER shall maintain liability insurance against claims for bodily injury, death or property damage occurring on or about the Ice Center. Such insurance shall be written on an occurrence basis with a combined single limit of not less than $1,000,000 per occurrence. If the insurance policy is written on a "claims-made basis", the party will maintain coverage for a minimum of three years past the expiration of this agreement. The retroactive date of the policy shall be indicated on the certificate of insurance outlining coverage.

In addition, both parties shall name the other party as an additional insured with respect to its own operations on said policies of insurance. Both parties will maintain all workers compensation insurance required by law.

THIS CONTRACT AND ANY ATTACHED SCHEDULES OR SIGNED ADDENDUMS CONSTITUTES THE ENTIRE AGREEMENT BETWEEN PROVIDER AND USER. THE UNDERSIGNED USER AGREES TO PURCHASE ALL HOURS OUTLINED IN THE ATTACHEDMENT. NO PROVISION OF THIS AGREEMENT MAY BE CHANGED, WAIVED OR TERMINATED UNLESS DONE IN WRITING AND EXECUTED BY BOTH PROVIDER AND USER.

Dated: _____

USER:

ANOKA-HENNEPIN SCHOOL
DISTRICT NO. 11

By: _____
Its: _____

[Signatures continue on following page]

Dated: _____

PROVIDER:

CITY OF COON RAPIDS

By: _____
Tim Howe, Mayor

By: _____
Steve Gatlin, City Manager

Approved as to form:

By: _____
David J. Brodie, City Attorney

City Council Regular **21.**

Meeting Date: 10/07/2014

Subject: Approve Comprehensive Water System Master Plan Update

Submitted For: Tim Himmer, Public Works Director **From:** Cher Ridout, Admin Secretary II

INTRODUCTION

Typically every 10-15 years, the City reviews and updates its water system plan. A Comprehensive Water System Master Plan update has been completed and is being presented to Council for approval.

DISCUSSION

The City's Comprehensive Water System Master Plan was last updated in 2000. A periodic review of the City's water system is necessary to determine current needs of the consumers and the City. On February 18, 2014, City Council approved an agreement with Bolton & Menk, Inc. to prepare the Water System Master Plan update. A draft plan was presented to Council in work session on July 15, 2014 for review. The discussion at that meeting primarily focused on the need for the various improvements proposed, and the potential impacts to water rates to fund implementation of the projects. Staff and the consultant have since prioritized the projects and incorporated the estimated costs into a cash flow, which determined (in general) that water rates would need to increase approximately four percent per year to pay for the proposed capital improvements contained within the draft Master Plan.

Following is a listing and summary of the recommended projects contained within the Comprehensive Water System Master Plan update:

YEAR	PROJECT	AMOUNT
2015	SCADA and security upgrades	$950,000
2016	West water tower altitude valve	$35,000
2016	New 1.5 MG water tower	$4,000,000
2016	Valve/pipe modifications at west treatment plant	$240,000
2016	Install baffle wall in west reservoir	$275,000
2018	North water tower rehab	$1,560,000
2018	East storage reservoir rehab	$700,000
2019	Backup power at the east water treatment plant and wells	$1,200,000
2019	Remove Foley Boulevard water tower	$75,000
2020	Variable frequency drive at pumps	$500,000

The current SCADA system is reaching the end of its useful life and will no loner be supported beyond 2015. SCADA is a communication and programming software that serves as the backbone of the water supply and distribution system. It has a physical connection to all water facilities (wells, pumps, treatment facilities, storage towers, etc.), and monitors how each facility functions (start and stop times, chemical usage, etc.). The data recorded is tracked and evaluated to assist with historical trending and diagnosis of various issues that may arise in the system. Included with the SCADA upgrade are various security measures that will better protect our facilities

and the water resource that we provide our resident customers. Incorporating these measures in conjunction with the SCADA installation allows for a potential economies of scale and a seamless integration into the new system. Installing these items as the first step in the process of the various capital improvements proposed ensures the backbone is in place for all future facilities to be tied into.

The existing water towers operate via gravity to push water into the distribution system. The idea is to pump water into the towers during low demand periods (over night) so they are full during daylight hours when the demand is higher. Due to elevation discrepancies between the towers, and distance from source wells, some towers fill faster than others. In order for the towers to fill more consistently, and take full advantage of available storage capacity, it is recommended to add an altitude valve to the existing tower on Crooked Lake Blvd. Doing so will force water into the other tower locations and allow them to fill without causing another to overflow & waste water. Additionally, the current storage capacity for peak demand needs and fire flow requirements is inadequate for our service area, and another water tower is recommended. Adding another tower, and removing the existing tower on Foley Blvd, would meet our fire flow requirements and improve efficiencies in the system by not having to pump water during the peak periods & thus causing more energy demand & utility costs to the system.

Improvements are also recommended at the treatment facilities; including the removal of existing flow control valves on high service pumps (they force treated water from the ground reservoir into the distribution system), installation of an isolation valve on some of the the discharge piping within the plant, and the installation of a baffle wall within the west plant's ground storage reservoir. These improvements will improve efficiencies, reduce maintenance costs and down time for repairs, reduce chemical usage (primarily chlorine) for treatment operations, and provide consistent water quality.

Rehabilitation work is also required on the north (Hanson) tower and the east treatment plant storage reservoir. This work is a cyclical expenditure that primarily focuses on the interior and exterior painting and protection of these facilities. Providing regular maintenance and upkeep protects the structural integrity, lessens the concern for oxidation, and prolongs the life expectancy.

While reviewing deficiencies in the current and future storage needs it was decided to evaluate whether it would be feasible to reduce (or eliminate) the need for or size of an additional water tower. Based upon modeling and analysis it was determined that a smaller tower could be constructed if back up power sources were supplied to the east treatment plant and its source wells. By installing these proposed back up power sources we are able to reduce the size of a future tower by nearly 1.5 million gallons. As proposed above, a new 1.5 million gallon elevated water tower was recommended since the cost, combined with the cost of adding back up power generation, is lower than the cost of a new 3 million gallon elevated water tower.

Finally, it is recommended to convert the high service pumps at the west treatment plant from constant-speed operation to variable-speed by installing variable frequency drives (VFDs). Variable frequency drives are much more energy efficient, and prolong the life of the equipment by reducing pressure surges in the system; they start and stop gradually as opposed to a single surge in the circuits.

RECOMMENDATION

Consider Approval of the 2014 Comprehensive Water System Plan Update.

Attachments

Comprehensive Water System Plan

Comprehensive Water System Plan

October 2014

City of Coon Rapids, Minnesota

Bolton & Menk Project No. N21.107935

BOLTON & MENK, INC.
Consulting Engineers & Surveyors

CERTIFICATION

Comprehensive Water System Plan

City of Coon Rapids
Coon Rapids, Minnesota
BMI Project No. N21.107935

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision, and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

By:_____
Doug Klamerus, P.E.
License No. 40893

Date: October 2014

Reviewed
By:_____
Greg Johnson, P.E.
License No. 26430

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SECTION 1 - EXECUTIVE SUMMARY

The Coon Rapids water distribution system was analyzed with respect to pressures, available fire flows, treatment and storage. In addition, long term operation and maintenance and energy use were analyzed. The recommended improvements are summarized and included in a 5 and 10 year Capital Improvement Plan.

The existing computer model of the system was updated based on existing GIS system information and converted to new computer modeling software, Innovyze's InfoWater v8.6. Elevations were updated based on GIS contour data and demands were updated based on average annual consumption water billing data. Once the updates were completed, the computer model was calibrated by comparing tower levels and pump run times for both an average day and maximum day demand. To complete the calibration, a system specific di-urnal demand curve was created to simulate the daily water system demands. The model was calibrated after the existing field data from system pumps and tower levels were simulated by the computer model.

1.1 System Pressure

System pressure ranges from 57 pounds per square inch (psi) to 99 psi throughout the City during an average day (AD) demand. Industry standards recommend a maximum pressure of 100 psi in the water distribution system. The system meets existing recommended standards for system pressure.

1.2 Available Fireflows

The computer model also simulated available fireflows. The system should provide a minimum available fireflow of 500 gallons per minute (gpm) throughout the system, with higher flows up to 3,500 gpm to larger customers. Watermain should be looped when possible to improve available fireflow at dead ends in the system. In addition to increasing fireflows, looping also increases the redundancy of the system so that less customers are impacted during water main breaks and repairs.

1.3 Water Treatment

Several improvements are recommended at each of the water treatment plants (WTPs) to reduce operational costs through better use of the existing variable frequency drives (VFDs) on the high service pumps (HSPs) and the installation of variable frequency drives on pumps that currently do not have VFDs. In addition, minor changes in system piping and/or valving will improve the operational redundancy at the facilities.

If Wells 16 and 18 are planned to be routinely utilized, treatment is recommended to remove the high levels of radium, along with iron and manganese to provide water of a similar quality to the existing WTPs. A Compliance Agreement from the Minnesota Department of Health is currently required to operate these two wells during peak demands. However, based on the volume of available supply capacity, it appears that the City may not need to utilize these two wells and they should only be maintained for emergency use.

1.4 Water Storage

Based on a storage analysis of the system, the current storage volume is below the recommended level of elevated water storage needed for the City. To meet the recommended level, a new 1.5 MG elevated water tower is recommended to meet the long term needs of the City. The East Tower, which is constructed at a different overflow elevation than the rest of the system, is undersized and located too close to the East WTP to efficiently operate within the distribution system. The East Tower should be

demolished, with the lost storage volume included in the new tower design. This demolition should be included as part of the new tower project.

Major rehabilitation projects for the North Water Tower and East Reservoir should be planned in the near future. The existing coatings are in various states of failure and should be rehabilitated to improve protection from corrosion.

1.5 Water Main Rehabilitation

The existing water distribution system is approaching full build out. Therefore, the City should focus on preservation and replacement of the existing system in comparison to many other metro communities that are still focusing on system expansion. Several methods can be used to meet the long term needs of the City including replacement, pipe bursting, cement mortar lining and structural lining. The method should be selected based on the ability to meet the following goals:

- Increase capacity (increased size by replacement or pipe bursting)
- Improve water quality (lining)
- Reduce outages due to breaks or corroded mains (replacement or structural lining)

1.6 Capital Improvement Plan (CIP)

Five (5) and ten (10) year CIP items are included in the report. Major items in the CIP include the following improvements:

- Technology improvements to the supervisory control system (SCADA) and building security systems
- Installation of baffle wall for mixing in the West Ground Storage Reservoir
- New 1.5 MG Elevated Water Tower
- Installation of altitude valve on West Tower
- Operational improvements at West WTP
- Rehabilitation of North Water Tower
- Rehabilitation of East Ground Storage Reservoir
- Standby power improvements at the East WTP and Wellhouses
- Trunk water main looping
- Conduct water main evaluations to understand and prioritize replacement
- Implement an annual water main and valve replacement program with an annual budget
- When feasible, implement operational improvements to water system to conserve energy

SECTION 2 - INTRODUCTION

The purpose of the Comprehensive Water Plan is to examine the City's water system to assess the capability of the system to provide reliable and safe drinking water to meet existing and future demands. By analyzing the supply, treatment, distribution, and storage components of Coon Rapids' water system, this report makes capital improvement recommendations to meet the on-going needs of the City of Coon Rapids.

Future capital improvements in this report are based on an analysis of the existing water system, along with projected water demands to meet future conditions. Water demand planning is based upon projected population over the next 20 years, along with planned land use changes for proposed development and re-development projects.

A hydraulic analysis of the water distribution system was also used to analyze system operations. The existing computer model of the water distribution system was updated with Infowater Version 8.6 software. The model is a tool that can be used for hydraulic analysis of the water system for a variety of scenarios and conditions. The new software includes advanced capabilities. These include: interactive software with existing GIS software, capabilities for unidirectional flushing analysis, asset management analysis, water quality analysis, as well as many other functions. Specifically for the City of Coon Rapids, the water model was used for the following:

- Analyze the existing system to identify deficiencies in the water system, along with corresponding improvements to reduce or eliminate these deficiencies.
- Evaluate operations of the system to determine if modifications to operations can result in reduced energy cost/demand.
- Identify future locations of critical storage facilities to improve system operations/emergency response.
- Provide a long range plan for water system upgrades/expansion so that proposed construction projects include properly sized water mains to allow for future development needs.
- Provide recommendation for future system maintenance requirements to improve or maintain system performance.

SECTION 3 - EXISTING FACILITIES

3.1 Service Area

The City is served by one pressure zone as shown in Figure 3-1. The hydraulic grade line, range of elevations served, and static water pressure are shown in Table 3-1 for the Coon Rapids water system. The hydraulic grade line is the maximum elevation that water can be pumped before the tower overflows are reached.

Table 3-1
Existing Pressure Zone

Pressure Zone	Overflow (HGL)	Elevations Served*	Static Pressure Range (psi)*
Normal Zone	1056.3	824-919	59 - 101

*Static Pressure is based on water level at overflow elevation in storage tank.

The Coon Rapids water system is composed of a network of supply, treatment, storage and distribution components as described in the following sections. By operating as a single pressure zone, the City is able to maximize the redundancy of the existing facilities.

3.2 Supply

The City utilizes groundwater as its source of drinking water. Raw water is supplied from 24 wells. A combination of aquifers including the Jordan, Wonewoc-Tunnel City, Mount Simon and glacial drift are utilized by the City. The total supply capacity of the Coon Rapids water supply system is approximately 26,575 gpm or 38.27 million gallons per day (MGD). The firm capacity is 24,925 gpm (35.89 MGD). Firm capacity is that which can be supplied reliably, even during maintenance activity or an emergency situation with the largest well pump (Well 14) out of service.

Wells that are treated are connected by separate raw water transmission mains that are pumped directly to the water treatment plants. These wells are automatically controlled based on the water level in the ground storage reservoirs at each of the WTPs. Currently, only 15 wells are filtered to reduce iron and manganese levels. The other nine (9) wells are connected directly to the distribution system and provide water during peak demand periods, which reduces the cost of water treatment during periods when the majority of water is used for irrigation or other outside watering. These wells include equipment to fluoridate and disinfect the water at the source before entering the distribution system. The wells are automatically controlled based on the level of water in the West Tower.

In addition, two (2) wells (Wells 16 and 18) are used to meet seasonal peak demands only, and are limited to annual withdrawal limits based on a Compliance Agreement with the Minnesota Department of Health due to elevated levels of radium. These wells are also automatically controlled based on the level of water in the West Tower. Wells 16 and 18 should only be used in emergency situations where all other wells are not capable of meeting the required demands.

Figure 3-2 shows existing wells, along with pertinent design information.

Figure 3-1, Existing Water Service Area

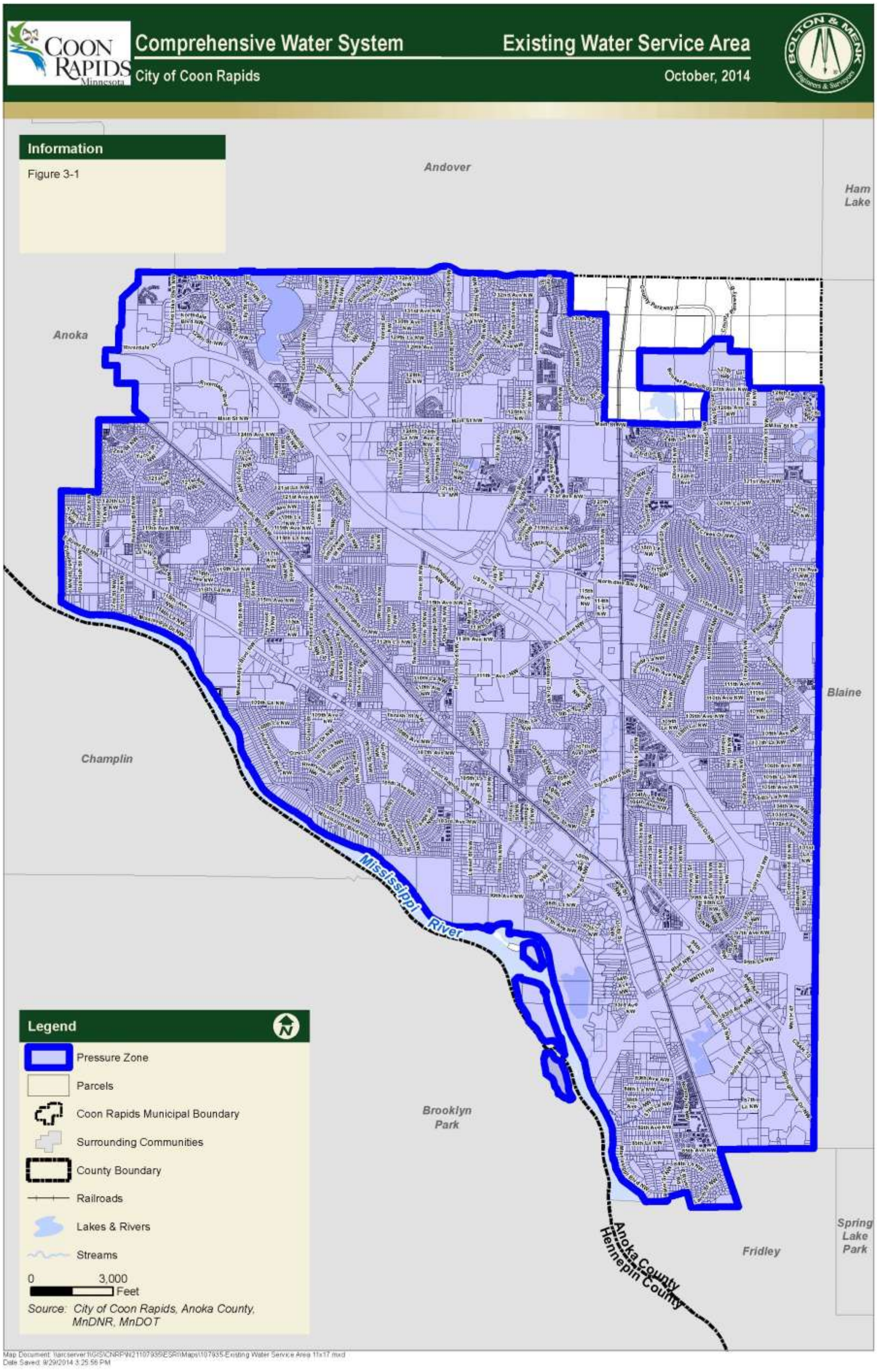

Figure 3-2, Existing Sources of Supply

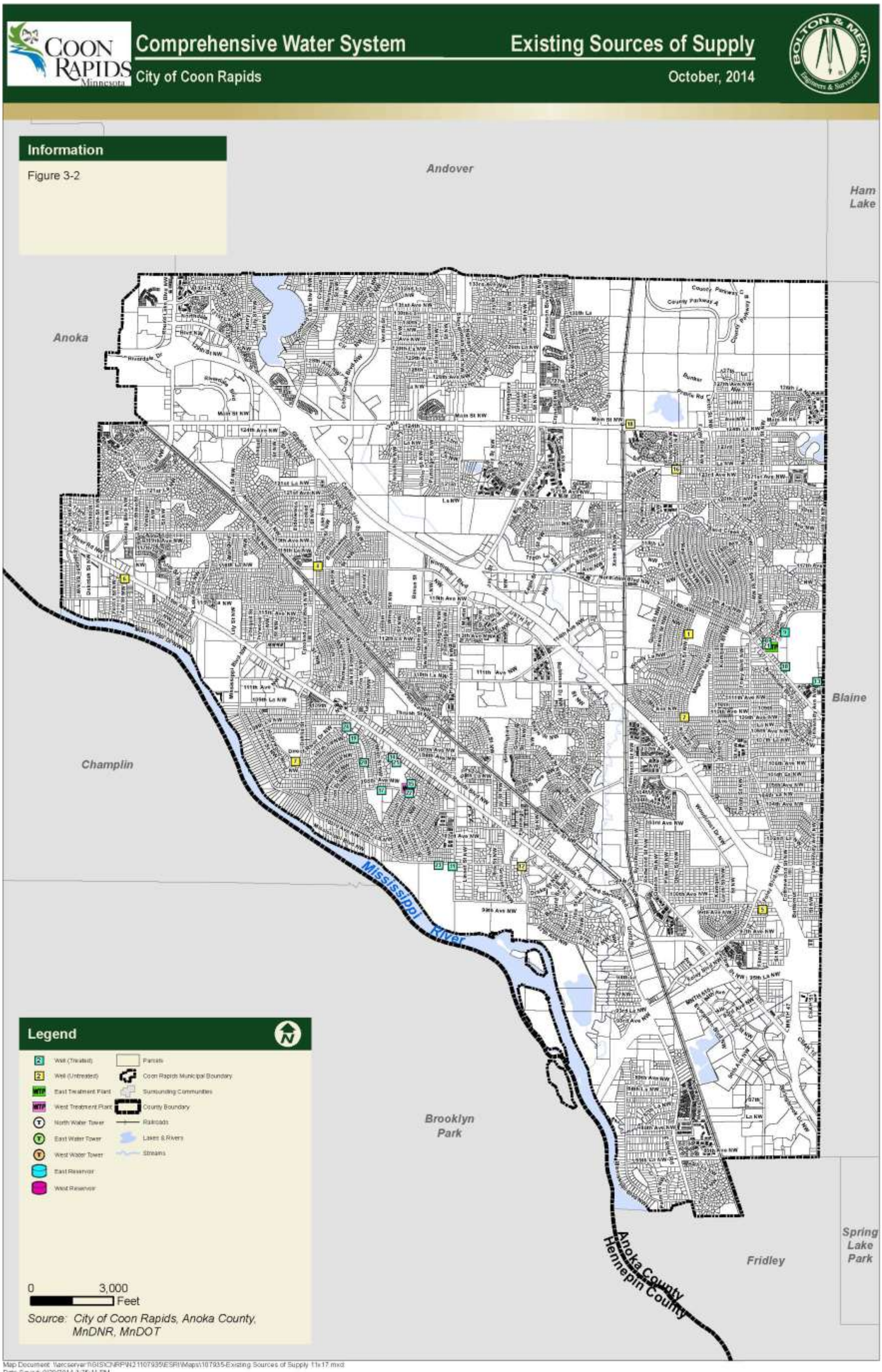

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Table 3-2 Existing Groundwater Supply Facilities System Pumps					
Well Number	**Aquifer Formation**	**Pump Discharge Location**	**Design Pumping Capacity (gpm)**	**Design Pumping Capacity (MGD)**	**Year Constructed**
1	Wonewoc - Tunnel City	System	750	1.08	1958
2	Wonewoc	System	575	0.83	1959
3 (Abandoned)					
4	Wonewoc - Tunnel City	System	1000	1.44	1960
5	Wonewoc-Tunnel City-Mount Simon	System	900	1.30	1961
6	Jordan	System	1250	1.80	1961
7	Wonewoc - Tunnel City	System	1600	2.30	1964
8	Wonewoc-Tunnel City-Mount Simon	East WTP	1000	1.44	1965
9	Wonewoc - Tunnel City	East WTP	1000	1.44	1969
10	Wonewoc-Tunnel City-Mount Simon	East WTP	1000	1.44	1971
11	Wonewoc-Tunnel City-Mount Simon	West WTP	1200	1.73	1973
12	Wonewoc-Tunnel City-Mount Simon	System	850	1.22	1975
13	Wonewoc-Tunnel City-Mount Simon	East WTP	850	1.22	1977
14	Wonewoc-Tunnel City-Mount Simon	West WTP	1650	2.38	1977
15	Wonewoc-Tunnel City-Mount Simon	West WTP	1400	2.02	1977
16	Mount Simon	System	1500	2.16	1981
17	Drift	West WTP	1450	2.09	1981
18	Mount Simon	System	1200	1.73	1986
19	Drift	West WTP	1100	1.58	1987
20	Drift	West WTP	1100	1.58	1988
21	Drift	East WTP	1200	1.73	1990
22	Drift	West WTP	500	0.72	1990
23	Drift	West WTP	500	0.72	1992
24	Wonewoc - Tunnel City	West WTP	1500	2.16	2003
25	Wonewoc - Tunnel City	West WTP	1500	2.16	2003
Total Well Capacity			**26575**	**38.27**	
Total Firm Well Capacity			**24925**	**35.892**	

* Firm capacity is defined as the pumping capacity excluding the largest pump. Therefore, Well No. 14 is not included in well firm capacity.

3.3 Treatment

The East and West WTPs treat 15 of the City's supply wells. Water is treated and filtered to remove iron and manganese from the raw water, disinfect the water, and add fluoride. The following processes are utilized:

- Chemical oxidation of iron and manganese
- Reactors provide contact time for oxidation
- Pressure filtration through Electromedia filters
- Hydrofluosilicic acid (fluoride) feed
- Sulfur dioxide feed for chlorine reduction

The City of Coon Rapids does not currently soften its water supply. Customers can install individual point of use softeners to provide softened water for their use.

High service pumps (HSPs) deliver water from two ground storage reservoirs (located at each of the WTPs) to the water distribution system. The capacity of the WTPs and associated HSPs are shown in Table 3-3.

Table 3-3
Existing High Service Pumping Facilities
System Pumps

Facility Name	Pumping Capacity (gpm)	Pumping Capacity (MGD)
High Service Pump No. 1, West WTP	2500	3.6
High Service Pump No. 2, West WTP	2500	3.6
High Service Pump No. 3, West WTP	5000	7.2
High Service Pump No. 4, West WTP	5000	7.2
High Service Pump No. 5, West WTP	5000	7.2
High Service Pump No. 6, West WTP	5000	7.2
High Service Pump No. 1, East WTP	2500	3.6
High Service Pump No. 2, East WTP	5000	7.2
High Service Pump No. 3, East WTP	5000	7.2
Total Capacity	**37500**	**54**
Firm Capacity	**32500**	**46.8**

* Firm capacity is defined as the pumping capacity excluding the largest pump. Therefore, one (1) 5,000 gpm pump has been removed for the firm capacity.

The total capacity of the HSPs is 37,500 gpm (54 MGD). The firm capacity of the high service pumping station is 32,500 gpm (46.8 MGD). The pumps are controlled automatically based on water levels in the West Tower.

3.4 Storage

Storage facilities on a water system allow a more constant supply during variable demand conditions. During high demands, when water customers are using a greater volume of water, part of that demand can be met by storage reserves in addition to direct pumping from wells. During low demand conditions, or when electricity rates are lower during lower energy demand use (night), the storage facilities can be filled for later withdrawal.

In addition to this operational function, storage tanks can serve as an emergency water source in the case of a supply failure (i.e. power outage, well maintenance, etc.). They also increase the amount of water

available during a fire. An emergency generator at the West water treatment plant provides back-up power for three of the high service pumps.

The distribution system is operated as a single pressure zone system. Three (3) elevated water storage towers serve the water distribution system, while two (2) ground storage reservoirs are filled with filtered water prior to being pumped to the water distribution system by HSPs.

The levels of the water towers control the hydraulic grade line (pressures) of the system. The location, capacity and hydraulic grade line of the towers and reservoirs are shown in Table 3-4.

Table 3-4
Storage

Facility Name	Location	Overflow Elevation	Style of Storage	Capacity (MG)
West Tower	115th Ln and Eidelweiss St	1056.3	Elevated (Multi Legged)	1.0
North Tower	13101 Hanson Blvd	1056.3	Elevated (Hydropillar)	2.5
East Tower	11316 Foley Blvd	1071.0	Elevated (Multi Legged)	0.5
West Reservoir	2241 105th Avenue	876.7	Ground (Concrete)	5.0
East Reservoir	Dogwood St & Northdale Blvd.	928.5	Ground (Steel)	5.5

3.5 Distribution System

The Coon Rapids water distribution system is comprised of water mains ranging in size from 4 inches to 30 inches in diameter. A network of larger trunk watermains move the majority of water between the pumping and storage facilities. During high demand periods or in the event of emergencies, this network of trunk watermains is critical to meet these critical periods.

Mains that are 10 inches and larger are considered trunk mains for this size of a distribution system. When possible, all mains should be built in loops. A dead end main without enough connected demand will require frequent flushing to reduce water stagnation problems. This problem is especially true for trunk mains because of the larger volume of water stored. The existing system has several dead end pipe segments in cul-de-sacs and other areas where street access or other features limit looping. Looping of watermains also helps provide for uninterrupted service to most of the system customers when one pipe segment is shut down for repairs. With a looped system only an isolated section of the system will be out of service instead of an entire neighborhood or commercial area. Looping also provides for substantial flow increases during a fire demand as the demand at the location of the fire can be met from more than one direction in the system. The existing watermain size and layout is shown in Figure 3-3.

Figure 3-3, Existing Distribution System

SECTION 4 - EXISTING WATER DEMANDS

4.1 Peaking Demand Factors

Peaking factors are ratios to the average day (AD) demand rate that are used for computer modeling and for future demand projection. AD demand is calculated by dividing the total water pumped throughout the year by the number of days (365) in the year. The AD is used as a baseline to calculate other peaking factors that represent the highest demand conditions a system may experience (with the exception of emergency flows such as those during a fire event or a water main break).

Typical maximum day (MD) peaking factors for metro suburbs range from 2.0 to 3.0. Larger systems, or those with lower residential sprinkling demands, generally have lower maximum day peaking factors. Predominantly residential municipalities with new lawns or sandy soils generally have a higher peaking factor due to sprinkling demands to maintain turf areas.

For Coon Rapids, MD demand is assumed to be approximately 2.85 based on the highest MDs experienced in the last 5 years. While this is on the higher side of the expected range, it is fairly typical due to the sandy soil conditions that are common to Coon Rapids, which require more irrigation than some other soil types.

Another demand rate used for analysis purposes is the peak hour. Typical peak hour (PH) peaking factors range from 3.2 to nearly 7.0 Peaking factors used in the model are listed in Table 4-1 and Monthly Water Demands are shown in Table 4-2. A PH factor of 4.56 was used for this study, which is a 60% increase over maximum day demands. This PH factor was calculated specifically for the City of Coon Rapids. Historical water system operational data including pump run times and tower water levels were used to create a diurnal, or demand throughout a 24 hour day, graph for August 20, 2013, which had the maximum day demand in 2013. The diurnal demand graph is shown in Figure 4-1.

Table 4-1
Peaking Factors Used for Computer Modeling

Demand Condition	Peaking Factor	Water Demand (MGD)
Average Day (AD)	1.00	7.86
Maximum Day (MD)	2.85	22.41
Peak Hour (PH)	4.56	35.86

Figure 4-1, 24 Hour DI-Urnal Demand Distribution Curve

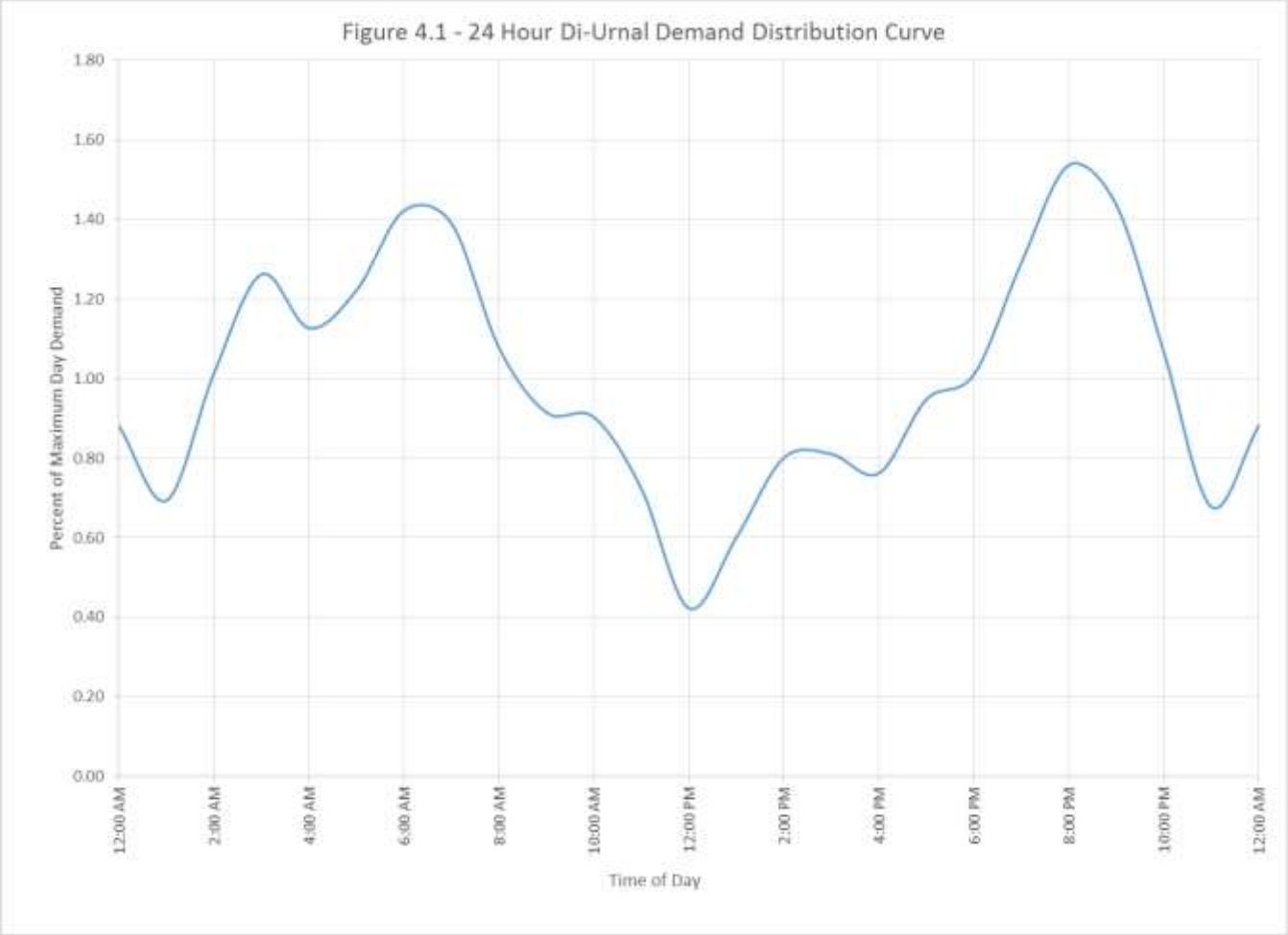


Table 4-2 Monthly Water Pumped 2006-2013								
Year	**Annual Pumped Water in 2006 (Gallons)**	**Annual Pumped Water in 2007 (Gallons)**	**Annual Pumped Water in 2008 (Gallons)**	**Annual Pumped Water in 2009 (Gallons)**	**Annual Pumped Water in 2010 (Gallons)**	**Annual Pumped Water in 2011 (Gallons)**	**Annual Pumped Water in 2012 (Gallons)**	**Annual Pumped Water in 2013 (Gallons)**
January	179,081,000	171,565,000	167,830,000	162,301,000	161,753,000	169,113,000	149,607,000	155,401,000
February	136,844,000	150,546,000	153,816,000	168,048,000	141,982,000	150,540,000	129,461,000	136,121,000
March	190,339,000	165,189,000	156,038,000	148,401,000	161,734,000	162,335,000	140,505,000	145,671,000
April	215,744,000	178,550,000	157,137,000	167,668,000	215,705,000	165,408,000	165,566,000	141,845,000
May	292,279,000	353,362,000	244,981,000	382,341,000	319,426,000	206,998,000	252,201,000	198,601,000
June	451,909,000	457,677,000	331,386,273	411,919,000	321,877,000	317,774,000	349,324,000	234,225,000
July	637,973,000	590,474,000	442,488,304	429,424,067	392,110,000	355,159,000	425,734,000	389,288,000
August	420,406,000	396,924,000	516,680,000	346,701,000	380,271,000	347,267,000	420,276,000	448,358,000
September	282,095,000	303,037,000	304,695,000	358,818,000	254,479,000	343,464,000	407,387,000	352,862,000
October	199,629,000	182,000,000	189,413,000	177,830,940	209,040,000	249,171,000	236,807,000	180,472,000
November	168,252,000	157,752,000	150,287,000	150,755,000	151,624,000	149,597,000	132,494,000	139,436,000
December	171,756,000	160,811,000	153,821,000	154,378,000	167,893,000	143,717,000	149,791,000	140,236,000
Total	**3,346,307,000**	**3,267,887,000**	**2,968,572,577**	**3,058,585,007**	**2,877,894,000**	**2,760,543,000**	**2,959,153,000**	**2,662,516,000**

4.2 Water Use Trends

Water use has been relatively stable for Coon Rapids for several years since it is approaching its full build out. It is normal for annual water use to vary on a year by year basis as annual weather patterns can vary from year to year. For example, during years where more precipitation occurs generally result in less water use as summer irrigation water use is reduced. Over the past ten years in Coon Rapids, the general trend in water use has declined from the highest years in 2006 and 2007. Annual water demands for the past ten years are shown in Table 4-3.

Table 4-3
Water Demands 2004-2013

Year	Population	Annual Water Billed (MG)	Annual Water Pumped (MG)	Unaccounted for Water (MG)	Average Daily Demand (MGD)	Maximum Daily Demand (MGD)	Date of Maximum Day	Max Day Peaking Factor	Per Capita Water Usage	Percent Unaccounted for Water
2004*	62295	2407.5	3029.7	622.2	8.30	23.1		2.78	133.25	20.5%
2005*	62243	2645.0	2834.2	189.2	7.76	23.07		2.97	124.75	6.7%
2006*	63480	2956.7	3346.3	389.6	9.17	34.22		3.73	144.42	11.6%
2007	62525		3267.9		8.95				143.19	
2008	62448		2968.6		8.13				130.24	
2009	62602	2744.2	3058.6	314.3	8.38	20.93	3-Jun	2.50	133.86	10.3%
2010	61117	2591.6	2877.9	286.3	7.88	21.41	30-Aug	2.72	129.01	9.9%
2011	61358	2341.0	2760.5	419.5	7.56	16.61	9-Jul	2.20	123.26	15.2%
2012	61434	2603.8	2959.2	355.3	8.11	20.51	30-Aug	2.53	131.97	12.0%
2013	61434	2400.4	2662.5	262.1	7.29	20.81	27-Aug	2.85	118.74	9.8%

* From Water Emergency and Conservation Plan

Unaccounted for water is the amount of water that is pumped into the system, but is not billed. Examples of unaccounted for water include leaks in water mains, water lost during water main breaks, water used to suppress fires, errant meter readings and water used at City facilities (currently unmetered). While some unaccounted for water is common for most systems, an industry standard is to limit unaccounted for water to below ten percent. The Minnesota Department of Natural Resources typically monitors unaccounted for water during water appropriation permitting. While Coon Rapids average of 12 percent exceeds the industry standard of ten percent, this percent can be reduced below acceptable industry standards by metering city owned facilities and estimating and accounting for water used for hydrant flushing and fire suppression on the annual DNR submittal of water use.

SECTION 5 - DRINKING WATER STANDARDS

5.1 General

Drinking water quality is regulated by numerous Federal and State regulations. In addition, the treated drinking water quality must meet local expectations for taste, odor, hardness, and general quality. The ability to test for water contaminants has evolved to parts per billion and less; however, the understanding of the health effects of some of these contaminants is still evolving. The U.S. Environmental Protection Agency (USEPA) provides guidelines for producing safe drinking water. This section will provide an overview of drinking water regulations and a summary of existing water system quality data. Water quality design goals will be established based on regulatory requirements and public expectations.

5.2 Drinking Water Regulations

5.2.1 Safe Drinking Water Act (SDWA) Regulations

Through the passage of the Safe Drinking Water Act (SDWA) in 1974, the U.S. Congress authorized the USEPA to establish drinking water regulations that apply to all public water systems in the United States. State governments, through their health departments and environmental agencies, are responsible for implementation and enforcement of the provisions of the Act.

Under the SDWA, the USEPA initially proposed National Interim Primary Drinking Water Regulations (NIPDWR). Upon further research and special studies, and with the passage of the 1986 Amendments to the SDWA, the interim regulations were adopted as National Primary Drinking Water Regulations (NPDWRs) and 83 contaminants were required to be regulated.

Further changes were made to the SDWA with the 1996 Amendments. These amendments retained most of the NPDWRs previously enacted, but did change the process for selecting contaminants to be regulated and did mandate new rules regarding arsenic, uranium, radon, and groundwater disinfection. The 1996 Amendments place increasing emphasis on ensuring that all new and existing water systems have the technical, managerial, and financial capacity to comply with NPDWRs. Systems which do not commit the resources required to comply with the new rules may not be eligible for Drinking Water State Revolving Fund (DWSRF) loans and may be vulnerable to enforcement actions.

The major components of the SDWA of interest to the City of Coon Rapids are:

- National Primary Drinking Water Regulations (NPDWRs)
- Microbial and Disinfection By-Products Rule (M-DBP)
- Total Coliform Rule
- Ground Water Rule
- Inorganic Contaminants Regulated by Primary Drinking Water Regulations (including arsenic)
- Radionuclides
- Drinking Water Contaminant Candidate List (DWCCL)

5.2.2 National Primary Drinking Water Regulations (NPDWRs)

National Primary Drinking Water Regulations are the enforceable standards with which water suppliers must comply. Currently, there are standards for 92 contaminants including turbidity, 8 microorganism indicators, 4 radionuclides, 19 inorganic contaminants, and 60 organic contaminants. The USEPA is required to review and revise, as appropriate, each NPDWR every six years. The most recent review was completed in May 2009. The USEPA revised the Total Coliform Rule (TCR) on February 13, 2013 with

new requirements for ensuring the integrity of the distribution systems. A list of the USEPA Drinking Water Standards for Regulated Contaminants is located in Appendix A.

5.2.3 Microbial and Disinfection By-Products Rules (M-DBP)

Disinfection of drinking water was one of the major public health advances in the 20th century, and has been identified as the primary reason for the increasing life span of humans. Common epidemics such as typhoid and cholera have been reduced, if not eliminated, through disinfection of water supplies. However, chemical disinfectants such as chlorine, chlorine dioxide, and ozone can react with naturally occurring materials in the water to form unintended organic and inorganic by-products which may pose health risks. A major challenge is to balance the risks from microbial pathogens and disinfection by-products. The USEPA has some existing and is developing future rules to address these concerns. Some of the rules apply only to surface water (lakes and rivers), some apply only to ground water (wells) and others apply to both surface and ground waters. Since the City of Coon Rapids only uses water from ground sources, this report will only discuss those that apply to ground water. They are as follows:

Total Coliform Rule – The Total Coliform Rule, published in 1989, applies to all public water systems and establishes a maximum contaminant level (MCL) for total coliforms. As mentioned above, the USEPA made revisions to this rule based upon a 2009 review.

Interim Trihalomethane Rule – In 1979, USEPA set an interim MCL for total trihalomethanes of 0.10 mg/L as an annual average. This applies to any community water system serving at least 10,000 people that adds a disinfectant to the drinking water during any part of the treatment process.

Stage 1 Disinfectants and Disinfection By-Products Rule – The final Stage 1 Disinfectants and Disinfection By-Products Rule applies to community water systems, non-transient non-community systems and transient non-community water systems. The final Rule includes the following key provisions:

- Maximum residual disinfectant level goals (MRDLGs) for chlorine (4 mg/L), chloramines (4 mg/L), and chlorine dioxide (0.8 mg/L).

- Maximum contaminant level goals (MCLGs) for three trihalomethanes (bromodichloromethane (zero), dibromochloromethane (0.06 mg/L), and bromoform (zero)), two haloacetic acids (dichloroacetic acid (zero) and trichloroacetic acid (0.3 mg/L), bromated (zero), and chlorite (0.8 mg/L).

- Maximum residual disinfection levels for three disinfectants (chlorine (4.0 mg/L), chloramines (4.0 mg/L), and chlorine dioxide (0.8 mg/L)).

- Maximum contaminant levels for total trihalomethanes (0.080 mg/L) – a sum of the three listed above plus chloroform; haloacetic acids (HAA5) (0.060 mg/L) – a sum of the two listed above plus monochloroacetic acid and mono- and dibromoacetic acids; and two inorganic disinfection by-products (chlorite (1.0 mg/L) and bromate (0.010 mg/L)).

- A treatment method for removal of DBP precursor material, such as total organic carbon (TOC).

Stage 2 Disinfectants and Disinfection By-Product Rule – The EPA published the Disinfectants and Disinfection By-Product Rule on January 4, 2006. The rule contains maximum contaminant level goals for chloroform, monochloroacetic acid and trichloroacetic acid; National Primary Drinking Water Regulations, which consist of maximum contaminant levels (MCLs) and monitoring, reporting, and

public notification requirements for total trihalomethanes (TTHM) and haloacetic acids (HAA5); and revisions to the reduced monitoring requirements for bromate.

Ground Water Rule - The EPA published the Ground Water rule on November 8, 2006, which specifies the appropriate use of disinfection and, just as importantly, addresses other components of ground water systems to ensure public health protection.

5.2.4 Inorganic Contaminants

Twenty inorganic contaminants are regulated by the National Primary Drinking Water Standards. They include arsenic, copper, fluoride, lead, mercury, nitrate, and nitrites. Although Well No. 4 had an elevated reading of arsenic in 2012, it appears to be an isolated reading. The City of Coon Rapids currently is not impacted by this rule, as the quarterly average level of these contaminants in the raw water are below the MCLs.

5.2.5 Radionuclides

The final revised radionuclides rule went into effect December 7, 2000. The rule regulates MCLs for combined Radium 226 & 228, gross alpha particles, beta/photon emitters and uranium. The City of Coon Rapids currently operates Wells 16 and 18 under a Compliance Agreement with MDH due to high concentration of radionuclides. The City of Coon Rapids currently only uses Wells 16 and 18 as peaking wells during the summer to meet maximum day demands. The City can only pump a limited amount of water from each well during the calendar year to reduce the public's exposure to these contaminants.

5.2.6 Drinking Water Contaminant Candidate List (DWCCL)

The USEPA has drinking water regulations for more than 90 contaminants and the complete list is presented in Appendix A. The SDWA includes a process that the agency follows to identify new contaminants which may require regulation in the future. USEPA periodically releases a Contaminant Candidate List (CCL). The first list was published in March 1998 and had 60 unregulated contaminants. The second list published in February 2005 carries forward 51 of the original contaminants. The third and most recent list published July 25, 2012 includes 116 contaminants and is presented in Appendix B.

5.2.7 Secondary Drinking Water Standards

In addition to the NPDWRs, which cover the contaminants that affect public health, the EPA recommends Secondary Drinking Water Standards (SDWS) with limits on those contaminants that affect the aesthetic qualities of drinking water. The secondary regulations are intended to serve as guidelines and are not federally enforceable. Although the water utilities are not required to treat to SDWSs, they should be aware that keeping the quality of drinking water within these guidelines makes it more acceptable to consumers, thereby decreasing complaints to the utilities. Table 5.1 lists the secondary standards.

Table 5-1 EPA National Secondary Drinking Water Contaminant Standards		
Contaminant	Effects	SMCL – mg/L
Aluminum	Colored Water	0.05 to 0.2
Chloride	Salty Taste	250
Color	Visible Tint	15 color units
Copper	Metallic Taste, blue-green stain	1
Corrosivity	Metallic Taste, corrosion, fixture stains	Non-corrosive
Fluoride	Tooth discoloration	2
Foaming Agent	Frothy, cloudy, bitter taste, odor	0.5
Iron	Red or rusty color and staining	0.3
Manganese	Black or brown color and staining, bitter or metallic taste	0.05
Odor	"rotten egg" or musty or chemical smell	3 TON
PH	Low pH – bitter metallic, corrosion	6.5 to 8.5
	High pH – slippery feel, soda taste, deposits	
Silver	Skin discoloration, graying of the whites of the eye	0.1
Sulfate	Salty taste	250
TDS	Hardness, deposits, colored water, staining, salty taste	500

5.2.8 Summary of Water Quality Issues

The City of Coon Rapids currently exceeds the primary drinking water standards related to Combined Radium 226&228 in Wells 16 and 18. These two wells are operated and monitored through a Compliance Agreement with MDH to limit their use. In addition to radium in these two wells, the City should also continue to monitor their source water for both primary and secondary drinking water standards and modify treatment as necessary.

SECTION 6 - ANALYSIS OF EXISTING DISTRIBUTION SYSTEMS

6.1 Existing Water Pressure

Average Day (AD) pressures are depicted by pressure districts in Figure 6-1. The existing system pressures for an AD demand scenario range from 57 to 99 psi. AD pressures were calculated in the system with the elevated water storage towers 2 feet below overflow and all high service pumps and wells in the system turned off. These pressures meet industry standards for a municipal water distribution system.

According to Ten States Standards for Water Works (2012), an industry standard that the Minnesota Department of Health has adopted, pressures in the system should meet the following:

- The minimum working pressure in the distribution system should be 35 psi (240 kPa) and the normal working pressure should be approximately 60 to 80 psi (410 - 550 kPa). When static pressures exceed 100 psi (690 kPa), pressure reducing devices shall be provided on mains or as part of the meter setting on individual service lines in the distribution system.

This industry standard is generally used as a guide in the design of drinking water systems, but is not required per MDH. However, the Minnesota State Plumbing Code states the following:

- When street main pressure exceeds 80 psi, an approved pressure reducing valve shall be installed in the water service pipe near its entrance to the building to reduce water pressure to 80 psi or lower. Where street water main pressures fluctuate significantly, the building water distribution system shall be so designed for the minimum pressure available.

According to this code, there are a significant number of customers that are affected by this code. The requirement of the State Plumbing Code for maximum pressure reduction is required by the end user. Since all three of the existing water towers are built to the same HGL, there would be many modifications required to reduce all system pressures to 80 psi or below. While this could be accomplished through the use of system pressure reducing valves and providing additional water main looping, these improvements are not recommended due to the significant cost for a slight reduction in pressure. For new services or meter change outs, the city should investigate the potential for the building department to notify customers with a home at or below elevation 871.5. Homes at or below this level may receive pressure above 80 psi and should install individual pressure reducing valves. Average day pressures for the City of Coon Rapids are shown in Figure 6-1

Peak hour (PH) pressures for the system range from 55 to 95 psi. These pressures are typically the lowest the system may experience during normal operating demands with the exceptions of emergency conditions such as a fire flow or watermain break. PH pressures for the Coon Rapids system are shown in Figure 6-2.

Figure 6-1, Existing Average Day Pressure

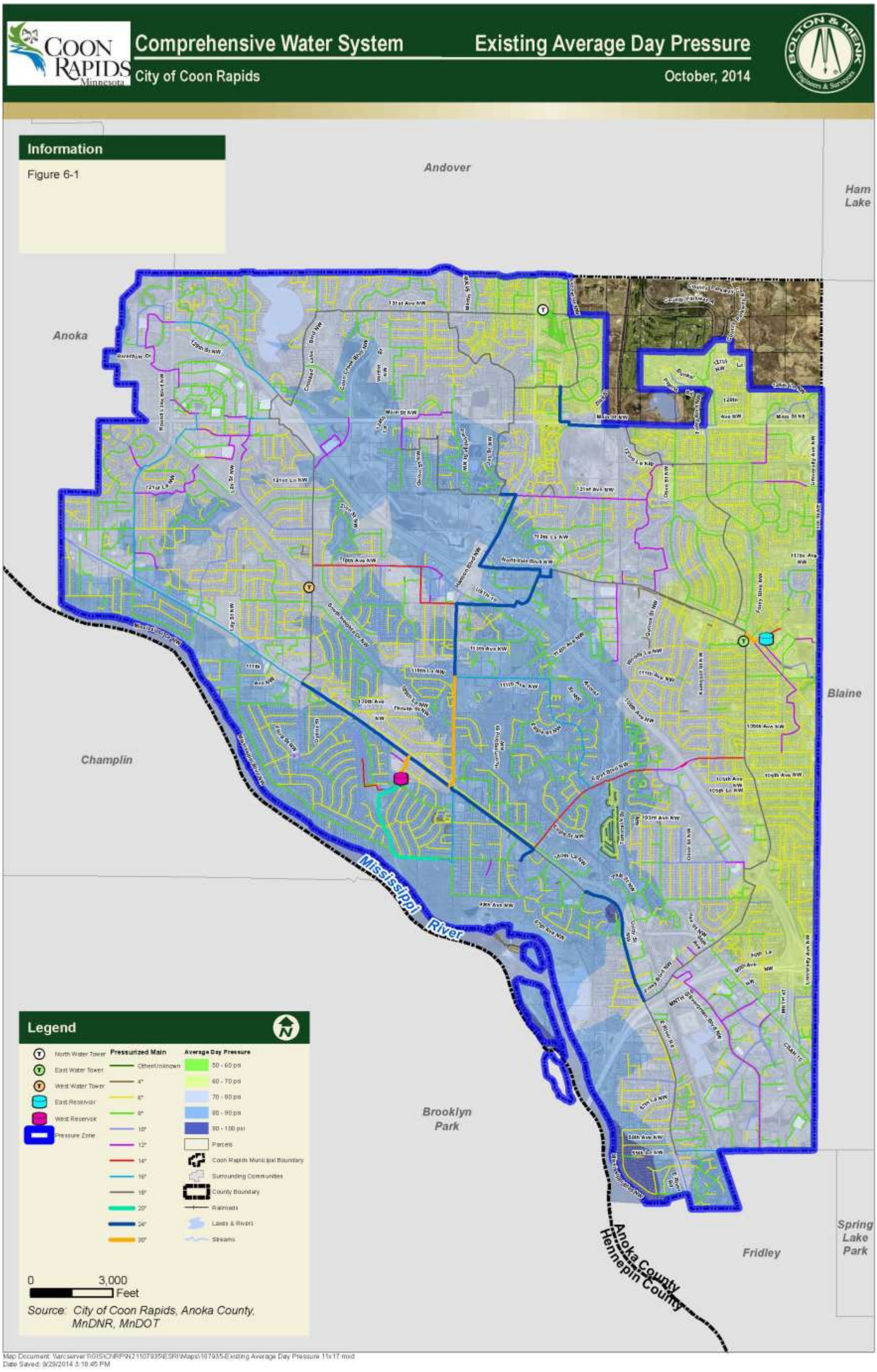
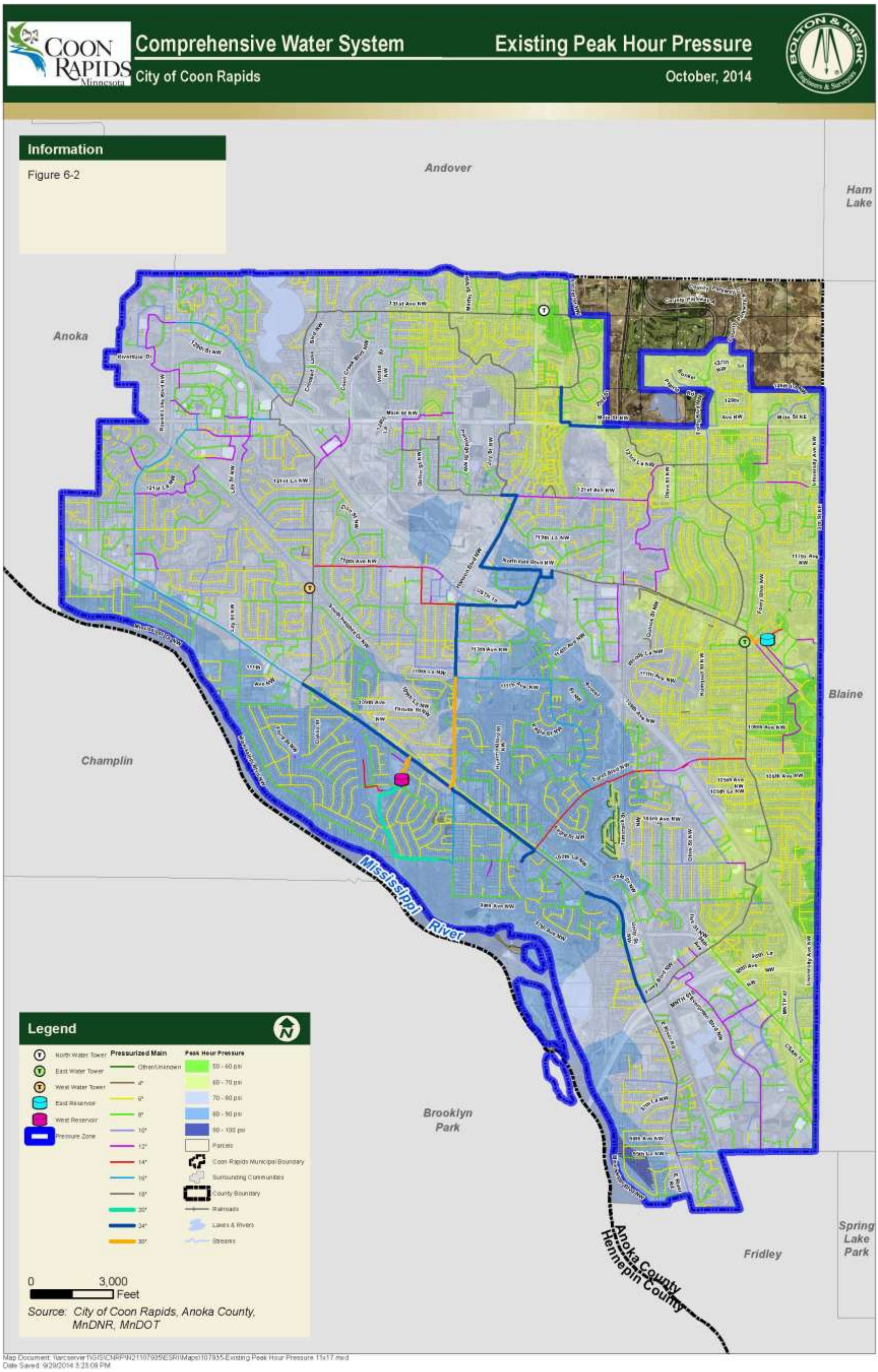


Figure 6-2, Peak Hour Pressure



6.2 Existing Available Fire Flow

The modeled fire flows were run up to a maximum rate of 3,500 gpm as recommended by the American Water Works Association (AWWA). The computer model indicates that higher flows are available in some areas, but at some point they become unrealistic because there are not enough hydrants or fire equipment to deliver such high rates. The minimum fire flow available at any given point in a system should not be less than 500 gpm at a residual pressure of 20 psi. This represents the amount of water required to provide for two standard hose streams on a fire in a typical residential area for residential dwellings with spacing between 31 to 100 feet. The distance between buildings and the corresponding fire flow is summarized in Table 6-1.

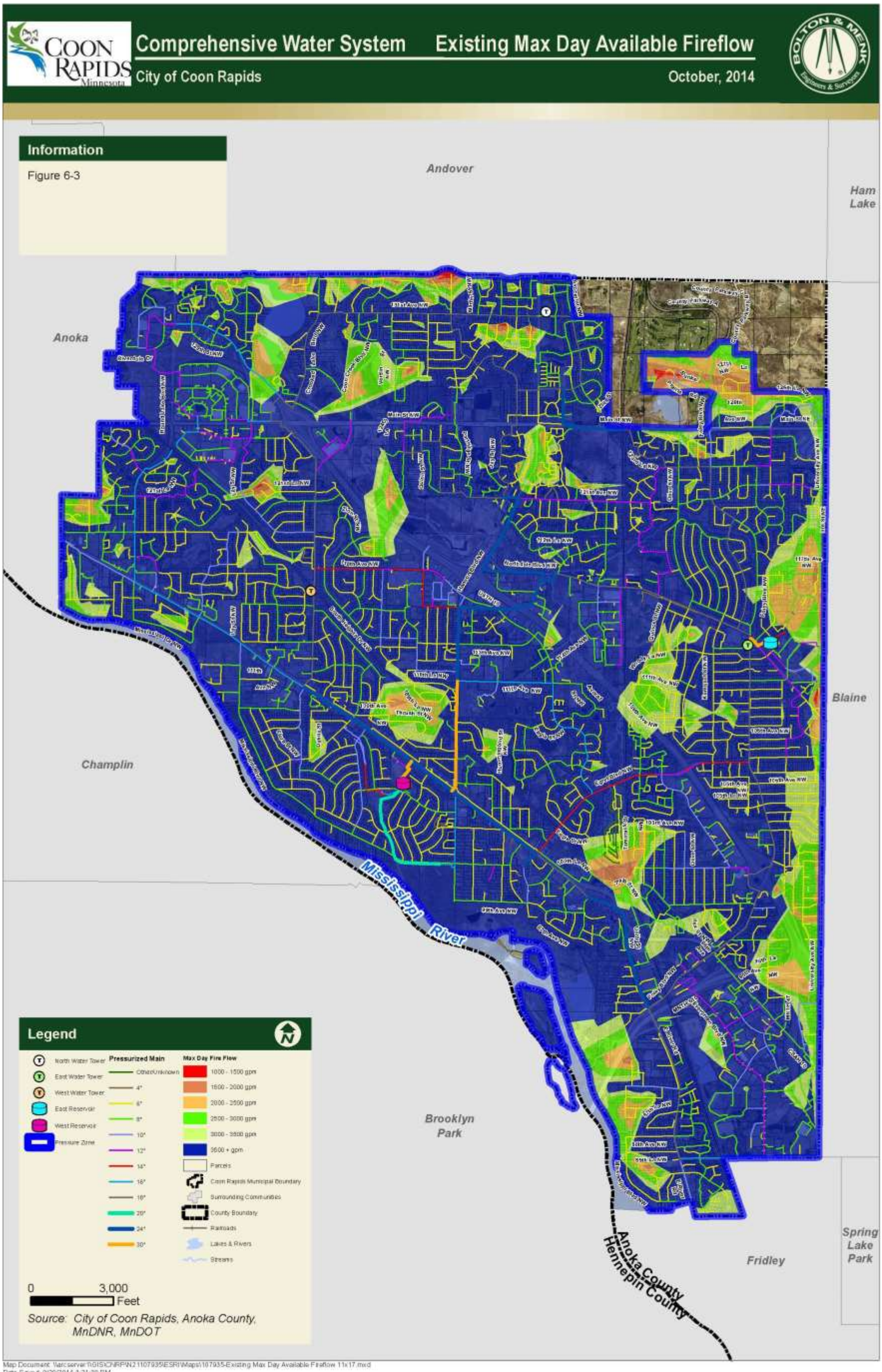
Table 6-1
Recommended Residential Fire Flows

Distance Between Buildings (Feet)	Needed Fire Flow (gpm)
More than 100	500
31-100	750
11-30	1000
Less than 11	1500

The computed fire flows for the current distribution system are represented in Figure 6-3. They are represented by fire flow districts in gallons per minute. Modeled available fire flows were compared to Insurance Services Office (ISO) test data to verify that available fire flows measured by the last ISO test (conducted in March, 2012) were accurate. The only location measured by ISO that had an available flow below the needed flow was at the following:

- University Avenue & Entrance to Woodland Apartments

Figure 6-3, Maximum Day Available Fireflows



6.3 ISO Report Review

The ISO report, previously discussed, was last completed in 2012. The purpose of ISO is to review fire protection systems for various municipalities to assist insurance companies in setting rates for various commercial customers. The rating is based on a scale of one through ten with a rating of one being the best.

The ISO rating is comprised of three categories for which individual scores are assigned. The following categories, with assigned scores to Coon Rapids are as follows:

- Receiving and Handling Alarms: **CLASS 1**
- Fire Department: **CLASS 6**
- Water Supply: **CLASS 1**

Overall, the City of Coon Rapids ranked a CLASS 4 which is a very good score for most communities. While there are improvements that could be made to the overall system, the water supply system currently maximizes its score class. This class represents an excellent system as far as water supply, hydrant spacing and location and good maintenance of the system. Minimal changes should be made to the system from an ISO standpoint.

6.4 Extended Period Simulation

An extended period simulation (EPS) was setup in the model to check the system operation during several days of maximum day demands. The primary purpose of this simulation was to check for cumulative system imbalances that are not evident in standard simulations. Tower and system supply placement and the sizes of distribution system pipe may contribute to imbalances. They also contribute to a reduced storage replenishment rate and the ability to refill the towers at night during low demand periods.

Based on the layout of the Coon Rapids system, there are several system imbalances present in the current system. Evaluations of several system facilities are shown below:

- Trunk Watermain – While there are some areas of watermain that experience high velocities and friction losses, their impacts on the operation between storage and supply sources are minimal. No significant changes in watermain layout is recommended at this time.

- North Tower – The North Tower is located at a greater distance to supply sources than either the West or East Towers. Due to this distance, there is a hydraulic imbalance between the three towers. In addition to this distance, the size of the North Tower takes longer to fill and drain than the other two elevated water storage towers. The result of this imbalance is that the North Tower generally does not fluctuate as much as the other two towers. At its high operating level, the North tower is nearly 10 feet below its overflow, compared to the West Tower which fills within two feet of its overflow. Therefore, nearly the top 8 feet of the North Tower is unusable.

- East Tower – The opposite effect occurs with the East Tower. Its small size and close proximity to the East WTP result in very quick filling of the tower. Therefore, it has very dramatic fill and drain cycles which may change up to 16 feet (7 psi) during a cycle. The East Tower was built nearly 15 feet taller than the other two elevated towers which allows this tower to operate without an altitude valve.

6.5 Pipe Velocities and Friction Losses

Pipe segments are considered potentially deficient, or most-limiting, if they have the following conditions:

- Velocities greater than 5 ft/s; and
- Head losses greater than 10 ft/1000 ft of pipe.

Velocities in pipe segments are acceptable up to about 10 ft/s during emergency or extreme demand conditions of short duration. As velocities increase, pipe friction increases and problems with water hammer occur. This is especially true in systems with higher pressures. We have checked the system for locations where velocities and head losses meet the above stated conditions. There are several locations where pipe velocities exceed 5 ft/s. The majority of these locations are near the wells or WTPs as the pumps are operating near peak capacity. In addition, several locations throughout the distribution system where inconsistent sizing and/or looping create bottlenecks were also apparent. These bottlenecks can also result in head losses greater than 10 ft/1000 ft. While evident in the system, there are no major deficiencies that require modifications. Examples of areas include:

- Well No 5 Connecting Piping (8.67 ft/s)
- Well No. 6 Connecting Piping (7.23 ft/s))
- West WTP Connecting Piping (5.81 ft/s)
- Coon Rapids Blvd – West WTP to Hanson Blvd (5.5 ft/s)

SECTION 7 - FUTURE WATER DEMANDS

7.1 Proposed Land Use Changes

City staff provided information on proposed expansion and/or redevelopment areas. Since the majority of Coon Rapids is built out, the majority of these areas consist of redevelopment opportunities, while some undeveloped land in the north central portion of the community remains.

There are 12 areas of proposed development as shown in Figure 7-1. Water demand projections are based on proposed land use and densities of development. Table 7-1 shows proposed land use and projected water demands. Assumptions used to project water demands are as follows:

- Commercial, Industrial, Institutional (Sq. Ft.): 0.1 gallons per square foot
- Residential (Senior): 1.5 person per unit, 75 gallons per capita day (gpcd)
- Residential (Unit): 2.5 person per unit, 100 gpcd
- Commercial (Acre): 1,000 gallons per acre per day
- Industrial(Acre): 1,500 gallons per acre per day
- Residential High Density (Acre): 12 units/acre, 2.25 persons per unit, 75 gpcd
- Residential Low Density (Acre): 3 units/acre, 2.5 persons per unit, 100 gpcd

Table 7-1
Projected Land Use

Planning Area	Development Name	Estimated Years Until Developed	Proposed Land Use	No. of Units	Type of Unit	Gallons per Unit per Day	Projected Average Day Demand (gallons)
1A	Port Wellness	2	Institutional (Hospital)	50000	Square Feet	0.1	5000
1B	Port Wellness	0	Commercial (Medical Office)	125000	Square Feet	0.1	12500
1C	Port Wellness	0	Commercial (Medical Office)	32000	Square Feet	0.1	3200
1D	Port Wellness	1	Residential (Senior)	100	Dwelling Unit	112.5	11250
2A	Port Campus Square	10	Residential	1200	Dwelling Unit	250	300000
2B	Port Campus Square	10	Commercial	150000	Square Feet	0.1	15000
2C	Port Campus Square	10	Institutional	150000	Square Feet	0.1	15000
3A	Port Riverwalk	5	Residential	450	Dwelling Unit	250	112500
3B	Port Riverwalk	10	Commercial	5000	Square Feet	0.1	500
4A	Foley Blvd TOD	15	Residential	1200	Dwelling Unit	250	300000
4B	Foley Blvd TOD	15	Commercial	20000	Square Feet	0.1	2000
5A	Port Evergreen	10	Industrial	400000	Square Feet	0.1	40000
5B	Port Evergreen	10	Residential	750	Dwelling Unit	250	187500
5C	Port Evergreen	10	Commercial	50000	Square Feet	0.1	5000
6A	Northdale/Foley	15	Residential	300	Dwelling Unit	250	75000
6B	Northdale/Foley	15	Commercial	25000	Square Feet	0.1	2500

7A	Riverdale Station	5	Residential	400	Dwelling Unit	250	100000
7B	Riverdale Station	5	Commercial	15000	Square Feet	0.10	1500
8A	Pederson Floral	10	Commercial	4	Acres	1000	4000
9	VFW Area Sites	20	Residential (High Density)	13	Acres	2025	26325
10	DOT Mini Storage	20	Industrial	12	Acres	1500	18000
11	East Sod Farm	Ultimate	Residential	77	Acres	750	57750
12	West Sod Farm	Ultimate	Residential	90	Acres	750	67500
Total Gallons							1,294,525

7.2 Projected Water Demands

Estimated population growth and water demand have been estimated for design years of 5,10,15,20 and ultimate build out. Two methods have been used to project future water demand:

- Met Council population estimates multiplied by the historical 10 year average per capita water demand.
- 2013 population multiplied by the historical 10 year average of per capita water demand, plus projected water demand of proposed development based on land use and density

Table 7-2 shows the projected design year water demands based on the two different methodologies:

Table 7-2
Projected Water Demands

Planning Year	Metropolitan Council Population Estimate	Per Capita Water Demand (gpcd)	Average Day Demand - Met Council Population (MGD)	Average Day Demand - Proposed Land Use	Max Day Peaking Factor	Maximum Day Demand - Met Council Population (MGD)	Maximum Day Demand - Proposed Land Use
5 Year (2019)*	65,970	128	8.44	8.11	2.85	24.07	23.11
10 Year (2024)*	65,600	128	8.40	8.67	2.85	23.93	24.71
15 Year (2029)*	65,100	128	8.33	9.05	2.85	23.75	25.80
20 Year (2034)**	65,000	128	8.32	9.10	2.85	23.71	25.92
Ultimate				9.22	2.85		26.28

* Population Based on Interpolation of Metropolitan Population Data

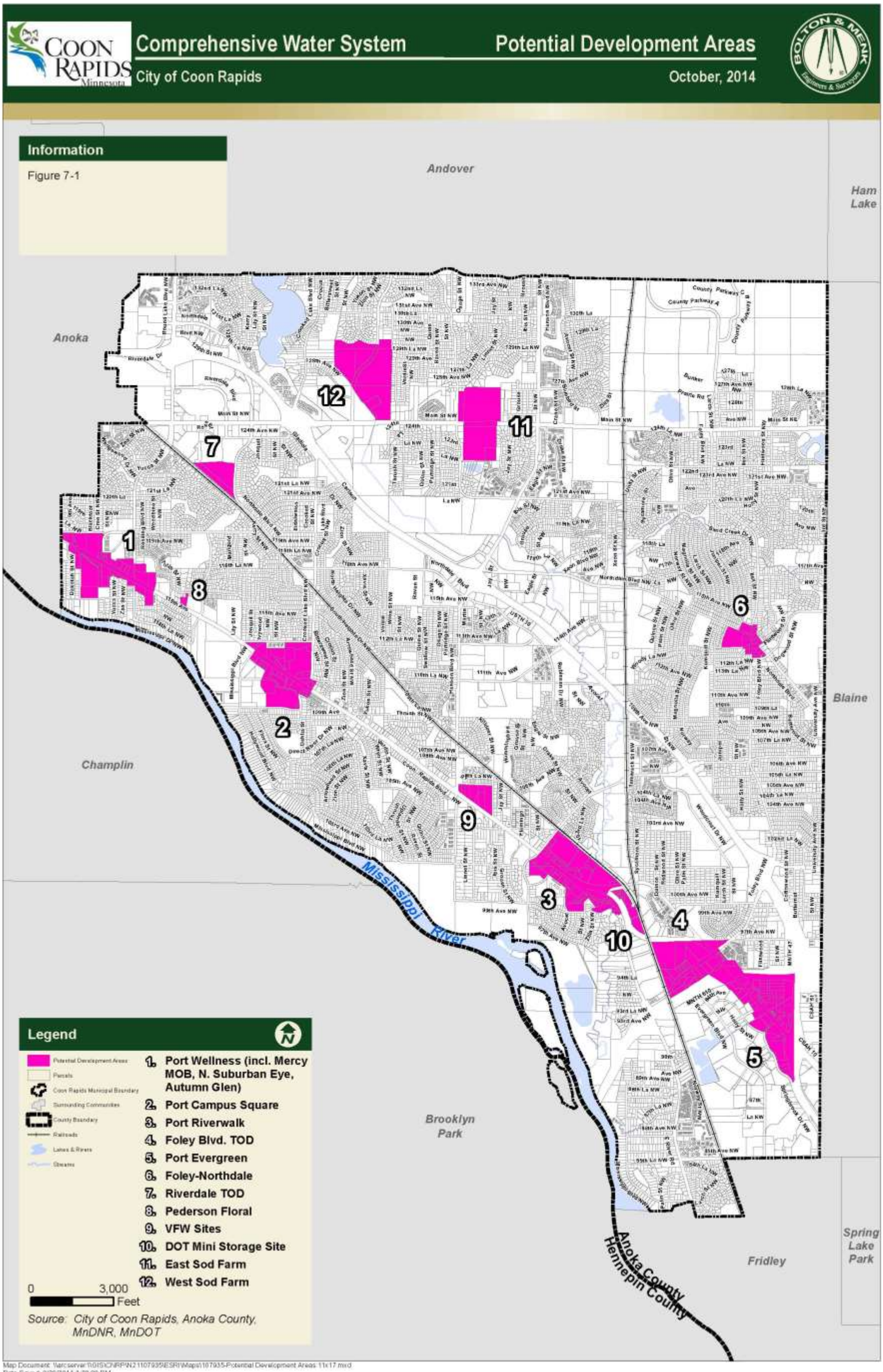
** Metropolitan Population unavailable beyond 2030

7.3 Water Conservation

Water conservation plays a critical role in ensuring we maintain a sustainable water resource. The Minnesota Department of Natural Resources requires public water suppliers to demand water reduction measures by January 1, 2015. In addition, these demand reduction measures will be required to be outlined in an upcoming update of the Water Supply Plan in 2015. No additional demand reduction measures should be required from the City of Coon Rapids to comply with these mandates. Currently, the City of Coon Rapids includes the following ordinances and rate structure that promotes water conservation:

- An on-going meter repair and replacement program has been established throughout the City
- The City uses leak detection surveys as needed to reduce leaking water mains
- An even/odd sprinkling restrictions have been imposed during June 1 and August 31 of each year
- A time of day or complete ban of outdoor water use can be imposed in an emergency
- An inclining block rate structure is currently used for water billing which imposes a higher unit rate for higher volumes of water used
- Educational materials on water conservation are available during Consumer Confidence Reports, public buildings, City website and as utility billing mailers

Figure 7-1, Potential Development Areas



SECTION 8 - PROPOSED WATER SYSTEM IMPROVEMENTS

8.1 Supply

Based on projected maximum day demands, as compared to the existing firm supply pumping capacity, the City of Coon Rapids is able to meet its future projected demands. No additional supply wells are needed to meet the future projections. The City currently has an on-going schedule for well rehabilitation which should be continued to maintain reliable sources of supply. The following items are recommended for each of the water supply wells:

- Maintain wellhouses including exterior, electrical and chemical feed systems as required
- Investigate replacement of the electrical unit heaters with gas fired units in the pump rooms at each wellhouse. Maintain electric unit heaters in chemical feed areas.
- Inspect well pumps and motors every 6 years depending on pump performance. Provide service as required.
- Plan for well rehabilitation on a repeating 6 year cycle depending on water quality and well efficiencies (4 wells per year)

8.2 Water Treatment

The City has made significant investments to the expansion of their two main WTPs in the last decade. Improvements primarily included expanded capacity at each facility to meet the long term water demands of the City. In addition to expanded capacity, an emergency back-up generator was added to serve the West WTP and a portion of the wells located near this WTP.

During a visit to each of the primary WTPs, the following items were identified for improved operations:

- Remove existing flow control valves on high service pumps (HSPs) 1, 2, 3, and 6 at the West WTP and HSP 3 at the East WTP. The existing flow control valves are expensive to maintain and are no longer required to reduce water hammer since the pumps are operated from variable frequency drives. The existing control valves should be replaced with air cushioned swing check valves.

- Consider converting high service pumps (HSPs) 4 and 5 at the West WTP from constant-speed operation to variable-speed by installing variable frequency drives (VFDs). The existing flow control valves would be removed from these pumps as described above. The two pump motors are medium-voltage (4160V) units, and the costs for medium-voltage VFDs or converting to a 480V installation is estimated to range from $400k to $500k.

- The discharge piping from HSP 6 should have an isolation valve installed to allow service of the pump without impacting the shutdown of the WTP. A butterfly valve should be installed on the north discharge piping in the lower pipe gallery.

- Install a fiberglass baffle wall system inside the West Ground Storage Reservoir to reduce short circuiting in the reservoir. A baffle wall will help provide consistent water quality and should reduce the City's effluent chlorine dosages.

If Wells 16 and 18 are planned to be routinely utilized, treatment is recommended to remove the high levels of radium, along with iron and manganese to provide water of a similar quality to the existing WTPs. A Compliance Agreement from the Minnesota Department of Health is currently required to operate these two wells during peak demands. However, based on the volume of available supply capacity, it appears that the City may not need to utilize these two wells and they should only be maintained for emergency use.

8.3 Storage

8.3.1 Additional Elevated Water Storage

An analysis of the storage capacity is shown in Table 8-1. To meet peak demands and provide an available fire flow of 3,500 gpm for 3 hours as recommended by AWWA, analysis indicates that the system is 1,342,000 gallons below the recommended standards for emergency storage capacity. This analysis is based upon the following future conditions:

- Average day demand of 9,100,000 gallons
- Max day peaking factor of 2.85
- 3,500 gpm available fire flow for 3 hours
- East Water Tower out of service
- Backup power generation at both East and West WTPs
- Backup power generation at all remote system wells

If backup power is not included at the remote system wells, the additional storage needed increases to 3.0 MG. A 1.5 MG elevated water tower is recommended since the cost, combined with the cost of adding back up power generation, is lower than the cost of a new elevated 3.0 MG elevated water tower.

In addition, it is recommended that the East Tower be removed from the system once the new tower is completed. In addition to being built at a different hydraulic grade line than the other two elevated towers, the cost of the maintenance of a fourth water tank would be greater than adding storage capacity to a new tower.

A comparison of potential tower sites has been conducted. Table 8-1 shows our comparison based on four key criteria: impact on future development, watermain connection cost, ground elevation (height of tower) and impact on system operations. Sites that are considered better alternatives than other sites are assigned more points, with 3 assigned the best alternative. A description of each of the site locations is discussed below:

Site No. 1: Located on land adjacent to Coon Rapids Boulevard and Crane Street. This could be potential development property as part of the Port Riverwalk project. Ground Elevation is approximately 860 resulting in a tower approximately 196 feet tall. The site requires approximately 300 feet of connecting trunk water main and there is an existing 24 inch trunk water main along Coon Rapids Boulevard. The site performs the best out of the five sites compared from a hydraulic operations perspective.

Site No. 2: The site is located on the DOT Mini Storage Site located between Coon Rapids Boulevard and Vale Street. This is also identified as potential future development property although access and size of parcel may limit the use. Ground Elevation is approximately 875 resulting in a tower approximately 181 feet tall. The site requires approximately 500 feet of connecting trunk water main to the existing 24 inch trunk water main along Coon Rapids Boulevard. In addition, it will require a crossing underneath Coon Rapids Boulevard which is more expensive than other comparable sites. The site performs adequately from a hydraulic operations perspective.

Site No. 3: Located on land adjacent to Foley Boulevard just north of an existing railroad line. This property is shown to be potential development property as part of the Foley Boulevard TOD project. Ground Elevation is approximately 886 resulting in a tower approximately 170 feet tall. The site requires approximately 700 feet of connecting trunk water main and there is an existing 24 inch trunk water main along Foley Boulevard. The site performs adequately from a hydraulic operations perspective.

Site No. 4: Located on land adjacent to Holly Street between Springbrook Drive and 93rd Avenue NW. This could be potential development property as part of the Port Evergreen project. Ground Elevation is approximately 882 resulting in a tower approximately 174 feet tall. The site requires an extensive trunk water main extension of approximately 3500 feet, which will also include street restoration and a crossing of Highway 610. This site does not perform as well from an operational standpoint as compared to the previous three sites.

Site No. 5: Located in Kennedy Park, adjacent to East River Road and 85th Avenue NW. This is an existing park and has not been identified as potential developable land. Ground Elevation is approximately 874 resulting in a tower approximately 174 feet tall. The site requires a relatively short water main extension of approximately 300 feet to connect to the 24 inch trunk water main in East River Road. Due to its location on the south end of the system, the site is considered the least desirable from an operational standpoint. A tower located at this location will not fill to the desired level as well as other tower locations.

Table 8-1
Comparison of Future 1.5 MG Water Tower Sites

Site No.	Impact on Development	Watermain Connection Cost	Elevation (Height of Tower)	Impact on System Operations	Total Score
1	●	●●●	●	●●●	8
2	●●	●	●●	●●	7
3	●●	●●●	●●●	●●	10
4	●		●●●	●	5
5	●●●	●●●	●●		8

Based on Table 8-1, Site Number 3 appears to rank the highest in the site comparison. The proposed location for the tower is near an existing trunk water main and will allow improved operations in both the North and West towers. Prior to beginning design, we recommend a geotechnical analysis be conducted to verify that adequate soils exist at the proposed location to support a water tower of the style and size recommended in this report. As an additional benefit, the increased elevated storage capacity would slightly reduce pumping costs by reducing the peak energy consumption as discussed further in Section 8.5.

Table 8-2 Storage Requirement Calculation with Ground and Elevated Storage		
Scenario	**With Backup Power at Remote Wells**	**W/Out Backup Power at Remote Wells**
Estimated Population	65,000	65,000
Per Capita Water Use (gpd/capita)	128	128
Average Day Water Use (gpd)	9,100,000	9,100,000
Average Day Water Use (gpm)	7,580	7,580
Max/Avg Day Ratio	2.85	2.85
Maximum Day Water Use (gpd)	25,935,000	25,935,000
Maximum Day Water Use (gpm)	21,610	21,610
Design "Basic" Fire Fighting Rate (gpm)	3,500	3,500
Basic Fire Fighting Duration (hours)	3	3
Design Fire Fighting Volume (gal)	630,000	630,000
TOTAL Coincident Demand (gpm)	25,110	25,110
Equalization Storage Total (gallons)	6,483,800	6,483,800
Clearwell Storage Volume (gallons) - Useable	10,500,000	10,500,000
Equalization Storage from Ground (gallons)	1,296,800	1,296,800
Well Supply Pumps (gpm) - Firm Capacity	15,300	15,300
Ground Storage Discharge Pumps (gpm)	20,000	20,000
Time to Drain Ground Storage (hours)	32.6	32.6
Maximum Draw Rate from Ground Storage (gpm)	#N/A	#N/A
Supply to System from Other Source (gpm)	7,025	0
Required Draft From Elevated Storage (gpm)	-1,915	5,110
Adjusted Fire Fighting Storage (gallons)	-345,000	1,001,000
Equalization Storage from Elevated (gallons)	5,187,000	5,187,000
TOTAL Elevated Storage Need (gallons)	4,842,000	6,107,000
Existing Elevated Storage (gallons)	3,500,000	3,500,000
Additional Elevated Storage Need (gallons)	1,342,000	2,607,000

8.3.2 Water Storage Tank Rehabilitation

The protective coatings on the North Tower and East Ground Storage Reservoir are in need of replacement. Evaluations were conducted by a NACE International Certified Coatings Inspector on both storage facilities. The inspection reports are included in the Appendix. We recommend replacement of the protective coatings within the next couple of years to protect these steel structures from further corrosion.

8.3.3 Altitude Valves

To improve the filling operation of the North Tower, a new altitude valve should be installed at the West Tower and pumps should be controlled by the North Tower. An altitude will allow the West Tower to stop filling while the North Tower continues to fill. As the water level increases to a pre-set level, the

altitude valve will close, allowing pumps to continue to run and fill the North Tower. An altitude valve should also be added to the new proposed tower.

8.4 Distribution System Improvements

The majority of the overall water distribution system functions well during most demand scenarios. The performance of the system may be improved by completing the following capital projects:

- 12 inch water main loop parallel to Main Street NW between Thrush Street NW and Coon Creek Blvd. NW
- Upgrade theexisting6 inch water main to new 12 inch main from the intersection of 97th Avenue NW and University Avenue NE to the intersection of 101st Avenue NW and Foley Blvd. NW
- Replacement of 8 inch connecting water main from Well No. 5 & Well No. 6 with 10 inch water main to reduce velocity and head loss

8.5 Energy Conservation or Consumption Reductions

The great majority of energy consumed by the Coon Rapids municipal water system is attributable to pumping. Methods to reduce pumping energy consumption fall under two categories:

- Changes in operations (i.e. process changes)
- Improving equipment efficiency

The City currently operates the facilities in a cost-efficient manner by pumping water during the nighttime hours when the cost of electricity is potentially lower. The available "Time-of-Day" rate options should be discussed with the serving electric utilities to determine if there is potential for further rate savings by using alternative rate structures.

Increasing the City's elevated storage capacity can potentially reduce electric costs by pumping more water to elevated storage during nighttime hours when off peak electric rates are in place. Electric charges are comprised of two major items: the demand charge (based on the maximum kilowatt (kW) usage during the highest 15 minute interval of the billing period) and the demand rate, based on total kW usage during the billing period.

The high service pumps are operated with VFDs which already minimizes the monthly demand charge. Based on EPS modeling, it appears that further reduction in the demand charge is unlikely. Pumping water during the off-peak period (estimated at 9 PM to 9 AM) was also analyzed for potential savings. For average day demands, the maximum amount of potential savings would occur when the existing elevated storage level is at the lowest permissible point (2,180,000 gallons for existing system, 3,180,000 gallons with additional elevated storage) when the off-peak rates begin (9 PM). During off-peak rates, the storage should be filled completely by the time that the electric utility switches back to peak rates (9 AM). The electric costs were analyzed under the following conditions and compared in Table 8-2:

- Three demand conditions assuming 30%, 40% and 50% of average daily water use occurs during the Off-Peak Rates
- No Peak Shaving – Pumping to meet demand during each rate period
- Peak Shaving Existing Elevated Storage with 2,180,000 gallons of available elevated storage
- Peak Shaving Existing Elevated Storage with 3,180,000 gallons of available elevated storage

Table 8-3 Average Daily Power Cost for High Service Pumping			
Scenario	**No Peak Shaving**	**Peak Shaving Existing Elevated Storage**	**Peak Shaving Proposed Elevated Storage**
30/70 Off Peak/Peak Split Use	$212.53	$186.04	$173.89
40/60 Off Peak/Peak Split Use	$201.47	$174.99	$162.84
50/50 Off Peak/Peak Split Use	$190.42	$163.93	$151.78

* Charges Only Include kwH Charges based on $0.04 / kwH for peak, $0.022 / kwH for off-peak

Based on these calculations an average of approximately $38.64 per day ($14,103.60 per year) could be saved. Current operation staff are manually filling elevated storage tanks at night so not all of these cost savings may be realized. Improved automation may allow the City to realize additional power cost savings. Due to other needs of the system, such as keeping turnover of the towers to eliminate freezing further savings may not be feasible. An alternative to using pumps to provide adequate turnover and mixing in the towers is to install a mixing system at the tower.

Pumping efficiency can be improved by selecting pumps, motors and drives with highest efficiency. Most of the existing pumps and motors have high efficiency values already, so the potential savings from equipment replacement is marginal and not cost-justified. However, whenever the City must replace equipment due to failure or wear, new equipment should be selected for highest efficiency.

8.6 SCADA and Security System Improvements

The City's supervisory control and data acquisition (SCADA) system is approximately 15 years old. The system is based on Allen-Bradley programmable logic controllers (PLCs) that are still reliable and serviceable. However, Allen-Bradley has discontinued further development of the product line, and will discontinue support of the existing product in the next 5-10 years.

The SCADA system uses radio communication between water sites. Some of the radio paths have had communication issues.

System operation could be improved by giving staff better access to historical data (process trending). Operator response to alarms and overall monitoring can also be improved by providing better remote access to the SCADA system. The remote access can include providing complete remote SCADA interface to on-call staff, and providing operational data to on-duty staff using portable devices such as smart-phones or tablets.

A SCADA system upgrade is recommended, including:

- Replace PLCs at remote sites with new Allen-Bradley (Rockwell Automation) product suitable for Ethernet communication
- Replace personal computers with new units running the current Windows operating system
- Upgrade computer HMI software to latest version
- Evaluate radio paths, radios and antennas for improved radio communication
- Add remote access features

Building security systems currently include door access control systems at the two WTPs, cameras and video recording at the West WTP, and an older "key switch" intrusion monitoring system at the well houses. Additional security system features are recommended:

- Install cameras and video recording equipment at the East WTP

- Enhance the existing camera and video recording installation at the West WTP
- Install network communications to all well houses and water towers. The network would consist of radio communication (combined with the SCADA improvements recommended above). Fiber optic communication should also be considered at locations where the City's existing fiber optic network can be extended to the water sites.
- Add door access control at well houses and water towers. These can include separate access for outside staff such as telecommunications service technicians.

8.7 Standby Power Improvements at East Water Treatment Plant and Wells

The East WTP has a small engine-generator that provides backup power to building emergency systems (ventilation, chlorine scrubber and controls). The unit is not large enough to power the water treatment and pumping systems. During a City-wide power outage, only the West WTP and selected wells serving the West WTP will be operational.

The following improvements are recommended:

- Replace the small engine-generator at the East WTP with a larger outdoor diesel unit. The unit will be sized to operate the entire WTP and two high service pumps.
- Modify the East WTP electrical service to include a larger automatic transfer switch.
- Install outdoor diesel engine-generators and automatic transfer switches at selected wells serving the East WTP. This includes installations at five wells serving the East WTP.

SECTION 9 - CAPITAL IMPROVEMENT PLAN AND FINANCIAL CONSIDERATIONS

9.1 Capital Improvement Plan

The recommended 10 year capital improvement projects are shown in Table 9-1. Total project cost is presented in 2014 dollars. While these projects are recommended with the following schedule, specific timing shall be based on system needs. Individual projects shall be re-evaluated prior to authorization for design by City Council. The recommended year of completion and estimated cost are shown below:

Table 9-1
1-5 year Capital Improvement Plan

Proposed Improvements	Approximate Year of Completion	Total Project Cost
2014 Main Replacement – 101st Avenue NW & Foley Blvd. NW	2014	$10,000
SCADA and Security System Upgrades	2015	$950,000
Install Baffle Wall to West Reservoir	2016	$275,000
New 1.5 MG Elevated Water Storage Tower – Phase 1	2016	$500,000
West Tower Altitude Valve	2016	$35,000
Valve/Pipe Modifications at WTPs	2016	$240,000
New 1.5 MG Elevated Water Storage Tower – Phase 2	2017	$3,575,000
North Elevated Water Storage Tower Rehabilitation	2018	$1,560,000
East Ground Storage Reservoir Rehabilitation	2018	$700,000
Backup Power at East WTP and Wells	2019	$1,200,000
VFDs for West HSPs 4 and 5	2020	$500,000
	TOTAL	$9,545,000

Table 9-2
6-10 year Capital Improvement Plan

Proposed Improvements	Approximate Year of Completion	Total Project Cost
Trunk Water Main Looping – Main Street NW	2025	$280,000
Replace Water Main Connections to Well 5 and 6	2025	$50,000
Hanson Blvd 30 inch Main Reconstruction	2034	$1,360,000
	TOTAL	$3,445,000

Table 9-3
On-Going Annual Maintenance Costs

Proposed Improvements	Total Project Cost
Well Rehabilitation	$250,000
Water main replacement	$2,000,000
TOTAL	$2,250,000

9.2 Replacement Costs

As part of this study, the present worth of the existing water distribution system was estimated to determine an annual amount that the City can plan for annual system replacements or rehabilitations. The goal of this annual estimate is to provide a proactive approach to system maintenance before major emergency repairs are required.

Based on the value of the existing system (including water mains, hydrants and valves, the estimated value of the system is $83,526,907. The life expectancy of the water distribution system is approximately 50 years. Annualized construction cost based on a 50 year life expectancy is $1,670,538 and total annualized project cost (including 15% engineering, administrative and legal) is $1,921,119.

Proposed replacements should be evaluated annually with the City's reconstruction program. Replacements should be consistent with criteria established in Section 1.5.

9.3 Impact of System Operation on User Rates

The cost to operate a water system are categorized primarily into two categories: fixed costs and variable costs. Fixed costs are those that do not change with respect to the amount of water used. Examples of fixed costs include:

- Employee salaries
- Debt repayment
- Billing and customer service
- Utility costs of building operation (not including pumping)
- System maintenance

Variable costs are proportionate to how much water is being used. During high demand periods such as summer, variable costs can increase significantly. Examples of variable costs include:

- Electricity for pumping
- Chemical feed costs

Water rate structures developed by communities often include fixed and variable components. The most common types of rate structures include a fixed charge, or service charge that is charged on a monthly or quarterly basis and does not change between billing cycles. Variable charges are often tied to the amount of water that is metered and is charged on a unit costs basis, most commonly per 100 cubic feet or 1,000 gallon units.

In 2008, the State of Minnesota imposed strict requirements on water systems serving greater than 1,000 persons to include conservation measures in their water rate structures. This requirement was commonly included through the use of an inclining block rate structure, similar to the rate structure that Coon Rapids currently uses. The theory on inclining block rates is that it promotes conservation through the increased cost of a unit of water per customer at predetermined levels. In 2012, the State of Minnesota amended the State statute to no longer require conservation rate structures, although demand reduction measures shall still be met.

The rate structure implemented should be carefully considered prior to implementation as each component of the rate structure may have beneficial or adverse effects, depending on which customers are impacted. Examples of cause and effect relationships include the following:

- Fixed Charge: High fixed charges will provide a more stable revenue source in comparison to variable charges. Higher fixed charges may impact low water users adversely as compared to large water users. These may include elderly residents that do not use a significant amount of water. Higher fixed charges are also not considered to promote conservation as effectively.
- Variable Charge: High variable charges will provide a more erratic revenue stream and may require the City to maintain a larger cash balance to cover costs during low demand periods. Variable costs are considered to promote conservation, although too high of rates may reduce water sales to a level that lowers revenue too significantly.
- Inclining Block Rates: Encourages conservation, although the tier level and cost increase should be carefully analyzed to ensure the correct impact of the structure is applied. Inclining block rates can be effective at reducing peak demands to limit capital expenditures needed to meet these relatively short, high peak demands.

Peaking factors discussed in Section 4.1 can be effectively used to assist in setting goals of a water rate structure. A maximum day peaking factor of 2.85 in Coon Rapids requires a much larger water supply and WTPs to meet this demand. Apportioning the variable charges, along with a higher portion of the fixed capital costs may be an equitable solution to capturing the costs to meet this high demand. In addition to the maximum day peaking factor, the peak hour peaking factor of 4.56 requires much larger water storage and transmission mains to meet this water demand.

The majority of peaking factors are a result of irrigation during the summer months. The majority of this peak water demand is from residential customers, who use the majority of water in Coon Rapids. Irrigation systems set for the early morning and washing laundry in the evening are examples of these peak demands. Commercial and institutional water users typically have smaller peaking demands as their business is generally spread out evenly throughout the day, although some commercial customers may have high irrigation demands. Lastly, industrial customers are generally assumed to have the lowest peaking factors as they may operate three shifts throughout a 24 hour period with very little water use variation.

SECTION 10 - ANALYSIS OF WATER SYSTEM IMPROVEMENTS

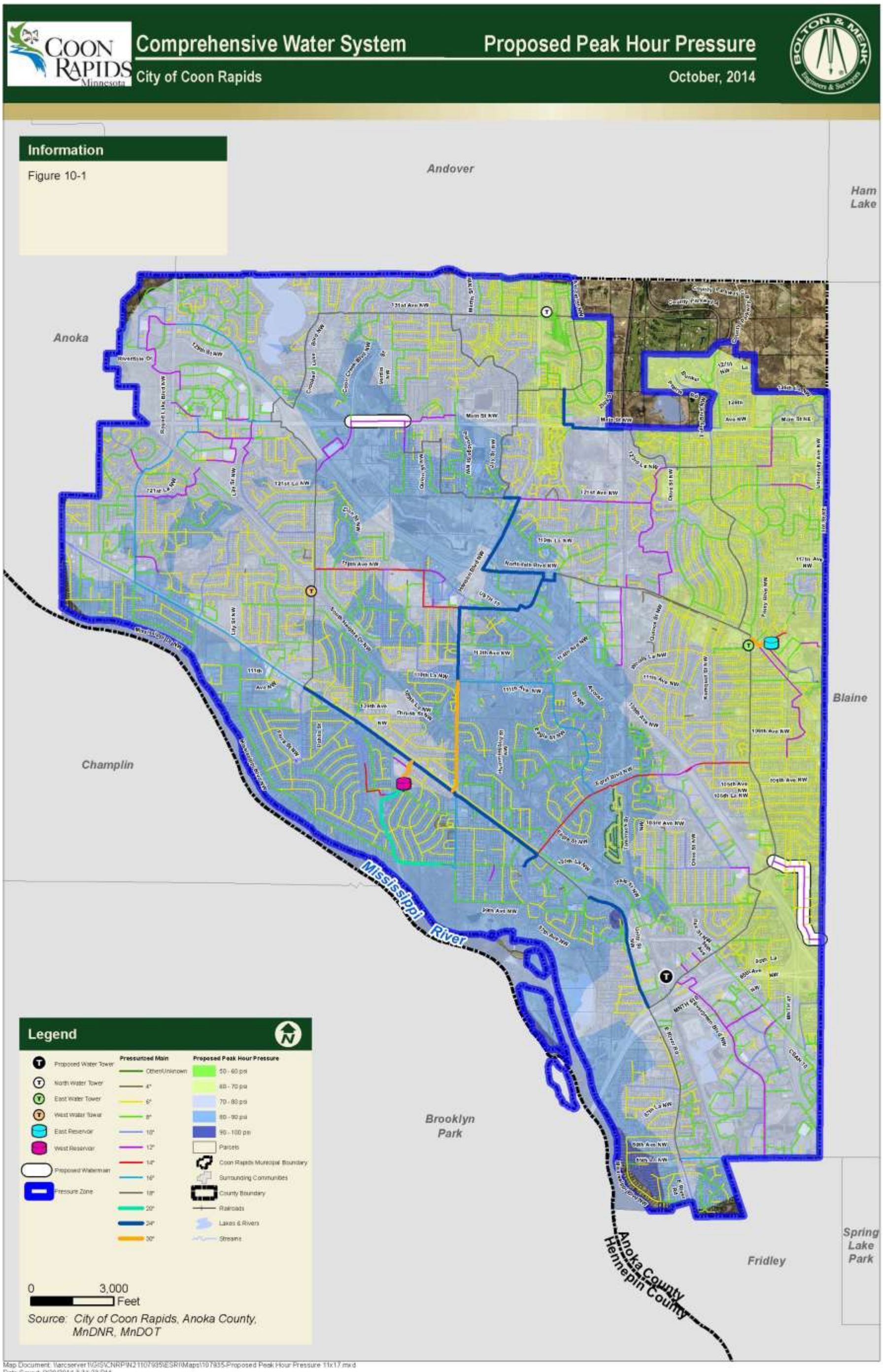
10.1 Proposed Water Pressure

The future average day pressures are very similar to the peak hour pressures. There will be very little change to system pressure with the proposed improvements. The system will continue to meet existing recommended standards for system pressure. The attached Figure 10-1, shows the proposed AD pressure for the City of Coon Rapids.

10.2 Proposed Available Fire Flows

The future available fire flows are represented in Figure 10-2. These flows represent the future expected available fire flows after the recommended system improvements are implemented. The recommended improvements to the trunk water main looping show localized increases to available fire flow. The proposed new elevated water tower also shows localized increases in available fire flow. Water main dead ends continue to show small areas of low available fire flow. These dead ends could show significant localized improvements if looped. However, the difficulty of completing these loops through side and backyards may not be feasible.

Figure 10-1, Proposed Peak Hour Pressure



Map Document: \\arcserver1\GIS\CNRP\N21\107935\ESRI\Maps\107935-Proposed Peak Hour Pressure 11x17.mxd
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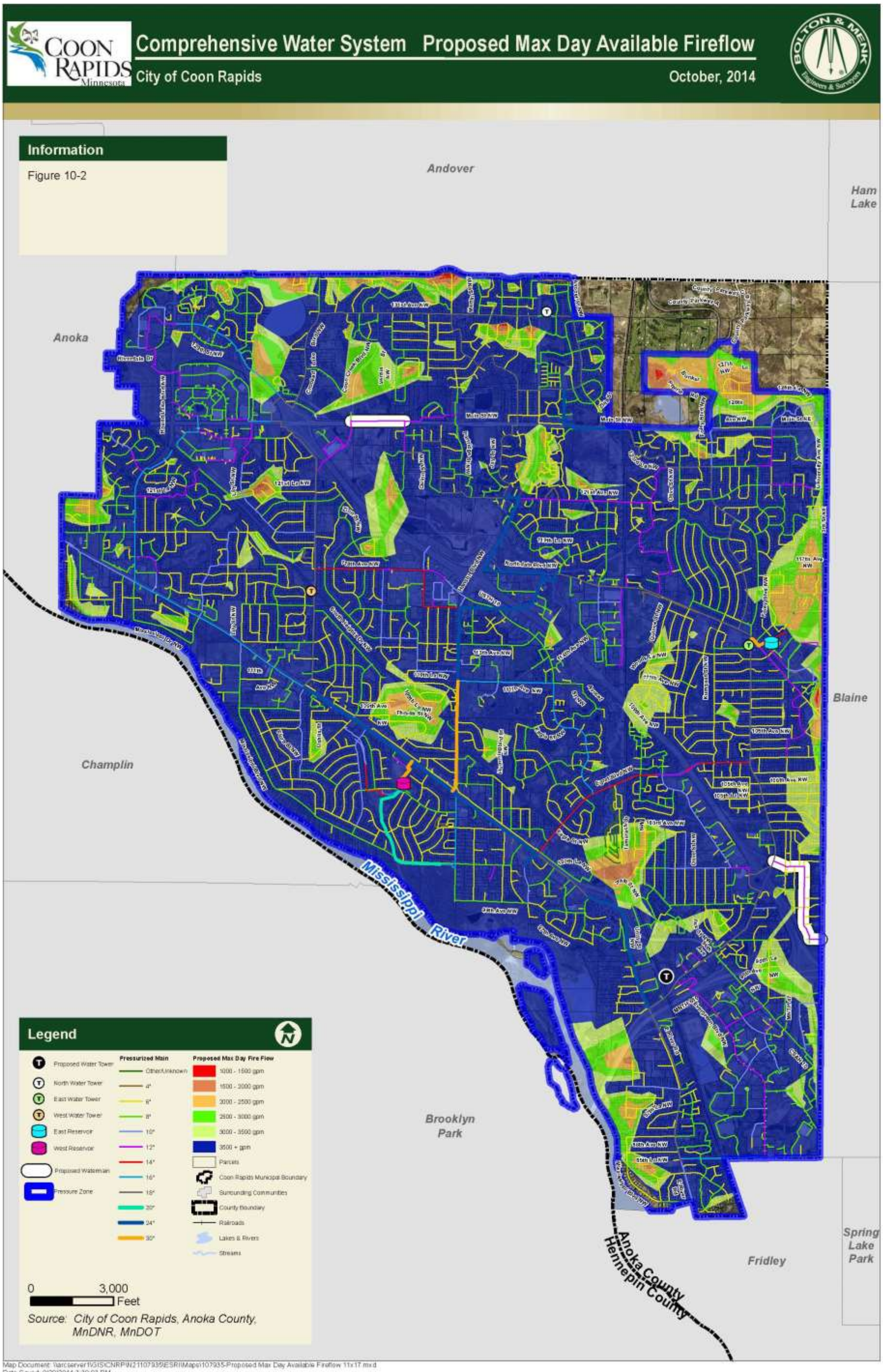
Figure 10-2, Proposed Max Day Available Fireflow



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APPENDIX A:

PIPE MODEL DATA

Coon Rapids MN 2014 Water Distribution Model Data

		ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	HL/1000 (ft/kft)	Status	Flow Reversal Count
1		1543_D	1543	1543-B	0.06	99.00	150.00	2,422.23	0.10	0.00	0.00	Open	0
2		1543_U	1543-A	1543	0.06	99.00	150.00	2,422.23	0.10	0.00	0.00	Open	0
3		1544_D	1544	1544-B	0.40	99.00	150.00	2,427.73	0.10	0.00	0.00	Open	0
4		1544_U	1544-A	1544	0.31	99.00	150.00	2,427.73	0.10	0.00	0.00	Open	0
5		1545_D	1545	1545-B	0.03	99.00	150.00	0.00	0.00	0.00	0.00	Open	0
6		1545_U	1545-A	1545	0.03	99.00	150.00	0.00	0.00	0.00	0.00	Open	0
7		1546_D	1546	1546-B	0.73	99.00	150.00	0.00	0.00	0.00	0.00	Open	0
8		1546_U	1546-A	1546	0.58	99.00	150.00	0.00	0.00	0.00	0.00	Open	0
9		1547_D	1547	1547-B	0.43	99.00	150.00	2,448.59	0.10	0.00	0.00	Open	0
10		1547_U	1547-A	1547	0.25	99.00	150.00	2,448.59	0.10	0.00	0.00	Open	0
11		1548_D	1548	1548-B	0.20	99.00	150.00	4,927.42	0.21	0.00	0.00	Open	0
12		1548_U	1548-A	1548	0.23	99.00	150.00	4,927.42	0.21	0.00	0.00	Open	0
13		1549_D	1549	1549-B	1.28	99.00	150.00	0.00	0.00	0.00	0.00	Open	0
14		1549_U	1549-A	1549	0.86	99.00	150.00	0.00	0.00	0.00	0.00	Open	0
15		1550_D	1550	1550-B	0.49	99.00	150.00	0.00	0.00	0.00	0.00	Open	0
16		1550_U	1550-A	1550	0.45	99.00	150.00	0.00	0.00	0.00	0.00	Open	0
17		1551_D	1551	1551-B	6.08	99.00	150.00	0.00	0.00	0.00	0.00	Open	0
18		1551_U	1551-A	1551	4.77	99.00	150.00	0.00	0.00	0.00	0.00	Open	0
19		1552_D	1552	1552-B	5.47	99.00	150.00	0.00	0.00	0.00	0.00	Open	0
20		1552_U	1552-A	1552	4.17	99.00	150.00	0.00	0.00	0.00	0.00	Open	0
21		1553_D	1553	1553-B	2.78	99.00	150.00	928.79	0.04	0.00	0.00	Open	0
22		1553_U	1553-A	1553	3.05	99.00	150.00	928.79	0.04	0.00	0.00	Open	0
23		1554_D	1554	1554-B	1.35	99.00	150.00	1,031.53	0.04	0.00	0.00	Open	0
24		1554_U	1554-A	1554	1.26	99.00	150.00	1,031.53	0.04	0.00	0.00	Open	0
25		1555_D	1555	1555-B	4.56	99.00	150.00	1,535.56	0.06	0.00	0.00	Open	0
26		1555_U	1555-A	1555	2.60	99.00	150.00	1,535.56	0.06	0.00	0.00	Open	0
27		1556_D	1556	1556-B	0.37	99.00	150.00	1,406.28	0.06	0.00	0.00	Open	0
28		1556_U	1556-A	1556	0.39	99.00	150.00	1,406.28	0.06	0.00	0.00	Open	0
29		1557_D	1557	1557-B	0.41	99.00	150.00	829.36	0.03	0.00	0.00	Open	0
30		1557_U	1557-A	1557	0.28	99.00	150.00	829.36	0.03	0.00	0.00	Open	0
31		1558_D	1558	1558-B	4.35	99.00	150.00	677.94	0.03	0.00	0.00	Open	0
32		1558_U	1558-A	1558	3.91	99.00	150.00	677.94	0.03	0.00	0.00	Open	0
33		1559_D	1559	1559-B	0.13	99.00	150.00	1,345.04	0.06	0.00	0.00	Open	0
34		1559_U	1559-A	1559	0.17	99.00	150.00	1,345.04	0.06	0.00	0.00	Open	0
35		1560	143	144	182.48	24.00	130.00	2,407.31	1.71	0.08	0.44	Open	0

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		ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	HL/1000 (ft/kft)	Status	Flow Reversal Count
36		1561	145	146	121.10	30.00	130.00	4,689.61	2.13	0.06	0.51	Open	0
37		1562	146	147	388.41	30.00	130.00	4,479.68	2.03	0.18	0.47	Open	0
38		1563	147	148	477.53	30.00	130.00	4,497.84	2.04	0.23	0.47	Open	0
39		1564	148	149	303.59	30.00	130.00	4,572.76	2.08	0.15	0.49	Open	0
40		1565	150	151	317.59	30.00	130.00	4,616.54	2.10	0.16	0.50	Open	0
41		1566	151	152	424.96	30.00	130.00	4,626.67	2.10	0.21	0.50	Open	0
42		1567	152	153	187.94	30.00	130.00	4,620.36	2.10	0.09	0.50	Open	0
43		1568	153	154	590.31	30.00	130.00	4,557.00	2.07	0.29	0.48	Open	0
44		1569	154	155	304.39	30.00	130.00	4,449.08	2.02	0.14	0.46	Open	0
45		1570	155	156	344.09	24.00	130.00	3,903.29	2.77	0.37	1.08	Open	0
46		1571	156	157	399.83	24.00	130.00	3,503.33	2.48	0.35	0.88	Open	0
47		1572	158	159	180.11	30.00	130.00	-4,313.78	1.96	0.08	0.44	Open	0
48		1573	159	160	230.95	30.00	130.00	-4,824.72	2.19	0.12	0.54	Open	0
49		1575	163	162	855.49	24.00	130.00	3,927.80	2.79	0.93	1.09	Open	0
50		1576	164	163	602.50	24.00	130.00	4,615.45	3.27	0.89	1.47	Open	0
51		1577	164	165	219.06	24.00	130.00	-4,841.58	3.43	0.35	1.61	Open	0
52		1578	166	165	1,838.18	24.00	130.00	4,978.72	3.53	3.11	1.69	Open	0
53		1579	166	167	768.55	24.00	130.00	7,397.47	5.25	2.71	3.52	Open	0
54		1580	167	143	1,053.60	24.00	130.00	7,195.29	5.10	3.53	3.35	Open	0
55		1581	144	168	882.96	24.00	130.00	2,506.96	1.78	0.42	0.48	Open	0
56		1582	168	169	1,245.41	24.00	130.00	2,500.65	1.77	0.59	0.47	Open	0
57		1583	169	170	838.25	24.00	130.00	2,592.60	1.84	0.42	0.51	Open	0
58		1584	170	171	698.51	24.00	130.00	2,735.38	1.94	0.39	0.56	Open	0
59		1585	171	172	251.12	24.00	130.00	-471.59	0.33	0.01	0.02	Open	0
60		1586	172	173	432.85	24.00	130.00	-585.24	0.42	0.01	0.03	Open	0
61		1587	174	175	94.32	24.00	130.00	3,015.80	2.14	0.06	0.67	Open	0
62		1588	177	178	373.90	24.00	130.00	3,155.80	2.24	0.27	0.73	Open	0
63		1589	180	181	361.02	24.00	130.00	3,044.38	2.16	0.25	0.68	Open	0
64		1590	181	182	249.24	24.00	130.00	3,054.42	2.17	0.17	0.69	Open	0
65		1591	157	183	589.72	24.00	130.00	3,376.22	2.39	0.49	0.82	Open	0
66		1592	183	184	1,314.68	24.00	130.00	3,041.85	2.16	0.89	0.68	Open	0
67		1593	184	185	469.69	24.00	130.00	1,883.86	1.34	0.13	0.28	Open	0
68		1595	187	188	545.97	24.00	130.00	2,048.21	1.45	0.18	0.33	Open	0
69		1596	188	189	338.08	24.00	130.00	-289.39	0.21	0.00	0.01	Open	0
70		1597	189	190	205.26	24.00	130.00	-295.70	0.21	0.00	0.01	Open	0

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		ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	HL/1000 (ft/kft)	Status	Flow Reversal Count
71		1598	191	192	544.74	24.00	130.00	2,463.81	1.75	0.25	0.46	Open	0
72		1599	192	193	2,036.56	24.00	130.00	2,457.50	1.74	0.93	0.46	Open	0
73		1600	193	194	127.08	24.00	130.00	2,454.92	1.74	0.06	0.46	Open	0
74		1601	194	195	537.77	24.00	130.00	2,448.61	1.74	0.24	0.45	Open	0
75		1602	195	196	193.36	24.00	130.00	2,442.29	1.73	0.09	0.45	Open	0
76		1603	196	197	381.86	24.00	130.00	2,414.91	1.71	0.17	0.44	Open	0
77		1604	197	198	151.72	24.00	130.00	2,408.60	1.71	0.07	0.44	Open	0
78		1605	198	199	39.13	24.00	130.00	894.56	0.63	0.00	0.07	Open	0
79		1606	158	200	225.39	30.00	130.00	4,129.35	1.87	0.09	0.40	Open	0
80		1607	201	202	339.43	24.00	130.00	-1,563.36	1.11	0.07	0.20	Open	0
81		1608	202	203	353.56	24.00	130.00	-1,717.09	1.22	0.08	0.24	Open	0
82		1609	203	204	235.63	24.00	130.00	-1,723.40	1.22	0.06	0.24	Open	0
83		1610	204	J130	87.44	24.00	130.00	-1,759.61	1.25	0.02	0.25	Open	0
84		1611	205	206	339.81	24.00	130.00	-1,827.17	1.30	0.09	0.26	Open	0
85		1612	206	207	131.80	24.00	130.00	-1,833.48	1.30	0.04	0.27	Open	0
86		1613	207	208	1,851.71	24.00	130.00	-1,678.02	1.19	0.42	0.23	Open	0
87		1614	209	210	259.21	18.00	130.00	-330.22	0.42	0.01	0.05	Open	0
88		1615	210	211	147.80	18.00	130.00	-345.82	0.44	0.01	0.05	Open	0
89		1616	211	212	425.63	18.00	130.00	-387.79	0.49	0.03	0.06	Open	0
90		1617	212	213	330.44	18.00	130.00	-395.03	0.50	0.02	0.06	Open	0
91		1618	213	214	553.14	18.00	130.00	-384.19	0.48	0.03	0.06	Open	0
92		1619	214	215	28.55	18.00	130.00	-426.56	0.54	0.00	0.07	Open	0
93		1620	215	216	210.67	18.00	130.00	-442.95	0.56	0.02	0.08	Open	0
94		1621	216	217	327.42	18.00	130.00	-482.38	0.61	0.03	0.09	Open	0
95		1622	217	218	291.65	18.00	130.00	-516.69	0.65	0.03	0.10	Open	0
96		1623	218	219	872.52	18.00	130.00	-566.90	0.71	0.11	0.12	Open	0
97		1624	219	220	1,336.21	18.00	130.00	-579.52	0.73	0.17	0.13	Open	0
98		1626	174	221	667.44	18.00	130.00	-2,867.73	3.62	1.65	2.47	Open	0
99		1627	221	222	273.82	18.00	130.00	-2,836.09	3.58	0.66	2.42	Open	0
100		1628	222	223	724.63	18.00	130.00	-3,040.61	3.83	2.00	2.76	Open	0
101		1629	223	224	338.60	18.00	130.00	-2,873.59	3.62	0.84	2.48	Open	0
102		1630	224	171	441.04	18.00	130.00	-2,772.56	3.50	1.03	2.32	Open	0
103		1631	182	225	1,419.26	18.00	130.00	2,449.79	3.09	2.62	1.85	Open	0
104		1632	225	226	531.27	18.00	130.00	-2,129.53	2.68	0.76	1.43	Open	0
105		1633	226	227	526.93	18.00	130.00	-2,148.47	2.71	0.76	1.45	Open	0

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		ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	HL/1000 (ft/kft)	Status	Flow Reversal Count
106		1634	227	228	697.39	18.00	130.00	-2,161.09	2.72	1.02	1.47	Open	0
107		1635	228	229	499.50	18.00	130.00	-2,252.01	2.84	0.79	1.58	Open	0
108		1636	229	230	302.51	18.00	130.00	-2,294.08	2.89	0.50	1.64	Open	0
109		1637	230	231	1,043.60	18.00	130.00	-2,474.62	3.12	1.97	1.88	Open	0
110		1638	231	232	367.71	18.00	130.00	-2,305.11	2.91	0.61	1.65	Open	0
111		1639	232	233	157.70	18.00	130.00	-1,167.45	1.47	0.07	0.47	Open	0
112		1641	234	235	1,112.92	18.00	130.00	-1,117.85	1.41	0.48	0.43	Open	0
113		1642	235	236	526.03	18.00	130.00	-1,416.86	1.79	0.35	0.67	Open	0
114		1643	236	237	546.74	18.00	130.00	-1,333.03	1.68	0.33	0.60	Open	0
115		1644	237	238	315.41	18.00	130.00	-1,551.88	1.96	0.25	0.79	Open	0
116		1645	238	239	333.69	18.00	130.00	-1,562.35	1.97	0.27	0.80	Open	0
117		1646	239	240	317.29	18.00	130.00	-1,619.03	2.04	0.27	0.86	Open	0
118		1647	240	241	404.84	18.00	130.00	-1,546.31	1.95	0.32	0.79	Open	0
119		1648	241	242	386.24	18.00	130.00	-1,572.19	1.98	0.31	0.81	Open	0
120		1649	242	243	435.32	18.00	130.00	-1,546.59	1.95	0.34	0.79	Open	0
121		1650	243	244	408.96	18.00	130.00	-1,458.55	1.84	0.29	0.71	Open	0
122		1651	244	245	192.24	18.00	130.00	-1,428.72	1.80	0.13	0.68	Open	0
123		1652	245	246	246.38	18.00	130.00	-1,438.81	1.81	0.17	0.69	Open	0
124		1653	246	247	39.88	18.00	130.00	-1,413.43	1.78	0.03	0.67	Open	0
125		1654	247	248	168.98	18.00	130.00	-1,375.77	1.73	0.11	0.63	Open	0
126		1655	248	249	179.77	18.00	130.00	-1,413.77	1.78	0.12	0.67	Open	0
127		1656	249	250	166.30	18.00	130.00	-1,389.84	1.75	0.11	0.65	Open	0
128		1657	250	251	324.52	18.00	130.00	-1,297.27	1.64	0.18	0.57	Open	0
129		1658	251	252	347.84	18.00	130.00	-1,200.02	1.51	0.17	0.49	Open	0
130		1659	252	253	313.80	18.00	130.00	-1,212.68	1.53	0.16	0.50	Open	0
131		1660	253	254	169.05	18.00	130.00	-1,249.09	1.57	0.09	0.53	Open	0
132		1661	254	255	168.98	18.00	130.00	-1,204.88	1.52	0.08	0.50	Open	0
133		1662	255	256	320.93	18.00	130.00	-1,178.93	1.49	0.15	0.48	Open	0
134		1663	256	257	327.21	18.00	130.00	-1,139.83	1.44	0.15	0.45	Open	0
135		1664	257	258	417.43	18.00	130.00	-1,138.27	1.44	0.19	0.45	Open	0
136		1665	258	259	351.33	18.00	130.00	-1,139.50	1.44	0.16	0.45	Open	0
137		1666	259	260	503.30	18.00	130.00	-1,075.67	1.36	0.20	0.40	Open	0
138		1667	260	200	235.76	18.00	130.00	-1,124.80	1.42	0.10	0.44	Open	0
139		1668	200	J124	141.88	18.00	130.00	2,998.23	3.78	0.38	2.69	Open	0
140		1669	261	262	661.68	18.00	130.00	1,164.68	1.47	0.31	0.47	Open	0

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141		1670	262	263	1,251.81	18.00	130.00	1,185.60	1.49	0.60	0.48	Open	0
142		1671	263	264	42.44	18.00	130.00	1,474.25	1.86	0.03	0.72	Open	0
143		1672	264	265	681.97	18.00	130.00	1,216.24	1.53	0.34	0.51	Open	0
144		1673	265	266	35.99	18.00	130.00	-220.49	0.28	0.00	0.02	Open	0
145		1674	265	267	486.17	18.00	130.00	1,430.42	1.80	0.33	0.68	Open	0
146		1676	268	269	212.75	18.00	130.00	935.66	1.18	0.07	0.31	Open	0
147		1677	269	270	847.51	18.00	130.00	716.57	0.90	0.16	0.19	Open	0
148		1678	270	271	420.37	18.00	130.00	593.53	0.75	0.06	0.13	Open	0
149		1680	272	190	297.48	18.00	130.00	302.01	0.38	0.01	0.04	Open	0
150		1681	261	273	304.74	18.00	130.00	1,464.14	1.85	0.22	0.71	Open	0
151		1682	273	274	1,868.01	18.00	130.00	1,490.61	1.88	1.38	0.74	Open	0
152		1683	274	275	324.66	18.00	130.00	1,466.68	1.85	0.23	0.71	Open	0
153		1684	275	276	411.93	18.00	130.00	1,396.87	1.76	0.27	0.65	Open	0
154		1685	276	277	572.60	18.00	130.00	1,387.78	1.75	0.37	0.65	Open	0
155		1686	278	279	278.12	18.00	130.00	1,445.21	1.82	0.19	0.70	Open	0
156		1687	279	280	415.19	18.00	130.00	1,345.67	1.70	0.25	0.61	Open	0
157		1688	280	281	137.94	18.00	130.00	1,385.92	1.75	0.09	0.64	Open	0
158		1689	281	282	268.14	18.00	130.00	1,357.56	1.71	0.17	0.62	Open	0
159		1690	282	283	306.05	18.00	130.00	1,409.22	1.78	0.20	0.66	Open	0
160		1691	283	284	355.15	18.00	130.00	1,213.56	1.53	0.18	0.50	Open	0
161		1692	284	285	817.15	18.00	130.00	1,239.12	1.56	0.43	0.52	Open	0
162		1693	285	286	458.53	18.00	130.00	1,206.10	1.52	0.23	0.50	Open	0
163		1694	286	287	641.72	18.00	130.00	1,175.65	1.48	0.30	0.47	Open	0
164		1695	287	288	50.25	18.00	130.00	1,068.21	1.35	0.02	0.40	Open	0
165		1696	289	290	199.86	18.00	130.00	1,627.83	2.05	0.17	0.87	Open	0
166		1697	291	292	287.42	18.00	130.00	1,621.12	2.04	0.25	0.86	Open	0
167		1698	292	293	492.49	18.00	130.00	1,696.96	2.14	0.46	0.94	Open	0
168		1699	293	208	239.98	18.00	130.00	1,684.33	2.12	0.22	0.92	Open	0
169		1700	294	201	323.27	18.00	130.00	-1,694.49	2.14	0.30	0.93	Open	0
170		1701	201	295	149.86	18.00	130.00	-137.44	0.17	0.00	0.01	Open	0
171		1702	295	296	747.33	18.00	130.00	-197.29	0.25	0.01	0.02	Open	0
172		1703	297	298	429.74	18.00	130.00	-276.44	0.35	0.01	0.03	Open	0
173		1704	298	299	360.01	18.00	130.00	-233.01	0.29	0.01	0.02	Open	0
174		1705	299	300	1,019.65	18.00	130.00	1,161.09	1.46	0.47	0.46	Open	0
175		1706	300	301	689.84	18.00	130.00	1,043.95	1.32	0.26	0.38	Open	0

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176		1707	301	302	669.01	18.00	130.00	1,037.64	1.31	0.25	0.38	Open	0
177		1708	302	303	345.13	18.00	130.00	1,094.70	1.38	0.14	0.42	Open	0
178		1709	303	304	314.63	18.00	130.00	1,044.25	1.32	0.12	0.38	Open	0
179		1710	304	305	543.55	18.00	130.00	959.39	1.21	0.18	0.33	Open	0
180		1711	305	306	740.21	18.00	130.00	942.22	1.19	0.23	0.31	Open	0
181		1712	306	307	273.62	18.00	130.00	913.45	1.15	0.08	0.30	Open	0
182		1713	307	308	324.95	18.00	130.00	916.42	1.16	0.10	0.30	Open	0
183		1714	308	309	987.09	18.00	130.00	1,326.90	1.67	0.59	0.59	Open	0
184		1715	309	310	813.03	18.00	130.00	1,206.95	1.52	0.41	0.50	Open	0
185		1716	310	311	571.16	18.00	130.00	1,107.45	1.40	0.24	0.42	Open	0
186		1717	311	312	1,117.34	18.00	130.00	1,278.55	1.61	0.62	0.55	Open	0
187		1718	308	313	837.98	18.00	130.00	-424.03	0.53	0.06	0.07	Open	0
188		1719	313	314	635.12	18.00	130.00	-401.03	0.51	0.04	0.06	Open	0
189		1720	314	315	681.28	18.00	130.00	-402.74	0.51	0.04	0.07	Open	0
190		1721	315	316	527.90	18.00	130.00	-428.67	0.54	0.04	0.07	Open	0
191		1722	316	317	516.48	18.00	130.00	-426.47	0.54	0.04	0.07	Open	0
192		1723	317	318	135.54	18.00	130.00	-484.23	0.61	0.01	0.09	Open	0
193		1724	318	319	232.25	18.00	130.00	-549.54	0.69	0.03	0.12	Open	0
194		1725	319	320	209.06	18.00	130.00	-579.20	0.73	0.03	0.13	Open	0
195		1726	320	321	513.74	18.00	130.00	-591.82	0.75	0.07	0.13	Open	0
196		1727	321	322	574.37	18.00	130.00	-610.15	0.77	0.08	0.14	Open	0
197		1728	322	323	830.67	18.00	130.00	-673.85	0.85	0.14	0.17	Open	0
198		1729	323	324	573.69	18.00	130.00	-660.03	0.83	0.09	0.16	Open	0
199		1730	324	325	709.01	18.00	130.00	-692.78	0.87	0.13	0.18	Open	0
200		1731	325	326	278.24	18.00	130.00	-705.41	0.89	0.05	0.18	Open	0
201		1733	327	328	734.82	18.00	130.00	-913.17	1.15	0.22	0.30	Open	0
202		1734	328	329	255.87	8.00	130.00	12.62	0.08	0.00	0.01	Open	0
203		1735	328	330	325.15	18.00	130.00	-932.11	1.18	0.10	0.31	Open	0
204		1736	330	331	1,037.09	18.00	130.00	-377.65	0.48	0.06	0.06	Open	0
205		1737	331	332	1,102.69	18.00	130.00	-345.54	0.44	0.05	0.05	Open	0
206		1738	333	334	322.54	18.00	130.00	-32.30	0.04	0.00	0.00	Open	0
207		1739	334	335	1,123.17	18.00	130.00	11.90	0.02	0.00	0.00	Open	0
208		1740	335	336	135.81	18.00	130.00	7.63	0.01	0.00	0.00	Open	0
209		1741	336	337	67.97	6.00	130.00	-67.51	0.77	0.03	0.50	Open	0
210		1742	336	338	225.51	18.00	130.00	68.83	0.09	0.00	0.00	Open	0

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211		1743	338	339	183.68	18.00	130.00	65.07	0.08	0.00	0.00	Open	0
212		1744	339	340	766.14	18.00	130.00	38.08	0.05	0.00	0.00	Open	0
213		1745	342	341	185.53	18.00	130.00	3,772.84	4.76	0.76	4.11	Open	0
214		1746	343	342	1,134.20	18.00	130.00	3,282.11	4.14	3.60	3.18	Open	0
215		1747	345	344	288.68	18.00	130.00	3,504.66	4.42	1.04	3.59	Open	0
216		1748	346	345	285.85	18.00	130.00	3,596.53	4.53	1.08	3.76	Open	0
217		1749	161	346	116.24	18.00	130.00	3,602.84	4.54	0.44	3.78	Open	0
218		1750	199	347	246.29	18.00	130.00	875.62	1.10	0.07	0.28	Open	0
219		1751	347	348	467.70	18.00	130.00	869.31	1.10	0.13	0.27	Open	0
220		1752	348	349	469.13	18.00	130.00	761.48	0.96	0.10	0.21	Open	0
221		1753	349	350	681.50	18.00	130.00	666.27	0.84	0.11	0.17	Open	0
222		1754	350	351	490.28	18.00	130.00	659.96	0.83	0.08	0.16	Open	0
223		1755	351	352	528.07	18.00	130.00	578.17	0.73	0.07	0.13	Open	0
224		1756	352	353	352.74	18.00	130.00	568.16	0.72	0.04	0.12	Open	0
225		1757	353	354	790.67	18.00	130.00	522.75	0.66	0.08	0.11	Open	0
226		1758	354	355	282.92	18.00	130.00	469.80	0.59	0.02	0.09	Open	0
227		1759	355	356	456.89	18.00	130.00	463.48	0.58	0.04	0.08	Open	0
228		1760	356	357	330.62	18.00	130.00	457.17	0.58	0.03	0.08	Open	0
229		1761	357	358	378.98	18.00	130.00	355.54	0.45	0.02	0.05	Open	0
230		1762	358	359	366.82	18.00	130.00	424.70	0.54	0.03	0.07	Open	0
231		1763	359	360	326.63	18.00	130.00	418.39	0.53	0.02	0.07	Open	0
232		1764	198	361	423.08	18.00	130.00	1,507.73	1.90	0.32	0.75	Open	0
233		1765	361	362	133.19	18.00	130.00	1,447.57	1.83	0.09	0.70	Open	0
234		1766	362	363	275.52	18.00	130.00	1,357.34	1.71	0.17	0.62	Open	0
235		1767	363	364	386.74	18.00	130.00	1,351.03	1.70	0.24	0.61	Open	0
236		1768	364	365	162.34	18.00	130.00	1,468.54	1.85	0.12	0.72	Open	0
237		1769	365	366	425.87	18.00	130.00	1,462.23	1.84	0.30	0.71	Open	0
238		1770	366	367	306.98	18.00	130.00	1,455.48	1.84	0.22	0.71	Open	0
239		1771	368	369	936.16	18.00	130.00	1,501.98	1.89	0.70	0.75	Open	0
240		1772	369	299	904.43	18.00	130.00	1,400.41	1.77	0.59	0.66	Open	0
241		1773	209	370	715.33	16.00	130.00	260.46	0.42	0.04	0.05	Open	0
242		1774	370	371	1,328.36	16.00	130.00	283.20	0.45	0.08	0.06	Open	0
243		1775	371	372	1,000.44	16.00	130.00	208.45	0.33	0.03	0.03	Open	0
244		1776	373	374	168.09	16.00	130.00	-97.59	0.16	0.00	0.01	Open	0
245		1777	374	375	327.12	16.00	130.00	-117.43	0.19	0.00	0.01	Open	0

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246		1778	375	376	972.85	16.00	130.00	-75.15	0.12	0.01	0.01	Open	0
247		1779	376	377	556.03	16.00	130.00	-85.51	0.14	0.00	0.01	Open	0
248		1780	377	144	633.85	16.00	130.00	105.96	0.17	0.01	0.01	Open	0
249		1781	378	379	215.93	14.00	130.00	-648.93	1.35	0.12	0.54	Open	0
250		1782	381	382	313.29	16.00	130.00	-187.01	0.30	0.01	0.03	Open	0
251		1783	385	386	568.33	16.00	130.00	-218.10	0.35	0.02	0.04	Open	0
252		1784	387	388	500.43	16.00	130.00	-275.62	0.44	0.03	0.06	Open	0
253		1785	388	389	274.61	16.00	130.00	-440.26	0.70	0.04	0.14	Open	0
254		1786	389	390	1,719.10	16.00	130.00	-526.85	0.84	0.33	0.19	Open	0
255		1787	390	155	1,466.71	16.00	130.00	-539.48	0.86	0.29	0.20	Open	0
256		1788	161	J84	447.62	16.00	130.00	800.06	1.28	0.18	0.41	Open	0
257		1789	391	392	1,504.75	16.00	130.00	998.51	1.59	0.94	0.62	Open	0
258		1790	392	393	1,746.76	16.00	130.00	1,218.68	1.94	1.57	0.90	Open	0
259		1791	394	J72	410.53	16.00	130.00	1,264.04	2.02	0.40	0.96	Open	0
260		1792	395	396	273.27	16.00	130.00	1,252.18	2.00	0.26	0.95	Open	0
261		1793	396	397	895.23	16.00	130.00	1,159.56	1.85	0.74	0.82	Open	0
262		1794	397	398	780.37	16.00	130.00	1,188.23	1.90	0.67	0.86	Open	0
263		1795	399	400	920.25	16.00	130.00	1,195.75	1.91	0.80	0.87	Open	0
264		1796	400	J42	1,360.13	16.00	130.00	1,324.32	2.11	1.43	1.05	Open	0
265		1797	401	402	375.41	16.00	130.00	1,119.20	1.79	0.29	0.77	Open	0
266		1798	402	403	677.32	16.00	130.00	990.32	1.58	0.42	0.61	Open	0
267		1800	327	J14	2,272.63	16.00	130.00	113.11	0.18	0.03	0.01	Open	0
268		1801	406	407	347.16	16.00	130.00	22.48	0.04	0.00	0.00	Open	0
269		1802	407	408	349.72	16.00	130.00	14.99	0.02	0.00	0.00	Open	0
270		1803	408	409	342.10	16.00	130.00	-3.24	0.01	0.00	0.00	Open	0
271		1804	171	413	114.14	14.00	130.00	428.10	0.89	0.03	0.25	Open	0
272		1805	413	414	535.42	14.00	130.00	459.23	0.96	0.15	0.28	Open	0
273		1806	414	415	778.72	14.00	130.00	566.66	1.18	0.33	0.42	Open	0
274		1807	415	416	1,232.92	14.00	130.00	446.84	0.93	0.33	0.27	Open	0
275		1808	416	380	338.63	14.00	130.00	459.47	0.96	0.10	0.28	Open	0
276		1809	380	379	544.08	14.00	130.00	655.24	1.37	0.30	0.55	Open	0
277		1810	378	417	1,093.41	14.00	130.00	561.96	1.17	0.45	0.41	Open	0
278		1811	417	418	799.28	14.00	130.00	300.87	0.63	0.10	0.13	Open	0
279		1812	418	419	1,645.54	12.00	130.00	26.45	0.08	0.01	0.00	Open	0
280		1813	419	420	332.77	14.00	130.00	-5.39	0.01	0.00	0.00	Open	0

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		ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	HL/1000 (ft/kft)	Status	Flow Reversal Count
281		1814	420	421	613.34	14.00	130.00	145.55	0.30	0.02	0.03	Open	0
282		1815	421	422	351.76	14.00	130.00	94.76	0.20	0.01	0.02	Open	0
283		1816	422	244	358.18	14.00	130.00	36.14	0.08	0.00	0.00	Open	0
284		1817	184	423	124.06	14.00	130.00	841.04	1.75	0.11	0.87	Open	0
285		1818	423	424	295.98	14.00	130.00	646.74	1.35	0.16	0.53	Open	0
286		1819	424	425	370.13	14.00	130.00	701.86	1.46	0.23	0.62	Open	0
287		1820	425	426	190.85	14.00	130.00	716.08	1.49	0.12	0.64	Open	0
288		1821	426	427	151.92	14.00	130.00	598.50	1.25	0.07	0.46	Open	0
289		1822	427	428	1,084.55	14.00	130.00	590.07	1.23	0.49	0.45	Open	0
290		1823	428	429	447.57	14.00	130.00	467.81	0.97	0.13	0.29	Open	0
291		1824	429	430	1,077.19	14.00	130.00	918.59	1.91	1.10	1.02	Open	0
292		1825	431	432	330.13	14.00	130.00	1,024.56	2.14	0.41	1.25	Open	0
293		1826	432	433	329.99	14.00	130.00	1,079.67	2.25	0.45	1.38	Open	0
294		1827	433	434	347.66	14.00	130.00	1,087.15	2.27	0.49	1.40	Open	0
295		1828	434	435	773.68	14.00	130.00	1,121.61	2.34	1.14	1.48	Open	0
296		1829	435	436	325.64	14.00	130.00	1,036.20	2.16	0.42	1.28	Open	0
297		1830	437	438	623.95	12.00	130.00	233.21	0.66	0.11	0.17	Open	0
298		1831	438	439	494.57	12.00	130.00	207.29	0.59	0.07	0.14	Open	0
299		1832	439	440	657.48	12.00	130.00	187.36	0.53	0.07	0.11	Open	0
300		1833	440	441	250.33	12.00	130.00	174.74	0.50	0.03	0.10	Open	0
301		1834	441	442	895.27	12.00	130.00	127.57	0.36	0.05	0.06	Open	0
302		1835	442	443	639.41	12.00	130.00	170.97	0.48	0.06	0.10	Open	0
303		1836	443	444	317.33	12.00	130.00	158.35	0.45	0.03	0.08	Open	0
304		1837	444	445	185.53	12.00	130.00	145.72	0.41	0.01	0.07	Open	0
305		1838	445	446	579.57	12.00	130.00	139.41	0.40	0.04	0.07	Open	0
306		1839	446	447	895.94	12.00	130.00	304.14	0.86	0.25	0.28	Open	0
307		1840	447	225	2,332.25	12.00	130.00	392.99	1.11	1.05	0.45	Open	0
308		1841	446	448	550.83	12.00	130.00	-177.35	0.50	0.06	0.10	Open	0
309		1842	448	449	151.54	12.00	130.00	-183.66	0.52	0.02	0.11	Open	0
310		1843	449	450	814.07	12.00	130.00	-161.88	0.46	0.07	0.09	Open	0
311		1844	451	452	641.15	12.00	130.00	120.39	0.34	0.03	0.05	Open	0
312		1845	227	453	466.47	12.00	130.00	6.31	0.02	0.00	0.00	Open	0
313		1846	226	454	362.86	12.00	130.00	12.62	0.04	0.00	0.00	Open	0
314		1847	234	455	902.54	12.00	130.00	-23.91	0.07	0.00	0.00	Open	0
315		1848	455	456	211.08	12.00	130.00	297.04	0.84	0.06	0.27	Open	0

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316		1849	457	458	605.57	12.00	130.00	6.31	0.02	0.00	0.00	Open	0
317		1850	459	460	533.36	12.00	130.00	21.34	0.06	0.00	0.00	Open	0
318		1851	460	461	443.87	12.00	130.00	-106.55	0.30	0.02	0.04	Open	0
319		1852	399	462	385.43	12.00	130.00	-17.39	0.05	0.00	0.00	Open	0
320		1853	462	463	452.78	12.00	130.00	46.75	0.13	0.00	0.01	Open	0
321		1854	464	465	299.39	12.00	130.00	138.46	0.39	0.02	0.07	Open	0
322		1855	465	466	367.27	12.00	130.00	-25.72	0.07	0.00	0.00	Open	0
323		1856	466	467	160.74	12.00	130.00	18.93	0.05	0.00	0.00	Open	0
324		1857	467	468	493.35	12.00	130.00	12.62	0.04	0.00	0.00	Open	0
325		1858	469	470	1,671.46	12.00	130.00	159.31	0.45	0.14	0.08	Open	0
326		1859	470	471	373.64	12.00	130.00	289.83	0.82	0.10	0.26	Open	0
327		1860	471	472	229.80	12.00	130.00	-213.95	0.61	0.03	0.15	Open	0
328		1861	473	474	631.25	12.00	130.00	-99.07	0.28	0.02	0.04	Open	0
329		1862	474	475	472.92	12.00	130.00	-105.38	0.30	0.02	0.04	Open	0
330		1863	475	471	667.39	12.00	130.00	-497.47	1.41	0.46	0.70	Open	0
331		1864	476	477	1,658.41	12.00	130.00	273.82	0.78	0.38	0.23	Open	0
332		1865	477	478	1,077.93	10.00	130.00	102.35	0.42	0.10	0.09	Open	0
333		1866	477	479	391.54	12.00	130.00	165.16	0.47	0.04	0.09	Open	0
334		1867	479	478	1,802.58	12.00	130.00	98.21	0.28	0.06	0.03	Open	0
335		1868	478	480	564.70	12.00	130.00	-22.78	0.06	0.00	0.00	Open	0
336		1869	481	482	437.95	12.00	130.00	-32.52	0.09	0.00	0.00	Open	0
337		1870	360	483	621.42	12.00	130.00	399.46	1.13	0.29	0.46	Open	0
338		1872	484	485	143.37	12.00	130.00	-151.96	0.43	0.01	0.08	Open	0
339		1873	485	486	358.18	12.00	130.00	-112.55	0.32	0.02	0.04	Open	0
340		1874	486	487	322.31	12.00	130.00	-82.67	0.23	0.01	0.02	Open	0
341		1875	487	488	348.34	12.00	130.00	-60.44	0.17	0.00	0.01	Open	0
342		1876	488	489	257.14	12.00	130.00	-194.31	0.55	0.03	0.12	Open	0
343		1877	489	490	1,146.11	12.00	130.00	-206.93	0.59	0.16	0.14	Open	0
344		1878	490	491	869.29	12.00	130.00	-66.57	0.19	0.01	0.02	Open	0
345		1879	491	492	377.70	12.00	130.00	-73.61	0.21	0.01	0.02	Open	0
346		1880	492	493	332.02	12.00	130.00	-61.33	0.17	0.00	0.01	Open	0
347		1881	493	494	131.33	12.00	130.00	-76.39	0.22	0.00	0.02	Open	0
348		1882	493	495	157.44	12.00	130.00	388.52	1.10	0.07	0.44	Open	0
349		1883	495	496	340.48	12.00	130.00	361.42	1.03	0.13	0.39	Open	0
350		1884	496	497	517.48	12.00	130.00	335.51	0.95	0.17	0.34	Open	0

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351		1885	497	289	625.02	12.00	130.00	386.73	1.10	0.27	0.44	Open	0
352		1886	493	498	673.47	12.00	130.00	-379.77	1.08	0.28	0.42	Open	0
353		1887	498	499	709.81	12.00	130.00	-386.08	1.10	0.31	0.43	Open	0
354		1888	500	501	743.24	12.00	130.00	-481.71	1.37	0.49	0.66	Open	0
355		1889	501	502	482.51	12.00	130.00	-437.96	1.24	0.27	0.55	Open	0
356		1890	502	503	282.55	12.00	130.00	-444.27	1.26	0.16	0.56	Open	0
357		1891	503	267	482.32	12.00	130.00	-456.89	1.30	0.29	0.59	Open	0
358		1892	504	268	247.70	12.00	130.00	23.20	0.07	0.00	0.00	Open	0
359		1893	269	505	520.76	12.00	130.00	212.78	0.60	0.08	0.14	Open	0
360		1894	505	506	374.00	12.00	130.00	122.24	0.35	0.02	0.05	Open	0
361		1896	507	508	747.67	12.00	130.00	21.41	0.06	0.00	0.00	Open	0
362		1897	431	430	411.60	12.00	130.00	-912.28	2.59	0.88	2.14	Open	0
363		1898	429	509	873.50	12.00	130.00	-463.41	1.31	0.53	0.61	Open	0
364		1899	509	510	180.15	12.00	130.00	-240.55	0.68	0.03	0.18	Open	0
365		1900	426	511	266.97	12.00	130.00	111.27	0.32	0.01	0.04	Open	0
366		1901	512	513	349.96	12.00	130.00	5.84	0.02	0.00	0.00	Open	0
367		1902	513	514	336.21	12.00	130.00	0.45	0.00	0.00	0.00	Open	0
368		1903	514	515	517.25	12.00	130.00	-6.78	0.02	0.00	0.00	Open	0
369		1904	515	516	319.30	12.00	130.00	79.59	0.23	0.01	0.02	Open	0
370		1905	517	518	514.29	12.00	130.00	98.04	0.28	0.02	0.03	Open	0
371		1906	518	519	186.37	12.00	130.00	151.19	0.43	0.01	0.08	Open	0
372		1907	519	520	163.71	12.00	130.00	144.88	0.41	0.01	0.07	Open	0
373		1908	520	521	321.77	12.00	130.00	138.57	0.39	0.02	0.07	Open	0
374		1909	521	522	344.53	12.00	130.00	118.40	0.34	0.02	0.05	Open	0
375		1910	522	523	378.60	12.00	130.00	102.56	0.29	0.01	0.04	Open	0
376		1911	524	525	851.92	12.00	130.00	12.62	0.04	0.00	0.00	Open	0
377		1912	159	526	484.85	12.00	130.00	504.63	1.43	0.35	0.71	Open	0
378		1913	527	528	254.80	12.00	130.00	381.43	1.08	0.11	0.42	Open	0
379		1914	529	530	864.35	12.00	130.00	283.00	0.80	0.21	0.24	Open	0
380		1915	530	531	287.24	12.00	130.00	302.51	0.86	0.08	0.28	Open	0
381		1916	531	532	674.36	12.00	130.00	296.20	0.84	0.18	0.27	Open	0
382		1917	532	533	339.92	6.00	130.00	6.31	0.07	0.00	0.01	Open	0
383		1918	534	535	325.33	12.00	130.00	275.47	0.78	0.08	0.23	Open	0
384		1919	535	536	295.21	12.00	130.00	225.18	0.64	0.05	0.16	Open	0
385		1921	537	538	1,054.75	10.00	130.00	16.83	0.07	0.00	0.00	Open	0

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386		1922	438	540	861.29	10.00	130.00	19.61	0.08	0.00	0.00	Open	0
387		1923	439	541	661.25	10.00	130.00	13.61	0.06	0.00	0.00	Open	0
388		1924	542	543	571.23	10.00	130.00	63.10	0.26	0.02	0.04	Open	0
389		1925	543	544	683.50	10.00	130.00	41.88	0.17	0.01	0.02	Open	0
390		1926	544	545	418.52	10.00	130.00	28.84	0.12	0.00	0.01	Open	0
391		1927	545	546	189.92	10.00	130.00	16.63	0.07	0.00	0.00	Open	0
392		1928	442	547	596.68	10.00	130.00	-23.29	0.10	0.00	0.01	Open	0
393		1929	547	548	370.06	10.00	130.00	-31.36	0.13	0.00	0.01	Open	0
394		1930	442	549	1,043.71	10.00	130.00	-26.42	0.11	0.01	0.01	Open	0
395		1931	549	550	273.25	10.00	130.00	-5.13	0.02	0.00	0.00	Open	0
396		1932	550	551	854.94	10.00	130.00	-16.97	0.07	0.00	0.00	Open	0
397		1933	549	452	524.55	10.00	130.00	-22.07	0.09	0.00	0.01	Open	0
398		1934	452	449	1,031.74	10.00	130.00	92.01	0.38	0.08	0.07	Open	0
399		1935	552	553	182.50	10.00	130.00	-258.21	1.05	0.09	0.50	Open	0
400		1937	554	555	2,002.60	10.00	130.00	-357.99	1.46	1.84	0.92	Open	0
401		1938	556	557	281.58	10.00	130.00	6.31	0.03	0.00	0.00	Open	0
402		1939	456	558	370.89	10.00	130.00	239.24	0.98	0.16	0.44	Open	0
403		1940	558	559	363.57	10.00	130.00	194.25	0.79	0.11	0.30	Open	0
404		1941	559	560	355.66	10.00	130.00	159.13	0.65	0.07	0.20	Open	0
405		1942	560	561	359.42	10.00	130.00	132.92	0.54	0.05	0.15	Open	0
406		1943	561	562	375.51	10.00	130.00	88.14	0.36	0.03	0.07	Open	0
407		1944	562	563	359.36	10.00	130.00	69.30	0.28	0.02	0.04	Open	0
408		1945	561	564	1,319.06	10.00	130.00	26.41	0.11	0.01	0.01	Open	0
409		1946	565	566	1,874.32	10.00	130.00	-352.50	1.44	1.67	0.89	Open	0
410		1947	566	567	210.74	10.00	130.00	-279.56	1.14	0.12	0.58	Open	0
411		1948	567	568	216.96	10.00	130.00	-255.17	1.04	0.11	0.49	Open	0
412		1949	568	418	363.48	10.00	130.00	-292.18	1.19	0.23	0.63	Open	0
413		1950	270	569	629.85	10.00	130.00	-79.78	0.33	0.04	0.06	Open	0
414		1951	569	570	348.99	10.00	130.00	-27.97	0.11	0.00	0.01	Open	0
415		1952	570	571	421.79	10.00	130.00	-3.69	0.02	0.00	0.00	Open	0
416		1954	516	572	495.58	10.00	130.00	13.82	0.06	0.00	0.00	Open	0
417		1955	523	573	833.04	10.00	130.00	38.48	0.16	0.01	0.01	Open	0
418		1956	574	575	312.35	10.00	130.00	25.73	0.11	0.00	0.01	Open	0
419		1957	575	576	555.31	10.00	130.00	12.13	0.05	0.00	0.00	Open	0
420		1958	285	577	882.49	10.00	130.00	84.46	0.35	0.06	0.06	Open	0

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421		1959	577	578	915.62	10.00	130.00	29.96	0.12	0.01	0.01	Open	0
422		1960	579	580	1,813.09	10.00	130.00	12.62	0.05	0.00	0.00	Open	0
423		1961	510	581	309.42	10.00	130.00	-111.78	0.46	0.03	0.11	Open	0
424		1962	510	582	593.50	10.00	130.00	-153.80	0.63	0.11	0.19	Open	0
425		1963	582	511	321.79	10.00	130.00	19.44	0.08	0.00	0.00	Open	0
426		1964	511	583	282.86	10.00	130.00	124.40	0.51	0.04	0.13	Open	0
427		1965	582	584	249.48	10.00	130.00	-179.55	0.73	0.06	0.26	Open	0
428		1966	584	585	487.19	10.00	130.00	2.13	0.01	0.00	0.00	Open	0
429		1967	585	509	453.77	10.00	130.00	247.52	1.01	0.21	0.46	Open	0
430		1968	585	586	526.20	10.00	130.00	-251.70	1.03	0.25	0.48	Open	0
431		1969	157	587	608.40	10.00	130.00	25.24	0.10	0.00	0.01	Open	0
432		1970	587	588	316.34	8.00	130.00	12.62	0.08	0.00	0.01	Open	0
433		1971	588	589	298.60	8.00	130.00	6.31	0.04	0.00	0.00	Open	0
434		1972	587	590	303.98	6.00	130.00	6.31	0.07	0.00	0.01	Open	0
435		1973	591	592	354.48	10.00	130.00	489.20	2.00	0.58	1.64	Open	0
436		1974	592	593	460.14	10.00	130.00	452.24	1.85	0.65	1.42	Open	0
437		1975	593	594	171.03	10.00	130.00	309.97	1.27	0.12	0.70	Open	0
438		1976	595	596	332.37	10.00	130.00	116.42	0.48	0.04	0.11	Open	0
439		1977	596	597	326.83	10.00	130.00	-281.96	1.15	0.19	0.59	Open	0
440		1978	597	598	361.58	10.00	130.00	-322.86	1.32	0.27	0.76	Open	0
441		1979	596	600	988.45	10.00	130.00	193.11	0.79	0.29	0.29	Open	0
442		1980	600	601	369.51	10.00	130.00	186.32	0.76	0.10	0.27	Open	0
443		1981	601	431	1,116.15	10.00	130.00	118.59	0.48	0.13	0.12	Open	0
444		1982	335	602	410.05	10.00	130.00	-2.04	0.01	0.00	0.00	Open	0
445		1983	602	603	1,050.42	10.00	130.00	-10.88	0.04	0.00	0.00	Open	0
446		1984	603	604	360.32	10.00	130.00	-22.77	0.09	0.00	0.01	Open	0
447		1985	604	605	351.47	10.00	130.00	-33.12	0.14	0.00	0.01	Open	0
448		1986	605	606	326.21	10.00	130.00	-50.26	0.21	0.01	0.02	Open	0
449		1987	606	607	1,179.04	10.00	130.00	-80.14	0.33	0.07	0.06	Open	0
450		1988	607	608	349.86	10.00	130.00	-86.45	0.35	0.02	0.07	Open	0
451		1989	482	609	537.01	10.00	130.00	31.55	0.13	0.01	0.01	Open	0
452		1990	609	610	349.34	10.00	130.00	25.24	0.10	0.00	0.01	Open	0
453		1991	393	611	243.71	10.00	130.00	512.21	2.09	0.43	1.78	Open	0
454		1992	611	J78	39.41	10.00	130.00	443.58	1.81	0.05	1.37	Open	0
455		1993	612	613	420.70	10.00	130.00	408.00	1.67	0.49	1.17	Open	0

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		ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	HL/1000 (ft/kft)	Status	Flow Reversal Count
456		1994	613	614	370.82	10.00	130.00	399.90	1.63	0.42	1.13	Open	0
457		1995	614	615	394.72	10.00	130.00	285.98	1.17	0.24	0.61	Open	0
458		1996	615	616	642.47	10.00	130.00	247.55	1.01	0.30	0.46	Open	0
459		1997	616	617	336.53	10.00	130.00	197.13	0.81	0.10	0.30	Open	0
460		1998	617	618	558.96	10.00	130.00	145.72	0.60	0.10	0.17	Open	0
461		1999	618	619	335.27	10.00	130.00	183.52	0.75	0.09	0.27	Open	0
462		2000	619	620	638.14	10.00	130.00	142.90	0.58	0.11	0.17	Open	0
463		2001	394	J66	34.42	10.00	130.00	-930.98	3.80	0.19	5.39	Open	0
464		2002	621	622	1,796.37	10.00	130.00	318.99	1.30	1.33	0.74	Open	0
465		2003	622	623	542.21	10.00	130.00	243.88	1.00	0.24	0.45	Open	0
466		2004	392	625	849.12	10.00	130.00	-226.49	0.93	0.33	0.39	Open	0
467		2005	161	626	871.03	10.00	130.00	-466.57	1.91	1.31	1.50	Open	0
468		2006	626	627	349.88	10.00	130.00	-558.28	2.28	0.73	2.09	Open	0
469		2007	627	628	290.59	10.00	130.00	-555.10	2.27	0.60	2.07	Open	0
470		2008	628	629	1,193.89	10.00	130.00	-562.10	2.30	2.53	2.12	Open	0
471		2009	629	631	425.59	10.00	130.00	436.61	1.78	0.56	1.33	Open	0
472		2010	631	632	325.76	10.00	130.00	153.63	0.63	0.06	0.19	Open	0
473		2011	164	633	316.13	10.00	130.00	219.83	0.90	0.12	0.37	Open	0
474		2012	634	635	327.81	10.00	130.00	38.78	0.16	0.01	0.02	Open	0
475		2013	635	636	332.53	10.00	130.00	81.95	0.33	0.02	0.06	Open	0
476		2014	636	637	336.88	10.00	130.00	121.24	0.50	0.04	0.12	Open	0
477		2015	637	638	326.66	10.00	130.00	165.50	0.68	0.07	0.22	Open	0
478		2016	638	639	330.31	10.00	130.00	170.96	0.70	0.08	0.23	Open	0
479		2017	639	640	654.58	10.00	130.00	140.72	0.57	0.11	0.16	Open	0
480		2018	640	641	671.72	10.00	130.00	67.76	0.28	0.03	0.04	Open	0
481		2019	641	642	348.42	8.00	130.00	48.38	0.31	0.02	0.07	Open	0
482		2020	173	643	767.78	10.00	130.00	433.67	1.77	1.01	1.31	Open	0
483		2021	643	644	610.07	10.00	130.00	235.09	0.96	0.26	0.42	Open	0
484		2022	479	645	1,988.20	10.00	130.00	54.33	0.22	0.06	0.03	Open	0
485		2023	645	646	153.84	10.00	130.00	38.67	0.16	0.00	0.02	Open	0
486		2024	647	648	340.99	8.00	130.00	2.40	0.02	0.00	0.00	Open	0
487		2025	648	649	679.84	8.00	130.00	-3.91	0.02	0.00	0.00	Open	0
488		2026	649	650	481.90	8.00	130.00	-10.22	0.07	0.00	0.00	Open	0
489		2027	650	651	298.72	8.00	130.00	-12.12	0.08	0.00	0.01	Open	0
490		2028	651	647	1,314.26	8.00	130.00	8.71	0.06	0.00	0.00	Open	0

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		ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	HL/1000 (ft/kft)	Status	Flow Reversal Count
491		2029	538	652	823.72	8.00	130.00	10.52	0.07	0.00	0.00	Open	0
492		2030	652	653	303.88	8.00	130.00	6.00	0.04	0.00	0.00	Open	0
493		2031	651	654	296.19	8.00	130.00	-10.48	0.07	0.00	0.00	Open	0
494		2032	654	370	433.53	8.00	130.00	-21.20	0.14	0.01	0.01	Open	0
495		2033	370	655	208.34	8.00	130.00	-50.25	0.32	0.01	0.07	Open	0
496		2034	655	656	571.42	8.00	130.00	-38.87	0.25	0.03	0.04	Open	0
497		2035	656	657	869.21	8.00	130.00	-11.66	0.07	0.00	0.00	Open	0
498		2036	657	655	703.97	6.00	130.00	17.69	0.20	0.03	0.04	Open	0
499		2037	657	211	297.45	8.00	130.00	-35.66	0.23	0.01	0.04	Open	0
500		2038	656	658	1,413.23	8.00	130.00	-33.53	0.21	0.05	0.03	Open	0
501		2039	658	659	94.98	8.00	130.00	18.72	0.12	0.00	0.01	Open	0
502		2040	659	212	1,016.89	8.00	130.00	12.41	0.08	0.01	0.01	Open	0
503		2041	658	660	346.13	8.00	130.00	-58.56	0.37	0.03	0.10	Open	0
504		2042	660	661	183.23	8.00	130.00	-29.17	0.19	0.00	0.03	Open	0
505		2043	661	662	254.72	8.00	130.00	-42.19	0.27	0.01	0.05	Open	0
506		2044	662	663	283.96	8.00	130.00	-26.81	0.17	0.01	0.02	Open	0
507		2045	663	216	252.48	8.00	130.00	-33.13	0.21	0.01	0.03	Open	0
508		2046	662	664	392.51	8.00	130.00	-16.11	0.10	0.00	0.01	Open	0
509		2047	219	665	316.99	8.00	130.00	6.31	0.04	0.00	0.00	Open	0
510		2048	541	666	751.07	8.00	130.00	6.31	0.04	0.00	0.00	Open	0
511		2049	541	667	836.06	8.00	130.00	0.99	0.01	0.00	0.00	Open	0
512		2050	667	548	2,100.95	8.00	130.00	48.53	0.31	0.14	0.07	Open	0
513		2051	548	668	581.44	8.00	130.00	10.86	0.07	0.00	0.00	Open	0
514		2052	547	669	622.18	8.00	130.00	1.76	0.01	0.00	0.00	Open	0
515		2053	670	443	593.16	8.00	130.00	-6.31	0.04	0.00	0.00	Open	0
516		2054	444	671	617.94	8.00	130.00	6.31	0.04	0.00	0.00	Open	0
517		2055	549	550	558.52	8.00	130.00	-5.53	0.04	0.00	0.00	Open	0
518		2056	441	672	100.10	8.00	130.00	40.86	0.26	0.00	0.05	Open	0
519		2057	672	551	967.17	8.00	130.00	34.55	0.22	0.03	0.04	Open	0
520		2058	440	673	836.25	8.00	130.00	6.31	0.04	0.00	0.00	Open	0
521		2059	667	371	2,515.34	8.00	130.00	-68.44	0.44	0.32	0.13	Open	0
522		2060	539	674	1,652.51	8.00	130.00	-24.70	0.16	0.03	0.02	Open	0
523		2061	674	675	194.09	8.00	130.00	-31.01	0.20	0.01	0.03	Open	0
524		2062	675	676	448.04	8.00	130.00	-62.62	0.40	0.05	0.11	Open	0
525		2063	676	677	373.85	8.00	130.00	6.31	0.04	0.00	0.00	Open	0

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526		2064	676	678	448.05	8.00	130.00	-75.24	0.48	0.07	0.15	Open	0
527		2065	678	679	1,579.96	8.00	130.00	-40.79	0.26	0.08	0.05	Open	0
528		2066	679	678	1,581.60	8.00	130.00	40.76	0.26	0.08	0.05	Open	0
529		2067	679	680	576.62	8.00	130.00	-87.86	0.56	0.12	0.20	Open	0
530		2068	680	552	263.37	8.00	130.00	-100.48	0.64	0.07	0.26	Open	0
531		2069	680	681	319.24	8.00	130.00	6.31	0.04	0.00	0.00	Open	0
532		2070	451	682	963.32	8.00	130.00	-8.43	0.05	0.00	0.00	Open	0
533		2071	683	450	66.84	8.00	130.00	91.04	0.58	0.01	0.22	Open	0
534		2072	450	684	989.54	8.00	130.00	-77.15	0.49	0.16	0.16	Open	0
535		2073	683	685	389.44	8.00	130.00	-64.20	0.41	0.04	0.11	Open	0
536		2074	685	686	650.06	6.00	130.00	-85.25	0.97	0.50	0.78	Open	0
537		2075	449	687	707.65	8.00	130.00	63.92	0.41	0.08	0.11	Open	0
538		2077	687	688	434.80	8.00	130.00	-62.79	0.40	0.05	0.11	Open	0
539		2080	690	691	123.39	8.00	130.00	-75.41	0.48	0.02	0.15	Open	0
540		2081	690	688	863.18	8.00	130.00	69.10	0.44	0.11	0.13	Open	0
541		2082	554	692	386.67	8.00	130.00	6.31	0.04	0.00	0.00	Open	0
542		2083	229	693	445.19	6.00	130.00	29.45	0.33	0.05	0.11	Open	0
543		2084	230	694	396.10	8.00	130.00	174.23	1.11	0.28	0.72	Open	0
544		2085	694	695	405.19	8.00	130.00	104.18	0.66	0.11	0.28	Open	0
545		2086	454	697	414.00	8.00	130.00	6.31	0.04	0.00	0.00	Open	0
546		2088	233	699	528.89	8.00	130.00	-79.99	0.51	0.09	0.17	Open	0
547		2089	700	701	370.06	8.00	130.00	-7.89	0.05	0.00	0.00	Open	0
548		2090	701	702	367.59	8.00	130.00	24.48	0.16	0.01	0.02	Open	0
549		2091	702	703	359.41	8.00	130.00	17.56	0.11	0.00	0.01	Open	0
550		2092	703	704	370.70	8.00	130.00	31.15	0.20	0.01	0.03	Open	0
551		2093	704	705	364.36	8.00	130.00	36.90	0.24	0.01	0.04	Open	0
552		2094	705	706	231.55	8.00	130.00	39.66	0.25	0.01	0.05	Open	0
553		2095	706	707	404.42	8.00	130.00	26.35	0.17	0.01	0.02	Open	0
554		2097	709	J110	1,576.62	8.00	130.00	4.51	0.03	0.00	0.00	Open	0
555		2098	709	J112	813.88	8.00	130.00	-3.41	0.02	0.00	0.00	Open	0
556		2099	712	711	311.62	8.00	130.00	-1.99	0.01	0.00	0.00	Open	0
557		2100	713	714	386.10	8.00	130.00	-21.57	0.14	0.01	0.02	Open	0
558		2101	714	563	351.31	8.00	130.00	-31.74	0.20	0.01	0.03	Open	0
559		2103	565	716	606.76	8.00	130.00	75.80	0.48	0.09	0.15	Open	0
560		2104	566	717	304.84	8.00	130.00	-79.25	0.51	0.05	0.17	Open	0

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561		2105	717	718	355.63	8.00	130.00	-36.74	0.23	0.01	0.04	Open	0
562		2106	717	719	259.86	8.00	130.00	-48.83	0.31	0.02	0.07	Open	0
563		2107	719	720	293.17	8.00	130.00	-33.03	0.21	0.01	0.03	Open	0
564		2108	720	721	266.36	8.00	130.00	-57.70	0.37	0.02	0.09	Open	0
565		2109	721	722	692.25	8.00	130.00	-86.12	0.55	0.13	0.19	Open	0
566		2110	722	723	237.30	8.00	130.00	-117.12	0.75	0.08	0.34	Open	0
567		2111	723	724	192.62	8.00	130.00	-88.64	0.57	0.04	0.21	Open	0
568		2112	724	725	265.20	8.00	130.00	-113.89	0.73	0.09	0.33	Open	0
569		2113	725	417	200.82	8.00	130.00	-154.98	0.99	0.12	0.58	Open	0
570		2114	724	726	170.44	8.00	130.00	18.93	0.12	0.00	0.01	Open	0
571		2115	726	727	162.65	8.00	130.00	12.62	0.08	0.00	0.01	Open	0
572		2116	727	728	221.17	8.00	130.00	6.31	0.04	0.00	0.00	Open	0
573		2117	417	729	246.07	8.00	130.00	99.79	0.64	0.06	0.26	Open	0
574		2118	729	730	435.52	8.00	130.00	55.53	0.35	0.04	0.09	Open	0
575		2119	730	731	321.03	8.00	130.00	34.96	0.22	0.01	0.04	Open	0
576		2120	731	732	72.63	8.00	130.00	31.77	0.20	0.00	0.03	Open	0
577		2121	732	733	89.33	8.00	130.00	16.66	0.11	0.00	0.01	Open	0
578		2122	733	734	222.26	8.00	130.00	10.14	0.06	0.00	0.00	Open	0
579		2123	734	735	296.23	8.00	130.00	4.99	0.03	0.00	0.00	Open	0
580		2124	735	736	910.89	8.00	130.00	-1.32	0.01	0.00	0.00	Open	0
581		2125	736	734	265.20	8.00	130.00	1.17	0.01	0.00	0.00	Open	0
582		2126	736	732	591.91	8.00	130.00	-8.79	0.06	0.00	0.00	Open	0
583		2127	733	737	232.98	8.00	130.00	0.22	0.00	0.00	0.00	Open	0
584		2128	730	738	136.89	8.00	130.00	14.25	0.09	0.00	0.01	Open	0
585		2129	739	418	272.14	8.00	130.00	24.07	0.15	0.01	0.02	Open	0
586		2131	180	J106	999.59	8.00	130.00	-38.10	0.24	0.04	0.04	Open	0
587		2132	178	742	848.51	8.00	130.00	6.31	0.04	0.00	0.00	Open	0
588		2133	174	744	646.46	8.00	130.00	-154.37	0.99	0.37	0.57	Open	0
589		2134	744	745	327.62	8.00	130.00	-240.97	1.54	0.43	1.31	Open	0
590		2135	745	746	327.71	8.00	130.00	-274.57	1.75	0.55	1.67	Open	0
591		2136	746	747	730.40	8.00	130.00	-137.47	0.88	0.34	0.46	Open	0
592		2137	747	748	162.02	8.00	130.00	-222.47	1.42	0.18	1.13	Open	0
593		2138	746	749	578.06	8.00	130.00	-153.94	0.98	0.33	0.57	Open	0
594		2139	749	221	579.38	8.00	130.00	37.95	0.24	0.02	0.04	Open	0
595		2140	749	222	700.91	8.00	130.00	-198.21	1.27	0.64	0.91	Open	0

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596		2141	643	750	460.44	8.00	130.00	192.27	1.23	0.40	0.86	Open	0
597		2142	750	751	277.56	8.00	130.00	148.30	0.95	0.15	0.53	Open	0
598		2143	751	223	470.14	8.00	130.00	173.34	1.11	0.33	0.71	Open	0
599		2144	751	752	681.26	8.00	130.00	-31.34	0.20	0.02	0.03	Open	0
600		2145	413	753	2,545.86	8.00	130.00	6.31	0.04	0.00	0.00	Open	0
601		2146	754	755	782.03	8.00	130.00	-44.60	0.28	0.04	0.06	Open	0
602		2147	755	756	644.61	8.00	130.00	-86.93	0.55	0.13	0.20	Open	0
603		2148	756	757	394.95	8.00	130.00	-93.24	0.60	0.09	0.23	Open	0
604		2149	757	373	1,815.15	8.00	130.00	-91.28	0.58	0.39	0.22	Open	0
605		2150	374	758	681.37	8.00	130.00	152.32	0.97	0.38	0.56	Open	0
606		2151	758	457	747.87	8.00	130.00	132.75	0.85	0.32	0.43	Open	0
607		2152	457	759	325.26	8.00	130.00	120.13	0.77	0.12	0.36	Open	0
608		2153	759	760	286.00	8.00	130.00	117.10	0.75	0.10	0.34	Open	0
609		2154	760	170	936.92	8.00	130.00	149.09	0.95	0.50	0.54	Open	0
610		2155	374	761	1,179.75	8.00	130.00	-138.80	0.89	0.56	0.47	Open	0
611		2156	761	762	364.88	8.00	130.00	-195.51	1.25	0.32	0.89	Open	0
612		2157	762	763	345.81	8.00	130.00	-182.38	1.16	0.27	0.78	Open	0
613		2158	764	642	817.38	8.00	130.00	-145.92	0.93	0.42	0.52	Open	0
614		2159	642	765	1,504.83	8.00	130.00	-103.84	0.66	0.41	0.28	Open	0
615		2160	765	766	249.64	6.00	130.00	-69.48	0.79	0.13	0.53	Open	0
616		2161	765	767	1,631.25	8.00	130.00	-46.98	0.30	0.10	0.06	Open	0
617		2162	767	768	870.95	8.00	130.00	40.25	0.26	0.04	0.05	Open	0
618		2163	768	769	2,490.03	8.00	130.00	183.08	1.17	1.96	0.79	Open	0
619		2164	769	770	1,042.39	8.00	130.00	279.45	1.78	1.80	1.72	Open	0
620		2165	771	625	678.42	8.00	130.00	-16.14	0.10	0.01	0.01	Open	0
621		2166	769	772	409.60	8.00	130.00	-102.68	0.66	0.11	0.27	Open	0
622		2167	772	773	360.50	8.00	130.00	6.08	0.04	0.00	0.00	Open	0
623		2168	773	J86	631.49	8.00	130.00	120.41	0.77	0.23	0.36	Open	0
624		2169	631	775	508.95	8.00	130.00	276.67	1.77	0.86	1.69	Open	0
625		2170	775	776	329.33	8.00	130.00	194.50	1.24	0.29	0.88	Open	0
626		2171	776	777	315.29	8.00	130.00	138.72	0.89	0.15	0.47	Open	0
627		2172	777	778	288.35	8.00	130.00	86.80	0.55	0.06	0.20	Open	0
628		2173	781	782	335.47	8.00	130.00	119.23	0.76	0.12	0.36	Open	0
629		2174	782	783	267.82	8.00	130.00	94.60	0.60	0.06	0.23	Open	0
630		2175	783	784	109.13	8.00	130.00	186.68	1.19	0.09	0.82	Open	0

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		ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	HL/1000 (ft/kft)	Status	Flow Reversal Count
631		2176	785	786	322.19	8.00	130.00	149.91	0.96	0.18	0.54	Open	0
632		2177	786	787	109.52	8.00	130.00	137.93	0.88	0.05	0.47	Open	0
633		2178	787	788	287.00	8.00	130.00	222.79	1.42	0.32	1.13	Open	0
634		2179	788	377	320.10	8.00	130.00	197.78	1.26	0.29	0.91	Open	0
635		2180	789	415	703.20	6.00	130.00	-52.29	0.59	0.22	0.31	Open	0
636		2181	414	790	987.69	8.00	130.00	-113.74	0.73	0.32	0.33	Open	0
637		2182	790	791	363.88	8.00	130.00	-91.15	0.58	0.08	0.22	Open	0
638		2183	791	792	334.12	8.00	130.00	-78.00	0.50	0.05	0.16	Open	0
639		2184	792	793	69.38	8.00	130.00	-14.31	0.09	0.00	0.01	Open	0
640		2185	792	794	749.35	8.00	130.00	-69.99	0.45	0.10	0.13	Open	0
641		2186	794	795	336.99	8.00	130.00	-101.54	0.65	0.09	0.26	Open	0
642		2187	795	796	324.35	8.00	130.00	-105.43	0.67	0.09	0.28	Open	0
643		2188	796	797	327.76	6.00	130.00	-20.90	0.24	0.02	0.06	Open	0
644		2189	796	798	828.56	8.00	130.00	-90.84	0.58	0.18	0.22	Open	0
645		2190	798	799	353.51	8.00	130.00	68.24	0.44	0.04	0.13	Open	0
646		2191	799	800	412.30	6.00	130.00	61.93	0.70	0.18	0.43	Open	0
647		2192	800	801	437.84	6.00	130.00	35.75	0.41	0.07	0.16	Open	0
648		2193	798	802	949.41	8.00	130.00	-165.39	1.06	0.62	0.65	Open	0
649		2194	802	803	333.07	8.00	130.00	-197.31	1.26	0.30	0.90	Open	0
650		2195	416	804	718.81	8.00	130.00	-39.67	0.25	0.03	0.05	Open	0
651		2196	805	382	361.90	6.00	130.00	-6.31	0.07	0.00	0.01	Open	0
652		2197	806	807	988.85	8.00	130.00	0.23	0.00	0.00	0.00	Open	0
653		2198	807	808	750.12	8.00	130.00	-29.01	0.19	0.02	0.03	Open	0
654		2199	808	809	383.85	8.00	130.00	13.28	0.08	0.00	0.01	Open	0
655		2200	807	810	447.06	8.00	130.00	20.78	0.13	0.01	0.01	Open	0
656		2201	810	811	469.09	8.00	130.00	10.34	0.07	0.00	0.00	Open	0
657		2202	811	812	191.51	8.00	130.00	4.11	0.03	0.00	0.00	Open	0
658		2203	812	813	834.47	8.00	130.00	-2.20	0.01	0.00	0.00	Open	0
659		2204	813	814	376.81	8.00	130.00	-10.78	0.07	0.00	0.00	Open	0
660		2205	815	816	856.46	8.00	130.00	-13.78	0.09	0.01	0.01	Open	0
661		2206	816	817	404.62	8.00	130.00	-27.55	0.18	0.01	0.02	Open	0
662		2207	818	819	1,125.43	8.00	130.00	-21.21	0.14	0.02	0.01	Open	0
663		2208	819	820	1,114.11	8.00	130.00	-27.52	0.18	0.03	0.02	Open	0
664		2209	388	821	515.94	8.00	130.00	124.50	0.79	0.20	0.39	Open	0
665		2210	822	823	236.16	8.00	130.00	117.91	0.75	0.08	0.35	Open	0

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		ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	HL/1000 (ft/kft)	Status	Flow Reversal Count
666		2211	823	824	635.91	8.00	130.00	160.61	1.03	0.39	0.62	Open	0
667		2212	824	825	1,277.79	8.00	130.00	115.04	0.73	0.43	0.33	Open	0
668		2213	825	186	422.01	8.00	130.00	180.88	1.15	0.32	0.77	Open	0
669		2214	824	826	677.96	6.00	130.00	6.31	0.07	0.00	0.01	Open	0
670		2215	823	827	279.50	8.00	130.00	-49.01	0.31	0.02	0.07	Open	0
671		2216	827	828	367.07	8.00	130.00	-55.32	0.35	0.03	0.09	Open	0
672		2217	828	822	251.90	8.00	130.00	-67.95	0.43	0.03	0.13	Open	0
673		2218	828	829	482.56	8.00	130.00	6.31	0.04	0.00	0.00	Open	0
674		2219	389	830	390.91	8.00	130.00	80.28	0.51	0.07	0.17	Open	0
675		2220	824	831	1,324.13	8.00	130.00	32.95	0.21	0.04	0.03	Open	0
676		2221	831	832	1,077.05	8.00	130.00	-64.72	0.41	0.12	0.11	Open	0
677		2222	832	183	468.31	8.00	130.00	-209.85	1.34	0.47	1.01	Open	0
678		2223	832	833	430.39	8.00	130.00	138.82	0.89	0.20	0.47	Open	0
679		2224	150	834	537.31	8.00	130.00	6.31	0.04	0.00	0.00	Open	0
680		2225	835	836	542.14	8.00	130.00	6.31	0.04	0.00	0.00	Open	0
681		2226	594	599	164.66	8.00	130.00	430.37	2.75	0.63	3.83	Open	0
682		2227	837	838	393.44	8.00	130.00	89.19	0.57	0.08	0.21	Open	0
683		2228	838	839	184.52	8.00	130.00	-103.33	0.66	0.05	0.27	Open	0
684		2229	838	840	520.14	8.00	130.00	186.21	1.19	0.42	0.81	Open	0
685		2230	840	600	321.19	8.00	130.00	214.49	1.37	0.34	1.06	Open	0
686		2231	600	841	331.91	8.00	130.00	214.96	1.37	0.35	1.06	Open	0
687		2232	841	842	336.53	8.00	130.00	213.63	1.36	0.35	1.05	Open	0
688		2233	842	843	117.43	8.00	130.00	231.47	1.48	0.14	1.22	Open	0
689		2234	843	844	517.04	8.00	130.00	69.29	0.44	0.07	0.13	Open	0
690		2235	844	845	438.18	8.00	130.00	-157.22	1.00	0.26	0.59	Open	0
691		2236	845	846	371.64	8.00	130.00	-187.68	1.20	0.31	0.82	Open	0
692		2237	846	596	694.18	8.00	130.00	-198.97	1.27	0.64	0.92	Open	0
693		2238	843	847	423.68	8.00	130.00	155.87	0.99	0.25	0.58	Open	0
694		2239	847	848	245.50	6.00	130.00	135.77	1.54	0.45	1.84	Open	0
695		2240	847	433	1,127.07	8.00	130.00	13.79	0.09	0.01	0.01	Open	0
696		2241	436	844	2,016.10	8.00	130.00	-220.20	1.41	2.23	1.11	Open	0
697		2242	163	849	124.44	10.00	130.00	643.88	2.63	0.34	2.73	Open	0
698		2243	850	851	149.44	8.00	130.00	381.47	2.43	0.46	3.07	Open	0
699		2244	851	852	672.52	8.00	130.00	236.10	1.51	0.85	1.26	Open	0
700		2245	852	853	474.07	8.00	130.00	268.94	1.72	0.76	1.60	Open	0

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701		2246	853	854	309.25	8.00	130.00	120.87	0.77	0.11	0.36	Open	0
702		2247	855	854	539.27	8.00	130.00	74.67	0.48	0.08	0.15	Open	0
703		2248	854	856	870.72	8.00	130.00	189.23	1.21	0.73	0.84	Open	0
704		2249	856	857	633.99	8.00	130.00	272.48	1.74	1.04	1.64	Open	0
705		2250	344	858	568.86	8.00	130.00	129.95	0.83	0.24	0.42	Open	0
706		2251	858	859	329.72	8.00	130.00	-34.01	0.22	0.01	0.03	Open	0
707		2252	859	860	324.84	8.00	130.00	-105.22	0.67	0.09	0.28	Open	0
708		2253	860	861	321.99	8.00	130.00	-139.12	0.89	0.15	0.47	Open	0
709		2254	861	853	494.41	8.00	130.00	-141.76	0.90	0.24	0.49	Open	0
710		2255	162	862	142.74	8.00	130.00	52.86	0.34	0.01	0.08	Open	0
711		2256	862	863	210.47	6.00	130.00	127.84	1.45	0.35	1.64	Open	0
712		2257	864	865	130.99	6.00	130.00	115.22	1.31	0.18	1.36	Open	0
713		2258	865	866	186.89	8.00	130.00	108.91	0.70	0.06	0.30	Open	0
714		2259	770	625	493.08	8.00	130.00	248.94	1.59	0.69	1.39	Open	0
715		2260	867	391	484.84	8.00	130.00	17.89	0.11	0.01	0.01	Open	0
716		2261	868	869	571.20	8.00	130.00	176.08	1.12	0.42	0.73	Open	0
717		2262	869	870	771.10	8.00	130.00	52.53	0.34	0.06	0.08	Open	0
718		2263	870	871	981.52	8.00	130.00	201.06	1.28	0.92	0.94	Open	0
719		2264	871	341	322.71	8.00	130.00	419.27	2.68	1.18	3.65	Open	0
720		2265	870	872	439.59	8.00	130.00	-104.47	0.67	0.12	0.28	Open	0
721		2266	872	873	204.91	8.00	130.00	-87.39	0.56	0.04	0.20	Open	0
722		2267	873	874	185.86	8.00	130.00	-66.17	0.42	0.02	0.12	Open	0
723		2268	874	875	176.53	8.00	130.00	-48.26	0.31	0.01	0.07	Open	0
724		2269	875	876	133.48	8.00	130.00	-47.80	0.31	0.01	0.07	Open	0
725		2270	876	877	157.22	8.00	130.00	-2.96	0.02	0.00	0.00	Open	0
726		2271	870	878	346.41	8.00	130.00	-50.38	0.32	0.03	0.07	Open	0
727		2272	878	879	456.41	8.00	130.00	-113.98	0.73	0.15	0.33	Open	0
728		2273	879	880	345.22	8.00	130.00	-140.57	0.90	0.17	0.48	Open	0
729		2274	880	J80	246.35	8.00	130.00	-71.87	0.46	0.03	0.14	Open	0
730		2275	881	882	18.23	8.00	130.00	42.59	0.27	0.00	0.05	Open	0
731		2276	881	883	847.46	8.00	130.00	-149.77	0.96	0.46	0.54	Open	0
732		2277	393	886	595.82	8.00	130.00	43.77	0.28	0.03	0.06	Open	0
733		2278	886	887	2,744.41	8.00	130.00	15.52	0.10	0.02	0.01	Open	0
734		2279	887	888	353.46	8.00	130.00	9.21	0.06	0.00	0.00	Open	0
735		2280	888	889	446.85	8.00	130.00	-0.41	0.00	0.00	0.00	Open	0

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736		2281	J66	889	582.70	8.00	130.00	-148.38	0.95	0.31	0.53	Open	0
737		2282	891	892	520.36	8.00	130.00	115.67	0.74	0.18	0.34	Open	0
738		2283	892	893	258.84	8.00	130.00	109.36	0.70	0.08	0.30	Open	0
739		2284	893	894	727.04	8.00	130.00	31.88	0.20	0.02	0.03	Open	0
740		2285	894	895	640.90	8.00	130.00	90.96	0.58	0.14	0.22	Open	0
741		2286	895	397	401.60	8.00	130.00	155.81	0.99	0.23	0.58	Open	0
742		2287	895	893	1,174.05	8.00	130.00	-71.16	0.45	0.16	0.14	Open	0
743		2288	894	896	267.48	8.00	130.00	-65.38	0.42	0.03	0.12	Open	0
744		2289	896	897	338.89	8.00	130.00	-209.23	1.34	0.34	1.01	Open	0
745		2290	897	898	974.85	8.00	130.00	-164.42	1.05	0.63	0.65	Open	0
746		2291	622	899	784.98	8.00	130.00	68.80	0.44	0.10	0.13	Open	0
747		2292	459	900	463.00	8.00	130.00	52.34	0.33	0.04	0.08	Open	0
748		2293	900	901	342.02	8.00	130.00	46.03	0.29	0.02	0.06	Open	0
749		2294	901	902	707.10	8.00	130.00	39.72	0.25	0.03	0.05	Open	0
750		2295	902	460	239.95	8.00	130.00	-121.58	0.78	0.09	0.37	Open	0
751		2296	435	903	676.09	8.00	130.00	167.79	1.07	0.45	0.67	Open	0
752		2297	903	904	665.63	6.00	130.00	47.69	0.54	0.18	0.26	Open	0
753		2298	904	905	517.96	6.00	130.00	17.33	0.20	0.02	0.04	Open	0
754		2299	905	906	332.16	6.00	130.00	4.66	0.05	0.00	0.00	Open	0
755		2300	903	907	572.56	8.00	130.00	113.79	0.73	0.19	0.33	Open	0
756		2301	907	904	581.24	8.00	130.00	-24.05	0.15	0.01	0.02	Open	0
757		2302	907	908	780.18	8.00	130.00	20.53	0.13	0.01	0.01	Open	0
758		2303	908	909	321.23	6.00	130.00	6.27	0.07	0.00	0.01	Open	0
759		2304	909	910	303.16	6.00	130.00	6.31	0.07	0.00	0.01	Open	0
760		2305	909	905	362.79	6.00	130.00	-6.35	0.07	0.00	0.01	Open	0
761		2306	906	911	697.96	8.00	130.00	-1.65	0.01	0.00	0.00	Open	0
762		2307	911	908	330.93	8.00	130.00	-7.96	0.05	0.00	0.00	Open	0
763		2308	913	914	305.11	6.00	130.00	26.79	0.30	0.03	0.09	Open	0
764		2309	914	333	742.15	6.00	130.00	20.48	0.23	0.04	0.06	Open	0
765		2310	913	334	1,000.51	8.00	130.00	49.02	0.31	0.07	0.07	Open	0
766		2311	334	915	399.66	8.00	130.00	-1.50	0.01	0.00	0.00	Open	0
767		2312	915	605	1,752.61	8.00	130.00	-10.83	0.07	0.01	0.00	Open	0
768		2313	466	916	698.86	8.00	130.00	-50.96	0.33	0.05	0.07	Open	0
769		2314	916	917	607.50	8.00	130.00	-91.84	0.59	0.13	0.22	Open	0
770		2315	917	918	952.50	8.00	130.00	-98.15	0.63	0.24	0.25	Open	0

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771		2316	918	919	1,082.10	8.00	130.00	-104.46	0.67	0.30	0.28	Open	0
772		2317	919	920	348.20	8.00	130.00	-93.77	0.60	0.08	0.23	Open	0
773		2318	465	921	397.21	8.00	130.00	157.87	1.01	0.24	0.60	Open	0
774		2319	921	922	286.15	8.00	130.00	151.56	0.97	0.16	0.55	Open	0
775		2320	922	923	324.05	8.00	130.00	145.25	0.93	0.17	0.51	Open	0
776		2321	923	924	749.19	8.00	130.00	77.48	0.49	0.12	0.16	Open	0
777		2322	924	400	142.06	8.00	130.00	113.69	0.73	0.05	0.33	Open	0
778		2323	398	925	1,117.51	8.00	130.00	-112.29	0.72	0.36	0.32	Open	0
779		2324	925	926	461.23	8.00	130.00	6.31	0.04	0.00	0.00	Open	0
780		2325	925	927	330.96	8.00	130.00	-124.91	0.80	0.13	0.39	Open	0
781		2326	927	928	577.72	8.00	130.00	6.31	0.04	0.00	0.00	Open	0
782		2327	927	896	1,273.66	8.00	130.00	-137.53	0.88	0.59	0.46	Open	0
783		2328	399	398	542.89	16.00	130.00	-1,294.21	2.07	0.55	1.01	Open	0
784		2329	481	930	1,014.77	8.00	130.00	5.01	0.03	0.00	0.00	Open	0
785		2330	930	931	714.21	8.00	130.00	-1.30	0.01	0.00	0.00	Open	0
786		2331	931	932	316.71	8.00	130.00	-7.61	0.05	0.00	0.00	Open	0
787		2332	932	482	166.92	8.00	130.00	-20.23	0.13	0.00	0.01	Open	0
788		2333	932	933	556.56	8.00	130.00	6.31	0.04	0.00	0.00	Open	0
789		2334	934	935	274.69	8.00	130.00	-4.70	0.03	0.00	0.00	Open	0
790		2335	936	610	327.55	10.00	130.00	-6.31	0.03	0.00	0.00	Open	0
791		2336	401	937	626.81	8.00	130.00	192.51	1.23	0.54	0.86	Open	0
792		2337	937	469	649.65	8.00	130.00	165.62	1.06	0.42	0.65	Open	0
793		2338	937	938	360.09	8.00	130.00	20.58	0.13	0.01	0.01	Open	0
794		2339	938	402	688.45	8.00	130.00	-122.57	0.78	0.26	0.37	Open	0
795		2340	938	470	1,221.83	8.00	130.00	136.83	0.87	0.56	0.46	Open	0
796		2341	472	3834	727.87	8.00	130.00	165.54	1.06	0.48	0.65	Open	0
797		2342	329	940	459.18	8.00	130.00	6.31	0.04	0.00	0.00	Open	0
798		2343	475	J32	168.27	8.00	130.00	94.07	0.60	0.04	0.23	Open	0
799		2344	941	942	327.14	8.00	130.00	57.11	0.36	0.03	0.09	Open	0
800		2345	325	943	1,939.23	8.00	130.00	6.31	0.04	0.00	0.00	Open	0
801		2346	944	945	624.19	8.00	130.00	32.85	0.21	0.02	0.03	Open	0
802		2347	945	946	141.65	8.00	130.00	13.31	0.08	0.00	0.01	Open	0
803		2348	406	405	77.74	16.00	130.00	-28.79	0.05	0.00	0.00	Open	0
804		2349	405	947	497.22	8.00	130.00	65.39	0.42	0.06	0.12	Open	0
805		2350	947	948	313.11	8.00	130.00	49.90	0.32	0.02	0.07	Open	0

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		ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	HL/1000 (ft/kft)	Status	Flow Reversal Count
806		2351	948	949	675.60	8.00	130.00	29.21	0.19	0.02	0.03	Open	0
807		2352	949	950	752.25	8.00	130.00	15.58	0.10	0.01	0.01	Open	0
808		2353	950	951	606.22	8.00	130.00	6.31	0.04	0.00	0.00	Open	0
809		2354	950	952	416.29	8.00	130.00	8.57	0.05	0.00	0.00	Open	0
810		2355	952	953	370.29	8.00	130.00	22.46	0.14	0.01	0.02	Open	0
811		2356	952	954	529.29	8.00	130.00	-20.20	0.13	0.01	0.01	Open	0
812		2357	954	949	536.26	8.00	130.00	-3.47	0.02	0.00	0.00	Open	0
813		2358	949	955	363.62	8.00	130.00	3.86	0.02	0.00	0.00	Open	0
814		2359	947	956	305.46	6.00	130.00	6.31	0.07	0.00	0.01	Open	0
815		2360	407	957	835.21	8.00	130.00	1.18	0.01	0.00	0.00	Open	0
816		2361	957	409	503.38	8.00	130.00	2.19	0.01	0.00	0.00	Open	0
817		2362	409	958	196.41	8.00	130.00	57.39	0.37	0.02	0.09	Open	0
818		2363	958	959	381.44	8.00	130.00	63.00	0.40	0.04	0.11	Open	0
819		2364	959	960	334.09	8.00	130.00	59.56	0.38	0.03	0.10	Open	0
820		2365	960	954	323.64	8.00	130.00	23.05	0.15	0.01	0.02	Open	0
821		2366	960	961	343.66	8.00	130.00	30.20	0.19	0.01	0.03	Open	0
822		2367	961	962	377.44	6.00	130.00	6.31	0.07	0.00	0.01	Open	0
823		2368	961	963	321.28	8.00	130.00	17.58	0.11	0.00	0.01	Open	0
824		2369	963	964	318.87	8.00	130.00	4.96	0.03	0.00	0.00	Open	0
825		2370	964	965	66.39	8.00	130.00	-4.81	0.03	0.00	0.00	Open	0
826		2371	964	966	193.86	8.00	130.00	3.46	0.02	0.00	0.00	Open	0
827		2372	966	967	361.89	8.00	130.00	7.06	0.05	0.00	0.00	Open	0
828		2373	967	968	382.77	6.00	130.00	9.09	0.10	0.00	0.01	Open	0
829		2374	969	970	323.50	8.00	130.00	-24.56	0.16	0.01	0.02	Open	0
830		2375	971	972	512.68	8.00	130.00	-16.41	0.10	0.00	0.01	Open	0
831		2376	973	974	58.49	8.00	130.00	-49.80	0.32	0.00	0.07	Open	0
832		2377	974	975	50.46	8.00	130.00	30.06	0.19	0.00	0.03	Open	0
833		2378	974	411	405.67	8.00	130.00	-86.17	0.55	0.08	0.19	Open	0
834		2379	411	976	290.00	8.00	130.00	19.94	0.13	0.00	0.01	Open	0
835		2380	976	957	853.98	8.00	130.00	7.32	0.05	0.00	0.00	Open	0
836		2381	410	977	406.73	8.00	130.00	12.62	0.08	0.00	0.01	Open	0
837		2382	645	978	818.71	8.00	130.00	9.35	0.06	0.00	0.00	Open	0
838		2383	978	646	696.56	8.00	130.00	-3.27	0.02	0.00	0.00	Open	0
839		2384	978	979	1,488.45	8.00	130.00	6.31	0.04	0.00	0.00	Open	0
840		2385	318	980	411.34	8.00	130.00	58.99	0.38	0.04	0.10	Open	0

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841		2386	980	981	188.31	8.00	130.00	29.79	0.19	0.01	0.03	Open	0
842		2387	981	982	548.93	8.00	130.00	12.62	0.08	0.00	0.01	Open	0
843		2388	981	983	476.46	8.00	130.00	10.86	0.07	0.00	0.00	Open	0
844		2389	983	984	498.32	8.00	130.00	6.31	0.04	0.00	0.00	Open	0
845		2390	980	985	404.13	8.00	130.00	22.89	0.15	0.01	0.02	Open	0
846		2391	985	986	323.15	8.00	130.00	14.82	0.09	0.00	0.01	Open	0
847		2392	317	987	1,087.55	8.00	130.00	51.45	0.33	0.08	0.08	Open	0
848		2393	987	988	767.99	8.00	130.00	49.56	0.32	0.05	0.07	Open	0
849		2394	988	989	848.96	8.00	130.00	43.25	0.28	0.05	0.05	Open	0
850		2395	989	990	1,280.49	8.00	130.00	30.63	0.20	0.04	0.03	Open	0
851		2396	990	991	412.42	8.00	130.00	18.01	0.11	0.00	0.01	Open	0
852		2397	991	992	600.54	8.00	130.00	5.39	0.03	0.00	0.00	Open	0
853		2398	993	994	349.93	8.00	130.00	-3.91	0.02	0.00	0.00	Open	0
854		2399	994	995	330.03	8.00	130.00	-18.75	0.12	0.00	0.01	Open	0
855		2400	995	996	745.85	8.00	130.00	-23.49	0.15	0.01	0.02	Open	0
856		2401	996	997	888.50	8.00	130.00	-25.84	0.16	0.02	0.02	Open	0
857		2402	996	998	300.48	8.00	130.00	-3.95	0.03	0.00	0.00	Open	0
858		2403	998	999	565.00	8.00	130.00	1.62	0.01	0.00	0.00	Open	0
859		2404	999	1000	673.16	8.00	130.00	-11.00	0.07	0.00	0.00	Open	0
860		2405	1000	1001	2,196.36	8.00	130.00	-17.31	0.11	0.02	0.01	Open	0
861		2406	1001	1002	338.96	8.00	130.00	-35.51	0.23	0.01	0.04	Open	0
862		2407	1001	998	1,226.82	6.00	130.00	11.88	0.13	0.02	0.02	Open	0
863		2408	310	1003	330.00	8.00	130.00	93.19	0.59	0.07	0.23	Open	0
864		2409	1003	1004	321.68	8.00	130.00	43.85	0.28	0.02	0.06	Open	0
865		2410	1004	1005	733.90	8.00	130.00	1.21	0.01	0.00	0.00	Open	0
866		2411	1005	1006	691.07	8.00	130.00	58.06	0.37	0.06	0.09	Open	0
867		2412	1006	1007	520.37	8.00	130.00	29.94	0.19	0.01	0.03	Open	0
868		2413	1007	J136	600.31	8.00	130.00	23.63	0.15	0.01	0.02	Open	0
869		2414	1008	1009	156.94	8.00	130.00	-2.87	0.02	0.00	0.00	Open	0
870		2415	1008	1010	120.20	8.00	130.00	3.19	0.02	0.00	0.00	Open	0
871		2416	1010	1011	338.71	8.00	130.00	33.20	0.21	0.01	0.03	Open	0
872		2417	1011	311	326.98	8.00	130.00	74.31	0.47	0.05	0.15	Open	0
873		2418	309	1012	322.73	8.00	130.00	113.64	0.73	0.10	0.33	Open	0
874		2419	1012	1013	343.42	8.00	130.00	101.02	0.64	0.09	0.26	Open	0
875		2420	1013	1014	532.18	8.00	130.00	60.56	0.39	0.05	0.10	Open	0

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876		2421	1014	1015	219.93	8.00	130.00	47.94	0.31	0.01	0.07	Open	0
877		2422	1015	1016	275.61	8.00	130.00	6.31	0.04	0.00	0.00	Open	0
878		2423	294	1017	357.31	18.00	130.00	1,690.99	2.13	0.33	0.93	Open	0
879		2424	202	1018	155.71	8.00	130.00	-3.42	0.02	0.00	0.00	Open	0
880		2425	483	1019	338.55	8.00	130.00	-82.71	0.53	0.06	0.18	Open	0
881		2426	1019	1020	300.39	8.00	130.00	-89.02	0.57	0.06	0.21	Open	0
882		2427	1020	357	244.59	6.00	130.00	-95.33	1.08	0.23	0.95	Open	0
883		2428	1021	360	809.29	8.00	130.00	-6.31	0.04	0.00	0.00	Open	0
884		2429	360	1022	1,927.38	8.00	130.00	6.31	0.04	0.00	0.00	Open	0
885		2430	358	351	1,997.72	8.00	130.00	-75.47	0.48	0.30	0.15	Open	0
886		2431	1023	1024	858.33	8.00	130.00	-134.18	0.86	0.38	0.44	Open	0
887		2432	1024	1025	501.91	8.00	130.00	-140.49	0.90	0.24	0.48	Open	0
888		2433	1025	1026	726.30	8.00	130.00	-100.16	0.64	0.19	0.26	Open	0
889		2434	1026	1027	298.06	8.00	130.00	-106.47	0.68	0.09	0.29	Open	0
890		2435	1027	353	316.71	8.00	130.00	-39.10	0.25	0.01	0.05	Open	0
891		2436	1027	1028	386.22	8.00	130.00	-73.68	0.47	0.06	0.15	Open	0
892		2437	1028	1029	602.10	8.00	130.00	-76.28	0.49	0.09	0.16	Open	0
893		2438	1029	1030	347.90	8.00	130.00	-82.59	0.53	0.06	0.18	Open	0
894		2439	1030	349	509.76	8.00	130.00	-88.91	0.57	0.11	0.21	Open	0
895		2440	348	1031	187.63	8.00	130.00	101.52	0.65	0.05	0.26	Open	0
896		2441	1031	1032	205.16	8.00	130.00	95.21	0.61	0.05	0.23	Open	0
897		2442	1032	1033	534.41	8.00	130.00	88.90	0.57	0.11	0.21	Open	0
898		2443	1033	1034	579.57	8.00	130.00	136.44	0.87	0.26	0.46	Open	0
899		2444	1034	1035	395.62	6.00	130.00	6.31	0.07	0.00	0.01	Open	0
900		2445	1034	364	391.17	8.00	130.00	123.82	0.79	0.15	0.38	Open	0
901		2446	1036	1037	228.77	8.00	130.00	6.31	0.04	0.00	0.00	Open	0
902		2447	193	1038	291.49	8.00	130.00	-3.73	0.02	0.00	0.00	Open	0
903		2448	1038	1039	270.49	8.00	130.00	-34.91	0.22	0.01	0.04	Open	0
904		2449	1039	1040	81.72	8.00	130.00	-69.68	0.44	0.01	0.13	Open	0
905		2450	1040	1041	421.16	8.00	130.00	-75.99	0.49	0.06	0.15	Open	0
906		2451	1041	1042	405.65	8.00	130.00	63.76	0.41	0.05	0.11	Open	0
907		2452	1042	1043	1,109.15	8.00	130.00	12.14	0.08	0.01	0.01	Open	0
908		2453	1043	1044	428.17	8.00	130.00	-50.15	0.32	0.03	0.07	Open	0
909		2454	1044	1045	687.58	8.00	130.00	-56.46	0.36	0.06	0.09	Open	0
910		2455	1045	1046	379.69	8.00	130.00	-90.59	0.58	0.08	0.21	Open	0

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911		2456	1046	1047	582.30	8.00	130.00	-241.00	1.54	0.76	1.31	Open	0
912		2457	1049	1050	411.77	8.00	130.00	6.31	0.04	0.00	0.00	Open	0
913		2458	1049	1051	241.65	8.00	130.00	-88.66	0.57	0.05	0.21	Open	0
914		2459	1051	1052	1,302.49	8.00	130.00	165.00	1.05	0.85	0.65	Open	0
915		2460	1052	1053	133.37	8.00	130.00	152.37	0.97	0.07	0.56	Open	0
916		2461	270	1054	205.14	8.00	130.00	196.51	1.25	0.18	0.90	Open	0
917		2462	1054	1055	998.89	8.00	130.00	183.89	1.17	0.79	0.79	Open	0
918		2463	1055	1047	344.45	8.00	130.00	163.65	1.04	0.22	0.64	Open	0
919		2464	581	583	365.81	10.00	130.00	-118.09	0.48	0.04	0.12	Open	0
920		2465	191	187	2,043.20	8.00	130.00	-138.84	0.89	0.96	0.47	Open	0
921		2467	569	1056	1,689.36	8.00	130.00	-5.93	0.04	0.00	0.00	Open	0
922		2468	1056	571	582.84	8.00	130.00	-5.50	0.04	0.00	0.00	Open	0
923		2470	1056	1058	2,143.89	8.00	130.00	-6.74	0.04	0.00	0.00	Open	0
924		2471	1058	1057	165.17	8.00	130.00	-4.26	0.03	0.00	0.00	Open	0
925		2472	1058	1059	584.95	8.00	130.00	-8.79	0.06	0.00	0.00	Open	0
926		2473	1059	508	579.69	8.00	130.00	-15.10	0.10	0.00	0.01	Open	0
927		2474	490	1060	390.64	8.00	130.00	-146.68	0.94	0.20	0.52	Open	0
928		2475	1060	1046	592.88	8.00	130.00	-104.82	0.67	0.17	0.28	Open	0
929		2476	1061	1062	443.10	8.00	130.00	-6.80	0.04	0.00	0.00	Open	0
930		2477	1062	575	221.72	8.00	130.00	-7.29	0.05	0.00	0.00	Open	0
931		2478	576	1063	229.48	8.00	130.00	5.82	0.04	0.00	0.00	Open	0
932		2479	573	1064	183.83	8.00	130.00	-3.31	0.02	0.00	0.00	Open	0
933		2480	579	1066	655.15	8.00	130.00	-30.02	0.19	0.02	0.03	Open	0
934		2481	1066	578	599.22	8.00	130.00	-34.36	0.22	0.02	0.04	Open	0
935		2482	1067	1068	253.11	8.00	130.00	-6.31	0.04	0.00	0.00	Open	0
936		2483	1068	1069	156.26	8.00	130.00	-63.49	0.41	0.02	0.11	Open	0
937		2484	1069	1070	475.04	8.00	130.00	-125.92	0.80	0.19	0.39	Open	0
938		2485	1070	1071	353.14	8.00	130.00	-83.26	0.53	0.06	0.18	Open	0
939		2486	1071	288	37.50	8.00	130.00	11.56	0.07	0.00	0.01	Open	0
940		2487	1071	287	75.49	8.00	130.00	-101.13	0.65	0.02	0.26	Open	0
941		2489	1072	1073	204.06	8.00	130.00	-172.36	1.10	0.14	0.70	Open	0
942		2490	1073	1074	599.95	8.00	130.00	-261.36	1.67	0.91	1.52	Open	0
943		2491	1074	1075	190.38	8.00	130.00	15.10	0.10	0.00	0.01	Open	0
944		2492	1074	1076	470.12	8.00	130.00	-165.10	1.05	0.31	0.65	Open	0
945		2493	1076	1077	337.51	8.00	130.00	-121.77	0.78	0.12	0.37	Open	0

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946		2494	1077	1078	403.85	8.00	130.00	-81.30	0.52	0.07	0.18	Open	0
947		2495	1078	1079	382.90	8.00	130.00	16.71	0.11	0.00	0.01	Open	0
948		2496	1079	1080	329.24	8.00	130.00	62.39	0.40	0.04	0.11	Open	0
949		2497	1080	277	333.03	8.00	130.00	120.92	0.77	0.12	0.37	Open	0
950		2498	1072	1081	341.71	8.00	130.00	-20.62	0.13	0.00	0.01	Open	0
951		2499	1081	1082	361.21	8.00	130.00	-20.04	0.13	0.00	0.01	Open	0
952		2500	1082	1083	193.06	8.00	130.00	-58.22	0.37	0.02	0.09	Open	0
953		2501	1083	283	334.06	8.00	130.00	-77.73	0.50	0.05	0.16	Open	0
954		2502	1084	1085	312.55	8.00	130.00	52.90	0.34	0.02	0.08	Open	0
955		2503	1085	1086	355.68	8.00	130.00	-6.82	0.04	0.00	0.00	Open	0
956		2504	1086	572	328.42	8.00	130.00	-14.61	0.09	0.00	0.01	Open	0
957		2505	1087	1088	203.32	8.00	130.00	-11.65	0.07	0.00	0.00	Open	0
958		2506	1088	1089	133.26	8.00	130.00	-59.47	0.38	0.01	0.10	Open	0
959		2507	1089	1090	224.92	8.00	130.00	-10.90	0.07	0.00	0.00	Open	0
960		2508	1090	517	440.97	8.00	130.00	-17.21	0.11	0.00	0.01	Open	0
961		2509	517	572	694.00	8.00	130.00	-121.56	0.78	0.26	0.37	Open	0
962		2510	572	1091	782.47	8.00	130.00	-128.66	0.82	0.32	0.41	Open	0
963		2511	1091	1092	253.25	8.00	130.00	-52.69	0.34	0.02	0.08	Open	0
964		2512	1092	1093	276.56	8.00	130.00	-69.02	0.44	0.04	0.13	Open	0
965		2513	1093	1094	275.48	8.00	130.00	-75.33	0.48	0.04	0.15	Open	0
966		2514	1094	1095	220.98	8.00	130.00	-197.97	1.26	0.20	0.91	Open	0
967		2515	1095	1096	194.79	8.00	130.00	-129.62	0.83	0.08	0.41	Open	0
968		2516	1096	1097	227.98	8.00	130.00	-196.45	1.25	0.20	0.90	Open	0
969		2517	1097	1098	241.81	8.00	130.00	-14.07	0.09	0.00	0.01	Open	0
970		2518	1098	1099	354.41	8.00	130.00	-15.45	0.10	0.00	0.01	Open	0
971		2519	1099	279	313.27	8.00	130.00	-93.23	0.60	0.07	0.23	Open	0
972		2520	1100	512	278.51	8.00	130.00	-6.31	0.04	0.00	0.00	Open	0
973		2521	515	1101	461.52	8.00	130.00	-92.68	0.59	0.10	0.22	Open	0
974		2522	1101	1102	495.15	8.00	130.00	-98.99	0.63	0.12	0.25	Open	0
975		2523	1102	1092	773.04	8.00	130.00	-70.53	0.45	0.10	0.13	Open	0
976		2524	1103	1104	361.82	8.00	130.00	75.26	0.48	0.05	0.15	Open	0
977		2525	1104	1105	413.24	8.00	130.00	55.25	0.35	0.04	0.09	Open	0
978		2526	1105	1106	1,322.79	8.00	130.00	62.64	0.40	0.14	0.11	Open	0
979		2527	1106	1107	358.32	8.00	130.00	17.31	0.11	0.00	0.01	Open	0
980		2528	1107	1108	365.40	8.00	130.00	3.35	0.02	0.00	0.00	Open	0

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		ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	HL/1000 (ft/kft)	Status	Flow Reversal Count
981		2529	1108	1109	564.13	8.00	130.00	6.31	0.04	0.00	0.00	Open	0
982		2530	1106	1110	292.63	8.00	130.00	15.58	0.10	0.00	0.01	Open	0
983		2531	1110	1108	427.73	8.00	130.00	9.27	0.06	0.00	0.00	Open	0
984		2532	1106	1111	504.21	8.00	130.00	23.44	0.15	0.01	0.02	Open	0
985		2533	1074	1112	1,640.46	8.00	130.00	-117.67	0.75	0.57	0.35	Open	0
986		2534	1112	1113	419.65	8.00	130.00	-174.04	1.11	0.30	0.72	Open	0
987		2535	1113	1114	848.45	8.00	130.00	-169.19	1.08	0.58	0.68	Open	0
988		2536	1114	264	291.93	8.00	130.00	-251.70	1.61	0.41	1.42	Open	0
989		2537	1114	1115	317.52	8.00	130.00	76.20	0.49	0.05	0.15	Open	0
990		2538	1115	1116	316.27	8.00	130.00	5.95	0.04	0.00	0.00	Open	0
991		2539	1116	1117	323.25	8.00	130.00	-56.36	0.36	0.03	0.09	Open	0
992		2540	1117	1118	324.63	8.00	130.00	-175.78	1.12	0.24	0.73	Open	0
993		2541	1118	262	295.97	6.00	130.00	-170.87	1.94	0.83	2.81	Open	0
994		2542	1117	1119	870.85	8.00	130.00	113.10	0.72	0.28	0.32	Open	0
995		2543	1119	1120	863.54	8.00	130.00	110.90	0.71	0.27	0.31	Open	0
996		2544	503	1121	492.68	8.00	130.00	6.31	0.04	0.00	0.00	Open	0
997		2545	1122	1123	852.92	8.00	130.00	-269.67	1.72	1.38	1.61	Open	0
998		2546	1124	1125	367.63	8.00	130.00	-48.06	0.31	0.02	0.07	Open	0
999		2547	1125	1127	437.78	8.00	130.00	-48.34	0.31	0.03	0.07	Open	0
1000		2548	1127	1128	341.13	8.00	130.00	18.65	0.12	0.00	0.01	Open	0
1001		2549	158	1130	559.53	8.00	130.00	178.12	1.14	0.42	0.75	Open	0
1002		2550	527	1131	172.49	8.00	130.00	48.58	0.31	0.01	0.07	Open	0
1003		2551	1131	257	1,164.93	8.00	130.00	-10.69	0.07	0.00	0.00	Open	0
1004		2552	1132	528	723.62	8.00	130.00	-68.26	0.44	0.09	0.13	Open	0
1005		2553	525	1133	1,172.98	8.00	130.00	6.31	0.04	0.00	0.00	Open	0
1006		2554	1134	529	220.32	8.00	130.00	55.64	0.36	0.02	0.09	Open	0
1007		2555	1135	1136	233.04	8.00	130.00	-103.83	0.66	0.06	0.28	Open	0
1008		2556	1136	1137	382.23	8.00	130.00	-223.08	1.42	0.43	1.14	Open	0
1009		2557	1137	1138	1,252.14	6.00	130.00	-125.19	1.42	1.98	1.58	Open	0
1010		2558	1138	1139	401.73	6.00	130.00	-160.41	1.82	1.01	2.50	Open	0
1011		2559	1139	1140	827.84	6.00	130.00	-168.34	1.91	2.26	2.74	Open	0
1012		2560	968	1141	326.44	6.00	130.00	2.78	0.03	0.00	0.00	Open	0
1013		2561	1141	953	301.11	6.00	130.00	-3.53	0.04	0.00	0.00	Open	0
1014		2562	953	1142	461.85	6.00	130.00	6.31	0.07	0.00	0.01	Open	0
1015		2563	953	1143	327.83	6.00	130.00	6.31	0.07	0.00	0.01	Open	0

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		ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	HL/1000 (ft/kft)	Status	Flow Reversal Count
1016		2564	963	1144	308.47	6.00	130.00	6.31	0.07	0.00	0.01	Open	0
1017		2565	1145	1146	235.45	6.00	130.00	6.31	0.07	0.00	0.01	Open	0
1018		2566	1145	975	239.58	6.00	130.00	-23.75	0.27	0.02	0.07	Open	0
1019		2567	973	970	668.01	6.00	130.00	14.22	0.16	0.02	0.03	Open	0
1020		2568	970	971	52.13	8.00	130.00	-16.65	0.11	0.00	0.01	Open	0
1021		2569	972	973	127.59	6.00	130.00	-29.27	0.33	0.01	0.11	Open	0
1022		2570	977	1147	286.42	6.00	130.00	6.31	0.07	0.00	0.01	Open	0
1023		2571	958	408	891.78	6.00	130.00	-11.93	0.14	0.02	0.02	Open	0
1024		2572	959	947	1,296.44	6.00	130.00	-2.87	0.03	0.00	0.00	Open	0
1025		2573	955	1148	692.35	6.00	130.00	-8.06	0.09	0.01	0.01	Open	0
1026		2574	1148	948	389.13	6.00	130.00	-14.38	0.16	0.01	0.03	Open	0
1027		2575	955	950	1,181.22	6.00	130.00	5.62	0.06	0.01	0.01	Open	0
1028		2576	976	1149	588.96	6.00	130.00	6.31	0.07	0.00	0.01	Open	0
1029		2577	946	1150	814.67	6.00	130.00	7.00	0.08	0.01	0.01	Open	0
1030		2578	1150	1151	213.94	6.00	130.00	12.62	0.14	0.00	0.02	Open	0
1031		2579	1151	1152	527.70	6.00	130.00	3.39	0.04	0.00	0.00	Open	0
1032		2580	1152	1151	693.53	6.00	130.00	-2.92	0.03	0.00	0.00	Open	0
1033		2581	1150	1153	311.25	6.00	130.00	-11.93	0.14	0.01	0.02	Open	0
1034		2582	945	1154	321.03	6.00	130.00	13.22	0.15	0.01	0.02	Open	0
1035		2583	1154	1155	396.45	6.00	130.00	4.13	0.05	0.00	0.00	Open	0
1036		2584	1155	1156	927.95	6.00	130.00	-2.18	0.02	0.00	0.00	Open	0
1037		2585	1156	1157	313.71	6.00	130.00	3.53	0.04	0.00	0.00	Open	0
1038		2586	1157	1154	906.86	6.00	130.00	-2.78	0.03	0.00	0.00	Open	0
1039		2587	320	1158	496.43	6.00	130.00	6.31	0.07	0.00	0.01	Open	0
1040		2588	319	1159	1,593.39	6.00	130.00	23.35	0.26	0.11	0.07	Open	0
1041		2589	1159	1160	340.99	6.00	130.00	6.31	0.07	0.00	0.01	Open	0
1042		2590	1159	1161	417.85	6.00	130.00	10.73	0.12	0.01	0.02	Open	0
1043		2591	1161	987	521.61	6.00	130.00	4.42	0.05	0.00	0.00	Open	0
1044		2592	1162	989	555.67	6.00	130.00	-6.31	0.07	0.00	0.01	Open	0
1045		2593	315	993	310.33	6.00	130.00	19.62	0.22	0.02	0.05	Open	0
1046		2594	993	1163	686.42	6.00	130.00	17.22	0.20	0.03	0.04	Open	0
1047		2595	1163	314	313.14	6.00	130.00	4.59	0.05	0.00	0.00	Open	0
1048		2596	1163	1164	333.77	6.00	130.00	6.31	0.07	0.00	0.01	Open	0
1049		2597	994	1165	1,299.68	6.00	130.00	8.53	0.10	0.01	0.01	Open	0
1050		2598	1165	1166	322.32	6.00	130.00	22.13	0.25	0.02	0.06	Open	0

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1051		2599	1166	313	327.44	6.00	130.00	29.31	0.33	0.04	0.11	Open	0
1052		2600	1166	1167	326.13	6.00	130.00	-13.49	0.15	0.01	0.03	Open	0
1053		2601	1167	1168	350.11	6.00	130.00	-29.09	0.33	0.04	0.11	Open	0
1054		2602	1167	307	506.00	6.00	130.00	9.29	0.11	0.01	0.01	Open	0
1055		2603	991	1169	374.39	6.00	130.00	6.31	0.07	0.00	0.01	Open	0
1056		2604	308	992	183.38	6.00	130.00	7.24	0.08	0.00	0.01	Open	0
1057		2605	992	1170	1,276.99	6.00	130.00	6.31	0.07	0.01	0.01	Open	0
1058		2607	990	1171	479.48	6.00	130.00	6.31	0.07	0.00	0.01	Open	0
1059		2608	1015	1172	561.31	6.00	130.00	35.32	0.40	0.09	0.15	Open	0
1060		2609	1172	1005	334.48	6.00	130.00	63.15	0.72	0.15	0.45	Open	0
1061		2610	1014	1173	207.41	6.00	130.00	6.31	0.07	0.00	0.01	Open	0
1062		2611	1013	1172	1,078.34	6.00	130.00	34.14	0.39	0.15	0.14	Open	0
1063		2612	1006	1174	371.11	6.00	130.00	21.80	0.25	0.02	0.06	Open	0
1064		2613	1174	1009	204.81	6.00	130.00	9.18	0.10	0.00	0.01	Open	0
1065		2614	1174	1175	325.01	6.00	130.00	6.31	0.07	0.00	0.01	Open	0
1066		2615	1004	1010	566.87	6.00	130.00	36.32	0.41	0.09	0.16	Open	0
1067		2616	1003	1011	547.77	6.00	130.00	43.03	0.49	0.12	0.22	Open	0
1068		2617	1011	1176	354.11	6.00	130.00	-4.38	0.05	0.00	0.00	Open	0
1069		2618	1012	1177	527.72	6.00	130.00	6.31	0.07	0.00	0.01	Open	0
1070		2619	311	1178	500.71	6.00	130.00	-103.10	1.17	0.55	1.10	Open	0
1071		2620	1178	1179	335.37	6.00	130.00	-109.41	1.24	0.41	1.23	Open	0
1072		2621	1179	1180	519.47	6.00	130.00	-50.75	0.58	0.15	0.30	Open	0
1073		2622	1180	1181	489.73	6.00	130.00	6.31	0.07	0.00	0.01	Open	0
1074		2623	1179	1182	351.11	6.00	130.00	-64.97	0.74	0.16	0.47	Open	0
1075		2624	1182	1183	615.59	6.00	130.00	6.31	0.07	0.00	0.01	Open	0
1076		2625	1180	1184	791.53	6.00	130.00	-63.38	0.72	0.35	0.45	Open	0
1077		2626	1184	1185	655.67	6.00	130.00	41.13	0.47	0.13	0.20	Open	0
1078		2627	1185	1182	325.68	6.00	130.00	77.59	0.88	0.21	0.65	Open	0
1079		2628	1185	1186	283.07	6.00	130.00	-42.76	0.49	0.06	0.22	Open	0
1080		2629	1186	1187	608.15	6.00	130.00	6.31	0.07	0.00	0.01	Open	0
1081		2630	1186	1188	298.71	6.00	130.00	-55.39	0.63	0.10	0.35	Open	0
1082		2631	1188	1189	503.10	6.00	130.00	-16.97	0.19	0.02	0.04	Open	0
1083		2632	1189	1190	312.09	6.00	130.00	-23.28	0.26	0.02	0.07	Open	0
1084		2633	1190	1191	824.82	6.00	130.00	-29.59	0.34	0.09	0.11	Open	0
1085		2634	1191	305	338.89	6.00	130.00	-10.86	0.12	0.01	0.02	Open	0

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1086		2635	1191	1192	466.41	6.00	130.00	-25.04	0.28	0.04	0.08	Open	0
1087		2636	1192	1193	395.83	6.00	130.00	51.04	0.58	0.12	0.30	Open	0
1088		2637	1193	1188	214.21	6.00	130.00	44.73	0.51	0.05	0.23	Open	0
1089		2638	1192	303	364.16	6.00	130.00	-82.39	0.93	0.27	0.73	Open	0
1090		2639	303	1194	796.37	6.00	130.00	-38.25	0.43	0.14	0.18	Open	0
1091		2640	1194	1195	983.89	6.00	130.00	74.01	0.84	0.59	0.60	Open	0
1092		2641	1195	1196	319.49	6.00	130.00	25.88	0.29	0.03	0.09	Open	0
1093		2642	1196	997	320.48	6.00	130.00	42.39	0.48	0.07	0.21	Open	0
1094		2643	997	1197	319.36	6.00	130.00	27.79	0.32	0.03	0.10	Open	0
1095		2644	1197	1165	355.09	6.00	130.00	19.91	0.23	0.02	0.05	Open	0
1096		2645	1168	1198	310.68	6.00	130.00	-12.93	0.15	0.01	0.02	Open	0
1097		2646	1198	1199	610.19	6.00	130.00	-19.24	0.22	0.03	0.05	Open	0
1098		2647	1199	1200	327.55	6.00	130.00	-25.55	0.29	0.03	0.08	Open	0
1099		2648	1200	997	957.19	6.00	130.00	17.56	0.20	0.04	0.04	Open	0
1100		2649	1200	1201	336.63	6.00	130.00	-49.42	0.56	0.10	0.28	Open	0
1101		2650	1201	1196	988.60	6.00	130.00	22.82	0.26	0.07	0.07	Open	0
1102		2651	1201	304	432.14	6.00	130.00	-78.55	0.89	0.29	0.67	Open	0
1103		2652	995	1197	1,302.72	6.00	130.00	-1.58	0.02	0.00	0.00	Open	0
1104		2653	1184	300	892.80	6.00	130.00	-110.82	1.26	1.13	1.26	Open	0
1105		2654	1194	1202	366.84	6.00	130.00	-118.57	1.35	0.52	1.43	Open	0
1106		2655	1202	1203	318.00	6.00	130.00	-194.56	2.21	1.14	3.58	Open	0
1107		2656	302	1204	346.58	6.00	130.00	-63.37	0.72	0.16	0.45	Open	0
1108		2657	1204	1202	684.58	6.00	130.00	-69.68	0.79	0.37	0.53	Open	0
1109		2658	1195	1002	367.88	6.00	130.00	41.82	0.47	0.08	0.21	Open	0
1110		2659	1205	999	538.56	6.00	130.00	-6.31	0.07	0.00	0.01	Open	0
1111		2660	983	985	641.58	6.00	130.00	-1.76	0.02	0.00	0.00	Open	0
1112		2661	982	1206	445.81	6.00	130.00	6.31	0.07	0.00	0.01	Open	0
1113		2662	323	1207	833.94	6.00	130.00	-20.14	0.23	0.04	0.05	Open	0
1114		2663	295	1018	345.52	6.00	130.00	-39.99	0.45	0.07	0.19	Open	0
1115		2664	1018	1208	242.74	6.00	130.00	-49.72	0.56	0.07	0.29	Open	0
1116		2665	1208	204	626.17	6.00	130.00	-29.90	0.34	0.07	0.11	Open	0
1117		2666	205	1209	900.30	6.00	130.00	24.38	0.28	0.07	0.08	Open	0
1118		2667	1209	1210	286.53	6.00	130.00	18.07	0.21	0.01	0.04	Open	0
1119		2668	1210	297	896.15	6.00	130.00	42.77	0.49	0.19	0.22	Open	0
1120		2669	297	296	77.44	18.00	130.00	312.90	0.39	0.00	0.04	Open	0

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1121		2670	298	1211	898.12	6.00	130.00	-49.74	0.56	0.26	0.29	Open	0
1122		2671	1211	369	362.04	6.00	130.00	-95.26	1.08	0.35	0.95	Open	0
1123		2672	1211	1210	418.56	6.00	130.00	39.21	0.44	0.08	0.18	Open	0
1124		2673	1210	J132	263.35	6.00	130.00	8.20	0.09	0.00	0.01	Open	0
1125		2674	1212	1208	254.35	6.00	130.00	26.13	0.30	0.02	0.09	Open	0
1126		2675	1061	1063	729.14	6.00	130.00	0.49	0.01	0.00	0.00	Open	0
1127		2676	1213	574	143.92	6.00	130.00	-3.44	0.04	0.00	0.00	Open	0
1128		2677	1065	1214	611.51	6.00	130.00	22.44	0.25	0.04	0.07	Open	0
1129		2678	1214	1215	641.17	6.00	130.00	14.15	0.16	0.02	0.03	Open	0
1130		2679	1215	1216	516.64	6.00	130.00	7.84	0.09	0.00	0.01	Open	0
1131		2680	1216	1217	561.08	6.00	130.00	-2.11	0.02	0.00	0.00	Open	0
1132		2681	1217	579	188.88	6.00	130.00	-11.09	0.13	0.00	0.02	Open	0
1133		2682	1217	1218	1,003.01	6.00	130.00	2.67	0.03	0.00	0.00	Open	0
1134		2683	1218	1216	367.75	6.00	130.00	-3.64	0.04	0.00	0.00	Open	0
1135		2684	1066	1214	1,225.32	6.00	130.00	-1.97	0.02	0.00	0.00	Open	0
1136		2685	578	1065	1,180.35	6.00	130.00	-10.71	0.12	0.02	0.02	Open	0
1137		2686	522	1219	642.64	6.00	130.00	9.52	0.11	0.01	0.01	Open	0
1138		2687	1219	1220	310.78	6.00	130.00	17.07	0.19	0.01	0.04	Open	0
1139		2688	1220	1221	351.97	6.00	130.00	10.76	0.12	0.01	0.02	Open	0
1140		2689	1221	1222	322.89	6.00	130.00	16.20	0.18	0.01	0.04	Open	0
1141		2690	1222	1223	508.38	6.00	130.00	12.98	0.15	0.01	0.02	Open	0
1142		2691	1223	1224	483.91	6.00	130.00	-7.74	0.09	0.00	0.01	Open	0
1143		2692	1224	1225	318.88	6.00	130.00	-14.05	0.16	0.01	0.03	Open	0
1144		2693	1225	1226	330.96	6.00	130.00	-23.46	0.27	0.02	0.07	Open	0
1145		2694	1226	1088	374.41	6.00	130.00	-41.52	0.47	0.08	0.20	Open	0
1146		2695	1222	1225	661.34	6.00	130.00	-3.09	0.04	0.00	0.00	Open	0
1147		2696	1221	1226	661.34	6.00	130.00	-11.75	0.13	0.01	0.02	Open	0
1148		2697	1219	521	946.20	6.00	130.00	-13.86	0.16	0.03	0.03	Open	0
1149		2698	1223	577	212.25	6.00	130.00	14.41	0.16	0.01	0.03	Open	0
1150		2699	577	1227	172.69	6.00	130.00	62.60	0.71	0.08	0.44	Open	0
1151		2700	1227	1228	584.82	6.00	130.00	6.31	0.07	0.00	0.01	Open	0
1152		2701	1227	1229	400.22	6.00	130.00	49.98	0.57	0.12	0.29	Open	0
1153		2702	1229	286	980.15	6.00	130.00	-11.60	0.13	0.02	0.02	Open	0
1154		2703	1229	1230	400.00	6.00	130.00	55.28	0.63	0.14	0.35	Open	0
1155		2704	1230	1070	830.70	6.00	130.00	48.97	0.56	0.23	0.28	Open	0

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		ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	HL/1000 (ft/kft)	Status	Flow Reversal Count
1156		2705	1232	291	142.23	6.00	130.00	5.91	0.07	0.00	0.01	Open	0
1157		2706	497	1233	385.94	6.00	130.00	-57.54	0.65	0.14	0.37	Open	0
1158		2707	1233	496	576.13	6.00	130.00	-19.60	0.22	0.03	0.05	Open	0
1159		2708	1233	1234	242.67	6.00	130.00	-44.24	0.50	0.06	0.23	Open	0
1160		2709	1234	1235	234.30	6.00	130.00	-50.55	0.57	0.07	0.29	Open	0
1161		2710	1235	1236	248.19	6.00	130.00	-36.08	0.41	0.04	0.16	Open	0
1162		2711	1235	495	618.30	6.00	130.00	-20.79	0.24	0.04	0.06	Open	0
1163		2712	1236	491	248.46	6.00	130.00	-42.39	0.48	0.05	0.21	Open	0
1164		2713	491	1237	224.31	6.00	130.00	-41.66	0.47	0.05	0.21	Open	0
1165		2714	1237	1238	360.44	6.00	130.00	24.90	0.28	0.03	0.08	Open	0
1166		2715	1238	492	215.51	6.00	130.00	18.59	0.21	0.01	0.05	Open	0
1167		2716	494	1073	1,101.21	6.00	130.00	-82.70	0.94	0.81	0.73	Open	0
1168		2717	1237	1239	339.00	6.00	130.00	-72.87	0.83	0.20	0.58	Open	0
1169		2718	1239	1240	396.62	6.00	130.00	-48.57	0.55	0.11	0.27	Open	0
1170		2719	1240	499	285.10	6.00	130.00	-91.80	1.04	0.25	0.89	Open	0
1171		2720	1240	1241	369.05	6.00	130.00	36.92	0.42	0.06	0.16	Open	0
1172		2721	1239	1241	410.29	6.00	130.00	-30.61	0.35	0.05	0.12	Open	0
1173		2722	1242	1060	359.95	6.00	130.00	21.51	0.24	0.02	0.06	Open	0
1174		2723	1060	1243	282.60	6.00	130.00	-26.67	0.30	0.03	0.09	Open	0
1175		2724	1243	1244	643.46	6.00	130.00	-32.98	0.37	0.09	0.13	Open	0
1176		2725	1244	1046	295.70	6.00	130.00	-39.29	0.45	0.05	0.18	Open	0
1177		2726	1242	1045	647.37	6.00	130.00	-27.82	0.32	0.06	0.10	Open	0
1178		2727	1043	1245	813.93	6.00	130.00	55.98	0.64	0.29	0.36	Open	0
1179		2728	1245	1246	333.04	6.00	130.00	8.51	0.10	0.00	0.01	Open	0
1180		2729	1246	1247	342.26	6.00	130.00	-33.98	0.39	0.05	0.14	Open	0
1181		2730	1247	1248	192.37	6.00	130.00	-86.02	0.98	0.15	0.79	Open	0
1182		2731	1248	1039	674.02	6.00	130.00	-28.46	0.32	0.07	0.10	Open	0
1183		2732	1038	1249	392.86	6.00	130.00	24.87	0.28	0.03	0.08	Open	0
1184		2733	1249	1248	597.51	6.00	130.00	18.56	0.21	0.03	0.05	Open	0
1185		2734	1248	1042	411.78	6.00	130.00	-45.31	0.51	0.10	0.24	Open	0
1186		2735	1247	485	690.76	6.00	130.00	45.72	0.52	0.17	0.24	Open	0
1187		2736	486	1246	660.45	6.00	130.00	-36.19	0.41	0.10	0.16	Open	0
1188		2737	487	1250	337.53	6.00	130.00	-28.54	0.32	0.03	0.10	Open	0
1189		2738	1250	1245	326.92	6.00	130.00	-41.16	0.47	0.07	0.20	Open	0
1190		2739	1250	1251	356.03	6.00	130.00	6.31	0.07	0.00	0.01	Open	0

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		ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	HL/1000 (ft/kft)	Status	Flow Reversal Count
1191		2740	489	1252	772.26	6.00	130.00	6.31	0.07	0.00	0.01	Open	0
1192		2741	488	1253	613.31	6.00	130.00	127.56	1.45	1.00	1.64	Open	0
1193		2742	1253	1254	635.33	6.00	130.00	19.62	0.22	0.03	0.05	Open	0
1194		2743	1254	1255	612.08	6.00	130.00	69.32	0.79	0.32	0.53	Open	0
1195		2744	1255	1256	133.45	6.00	130.00	110.61	1.26	0.17	1.26	Open	0
1196		2745	1256	1257	297.43	6.00	130.00	104.30	1.18	0.34	1.13	Open	0
1197		2746	1257	1258	216.63	6.00	130.00	8.29	0.09	0.00	0.01	Open	0
1198		2747	1258	1253	801.77	6.00	130.00	-101.63	1.15	0.86	1.07	Open	0
1199		2748	1258	1259	496.59	6.00	130.00	103.61	1.18	0.55	1.11	Open	0
1200		2749	1260	1257	678.71	6.00	130.00	-89.71	1.02	0.58	0.85	Open	0
1201		2750	1261	1255	343.14	6.00	130.00	47.61	0.54	0.09	0.26	Open	0
1202		2751	1261	1262	351.40	6.00	130.00	-53.92	0.61	0.12	0.33	Open	0
1203		2752	1262	1263	597.70	6.00	130.00	-60.23	0.68	0.24	0.41	Open	0
1204		2753	1263	1254	356.80	6.00	130.00	56.01	0.64	0.13	0.36	Open	0
1205		2754	1263	1264	173.86	6.00	130.00	-122.55	1.39	0.26	1.52	Open	0
1206		2755	1264	1265	210.24	6.00	130.00	-92.92	1.05	0.19	0.91	Open	0
1207		2756	1265	484	192.43	6.00	130.00	-147.79	1.68	0.41	2.15	Open	0
1208		2757	1264	1266	219.07	6.00	130.00	-35.94	0.41	0.03	0.16	Open	0
1209		2758	1266	1267	366.89	6.00	130.00	-42.25	0.48	0.08	0.21	Open	0
1210		2759	1267	1265	290.48	6.00	130.00	-48.56	0.55	0.08	0.27	Open	0
1211		2760	1033	361	262.90	6.00	130.00	-53.85	0.61	0.09	0.33	Open	0
1212		2761	1269	366	1,009.63	6.00	130.00	-0.43	0.00	0.00	0.00	Open	0
1213		2762	1270	1268	608.15	6.00	130.00	-6.31	0.07	0.00	0.01	Open	0
1214		2763	1271	368	243.83	6.00	130.00	59.12	0.67	0.10	0.39	Open	0
1215		2764	199	1036	69.64	6.00	130.00	12.62	0.14	0.00	0.02	Open	0
1216		2765	1041	1053	512.19	8.00	130.00	-146.06	0.93	0.27	0.52	Open	0
1217		2766	1052	1272	454.63	6.00	130.00	6.31	0.07	0.00	0.01	Open	0
1218		2767	1048	1055	1,285.88	6.00	130.00	-13.93	0.16	0.03	0.03	Open	0
1219		2768	352	1028	638.59	6.00	130.00	3.71	0.04	0.00	0.00	Open	0
1220		2769	354	1025	801.88	6.00	130.00	46.64	0.53	0.20	0.25	Open	0
1221		2770	941	1273	1,141.38	6.00	130.00	18.02	0.20	0.05	0.04	Open	0
1222		2771	1273	1274	333.67	6.00	130.00	24.90	0.28	0.03	0.08	Open	0
1223		2772	1274	1275	825.83	6.00	130.00	8.00	0.09	0.01	0.01	Open	0
1224		2773	1275	942	320.09	6.00	130.00	-37.61	0.43	0.05	0.17	Open	0
1225		2774	942	1273	819.55	6.00	130.00	13.19	0.15	0.02	0.02	Open	0

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		ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	HL/1000 (ft/kft)	Status	Flow Reversal Count
1226		2775	331	1276	280.26	6.00	130.00	-38.41	0.44	0.05	0.18	Open	0
1227		2776	1276	1275	92.96	6.00	130.00	-39.30	0.45	0.02	0.18	Open	0
1228		2777	1276	1277	927.09	6.00	130.00	-5.43	0.06	0.00	0.00	Open	0
1229		2778	1277	332	450.82	6.00	130.00	-1.14	0.01	0.00	0.00	Open	0
1230		2779	1278	1279	640.93	6.00	130.00	6.31	0.07	0.00	0.01	Open	0
1231		2780	1278	1280	345.97	6.00	130.00	-4.64	0.05	0.00	0.00	Open	0
1232		2781	1280	1281	322.94	6.00	130.00	-10.95	0.12	0.01	0.02	Open	0
1233		2782	1281	606	315.44	6.00	130.00	-23.57	0.27	0.02	0.07	Open	0
1234		2783	1282	1281	622.61	6.00	130.00	-6.31	0.07	0.00	0.01	Open	0
1235		2784	915	1283	369.16	6.00	130.00	3.02	0.03	0.00	0.00	Open	0
1236		2785	1283	1284	353.08	6.00	130.00	0.75	0.01	0.00	0.00	Open	0
1237		2786	1284	603	1,177.55	6.00	130.00	-3.04	0.03	0.00	0.00	Open	0
1238		2787	1284	602	405.72	6.00	130.00	-2.53	0.03	0.00	0.00	Open	0
1239		2788	604	1283	1,471.44	6.00	130.00	4.04	0.05	0.00	0.00	Open	0
1240		2789	603	338	1,920.88	6.00	130.00	2.55	0.03	0.00	0.00	Open	0
1241		2790	884	1285	288.63	6.00	130.00	-8.73	0.10	0.00	0.01	Open	0
1242		2791	1285	339	74.29	6.00	130.00	-20.68	0.23	0.00	0.06	Open	0
1243		2792	1285	J90	358.10	6.00	130.00	5.64	0.06	0.00	0.01	Open	0
1244		2793	1286	885	678.95	6.00	130.00	3.89	0.04	0.00	0.00	Open	0
1245		2794	1286	340	312.57	6.00	130.00	-10.87	0.12	0.01	0.02	Open	0
1246		2795	436	1287	773.18	6.00	130.00	70.18	0.80	0.42	0.54	Open	0
1247		2796	337	1288	657.26	6.00	130.00	-73.82	0.84	0.39	0.59	Open	0
1248		2797	1288	1287	445.81	6.00	130.00	-63.87	0.72	0.20	0.45	Open	0
1249		2798	1288	912	796.64	6.00	130.00	-16.26	0.18	0.03	0.04	Open	0
1250		2799	934	935	559.42	6.00	130.00	-1.61	0.02	0.00	0.00	Open	0
1251		2800	929	1289	292.82	6.00	130.00	12.62	0.14	0.01	0.02	Open	0
1252		2801	1289	1290	322.85	6.00	130.00	3.87	0.04	0.00	0.00	Open	0
1253		2802	1290	1289	1,026.99	6.00	130.00	-2.44	0.03	0.00	0.00	Open	0
1254		2803	924	1291	680.73	6.00	130.00	-23.01	0.26	0.05	0.07	Open	0
1255		2804	1291	923	681.36	6.00	130.00	-29.32	0.33	0.07	0.11	Open	0
1256		2805	397	1292	385.21	6.00	130.00	112.16	1.27	0.50	1.29	Open	0
1257		2806	1292	1293	365.49	6.00	130.00	35.40	0.40	0.06	0.15	Open	0
1258		2807	1293	1294	365.54	6.00	130.00	-40.67	0.46	0.07	0.20	Open	0
1259		2808	1294	920	366.49	6.00	130.00	9.10	0.10	0.00	0.01	Open	0
1260		2809	920	1295	367.96	6.00	130.00	-45.21	0.51	0.09	0.24	Open	0

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		ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	HL/1000 (ft/kft)	Status	Flow Reversal Count
1261		2810	462	1292	1,319.51	6.00	130.00	-70.45	0.80	0.72	0.55	Open	0
1262		2811	463	1293	1,247.27	6.00	130.00	-69.76	0.79	0.67	0.54	Open	0
1263		2812	1294	1296	1,002.49	6.00	130.00	23.31	0.26	0.07	0.07	Open	0
1264		2813	1296	919	342.90	6.00	130.00	17.00	0.19	0.01	0.04	Open	0
1265		2814	1294	1297	679.11	6.00	130.00	-79.39	0.90	0.46	0.68	Open	0
1266		2815	1297	902	280.04	6.00	130.00	-154.99	1.76	0.66	2.35	Open	0
1267		2816	1297	1298	653.69	6.00	130.00	69.29	0.79	0.35	0.53	Open	0
1268		2817	1298	920	492.82	6.00	130.00	45.77	0.52	0.12	0.25	Open	0
1269		2818	617	1299	358.33	6.00	130.00	44.73	0.51	0.08	0.24	Open	0
1270		2819	1299	620	1,181.20	6.00	130.00	38.42	0.44	0.21	0.18	Open	0
1271		2820	1300	620	319.08	6.00	130.00	-175.01	1.99	0.94	2.94	Open	0
1272		2821	1300	1301	328.58	6.00	130.00	80.06	0.91	0.23	0.69	Open	0
1273		2822	1301	1302	778.39	6.00	130.00	73.75	0.84	0.46	0.59	Open	0
1274		2823	1302	883	332.28	6.00	130.00	67.43	0.77	0.17	0.50	Open	0
1275		2824	898	1303	665.92	6.00	130.00	70.05	0.79	0.36	0.54	Open	0
1276		2825	1303	1304	1,325.04	6.00	130.00	27.90	0.32	0.13	0.10	Open	0
1277		2826	1304	1305	669.20	6.00	130.00	21.59	0.24	0.04	0.06	Open	0
1278		2827	1305	897	328.83	6.00	130.00	51.12	0.58	0.10	0.30	Open	0
1279		2828	623	1306	649.89	6.00	130.00	-15.83	0.18	0.02	0.03	Open	0
1280		2829	1306	1307	1,377.40	6.00	130.00	-22.14	0.25	0.09	0.06	Open	0
1281		2830	1307	1308	349.64	6.00	130.00	-28.45	0.32	0.04	0.10	Open	0
1282		2831	1308	899	943.49	8.00	130.00	7.34	0.05	0.00	0.00	Open	0
1283		2832	1309	890	902.02	6.00	130.00	-118.10	1.34	1.28	1.42	Open	0
1284		2833	890	1310	549.05	6.00	130.00	155.04	1.76	1.29	2.35	Open	0
1285		2834	1310	889	410.16	6.00	130.00	155.09	1.76	0.96	2.35	Open	0
1286		2835	1309	1310	1,537.51	6.00	130.00	6.36	0.07	0.01	0.01	Open	0
1287		2836	888	1311	997.51	6.00	130.00	3.31	0.04	0.00	0.00	Open	0
1288		2837	1311	1312	336.45	6.00	130.00	3.17	0.04	0.00	0.00	Open	0
1289		2838	1312	1313	1,034.49	6.00	130.00	-3.14	0.04	0.00	0.00	Open	0
1290		2839	1313	1314	401.88	6.00	130.00	-9.45	0.11	0.01	0.01	Open	0
1291		2840	1314	1311	1,080.13	6.00	130.00	6.17	0.07	0.01	0.01	Open	0
1292		2841	1314	886	300.87	6.00	130.00	-21.93	0.25	0.02	0.06	Open	0
1293		2842	461	1315	374.46	6.00	130.00	-112.86	1.28	0.49	1.30	Open	0
1294		2843	1315	1316	1,106.55	6.00	130.00	-38.02	0.43	0.19	0.17	Open	0
1295		2846	613	1317	2,077.42	6.00	130.00	86.45	0.98	1.65	0.80	Open	0

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		ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	HL/1000 (ft/kft)	Status	Flow Reversal Count
1296		2847	1317	1318	364.51	6.00	130.00	-127.47	1.45	0.60	1.63	Open	0
1297		2848	1318	615	725.55	6.00	130.00	-70.94	0.81	0.40	0.55	Open	0
1298		2849	615	614	1,323.73	6.00	130.00	-38.82	0.44	0.24	0.18	Open	0
1299		2850	614	1319	922.49	6.00	130.00	68.78	0.78	0.48	0.52	Open	0
1300		2851	1319	1318	364.19	6.00	130.00	62.47	0.71	0.16	0.44	Open	0
1301		2852	1318	617	321.41	6.00	130.00	-0.37	0.00	0.00	0.00	Open	0
1302		2853	1317	1320	333.53	6.00	130.00	207.61	2.36	1.35	4.03	Open	0
1303		2854	1320	880	1,112.63	6.00	130.00	75.01	0.85	0.68	0.61	Open	0
1304		2855	1320	1321	370.30	6.00	130.00	126.29	1.43	0.59	1.61	Open	0
1305		2856	1321	876	733.46	6.00	130.00	51.15	0.58	0.22	0.30	Open	0
1306		2857	1321	1322	347.74	6.00	130.00	68.83	0.78	0.18	0.52	Open	0
1307		2858	1322	874	794.78	6.00	130.00	24.21	0.27	0.06	0.08	Open	0
1308		2859	1322	1323	380.57	6.00	130.00	38.31	0.43	0.07	0.18	Open	0
1309		2860	1323	879	370.69	6.00	130.00	8.60	0.10	0.00	0.01	Open	0
1310		2861	879	1324	454.88	6.00	130.00	28.88	0.33	0.05	0.10	Open	0
1311		2862	1324	J82	711.14	6.00	130.00	-52.65	0.60	0.23	0.32	Open	0
1312		2863	872	1323	792.03	6.00	130.00	-23.39	0.27	0.06	0.07	Open	0
1313		2864	878	1325	1,116.41	6.00	130.00	57.29	0.65	0.42	0.37	Open	0
1314		2865	1325	1324	839.59	6.00	130.00	-75.23	0.85	0.52	0.62	Open	0
1315		2866	873	1326	329.59	6.00	130.00	-27.53	0.31	0.03	0.10	Open	0
1316		2867	1326	1327	705.08	6.00	130.00	-10.81	0.12	0.01	0.02	Open	0
1317		2868	1327	875	1,334.90	6.00	130.00	6.78	0.08	0.01	0.01	Open	0
1318		2869	1325	871	329.63	6.00	130.00	126.21	1.43	0.53	1.60	Open	0
1319		2870	871	1328	286.74	6.00	130.00	-98.31	1.12	0.29	1.01	Open	0
1320		2871	1328	1329	397.96	6.00	130.00	-57.38	0.65	0.15	0.37	Open	0
1321		2872	1329	1330	1,285.61	6.00	130.00	-25.96	0.29	0.11	0.09	Open	0
1322		2873	1330	869	307.60	6.00	130.00	-117.24	1.33	0.43	1.40	Open	0
1323		2874	1330	1328	994.70	6.00	130.00	47.24	0.54	0.26	0.26	Open	0
1324		2875	1329	1330	643.42	6.00	130.00	-37.73	0.43	0.11	0.17	Open	0
1325		2876	877	1331	1,966.74	6.00	130.00	-9.27	0.11	0.02	0.01	Open	0
1326		2877	1331	1327	329.81	6.00	130.00	23.90	0.27	0.02	0.07	Open	0
1327		2878	1326	1332	1,338.23	6.00	130.00	-23.03	0.26	0.09	0.07	Open	0
1328		2879	1332	1331	298.86	6.00	130.00	39.48	0.45	0.06	0.19	Open	0
1329		2880	1332	868	366.79	6.00	130.00	-68.82	0.78	0.19	0.52	Open	0
1330		2881	435	848	1,420.97	6.00	130.00	-88.69	1.01	1.19	0.84	Open	0

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		ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	HL/1000 (ft/kft)	Status	Flow Reversal Count
1331		2882	434	848	856.58	8.00	130.00	-40.78	0.26	0.04	0.05	Open	0
1332		2883	432	601	1,290.25	6.00	130.00	-61.42	0.70	0.55	0.42	Open	0
1333		2884	428	1333	582.35	6.00	130.00	115.95	1.32	0.80	1.37	Open	0
1334		2885	1333	839	878.94	8.00	130.00	109.64	0.70	0.27	0.30	Open	0
1335		2886	594	1334	347.55	6.00	130.00	-126.72	1.44	0.56	1.62	Open	0
1336		2887	1334	1335	366.63	6.00	130.00	-82.57	0.94	0.27	0.73	Open	0
1337		2888	1335	1336	369.94	6.00	130.00	-139.73	1.59	0.72	1.94	Open	0
1338		2889	1336	183	420.96	6.00	130.00	-118.22	1.34	0.60	1.42	Open	0
1339		2890	427	1334	1,328.50	6.00	130.00	2.12	0.02	0.00	0.00	Open	0
1340		2891	425	1335	1,328.09	6.00	130.00	-20.54	0.23	0.07	0.06	Open	0
1341		2892	424	1336	1,325.97	6.00	130.00	-61.43	0.70	0.56	0.42	Open	0
1342		2893	592	1337	347.32	6.00	130.00	30.65	0.35	0.04	0.12	Open	0
1343		2894	1337	1334	626.17	6.00	130.00	48.33	0.55	0.17	0.27	Open	0
1344		2895	1335	1338	619.81	6.00	130.00	30.31	0.34	0.07	0.11	Open	0
1345		2896	1338	1337	369.88	6.00	130.00	24.00	0.27	0.03	0.07	Open	0
1346		2897	1336	1339	218.46	6.00	130.00	-89.25	1.01	0.18	0.84	Open	0
1347		2898	1339	157	938.93	6.00	130.00	-95.56	1.08	0.90	0.96	Open	0
1348		2899	845	842	667.62	6.00	130.00	24.15	0.27	0.05	0.08	Open	0
1349		2900	841	846	954.66	6.00	130.00	-4.98	0.06	0.00	0.00	Open	0
1350		2901	840	597	984.49	6.00	130.00	-34.59	0.39	0.14	0.15	Open	0
1351		2902	598	837	659.93	6.00	130.00	-32.54	0.37	0.09	0.13	Open	0
1352		2903	595	1340	682.99	6.00	130.00	-76.09	0.86	0.43	0.63	Open	0
1353		2904	1340	598	343.95	6.00	130.00	0.61	0.01	0.00	0.00	Open	0
1354		2905	595	1341	667.36	6.00	130.00	-46.64	0.53	0.17	0.25	Open	0
1355		2906	1341	1340	808.90	6.00	130.00	-52.95	0.60	0.26	0.32	Open	0
1356		2907	1340	593	633.44	6.00	130.00	-135.96	1.54	1.17	1.84	Open	0
1357		2908	591	1342	1,063.00	6.00	130.00	-101.86	1.16	1.15	1.08	Open	0
1358		2909	1342	1343	516.59	6.00	130.00	-48.95	0.56	0.14	0.28	Open	0
1359		2910	1343	1344	295.26	6.00	130.00	-21.71	0.25	0.02	0.06	Open	0
1360		2911	1344	835	522.94	6.00	130.00	-28.02	0.32	0.05	0.10	Open	0
1361		2912	835	1345	319.95	6.00	130.00	-40.65	0.46	0.06	0.20	Open	0
1362		2913	1345	1346	325.70	6.00	130.00	-80.51	0.91	0.23	0.70	Open	0
1363		2914	1346	1342	1,274.67	6.00	130.00	59.22	0.67	0.50	0.40	Open	0
1364		2915	1343	1345	963.01	6.00	130.00	-33.55	0.38	0.13	0.14	Open	0
1365		2916	1346	1347	160.21	6.00	130.00	-146.03	1.66	0.34	2.10	Open	0

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		ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	HL/1000 (ft/kft)	Status	Flow Reversal Count
1366		2917	1347	154	145.40	6.00	130.00	-101.61	1.15	0.16	1.07	Open	0
1367		2918	1347	1348	631.41	6.00	130.00	-50.74	0.58	0.19	0.30	Open	0
1368		2919	153	1348	691.14	6.00	130.00	57.05	0.65	0.25	0.37	Open	0
1369		2920	342	1349	589.73	8.00	130.00	-497.04	3.17	2.95	5.00	Open	0
1370		2921	1349	857	859.44	8.00	130.00	-375.39	2.40	2.56	2.98	Open	0
1371		2922	1349	1350	845.39	6.00	130.00	-127.97	1.45	1.39	1.65	Open	0
1372		2923	1350	1351	315.95	6.00	130.00	19.88	0.23	0.02	0.05	Open	0
1373		2924	1351	343	256.02	6.00	130.00	171.23	1.94	0.72	2.82	Open	0
1374		2925	1351	858	1,059.68	6.00	130.00	-157.66	1.79	2.57	2.42	Open	0
1375		2926	1350	859	1,102.45	6.00	130.00	-154.16	1.75	2.56	2.32	Open	0
1376		2927	857	860	1,212.78	6.00	130.00	-109.21	1.24	1.49	1.23	Open	0
1377		2928	856	861	704.60	6.00	130.00	-89.56	1.02	0.60	0.85	Open	0
1378		2929	345	1352	795.57	6.00	130.00	85.56	0.97	0.62	0.78	Open	0
1379		2930	1352	859	757.54	6.00	130.00	89.26	1.01	0.64	0.85	Open	0
1380		2931	1352	1353	468.94	6.00	130.00	-10.02	0.11	0.01	0.01	Open	0
1381		2932	1353	860	775.71	6.00	130.00	81.62	0.93	0.56	0.72	Open	0
1382		2933	861	1354	793.97	6.00	130.00	-93.24	1.06	0.73	0.92	Open	0
1383		2934	1354	1353	323.20	6.00	130.00	97.95	1.11	0.32	1.00	Open	0
1384		2935	1354	866	318.87	6.00	130.00	-197.50	2.24	1.17	3.68	Open	0
1385		2936	864	863	929.11	6.00	130.00	-121.53	1.38	1.39	1.50	Open	0
1386		2938	935	610	57.54	8.00	130.00	-12.62	0.08	0.00	0.01	Open	0
1387		2939	1278	333	1,451.45	6.00	130.00	-7.98	0.09	0.01	0.01	Open	0
1388		2940	1168	306	576.62	6.00	130.00	-22.47	0.25	0.04	0.07	Open	0
1389		2941	1156	321	335.76	6.00	130.00	-12.02	0.14	0.01	0.02	Open	0
1390		2942	944	1153	473.12	6.00	130.00	18.24	0.21	0.02	0.04	Open	0
1391		2943	1207	324	549.25	6.00	130.00	-26.45	0.30	0.05	0.09	Open	0
1392		2944	459	396	281.17	12.00	130.00	-79.99	0.23	0.01	0.02	Open	0
1393		2945	623	624	51.45	6.00	130.00	253.40	2.88	0.30	5.83	Open	0
1394		2946	770	867	1,036.95	6.00	130.00	24.20	0.27	0.08	0.08	Open	0
1395		2947	862	849	852.33	6.00	130.00	-81.29	0.92	0.61	0.71	Open	0
1396		2948	866	850	432.02	6.00	130.00	-94.90	1.08	0.41	0.95	Open	0
1397		2949	850	J92	389.44	8.00	130.00	-482.68	3.08	1.85	4.74	Open	0
1398		2950	849	1355	606.36	6.00	130.00	67.28	0.76	0.30	0.50	Open	0
1399		2951	1355	1356	864.93	6.00	130.00	60.97	0.69	0.36	0.42	Open	0
1400		2952	1356	1357	2,360.20	6.00	130.00	21.02	0.24	0.14	0.06	Open	0

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1401		2953	1357	1356	987.49	6.00	130.00	-33.64	0.38	0.14	0.14	Open	0
1402		2954	165	1358	1,351.77	6.00	130.00	130.82	1.48	2.32	1.72	Open	0
1403		2955	1358	1357	364.07	6.00	130.00	37.11	0.42	0.06	0.17	Open	0
1404		2956	1357	149	1,899.52	6.00	130.00	85.46	0.97	1.48	0.78	Open	0
1405		2957	1358	1359	1,145.12	6.00	130.00	87.41	0.99	0.93	0.81	Open	0
1406		2958	1359	1360	199.88	6.00	130.00	86.40	0.98	0.16	0.80	Open	0
1407		2959	1360	148	862.77	6.00	130.00	55.62	0.63	0.30	0.35	Open	0
1408		2960	1360	147	1,009.65	6.00	130.00	24.48	0.28	0.08	0.08	Open	0
1409		2961	1359	145	1,662.27	6.00	130.00	-5.31	0.06	0.01	0.00	Open	0
1410		2962	145	797	1,738.87	6.00	130.00	80.44	0.91	1.21	0.70	Open	0
1411		2963	797	1361	414.12	6.00	130.00	53.24	0.60	0.13	0.32	Open	0
1412		2964	1361	795	575.51	6.00	130.00	-17.45	0.20	0.02	0.04	Open	0
1413		2965	795	800	922.17	6.00	130.00	-19.87	0.23	0.05	0.05	Open	0
1414		2966	801	794	640.38	6.00	130.00	29.44	0.33	0.07	0.11	Open	0
1415		2967	794	1362	342.43	6.00	130.00	54.67	0.62	0.12	0.34	Open	0
1416		2968	1362	791	731.93	6.00	130.00	19.47	0.22	0.04	0.05	Open	0
1417		2969	1361	793	356.14	6.00	130.00	64.38	0.73	0.16	0.46	Open	0
1418		2970	1362	790	1,104.50	6.00	130.00	28.90	0.33	0.12	0.10	Open	0
1419		2971	793	413	1,346.46	6.00	130.00	43.75	0.50	0.30	0.23	Open	0
1420		2972	J150	759	1,311.93	6.00	130.00	-32.74	0.37	0.17	0.13	Open	0
1421		2973	169	J150	23.19	8.00	130.00	-98.27	0.63	0.01	0.25	Open	0
1422		2974	1363	758	1,332.03	6.00	130.00	-4.99	0.06	0.01	0.00	Open	0
1423		2975	758	757	1,319.43	6.00	130.00	8.27	0.09	0.01	0.01	Open	0
1424		2976	755	759	1,343.57	6.00	130.00	36.02	0.41	0.21	0.16	Open	0
1425		2977	1363	376	676.99	6.00	130.00	-73.16	0.83	0.40	0.58	Open	0
1426		2978	376	1364	457.59	6.00	130.00	-69.12	0.78	0.24	0.53	Open	0
1427		2979	1364	1365	1,063.25	6.00	130.00	-15.94	0.18	0.04	0.03	Open	0
1428		2980	1365	1366	283.80	6.00	130.00	-70.84	0.80	0.16	0.55	Open	0
1429		2981	1366	1367	333.84	6.00	130.00	-26.74	0.30	0.03	0.09	Open	0
1430		2982	1367	1368	335.67	6.00	130.00	-73.84	0.84	0.20	0.59	Open	0
1431		2983	1368	1369	330.79	6.00	130.00	-74.48	0.85	0.20	0.60	Open	0
1432		2984	1369	1370	210.88	6.00	130.00	-56.64	0.64	0.08	0.36	Open	0
1433		2985	1370	1371	235.75	6.00	130.00	-82.39	0.93	0.17	0.73	Open	0
1434		2986	1371	1372	312.64	6.00	130.00	-70.39	0.80	0.17	0.54	Open	0
1435		2987	1373	1374	240.16	6.00	130.00	-47.07	0.53	0.06	0.26	Open	0

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1436		2988	1374	764	372.77	6.00	130.00	18.27	0.21	0.02	0.04	Open	0
1437		2989	1374	641	763.35	6.00	130.00	-71.65	0.81	0.43	0.56	Open	0
1438		2990	641	1375	317.48	6.00	130.00	-58.58	0.66	0.12	0.39	Open	0
1439		2991	1375	1376	330.77	6.00	130.00	-57.29	0.65	0.12	0.37	Open	0
1440		2992	1376	1377	333.38	6.00	130.00	-75.38	0.86	0.21	0.62	Open	0
1441		2993	1377	1378	328.04	6.00	130.00	-51.77	0.59	0.10	0.31	Open	0
1442		2994	1378	766	323.28	6.00	130.00	26.70	0.30	0.03	0.09	Open	0
1443		2995	763	1372	1,192.73	6.00	130.00	-30.82	0.35	0.14	0.12	Open	0
1444		2996	1372	781	1,568.50	6.00	130.00	-0.12	0.00	0.00	0.00	Open	0
1445		2997	1371	782	1,130.23	6.00	130.00	-18.31	0.21	0.05	0.04	Open	0
1446		2998	1369	784	959.60	6.00	130.00	-35.66	0.40	0.15	0.15	Open	0
1447		2999	1369	785	963.72	6.00	130.00	11.51	0.13	0.02	0.02	Open	0
1448		3000	786	1368	1,249.61	6.00	130.00	5.67	0.06	0.01	0.01	Open	0
1449		3001	640	1373	1,056.49	6.00	130.00	66.64	0.76	0.52	0.49	Open	0
1450		3002	1370	762	1,373.19	6.00	130.00	19.45	0.22	0.07	0.05	Open	0
1451		3003	761	1366	385.72	6.00	130.00	50.41	0.57	0.11	0.29	Open	0
1452		3004	1365	375	1,032.42	6.00	130.00	48.58	0.55	0.28	0.27	Open	0
1453		3005	1367	1364	1,128.45	6.00	130.00	40.79	0.46	0.22	0.20	Open	0
1454		3006	788	1364	1,146.70	6.00	130.00	18.70	0.21	0.05	0.05	Open	0
1455		3007	852	1379	940.28	6.00	130.00	-39.15	0.44	0.17	0.18	Open	0
1456		3008	1379	851	351.54	6.00	130.00	-139.06	1.58	0.68	1.92	Open	0
1457		3009	1379	1380	331.31	6.00	130.00	93.60	1.06	0.31	0.92	Open	0
1458		3010	1380	855	935.11	6.00	130.00	80.98	0.92	0.66	0.71	Open	0
1459		3011	772	J88	994.93	6.00	130.00	-115.07	1.31	1.35	1.35	Open	0
1460		3012	1381	768	420.82	6.00	130.00	149.15	1.69	0.92	2.19	Open	0
1461		3013	1381	630	567.99	6.00	130.00	-194.85	2.21	2.04	3.59	Open	0
1462		3014	630	1382	1,357.39	6.00	130.00	161.64	1.83	3.44	2.54	Open	0
1463		3015	1382	1383	315.52	6.00	130.00	136.44	1.55	0.59	1.85	Open	0
1464		3016	1383	773	527.21	6.00	130.00	120.64	1.37	0.78	1.48	Open	0
1465		3017	1383	627	1,254.92	6.00	130.00	9.49	0.11	0.02	0.01	Open	0
1466		3018	774	626	194.26	6.00	130.00	-85.40	0.97	0.15	0.78	Open	0
1467		3019	1382	628	1,071.14	6.00	130.00	-0.70	0.01	0.00	0.00	Open	0
1468		3020	163	1386	272.54	6.00	130.00	27.39	0.31	0.03	0.09	Open	0
1469		3022	1385	1386	1,359.46	6.00	130.00	-59.58	0.68	0.54	0.40	Open	0
1470		3023	775	1387	1,277.33	6.00	130.00	75.86	0.86	0.80	0.63	Open	0

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		ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	HL/1000 (ft/kft)	Status	Flow Reversal Count
1471		3024	1387	1384	487.94	6.00	130.00	103.41	1.17	0.54	1.11	Open	0
1472		3025	1387	634	555.88	6.00	130.00	-33.86	0.38	0.08	0.14	Open	0
1473		3026	776	635	1,537.17	6.00	130.00	49.47	0.56	0.44	0.28	Open	0
1474		3027	777	636	1,259.96	6.00	130.00	45.60	0.52	0.31	0.24	Open	0
1475		3028	778	637	988.62	6.00	130.00	50.57	0.57	0.29	0.29	Open	0
1476		3029	778	1377	1,109.92	6.00	130.00	29.92	0.34	0.12	0.11	Open	0
1477		3030	1381	1388	830.98	6.00	130.00	-62.40	0.71	0.36	0.44	Open	0
1478		3031	1388	632	307.18	6.00	130.00	-62.55	0.71	0.13	0.44	Open	0
1479		3032	632	1378	1,714.20	6.00	130.00	84.77	0.96	1.32	0.77	Open	0
1480		3033	630	1388	712.72	6.00	130.00	155.11	1.76	1.68	2.35	Open	0
1481		3034	1388	1389	368.81	6.00	130.00	148.95	1.69	0.80	2.18	Open	0
1482		3035	1389	767	473.27	6.00	130.00	93.54	1.06	0.44	0.92	Open	0
1483		3036	1389	766	1,457.08	6.00	130.00	49.09	0.56	0.41	0.28	Open	0
1484		3038	1390	825	558.52	6.00	130.00	72.15	0.82	0.32	0.57	Open	0
1485		3039	586	184	442.89	10.00	130.00	-310.64	1.27	0.31	0.71	Open	0
1486		3040	586	186	1,254.91	8.00	130.00	52.63	0.34	0.10	0.08	Open	0
1487		3041	150	149	717.31	30.00	130.00	-4,651.91	2.11	0.36	0.50	Open	0
1488		3042	821	830	284.12	6.00	130.00	-73.97	0.84	0.17	0.60	Open	0
1489		3043	695	696	555.51	8.00	130.00	97.87	0.62	0.14	0.25	Open	0
1490		3044	748	644	635.41	6.00	130.00	-228.78	2.60	3.07	4.83	Open	0
1491		3045	750	752	746.32	6.00	130.00	37.65	0.43	0.13	0.17	Open	0
1492		3046	760	754	1,502.46	6.00	130.00	-38.29	0.43	0.26	0.18	Open	0
1493		3047	633	1391	649.38	10.00	130.00	134.56	0.55	0.10	0.15	Open	0
1494		3048	1391	1392	1,080.18	10.00	130.00	106.29	0.43	0.10	0.10	Open	0
1495		3049	1392	779	343.36	10.00	130.00	121.94	0.50	0.04	0.12	Open	0
1496		3050	1391	1392	1,665.02	6.00	130.00	21.96	0.25	0.10	0.06	Open	0
1497		3051	779	780	576.48	6.00	130.00	131.97	1.50	1.00	1.74	Open	0
1498		3052	638	1376	1,695.76	6.00	130.00	-11.77	0.13	0.03	0.02	Open	0
1499		3053	639	1375	1,370.47	6.00	130.00	7.59	0.09	0.01	0.01	Open	0
1500		3054	744	1393	617.62	8.00	130.00	80.29	0.51	0.11	0.17	Open	0
1501		3055	1393	743	397.76	6.00	130.00	103.71	1.18	0.44	1.12	Open	0
1502		3056	747	1394	528.65	6.00	130.00	78.68	0.89	0.35	0.67	Open	0
1503		3057	1394	746	955.06	6.00	130.00	-10.54	0.12	0.02	0.02	Open	0
1504		3058	745	1395	919.28	6.00	130.00	27.29	0.31	0.09	0.09	Open	0
1505		3059	1395	1394	837.72	6.00	130.00	-82.91	0.94	0.62	0.74	Open	0

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		ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	HL/1000 (ft/kft)	Status	Flow Reversal Count
1506		3060	1395	1396	392.84	6.00	130.00	103.89	1.18	0.44	1.12	Open	0
1507		3061	1396	1393	309.18	8.00	130.00	29.74	0.19	0.01	0.03	Open	0
1508		3062	1396	743	889.45	6.00	130.00	67.84	0.77	0.45	0.51	Open	0
1509		3063	709	708	476.64	8.00	130.00	-0.74	0.00	0.00	0.00	Open	0
1510		3064	709	707	577.45	6.00	130.00	-6.68	0.08	0.00	0.01	Open	0
1511		3065	231	556	950.51	6.00	130.00	-175.82	2.00	2.82	2.97	Open	0
1512		3066	1136	1398	1,162.85	6.00	130.00	37.82	0.43	0.20	0.17	Open	0
1513		3067	1398	259	276.95	6.00	130.00	29.05	0.33	0.03	0.11	Open	0
1514		3068	259	526	643.69	6.00	130.00	-41.09	0.47	0.13	0.20	Open	0
1515		3069	1136	1399	328.23	6.00	130.00	75.11	0.85	0.20	0.61	Open	0
1516		3070	1399	1398	1,087.96	6.00	130.00	-2.46	0.03	0.00	0.00	Open	0
1517		3071	1399	1400	323.03	6.00	130.00	71.26	0.81	0.18	0.56	Open	0
1518		3072	1400	258	1,334.53	6.00	130.00	5.08	0.06	0.01	0.00	Open	0
1519		3073	262	1401	338.82	6.00	130.00	-198.09	2.25	1.25	3.70	Open	0
1520		3074	1401	1135	637.52	6.00	130.00	-68.23	0.77	0.33	0.51	Open	0
1521		3075	1401	1397	804.33	6.00	130.00	-59.49	0.68	0.32	0.40	Open	0
1522		3076	1137	1401	1,294.63	6.00	130.00	76.67	0.87	0.83	0.64	Open	0
1523		3077	1213	1062	435.03	6.00	130.00	5.82	0.07	0.00	0.01	Open	0
1524		3078	1065	523	681.88	8.00	130.00	-39.46	0.25	0.03	0.05	Open	0
1525		3079	523	1064	1,103.28	8.00	130.00	18.32	0.12	0.01	0.01	Open	0
1526		3080	573	574	956.43	10.00	130.00	35.48	0.14	0.01	0.01	Open	0
1527		3081	518	516	689.73	6.00	130.00	-59.46	0.67	0.27	0.40	Open	0
1528		3082	1087	1084	941.86	6.00	130.00	-52.42	0.59	0.30	0.32	Open	0
1529		3083	1089	1085	752.03	6.00	130.00	-54.89	0.62	0.26	0.34	Open	0
1530		3084	1085	1086	1,139.45	6.00	130.00	-1.48	0.02	0.00	0.00	Open	0
1531		3085	281	1402	974.38	6.00	130.00	22.05	0.25	0.06	0.06	Open	0
1532		3086	1402	1091	351.53	6.00	130.00	82.27	0.93	0.26	0.73	Open	0
1533		3087	1402	1099	678.99	6.00	130.00	-66.54	0.76	0.33	0.49	Open	0
1534		3088	1092	1096	873.87	6.00	130.00	-60.52	0.69	0.36	0.41	Open	0
1535		3089	1094	1103	468.73	8.00	130.00	116.33	0.74	0.16	0.34	Open	0
1536		3090	1103	1102	614.76	8.00	130.00	34.76	0.22	0.02	0.04	Open	0
1537		3091	1097	1122	613.82	8.00	130.00	-188.69	1.20	0.51	0.83	Open	0
1538		3092	278	277	511.84	18.00	130.00	-1,562.36	1.97	0.41	0.80	Open	0
1539		3093	1075	500	979.44	6.00	130.00	8.79	0.10	0.01	0.01	Open	0
1540		3094	501	1112	329.05	6.00	130.00	-50.06	0.57	0.10	0.29	Open	0

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1541		3095	499	500	1,690.09	12.00	130.00	-484.19	1.37	1.12	0.66	Open	0
1542		3096	1049	1048	426.18	8.00	130.00	76.04	0.49	0.07	0.15	Open	0
1543		3097	1051	272	473.15	8.00	130.00	-259.97	1.66	0.71	1.51	Open	0
1544		3098	1130	1403	328.68	6.00	130.00	161.17	1.83	0.83	2.52	Open	0
1545		3099	1403	1129	808.59	6.00	130.00	79.61	0.90	0.55	0.68	Open	0
1546		3100	1403	1404	1,249.47	6.00	130.00	75.25	0.85	0.77	0.62	Open	0
1547		3101	1404	1124	842.73	6.00	130.00	9.63	0.11	0.01	0.01	Open	0
1548		3102	817	1405	244.75	6.00	130.00	-33.86	0.38	0.03	0.14	Open	0
1549		3103	1405	386	671.23	6.00	130.00	-18.34	0.21	0.03	0.05	Open	0
1550		3104	386	818	574.30	6.00	130.00	4.73	0.05	0.00	0.00	Open	0
1551		3105	818	385	372.52	6.00	130.00	19.62	0.22	0.02	0.05	Open	0
1552		3106	387	1405	1,268.31	6.00	130.00	21.83	0.25	0.08	0.06	Open	0
1553		3107	814	815	421.71	6.00	130.00	-9.63	0.11	0.01	0.01	Open	0
1554		3108	815	807	1,024.02	6.00	130.00	-2.16	0.02	0.00	0.00	Open	0
1555		3109	809	1406	210.03	6.00	130.00	6.97	0.08	0.00	0.01	Open	0
1556		3110	1406	381	416.13	6.00	130.00	21.39	0.24	0.02	0.06	Open	0
1557		3111	1406	416	783.73	6.00	130.00	-20.73	0.24	0.04	0.06	Open	0
1558		3112	808	J148	696.29	6.00	130.00	-48.60	0.55	0.19	0.27	Open	0
1559		3113	789	804	1,061.90	6.00	130.00	23.83	0.27	0.08	0.07	Open	0
1560		3114	249	534	1,321.37	6.00	130.00	-30.24	0.34	0.15	0.11	Open	0
1561		3115	741	235	504.32	12.00	130.00	-292.70	0.83	0.13	0.26	Open	0
1562		3116	455	J114	676.62	10.00	130.00	-327.26	1.34	0.53	0.78	Open	0
1563		3117	437	372	610.64	12.00	130.00	-239.52	0.68	0.11	0.18	Open	0
1564		3119	1407	210	1,868.00	6.00	130.00	-9.30	0.11	0.02	0.01	Open	0
1565		3120	1407	212	2,283.23	6.00	130.00	-13.34	0.15	0.06	0.03	Open	0
1566		3121	537	651	719.37	6.00	130.00	16.66	0.19	0.03	0.04	Open	0
1567		3122	696	686	1,455.40	6.00	130.00	91.56	1.04	1.29	0.89	Open	0
1568		3123	693	694	571.83	6.00	130.00	-63.74	0.72	0.26	0.45	Open	0
1569		3124	228	J108	180.02	8.00	130.00	84.61	0.54	0.03	0.19	Open	0
1570		3125	691	684	180.63	6.00	130.00	-81.72	0.93	0.13	0.72	Open	0
1571		3126	685	682	594.85	6.00	130.00	14.74	0.17	0.02	0.03	Open	0
1572		3127	740	698	647.77	6.00	130.00	63.14	0.72	0.29	0.45	Open	0
1573		3128	534	532	744.64	12.00	130.00	-312.02	0.89	0.22	0.29	Open	0
1574		3130	1408	524	1,195.24	8.00	130.00	76.47	0.49	0.19	0.16	Open	0
1575		3131	1408	526	295.35	6.00	130.00	-72.13	0.82	0.17	0.57	Open	0

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1576		3132	1130	1408	1,035.43	6.00	130.00	10.64	0.12	0.02	0.02	Open	0
1577		3133	1539	1409-A	109.06	30.00	130.00	4,849.96	2.20	0.06	0.54	Open	0
1578		3134	1409-A	1543-A	170.63	14.00	130.00	2,422.23	5.05	1.05	6.16	Open	0
1579		3136	1409-A	1544-A	148.72	14.00	130.00	2,427.73	5.06	0.92	6.18	Open	0
1580		3138	1409-A	1545-A	190.60	16.00	130.00	0.00	0.00	0.00	0.00	Open	0
1581		3140	263	1410	361.15	6.00	130.00	-294.97	3.35	2.79	7.73	Open	0
1582		3141	1411	J152	312.35	6.00	130.00	147.22	1.67	0.67	2.13	Open	0
1583		3142	1411	1137	636.68	6.00	130.00	180.87	2.05	1.99	3.13	Open	0
1584		3143	1113	1412	331.56	6.00	130.00	-11.16	0.13	0.01	0.02	Open	0
1585		3144	1412	1413	313.01	6.00	130.00	-3.17	0.04	0.00	0.00	Open	0
1586		3145	1413	1120	315.23	6.00	130.00	-0.27	0.00	0.00	0.00	Open	0
1587		3146	1120	1078	1,352.59	8.00	130.00	104.32	0.67	0.38	0.28	Open	0
1588		3147	1118	1414	1,039.70	6.00	130.00	67.04	0.76	0.52	0.50	Open	0
1589		3148	1414	1119	308.53	6.00	130.00	4.11	0.05	0.00	0.00	Open	0
1590		3149	1414	1415	856.04	6.00	130.00	56.62	0.64	0.31	0.36	Open	0
1591		3150	1415	1079	1,086.48	6.00	130.00	51.99	0.59	0.34	0.31	Open	0
1592		3151	1118	1416	328.26	6.00	130.00	-78.26	0.89	0.22	0.66	Open	0
1593		3152	1416	273	335.74	6.00	130.00	-146.09	1.66	0.71	2.10	Open	0
1594		3153	1416	1417	1,610.87	6.00	130.00	61.52	0.70	0.68	0.42	Open	0
1595		3154	1417	274	327.77	6.00	130.00	-17.62	0.20	0.01	0.04	Open	0
1596		3155	142	166	773.80	30.00	130.00	12,382.50	5.62	2.39	3.09	Open	0
1597		3156	1373	1372	490.00	6.00	130.00	107.40	1.22	0.58	1.19	Open	0
1598		3157	633	634	448.21	10.00	130.00	78.96	0.32	0.03	0.06	Open	0
1599		3158	639	779	493.02	8.00	130.00	16.34	0.10	0.00	0.01	Open	0
1600		3159	780	781	511.02	8.00	130.00	125.66	0.80	0.20	0.39	Open	0
1601		3160	803	146	73.40	8.00	130.00	-203.62	1.30	0.07	0.96	Open	0
1602		3161	145	143	220.63	30.00	130.00	-4,781.67	2.17	0.12	0.53	Open	0
1603		3162	764	763	1,285.79	8.00	130.00	157.87	1.01	0.77	0.60	Open	0
1604		3163	785	784	327.00	8.00	130.00	-144.72	0.92	0.17	0.51	Open	0
1605		3164	142	1418	271.25	30.00	130.00	-5,031.73	2.28	0.16	0.58	Open	0
1606		3166	1546-A	1540	183.06	12.00	130.00	0.00	0.00	0.00	0.00	Open	0
1607		3168	1547-A	1540	175.73	14.00	130.00	-2,448.58	5.10	1.10	6.28	Open	0
1608		3170	1548-A	1540	231.16	16.00	130.00	-4,927.42	7.86	2.77	11.97	Open	0
1609		3172	1549-A	1540	201.92	24.00	130.00	0.00	0.00	0.00	0.00	Open	0
1610		3174	1550-A	1540	163.48	24.00	130.00	0.00	0.00	0.00	0.00	Open	0

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1611		3175	944	322	643.19	8.00	130.00	-57.40	0.37	0.06	0.09	Open	0
1612		3176	971	972	691.79	6.00	130.00	-6.55	0.07	0.00	0.01	Open	0
1613		3177	646	480	328.82	10.00	130.00	29.09	0.12	0.00	0.01	Open	0
1614		3178	478	412	556.11	12.00	130.00	217.03	0.62	0.08	0.15	Open	0
1615		3179	1145	965	748.18	6.00	130.00	11.12	0.13	0.01	0.02	Open	0
1616		3180	403	472	1,071.58	12.00	130.00	385.80	1.09	0.47	0.43	Open	0
1617		3181	473	608	369.73	10.00	130.00	92.76	0.38	0.03	0.08	Open	0
1618		3182	916	464	920.71	8.00	130.00	34.57	0.22	0.03	0.04	Open	0
1619		3183	464	463	1,130.89	12.00	130.00	-110.20	0.31	0.05	0.04	Open	0
1620		3184	1295	1298	816.03	6.00	130.00	-17.20	0.20	0.03	0.04	Open	0
1621		3185	1295	619	1,682.35	6.00	130.00	-34.31	0.39	0.24	0.14	Open	0
1622		3186	816	814	1,335.65	6.00	130.00	7.46	0.08	0.01	0.01	Open	0
1623		3187	813	1419	335.70	6.00	130.00	2.26	0.03	0.00	0.00	Open	0
1624		3188	1419	811	613.79	6.00	130.00	0.08	0.00	0.00	0.00	Open	0
1625		3189	1419	810	717.15	6.00	130.00	-4.13	0.05	0.00	0.00	Open	0
1626		3190	1140	1420	165.65	6.00	130.00	411.08	4.66	2.37	14.30	Open	0
1627		3191	1420	1421	1,100.27	6.00	130.00	184.23	2.09	3.56	3.23	Open	0
1628		3192	1421	1422	354.10	6.00	130.00	121.86	1.38	0.53	1.50	Open	0
1629		3193	1422	251	1,021.72	6.00	130.00	73.42	0.83	0.60	0.59	Open	0
1630		3194	251	1423	1,451.06	6.00	130.00	-30.15	0.34	0.16	0.11	Open	0
1631		3195	1423	252	1,147.35	6.00	130.00	-6.35	0.07	0.01	0.01	Open	0
1632		3197	1424	254	1,346.92	6.00	130.00	50.53	0.57	0.40	0.29	Open	0
1633		3198	1425	1424	501.93	6.00	130.00	-2.34	0.03	0.00	0.00	Open	0
1634		3199	1425	256	1,333.85	6.00	130.00	31.02	0.35	0.16	0.12	Open	0
1635		3200	256	1426	1,161.64	6.00	130.00	-14.39	0.16	0.03	0.03	Open	0
1636		3201	1426	1131	337.69	6.00	130.00	-52.96	0.60	0.11	0.32	Open	0
1637		3202	529	1427	304.66	6.00	130.00	73.19	0.83	0.18	0.59	Open	0
1638		3203	1427	530	391.37	6.00	130.00	25.82	0.29	0.03	0.08	Open	0
1639		3205	1400	1428	324.41	6.00	130.00	59.87	0.68	0.13	0.40	Open	0
1640		3206	1428	1425	327.33	6.00	130.00	35.00	0.40	0.05	0.15	Open	0
1641		3207	257	1428	1,331.61	6.00	130.00	-18.56	0.21	0.06	0.05	Open	0
1642		3208	1426	255	1,453.64	6.00	130.00	32.26	0.37	0.19	0.13	Open	0
1643		3209	253	1423	1,461.43	6.00	130.00	30.11	0.34	0.17	0.11	Open	0
1644		3210	1134	1132	426.08	6.00	130.00	-28.54	0.32	0.04	0.10	Open	0
1645		3211	1123	1429	431.44	6.00	130.00	-104.37	1.18	0.49	1.13	Open	0

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		ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	HL/1000 (ft/kft)	Status	Flow Reversal Count
1646		3212	1429	1124	804.61	6.00	130.00	-51.38	0.58	0.24	0.30	Open	0
1647		3213	1429	1404	646.09	6.00	130.00	-59.30	0.67	0.26	0.40	Open	0
1648		3214	1126	1128	1,092.78	6.00	130.00	-12.34	0.14	0.02	0.02	Open	0
1649		3215	1077	1413	1,747.49	6.00	130.00	-46.79	0.53	0.45	0.26	Open	0
1650		3216	1413	1116	1,461.62	6.00	130.00	-56.00	0.64	0.52	0.36	Open	0
1651		3217	1076	1412	2,001.96	6.00	130.00	-49.64	0.56	0.57	0.29	Open	0
1652		3218	1412	1115	1,145.60	6.00	130.00	-63.94	0.73	0.52	0.46	Open	0
1653		3219	512	1430	618.85	8.00	130.00	-18.46	0.12	0.01	0.01	Open	0
1654		3220	1430	1111	126.87	8.00	130.00	-17.13	0.11	0.00	0.01	Open	0
1655		3221	1430	1107	726.42	6.00	130.00	-7.65	0.09	0.01	0.01	Open	0
1656		3222	1415	1431	335.26	6.00	130.00	-1.67	0.02	0.00	0.00	Open	0
1657		3223	1431	1417	625.32	6.00	130.00	-72.82	0.83	0.36	0.58	Open	0
1658		3224	1080	1431	797.57	6.00	130.00	-64.84	0.74	0.37	0.47	Open	0
1659		3225	555	1432	1,307.50	12.00	130.00	-304.05	0.86	0.37	0.28	Open	0
1660		3226	1432	1433	328.35	12.00	130.00	-327.65	0.93	0.11	0.32	Open	0
1661		3227	1433	698	346.60	6.00	130.00	-56.83	0.64	0.13	0.37	Open	0
1662		3228	555	1434	833.69	6.00	130.00	-60.26	0.68	0.34	0.41	Open	0
1663		3229	1434	1435	444.79	6.00	130.00	-49.28	0.56	0.13	0.28	Open	0
1664		3230	1435	1436	222.50	6.00	130.00	-48.15	0.55	0.06	0.27	Open	0
1665		3231	1436	1437	2,166.94	6.00	130.00	-36.62	0.42	0.35	0.16	Open	0
1666		3232	1437	1438	1,131.53	12.00	130.00	308.72	0.88	0.33	0.29	Open	0
1667		3233	1438	1433	327.30	12.00	130.00	284.57	0.81	0.08	0.25	Open	0
1668		3234	1439	1440	171.91	12.00	130.00	286.53	0.81	0.04	0.25	Open	0
1669		3235	1440	1437	187.08	12.00	130.00	351.65	1.00	0.07	0.37	Open	0
1670		3236	1439	740	816.84	6.00	130.00	31.87	0.36	0.10	0.13	Open	0
1671		3237	1438	1436	617.05	6.00	130.00	17.84	0.20	0.03	0.04	Open	0
1672		3238	1433	1435	642.86	6.00	130.00	7.44	0.08	0.01	0.01	Open	0
1673		3239	1432	1434	621.91	6.00	130.00	17.29	0.20	0.03	0.04	Open	0
1674		3240	239	1441	707.28	6.00	130.00	50.38	0.57	0.21	0.29	Open	0
1675		3241	1441	1442	1,180.16	6.00	130.00	3.72	0.04	0.00	0.00	Open	0
1676		3242	1442	1443	605.20	6.00	130.00	68.78	0.78	0.32	0.52	Open	0
1677		3243	1443	1444	303.13	6.00	130.00	100.66	1.14	0.32	1.06	Open	0
1678		3244	1444	1445	353.60	6.00	130.00	53.53	0.61	0.12	0.33	Open	0
1679		3245	1445	1446	859.79	6.00	130.00	47.22	0.54	0.22	0.26	Open	0
1680		3246	1446	1440	503.58	6.00	130.00	71.43	0.81	0.28	0.56	Open	0

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		ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	HL/1000 (ft/kft)	Status	Flow Reversal Count
1681		3247	1442	1447	905.07	6.00	130.00	-71.37	0.81	0.51	0.56	Open	0
1682		3248	1447	1448	358.69	6.00	130.00	-54.66	0.62	0.12	0.34	Open	0
1683		3249	1448	1449	627.50	6.00	130.00	-87.71	1.00	0.51	0.82	Open	0
1684		3250	1449	1450	394.02	6.00	130.00	-103.06	1.17	0.43	1.10	Open	0
1685		3251	1450	536	1,609.85	6.00	130.00	-64.96	0.74	0.76	0.47	Open	0
1686		3252	536	1451	585.82	6.00	130.00	90.24	1.02	0.51	0.86	Open	0
1687		3253	1451	1452	1,001.15	6.00	130.00	39.51	0.45	0.19	0.19	Open	0
1688		3254	1452	243	191.73	6.00	130.00	94.35	1.07	0.18	0.94	Open	0
1689		3255	420	1453	285.42	6.00	130.00	38.33	0.43	0.05	0.18	Open	0
1690		3256	1453	1454	242.47	6.00	130.00	57.55	0.65	0.09	0.38	Open	0
1691		3257	1454	1455	1,688.60	6.00	130.00	52.70	0.60	0.54	0.32	Open	0
1692		3258	1455	1456	126.29	6.00	130.00	-53.53	0.61	0.04	0.33	Open	0
1693		3259	1456	242	325.84	6.00	130.00	22.87	0.26	0.02	0.07	Open	0
1694		3260	385	384	512.76	16.00	130.00	231.42	0.37	0.02	0.04	Open	0
1695		3261	384	383	613.30	16.00	130.00	208.01	0.33	0.02	0.03	Open	0
1696		3262	806	382	363.43	8.00	130.00	6.71	0.04	0.00	0.00	Open	0
1697		3263	383	382	548.27	16.00	130.00	192.92	0.31	0.02	0.03	Open	0
1698		3264	381	380	826.32	16.00	130.00	202.09	0.32	0.03	0.03	Open	0
1699		3265	783	1457	598.28	6.00	130.00	-98.39	1.12	0.61	1.01	Open	0
1700		3266	1457	167	524.38	6.00	130.00	-195.87	2.22	1.90	3.62	Open	0
1701		3267	1457	787	1,237.08	6.00	130.00	91.17	1.03	1.09	0.88	Open	0
1702		3268	344	343	1,058.23	18.00	130.00	3,368.40	4.25	3.53	3.33	Open	0
1703		3269	343	868	1,266.48	8.00	130.00	251.21	1.60	1.79	1.41	Open	0
1704		3270	612	611	1,671.35	8.00	130.00	-62.31	0.40	0.18	0.11	Open	0
1705		3271	1309	J70	847.47	6.00	130.00	105.43	1.20	0.97	1.15	Open	0
1706		3272	898	624	543.98	10.00	130.00	-240.78	0.98	0.24	0.44	Open	0
1707		3273	1303	1305	1,094.66	6.00	130.00	35.84	0.41	0.17	0.16	Open	0
1708		3274	482	929	2,143.72	8.00	130.00	-90.61	0.58	0.46	0.21	Open	0
1709		3275	929	399	1,112.29	8.00	130.00	-109.54	0.70	0.34	0.30	Open	0
1710		3276	481	400	543.34	12.00	130.00	21.19	0.06	0.00	0.00	Open	0
1711		3277	475	J34	633.90	12.00	130.00	291.71	0.83	0.16	0.26	Open	0
1712		3278	412	411	447.81	16.00	130.00	210.72	0.34	0.02	0.03	Open	0
1713		3279	411	410	414.20	16.00	130.00	98.29	0.16	0.00	0.01	Open	0
1714		3280	410	409	522.79	16.00	130.00	64.75	0.10	0.00	0.00	Open	0
1715		3281	967	969	1,546.03	8.00	130.00	-8.35	0.05	0.00	0.00	Open	0

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1716		3282	969	966	921.71	8.00	130.00	9.90	0.06	0.00	0.00	Open	0
1717		3283	1411	1458	1,139.44	6.00	130.00	10.60	0.12	0.02	0.02	Open	0
1718		3284	1458	1138	335.77	8.00	130.00	-28.90	0.18	0.01	0.03	Open	0
1719		3285	1458	J154	322.23	6.00	130.00	33.20	0.38	0.04	0.14	Open	0
1720		3286	1459	1460	424.88	6.00	130.00	-51.40	0.58	0.13	0.30	Open	0
1721		3287	1460	1461	661.64	6.00	130.00	-42.79	0.49	0.14	0.22	Open	0
1722		3288	1461	1462	344.67	6.00	130.00	-69.70	0.79	0.18	0.53	Open	0
1723		3289	1462	1139	302.52	6.00	130.00	-1.62	0.02	0.00	0.00	Open	0
1724		3290	1461	1463	641.30	6.00	130.00	20.60	0.23	0.04	0.06	Open	0
1725		3291	1463	1464	327.92	6.00	130.00	-16.25	0.18	0.01	0.04	Open	0
1726		3292	1464	1465	316.63	6.00	130.00	-156.62	1.78	0.76	2.39	Open	0
1727		3293	1465	1140	331.90	6.00	130.00	-237.32	2.69	1.72	5.17	Open	0
1728		3294	1462	1465	911.77	6.00	130.00	-74.39	0.84	0.55	0.60	Open	0
1729		3295	1459	1466	1,012.95	6.00	130.00	-32.74	0.37	0.13	0.13	Open	0
1730		3296	1466	1464	1,039.66	6.00	130.00	-29.74	0.34	0.11	0.11	Open	0
1731		3297	1464	1467	663.91	6.00	130.00	104.32	1.18	0.75	1.13	Open	0
1732		3298	1467	1468	336.01	6.00	130.00	-39.07	0.44	0.06	0.18	Open	0
1733		3299	1468	1420	175.61	6.00	130.00	-220.54	2.50	0.79	4.51	Open	0
1734		3300	1460	1469	342.12	6.00	130.00	-14.92	0.17	0.01	0.03	Open	0
1735		3301	1469	1466	474.38	6.00	130.00	9.31	0.11	0.01	0.01	Open	0
1736		3302	1469	1463	835.90	6.00	130.00	-30.54	0.35	0.10	0.12	Open	0
1737		3303	1467	1470	729.12	6.00	130.00	137.08	1.56	1.36	1.87	Open	0
1738		3304	1470	1471	330.22	6.00	130.00	183.08	2.08	1.06	3.20	Open	0
1739		3305	1472	420	300.91	6.00	130.00	195.58	2.22	1.09	3.61	Open	0
1740		3306	1471	1472	975.34	6.00	130.00	106.95	1.21	1.15	1.18	Open	0
1741		3307	1473	1472	590.23	6.00	130.00	94.94	1.08	0.56	0.95	Open	0
1742		3308	1471	1473	1,105.88	6.00	130.00	69.82	0.79	0.59	0.54	Open	0
1743		3309	1473	1474	817.92	6.00	130.00	63.06	0.72	0.36	0.44	Open	0
1744		3310	1474	1422	659.30	6.00	130.00	-42.13	0.48	0.14	0.21	Open	0
1745		3311	1468	1475	446.99	6.00	130.00	175.16	1.99	1.32	2.94	Open	0
1746		3312	1475	1470	346.67	6.00	130.00	52.31	0.59	0.11	0.31	Open	0
1747		3313	1421	1476	312.53	6.00	130.00	-15.73	0.18	0.01	0.03	Open	0
1748		3314	1476	1473	339.46	6.00	130.00	94.49	1.07	0.32	0.94	Open	0
1749		3315	1475	1476	1,039.05	6.00	130.00	116.53	1.32	1.44	1.38	Open	0
1750		3316	822	821	504.47	8.00	130.00	-192.16	1.23	0.43	0.86	Open	0

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1751		3317	293	1551-B	151.87	12.00	130.00	6.31	0.02	0.00	0.00	Open	0
1752		3318	1551-A	1530	59.95	12.00	130.00	0.00	0.00	0.00	0.00	Open	0
1753		3319	292	1232	342.40	6.00	130.00	-82.15	0.93	0.25	0.72	Open	0
1754		3320	291	290	1,369.16	18.00	130.00	-1,621.52	2.04	1.18	0.86	Open	0
1755		3321	288	1477	76.57	18.00	130.00	1,260.04	1.59	0.04	0.54	Open	0
1756		3322	1477	289	367.73	18.00	130.00	1,247.41	1.57	0.19	0.53	Open	0
1757		3323	1477	1552-B	69.96	10.00	130.00	6.31	0.03	0.00	0.00	Open	0
1758		3324	1552-A	1531	77.08	10.00	130.00	0.00	0.00	0.00	0.00	Open	0
1759		3325	436	1478	217.02	14.00	130.00	1,179.90	2.46	0.35	1.62	Open	0
1760		3326	1478	340	147.57	14.00	130.00	2,096.07	4.37	0.70	4.71	Open	0
1761		3327	1478	1553-B	77.04	8.00	130.00	-922.48	5.89	1.21	15.73	Open	0
1762		3328	1553-A	1532	74.01	8.00	130.00	-928.79	5.93	1.18	15.93	Open	0
1763		3329	173	1554-B	108.67	12.00	130.00	-1,025.22	2.91	0.29	2.65	Open	0
1764		3330	1554-A	1533	93.77	12.00	130.00	-1,031.53	2.93	0.25	2.68	Open	0
1765		3331	629	1479	204.47	10.00	130.00	-1,005.03	4.11	1.27	6.22	Open	0
1766		3332	1479	630	196.24	10.00	130.00	517.91	2.12	0.36	1.82	Open	0
1767		3333	1479	1555-B	21.98	12.00	130.00	-1,529.25	4.34	0.12	5.57	Open	0
1768		3334	1555-A	1534	43.21	12.00	130.00	-1,535.56	4.36	0.24	5.61	Open	0
1769		3335	621	1480	54.31	8.00	130.00	-1,114.21	7.11	1.21	22.32	Open	0
1770		3336	1480	890	180.42	8.00	130.00	279.45	1.78	0.31	1.72	Open	0
1771		3337	1480	1556-B	66.78	8.00	130.00	-1,399.97	8.94	2.27	34.06	Open	0
1772		3338	1556-A	1535	95.47	8.00	130.00	-1,406.28	8.98	3.28	34.35	Open	0
1773		3339	332	J38	613.80	18.00	130.00	-352.99	0.45	0.03	0.05	Open	0
1774		3340	1277	1274	1,275.47	6.00	130.00	-10.59	0.12	0.02	0.02	Open	0
1775		3341	1259	1260	448.88	6.00	130.00	19.92	0.23	0.02	0.05	Open	0
1776		3343	1271	1269	1,275.06	6.00	130.00	-65.43	0.74	0.61	0.48	Open	0
1777		3344	368	367	694.91	18.00	130.00	-1,449.17	1.83	0.49	0.70	Open	0
1778		3345	1268	1269	942.21	6.00	130.00	71.30	0.81	0.53	0.56	Open	0
1779		3346	362	1268	400.57	6.00	130.00	83.92	0.95	0.30	0.75	Open	0
1780		3347	282	1481	988.82	6.00	130.00	-57.97	0.66	0.38	0.38	Open	0
1781		3348	1481	278	258.27	6.00	130.00	-110.84	1.26	0.33	1.26	Open	0
1782		3349	280	1481	476.57	6.00	130.00	-46.56	0.53	0.12	0.25	Open	0
1783		3350	1140	1557-B	147.11	6.00	130.00	-823.05	9.34	7.61	51.71	Open	0
1784		3351	1557-A	1536	155.39	6.00	130.00	-829.36	9.41	8.15	52.45	Open	0
1785		3352	1410	1482	871.89	6.00	130.00	-320.32	3.63	7.85	9.01	Open	0

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		ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	HL/1000 (ft/kft)	Status	Flow Reversal Count
1786		3353	1482	1411	577.98	6.00	130.00	345.00	3.91	5.97	10.33	Open	0
1787		3354	1482	1558-B	161.21	6.00	130.00	-671.63	7.62	5.72	35.49	Open	0
1788		3355	1558-A	1537	167.95	6.00	130.00	-677.94	7.69	6.06	36.11	Open	0
1789		3356	232	1483	286.90	10.00	130.00	-1,143.98	4.67	2.27	7.90	Open	0
1790		3357	1483	556	199.75	10.00	130.00	188.44	0.77	0.06	0.28	Open	0
1791		3358	1483	1559-B	90.94	8.00	130.00	-1,338.73	8.54	2.85	31.35	Open	0
1792		3359	1559-A	1538	93.14	8.00	130.00	-1,345.04	8.59	2.95	31.63	Open	0
1793		3360	456	700	1,315.38	6.00	130.00	51.49	0.58	0.40	0.31	Open	0
1794		3361	558	701	1,329.81	6.00	130.00	38.68	0.44	0.24	0.18	Open	0
1795		3362	559	702	1,327.31	6.00	130.00	28.80	0.33	0.14	0.10	Open	0
1796		3363	560	703	1,314.36	6.00	130.00	19.90	0.23	0.07	0.05	Open	0
1797		3364	561	704	1,309.46	6.00	130.00	12.06	0.14	0.03	0.02	Open	0
1798		3365	562	705	1,323.20	6.00	130.00	9.07	0.10	0.02	0.01	Open	0
1799		3366	714	711	740.61	6.00	130.00	8.22	0.09	0.01	0.01	Open	0
1800		3367	713	712	588.42	6.00	130.00	4.33	0.05	0.00	0.00	Open	0
1801		3368	715	1484	369.37	6.00	130.00	-17.24	0.20	0.01	0.04	Open	0
1802		3369	1484	562	1,320.00	6.00	130.00	-3.45	0.04	0.00	0.00	Open	0
1803		3370	1484	564	349.23	6.00	130.00	-20.10	0.23	0.02	0.05	Open	0
1804		3371	238	1485	614.43	6.00	130.00	4.16	0.05	0.00	0.00	Open	0
1805		3372	1485	1443	1,457.00	6.00	130.00	38.19	0.43	0.26	0.18	Open	0
1806		3373	1485	1441	323.26	6.00	130.00	-40.34	0.46	0.06	0.19	Open	0
1807		3374	237	1486	512.30	6.00	130.00	97.15	1.10	0.51	0.99	Open	0
1808		3375	1486	1487	183.30	6.00	130.00	46.67	0.53	0.05	0.25	Open	0
1809		3376	1487	1488	147.10	6.00	130.00	-3.99	0.05	0.00	0.00	Open	0
1810		3377	1488	1444	1,136.84	6.00	130.00	-40.82	0.46	0.23	0.20	Open	0
1811		3378	1486	741	1,328.61	6.00	130.00	44.17	0.50	0.31	0.23	Open	0
1812		3379	741	1489	185.21	12.00	130.00	286.68	0.81	0.05	0.25	Open	0
1813		3380	1489	1439	148.80	12.00	130.00	324.71	0.92	0.05	0.32	Open	0
1814		3381	1487	1489	1,318.54	6.00	130.00	44.34	0.50	0.30	0.23	Open	0
1815		3382	1488	1446	981.37	6.00	130.00	30.53	0.35	0.11	0.12	Open	0
1816		3383	1135	1397	263.58	8.00	130.00	29.29	0.19	0.01	0.03	Open	0
1817		3384	1397	1490	1,110.55	8.00	130.00	-36.51	0.23	0.04	0.04	Open	0
1818		3385	260	1490	30.88	18.00	130.00	42.83	0.05	0.00	0.00	Open	0
1819		3386	1490	1541	165.91	18.00	130.00	0.00	0.00	0.00	0.00	Closed	0
1820		3387	340	1491	969.51	18.00	130.00	2,116.96	2.67	1.37	1.41	Open	0

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1821		3388	341	1491	374.60	18.00	130.00	4,185.80	5.28	1.87	4.99	Open	0
1822		3389	1542	1491	121.54	16.00	130.00	-6,296.46	10.05	2.29	18.85	Open	0
1823		3390	1300	883	1,025.93	6.00	130.00	88.64	1.01	0.86	0.83	Open	0
1824		3391	618	616	871.61	6.00	130.00	-44.12	0.50	0.20	0.23	Open	0
1825		3392	884	885	907.01	8.00	130.00	2.42	0.02	0.00	0.00	Open	0
1826		3393	912	907	1,184.00	8.00	130.00	-111.00	0.71	0.37	0.31	Open	0
1827		3394	913	J62	336.42	6.00	130.00	-82.12	0.93	0.24	0.72	Open	0
1828		3395	653	1492	1,531.02	6.00	130.00	-2.91	0.03	0.00	0.00	Open	0
1829		3396	1492	652	1,020.49	6.00	130.00	1.79	0.02	0.00	0.00	Open	0
1830		3397	1492	537	367.80	6.00	130.00	-11.02	0.13	0.01	0.02	Open	0
1831		3398	650	654	902.79	6.00	130.00	-4.40	0.05	0.00	0.00	Open	0
1832		3399	546	1493	490.27	6.00	130.00	10.32	0.12	0.01	0.02	Open	0
1833		3400	1493	1494	394.16	6.00	130.00	6.97	0.08	0.00	0.01	Open	0
1834		3401	1494	1495	388.98	6.00	130.00	0.03	0.00	0.00	0.00	Open	0
1835		3402	1495	1496	884.06	6.00	130.00	-5.65	0.06	0.00	0.01	Open	0
1836		3403	1496	1493	998.64	6.00	130.00	2.95	0.03	0.00	0.00	Open	0
1837		3404	1496	543	719.44	6.00	130.00	-14.92	0.17	0.02	0.03	Open	0
1838		3405	1494	1495	1,103.15	6.00	130.00	0.63	0.01	0.00	0.00	Open	0
1839		3406	217	664	417.13	6.00	130.00	28.00	0.32	0.04	0.10	Open	0
1840		3407	664	662	690.87	6.00	130.00	5.57	0.06	0.00	0.00	Open	0
1841		3408	218	542	46.19	10.00	130.00	37.58	0.15	0.00	0.02	Open	0
1842		3409	220	542	2,228.88	6.00	130.00	31.83	0.36	0.28	0.13	Open	0
1843		3410	1474	250	633.81	6.00	130.00	98.88	1.12	0.65	1.02	Open	0
1844		3411	1454	1497	655.19	6.00	130.00	-1.46	0.02	0.00	0.00	Open	0
1845		3412	1497	1498	296.85	6.00	130.00	36.71	0.42	0.05	0.16	Open	0
1846		3413	1498	1456	610.76	6.00	130.00	82.71	0.94	0.45	0.73	Open	0
1847		3414	421	1497	517.23	6.00	130.00	44.48	0.50	0.12	0.23	Open	0
1848		3415	422	1498	520.31	6.00	130.00	52.30	0.59	0.16	0.31	Open	0
1849		3416	419	1453	605.52	6.00	130.00	25.53	0.29	0.05	0.08	Open	0
1850		3417	245	1499	323.36	6.00	130.00	3.78	0.04	0.00	0.00	Open	0
1851		3418	1499	536	1,000.16	6.00	130.00	-63.68	0.72	0.45	0.45	Open	0
1852		3419	1452	1499	572.19	6.00	130.00	-61.15	0.69	0.24	0.42	Open	0
1853		3420	247	535	1,326.23	6.00	130.00	-43.97	0.50	0.30	0.23	Open	0
1854		3421	1451	1450	1,077.47	6.00	130.00	44.42	0.50	0.25	0.23	Open	0
1855		3422	248	246	1,078.55	6.00	130.00	31.69	0.36	0.13	0.12	Open	0

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1856		3423	242	1449	2,077.77	6.00	130.00	-9.05	0.10	0.03	0.01	Open	0
1857		3424	241	1500	888.29	6.00	130.00	45.78	0.52	0.22	0.25	Open	0
1858		3425	1500	1501	768.03	6.00	130.00	7.44	0.08	0.01	0.01	Open	0
1859		3426	1501	1448	557.01	6.00	130.00	-26.73	0.30	0.05	0.09	Open	0
1860		3427	683	451	710.01	8.00	130.00	-33.15	0.21	0.02	0.03	Open	0
1861		3428	451	552	1,483.52	8.00	130.00	-151.42	0.97	0.82	0.55	Open	0
1862		3429	669	668	407.13	6.00	130.00	-4.55	0.05	0.00	0.00	Open	0
1863		3430	372	539	1,003.09	10.00	130.00	-37.37	0.15	0.01	0.01	Open	0
1864		3431	1455	J120	245.53	6.00	130.00	99.92	1.13	0.26	1.04	Open	0
1865		3432	240	1503	809.66	6.00	130.00	-24.25	0.28	0.06	0.08	Open	0
1866		3433	1503	1504	762.67	6.00	130.00	1.46	0.02	0.00	0.00	Open	0
1867		3434	1504	1447	552.88	6.00	130.00	23.01	0.26	0.04	0.07	Open	0
1868		3435	1503	1500	315.97	6.00	130.00	-32.03	0.36	0.04	0.13	Open	0
1869		3436	1504	1501	345.79	6.00	130.00	-27.86	0.32	0.03	0.10	Open	0
1870		3437	741	J102	798.95	6.00	130.00	43.89	0.50	0.18	0.23	Open	0
1871		3438	700	699	574.19	8.00	130.00	53.07	0.34	0.05	0.08	Open	0
1872		3439	729	739	829.78	8.00	130.00	37.96	0.24	0.04	0.04	Open	0
1873		3440	738	739	1,455.12	8.00	130.00	-7.58	0.05	0.00	0.00	Open	0
1874		3441	1127	1129	1,209.04	8.00	130.00	-73.30	0.47	0.17	0.14	Open	0
1875		3442	1126	1125	1,192.21	8.00	130.00	6.03	0.04	0.00	0.00	Open	0
1876		3443	1084	283	783.54	8.00	130.00	-111.62	0.71	0.25	0.31	Open	0
1877		3444	285	1087	673.96	8.00	130.00	-57.75	0.37	0.06	0.09	Open	0
1878		3445	1064	1213	1,107.63	6.00	130.00	8.69	0.10	0.01	0.01	Open	0
1879		3446	1232	1231	1,115.39	6.00	130.00	-100.68	1.14	1.18	1.06	Open	0
1880		3447	1231	1069	442.39	6.00	130.00	-56.11	0.64	0.16	0.36	Open	0
1881		3448	284	1082	850.94	6.00	130.00	-31.87	0.36	0.11	0.13	Open	0
1882		3449	1095	1122	1,311.57	6.00	130.00	-74.67	0.85	0.80	0.61	Open	0
1883		3450	277	1505	911.75	6.00	130.00	-59.97	0.68	0.37	0.40	Open	0
1884		3451	1505	275	599.67	6.00	130.00	-63.50	0.72	0.27	0.45	Open	0
1885		3452	276	1505	490.83	6.00	130.00	2.78	0.03	0.00	0.00	Open	0
1886		3453	1104	1105	1,347.77	6.00	130.00	13.69	0.16	0.04	0.03	Open	0
1887		3454	1502	1506	351.85	6.00	130.00	42.95	0.49	0.08	0.22	Open	0
1888		3455	1506	240	546.92	6.00	130.00	54.78	0.62	0.19	0.34	Open	0
1889		3456	1502	1506	1,737.47	6.00	130.00	18.13	0.21	0.08	0.04	Open	0
1890		3457	702	1507	207.62	6.00	130.00	29.42	0.33	0.02	0.11	Open	0

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1891		3458	1507	1508	1,629.50	6.00	130.00	7.47	0.08	0.01	0.01	Open	0
1892		3459	1508	699	1,080.53	6.00	130.00	4.18	0.05	0.00	0.00	Open	0
1893		3460	720	718	289.41	6.00	130.00	18.36	0.21	0.01	0.05	Open	0
1894		3461	718	722	2,207.44	6.00	130.00	-24.69	0.28	0.17	0.08	Open	0
1895		3462	719	721	539.42	6.00	130.00	-22.11	0.25	0.03	0.06	Open	0
1896		3463	725	723	855.71	6.00	130.00	34.78	0.39	0.13	0.15	Open	0
1897		3464	711	1509	639.04	8.00	130.00	-17.89	0.11	0.01	0.01	Open	0
1898		3465	1509	706	218.33	8.00	130.00	-7.00	0.04	0.00	0.00	Open	0
1899		3466	563	1509	1,171.93	8.00	130.00	17.20	0.11	0.01	0.01	Open	0
1900		3467	1132	1134	1,292.43	8.00	130.00	33.41	0.21	0.04	0.03	Open	0
1901		3468	528	529	542.82	12.00	130.00	306.86	0.87	0.15	0.28	Open	0
1902		3469	526	527	1,077.38	12.00	130.00	385.09	1.09	0.47	0.43	Open	0
1903		3470	215	213	2,362.46	6.00	130.00	10.08	0.11	0.04	0.01	Open	0
1904		3471	214	660	552.18	8.00	130.00	28.99	0.19	0.01	0.03	Open	0
1905		3472	661	660	684.85	6.00	130.00	6.72	0.08	0.00	0.01	Open	0
1906		3474	1081	1083	936.17	6.00	130.00	-13.19	0.15	0.02	0.02	Open	0
1907		3475	1099	1098	723.16	6.00	130.00	4.93	0.06	0.00	0.00	Open	0
1908		3476	514	513	1,043.07	6.00	130.00	0.92	0.01	0.00	0.00	Open	0
1909		3477	172	224	866.85	6.00	130.00	107.34	1.22	1.03	1.19	Open	0
1910		3478	804	789	1,216.59	6.00	130.00	-22.14	0.25	0.08	0.06	Open	0
1911		3479	390	1510	998.22	10.00	130.00	6.31	0.03	0.00	0.00	Open	0
1912		3480	387	386	1,036.13	16.00	130.00	247.48	0.39	0.05	0.05	Open	0
1913		3481	388	820	1,070.46	8.00	130.00	33.83	0.22	0.04	0.03	Open	0
1914		3483	187	J142	107.88	24.00	130.00	-2,193.35	1.56	0.04	0.37	Open	0
1915		3485	1390	831	868.55	10.00	130.00	-91.36	0.37	0.06	0.07	Open	0
1916		3486	584	423	552.97	8.00	130.00	-187.99	1.20	0.46	0.83	Open	0
1917		3487	837	599	811.43	8.00	130.00	-128.04	0.82	0.33	0.41	Open	0
1918		3488	598	599	642.66	10.00	130.00	-296.03	1.21	0.42	0.65	Open	0
1919		3489	151	1511	1,704.99	6.00	130.00	-16.44	0.19	0.06	0.04	Open	0
1920		3490	1511	150	1,411.80	6.00	130.00	-22.75	0.26	0.09	0.07	Open	0
1921		3491	384	1512	524.66	8.00	130.00	17.09	0.11	0.01	0.01	Open	0
1922		3492	1512	383	936.27	6.00	130.00	10.78	0.12	0.02	0.02	Open	0
1923		3493	383	J144	596.40	8.00	130.00	19.56	0.12	0.01	0.01	Open	0
1924		3495	1513	1514	644.59	6.00	130.00	2.03	0.02	0.00	0.00	Open	0
1925		3496	1514	713	686.50	6.00	130.00	-4.63	0.05	0.00	0.00	Open	0

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1926		3497	1514	1513	2,248.65	6.00	130.00	0.34	0.00	0.00	0.00	Open	0
1927		3498	182	1515	1,640.82	6.00	130.00	-31.96	0.36	0.21	0.13	Open	0
1928		3499	1515	181	988.74	6.00	130.00	16.35	0.19	0.04	0.04	Open	0
1929		3500	1515	1516	301.67	6.00	130.00	-54.63	0.62	0.10	0.34	Open	0
1930		3501	1516	1517	642.91	6.00	130.00	-34.11	0.39	0.09	0.14	Open	0
1931		3503	179	1518	202.32	24.00	130.00	3,086.15	2.19	0.14	0.70	Open	0
1932		3504	1518	180	73.89	24.00	130.00	3,012.59	2.14	0.05	0.67	Open	0
1933		3505	1517	1518	130.04	6.00	130.00	-67.25	0.76	0.06	0.50	Open	0
1934		3506	1517	1516	1,002.52	6.00	130.00	26.83	0.30	0.09	0.09	Open	0
1935		3507	175	176	1,757.74	24.00	130.00	3,009.49	2.13	1.17	0.67	Open	0
1936		3508	176	177	903.09	24.00	130.00	3,003.18	2.13	0.60	0.66	Open	0
1937		3509	743	1519	1,524.55	8.00	130.00	165.25	1.05	0.99	0.65	Open	0
1938		3510	1519	177	1,094.62	8.00	130.00	158.94	1.01	0.66	0.61	Open	0
1939		3511	1520	1507	284.54	6.00	130.00	-15.64	0.18	0.01	0.03	Open	0
1940		3512	1508	1521	288.62	6.00	130.00	-3.02	0.03	0.00	0.00	Open	0
1941		3513	1521	1520	962.31	6.00	130.00	-5.04	0.06	0.00	0.00	Open	0
1942		3514	1520	1521	1,283.25	6.00	130.00	4.29	0.05	0.00	0.00	Open	0
1943		3515	266	1522	314.11	6.00	130.00	-226.80	2.57	1.49	4.75	Open	0
1944		3516	1522	1523	1,595.88	4.00	130.00	-39.72	1.01	2.17	1.36	Open	0
1945		3517	1048	1047	1,004.87	8.00	130.00	83.66	0.53	0.19	0.18	Open	0
1946		3518	1522	1524	339.58	6.00	130.00	-193.39	2.19	1.20	3.54	Open	0
1947		3519	1524	1410	343.98	6.00	130.00	-116.06	1.32	0.47	1.37	Open	0
1948		3520	1524	1525	1,407.30	6.00	130.00	-83.64	0.95	1.05	0.75	Open	0
1949		3521	737	1526	571.76	6.00	130.00	-6.10	0.07	0.00	0.01	Open	0
1950		3522	1526	731	145.52	6.00	130.00	3.11	0.04	0.00	0.00	Open	0
1951		3523	1526	738	319.80	6.00	130.00	-15.52	0.18	0.01	0.03	Open	0
1952		3524	218	1527	434.26	8.00	130.00	6.31	0.04	0.00	0.00	Open	0
1953		3525	1231	1068	472.75	6.00	130.00	-50.87	0.58	0.14	0.30	Open	0
1954		3526	191	188	1,890.49	24.00	130.00	-2,331.28	1.65	0.79	0.42	Open	0
1955		3527	591	156	1,488.84	10.00	130.00	-393.65	1.61	1.63	1.10	Open	0
1956		3528	1384	1528	1,131.88	6.00	130.00	52.29	0.59	0.36	0.31	Open	0
1957		3529	1528	1385	1,367.23	6.00	130.00	45.98	0.52	0.34	0.25	Open	0
1958		3530	675	1529	1,332.77	8.00	130.00	25.29	0.16	0.03	0.02	Open	0
1959		3531	1529	539	904.89	8.00	130.00	18.98	0.12	0.01	0.01	Open	0
1960		3534	479	3533	1,249.79	12.00	130.00	6.31	0.02	0.00	0.00	Open	0

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		ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	HL/1000 (ft/kft)	Status	Flow Reversal Count
1961		3536	580	3535	513.69	6.00	130.00	6.31	0.07	0.00	0.01	Open	0
1962		3538	1232	3537	611.76	8.00	130.00	6.31	0.04	0.00	0.00	Open	0
1963		3544	286	3543	411.83	6.00	130.00	12.54	0.14	0.01	0.02	Open	0
1964		3546	288	3545	381.61	8.00	130.00	-186.58	1.19	0.31	0.82	Open	0
1965		3547	3545	1072	939.29	8.00	130.00	-186.66	1.19	0.77	0.82	Open	0
1966		3548	3543	3545	696.00	6.00	130.00	6.23	0.07	0.00	0.01	Open	0
1967		3551	1081	3550	505.91	6.00	130.00	6.31	0.07	0.00	0.01	Open	0
1968		3553	524	3552	658.79	8.00	130.00	57.54	0.37	0.06	0.09	Open	0
1969		3554	3552	527	680.48	8.00	130.00	51.22	0.33	0.05	0.07	Open	0
1970		3556	1427	3555	623.10	6.00	130.00	41.06	0.47	0.12	0.20	Open	0
1971		3557	3555	532	1,647.49	6.00	130.00	28.44	0.32	0.17	0.10	Open	0
1972		3559	3555	3558	642.21	6.00	130.00	6.31	0.07	0.00	0.01	Open	0
1973		3561	1424	3560	319.97	6.00	130.00	-59.17	0.67	0.13	0.39	Open	0
1974		3562	3560	1421	339.83	6.00	130.00	-71.79	0.81	0.19	0.56	Open	0
1975		3564	3560	3563	879.34	8.00	130.00	6.31	0.04	0.00	0.00	Open	0
1976		3570	713	3569	540.83	6.00	130.00	6.31	0.07	0.00	0.01	Open	0
1977		3572	714	3571	663.05	6.00	130.00	-4.37	0.05	0.00	0.00	Open	0
1978		3573	3571	1513	1,019.56	6.00	130.00	7.99	0.09	0.01	0.01	Open	0
1979		3576	563	3575	669.36	8.00	130.00	14.05	0.09	0.00	0.01	Open	0
1980		3577	3575	715	668.10	8.00	130.00	-10.93	0.07	0.00	0.00	Open	0
1981		3578	3571	3575	363.70	8.00	130.00	-18.67	0.12	0.00	0.01	Open	0
1982		3580	707	3579	546.39	8.00	130.00	13.36	0.09	0.00	0.01	Open	0
1983		3581	3579	708	333.09	8.00	130.00	7.05	0.04	0.00	0.00	Open	0
1984		3587	178	3586	599.61	24.00	130.00	3,143.18	2.23	0.43	0.72	Open	0
1985		3588	3586	179	368.75	24.00	130.00	3,136.87	2.22	0.27	0.72	Open	0
1986		3594	220	3593	146.38	18.00	130.00	-617.66	0.78	0.02	0.14	Open	0
1987		3595	3593	182	820.36	18.00	130.00	-630.28	0.79	0.12	0.15	Open	0
1988		3598	544	3597	895.90	6.00	130.00	6.73	0.08	0.01	0.01	Open	0
1989		3599	3597	545	487.76	6.00	130.00	-5.89	0.07	0.00	0.01	Open	0
1990		3601	3597	3600	404.59	6.00	130.00	6.31	0.07	0.00	0.01	Open	0
1991		3602	213	214	596.04	4.00	130.00	-7.06	0.18	0.03	0.06	Open	0
1992		3604	653	3603	2,041.56	6.00	130.00	2.61	0.03	0.00	0.00	Open	0
1993		3605	3603	1407	399.07	6.00	130.00	-16.33	0.19	0.01	0.04	Open	0
1994		3607	3603	3606	352.09	8.00	130.00	12.62	0.08	0.00	0.01	Open	0
1995		3609	3606	3608	406.25	6.00	130.00	6.31	0.07	0.00	0.01	Open	0

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1996		3611	553	3610	494.21	10.00	130.00	-296.07	1.21	0.32	0.65	Open	0
1997		3612	3610	554	2,069.68	10.00	130.00	-345.37	1.41	1.78	0.86	Open	0
1998		3616	3613	3615	309.11	8.00	130.00	-3.45	0.02	0.00	0.00	Open	0
1999		3618	3615	3617	148.08	8.00	130.00	6.31	0.04	0.00	0.00	Open	0
2000		3619	3615	J100	166.24	8.00	130.00	-16.07	0.10	0.00	0.01	Open	0
2001		3621	446	3620	376.94	6.00	130.00	6.31	0.07	0.00	0.01	Open	0
2002		3623	447	3622	341.26	8.00	130.00	6.31	0.04	0.00	0.00	Open	0
2003		3625	687	3624	404.09	8.00	130.00	120.40	0.77	0.15	0.36	Open	0
2004		3626	3624	447	372.07	8.00	130.00	101.47	0.65	0.10	0.26	Open	0
2005		3630	3624	J104	60.85	12.00	130.00	12.62	0.04	0.00	0.00	Open	0
2006		3632	229	3631	511.23	8.00	130.00	6.31	0.04	0.00	0.00	Open	0
2007		3634	233	3633	485.35	18.00	130.00	-1,093.76	1.38	0.20	0.42	Open	0
2008		3635	3633	234	875.18	18.00	130.00	-1,135.45	1.43	0.39	0.44	Open	0
2009		3637	3633	3636	618.12	6.00	130.00	6.31	0.07	0.00	0.01	Open	0
2010		3639	699	3633	1,055.96	6.00	130.00	-29.06	0.33	0.11	0.11	Open	0
2011		3644	3642	236	542.16	8.00	130.00	90.14	0.58	0.11	0.21	Open	0
2012		3646	237	3645	436.40	8.00	130.00	78.53	0.50	0.07	0.16	Open	0
2013		3647	3645	3642	521.72	8.00	130.00	102.76	0.66	0.14	0.27	Open	0
2014		3648	3645	237	436.40	6.00	130.00	-36.85	0.42	0.07	0.16	Open	0
2015		3652	3642	3651	267.68	8.00	130.00	6.31	0.04	0.00	0.00	Open	0
2016		3654	3645	3653	405.61	8.00	130.00	6.31	0.04	0.00	0.00	Open	0
2017		3656	209	3655	280.82	10.00	130.00	63.44	0.26	0.01	0.04	Open	0
2018		3657	3655	537	274.12	10.00	130.00	50.82	0.21	0.01	0.02	Open	0
2019		3660	3655	3659	337.71	8.00	130.00	6.31	0.04	0.00	0.00	Open	0
2020		3662	765	3661	282.40	8.00	130.00	6.31	0.04	0.00	0.00	Open	0
2021		3665	1386	3664	373.28	6.00	130.00	-38.50	0.44	0.07	0.18	Open	0
2022		3666	3664	1384	354.03	6.00	130.00	-44.81	0.51	0.08	0.24	Open	0
2023		3669	1380	3668	459.24	6.00	130.00	6.31	0.07	0.00	0.01	Open	0
2024		3671	161	3670	569.23	24.00	130.00	-3,942.64	2.80	0.63	1.10	Open	0
2025		3672	162	3670	681.64	24.00	130.00	3,868.63	2.74	0.72	1.06	Open	0
2026		3674	3670	3673	398.59	8.00	130.00	-80.32	0.51	0.07	0.17	Open	0
2027		3675	1385	J94	875.60	6.00	130.00	99.25	1.13	0.90	1.03	Open	0
2028		3677	3673	3676	397.50	6.00	130.00	-32.58	0.37	0.05	0.13	Open	0
2029		3680	429	3679	955.91	10.00	130.00	6.31	0.03	0.00	0.00	Open	0
2030		3682	3681	J142	715.24	8.00	130.00	49.32	0.31	0.05	0.07	Open	0

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2031		3684	3683	3681	707.99	8.00	130.00	-6.31	0.04	0.00	0.00	Open	0
2032		3686	833	3685	268.86	6.00	130.00	-6.59	0.07	0.00	0.01	Open	0
2033		3687	3685	1390	590.85	6.00	130.00	-12.90	0.15	0.01	0.02	Open	0
2034		3689	185	3688	269.05	24.00	130.00	1,997.71	1.42	0.08	0.31	Open	0
2035		3690	3688	186	631.12	24.00	130.00	1,991.40	1.41	0.20	0.31	Open	0
2036		3693	833	3692	196.07	8.00	130.00	6.31	0.04	0.00	0.00	Open	0
2037		3695	185	3694	447.97	8.00	130.00	-120.17	0.77	0.16	0.36	Open	0
2038		3696	3694	833	428.14	8.00	130.00	-132.79	0.85	0.19	0.43	Open	0
2039		3698	3694	3697	235.51	8.00	130.00	6.31	0.04	0.00	0.00	Open	0
2040		3701	394	3700	270.96	16.00	130.00	-339.37	0.54	0.02	0.08	Open	0
2041		3703	3700	J74	456.55	16.00	130.00	-351.99	0.56	0.04	0.09	Open	0
2042		3706	3700	3705	121.14	6.00	130.00	6.31	0.07	0.00	0.01	Open	0
2043		3708	3702	3707	364.68	8.00	130.00	6.31	0.04	0.00	0.00	Open	0
2044		3711	3702	3710	394.44	16.00	130.00	-506.29	0.81	0.07	0.18	Open	0
2045		3712	3710	393	1,340.06	16.00	130.00	-656.40	1.05	0.38	0.29	Open	0
2046		3717	J78	3716	777.98	8.00	130.00	85.27	0.54	0.15	0.19	Open	0
2047		3719	1316	3718	355.60	6.00	130.00	12.01	0.14	0.01	0.02	Open	0
2048		3720	3718	613	429.11	6.00	130.00	84.66	0.96	0.33	0.77	Open	0
2049		3722	3710	3723	475.00	8.00	130.00	143.80	0.92	0.24	0.50	Open	0
2050		3724	1316	3723	409.55	6.00	130.00	-56.34	0.64	0.15	0.36	Open	0
2051		3725	3723	1315	480.04	6.00	130.00	81.15	0.92	0.34	0.71	Open	0
2052		3728	396	3727	687.50	6.00	130.00	6.31	0.07	0.00	0.01	Open	0
2053		3732	395	3731	391.33	8.00	130.00	128.29	0.82	0.16	0.41	Open	0
2054		3734	3731	891	500.78	8.00	130.00	121.98	0.78	0.19	0.37	Open	0
2055		3737	923	3736	530.92	6.00	130.00	32.14	0.36	0.07	0.13	Open	0
2056		3738	3736	924	1,034.19	6.00	130.00	19.52	0.22	0.05	0.05	Open	0
2057		3740	3736	3739	295.22	6.00	130.00	6.31	0.07	0.00	0.01	Open	0
2058		3742	468	3741	1,560.47	8.00	130.00	6.31	0.04	0.00	0.00	Open	0
2059		3751	3748	3750	413.41	8.00	130.00	6.31	0.04	0.00	0.00	Open	0
2060		3753	3745	3752	1,192.41	12.00	130.00	-346.05	0.98	0.42	0.36	Open	0
2061		3754	3752	3743	286.46	8.00	130.00	6.31	0.04	0.00	0.00	Open	0
2062		3755	3748	3745	839.46	12.00	130.00	-127.50	0.36	0.05	0.06	Open	0
2063		3759	3758	J38	698.36	12.00	130.00	320.81	0.91	0.22	0.31	Open	0
2064		3760	3758	3745	560.93	12.00	130.00	-212.24	0.60	0.08	0.14	Open	0
2065		3761	3748	3758	730.19	12.00	130.00	114.88	0.33	0.03	0.05	Open	0

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2066		3763	326	3762	752.20	18.00	130.00	-711.72	0.90	0.14	0.19	Open	0
2067		3766	J26	3765	857.97	8.00	130.00	6.31	0.04	0.00	0.00	Open	0
2068		3770	3768	3762	378.87	8.00	130.00	-44.17	0.28	0.02	0.06	Open	0
2069		3772	3768	J18	367.96	8.00	130.00	17.88	0.11	0.00	0.01	Open	0
2070		3774	3771	3773	532.82	6.00	130.00	6.83	0.08	0.00	0.01	Open	0
2071		3776	3773	3775	259.64	6.00	130.00	0.52	0.01	0.00	0.00	Open	0
2072		3777	3775	J22	220.39	6.00	130.00	-5.80	0.07	0.00	0.00	Open	0
2073		3779	3762	J28	249.44	18.00	130.00	-762.20	0.96	0.05	0.21	Open	0
2074		3780	3778	327	602.55	18.00	130.00	-793.75	1.00	0.14	0.23	Open	0
2075		3781	J28	J24	340.54	6.00	130.00	6.31	0.07	0.00	0.01	Open	0
2076		3783	330	3782	372.84	16.00	130.00	-560.77	0.89	0.08	0.21	Open	0
2077		3784	3782	J34	354.80	16.00	130.00	-567.08	0.90	0.08	0.22	Open	0
2078		3785	J32	J30	697.24	6.00	130.00	6.31	0.07	0.00	0.01	Open	0
2079		3789	J60	J10	1,860.80	8.00	130.00	-17.32	0.11	0.02	0.01	Open	0
2080		3790	3793	404	1,767.20	8.00	130.00	34.71	0.22	0.06	0.04	Open	0
2081		3792	476	3791	313.74	8.00	130.00	-6.94	0.04	0.00	0.00	Open	0
2082		3794	3791	3793	2,307.35	8.00	130.00	-13.25	0.08	0.01	0.01	Open	0
2083		3796	3793	3788	285.07	8.00	130.00	-54.27	0.35	0.02	0.08	Open	0
2084		3798	3797	J10	585.52	8.00	130.00	90.47	0.58	0.13	0.21	Open	0
2085		3800	404	3799	409.39	12.00	130.00	-259.59	0.74	0.09	0.21	Open	0
2086		3801	3788	3799	1,447.34	8.00	130.00	6.27	0.04	0.00	0.00	Open	0
2087		3804	3802	J60	463.72	12.00	130.00	262.19	0.74	0.10	0.21	Open	0
2088		3806	403	3805	544.87	16.00	130.00	598.21	0.95	0.13	0.24	Open	0
2089		3809	3807	3802	638.91	8.00	130.00	177.02	1.13	0.47	0.74	Open	0
2090		3811	3807	3810	165.14	12.00	130.00	6.31	0.02	0.00	0.00	Open	0
2091		3814	3807	3813	207.62	12.00	130.00	-189.65	0.54	0.02	0.12	Open	0
2092		3816	3813	3815	56.17	12.00	130.00	-127.71	0.36	0.00	0.06	Open	0
2093		3817	3815	J58	287.32	12.00	130.00	-286.68	0.81	0.07	0.25	Open	0
2094		3819	3805	3818	774.49	8.00	130.00	140.95	0.90	0.38	0.48	Open	0
2095		3822	3815	3821	559.69	8.00	130.00	152.66	0.97	0.31	0.56	Open	0
2096		3824	3821	3823	679.56	8.00	130.00	48.78	0.31	0.05	0.07	Open	0
2097		3826	3825	3797	295.28	8.00	130.00	26.17	0.17	0.01	0.02	Open	0
2098		3827	J46	3831	114.89	8.00	130.00	139.19	0.89	0.05	0.47	Open	0
2099		3829	J12	3828	506.21	8.00	130.00	77.10	0.49	0.08	0.16	Open	0
2100		3830	3828	3818	814.79	8.00	130.00	70.79	0.45	0.11	0.14	Open	0

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2101		3832	3825	3831	410.60	8.00	130.00	-32.48	0.21	0.01	0.03	Open	0
2102		3835	3818	J44	169.13	8.00	130.00	205.42	1.31	0.16	0.97	Open	0
2103		3836	3834	3799	427.61	12.00	130.00	259.63	0.74	0.09	0.21	Open	0
2104		3837	3831	3834	282.99	8.00	130.00	100.40	0.64	0.07	0.26	Open	0
2105		3838	3823	J52	242.32	8.00	130.00	77.15	0.49	0.04	0.16	Open	0
2106		3840	3797	J52	412.10	8.00	130.00	-70.61	0.45	0.06	0.13	Open	0
2107		3841	3839	3802	461.81	8.00	130.00	91.48	0.58	0.10	0.22	Open	0
2108		3842	3821	3839	345.11	8.00	130.00	97.56	0.62	0.08	0.25	Open	0
2109		3844	3843	3813	250.91	8.00	130.00	68.25	0.44	0.03	0.13	Open	0
2110		3845	3843	J58	291.01	8.00	130.00	-74.56	0.48	0.04	0.15	Open	0
2111		3847	483	3846	499.30	12.00	130.00	475.85	1.35	0.32	0.64	Open	0
2112		3849	3846	3856	757.31	12.00	130.00	110.87	0.31	0.03	0.04	Open	0
2113		3851	3848	3850	632.62	12.00	130.00	68.49	0.19	0.01	0.02	Open	0
2114		3852	3850	1023	387.17	12.00	130.00	79.31	0.22	0.01	0.02	Open	0
2115		3854	3848	3853	612.01	6.00	130.00	8.74	0.10	0.01	0.01	Open	0
2116		3855	3853	3850	427.52	8.00	130.00	17.13	0.11	0.00	0.01	Open	0
2117		3857	3848	3856	219.14	12.00	130.00	-83.54	0.24	0.01	0.03	Open	0
2118		3859	3856	3858	767.08	8.00	130.00	21.01	0.13	0.01	0.01	Open	0
2119		3860	3858	3853	222.56	8.00	130.00	14.70	0.09	0.00	0.01	Open	0
2120		3861	1023	1203	1,063.31	8.00	130.00	207.18	1.32	1.05	0.99	Open	0
2121		3863	1203	3862	253.60	6.00	130.00	6.31	0.07	0.00	0.01	Open	0
2122		3865	196	3864	375.10	6.00	130.00	6.31	0.07	0.00	0.01	Open	0
2123		3869	196	3866	395.53	8.00	130.00	4.47	0.03	0.00	0.00	Open	0
2124		3871	196	3870	482.48	12.00	130.00	10.29	0.03	0.00	0.00	Open	0
2125		3872	3870	484	183.81	12.00	130.00	2.14	0.01	0.00	0.00	Open	0
2126		3873	3866	3870	431.54	8.00	130.00	-1.84	0.01	0.00	0.00	Open	0
2127		3875	271	3874	315.77	6.00	130.00	6.31	0.07	0.00	0.01	Open	0
2128		3877	271	3876	659.60	18.00	130.00	580.91	0.73	0.08	0.13	Open	0
2129		3878	3876	272	340.37	18.00	130.00	568.29	0.72	0.04	0.12	Open	0
2130		3880	3876	3879	656.58	8.00	130.00	6.31	0.04	0.00	0.00	Open	0
2131		3881	J138	1054	886.42	8.00	130.00	-6.31	0.04	0.00	0.00	Open	0
2132		3883	504	3882	233.92	12.00	130.00	12.62	0.04	0.00	0.00	Open	0
2133		3885	3882	3884	287.26	12.00	130.00	6.31	0.02	0.00	0.00	Open	0
2134		3887	267	3886	712.01	18.00	130.00	967.22	1.22	0.24	0.33	Open	0
2135		3888	3886	268	478.33	18.00	130.00	918.77	1.16	0.14	0.30	Open	0

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		ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	HL/1000 (ft/kft)	Status	Flow Reversal Count
2136		3889	504	3886	680.67	6.00	130.00	-42.13	0.48	0.14	0.21	Open	0
2137		3893	506	3892	358.88	12.00	130.00	79.04	0.22	0.01	0.02	Open	0
2138		3894	3892	507	855.28	12.00	130.00	50.05	0.14	0.01	0.01	Open	0
2139		3898	505	3897	206.94	10.00	130.00	84.23	0.34	0.01	0.06	Open	0
2140		3899	3897	569	672.41	10.00	130.00	77.92	0.32	0.04	0.05	Open	0
2141		3901	506	3900	253.01	8.00	130.00	36.90	0.24	0.01	0.04	Open	0
2142		3902	3900	570	604.23	8.00	130.00	30.58	0.20	0.02	0.03	Open	0
2143		3905	3904	3912	148.38	8.00	130.00	16.37	0.10	0.00	0.01	Open	0
2144		3906	3904	3892	931.68	8.00	130.00	-22.68	0.14	0.02	0.02	Open	0
2145		3910	3908	507	377.27	8.00	130.00	-22.33	0.14	0.01	0.02	Open	0
2146		3913	571	3912	312.31	8.00	130.00	-15.50	0.10	0.00	0.01	Open	0
2147		3914	3912	1057	545.22	8.00	130.00	-5.45	0.03	0.00	0.00	Open	0
2148		3939	3936	3938	204.79	8.00	130.00	6.31	0.04	0.00	0.00	Open	0
2149		3941	3936	3940	500.11	8.00	130.00	39.50	0.25	0.02	0.05	Open	0
2150		3943	3940	3942	286.51	6.00	130.00	6.31	0.07	0.00	0.01	Open	0
2151		3995	3936	3994	234.90	8.00	130.00	-52.12	0.33	0.02	0.08	Open	0
2152		3997	3994	3996	486.36	8.00	130.00	59.68	0.38	0.05	0.10	Open	0
2153		3998	3996	3940	309.45	8.00	130.00	-26.88	0.17	0.01	0.02	Open	0
2154		4000	3996	3999	328.29	6.00	130.00	6.31	0.07	0.00	0.01	Open	0
2155		4005	4003	3996	824.38	8.00	130.00	-73.94	0.47	0.12	0.15	Open	0
2156		4018	312	4003	292.58	18.00	130.00	-1,783.12	2.25	0.30	1.03	Open	0
2157		4020	J134	4003	621.66	18.00	130.00	1,554.29	1.96	0.49	0.80	Open	0
2158		4021	4019	J134	174.47	18.00	130.00	1,678.71	2.12	0.16	0.92	Open	0
2159		4023	4019	4022	365.43	8.00	130.00	-82.87	0.53	0.07	0.18	Open	0
2160		4025	4024	4022	615.67	8.00	130.00	95.49	0.61	0.15	0.24	Open	0
2161		4027	4026	4024	506.12	8.00	130.00	101.80	0.65	0.13	0.27	Open	0
2162		4029	4028	4026	842.94	8.00	130.00	108.11	0.69	0.25	0.30	Open	0
2163		4030	4028	4019	756.72	18.00	130.00	1,545.35	1.95	0.60	0.79	Open	0
2164		4032	4022	4031	324.43	6.00	130.00	6.31	0.07	0.00	0.01	Open	0
2165		4035	4003	4034	659.85	8.00	130.00	-161.20	1.03	0.41	0.62	Open	0
2166		4037	4034	4036	399.23	8.00	130.00	6.31	0.04	0.00	0.00	Open	0
2167		4039	4019	4038	817.63	8.00	130.00	-56.81	0.36	0.07	0.09	Open	0
2168		4040	4038	4034	445.20	8.00	130.00	173.82	1.11	0.32	0.72	Open	0
2169		4042	4038	4041	599.79	8.00	130.00	-236.94	1.51	0.76	1.27	Open	0
2170		4044	4041	4043	293.92	8.00	130.00	-84.59	0.54	0.06	0.19	Open	0

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		ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	HL/1000 (ft/kft)	Status	Flow Reversal Count
2171		4045	4043	4028	327.40	18.00	130.00	1,659.77	2.09	0.29	0.90	Open	0
2172		4047	4041	4046	512.45	8.00	130.00	6.31	0.04	0.00	0.00	Open	0
2173		4049	4048	4041	1,167.94	8.00	130.00	164.97	1.05	0.76	0.65	Open	0
2174		4051	4050	4081	655.21	8.00	130.00	-196.52	1.25	0.59	0.90	Open	0
2175		4053	4043	4052	336.34	8.00	130.00	-93.41	0.60	0.08	0.23	Open	0
2176		4055	4054	4052	1,184.79	8.00	130.00	106.03	0.68	0.34	0.29	Open	0
2177		4057	4056	4054	646.86	8.00	130.00	112.34	0.72	0.21	0.32	Open	0
2178		4058	4056	4043	693.17	18.00	130.00	1,657.26	2.09	0.62	0.90	Open	0
2179		4060	4052	4059	463.25	6.00	130.00	6.31	0.07	0.00	0.01	Open	0
2180		4061	1017	4056	541.75	18.00	130.00	1,775.91	2.24	0.55	1.02	Open	0
2181		4063	294	4062	215.01	8.00	130.00	12.62	0.08	0.00	0.01	Open	0
2182		4065	1017	4064	682.61	8.00	130.00	-32.54	0.21	0.02	0.03	Open	0
2183		4067	4064	4066	375.84	8.00	130.00	-38.85	0.25	0.02	0.04	Open	0
2184		4069	4068	4066	308.84	8.00	130.00	45.16	0.29	0.02	0.06	Open	0
2185		4071	4068	4070	211.96	8.00	130.00	-57.79	0.37	0.02	0.09	Open	0
2186		4073	4070	4072	366.23	6.00	130.00	6.31	0.07	0.00	0.01	Open	0
2187		4074	4070	1017	800.19	8.00	130.00	58.69	0.37	0.08	0.10	Open	0
2188		4076	4068	4075	140.84	6.00	130.00	6.31	0.07	0.00	0.01	Open	0
2189		4078	4077	4070	628.46	8.00	130.00	129.10	0.82	0.26	0.41	Open	0
2190		4079	4077	202	665.71	8.00	130.00	-150.83	0.96	0.37	0.55	Open	0
2191		4080	4077	294	392.17	8.00	130.00	15.43	0.10	0.00	0.01	Open	0
2192		4083	4081	295	1,027.32	8.00	130.00	-93.53	0.60	0.23	0.23	Open	0
2193		4084	296	4081	812.82	8.00	130.00	109.30	0.70	0.25	0.30	Open	0
2194		4086	4050	4085	177.08	8.00	130.00	18.93	0.12	0.00	0.01	Open	0
2195		4088	4085	4087	329.93	8.00	130.00	6.31	0.04	0.00	0.00	Open	0
2196		4090	4085	4089	234.87	8.00	130.00	6.31	0.04	0.00	0.00	Open	0
2197		4092	1260	4091	1,179.35	6.00	130.00	54.81	0.62	0.40	0.34	Open	0
2198		4093	4091	1259	659.09	6.00	130.00	-77.38	0.88	0.43	0.65	Open	0
2199		4095	4091	207	456.30	8.00	130.00	161.76	1.03	0.29	0.63	Open	0
2200		4097	1260	4096	299.43	6.00	130.00	48.50	0.55	0.08	0.27	Open	0
2201		4099	4096	4098	740.01	6.00	130.00	42.19	0.48	0.16	0.21	Open	0
2202		4101	4098	4091	1,062.41	6.00	130.00	35.88	0.41	0.17	0.16	Open	0
2203		4105	J130	J132	679.66	8.00	130.00	30.55	0.20	0.02	0.03	Open	0
2204		4111	4110	312	156.33	24.00	130.00	-3,055.36	2.17	0.11	0.68	Open	0
2205		4115	3718	3716	207.94	6.00	130.00	-78.96	0.90	0.14	0.67	Open	0

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2206		4171_D	4171	4171-B	0.29	99.00	150.00	5,056.98	0.21	0.00	0.00	Open	0
2207		4171_U	4171-A	4171	0.24	99.00	150.00	5,056.98	0.21	0.00	0.00	Open	0
2208		4172	1540	4171-A	315.50	24.00	130.00	5,056.98	3.59	0.55	1.74	Open	0
2209		4280_D	4280	4280-B	0.21	99.00	150.00	8,670.52	0.36	0.00	0.00	Open	0
2210		4280_U	4280-A	4280	0.22	99.00	150.00	8,670.52	0.36	0.00	0.00	Open	0
2211		4281	4277	4280-A	257.18	24.00	130.00	8,670.52	6.15	1.22	4.73	Open	0
2212		4282	4280-B	1540	280.07	24.00	130.00	8,670.52	6.15	1.32	4.73	Open	0
2213		4284_D	4284	4284-B	1.03	99.00	150.00	0.00	0.00	0.00	0.00	Open	0
2214		4284_U	4284-A	4284	1.25	99.00	150.00	0.00	0.00	0.00	0.00	Open	0
2215		4285	4283	4284-A	195.91	24.00	130.00	0.00	0.00	0.00	0.00	Open	0
2216		4286	4284-B	1539	194.84	24.00	130.00	0.00	0.00	0.00	0.00	Open	0
2217		4344	1543-B	160	153.79	12.00	130.00	2,415.92	6.85	2.00	12.98	Open	0
2218		4345	1544-B	160	137.87	12.00	130.00	2,421.42	6.87	1.80	13.04	Open	0
2219		4346	1545-B	160	151.95	16.00	130.00	-6.31	0.01	0.00	0.00	Open	0
2220		4347	1546-B	142	234.97	14.00	130.00	-6.31	0.01	0.00	0.00	Open	0
2221		4348	1547-B	142	174.64	14.00	130.00	2,442.28	5.09	1.09	6.25	Open	0
2222		4349	1548-B	142	179.86	14.00	130.00	4,921.11	10.26	4.12	22.88	Open	0
2223		4350	1549-B	1418	171.85	24.00	130.00	-6.31	0.00	0.00	0.00	Open	0
2224		4351	1550-B	1418	272.97	24.00	130.00	-6.31	0.00	0.00	0.00	Open	0
2225		4352	4171-B	1418	318.87	24.00	130.00	5,050.67	3.58	0.55	1.74	Open	0
2226		P101	J86	774	642.02	8.00	130.00	-79.09	0.50	0.11	0.17	Open	0
2227		P103	J86	J84	1,419.78	8.00	130.00	193.18	1.23	1.23	0.87	Open	0
2228		P105	J88	1381	1,321.27	6.00	130.00	-101.80	1.16	1.42	1.08	Open	0
2229		P107	J88	1382	335.51	6.00	130.00	-19.58	0.22	0.02	0.05	Open	0
2230		P109	J90	1286	180.24	6.00	130.00	-0.67	0.01	0.00	0.00	Open	0
2231		P11	J10	3788	129.77	8.00	130.00	66.85	0.43	0.02	0.12	Open	0
2232		P113	J92	849	66.06	8.00	130.00	-489.00	3.12	0.32	4.86	Open	0
2233		P115	J94	3676	298.52	8.00	130.00	92.94	0.59	0.07	0.22	Open	0
2234		P117	3676	3673	632.15	8.00	130.00	54.05	0.34	0.05	0.08	Open	0
2235		P119	J96	3593	1,178.97	8.00	130.00	-6.31	0.04	0.00	0.00	Open	0
2236		P121	J98	3613	305.60	6.00	130.00	2.86	0.03	0.00	0.00	Open	0
2237		P123	J100	553	239.89	8.00	130.00	-31.55	0.20	0.01	0.03	Open	0
2238		P125	J100	J98	378.01	8.00	130.00	9.17	0.06	0.00	0.00	Open	0
2239		P127	J102	740	347.49	8.00	130.00	37.58	0.24	0.01	0.04	Open	0
2240		P129	J104	3629	198.96	6.00	130.00	6.31	0.07	0.00	0.01	Open	0

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2241		P13	J12	3805	318.91	12.00	130.00	-450.95	1.28	0.18	0.58	Open	0
2242		P131	J106	179	669.62	6.00	130.00	-44.41	0.50	0.15	0.22	Open	0
2243		P133	J108	684	1,397.91	8.00	130.00	165.18	1.05	0.91	0.65	Open	0
2244		P135	J108	693	965.26	6.00	130.00	-86.88	0.99	0.78	0.80	Open	0
2245		P137	J110	710	974.75	8.00	130.00	6.31	0.04	0.00	0.00	Open	0
2246		P139	J112	711	495.04	8.00	130.00	-17.82	0.11	0.01	0.01	Open	0
2247		P141	J110	J112	696.40	8.00	130.00	-8.11	0.05	0.00	0.00	Open	0
2248		P143	J114	565	1,076.61	10.00	130.00	-270.40	1.10	0.59	0.55	Open	0
2249		P145	716	J118	771.53	6.00	130.00	69.49	0.79	0.41	0.53	Open	0
2250		P147	J118	J114	776.61	8.00	130.00	63.18	0.40	0.09	0.11	Open	0
2251		P149	567	568	909.96	6.00	130.00	-30.70	0.35	0.11	0.12	Open	0
2252		P15	J14	405	2,388.07	16.00	130.00	100.49	0.16	0.02	0.01	Open	0
2253		P151	J120	1502	188.02	6.00	130.00	67.40	0.76	0.09	0.50	Open	0
2254		P153	J120	241	447.33	6.00	130.00	26.21	0.30	0.04	0.09	Open	0
2255		P155	J124	261	487.29	18.00	130.00	2,635.13	3.32	1.03	2.12	Open	0
2256		P157	J124	J122	364.61	8.00	130.00	356.79	2.28	0.99	2.71	Open	0
2257		P159	J122	273	345.71	8.00	130.00	178.88	1.14	0.26	0.75	Open	0
2258		P161	J122	1123	1,863.10	8.00	130.00	171.60	1.10	1.30	0.70	Open	0
2259		P163	4062	J126	323.36	6.00	130.00	6.31	0.07	0.00	0.01	Open	0
2260		P165	J130	205	252.04	24.00	130.00	-1,796.48	1.27	0.06	0.26	Open	0
2261		P167	J132	1212	384.41	6.00	130.00	32.44	0.37	0.05	0.13	Open	0
2262		P169	4050	4048	409.72	8.00	130.00	171.28	1.09	0.29	0.70	Open	0
2263		P171	J134	3994	931.82	8.00	130.00	118.11	0.75	0.33	0.35	Open	0
2264		P173	J136	1008	405.83	8.00	130.00	6.63	0.04	0.00	0.00	Open	0
2265		P175	1176	J136	656.93	6.00	130.00	-10.69	0.12	0.01	0.02	Open	0
2266		P177	3908	1057	177.18	8.00	130.00	16.02	0.10	0.00	0.01	Open	0
2267		P179	J140	186	1,456.57	24.00	130.00	-2,218.59	1.57	0.55	0.38	Open	0
2268		P181	J142	J140	278.58	24.00	130.00	-2,150.35	1.53	0.10	0.36	Open	0
2269		P183	J140	3681	472.84	8.00	130.00	61.94	0.40	0.05	0.11	Open	0
2270		P185	J144	806	330.46	6.00	130.00	13.25	0.15	0.01	0.02	Open	0
2271		P187	J146	415	213.91	6.00	130.00	-61.22	0.69	0.09	0.42	Open	0
2272		P189	J148	J146	885.06	6.00	130.00	-28.69	0.33	0.09	0.10	Open	0
2273		P19	J18	3771	137.91	8.00	130.00	31.55	0.20	0.00	0.03	Open	0
2274		P191	J146	J148	1,045.23	6.00	130.00	26.22	0.30	0.09	0.09	Open	0
2275		P193	1363	J150	1,078.25	6.00	130.00	71.84	0.82	0.61	0.57	Open	0

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		ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	HL/1000 (ft/kft)	Status	Flow Reversal Count
2276		P195	802	148	1,783.53	8.00	130.00	25.61	0.16	0.04	0.02	Open	0
2277		P197	J152	1410	1,230.07	6.00	130.00	97.02	1.10	1.21	0.99	Open	0
2278		P199	J154	J156	1,046.90	6.00	130.00	-24.82	0.28	0.08	0.08	Open	0
2279		P201	J156	1459	790.09	6.00	130.00	-77.83	0.88	0.52	0.66	Open	0
2280		P203	J152	1525	342.68	6.00	130.00	135.98	1.54	0.63	1.84	Open	0
2281		P205	1525	1523	348.81	6.00	130.00	46.03	0.52	0.09	0.25	Open	0
2282		P207	J156	J158	1,104.99	6.00	130.00	46.69	0.53	0.28	0.25	Open	0
2283		P209	J158	J152	453.47	6.00	130.00	92.09	1.04	0.41	0.90	Open	0
2284		P211	J154	J158	645.74	6.00	130.00	51.71	0.59	0.20	0.31	Open	0
2285		P213	J42	401	231.35	16.00	130.00	1,318.01	2.10	0.24	1.04	Open	0
2286		P215	941	J32	406.31	8.00	130.00	-81.45	0.52	0.07	0.18	Open	0
2287		P217	T5000	225	523.14	24.00	130.00	-4,966.00	3.52	0.88	1.68	Open	0
2288		P221	3846	3752	1,950.76	12.00	100.00	358.67	1.02	1.20	0.62	Open	0
2289		P23	J20	J22	251.19	8.00	130.00	-6.31	0.04	0.00	0.00	Open	0
2290		P25	J14	J16	1,237.67	8.00	130.00	6.31	0.04	0.00	0.00	Open	0
2291		P29	J22	3771	240.44	8.00	130.00	-18.42	0.12	0.00	0.01	Open	0
2292		P31	3768	J18	299.43	8.00	130.00	19.98	0.13	0.00	0.01	Open	0
2293		P35	J26	3778	213.21	18.00	130.00	-787.44	0.99	0.05	0.23	Open	0
2294		P37	J28	J26	21.47	18.00	130.00	-774.82	0.98	0.00	0.22	Open	0
2295		P41	J34	404	188.72	16.00	130.00	-287.99	0.46	0.01	0.06	Open	0
2296		P43	986	316	366.73	8.00	130.00	8.51	0.05	0.00	0.00	Open	0
2297		P45	J38	333	811.11	18.00	130.00	-38.49	0.05	0.00	0.00	Open	0
2298		P49	J44	J46	924.60	8.00	130.00	75.62	0.48	0.14	0.15	Open	0
2299		P51	J46	J48	373.71	8.00	130.00	-69.88	0.45	0.05	0.13	Open	0
2300		P53	J48	J44	242.64	8.00	130.00	-123.49	0.79	0.09	0.38	Open	0
2301		P55	J34	J50	883.00	8.00	130.00	6.31	0.04	0.00	0.00	Open	0
2302		P57	J52	3839	664.12	8.00	130.00	0.22	0.00	0.00	0.00	Open	0
2303		P59	3823	J54	121.47	8.00	130.00	-34.68	0.22	0.00	0.04	Open	0
2304		P61	J54	J56	319.61	8.00	130.00	-25.36	0.16	0.01	0.02	Open	0
2305		P63	J56	J54	782.89	8.00	130.00	15.63	0.10	0.01	0.01	Open	0
2306		P65	J48	J56	287.03	8.00	130.00	47.30	0.30	0.02	0.06	Open	0
2307		P67	J58	J12	110.81	12.00	130.00	-367.54	1.04	0.04	0.40	Open	0
2308		P69	J60	476	154.62	12.00	130.00	273.20	0.77	0.04	0.23	Open	0
2309		P71	J62	912	691.17	8.00	130.00	-88.43	0.56	0.14	0.20	Open	0
2310		P73	624	J64	200.19	10.00	130.00	6.31	0.03	0.00	0.00	Open	0

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		ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	HL/1000 (ft/kft)	Status	Flow Reversal Count
2311		P75	J66	621	418.93	10.00	130.00	-788.91	3.22	1.66	3.97	Open	0
2312		P77	J70	1308	375.51	6.00	130.00	42.10	0.48	0.08	0.21	Open	0
2313		P79	J70	J68	524.51	6.00	130.00	57.02	0.65	0.19	0.37	Open	0
2314		P81	899	J68	851.47	8.00	130.00	69.82	0.45	0.11	0.13	Open	0
2315		P83	J72	395	222.10	16.00	130.00	1,386.78	2.21	0.25	1.14	Open	0
2316		P85	J74	3702	211.19	16.00	130.00	-493.67	0.79	0.04	0.17	Open	0
2317		P87	J72	J76	851.67	8.00	130.00	-129.06	0.82	0.35	0.41	Open	0
2318		P89	J76	J74	716.53	10.00	130.00	-135.37	0.55	0.11	0.15	Open	0
2319		P91	J78	612	140.18	10.00	130.00	352.00	1.44	0.12	0.89	Open	0
2320		P93	J80	881	156.40	8.00	130.00	-100.87	0.64	0.04	0.26	Open	0
2321		P95	J82	882	390.46	6.00	130.00	-36.28	0.41	0.06	0.16	Open	0
2322		P97	J80	J82	335.07	6.00	130.00	22.69	0.26	0.02	0.07	Open	0
2323		P99	J84	391	863.13	16.00	130.00	986.92	1.57	0.53	0.61	Open	0

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APPENDIX B:

JUNCTION MODEL DATA

Coon Rapids, MN 2014 Water Distribution Model Data

		ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1		1000	6.31	865.55	1,048.41	79.08
2		1001	6.31	872.90	1,048.43	75.91
3		1002	6.31	871.58	1,048.45	76.48
4		1003	6.31	889.39	1,047.19	68.24
5		1004	6.31	901.61	1,047.18	62.95
6		1005	6.31	888.94	1,047.18	68.43
7		1006	6.31	888.00	1,047.11	68.81
8		1007	6.31	889.53	1,047.10	68.14
9		1008	6.31	898.00	1,047.09	64.47
10		1009	6.31	896.30	1,047.09	65.21
11		1010	6.31	899.59	1,047.09	63.78
12		1011	6.31	903.25	1,047.08	62.20
13		1012	6.31	883.57	1,047.57	70.92
14		1013	6.31	882.00	1,047.48	71.56
15		1014	6.31	886.71	1,047.43	69.50
16		1015	6.31	884.71	1,047.41	70.36
17		1016	6.31	888.21	1,047.41	68.84
18		1017	6.31	896.29	1,049.43	66.22
19		1018	6.31	896.00	1,050.13	66.65
20		1019	6.31	864.15	1,052.26	81.35
21		1020	6.31	875.36	1,052.33	76.53
22		1021	6.31	864.03	1,052.49	81.50
23		1022	6.31	865.45	1,052.49	80.88
24		1023	6.31	865.44	1,051.82	80.60
25		1024	6.31	862.58	1,052.20	82.00
26		1025	6.31	860.03	1,052.45	83.21
27		1026	6.31	861.63	1,052.63	82.60
28		1027	6.31	863.83	1,052.72	81.68
29		1028	6.31	862.11	1,052.78	82.45
30		1029	6.31	863.65	1,052.87	81.83
31		1030	6.31	863.92	1,052.93	81.74
32		1031	6.31	859.39	1,053.09	83.76
33		1032	6.31	861.84	1,053.04	82.68
34		1033	6.31	863.95	1,052.93	81.72
35		1034	6.31	858.78	1,052.66	83.84
36		1035	6.31	860.18	1,052.66	83.24
37		1036	6.31	862.61	1,053.33	82.47
38		1037	6.31	863.96	1,053.33	81.89
39		1038	6.31	864.74	1,053.96	81.82
40		1039	6.31	862.00	1,053.97	83.02
41		1040	6.31	860.84	1,053.98	83.52
42		1041	6.31	863.41	1,054.05	82.44
43		1042	6.31	866.59	1,054.00	81.04
44		1043	6.31	877.88	1,053.99	76.16
45		1044	6.31	876.70	1,054.03	76.68
46		1045	6.31	877.31	1,054.09	76.44
47		1046	6.31	877.72	1,054.17	76.30
48		1047	6.31	874.00	1,054.93	78.24
49		1048	6.31	877.30	1,055.12	76.89
50		1049	6.31	876.00	1,055.18	77.48

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		ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
51		1050	6.31	872.00	1,055.18	79.21
52		1051	6.31	872.56	1,055.23	78.99
53		1052	6.31	860.04	1,054.39	84.04
54		1053	6.31	860.00	1,054.31	84.03
55		1054	6.31	870.52	1,055.94	80.18
56		1055	6.31	872.00	1,055.15	79.20
57		1056	6.31	862.07	1,056.17	83.93
58		1057	6.31	870.03	1,056.17	80.49
59		1058	6.31	867.39	1,056.17	81.64
60		1059	6.31	864.73	1,056.17	82.79
61		1060	6.31	877.64	1,054.00	76.26
62		1061	6.31	901.99	1,053.93	65.70
63		1062	6.31	899.82	1,053.93	66.64
64		1063	6.31	901.88	1,053.93	65.75
65		1064	6.31	897.88	1,053.94	67.49
66		1065	6.31	900.85	1,053.92	66.19
67		1066	6.31	900.62	1,053.88	66.28
68		1067	6.31	898.80	1,053.15	66.74
69		1068	6.31	902.47	1,053.15	65.16
70		1069	6.31	904.58	1,053.16	64.25
71		1070	6.31	896.21	1,053.35	67.95
72		1071	6.31	890.00	1,053.41	70.66
73		1072	6.31	890.71	1,054.49	70.83
74		1073	6.31	882.30	1,054.64	74.53
75		1074	6.31	878.04	1,055.55	76.76
76		1075	6.31	879.92	1,055.55	75.95
77		1076	6.31	877.33	1,055.85	77.20
78		1077	6.31	886.14	1,055.98	73.44
79		1078	6.31	893.47	1,056.05	70.30
80		1079	6.31	891.78	1,056.05	71.04
81		1080	6.31	893.88	1,056.01	70.11
82		1081	6.31	892.04	1,054.50	70.25
83		1082	6.31	898.00	1,054.50	67.68
84		1083	6.31	900.06	1,054.52	66.79
85		1084	6.31	902.17	1,054.33	65.80
86		1085	6.31	905.07	1,054.30	64.53
87		1086	6.31	903.98	1,054.30	65.00
88		1087	6.31	900.63	1,054.03	66.34
89		1088	6.31	900.45	1,054.03	66.41
90		1089	6.31	901.22	1,054.04	66.08
91		1090	6.31	910.35	1,054.04	62.14
92		1091	6.31	895.58	1,054.63	68.78
93		1092	6.31	893.95	1,054.65	69.49
94		1093	6.31	895.69	1,054.68	68.75
95		1094	6.31	899.89	1,054.72	66.96
96		1095	6.31	895.91	1,054.92	68.76
97		1096	6.31	892.89	1,055.00	70.11
98		1097	6.31	890.38	1,055.21	71.28
99		1098	6.31	891.97	1,055.21	70.59
100		1099	6.31	893.96	1,055.21	69.73

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		ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
101		1100	6.31	895.84	1,054.31	68.53
102		1101	6.31	908.02	1,054.42	63.30
103		1102	6.31	903.68	1,054.54	65.24
104		1103	6.31	905.99	1,054.56	64.25
105		1104	6.31	904.46	1,054.51	64.88
106		1105	6.31	901.61	1,054.47	66.10
107		1106	6.31	899.78	1,054.33	66.83
108		1107	6.31	901.53	1,054.33	66.07
109		1108	6.31	893.92	1,054.33	69.37
110		1109	6.31	897.81	1,054.33	67.68
111		1110	6.31	895.36	1,054.33	68.75
112		1111	6.31	902.97	1,054.32	65.45
113		1112	6.31	891.97	1,056.12	70.98
114		1113	6.31	890.01	1,056.42	71.96
115		1114	6.31	895.26	1,057.00	69.94
116		1115	6.31	893.69	1,056.95	70.60
117		1116	6.31	894.81	1,056.95	70.11
118		1117	6.31	895.97	1,056.97	69.62
119		1118	6.31	897.08	1,057.21	69.25
120		1119	6.31	893.55	1,056.69	70.55
121		1120	6.31	889.89	1,056.43	72.01
122		1121	6.31	881.72	1,056.45	75.56
123		1122	6.31	887.93	1,055.72	72.56
124		1123	6.31	899.50	1,057.10	68.15
125		1124	6.31	893.60	1,057.83	71.02
126		1125	6.31	888.19	1,057.85	73.37
127		1126	6.31	891.15	1,057.85	72.09
128		1127	6.31	887.72	1,057.88	73.58
129		1128	6.31	887.98	1,057.88	73.47
130		1129	6.31	909.12	1,058.06	64.40
131		1130	6.31	905.71	1,059.44	66.48
132		1131	6.31	903.73	1,059.11	67.19
133		1132	6.31	910.08	1,058.92	64.36
134		1133	6.31	901.98	1,059.23	68.00
135		1134	6.31	905.96	1,058.88	66.13
136		1135	6.31	893.93	1,059.63	71.65
137		1136	6.31	892.00	1,059.69	72.51
138		1137	6.31	887.83	1,060.12	74.51
139		1138	6.31	876.20	1,062.10	80.39
140		1139	6.31	877.27	1,063.11	80.36
141		1140	6.31	889.38	1,065.37	76.10
142		1141	6.31	875.61	1,049.34	75.13
143		1142	6.31	875.45	1,049.33	75.19
144		1143	6.31	878.40	1,049.33	73.92
145		1144	6.31	875.42	1,049.34	75.21
146		1145	6.31	874.36	1,049.36	75.67
147		1146	6.31	871.72	1,049.35	76.81
148		1147	6.31	876.02	1,049.45	75.00
149		1148	6.31	874.72	1,049.36	75.52
150		1149	6.31	878.02	1,049.45	74.13

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		ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
151		1150	6.31	875.79	1,048.61	74.73
152		1151	6.31	873.99	1,048.61	75.51
153		1152	6.31	869.89	1,048.61	77.28
154		1153	6.31	875.93	1,048.62	74.67
155		1154	6.31	869.52	1,048.61	77.44
156		1155	6.31	867.53	1,048.61	78.30
157		1156	6.31	866.09	1,048.61	78.93
158		1157	6.31	873.79	1,048.61	75.60
159		1158	6.31	868.14	1,048.55	78.01
160		1159	6.31	875.37	1,048.41	74.83
161		1160	6.31	874.00	1,048.41	75.42
162		1161	6.31	877.41	1,048.40	73.94
163		1162	6.31	874.27	1,048.30	75.25
164		1163	6.31	881.37	1,048.36	72.21
165		1164	6.31	882.24	1,048.36	71.84
166		1165	6.31	883.36	1,048.38	71.36
167		1166	6.31	879.76	1,048.36	72.91
168		1167	6.31	882.61	1,048.36	71.68
169		1168	6.31	887.48	1,048.40	69.59
170		1169	6.31	882.80	1,048.26	71.55
171		1170	6.31	882.56	1,048.25	71.65
172		1171	6.31	881.76	1,048.26	72.00
173		1172	6.31	887.21	1,047.33	69.24
174		1173	6.31	887.91	1,047.42	68.98
175		1174	6.31	890.65	1,047.09	67.65
176		1175	6.31	896.47	1,047.09	65.13
177		1176	6.31	905.96	1,047.08	61.02
178		1177	6.31	890.83	1,047.57	67.78
179		1178	6.31	889.88	1,047.58	68.20
180		1179	6.31	882.38	1,047.99	71.62
181		1180	6.31	885.67	1,048.15	70.26
182		1181	6.31	902.36	1,048.14	63.04
183		1182	6.31	881.46	1,048.16	72.08
184		1183	6.31	903.71	1,048.15	62.46
185		1184	6.31	880.67	1,048.50	72.57
186		1185	6.31	885.01	1,048.37	70.64
187		1186	6.31	896.58	1,048.43	65.66
188		1187	6.31	896.00	1,048.43	65.92
189		1188	6.31	892.84	1,048.53	67.33
190		1189	6.31	885.14	1,048.55	70.66
191		1190	6.31	883.38	1,048.58	71.44
192		1191	6.31	889.92	1,048.67	68.65
193		1192	6.31	893.44	1,048.70	67.14
194		1193	6.31	889.14	1,048.59	68.95
195		1194	6.31	877.02	1,049.11	74.42
196		1195	6.31	881.51	1,048.52	72.22
197		1196	6.31	887.68	1,048.49	69.54
198		1197	6.31	890.47	1,048.40	68.29
199		1198	6.31	891.92	1,048.41	67.67
200		1199	6.31	887.76	1,048.44	69.48

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		ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
201		1200	6.31	887.46	1,048.47	69.63
202		1201	6.31	883.99	1,048.56	71.17
203		1202	6.31	874.93	1,049.63	75.55
204		1203	6.31	875.84	1,050.77	75.64
205		1204	6.31	881.59	1,049.27	72.51
206		1205	6.31	880.00	1,048.40	72.82
207		1206	6.31	867.46	1,048.44	78.26
208		1207	6.31	865.32	1,048.88	79.38
209		1208	6.31	898.45	1,050.20	65.62
210		1209	6.31	886.47	1,050.28	70.84
211		1210	6.31	891.74	1,050.27	68.55
212		1211	6.31	887.86	1,050.35	70.26
213		1212	6.31	901.20	1,050.22	64.44
214		1213	6.31	897.92	1,053.93	67.46
215		1214	6.31	899.51	1,053.88	66.75
216		1215	6.31	901.13	1,053.86	66.05
217		1216	6.31	896.00	1,053.86	68.26
218		1217	6.31	902.91	1,053.86	65.27
219		1218	6.31	898.60	1,053.86	67.14
220		1219	6.31	896.61	1,053.96	68.04
221		1220	6.31	903.63	1,053.95	65.00
222		1221	6.31	909.14	1,053.94	62.61
223		1222	6.31	905.82	1,053.93	64.05
224		1223	6.31	897.97	1,053.92	67.44
225		1224	6.31	899.83	1,053.92	66.64
226		1225	6.31	898.00	1,053.93	67.43
227		1226	6.31	901.94	1,053.95	65.73
228		1227	6.31	899.18	1,053.84	66.88
229		1228	6.31	904.14	1,053.83	64.73
230		1229	6.31	895.91	1,053.72	68.24
231		1230	6.31	905.68	1,053.58	63.96
232		1231	6.31	895.48	1,053.00	68.12
233		1232	6.31	894.18	1,051.83	68.17
234		1233	6.31	891.59	1,053.60	70.06
235		1234	6.31	885.80	1,053.65	72.58
236		1235	6.31	885.84	1,053.72	72.60
237		1236	6.31	886.00	1,053.76	72.54
238		1237	6.31	878.05	1,053.86	76.03
239		1238	6.31	887.79	1,053.83	71.80
240		1239	6.31	881.62	1,054.06	74.57
241		1240	6.31	877.74	1,054.16	76.29
242		1241	6.31	884.74	1,054.10	73.24
243		1242	6.31	875.97	1,054.02	77.00
244		1243	6.31	879.19	1,054.03	75.60
245		1244	6.31	879.87	1,054.11	75.35
246		1245	6.31	874.01	1,053.71	77.71
247		1246	6.31	870.12	1,053.70	79.39
248		1247	6.31	869.99	1,053.75	79.46
249		1248	6.31	866.96	1,053.90	80.84
250		1249	6.31	867.86	1,053.93	80.46

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		ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
251		1250	6.31	874.84	1,053.64	77.32
252		1251	6.31	877.59	1,053.64	76.13
253		1252	6.31	876.03	1,053.64	76.80
254		1253	6.31	883.88	1,052.61	72.96
255		1254	6.31	888.14	1,052.57	71.11
256		1255	6.31	889.99	1,052.25	70.17
257		1256	6.31	891.12	1,052.08	69.60
258		1257	6.31	893.99	1,051.75	68.22
259		1258	6.31	883.33	1,051.74	72.83
260		1259	6.31	888.74	1,051.19	70.25
261		1260	6.31	891.80	1,051.17	68.92
262		1261	6.31	890.28	1,052.34	70.08
263		1262	6.31	896.02	1,052.46	67.65
264		1263	6.31	879.65	1,052.70	74.83
265		1264	6.31	879.97	1,052.96	74.81
266		1265	6.31	878.21	1,053.16	75.65
267		1266	6.31	878.71	1,053.00	75.37
268		1267	6.31	875.95	1,053.08	76.60
269		1268	6.31	875.78	1,052.62	76.47
270		1269	6.31	887.98	1,052.10	70.97
271		1270	6.31	887.80	1,052.62	71.27
272		1271	6.31	872.40	1,051.49	77.44
273		1272	6.31	861.15	1,054.38	83.56
274		1273	6.31	869.86	1,049.97	77.89
275		1274	6.31	870.62	1,049.95	77.55
276		1275	6.31	873.99	1,049.94	76.08
277		1276	6.31	875.16	1,049.92	75.57
278		1277	6.31	870.95	1,049.93	77.40
279		1278	6.31	869.22	1,049.95	78.15
280		1279	6.31	865.96	1,049.94	79.56
281		1280	6.31	873.02	1,049.95	76.51
282		1281	6.31	871.84	1,049.95	77.02
283		1282	6.31	869.09	1,049.95	78.21
284		1283	6.31	871.93	1,049.96	76.98
285		1284	6.31	871.99	1,049.96	76.96
286		1285	6.31	873.56	1,049.95	76.28
287		1286	6.31	870.00	1,049.95	77.82
288		1287	6.31	867.66	1,050.59	79.10
289		1288	6.31	867.33	1,050.38	79.16
290		1289	6.31	873.96	1,053.93	77.82
291		1290	6.31	875.39	1,053.93	77.21
292		1291	6.31	872.65	1,053.56	78.23
293		1292	6.31	867.61	1,054.99	81.03
294		1293	6.31	869.30	1,054.93	80.28
295		1294	6.31	867.23	1,055.01	81.20
296		1295	6.31	861.37	1,055.09	83.77
297		1296	6.31	867.80	1,054.94	80.92
298		1297	6.31	865.65	1,055.47	82.08
299		1298	6.31	866.84	1,055.12	81.42
300		1299	6.31	871.46	1,055.44	79.56

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		ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
301		1300	6.31	874.00	1,054.29	77.96
302		1301	6.31	876.00	1,054.06	77.00
303		1302	6.31	871.85	1,053.60	78.60
304		1303	6.31	874.79	1,056.50	78.58
305		1304	6.31	875.75	1,056.37	78.11
306		1305	6.31	877.49	1,056.33	77.34
307		1306	6.31	869.93	1,057.42	81.08
308		1307	6.31	854.59	1,057.51	87.75
309		1308	6.31	857.58	1,057.55	86.47
310		1309	6.31	861.94	1,058.60	85.04
311		1310	6.31	862.20	1,058.59	84.93
312		1311	6.31	857.96	1,057.63	86.34
313		1312	6.31	860.00	1,057.62	85.46
314		1313	6.31	858.19	1,057.63	86.24
315		1314	6.31	857.50	1,057.63	86.54
316		1315	6.31	866.45	1,056.72	82.28
317		1316	6.31	863.54	1,056.91	83.62
318		1317	6.31	874.03	1,054.92	78.23
319		1318	6.31	876.35	1,055.52	77.48
320		1319	6.31	875.71	1,055.68	77.82
321		1320	6.31	871.75	1,053.58	78.63
322		1321	6.31	869.30	1,052.98	79.43
323		1322	6.31	870.10	1,052.80	79.00
324		1323	6.31	873.86	1,052.73	77.35
325		1324	6.31	874.00	1,052.68	77.27
326		1325	6.31	869.52	1,052.17	78.98
327		1326	6.31	875.08	1,052.75	76.83
328		1327	6.31	871.83	1,052.76	78.24
329		1328	6.31	870.00	1,051.93	78.67
330		1329	6.31	866.04	1,052.07	80.45
331		1330	6.31	868.91	1,052.19	79.26
332		1331	6.31	869.98	1,052.79	79.05
333		1332	6.31	870.00	1,052.84	79.07
334		1333	6.31	871.54	1,055.23	79.43
335		1334	6.31	868.00	1,056.52	81.52
336		1335	6.31	866.09	1,056.79	82.46
337		1336	6.31	865.89	1,057.50	82.86
338		1337	6.31	868.00	1,056.69	81.60
339		1338	6.31	868.00	1,056.72	81.61
340		1339	6.31	865.41	1,057.69	83.15
341		1340	6.31	867.78	1,054.91	80.92
342		1341	6.31	871.86	1,054.65	79.05
343		1342	6.31	862.24	1,058.46	84.85
344		1343	6.31	865.89	1,058.60	83.34
345		1344	6.31	865.92	1,058.62	83.33
346		1345	6.31	861.21	1,058.73	85.42
347		1346	6.31	863.45	1,058.96	84.54
348		1347	6.31	862.05	1,059.30	85.30
349		1348	6.31	859.85	1,059.49	86.33
350		1349	6.31	869.49	1,054.17	79.86

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		ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
351		1350	6.31	865.91	1,055.56	82.01
352		1351	6.31	867.76	1,055.55	81.21
353		1352	6.31	869.83	1,058.77	81.70
354		1353	6.31	867.70	1,058.77	82.63
355		1354	6.31	865.35	1,059.10	83.78
356		1355	6.31	872.00	1,062.54	82.40
357		1356	6.31	869.77	1,062.18	83.21
358		1357	6.31	869.76	1,062.05	83.15
359		1358	6.31	871.81	1,062.11	82.29
360		1359	6.31	869.96	1,061.18	82.69
361		1360	6.31	869.29	1,061.02	82.91
362		1361	6.31	864.41	1,059.84	84.51
363		1362	6.31	858.56	1,059.65	86.96
364		1363	6.31	863.66	1,060.83	85.26
365		1364	6.31	857.42	1,061.46	88.24
366		1365	6.31	851.70	1,061.50	90.72
367		1366	6.31	849.87	1,061.66	91.58
368		1367	6.31	850.50	1,061.69	91.32
369		1368	6.31	851.94	1,061.89	90.79
370		1369	6.31	853.99	1,062.09	89.99
371		1370	6.31	853.84	1,062.16	90.08
372		1371	6.31	851.97	1,062.33	90.97
373		1372	6.31	851.43	1,062.50	91.28
374		1373	6.31	849.18	1,063.09	92.50
375		1374	6.31	851.65	1,063.15	91.46
376		1375	6.31	854.02	1,063.70	90.67
377		1376	6.31	853.35	1,063.83	91.02
378		1377	6.31	853.35	1,064.03	91.11
379		1378	6.31	853.95	1,064.13	90.89
380		1379	6.31	866.54	1,059.55	83.46
381		1380	6.31	870.11	1,059.24	81.79
382		1381	6.31	865.79	1,064.95	86.13
383		1382	6.31	856.57	1,063.55	89.50
384		1383	6.31	858.01	1,062.96	88.63
385		1384	6.31	855.95	1,063.31	89.67
386		1385	6.31	853.80	1,062.62	90.30
387		1386	6.31	864.25	1,063.16	86.01
388		1387	6.31	853.86	1,063.85	90.81
389		1388	6.31	861.92	1,065.31	87.96
390		1389	6.31	861.54	1,064.51	87.77
391		1390	6.31	867.09	1,057.44	82.32
392		1391	6.31	854.00	1,063.86	90.75
393		1392	6.31	853.99	1,063.75	90.71
394		1393	6.31	855.91	1,053.48	85.44
395		1394	6.31	847.48	1,054.55	89.54
396		1395	6.31	853.60	1,053.93	86.63
397		1396	6.31	853.42	1,053.49	86.52
398		1397	6.31	895.59	1,059.62	70.93
399		1398	6.31	898.78	1,059.49	69.50
400		1399	6.31	889.59	1,059.49	73.47

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		ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
401		1400	6.31	889.49	1,059.31	73.44
402		1401	6.31	895.65	1,059.30	70.77
403		1402	6.31	900.00	1,054.88	66.98
404		1403	6.31	904.43	1,058.61	66.67
405		1404	6.31	899.76	1,057.84	68.36
406		1405	6.31	855.92	1,058.55	87.62
407		1406	6.31	851.72	1,058.52	89.43
408		1407	6.31	834.40	1,049.19	92.88
409		1408	6.31	903.77	1,059.42	67.31
410		1409-A	0.00	903.30	928.44	10.87
411		1410	6.31	894.45	1,060.23	71.69
412		1411	6.31	885.88	1,062.11	76.21
413		1412	6.31	889.64	1,056.42	72.12
414		1413	6.31	888.70	1,056.43	72.53
415		1414	6.31	894.24	1,056.69	70.25
416		1415	6.31	895.90	1,056.38	69.40
417		1416	6.31	898.00	1,057.43	68.94
418		1417	6.31	899.99	1,056.75	67.79
419		1418	6.31	854.22	1,070.08	93.35
420		1419	6.31	859.56	1,058.49	86.03
421		142	6.31	868.20	1,069.93	87.23
422		1420	6.31	889.55	1,063.00	75.01
423		1421	6.31	889.56	1,059.45	73.47
424		1422	6.31	891.51	1,058.91	72.39
425		1423	6.31	913.46	1,058.48	62.71
426		1424	6.31	887.58	1,059.13	74.18
427		1425	6.31	886.01	1,059.13	74.86
428		1426	6.31	902.73	1,059.00	67.58
429		1427	6.31	906.00	1,058.68	66.02
430		1428	6.31	887.98	1,059.18	74.03
431		1429	6.31	895.03	1,057.58	70.29
432		143	6.31	870.13	1,061.30	82.67
433		1430	6.31	903.84	1,054.32	65.07
434		1431	6.31	895.86	1,056.38	69.42
435		1432	6.31	909.92	1,053.88	62.25
436		1433	6.31	903.87	1,053.99	64.92
437		1434	6.31	910.04	1,053.86	62.19
438		1435	6.31	908.40	1,053.98	62.96
439		1436	6.31	907.29	1,054.04	63.46
440		1437	6.31	905.29	1,054.39	64.48
441		1438	6.31	901.75	1,054.07	65.87
442		1439	6.31	903.94	1,054.50	65.11
443		144	6.31	866.00	1,061.22	84.42
444		1440	6.31	903.41	1,054.46	65.32
445		1441	6.31	899.97	1,055.72	67.35
446		1442	6.31	900.68	1,055.72	67.05
447		1443	6.31	902.79	1,055.40	65.99
448		1444	6.31	903.98	1,055.08	65.34
449		1445	6.31	905.37	1,054.97	64.69
450		1446	6.31	906.55	1,054.74	64.08

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		ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
451		1447	6.31	902.43	1,056.22	66.51
452		1448	6.31	904.00	1,056.35	65.88
453		1449	6.31	909.39	1,056.86	63.77
454		145	6.31	867.15	1,061.18	83.91
455		1450	6.31	908.49	1,057.29	64.35
456		1451	6.31	907.74	1,057.54	64.78
457		1452	6.31	900.84	1,057.36	67.68
458		1453	6.31	883.95	1,057.44	75.02
459		1454	6.31	884.38	1,057.35	74.80
460		1455	6.31	897.41	1,056.81	68.93
461		1456	6.31	897.94	1,056.86	68.72
462		1457	6.31	867.51	1,062.93	84.51
463		1458	6.31	878.00	1,062.09	79.61
464		1459	6.31	869.87	1,062.65	83.37
465		146	6.31	865.76	1,061.12	84.48
466		1460	6.31	877.80	1,062.78	79.99
467		1461	6.31	877.29	1,062.92	80.27
468		1462	6.31	881.95	1,063.11	78.34
469		1463	6.31	891.55	1,062.89	74.09
470		1464	6.31	883.68	1,062.90	77.50
471		1465	6.31	889.99	1,063.66	75.10
472		1466	6.31	884.00	1,062.78	77.31
473		1467	6.31	883.60	1,062.15	77.21
474		1468	6.31	887.97	1,062.21	75.35
475		1469	6.31	879.90	1,062.79	79.09
476		147	6.31	865.99	1,060.94	84.30
477		1470	6.31	884.14	1,060.79	76.39
478		1471	6.31	880.57	1,059.73	77.47
479		1472	6.31	881.79	1,058.58	76.45
480		1473	6.31	885.86	1,059.14	74.93
481		1474	6.31	893.68	1,058.78	71.39
482		1475	6.31	886.80	1,060.90	75.29
483		1476	6.31	887.38	1,059.46	74.41
484		1477	6.31	890.56	1,053.37	70.41
485		1478	6.31	869.87	1,050.65	78.18
486		1479	6.31	869.79	1,067.35	85.43
487		148	6.31	865.69	1,060.71	84.34
488		1480	6.31	871.99	1,060.19	81.39
489		1481	6.31	898.64	1,055.15	67.68
490		1482	6.31	891.80	1,068.09	76.23
491		1483	6.31	911.99	1,055.85	62.21
492		1484	6.31	878.90	1,053.77	75.62
493		1485	6.31	899.74	1,055.66	67.42
494		1486	6.31	899.37	1,054.90	67.26
495		1487	6.31	902.00	1,054.86	66.10
496		1488	6.31	901.67	1,054.86	66.24
497		1489	6.31	904.56	1,054.55	64.86
498		149	6.31	865.38	1,060.57	84.40
499		1490	6.31	906.12	1,059.66	66.40
500		1491	6.31	873.99	1,048.59	75.50

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		ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
501		1492	6.31	863.57	1,049.18	80.27
502		1493	6.31	873.68	1,049.34	75.96
503		1494	6.31	875.47	1,049.33	75.19
504		1495	6.31	875.93	1,049.33	74.99
505		1496	6.31	878.00	1,049.34	74.09
506		1497	6.31	889.21	1,057.35	72.71
507		1498	6.31	892.42	1,057.30	71.30
508		1499	6.31	897.99	1,057.60	69.02
509		150	6.31	866.71	1,060.20	83.67
510		1500	6.31	903.19	1,056.30	66.21
511		1501	6.31	906.08	1,056.29	64.96
512		1502	6.31	894.22	1,056.46	70.16
513		1503	6.31	901.76	1,056.26	66.81
514		1504	6.31	900.03	1,056.26	67.56
515		1505	6.31	896.00	1,056.26	69.30
516		1506	6.31	894.42	1,056.39	70.04
517		1507	6.31	883.98	1,053.76	73.42
518		1508	6.31	891.37	1,053.75	70.22
519		1509	6.31	865.49	1,053.75	81.41
520		151	6.31	865.69	1,060.05	84.05
521		1510	6.31	861.94	1,059.02	85.23
522		1511	6.31	861.78	1,060.11	85.77
523		1512	6.31	850.18	1,058.53	90.10
524		1513	6.31	869.61	1,053.74	79.62
525		1514	6.31	872.96	1,053.74	78.17
526		1515	6.31	873.75	1,050.01	76.22
527		1516	6.31	875.75	1,050.11	75.40
528		1517	6.31	879.93	1,050.21	73.63
529		1518	6.31	877.90	1,050.27	74.54
530		1519	6.31	839.72	1,052.05	91.82
531		152	6.31	866.00	1,059.83	83.82
532		1520	6.31	881.66	1,053.75	74.42
533		1521	6.31	885.89	1,053.75	72.59
534		1522	6.31	889.68	1,058.56	73.03
535		1523	6.31	879.74	1,060.73	78.27
536		1524	6.31	892.00	1,059.76	72.55
537		1525	6.31	881.99	1,060.81	77.33
538		1526	6.31	864.87	1,057.49	83.30
539		1527	6.31	869.37	1,049.38	77.84
540		1528	6.31	864.00	1,062.96	86.03
541		1529	6.31	882.02	1,049.08	72.24
542		153	6.31	866.14	1,059.74	83.72
543		154	6.31	863.51	1,059.45	84.73
544		1543-A	0.00	901.67	927.39	11.12
545		1543-B	6.31	901.67	1,062.06	69.36
546		1544-A	0.00	903.76	927.52	10.28
547		1544-B	6.31	903.76	1,061.86	68.37
548		1545-A	0.00	901.95	928.44	11.46
549		1545-B	6.31	901.95	1,060.06	68.37
550		1546-A	0.00	871.32	867.67	-1.58

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		ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
551		1546-B	6.31	870.97	1,069.93	86.03
552		1547-A	0.00	865.20	866.57	0.59
553		1547-B	6.31	865.20	1,071.02	89.00
554		1548-A	0.00	865.21	864.90	-0.13
555		1548-B	6.31	865.28	1,074.04	90.27
556		1549-A	0.00	865.09	867.67	1.12
557		1549-B	6.31	864.89	1,070.08	88.73
558		155	6.31	864.07	1,059.31	84.43
559		1550-A	0.00	875.09	867.67	-3.21
560		1550-B	6.31	875.26	1,070.08	84.25
561		1551-A	0.00	892.63	838.00	-23.63
562		1551-B	6.31	892.38	1,051.12	68.64
563		1552-A	0.00	890.71	800.00	-39.23
564		1552-B	6.31	890.50	1,053.37	70.43
565		1553-A	0.00	869.95	692.82	-76.60
566		1553-B	6.31	869.97	1,051.87	78.66
567		1554-A	0.00	847.12	712.75	-58.11
568		1554-B	6.31	847.20	1,059.71	91.89
569		1555-A	0.00	870.04	801.76	-29.53
570		1555-B	6.31	870.00	1,067.47	85.39
571		1556-A	0.00	870.89	843.72	-11.75
572		1556-B	6.31	870.89	1,062.47	82.85
573		1557-A	0.00	889.10	804.85	-36.43
574		1557-B	6.31	889.10	1,072.98	79.52
575		1558-A	0.00	894.55	796.94	-42.21
576		1558-B	6.31	894.64	1,073.81	77.48
577		1559-A	0.00	911.99	691.05	-95.54
578		1559-B	6.31	912.00	1,058.70	63.44
579		156	6.31	865.96	1,058.94	83.45
580		157	6.31	867.65	1,058.59	82.57
581		158	6.31	903.01	1,059.86	67.83
582		159	6.31	901.66	1,059.94	68.44
583		160	6.31	903.98	1,060.06	67.50
584		161	6.31	871.37	1,060.90	81.96
585		162	6.31	866.32	1,062.25	84.73
586		163	16.38	869.97	1,063.19	83.55
587		164	6.31	869.81	1,064.07	84.01
588		165	6.31	869.70	1,064.43	84.21
589		166	6.31	870.74	1,067.54	85.10
590		167	6.31	871.11	1,064.83	83.77
591		168	6.31	863.94	1,060.80	85.13
592		169	6.31	864.00	1,060.21	84.85
593		170	6.31	863.17	1,059.79	85.02
594		171	6.31	861.75	1,059.40	85.47
595		172	6.31	853.88	1,059.40	88.88
596		173	6.31	850.25	1,059.42	90.45
597		174	6.31	850.24	1,053.22	87.77
598		175	6.31	850.49	1,053.15	87.64
599		176	6.31	881.77	1,051.98	73.60
600		177	6.31	879.97	1,051.38	74.13

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		ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
601		178	6.31	882.18	1,051.11	73.05
602		179	6.31	879.44	1,050.41	73.93
603		180	6.31	878.00	1,050.22	74.47
604		181	6.31	879.75	1,049.98	73.61
605		182	6.31	881.46	1,049.81	72.80
606		183	6.31	867.97	1,058.10	82.22
607		184	6.31	870.03	1,057.21	80.94
608		185	6.31	865.92	1,057.08	82.66
609		186	6.31	866.02	1,056.80	82.50
610		187	6.31	859.04	1,056.11	85.22
611		188	6.31	860.59	1,055.93	84.47
612		189	6.31	855.47	1,055.93	86.69
613		190	6.31	860.96	1,055.93	84.31
614		191	6.31	856.01	1,055.14	86.11
615		192	6.31	870.80	1,054.89	79.61
616		193	6.31	861.59	1,053.96	83.19
617		194	6.31	862.99	1,053.90	82.56
618		195	6.31	869.79	1,053.66	79.51
619		196	6.31	872.04	1,053.57	78.50
620		197	6.31	864.06	1,053.40	81.88
621		198	6.31	861.11	1,053.33	83.12
622		199	6.31	861.14	1,053.33	83.11
623		200	6.31	901.90	1,059.77	68.27
624		201	6.31	897.20	1,050.06	66.10
625		202	6.31	895.56	1,050.13	66.84
626		203	6.31	888.58	1,050.21	69.89
627		204	6.31	889.94	1,050.27	69.33
628		205	6.31	892.33	1,050.35	68.33
629		206	6.31	885.86	1,050.44	71.17
630		207	6.31	880.21	1,050.48	73.63
631		208	6.31	885.85	1,050.90	71.37
632		209	6.31	870.63	1,049.21	77.22
633		210	6.31	874.02	1,049.22	75.76
634		211	6.31	875.87	1,049.22	74.96
635		212	6.31	878.60	1,049.25	73.79
636		213	6.31	879.95	1,049.27	73.22
637		214	6.31	879.39	1,049.30	73.48
638		215	6.31	878.76	1,049.31	73.75
639		216	6.31	874.12	1,049.32	75.76
640		217	6.31	870.00	1,049.35	77.56
641		218	6.31	873.59	1,049.38	76.02
642		219	6.31	880.10	1,049.49	73.25
643		220	6.31	883.88	1,049.66	71.69
644		221	6.31	851.98	1,054.87	87.74
645		222	6.31	853.94	1,055.53	87.18
646		223	6.31	859.69	1,057.53	85.55
647		224	6.31	860.34	1,058.37	85.63
648		225	6.31	881.35	1,047.18	71.71
649		226	6.31	881.23	1,047.94	72.09
650		227	6.31	881.39	1,048.70	72.35

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		ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
651		228	6.31	886.00	1,049.72	70.80
652		229	6.31	889.66	1,050.52	69.56
653		230	6.31	894.38	1,051.01	67.73
654		231	6.31	906.57	1,052.98	63.31
655		232	6.31	901.82	1,053.58	65.63
656		233	6.31	903.98	1,053.66	64.72
657		234	6.31	890.06	1,054.25	71.00
658		235	6.31	903.74	1,054.73	65.29
659		236	6.31	900.89	1,055.08	66.68
660		237	6.31	898.72	1,055.41	67.76
661		238	6.31	897.37	1,055.66	68.45
662		239	6.31	899.93	1,055.93	67.46
663		240	6.31	901.33	1,056.20	66.97
664		241	6.31	900.29	1,056.52	67.56
665		242	6.31	899.01	1,056.83	68.25
666		243	6.31	904.10	1,057.18	66.20
667		244	6.31	905.58	1,057.47	65.68
668		245	6.31	904.24	1,057.60	66.32
669		246	6.31	905.24	1,057.77	65.96
670		247	6.31	905.05	1,057.79	66.05
671		248	6.31	903.69	1,057.90	66.69
672		249	6.31	906.15	1,058.02	65.68
673		250	6.31	907.21	1,058.13	65.26
674		251	6.31	901.95	1,058.31	67.62
675		252	6.31	901.17	1,058.48	68.03
676		253	6.31	897.79	1,058.64	69.56
677		254	6.31	897.98	1,058.73	69.51
678		255	6.31	897.54	1,058.82	69.74
679		256	6.31	897.29	1,058.97	69.92
680		257	6.31	896.60	1,059.12	70.28
681		258	6.31	903.79	1,059.30	67.25
682		259	6.31	903.55	1,059.46	67.42
683		260	6.31	905.91	1,059.66	66.49
684		261	6.31	902.43	1,058.35	67.43
685		262	6.31	899.75	1,058.04	68.45
686		263	6.31	897.93	1,057.44	68.98
687		264	6.31	897.71	1,057.41	69.06
688		265	6.31	899.13	1,057.07	68.30
689		266	6.31	898.56	1,057.07	68.54
690		267	6.31	886.48	1,056.73	73.62
691		268	6.31	878.65	1,056.35	76.84
692		269	6.31	878.49	1,056.29	76.89
693		270	6.31	873.51	1,056.13	78.97
694		271	6.31	874.42	1,056.07	78.55
695		272	6.31	867.01	1,055.94	81.70
696		273	6.31	899.17	1,058.14	68.74
697		274	6.31	897.88	1,056.76	68.71
698		275	6.31	899.81	1,056.53	67.77
699		276	6.31	899.77	1,056.26	67.67
700		277	6.31	896.92	1,055.89	68.75

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		ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
701		278	6.31	899.74	1,055.48	67.35
702		279	6.31	895.65	1,055.28	69.03
703		280	6.31	898.35	1,055.03	67.75
704		281	6.31	898.00	1,054.94	67.87
705		282	6.31	899.99	1,054.78	66.94
706		283	6.31	901.11	1,054.57	66.36
707		284	6.31	902.31	1,054.39	65.77
708		285	6.31	899.97	1,053.97	66.59
709		286	6.31	893.19	1,053.74	69.43
710		287	6.31	890.00	1,053.43	70.67
711		288	6.31	890.00	1,053.41	70.67
712		289	6.31	888.74	1,053.18	71.11
713		290	6.31	886.12	1,053.01	72.17
714		291	6.31	889.83	1,051.83	70.05
715		292	6.31	888.00	1,051.58	70.74
716		293	6.31	887.10	1,051.12	70.93
717		294	6.31	898.19	1,049.76	65.55
718		295	6.31	897.99	1,050.06	65.76
719		296	6.31	906.04	1,050.07	62.28
720		297	6.31	906.54	1,050.08	62.07
721		298	6.31	904.12	1,050.09	63.12
722		299	6.31	889.18	1,050.10	69.59
723		300	6.31	878.43	1,049.63	74.03
724		301	6.31	896.01	1,049.36	66.31
725		302	6.31	881.39	1,049.11	72.53
726		303	6.31	877.22	1,048.97	74.27
727		304	6.31	879.42	1,048.85	73.27
728		305	6.31	885.51	1,048.67	70.56
729		306	6.31	884.32	1,048.44	70.97
730		307	6.31	882.91	1,048.36	71.54
731		308	6.31	885.36	1,048.26	70.44
732		309	6.31	883.90	1,047.67	70.82
733		310	6.31	894.01	1,047.27	66.27
734		311	6.31	909.12	1,047.03	59.64
735		312	6.31	916.05	1,046.41	56.37
736		313	6.31	891.72	1,048.32	67.72
737		314	6.31	883.25	1,048.36	71.40
738		315	6.31	883.24	1,048.41	71.42
739		316	6.31	873.77	1,048.44	75.54
740		317	6.31	870.37	1,048.48	77.02
741		318	6.31	869.23	1,048.49	77.52
742		319	6.31	868.54	1,048.52	77.83
743		320	6.31	867.93	1,048.55	78.11
744		321	6.31	866.31	1,048.62	78.84
745		322	6.31	879.43	1,048.70	73.20
746		323	6.31	868.63	1,048.84	77.93
747		324	6.31	871.72	1,048.93	76.63
748		325	6.31	873.53	1,049.06	75.90
749		326	6.31	873.85	1,049.11	75.79
750		327	6.31	874.00	1,049.49	75.89

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		ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
751		328	6.31	876.03	1,049.71	75.10
752		329	6.31	876.21	1,049.71	75.03
753		330	6.31	879.41	1,049.81	73.69
754		331	6.31	877.38	1,049.87	74.59
755		332	6.31	872.33	1,049.93	76.80
756		333	6.31	872.00	1,049.96	76.96
757		334	6.31	873.01	1,049.96	76.52
758		335	6.31	872.24	1,049.96	76.85
759		336	6.31	872.88	1,049.96	76.57
760		337	6.31	873.37	1,049.99	76.38
761		338	6.31	871.86	1,049.96	77.01
762		339	6.31	873.89	1,049.96	76.14
763		340	6.31	870.00	1,049.96	77.82
764		341	6.31	874.00	1,050.46	76.31
765		342	6.31	873.87	1,051.22	76.69
766		343	6.31	870.02	1,054.83	79.92
767		344	6.31	874.88	1,058.35	79.34
768		345	6.31	871.99	1,059.39	81.04
769		346	6.31	870.02	1,060.46	82.35
770		347	6.31	861.66	1,053.26	82.85
771		348	6.31	861.93	1,053.14	82.68
772		349	6.31	860.62	1,053.04	83.21
773		350	6.31	861.98	1,052.92	82.57
774		351	6.31	860.05	1,052.84	83.37
775		352	6.31	859.80	1,052.78	83.45
776		353	6.31	861.50	1,052.73	82.70
777		3533	6.31	863.14	1,049.61	80.64
778		3535	6.31	894.46	1,053.86	68.93
779		3537	6.31	896.57	1,051.83	67.14
780		354	6.31	873.40	1,052.65	77.51
781		3543	6.31	906.74	1,053.73	63.56
782		3545	6.31	894.08	1,053.73	69.04
783		355	6.31	879.11	1,052.62	75.04
784		3550	6.31	900.06	1,054.49	66.78
785		3552	6.31	905.50	1,059.17	66.45
786		3555	6.31	911.13	1,058.56	63.75
787		3558	6.31	914.22	1,058.55	62.42
788		356	6.31	879.54	1,052.59	74.83
789		3560	6.31	889.59	1,059.26	73.37
790		3563	6.31	900.11	1,059.25	68.82
791		3569	6.31	852.20	1,053.74	87.15
792		357	6.31	873.97	1,052.56	77.23
793		3571	6.31	876.81	1,053.75	76.51
794		3575	6.31	877.98	1,053.75	76.01
795		3579	6.31	871.97	1,053.73	78.60
796		358	6.31	867.62	1,052.54	79.97
797		3586	6.31	880.77	1,050.68	73.47
798		359	6.31	863.92	1,052.51	81.56
799		3593	6.31	883.35	1,049.68	71.93
800		3597	6.31	855.21	1,049.34	83.95

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		ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
801		360	6.31	863.27	1,052.49	81.83
802		3600	6.31	850.30	1,049.34	86.07
803		3603	6.31	823.94	1,049.18	97.40
804		3606	6.31	833.30	1,049.18	93.35
805		3608	6.31	833.05	1,049.17	93.46
806		361	6.31	865.46	1,053.02	81.10
807		3610	49.30	892.00	1,049.90	68.28
808		3613	6.31	900.19	1,049.57	64.60
809		3615	6.31	892.69	1,049.57	67.84
810		3617	6.31	892.22	1,049.57	68.04
811		362	6.31	866.95	1,052.92	80.42
812		3620	6.31	865.93	1,048.48	78.94
813		3622	6.31	872.14	1,048.23	76.15
814		3624	6.31	875.90	1,048.33	74.56
815		3629	6.31	874.01	1,048.33	75.38
816		363	6.31	865.85	1,052.75	80.82
817		3631	6.31	884.40	1,050.51	71.83
818		3633	6.31	912.11	1,053.86	61.30
819		3636	6.31	895.44	1,053.85	68.50
820		364	6.31	865.62	1,052.51	80.82
821		3642	6.31	889.41	1,055.20	71.69
822		3645	6.31	890.59	1,055.34	71.24
823		365	6.31	865.52	1,052.40	80.81
824		3651	6.31	892.05	1,055.20	70.55
825		3653	6.31	890.87	1,055.34	71.12
826		3655	6.31	870.41	1,049.20	77.31
827		3659	6.31	867.75	1,049.19	78.46
828		366	6.31	866.33	1,052.10	80.33
829		3661	6.31	860.03	1,063.97	88.19
830		3664	6.31	854.00	1,063.23	90.48
831		3668	6.31	873.06	1,059.24	80.51
832		367	6.31	860.64	1,051.88	82.70
833		3670	6.31	865.77	1,061.53	84.65
834		3673	6.31	869.91	1,061.60	82.89
835		3676	6.31	867.16	1,061.65	84.11
836		3679	6.31	854.51	1,055.90	87.09
837		368	6.31	869.38	1,051.39	78.71
838		3681	6.31	864.40	1,056.20	82.94
839		3683	6.31	860.35	1,056.20	84.69
840		3685	6.31	867.76	1,057.43	82.02
841		3688	6.31	866.53	1,056.99	82.36
842		369	6.31	882.00	1,050.69	72.95
843		3692	6.31	867.80	1,057.43	82.00
844		3694	6.31	868.01	1,057.24	81.83
845		3697	6.31	868.88	1,057.24	81.45
846		370	6.31	870.59	1,049.17	77.22
847		3700	6.31	862.00	1,057.15	84.39
848		3702	6.31	861.96	1,057.23	84.44
849		3705	6.31	862.01	1,057.15	84.39
850		3707	6.31	861.96	1,057.23	84.44

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		ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
851		371	6.31	865.45	1,049.09	79.41
852		3710	6.31	862.78	1,057.30	84.12
853		3716	6.31	871.08	1,057.05	80.42
854		3718	6.31	865.84	1,056.91	82.62
855		372	6.31	867.94	1,049.05	78.32
856		3723	6.31	868.23	1,057.06	81.66
857		3727	6.31	864.09	1,056.22	83.08
858		373	6.31	858.72	1,061.21	87.57
859		3731	6.31	874.06	1,056.32	78.82
860		3736	6.31	869.67	1,053.57	79.52
861		3739	6.31	871.52	1,053.57	78.73
862		374	6.31	861.20	1,061.21	86.49
863		3741	6.31	873.79	1,054.20	78.02
864		3743	6.31	865.75	1,050.68	79.97
865		3745	6.31	863.76	1,050.26	80.65
866		3748	6.31	861.78	1,050.21	81.48
867		375	6.31	859.76	1,061.22	87.12
868		3750	6.31	862.39	1,050.21	81.22
869		3752	6.31	860.50	1,050.68	82.24
870		3758	6.31	864.69	1,050.17	80.21
871		376	6.31	863.65	1,061.22	85.44
872		3762	6.31	862.12	1,049.25	80.92
873		3765	6.31	858.65	1,049.31	82.45
874		3768	6.31	866.67	1,049.23	78.94
875		377	6.31	865.40	1,061.23	84.68
876		3771	6.31	870.20	1,049.22	77.42
877		3773	6.31	870.13	1,049.22	77.44
878		3775	6.31	872.00	1,049.22	76.63
879		3778	6.31	869.56	1,049.36	77.75
880		378	86.98	845.76	1,058.05	91.80
881		3782	6.31	873.97	1,049.89	76.08
882		3788	6.31	877.45	1,050.07	74.64
883		379	6.31	845.09	1,058.17	92.14
884		3791	6.31	876.56	1,050.03	75.02
885		3793	6.31	877.83	1,050.05	74.47
886		3797	6.31	876.00	1,050.21	75.33
887		3799	6.31	874.34	1,050.07	75.99
888		380	6.31	846.23	1,058.46	91.78
889		3802	6.31	873.98	1,050.17	76.19
890		3805	6.31	872.19	1,050.97	77.31
891		3807	6.31	871.80	1,050.64	77.34
892		381	6.31	852.41	1,058.49	89.11
893		3810	6.31	871.97	1,050.64	77.26
894		3813	6.31	873.84	1,050.66	76.47
895		3815	6.31	874.18	1,050.67	76.32
896		3818	6.31	874.89	1,050.59	75.98
897		382	6.31	851.96	1,058.50	89.31
898		3821	6.31	874.92	1,050.35	75.86
899		3823	6.31	874.01	1,050.30	76.23
900		3825	6.31	874.48	1,050.22	75.99

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		ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
901		3828	6.31	874.55	1,050.70	76.17
902		383	6.31	858.45	1,058.52	86.52
903		3831	6.31	878.59	1,050.23	74.22
904		3834	6.31	872.01	1,050.16	77.04
905		3839	6.31	874.19	1,050.27	76.14
906		384	6.31	855.54	1,058.54	87.78
907		3843	6.31	873.90	1,050.69	76.45
908		3846	6.31	865.90	1,051.88	80.43
909		3848	6.31	883.73	1,051.84	72.70
910		385	6.31	858.01	1,058.56	86.72
911		3850	6.31	884.09	1,051.83	72.54
912		3853	6.31	890.81	1,051.84	69.63
913		3856	6.31	877.71	1,051.85	75.30
914		3858	6.31	894.94	1,051.84	67.85
915		386	6.31	858.15	1,058.58	86.67
916		3862	6.31	872.27	1,050.77	77.19
917		3864	6.31	879.37	1,053.57	75.33
918		3866	6.31	867.75	1,053.57	80.36
919		387	6.31	861.95	1,058.63	85.05
920		3870	6.31	872.95	1,053.57	78.10
921		3874	6.31	869.99	1,056.07	80.47
922		3876	6.31	872.46	1,055.99	79.36
923		3879	6.31	868.03	1,055.99	81.28
924		388	6.31	861.27	1,058.66	85.36
925		3882	6.31	875.90	1,056.36	78.03
926		3884	6.31	872.02	1,056.36	79.71
927		3886	6.31	881.20	1,056.50	75.80
928		389	6.31	859.84	1,058.69	85.99
929		3892	6.31	874.12	1,056.19	78.73
930		3897	6.31	873.64	1,056.20	78.95
931		390	6.31	854.50	1,059.02	88.44
932		3900	6.31	875.48	1,056.18	78.14
933		3904	6.31	870.02	1,056.17	80.50
934		3908	6.31	869.00	1,056.17	80.94
935		391	6.31	871.51	1,060.19	81.59
936		3912	6.31	868.85	1,056.17	81.00
937		392	6.31	872.30	1,059.26	80.85
938		393	6.31	874.07	1,057.68	79.40
939		3936	6.31	894.42	1,046.86	65.92
940		3938	6.31	900.08	1,046.86	63.47
941		394	6.31	865.48	1,057.13	82.87
942		3940	6.31	892.23	1,046.84	66.86
943		3942	6.31	895.71	1,046.83	65.35
944		395	6.31	865.92	1,056.48	82.40
945		396	6.31	866.64	1,056.22	81.98
946		397	14.98	867.19	1,055.49	81.43
947		398	6.31	869.98	1,054.82	79.93
948		399	6.31	871.92	1,054.27	78.85
949		3994	6.31	896.09	1,046.88	65.21
950		3996	6.31	895.82	1,046.83	65.30

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		ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
951		3999	6.31	891.42	1,046.83	67.20
952		400	6.31	866.17	1,053.47	81.00
953		4003	6.31	915.07	1,046.71	56.93
954		401	6.31	870.35	1,051.80	78.47
955		4019	6.31	900.95	1,047.36	63.31
956		402	6.31	869.97	1,051.51	78.50
957		4022	6.31	906.15	1,047.43	61.09
958		4024	6.31	908.83	1,047.57	60.00
959		4026	6.31	905.81	1,047.71	61.36
960		4028	6.31	903.57	1,047.96	62.44
961		403	6.31	872.09	1,051.10	77.41
962		4031	6.31	907.59	1,047.43	60.47
963		4034	6.31	918.39	1,047.12	55.67
964		4036	6.31	903.52	1,047.12	62.09
965		4038	6.31	914.29	1,047.44	57.58
966		404	6.31	875.18	1,049.98	75.59
967		4041	6.31	909.94	1,048.20	59.79
968		4043	6.31	899.77	1,048.25	64.21
969		4046	6.31	901.77	1,048.20	63.32
970		4048	6.31	890.01	1,048.96	68.73
971		405	6.31	877.96	1,049.45	74.16
972		4050	6.31	891.65	1,049.24	68.15
973		4052	6.31	897.59	1,048.33	65.19
974		4054	6.31	897.72	1,048.67	65.27
975		4056	6.31	900.62	1,048.87	64.11
976		4059	6.31	905.89	1,048.33	61.59
977		406	6.31	878.00	1,049.45	74.14
978		4062	6.31	899.71	1,049.76	64.88
979		4064	6.31	903.28	1,049.45	63.21
980		4066	6.31	903.33	1,049.46	63.20
981		4068	6.31	899.85	1,049.48	64.71
982		407	6.31	874.21	1,049.45	75.78
983		4070	6.31	897.39	1,049.50	65.78
984		4072	6.31	891.35	1,049.50	68.39
985		4075	6.31	900.33	1,049.48	64.50
986		4077	6.31	896.01	1,049.76	66.49
987		408	6.31	873.21	1,049.45	76.21
988		4081	6.31	889.70	1,049.83	69.24
989		4085	6.31	879.12	1,049.24	73.56
990		4087	6.31	883.90	1,049.24	71.50
991		4089	6.31	877.59	1,049.24	74.22
992		409	6.31	873.69	1,049.45	76.00
993		4091	6.31	893.83	1,050.76	67.87
994		4096	6.31	888.13	1,051.09	70.47
995		4098	6.31	894.00	1,050.93	67.86
996		410	20.92	873.90	1,049.45	75.91
997		411	6.31	871.66	1,049.45	76.89
998		412	6.31	873.45	1,049.47	76.12
999		413	6.31	863.89	1,059.37	84.53
1000		414	6.31	861.96	1,059.22	85.30

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		ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1001		415	6.31	857.98	1,058.89	86.88
1002		416	6.31	849.23	1,058.56	90.52
1003		417	6.31	862.96	1,057.60	84.17
1004		4171-A	0.00	861.42	867.12	2.47
1005		4171-B	6.31	861.42	1,070.64	90.47
1006		418	6.31	871.83	1,057.50	80.29
1007		419	6.31	882.74	1,057.49	75.57
1008		420	6.31	882.22	1,057.49	75.79
1009		421	6.31	891.63	1,057.47	71.72
1010		422	6.31	896.46	1,057.47	69.63
1011		423	6.31	868.44	1,057.10	81.59
1012		424	6.31	867.99	1,056.94	81.71
1013		425	6.31	867.94	1,056.71	81.63
1014		426	6.31	868.15	1,056.59	81.49
1015		427	6.31	870.00	1,056.52	80.66
1016		428	6.31	868.56	1,056.03	81.07
1017		4280-A	0.00	870.02	788.78	-35.13
1018		4280-B	0.00	870.02	868.99	-0.44
1019		4284-A	0.00	903.71	830.00	-31.88
1020		4284-B	0.00	903.71	928.50	10.72
1021		429	6.31	863.78	1,055.90	83.08
1022		430	6.31	871.95	1,054.80	79.07
1023		431	6.31	869.98	1,053.92	79.54
1024		432	6.31	867.78	1,053.51	80.31
1025		433	6.31	869.60	1,053.05	79.33
1026		434	6.31	871.95	1,052.57	78.11
1027		435	6.31	870.00	1,051.42	78.45
1028		436	6.31	868.39	1,051.01	78.97
1029		437	6.31	876.42	1,048.94	74.61
1030		438	6.31	876.93	1,048.84	74.34
1031		439	6.31	874.64	1,048.77	75.30
1032		440	6.31	879.95	1,048.69	72.97
1033		441	6.31	878.10	1,048.67	73.76
1034		442	6.31	872.00	1,048.62	76.38
1035		443	6.31	873.61	1,048.56	75.65
1036		444	6.31	871.31	1,048.53	76.64
1037		445	6.31	871.58	1,048.52	76.51
1038		446	6.31	872.37	1,048.48	76.15
1039		447	6.31	874.18	1,048.23	75.27
1040		448	6.31	875.96	1,048.54	74.63
1041		449	6.31	875.71	1,048.55	74.74
1042		450	6.31	883.76	1,048.62	71.29
1043		451	6.31	884.16	1,048.66	71.13
1044		452	6.31	880.01	1,048.63	72.92
1045		453	6.31	884.93	1,048.70	70.82
1046		454	6.31	884.16	1,047.94	70.82
1047		455	6.31	885.20	1,054.25	73.10
1048		456	6.31	885.70	1,054.19	72.86
1049		457	6.31	857.98	1,060.51	87.58
1050		458	6.31	856.46	1,060.51	88.24

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		ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1051		459	6.31	867.96	1,056.22	81.41
1052		460	6.31	870.00	1,056.21	80.53
1053		461	6.31	865.09	1,056.23	82.66
1054		462	6.31	867.87	1,054.27	80.60
1055		463	6.31	866.30	1,054.27	81.28
1056		464	6.31	867.06	1,054.22	80.93
1057		465	6.31	867.76	1,054.20	80.62
1058		466	6.31	871.46	1,054.20	79.02
1059		467	6.31	871.93	1,054.20	78.82
1060		468	6.31	871.86	1,054.20	78.85
1061		469	6.31	867.03	1,050.84	79.48
1062		470	6.31	871.94	1,050.69	77.30
1063		471	6.31	867.80	1,050.60	79.05
1064		472	6.31	869.93	1,050.63	78.14
1065		473	6.31	872.04	1,050.09	77.00
1066		474	6.31	871.59	1,050.12	77.20
1067		475	6.31	869.31	1,050.13	78.20
1068		476	6.31	876.87	1,050.03	74.88
1069		477	6.31	873.00	1,049.65	76.39
1070		478	6.31	872.14	1,049.55	76.72
1071		479	6.31	873.87	1,049.61	76.00
1072		480	6.31	868.88	1,049.55	78.13
1073		481	6.31	870.09	1,053.47	79.30
1074		482	6.31	869.66	1,053.47	79.49
1075		483	6.31	863.75	1,052.20	81.49
1076		484	6.31	875.61	1,053.57	76.96
1077		485	6.31	876.57	1,053.58	76.54
1078		486	6.31	881.35	1,053.60	74.49
1079		487	6.31	884.51	1,053.60	73.12
1080		488	6.31	884.00	1,053.61	73.35
1081		489	6.31	879.74	1,053.64	75.20
1082		490	6.31	879.66	1,053.80	75.30
1083		491	6.31	884.70	1,053.81	73.13
1084		492	6.31	887.99	1,053.82	71.71
1085		493	6.31	886.43	1,053.82	72.39
1086		494	6.31	887.93	1,053.83	71.74
1087		495	6.31	886.00	1,053.76	72.54
1088		496	6.31	891.96	1,053.62	69.91
1089		497	6.31	895.85	1,053.45	68.15
1090		498	6.31	877.40	1,054.11	76.41
1091		499	6.31	877.95	1,054.42	76.31
1092		500	6.31	877.80	1,055.54	76.86
1093		501	6.31	882.64	1,056.02	74.98
1094		502	6.31	877.81	1,056.29	77.18
1095		503	6.31	879.08	1,056.45	76.70
1096		504	6.31	876.44	1,056.36	77.80
1097		505	6.31	873.76	1,056.21	78.90
1098		506	6.31	882.62	1,056.19	75.06
1099		507	6.31	870.99	1,056.18	80.08
1100		508	6.31	867.78	1,056.18	81.47

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		ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1101		509	24.66	865.85	1,056.43	82.41
1102		510	25.03	868.41	1,056.47	81.32
1103		511	6.31	865.92	1,056.58	82.45
1104		512	6.31	895.93	1,054.31	68.49
1105		513	6.31	895.83	1,054.31	68.53
1106		514	6.31	897.81	1,054.31	67.68
1107		515	6.31	895.47	1,054.31	68.69
1108		516	6.31	895.44	1,054.31	68.70
1109		517	6.31	914.00	1,054.05	60.56
1110		518	6.31	894.25	1,054.03	69.10
1111		519	6.31	893.16	1,054.02	69.56
1112		520	6.31	895.57	1,054.01	68.51
1113		521	6.31	895.51	1,053.98	68.53
1114		522	6.31	899.92	1,053.97	66.61
1115		523	6.31	895.87	1,053.95	68.36
1116		524	6.31	906.02	1,059.23	66.26
1117		525	6.31	896.01	1,059.23	70.58
1118		526	6.31	900.33	1,059.59	68.87
1119		527	6.31	904.58	1,059.12	66.83
1120		528	6.31	905.62	1,059.01	66.33
1121		529	6.31	907.91	1,058.86	65.28
1122		530	6.31	911.01	1,058.65	63.84
1123		531	6.31	913.87	1,058.57	62.57
1124		532	6.31	909.84	1,058.39	64.24
1125		533	6.31	913.35	1,058.39	62.72
1126		534	6.31	911.41	1,058.17	63.46
1127		535	6.31	905.19	1,058.10	66.12
1128		536	6.31	904.17	1,058.05	66.54
1129		537	6.31	871.96	1,049.19	76.64
1130		538	6.31	867.06	1,049.18	78.76
1131		539	6.31	877.76	1,049.07	74.08
1132		540	19.61	872.72	1,048.83	76.16
1133		541	6.31	872.96	1,048.77	76.02
1134		542	6.31	872.80	1,049.38	76.36
1135		543	6.31	882.41	1,049.36	72.19
1136		544	6.31	880.40	1,049.35	73.06
1137		545	6.31	872.49	1,049.35	76.48
1138		546	6.31	870.00	1,049.35	77.55
1139		547	6.31	875.14	1,048.62	75.02
1140		548	6.31	877.46	1,048.63	74.02
1141		549	6.31	880.82	1,048.63	72.56
1142		550	6.31	881.65	1,048.63	72.21
1143		551	17.58	881.76	1,048.63	72.16
1144		552	6.31	886.00	1,049.48	70.70
1145		553	6.31	888.13	1,049.58	69.82
1146		554	6.31	896.29	1,051.68	67.19
1147		555	6.31	907.90	1,053.52	62.97
1148		556	6.31	908.66	1,055.79	63.63
1149		557	6.31	899.52	1,055.79	67.58
1150		558	6.31	887.71	1,054.03	71.92

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		ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1151		559	6.31	885.93	1,053.92	72.65
1152		560	6.31	881.90	1,053.85	74.36
1153		561	6.31	881.90	1,053.80	74.33
1154		562	6.31	884.59	1,053.77	73.16
1155		563	6.31	881.44	1,053.76	74.51
1156		564	6.31	873.69	1,053.79	77.88
1157		565	6.31	873.14	1,055.37	78.80
1158		566	6.31	874.93	1,057.04	78.75
1159		567	6.31	873.42	1,057.16	79.46
1160		568	6.31	871.68	1,057.27	80.25
1161		569	32.03	870.50	1,056.16	80.29
1162		570	6.31	869.57	1,056.17	80.69
1163		571	6.31	867.12	1,056.17	81.75
1164		572	6.31	903.46	1,054.31	65.23
1165		573	6.31	896.27	1,053.94	68.18
1166		574	6.31	899.34	1,053.93	66.85
1167		575	6.31	899.88	1,053.93	66.62
1168		576	6.31	901.96	1,053.93	65.71
1169		577	6.31	901.75	1,053.91	65.80
1170		578	6.31	902.90	1,053.90	65.30
1171		579	6.31	896.61	1,053.86	68.00
1172		580	6.31	903.16	1,053.86	65.17
1173		581	6.31	866.16	1,056.50	82.31
1174		582	6.31	867.18	1,056.58	81.90
1175		583	6.31	865.16	1,056.54	82.76
1176		584	6.31	868.00	1,056.64	81.58
1177		585	6.31	866.00	1,056.64	82.44
1178		586	6.31	868.33	1,056.90	81.54
1179		587	6.31	868.00	1,058.59	82.42
1180		588	6.31	867.13	1,058.58	82.79
1181		589	6.31	862.80	1,058.58	84.66
1182		590	6.31	865.84	1,058.58	83.35
1183		591	6.31	868.01	1,057.31	81.86
1184		592	6.31	867.98	1,056.73	81.62
1185		593	6.31	868.02	1,056.08	81.32
1186		594	6.31	865.28	1,055.96	82.46
1187		595	6.31	867.85	1,054.48	80.71
1188		596	6.31	867.62	1,054.44	80.79
1189		597	6.31	865.67	1,054.64	81.72
1190		598	6.31	865.36	1,054.91	81.97
1191		599	6.31	865.33	1,055.33	82.16
1192		600	6.31	865.34	1,054.15	81.65
1193		601	6.31	865.64	1,054.05	81.48
1194		602	6.31	872.12	1,049.96	76.90
1195		603	6.31	871.83	1,049.96	77.03
1196		604	6.31	869.37	1,049.96	78.10
1197		605	6.31	869.63	1,049.97	77.98
1198		606	6.31	869.54	1,049.98	78.03
1199		607	6.31	867.42	1,050.04	78.97
1200		608	6.31	868.37	1,050.07	78.57

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		ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1201		609	6.31	871.80	1,053.47	78.56
1202		610	6.31	871.21	1,053.47	78.81
1203		611	6.31	874.89	1,057.25	78.86
1204		612	6.31	874.01	1,057.07	79.16
1205		613	6.31	870.12	1,056.58	80.63
1206		614	6.31	870.57	1,056.16	80.25
1207		615	6.31	871.60	1,055.92	79.71
1208		616	6.31	872.11	1,055.62	79.36
1209		617	6.31	873.92	1,055.52	78.53
1210		618	6.31	872.10	1,055.42	79.28
1211		619	6.31	867.95	1,055.33	81.03
1212		620	6.31	872.02	1,055.23	79.22
1213		621	6.31	873.96	1,058.98	80.01
1214		622	6.31	876.17	1,057.65	78.48
1215		623	6.31	876.17	1,057.40	78.37
1216		624	6.31	877.25	1,057.10	77.77
1217		625	6.31	854.78	1,059.59	88.57
1218		626	6.31	871.60	1,062.21	82.43
1219		627	6.31	853.56	1,062.94	90.54
1220		628	6.31	852.45	1,063.55	91.28
1221		629	6.31	869.02	1,066.08	85.22
1222		630	6.31	868.04	1,066.99	86.03
1223		631	6.31	863.97	1,065.51	87.15
1224		632	6.31	863.45	1,065.45	87.35
1225		633	6.31	858.12	1,063.96	89.01
1226		634	6.31	849.79	1,063.93	92.60
1227		635	6.31	851.25	1,063.93	91.97
1228		636	6.31	849.42	1,063.91	92.75
1229		637	6.31	851.08	1,063.86	92.02
1230		638	6.31	850.85	1,063.79	92.08
1231		639	6.31	852.78	1,063.71	91.21
1232		640	6.31	855.45	1,063.61	90.01
1233		641	6.31	853.87	1,063.58	90.69
1234		642	6.31	856.01	1,063.56	89.75
1235		643	6.31	849.22	1,058.41	90.46
1236		644	6.31	846.35	1,058.15	91.59
1237		645	6.31	872.06	1,049.56	76.76
1238		646	6.31	872.96	1,049.56	76.37
1239		647	6.31	860.66	1,049.16	81.51
1240		648	6.31	858.22	1,049.16	82.57
1241		649	6.31	861.25	1,049.16	81.26
1242		650	6.31	863.38	1,049.16	80.34
1243		651	6.31	865.75	1,049.16	79.31
1244		652	6.31	857.50	1,049.18	82.89
1245		653	6.31	837.99	1,049.18	91.32
1246		654	6.31	865.92	1,049.16	79.24
1247		655	6.31	869.99	1,049.18	77.49
1248		656	6.31	871.30	1,049.21	76.94
1249		657	6.31	873.92	1,049.21	75.80
1250		658	6.31	878.35	1,049.26	73.91

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		ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1251		659	6.31	878.68	1,049.26	73.76
1252		660	6.31	875.98	1,049.29	74.95
1253		661	6.31	874.00	1,049.29	75.80
1254		662	6.31	871.95	1,049.31	76.69
1255		663	6.31	873.12	1,049.31	76.19
1256		664	6.31	868.06	1,049.31	78.38
1257		665	6.31	877.53	1,049.49	74.36
1258		666	6.31	875.90	1,048.77	74.75
1259		667	20.90	872.68	1,048.77	76.15
1260		668	6.31	872.96	1,048.62	75.96
1261		669	6.31	873.37	1,048.62	75.79
1262		670	6.31	871.94	1,048.56	76.37
1263		671	6.31	875.97	1,048.53	74.62
1264		672	6.31	879.84	1,048.66	73.01
1265		673	6.31	880.99	1,048.69	72.52
1266		674	6.31	881.41	1,049.10	72.52
1267		675	6.31	881.72	1,049.11	72.38
1268		676	6.31	882.42	1,049.15	72.10
1269		677	6.31	881.50	1,049.15	72.50
1270		678	6.31	882.09	1,049.22	72.28
1271		679	6.31	888.92	1,049.30	69.35
1272		680	6.31	889.40	1,049.42	69.20
1273		681	6.31	887.45	1,049.42	70.04
1274		682	6.31	887.71	1,048.66	69.60
1275		683	6.31	883.70	1,048.64	71.33
1276		684	6.31	885.06	1,048.78	70.80
1277		685	6.31	891.10	1,048.68	68.14
1278		686	6.31	893.79	1,049.19	67.20
1279		687	6.31	877.85	1,048.47	73.78
1280		688	6.31	877.33	1,048.52	74.03
1281		690	6.31	881.13	1,048.63	72.43
1282		691	6.31	881.87	1,048.65	72.12
1283		692	6.31	892.00	1,051.67	69.05
1284		693	6.31	891.77	1,050.47	68.63
1285		694	6.31	892.14	1,050.73	68.58
1286		695	6.31	892.89	1,050.61	68.20
1287		696	6.31	893.58	1,050.48	67.85
1288		697	6.31	882.83	1,047.94	71.40
1289		698	6.31	901.69	1,054.11	65.91
1290		699	6.31	893.43	1,053.75	69.33
1291		700	6.31	885.92	1,053.79	72.59
1292		701	6.31	882.35	1,053.79	74.14
1293		702	6.31	881.33	1,053.79	74.58
1294		703	6.31	877.96	1,053.78	76.03
1295		704	6.31	874.02	1,053.77	77.73
1296		705	6.31	871.93	1,053.76	78.63
1297		706	6.31	867.54	1,053.75	80.52
1298		707	6.31	866.14	1,053.74	81.12
1299		708	6.31	867.95	1,053.73	80.34
1300		709	6.31	867.85	1,053.73	80.38

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		ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1301		710	6.31	847.92	1,053.73	89.00
1302		711	6.31	858.95	1,053.74	84.23
1303		712	6.31	856.61	1,053.74	85.24
1304		713	6.31	874.00	1,053.74	77.73
1305		714	6.31	878.00	1,053.75	76.00
1306		715	6.31	881.46	1,053.76	74.51
1307		716	6.31	879.49	1,055.27	76.01
1308		717	6.31	873.65	1,057.09	79.32
1309		718	6.31	871.04	1,057.10	80.46
1310		719	6.31	874.00	1,057.11	79.18
1311		720	6.31	872.44	1,057.12	79.86
1312		721	6.31	863.96	1,057.14	83.54
1313		722	6.31	854.88	1,057.28	87.52
1314		723	6.31	856.46	1,057.36	86.87
1315		724	6.31	857.93	1,057.40	86.26
1316		725	6.31	858.36	1,057.48	86.11
1317		726	6.31	859.70	1,057.40	85.49
1318		727	6.31	864.78	1,057.40	83.29
1319		728	6.31	867.65	1,057.40	82.05
1320		729	6.31	865.01	1,057.54	83.26
1321		730	6.31	862.68	1,057.50	84.25
1322		731	6.31	861.44	1,057.49	84.78
1323		732	6.31	861.32	1,057.49	84.83
1324		733	6.31	860.91	1,057.49	85.00
1325		734	6.31	863.98	1,057.48	83.68
1326		735	6.31	867.05	1,057.48	82.35
1327		736	6.31	861.95	1,057.48	84.56
1328		737	6.31	865.98	1,057.49	82.81
1329		738	6.31	862.84	1,057.50	84.18
1330		739	6.31	869.82	1,057.50	81.16
1331		740	6.31	897.70	1,054.40	67.76
1332		741	6.31	903.89	1,054.60	65.17
1333		742	6.31	879.04	1,051.11	74.41
1334		743	6.31	855.39	1,053.04	85.47
1335		744	6.31	853.18	1,053.59	86.66
1336		745	6.31	849.87	1,054.02	88.28
1337		746	6.31	848.08	1,054.56	89.29
1338		747	6.31	855.00	1,054.90	86.45
1339		748	6.31	855.69	1,055.08	86.22
1340		749	6.31	852.02	1,054.89	87.73
1341		750	6.31	855.31	1,058.01	87.66
1342		751	6.31	852.83	1,057.87	88.66
1343		752	6.31	859.85	1,057.89	85.64
1344		753	6.31	852.30	1,059.36	89.54
1345		754	6.31	848.13	1,060.56	91.86
1346		755	6.31	856.00	1,060.60	88.48
1347		756	6.31	853.13	1,060.73	89.77
1348		757	6.31	857.23	1,060.82	88.04
1349		758	6.31	857.89	1,060.83	87.76
1350		759	6.31	856.06	1,060.39	88.36

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		ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1351		760	6.31	857.38	1,060.29	87.74
1352		761	6.31	850.61	1,061.77	91.31
1353		762	6.31	853.16	1,062.09	90.35
1354		763	6.31	850.82	1,062.36	91.48
1355		764	6.31	853.86	1,063.13	90.50
1356		765	6.31	855.96	1,063.97	89.95
1357		766	6.31	853.45	1,064.10	91.10
1358		767	6.31	864.25	1,064.07	86.41
1359		768	6.31	863.66	1,064.03	86.65
1360		769	6.31	853.99	1,062.07	89.98
1361		770	6.31	857.74	1,060.28	87.58
1362		771	16.14	859.25	1,059.58	86.63
1363		772	6.31	853.75	1,062.18	90.14
1364		773	6.31	855.90	1,062.18	89.20
1365		774	6.31	870.30	1,062.06	82.92
1366		775	6.31	859.66	1,064.65	88.64
1367		776	6.31	857.76	1,064.36	89.34
1368		777	6.31	857.65	1,064.21	89.32
1369		778	6.31	859.89	1,064.16	88.33
1370		779	6.31	851.35	1,063.71	91.83
1371		780	6.31	854.20	1,062.71	90.16
1372		781	6.31	857.97	1,062.50	88.45
1373		782	6.31	860.04	1,062.39	87.50
1374		783	6.31	859.83	1,062.32	87.57
1375		784	6.31	859.46	1,062.23	87.69
1376		785	6.31	859.57	1,062.07	87.57
1377		786	6.31	859.72	1,061.89	87.43
1378		787	6.31	861.20	1,061.84	86.76
1379		788	6.31	862.01	1,061.52	86.28
1380		789	6.31	852.00	1,058.67	89.37
1381		790	6.31	864.00	1,059.54	84.56
1382		791	6.31	861.93	1,059.62	85.49
1383		792	6.31	863.51	1,059.67	84.83
1384		793	6.31	864.00	1,059.67	84.62
1385		794	6.31	858.54	1,059.77	87.02
1386		795	6.31	863.77	1,059.86	84.80
1387		796	6.31	867.30	1,059.95	83.31
1388		797	6.31	864.49	1,059.97	84.53
1389		798	6.31	861.97	1,060.13	85.69
1390		799	6.31	859.52	1,060.09	86.73
1391		800	6.31	859.87	1,059.91	86.50
1392		801	6.31	857.40	1,059.84	87.54
1393		802	6.31	864.50	1,060.75	84.86
1394		803	6.31	865.79	1,061.05	84.44
1395		804	6.31	849.96	1,058.59	90.22
1396		805	6.31	854.02	1,058.50	88.42
1397		806	6.31	851.76	1,058.50	89.40
1398		807	6.31	857.30	1,058.50	87.01
1399		808	6.31	856.01	1,058.52	87.57
1400		809	6.31	853.08	1,058.52	88.84

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		ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1401		810	6.31	857.63	1,058.49	86.86
1402		811	6.31	859.73	1,058.49	85.95
1403		812	6.31	858.00	1,058.49	86.70
1404		813	6.31	857.73	1,058.49	86.82
1405		814	6.31	856.00	1,058.49	87.57
1406		815	6.31	859.00	1,058.50	86.27
1407		816	6.31	857.86	1,058.51	86.77
1408		817	6.31	854.07	1,058.51	88.41
1409		818	6.31	861.70	1,058.58	85.14
1410		819	6.31	851.89	1,058.59	89.39
1411		820	6.31	860.40	1,058.62	85.72
1412		821	6.31	859.17	1,058.46	86.18
1413		822	6.31	860.29	1,058.02	85.51
1414		823	6.31	859.29	1,057.94	85.90
1415		824	6.31	860.67	1,057.55	85.14
1416		825	6.31	867.67	1,057.12	81.93
1417		826	6.31	862.08	1,057.54	84.53
1418		827	6.31	857.73	1,057.96	86.59
1419		828	6.31	860.01	1,057.99	85.62
1420		829	6.31	858.17	1,057.99	86.41
1421		830	6.31	860.00	1,058.63	85.89
1422		831	6.31	863.25	1,057.51	84.00
1423		832	6.31	869.95	1,057.63	81.16
1424		833	6.31	865.72	1,057.43	82.90
1425		834	6.31	863.63	1,060.20	85.00
1426		835	6.31	861.76	1,058.67	85.15
1427		836	6.31	864.80	1,058.67	83.84
1428		837	6.31	867.74	1,055.00	80.98
1429		838	6.31	867.50	1,054.92	81.05
1430		839	6.31	867.78	1,054.97	80.94
1431		840	6.31	865.89	1,054.49	81.56
1432		841	6.31	865.68	1,053.80	81.35
1433		842	6.31	865.59	1,053.45	81.24
1434		843	6.31	866.87	1,053.31	80.62
1435		844	6.31	867.06	1,053.24	80.51
1436		845	6.31	868.00	1,053.50	80.22
1437		846	6.31	867.71	1,053.81	80.47
1438		847	6.31	866.33	1,053.06	80.75
1439		848	6.31	867.85	1,052.61	79.90
1440		849	6.31	870.09	1,062.85	83.35
1441		850	6.31	863.65	1,060.68	85.20
1442		851	6.31	861.55	1,060.22	85.91
1443		852	6.31	860.02	1,059.37	86.21
1444		853	6.31	860.00	1,058.61	85.89
1445		854	6.31	861.46	1,058.50	85.21
1446		855	6.31	863.67	1,058.58	84.29
1447		856	6.31	865.58	1,057.77	83.11
1448		857	6.31	867.51	1,056.73	81.82
1449		858	6.31	869.59	1,058.12	81.52
1450		859	6.31	865.92	1,058.13	83.12

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		ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1451		860	6.31	868.00	1,058.22	82.26
1452		861	6.31	861.92	1,058.37	84.95
1453		862	6.31	869.53	1,062.24	83.33
1454		863	6.31	870.93	1,061.90	82.58
1455		864	6.31	870.94	1,060.51	81.98
1456		865	6.31	869.13	1,060.33	82.68
1457		866	6.31	867.17	1,060.27	83.50
1458		867	6.31	868.41	1,060.20	82.94
1459		868	6.31	871.13	1,053.03	78.66
1460		869	6.31	870.00	1,052.62	78.97
1461		870	6.31	870.46	1,052.56	78.74
1462		871	6.31	871.86	1,051.64	77.74
1463		872	6.31	871.99	1,052.68	78.13
1464		873	6.31	873.63	1,052.72	77.45
1465		874	6.31	873.96	1,052.74	77.31
1466		875	6.31	873.92	1,052.75	77.33
1467		876	6.31	873.64	1,052.76	77.46
1468		877	6.31	873.99	1,052.76	77.31
1469		878	6.31	871.99	1,052.58	78.10
1470		879	6.31	873.96	1,052.73	77.31
1471		880	6.31	874.00	1,052.90	77.36
1472		881	6.31	871.35	1,052.97	78.54
1473		882	6.31	871.33	1,052.97	78.55
1474		883	6.31	869.90	1,053.43	79.37
1475		884	6.31	871.19	1,049.95	77.30
1476		885	6.31	871.98	1,049.95	76.96
1477		886	6.31	855.66	1,057.65	87.35
1478		887	6.31	853.99	1,057.63	88.06
1479		888	6.31	861.89	1,057.63	84.64
1480		889	6.31	862.21	1,057.63	84.50
1481		890	6.31	865.75	1,059.88	83.95
1482		891	6.31	877.99	1,056.14	77.04
1483		892	6.31	878.01	1,055.96	76.95
1484		893	6.31	878.13	1,055.88	76.87
1485		894	6.31	874.01	1,055.86	78.64
1486		895	6.31	863.62	1,055.72	83.07
1487		896	6.31	875.82	1,055.89	77.87
1488		897	6.31	876.15	1,056.23	77.88
1489		898	6.31	869.40	1,056.86	81.06
1490		899	6.31	868.59	1,057.55	81.71
1491		900	6.31	867.67	1,056.18	81.52
1492		901	6.31	868.65	1,056.16	81.09
1493		902	6.31	872.27	1,056.13	79.51
1494		903	6.31	863.83	1,050.97	80.93
1495		904	6.31	867.14	1,050.79	79.42
1496		905	6.31	868.84	1,050.77	78.67
1497		906	6.31	869.47	1,050.77	78.40
1498		907	6.31	867.34	1,050.78	79.33
1499		908	6.31	869.83	1,050.77	78.24
1500		909	6.31	869.79	1,050.77	78.26

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		ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1501		910	6.31	872.63	1,050.77	77.03
1502		911	6.31	871.89	1,050.77	77.35
1503		912	6.31	865.33	1,050.41	80.04
1504		913	6.31	865.81	1,050.03	79.66
1505		914	6.31	864.12	1,050.00	80.38
1506		915	6.31	869.95	1,049.96	77.84
1507		916	6.31	871.28	1,054.25	79.12
1508		917	6.31	862.05	1,054.39	83.17
1509		918	6.31	863.41	1,054.62	82.68
1510		919	6.31	865.24	1,054.92	82.02
1511		920	6.31	863.54	1,055.00	82.80
1512		921	6.31	871.73	1,053.96	78.80
1513		922	6.31	869.98	1,053.80	79.49
1514		923	6.31	869.89	1,053.64	79.46
1515		924	6.31	867.66	1,053.52	80.37
1516		925	6.31	873.69	1,055.17	78.48
1517		926	6.31	872.21	1,055.17	79.12
1518		927	6.31	873.46	1,055.30	78.63
1519		928	6.31	878.01	1,055.30	76.66
1520		929	6.31	869.07	1,053.93	79.94
1521		930	6.31	871.96	1,053.47	78.49
1522		931	6.31	869.83	1,053.47	79.41
1523		932	6.31	869.82	1,053.47	79.42
1524		933	6.31	872.16	1,053.47	78.41
1525		934	6.31	876.66	1,053.47	76.46
1526		935	6.31	874.00	1,053.47	77.61
1527		936	6.31	873.09	1,053.47	78.00
1528		937	6.31	868.92	1,051.26	78.85
1529		938	6.31	869.53	1,051.26	78.58
1530		940	6.31	872.93	1,049.71	76.45
1531		941	6.31	869.41	1,050.02	78.10
1532		942	6.31	871.78	1,049.99	77.07
1533		943	6.31	863.51	1,049.06	80.23
1534		944	6.31	875.72	1,048.64	74.77
1535		945	6.31	872.57	1,048.62	76.13
1536		946	6.31	871.95	1,048.62	76.40
1537		947	6.31	873.77	1,049.39	75.94
1538		948	6.31	877.08	1,049.37	74.50
1539		949	6.31	877.66	1,049.35	74.24
1540		950	6.31	878.00	1,049.34	74.09
1541		951	6.31	873.44	1,049.34	76.07
1542		952	6.31	871.42	1,049.34	76.94
1543		953	6.31	873.80	1,049.34	75.91
1544		954	6.31	871.53	1,049.35	76.90
1545		955	6.31	877.47	1,049.35	74.33
1546		956	6.31	867.12	1,049.39	78.82
1547		957	6.31	875.31	1,049.45	75.30
1548		958	6.31	872.43	1,049.43	76.54
1549		959	6.31	871.07	1,049.39	77.11
1550		960	6.31	870.00	1,049.36	77.56

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		ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1551		961	6.31	873.22	1,049.35	76.16
1552		962	6.31	874.91	1,049.34	75.43
1553		963	6.31	871.97	1,049.34	76.70
1554		964	6.31	873.44	1,049.34	76.06
1555		965	6.31	874.16	1,049.34	75.75
1556		966	6.31	874.32	1,049.34	75.69
1557		967	6.31	875.11	1,049.34	75.34
1558		968	6.31	877.27	1,049.34	74.41
1559		969	6.31	871.62	1,049.35	76.85
1560		970	6.31	872.07	1,049.35	76.66
1561		971	6.31	871.78	1,049.35	76.79
1562		972	6.31	875.03	1,049.36	75.38
1563		973	6.31	873.92	1,049.37	75.87
1564		974	6.31	871.36	1,049.37	76.98
1565		975	6.31	873.03	1,049.37	76.26
1566		976	6.31	873.58	1,049.45	76.05
1567		977	6.31	876.87	1,049.45	74.63
1568		978	6.31	869.96	1,049.56	77.66
1569		979	6.31	870.81	1,049.55	77.30
1570		980	6.31	865.29	1,048.46	79.21
1571		981	6.31	865.24	1,048.45	79.22
1572		982	6.31	865.71	1,048.45	79.02
1573		983	6.31	868.00	1,048.45	78.03
1574		984	6.31	864.01	1,048.45	79.76
1575		985	6.31	868.62	1,048.45	77.76
1576		986	6.31	873.23	1,048.45	75.77
1577		987	6.31	879.95	1,048.40	72.84
1578		988	6.31	877.72	1,048.35	73.79
1579		989	6.31	881.65	1,048.30	72.07
1580		990	6.31	875.98	1,048.26	74.50
1581		991	6.31	882.05	1,048.26	71.87
1582		992	6.31	887.60	1,048.26	69.48
1583		993	6.31	881.52	1,048.39	72.16
1584		994	6.31	878.06	1,048.39	73.66
1585		995	6.31	877.93	1,048.39	73.71
1586		996	6.31	879.78	1,048.41	72.92
1587		997	6.31	889.42	1,048.43	68.76
1588		998	6.31	878.75	1,048.41	73.37
1589		999	6.31	869.92	1,048.41	77.18
1590		J10	6.31	877.46	1,050.09	74.65
1591		J100	6.31	890.05	1,049.57	68.98
1592		J102	6.31	898.70	1,054.42	67.34
1593		J104	6.31	874.32	1,048.33	75.25
1594		J106	6.31	877.77	1,050.26	74.59
1595		J108	6.31	885.81	1,049.69	70.87
1596		J110	6.31	865.24	1,053.73	81.51
1597		J112	6.31	858.75	1,053.73	84.32
1598		J114	6.31	884.00	1,054.78	73.85
1599		J118	6.31	886.26	1,054.86	72.91
1600		J12	6.31	874.92	1,050.78	76.05

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		ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1601		J120	6.31	894.58	1,056.56	70.05
1602		J122	6.31	900.15	1,058.40	68.43
1603		J124	6.31	901.91	1,059.38	68.10
1604		J126	6.31	902.08	1,049.76	63.86
1605		J130	6.31	890.73	1,050.29	69.00
1606		J132	6.31	893.92	1,050.27	67.61
1607		J134	6.31	897.99	1,047.20	64.52
1608		J136	6.31	900.77	1,047.09	63.27
1609		J138	6.31	877.48	1,055.94	77.17
1610		J14	6.31	879.51	1,049.47	73.50
1611		J140	6.31	859.67	1,056.25	85.01
1612		J142	6.31	859.08	1,056.15	85.22
1613		J144	6.31	855.74	1,058.51	87.68
1614		J146	6.31	857.24	1,058.80	87.16
1615		J148	6.31	853.25	1,058.71	88.85
1616		J150	6.31	864.00	1,060.22	84.85
1617		J152	6.31	883.64	1,061.45	76.89
1618		J154	6.31	875.97	1,062.05	80.47
1619		J156	6.31	870.26	1,062.13	82.97
1620		J158	6.31	879.46	1,061.85	78.87
1621		J16	6.31	879.73	1,049.47	73.40
1622		J18	6.31	871.22	1,049.23	76.98
1623		J20	6.31	873.47	1,049.22	76.00
1624		J22	6.31	876.36	1,049.22	74.75
1625		J24	6.31	866.99	1,049.30	78.84
1626		J26	6.31	863.84	1,049.31	80.20
1627		J28	6.31	863.98	1,049.30	80.14
1628		J30	6.31	871.76	1,050.09	77.12
1629		J32	6.31	869.79	1,050.10	77.97
1630		J34	6.31	870.12	1,049.97	77.77
1631		J38	6.31	862.40	1,049.96	81.11
1632		J42	6.31	873.34	1,052.04	77.28
1633		J44	6.31	878.21	1,050.43	74.47
1634		J46	6.31	874.49	1,050.28	76.02
1635		J48	6.31	877.11	1,050.33	74.91
1636		J50	6.31	874.15	1,049.97	76.03
1637		J52	6.31	873.99	1,050.27	76.23
1638		J54	6.31	874.00	1,050.31	76.24
1639		J56	6.31	874.52	1,050.32	76.02
1640		J58	6.31	875.94	1,050.74	75.59
1641		J60	6.31	877.78	1,050.07	74.50
1642		J62	6.31	864.77	1,050.27	80.22
1643		J64	6.31	878.03	1,057.10	77.44
1644		J66	6.31	865.87	1,057.32	82.79
1645		J68	126.84	862.89	1,057.43	84.13
1646		J70	6.31	857.69	1,057.63	86.46
1647		J72	6.31	867.57	1,056.74	81.80
1648		J74	6.31	861.48	1,057.19	84.63
1649		J76	6.31	864.00	1,057.09	83.50
1650		J78	6.31	874.68	1,057.20	78.92

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		ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1651		J80	6.31	874.07	1,052.93	77.34
1652		J82	6.31	873.98	1,052.91	77.38
1653		J84	6.31	869.98	1,060.72	82.48
1654		J86	6.31	856.69	1,061.95	88.76
1655		J88	6.31	855.30	1,063.53	90.04
1656		J90	6.31	869.60	1,049.95	77.99
1657		J92	6.31	868.12	1,062.53	84.07
1658		J94	6.31	862.20	1,061.72	86.28
1659		J96	6.31	884.01	1,049.68	71.64
1660		J98	6.31	903.54	1,049.57	63.15

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APPENDIX C:

2.5 MG NORTH TOWER

BOLTON & MENK, INC.
Consulting Engineers & Surveyors
1960 Premier Drive • Mankato, MN 56001-5900
Phone (507) 625-4171 • Fax (507) 625-4177
www.bolton-menk.com

Daily Observation Report

Project #: N/A	**Date:** March 14, 2014	**Page 1 of 1**
Project: 2.5 MG Elevated Water Storage Tank Inspection/Evaluation	**Customer:** City of Coon Rapids	
Inspector: James Connor NACE #33440	**Location:** North Water Tower Hanson Blvd - Coon Rapids, MN	

Description of Work Performed:

The scope of the site visit was to inspect/evaluate the 2.5 MG Elevated Water storage Tank located on Hanson Blvd. in Coon Rapids, MN. The tank was fabricated and erected in 2003. The protective coating is an off-white color. There are visible coating delamination's that expose a cream colored underneath coating. This report will describe the condition of the protective coatings and any other items that appear to be of concern were noted and will be addressed in this report.

The Coon Rapids Utility Supervisor met at the site for a brief discussion. Permission to perform the destructive "X"-Cut tests (ASTM D 3359) was granted during the discussion. Results for each test are listed below.

Exterior:

The exterior protective coating revealed visible coating failures on the fluted tower base and the tank roof. The topcoat (white) layer appeared to have been delaminating from the next coating layer below (cream colored layer). There appeared to be no open areas to the substrate (excluding the tower base plate). The location of the delaminated areas on the fluted column appeared to be most evident from the west to south and continuing to the east side of the tank. The failures appeared to be actively growing in areas due to the evidence of coating on the ground and entrapped within the snow cover next to the tower. X-Cut adhesion tests were performed (as per ASTM D 3359) at several locations around the fluted column base. These adhesion tests were located at approximately shoulder level. See below for locations and test results.

The tower base plate edge presented visible corrosion with rust staining and it appeared that the substrate was open to the atmosphere.

The top of the tower exhibited what appeared to be a similar type of coating delamination the fluted column surface presented. There were numerous areas throughout the entire tank roof that exhibited failures.

Dry film thickness readings were taken randomly around the perimeter of the fluted column. The total dry film thicknesses ranged from approximately 7 to 11 mils with an average thickness of approximately 8 to 9 mils in total coating thickness. There were areas with approximately 2 to 4 mils of thickness that did not exhibit the topcoat that had previously delaminated.

See the below table for the adhesion test results.

Location on Column	Scale (ASTM D 3359)	Layer Peeled Off
North	4A (trace peeling)	Topcoat
West	5A (no peeling)	N/A
Southeast	4A (trace peeling)	Topcoat
East	4A (trace peeling)	Topcoat

Note: Test locations performed at approximately shoulder height (5 feet above ground).

Interior Dry:

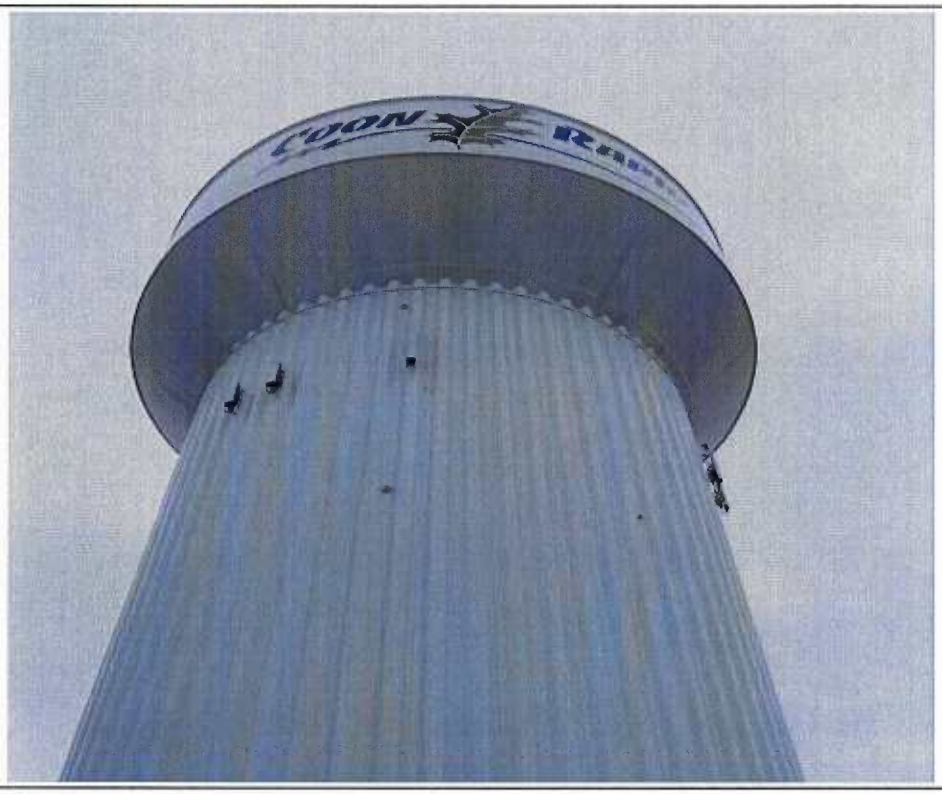
The interior dry areas were observed for coating condition. All of the areas observed appeared to be in good condition with exception of a few very minor coating failures. These minor spots were less than 1" in size and presented minor rust stain.

Interior Wet:

There was no access to the interior wet areas and therefore these areas were not inspected/evaluated.

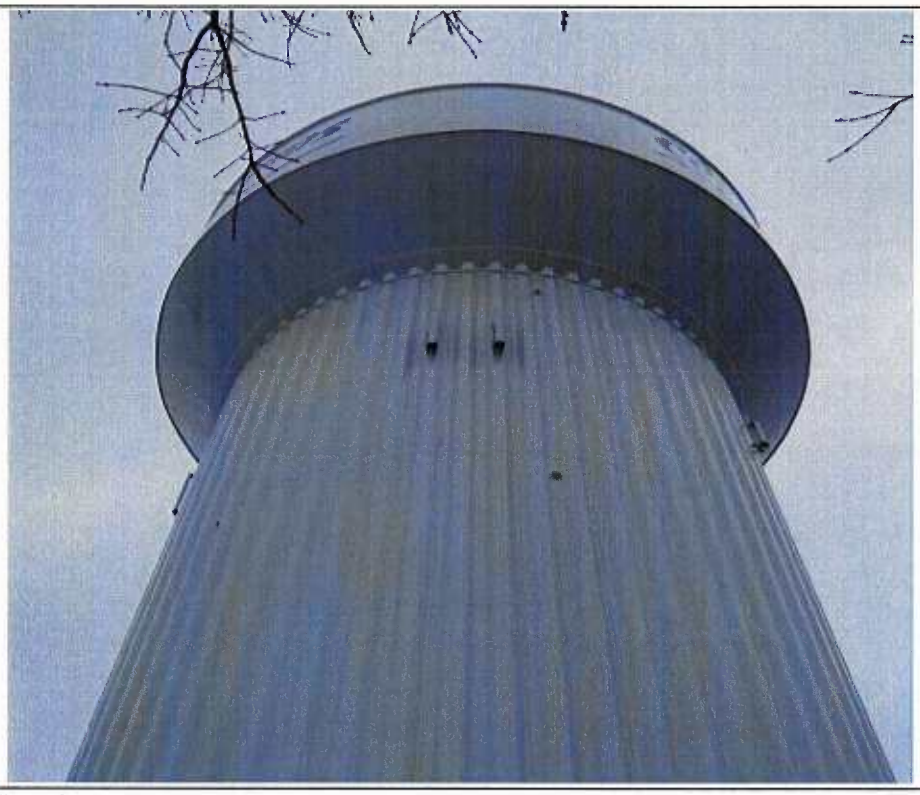
Signed: _____ Date: APRIL 30, 2014

NACE #33440



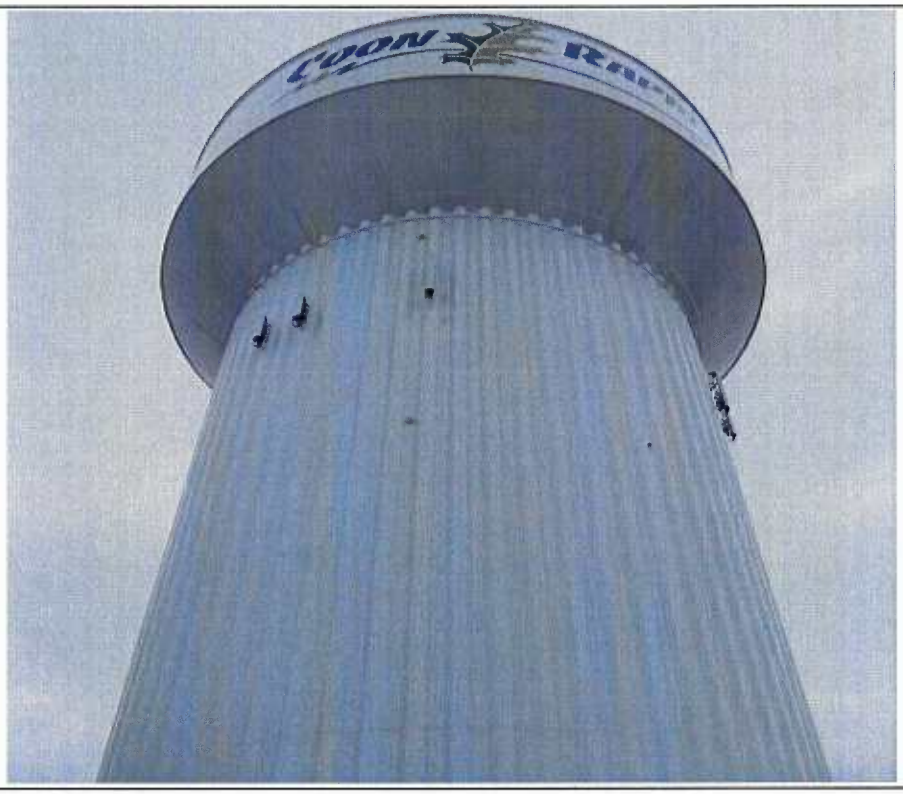
Photograph #: 1
Date: 3-14-14 North Tower (Hanson Blvd.) City of Coon Rapids
Subject: View of Tower from south

Photograph #: 2
Date: 3-14-14 North Tower (Hanson Blvd.) City of Coon Rapids
Subject: View of Tower from south



Photograph #: 3
Date: 3-14-14 North Tower (Hanson Blvd.) City of Coon Rapids
Subject: View of Tower from west

Photograph #: 4
Date: 3-14-14 North Tower (Hanson Blvd.) City of Coon Rapids
Subject: View of Tower from west



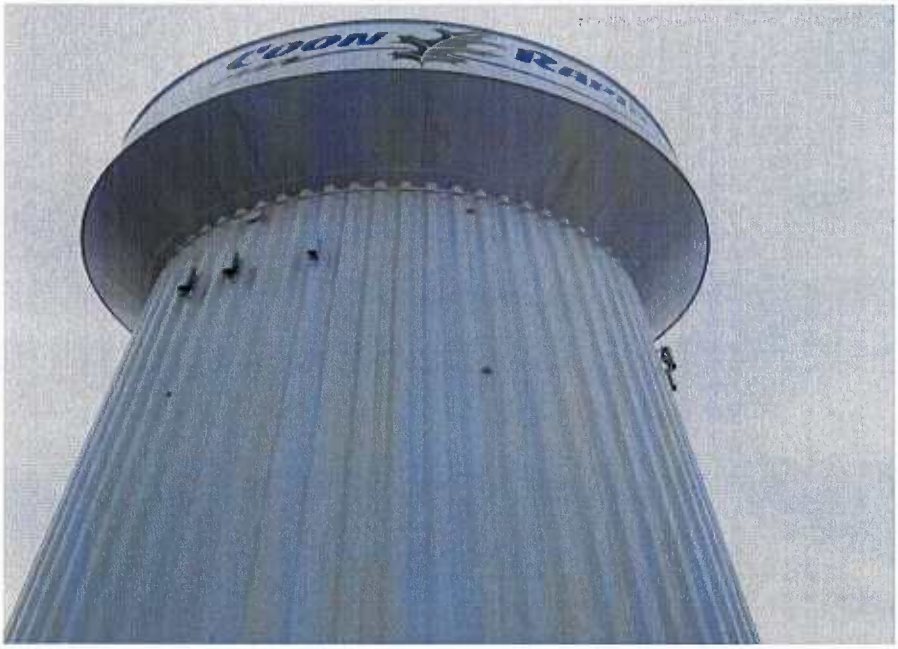
Photograph #: 5
Date: 3-14-14 North Tower (Hanson Blvd.) City of Coon Rapids
Subject: View of Tower from north

Photograph #: 6
Date: 3-14-14 North Tower (Hanson Blvd.) City of Coon Rapids
Subject: View of Tower from north

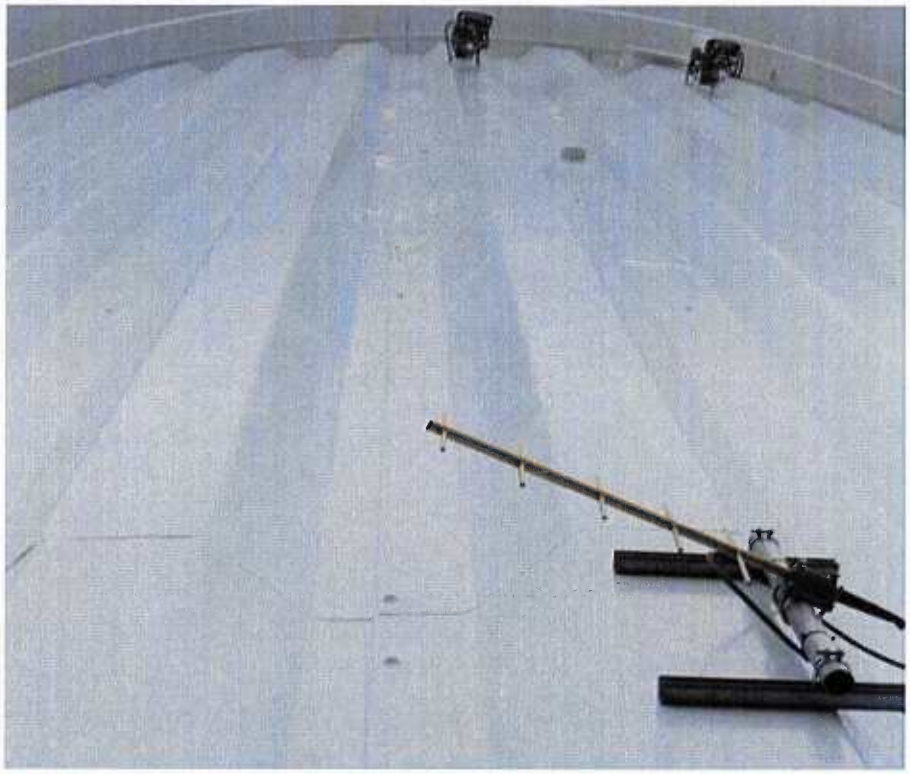
Photograph #: 7
Date: 3-14-14 North Tower (Hanson Blvd.) City of Coon Rapids
Subject: Coating failure on the west side of column

Photograph #: 8
Date: 3-14-14 North Tower (Hanson Blvd.) City of Coon Rapids
Subject: Coating failure on the west side of column

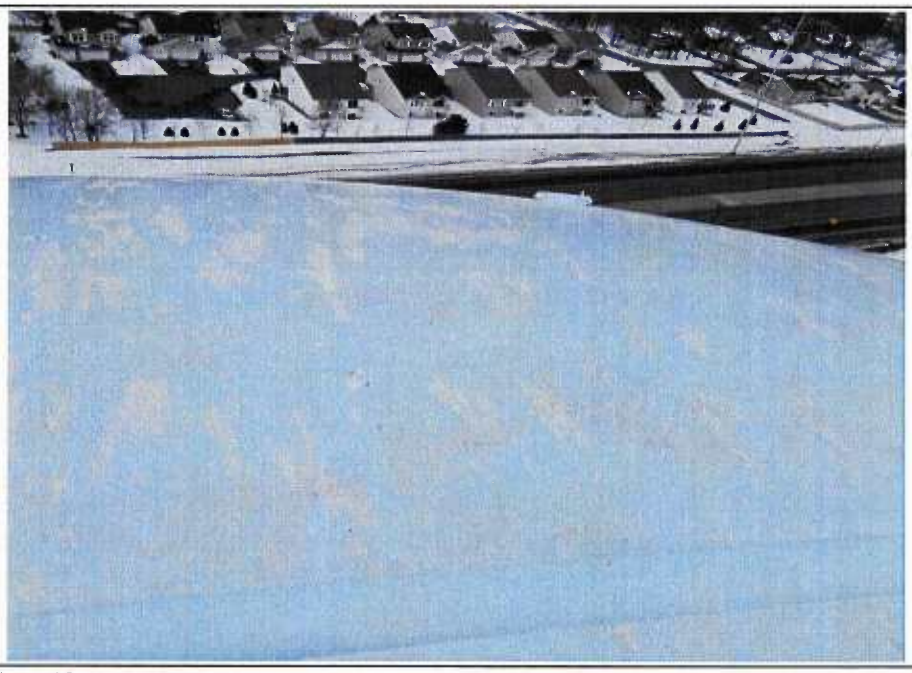
Photograph #: 9
Date: 3-14-14 North Tower (Hanson Blvd.) City of Coon Rapids
Subject: View of Tower from east



Photograph #: 10
Date: 3-14-14 North Tower (Hanson Blvd.) City of Coon Rapids
Subject: View of Tower from east



Photograph #: 11
Date: 3-14-14 North Tower (Hanson Blvd.) City of Coon Rapids
Subject: Coating failure on east side of tower column



Photograph #: 12
Date: 3-14-14 North Tower (Hanson Blvd.) City of Coon Rapids
Subject: Coating failure on tower roof

APPENDIX D:

5.5 MG RESERVIOR

BOLTON & MENK, INC.
Consulting Engineers & Surveyors
1960 Premier Drive • Mankato, MN 56001-5900
Phone (507) 625-4171 • Fax (507) 625-4177
www.bolton-menk.com

Daily Observation Report

Project #: N/A	**Date:** March 14, 2014	**Page 1 of 1**
Project: 5.5 MG East Water Storage Reservoir Inspection/Evaluation	**Customer:** City of Coon Rapids	
Inspector: James Connor NACE #33440	**Location:** East Water Storage Reservoir Dogwood Street NW - Coon Rapids, MN	

Description of Work Performed:

The scope of the site visit was to inspect/evaluate the 5.5 MG Ground Storage Reservoir located off of Dogwood Street NW in Coon Rapids, MN. The reservoir appearance is dark green color and was fabricated in 1965. The roof is an aluminum structure dome that includes a diagonal braced steel walkway/ledge without a safety rail. This walkway/ledge is also coated. The reservoir walls are approximately 20 feet above ground level.

The protective coatings and any other items that appeared to be of concern were noted and will be addressed in this report. Very noticeable are coating failures with top coat delamination that expose an underneath orange layer of coating.

The Coon Rapids Water Plant Operator met at the site and assisted with access during the observation. Permission to perform the destructive "X"-Cut tests (per ASTM D 3359) was granted during the discussion. Results for each test are as listed below.

Exterior:

The observations were begun on the north side of the reservoir. This area presented moderate to severe coating failure. The topcoat appeared to be delaminating from the orange coating that was directly underneath. The majority of the failures were located on the second of three horizontal levels of reservoir shell plates. There was evidence of the delaminated coating material scattered on the ground, and also trapped within the ice and snow near the reservoir base. This delamination was constant at the north and northeast side of the reservoir. There were other areas of coating delamination where a roof ledge drain hole presented evidence of a dripping liquid (rain/melted snow) dispersing onto the reservoir wall surface. The entire bottom two feet of the reservoir surface was contaminated with what appeared to be a dirt, fungus, and/or a mildew condition. This appearance was also heavy under some of the roof ledge drain holes where it was evident that dripping was occurring on the reservoir wall surface.
The underneath coating that was exposed appeared orange-red in color. A portion of this exposed under-coating exhibited a moderate level of "chalking" appearance.

There appeared to be no open areas to the substrate, excluding what appears to be a deep "scratch" on the north side of the reservoir.

X-Cut adhesion tests were performed (as per ASTM D 3359) at several locations around the reservoir. These adhesion tests were located at approximately shoulder level. See below for locations and test results.

The failures appeared to be actively growing in size and numbers due to the evidence of coating material on the ground and entrapped within the snow cover next to the reservoir.

The reservoir roof platform was accessed for observation. There was a delamination between two of the topcoat (green) layers and between the topcoat and underneath (orange) coating layer.

Dry film thickness readings were taken randomly around the perimeter of the reservoir. The total dry film thicknesses ranged from approximately 6 to 11 mils with an average of approximately 7 to 8 mils in total coating thickness. There were areas with approximately 2 to 3 mils (orange layer) of thickness that did not exhibit the topcoat (topcoat previously delaminated).

See the below table for the adhesion test results.

Location on Column	Scale (ASTM D 3359)	Layer Peeled Off
North	3A (jagged removal up to 1/16")	Topcoat
North-Northeast	0A(Removal beyond the "X"-Cut)	Topcoat
North-Northeast (Prime coat?)	5A (no peeling)	N/A
East	3A (jagged removal up to 1/16")	Topcoat
South	4A (trace peeling)	Topcoat
West	3A (jagged removal up to 1/16")	Topcoat

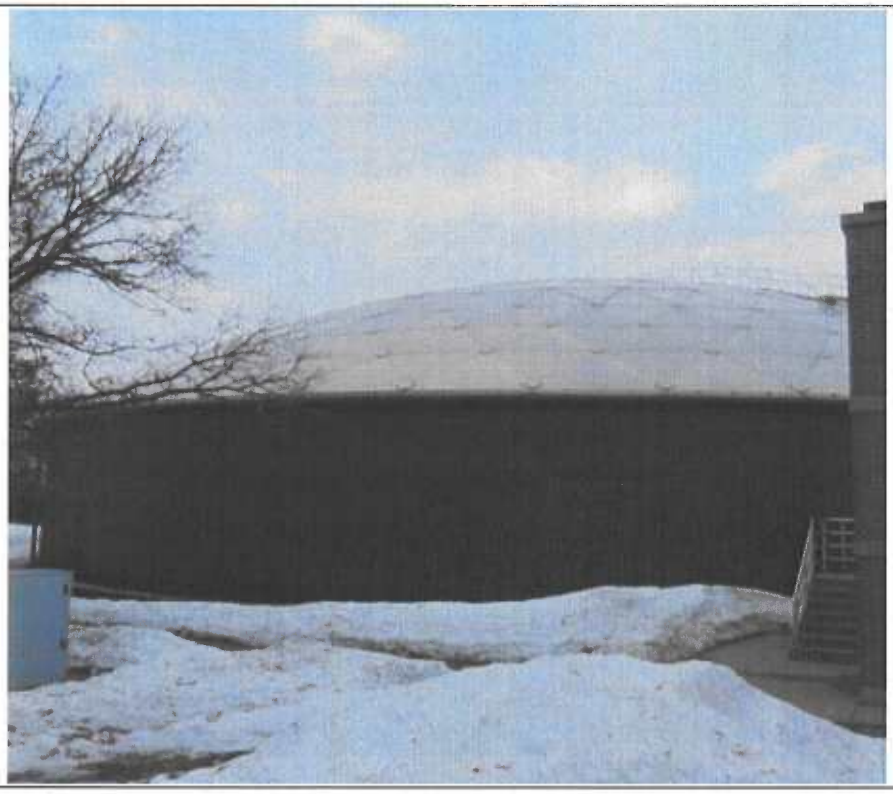
Note: Test locations performed at approximately shoulder height (5 feet above ground).

Interior:

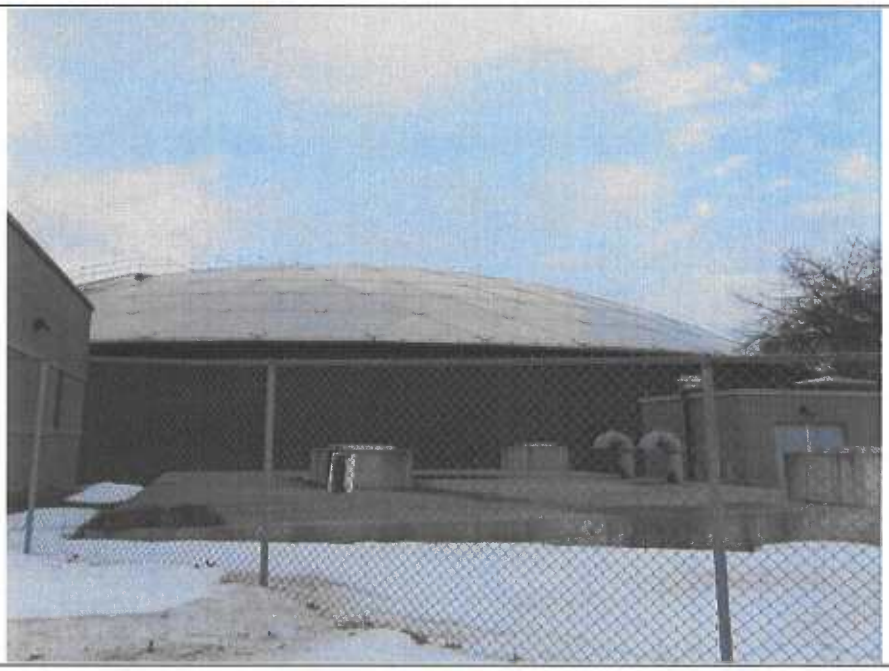
The interior was not accessible and therefore no inspection/evaluation was performed.

Signed: _____ Date: APRIL 30 2014

NACE #33440



Photograph #: 1
Date: 3-14-14 5.5MG East Reservoir (City of Coon Rapids, MN)
Subject: View of Reservoir from the south parking lot

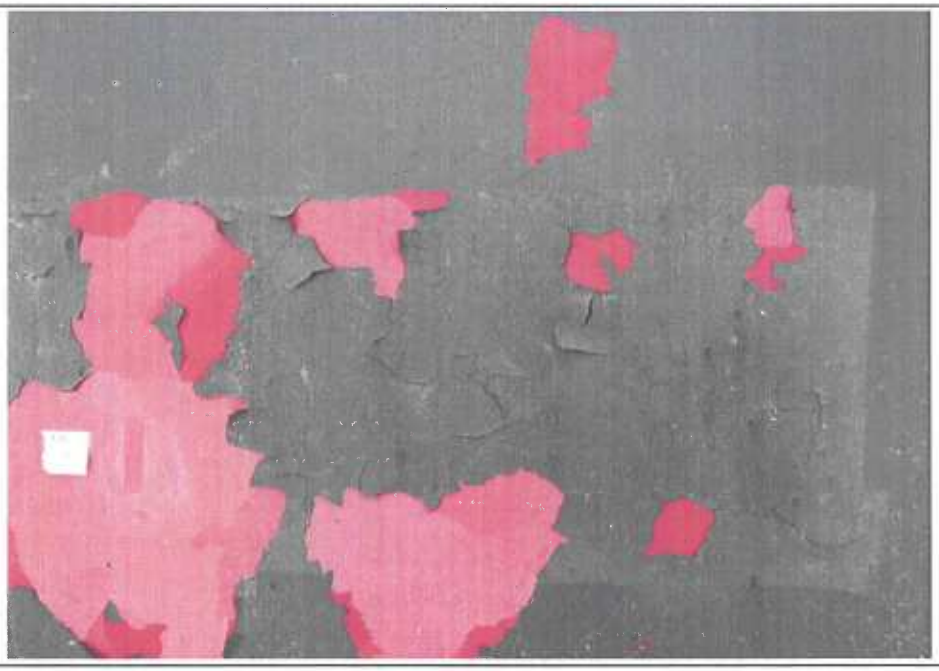


Photograph #: 2
Date: 3-14-14 5.5MG East Reservoir (City of Coon Rapids, MN)
Subject: View of reservoir from the east sidewalk

Photograph #: 3
Date: 3-14-14 5.5MG East Reservoir (City of Coon Rapids, MN)
Subject: View of reservoir from the northeast

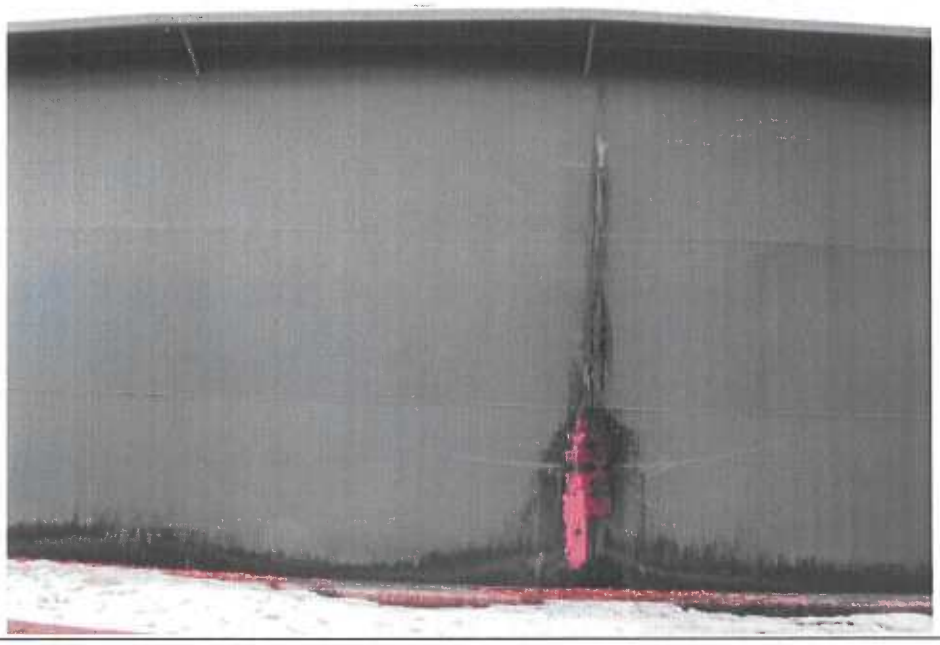
Photograph #: 4
Date: 3-14-14 5.5MG East Reservoir (City of Coon Rapids, MN)
Subject: View of reservoir from the north

Photograph #: 5
Date: 3-14-14 5.5MG East Reservoir (City of Coon Rapids, MN)
Subject: View of reservoir from the north



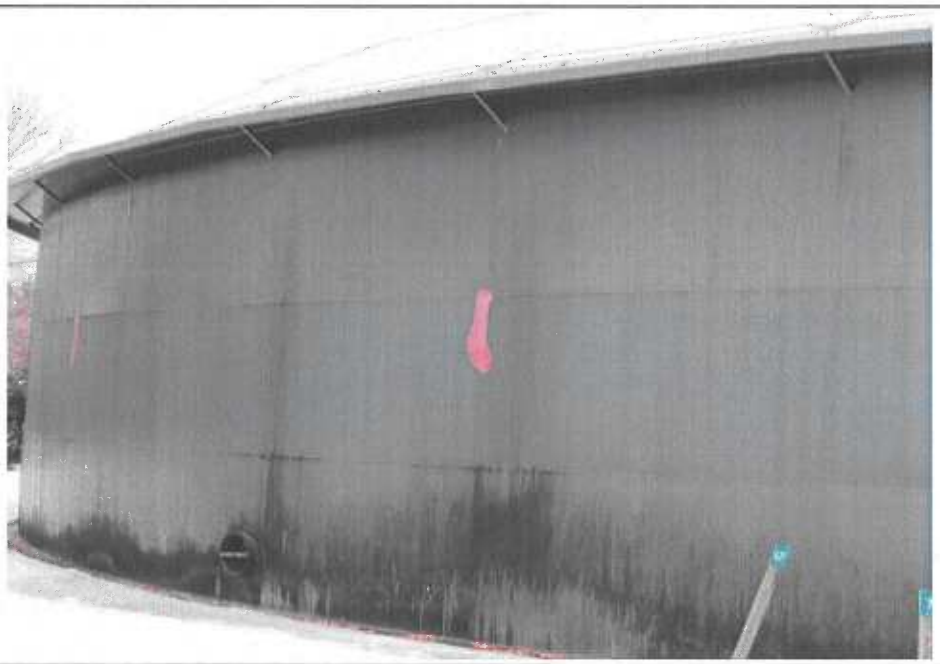
Photograph #: 6
Date: 3-14-14 5.5MG East Reservoir (City of Coon Rapids, MN)
Subject: View of reservoir from the northeast

Photograph #: 7
Date: 3-14-14 5.5MG East Reservoir (City of Coon Rapids, MN)
Subject: Reservoir overflow/drain pipe. Note sediment in pipe.

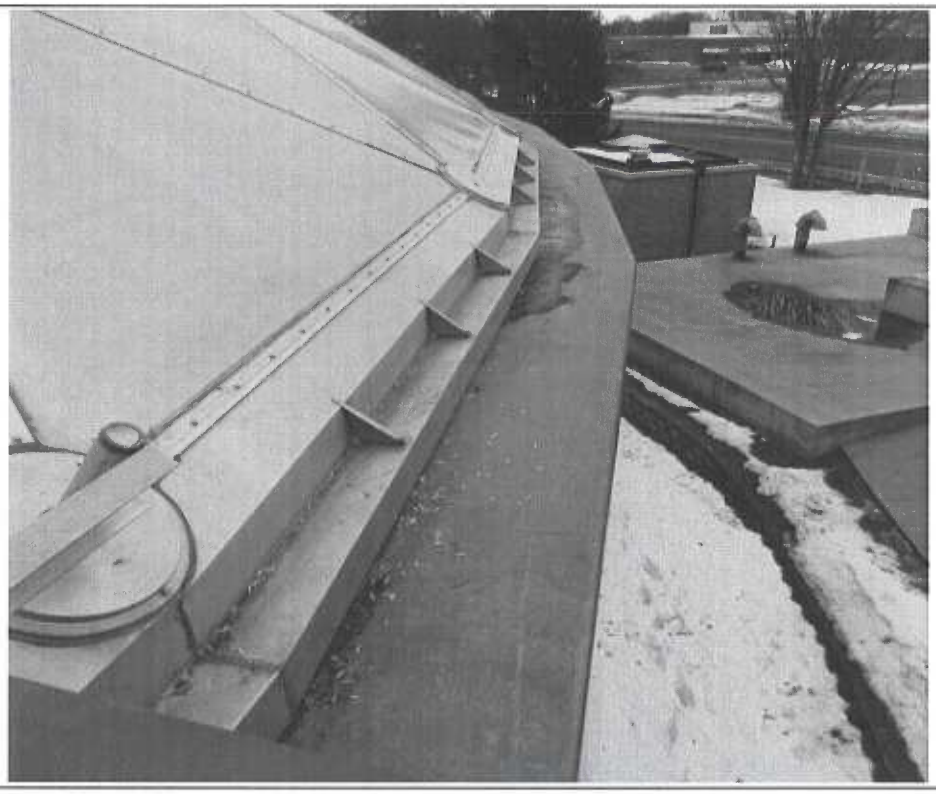


Photograph #: 8
East

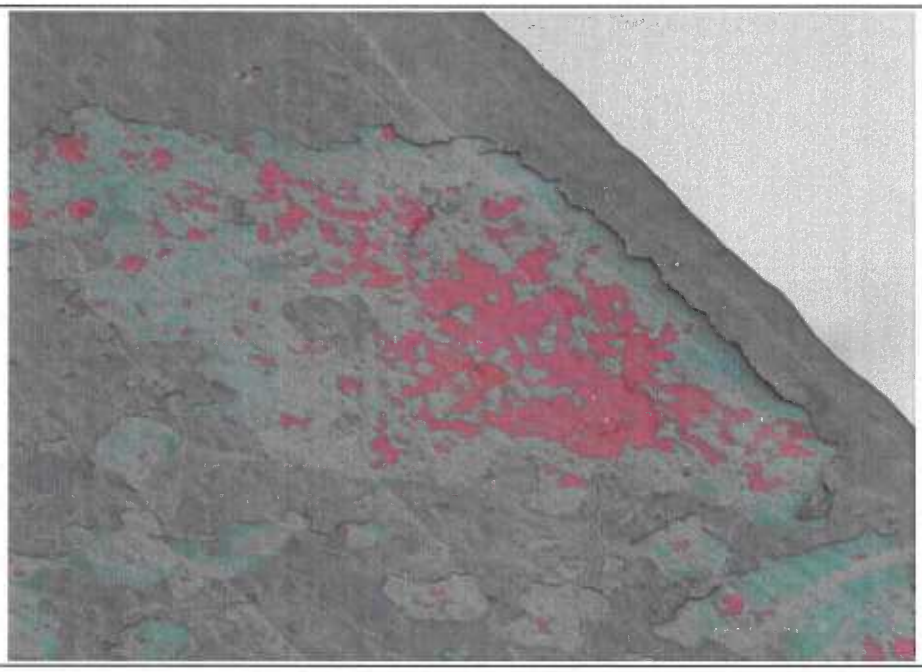
Photograph #: 9
Date: 3-14-14 5.5MG East Reservoir (City of Coon Rapids, MN)
Subject: View of reservoir from the southeast



Photograph #: 10
Date: 3-14-14 5.5MG East Reservoir (City of Coon Rapids, MN)
Subject: View of reservoir from the southwest



Photograph #: 11
Date: 3-14-14 5.5MG East Reservoir (City of Coon Rapids, MN)
Subject: View from reservoir roof access



Photograph #: 12
Date: 3-14-14 5.5MG East Reservoir (City of Coon Rapids, MN)
Subject: Coating failure at roof access

City Council Regular **22.**

Meeting Date: 10/07/2014

Subject: Consider Loan Agreement with American Little League for the Installation of Sports Lighting near Sand Creek Park

From: Tim Himmer, Public Works Director

INTRODUCTION

Council is being asked to consider the attached loan request from American Little League for the installation of sports lighting on two of their baseball fields at Sand Creek Park.

DISCUSSION

This item was discussed by Council in a work session on September 23rd. It was the general consensus that a loan could be considered, but some of the finer details would have to be resolved to staff's satisfaction prior to Council's consideration. Items identified as concerns in the work session have been discussed with American Little League, and following are the terms agreed to by staff:

- The current amount being requested is $135,000.
- Any lighting installed must comply with City code. Code states that lighting cannot be directed into a residential district from another property or obscure drivers' vision on public streets, and no lighting can create more than three foot-candles of light intensity at the property line. Attached is a photometric drawings that shows compliance with these requirements.
- Lighting cannot extend beyond 10:30 pm. This language will be included in the loan agreement and is agreeable to both parties. This time is consistent with current practices for adult softball at Sand Creek and other athletic facilities in the City.
- Due to the duration and amount of funds requested, interest and an administrative fee, should be charged. It was agreed to by both parties that 3% interest is an acceptable rate and will be included in the loan agreement. Additionally, a $100 per year administrative fee will be applied for staff processing time.
- There must be some type of security or guarantee to repay the loan. It was discussed and agreed to that the City would draft a note and mortgage as security for the loan, and American Little League would be required to pay any recording fees (estimated at $100).

RECOMMENDATION

Consider approval of the terms of the loan agreement with American Little League, and authorize staff to execute said agreement.

Attachments

American Little League Loan Request

Proposed Photometric Lighting Plan

COON RAPIDS ANDOVER AMERICAN LITTLE LEAGUE

Sand Creek Park, Coon Rapids, Minnesota • est. 1959

PO Box 48375
Coon Rapids, MN 55448

August 25, 2014

Coon Rapids City Council
11155 Robinson Drive
Coon Rapids, MN 55433

Members of the City Council:

As some of the Council may recall, there were three American Little League board members present at the City Council workshop held on August 4th, 2014. The representatives from American Little League presented the notion of the League obtaining a loan from the City to purchase lights for the Little League fields at Sand Creek Park.

League Information

The American League was established in 1959 and has provided thousands of kids of all skill levels the opportunity to enjoy the great game of baseball. The League's facility is located on private property, directly adjacent to the east side of Sand Creek Park.

The program has always been self-funded, relying on registration fees and concession stand revenue for its main source of operating income, in addition to support from local businesses through an outfield sign advertising program and donations from civic organizations. Two years ago, the League received a matching grant from the Minnesota Twins Community Fund to install netting on four fields to protect spectators from foul balls.

The most important resource the League has always had is its volunteers. Over the course of fifty four years, hundreds of families have given countless hours of their time and talent toward all aspects of operating the program, including park maintenance and many of the improvement projects. The spirit of volunteerism has allowed the program to keep the playing fields and facility very well maintained, while keeping registration costs at an affordable level.

The current Board of Directors is comprised of nearly two dozen Little League parents that are responsible for the growth and stability the league has experienced in the past five to seven years. They are equally committed to the continued success of the program. Several have been on the Board for nearly ten years, and plan to remain; many others have young children in the program and will be a part of the League for many years to come.

COON RAPIDS ANDOVER AMERICAN LITTLE LEAGUE

Sand Creek Park, Coon Rapids, Minnesota • est. 1959

Everyone associated with the Little League program is very excited about the Sand Creek Park renovation project. In conjunction with the project, would like to also make a long awaited, and much needed, improvement to the Little League Park, by installing lights on two of the fields.

Aside from the thrill that kids will get by playing a game at night under the lights, listed below are some of the practical benefits that lights would have on the League, and by extension, the City as well.

- Accommodate future growth by allowing night games
- Season schedule could have the same amount of games played per team in a less compacted time frame
- Flexibility in scheduling makeup games, which will avoid having to play on Sundays, which takes stress off of League families and volunteers.
- Allow the League to host either a District or State tournament every year. These events will not only increase the League's annual income, they will also have an economic impact on the City.

Proposed Loan Amount and Terms

Based on current bids obtained from lighting vendors, as well as local contractors, the project is estimated to cost $160,000. The League has set aside $20,000 toward this project to this point.

The American Little League is asking for an interest-free loan in the amount of $140,000 (one hundred forty thousand dollars). The League will make an annual minimum payment in the mount of $10,000 (ten thousand dollars), due on or by June 30th of each year starting in the year 2015.

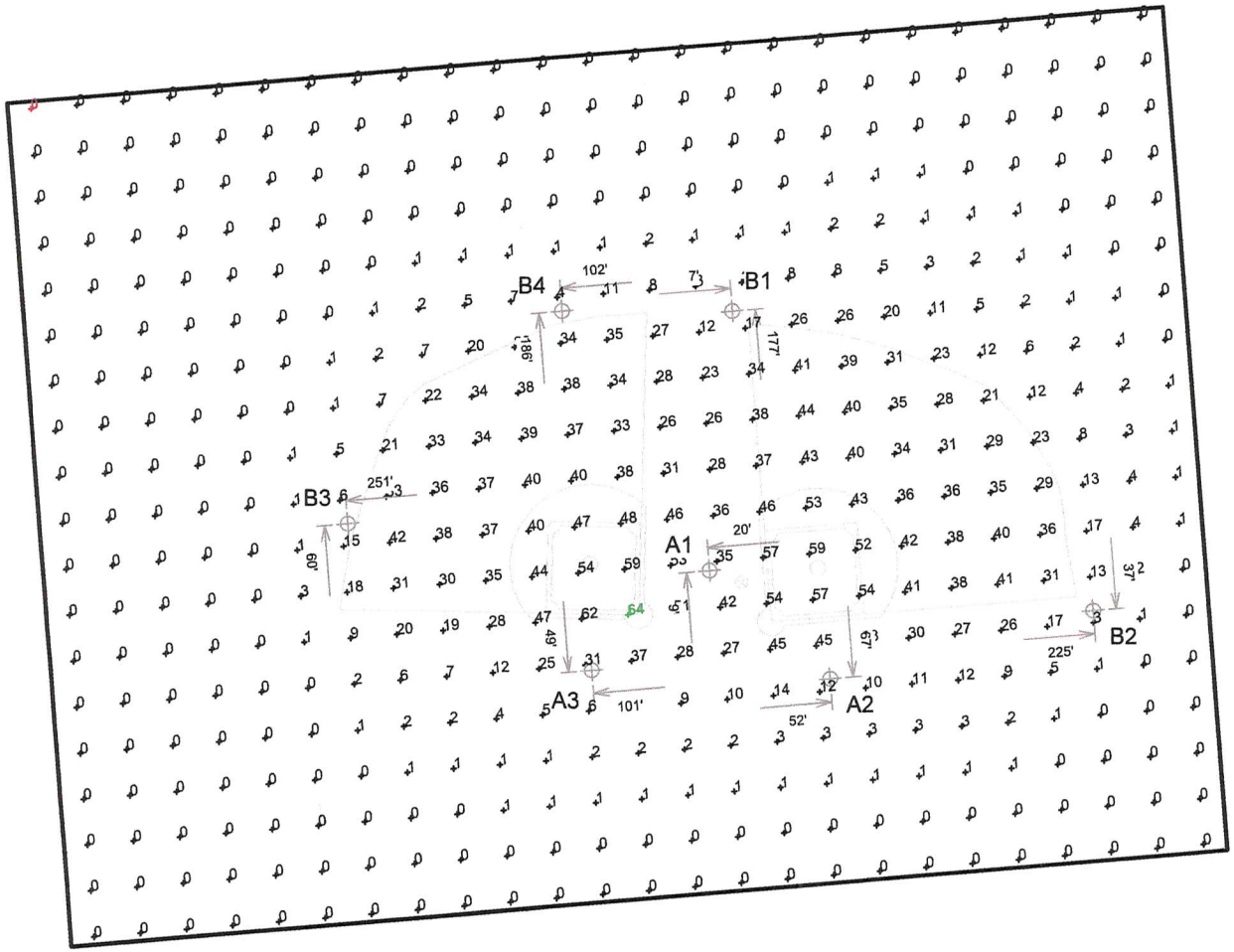
Thank you for your consideration,

Board of Directors
Coon Rapids/Andover American Little League

EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LAMP TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
1	A1	60'	-	60'	1500W MZ	3/4*	7	0
2	A2-A3	60'	-	60'	1500W MZ	3	3	0
2	B1-B2	70'	-	70'	1500W MZ	6	6	0
2	B3-B4	60'	-	60'	1500W MZ	5	5	0
7	TOTALS					35	35	0

* This structure utilizes a back-to-back mounting configuration



SCALE IN FEET 1 : 120

0' 120' 240'

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

MY PROJECT

Name: **Coon Rapids American LL**
Location: Coon Rapids,MN

GRID SUMMARY

Name: **Blanket Grid**
Size: 750' x 550'
Spacing: 30.0' x 30.0'
Height: 3.0' above grade

CONSTANT ILLUMINATION

SUMMARY — HORIZONTAL FOOTCANDLES

	Entire Grid
Scan Average:	**9.31**
Maximum:	64
Minimum:	0
Avg / Min:	627.29
Max / Min:	**4329.82**
UG (adjacent pts):	12.47
CU:	0.85
No. of Points:	475

LUMINAIRE INFORMATION

Luminaire Type:	Green Generation
Design Usage Hours:	5,000 hours
Design Lumens:	134,000
Avg Lamp Tilt Factor:	1.000
No. of Luminaires:	35
Avg KW:	42.87 (59.5 max)

Guaranteed Performance: The CONSTANT ILLUMINATION described above is guaranteed for the design usage hours of the system.

Field Measurements: Illumination measured in accordance with IESNA LM-5-04 and CIBSE LG4. Individual values may vary. See the Warranty document for details.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume +/- 3% nominal voltage at line side of the ballast and structures located within 3 feet (1m) of design locations.

ENGINEERED DESIGN

By: **Jared Brown**
File # / Date: 159110A 01-Oct-14

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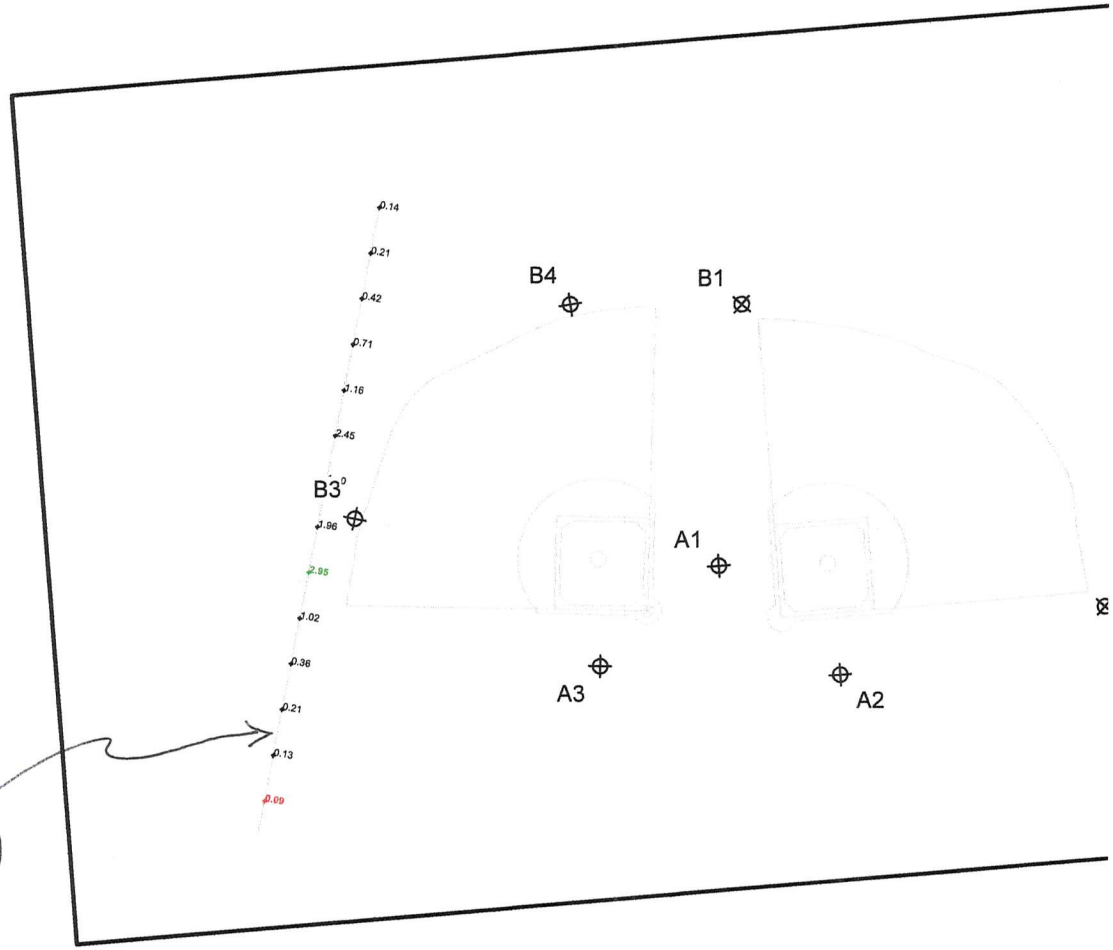
ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LAMP TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
1	A1	60'	-	60'	1500W MZ	3/4*	7	0
2	A2-A3	60'	-	60'	1500W MZ	3	3	0
2	B1-B2	70'	-	70'	1500W MZ	6	6	0
2	B3-B4	60'	-	60'	1500W MZ	5	5	0
7	TOTALS					35	35	0

* This structure utilizes a back-to-back mounting configuration



East Property Line

SCALE IN FEET 1 : 120

0' 120' 240'

Pole location(s) ✚ dimensions are relative to 0,0 reference point(s) ⊗

MY PROJECT

Name: **Coon Rapids American LL**
Location: Coon Rapids,MN

GRID SUMMARY

Name: **Property Line**
Spacing: 30.0'
Height: 3.0' above grade

CONSTANT ILLUMINATION

SUMMARY — HORIZONTAL FOOTCANDLES

	Entire Grid
Scan Average:	**0.9789**
Maximum:	2.95
Minimum:	0.09
No. of Points:	14

LUMINAIRE INFORMATION

Luminaire Type:	Green Generation
Design Usage Hours:	5,000 hours
Design Lumens:	134,000
Avg Lamp Tilt Factor:	1.000
No. of Luminaires:	35
Avg KW:	42.87 (59.5 max)

Guaranteed Performance: The CONSTANT ILLUMINATION described above is guaranteed for the design usage hours of the system.

Field Measurements: Illumination measured in accordance with IESNA LM-5-04 and CIBSE LG4. Individual values may vary. See the Warranty document for details.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume +/- 3% nominal voltage at line side of the ballast and structures located within 3 feet (1m) of design locations.

ENGINEERED DESIGN

By: **Jared Brown**
File # / Date: 159110A 01-Oct-14

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ILLUMINATION SUMMARY

City Council Regular **23.**

Meeting Date: 10/07/2014
Subject: Delinquent Utilities Levy-2014
Submitted For: Sharon Legg, Finance Director
From: Heidi Cederstrand, Assessment Clerk II

INTRODUCTION

Delinquent utility bills for the entire City should be certified to the County for collection with the 2015 property taxes.

DISCUSSION

According to the City Code, delinquent utility bills should be certified to the County for collection with real estate taxes. Users have been notified by mail that payments should be made to avoid certification.

The amount to be certified to the County is as follows:

UTILITY COST $ 1,022,745.50
$30.00 PER ACCOUNT FOR ADMIN. 90,360.00

TOTAL $ 1,113,105.50*

Provision has been made to accept the utility amount without interest through 4:30 p.m. November 7, 2014. Last year at this time the utility cost total was $1,023,172.77.

The following are the *final amounts certified* to taxes for the past number of years.

Date Certified	# of accounts	Utility Cost	Certification Fee	Total
October 7, 2008	1,432	$520,361	$28,640	$549,001
October 6, 2009	1,510	$573,748	$37,750	$611,498
October 5, 2010	2,721	$963,163	$81,630	$720,043
October 4, 2011	1,553	$641,153	$47,190	$688,343
October 2, 2012	1,545	$623,483	$46,350	$669,833
October 1, 2013	1,506	$647,577	$45,180	$692,757

RECOMMENDATION

Consider Adoption of Resolution No. 14-92 Resolution Certifying Delinquent Utilities to Taxes.

Attachments

Res. Del. Util. 2014

RESOLUTION NO. 14-92

RESOLUTION CERTIFYING DELINQUENT UTILITIES TO TAXES

WHEREAS, pursuant to City Code Section 13-304, any delinquencies in the payment of the water usage on said premises shall be a lien and charged against the premises so served regardless of whether the same be a homestead or not. Said lien shall be reported to the Division of Property Records and Taxation by the City Assessor from time to time and in the same manner as other taxes are collected; and

WHEREAS, accounts are delinquent.

NOW, THEREFORE, BE IT RESOLVED by the City Council of Coon Rapids, Minnesota that

1. To certify to the County for collection with the 2015 taxes, delinquent utility accounts.

2. The amount shall bear interest at the rate of 1.15% per annum from the date of the adoption of this resolution until December 31, 2015.

3. At any time prior to certification to the Division of Property Records and Taxation, the amount may be paid to the City Treasurer. However, such payment must be made before November 7, 2014 or interest will be charged from October 7, 2014 through December 31st of the next succeeding year.

Adopted by the Coon Rapids City Council this 7th day of October, 2014.

_____
Tim Howe, Mayor

ATTEST:

_____
Joan Lenzmeier, City Clerk

City Council Regular **24.**

Meeting Date: 10/07/2014

Subject: Open Mic Report - Kyle Palzer, Re: Sand Creek Park Redevelopment

Submitted For: Tim Himmer, Public Works Director **From:** Cher Ridout, Admin Secretary II

INTRODUCTION

Kyle Palzer, 911 110th Avenue, appeared at Open Mic at the September 2, 2014 Council meeting regarding the Sand Creek Park redevelopment.

DISCUSSION

At the September 2, 2014 Council meeting, Mr. Palzer addressed the City Council regarding the concept plan for redevelopment of Sand Creek Park. Specifically, he requested the City Council reconsider the elimination of the proposed splash pad. Mr. Palzer suggested that if the splash pad was not an option, that the City consider some other type of water feature. He also suggested that the typical playground structure proposed for Sand Creek Park be more original than the standard playground structures at other City parks. In general, it appeared Mr. Palzer was looking for improvements to the park to provide a unique destination for children in the neighborhood.

The park design is basically broken into 4 separate areas; the northerly area offers athletic fields for youth usage (football, lacrosse, softball, and baseball) and a skate park, the north-central area includes a warming house, ice skating facilities, and athletic fields for adult usage, the south-central area functions as a neighborhood park (basketball & tennis courts, play structure, and shelter & open space for picnicking), and the south end is a natural wooded area. All of the above features are connected with parking facilities and trails (both natural and paved), which allow access to and through the park.

The splash pad was eliminated from the concept plan due to its location within the park (not visible from the adjacent roadways), and the fact that Sand Creek Park is considered more of an athletic complex. The siting of a splash pad should be in a location that is more highly visible, such that it functions to draw people in. Due to the nature of this park design it was not feasible for the splash pad to function as a destination draw, while still serving the needs of the various athletic user. A splash pad is still being considered for inclusion in another City park(s) that would be better served by such an amenity, like Lions and/or Boulevard Park.

Through the design process for Sand Creek, staff will be evaluating the idea of including a "unique" playground structure that could serve as a destination draw. Three play areas have been identified on the concept plan to serve the various areas/users identified above (youth athletics, adult athletics, and neighborhood); the proposed structures within each area is confined to a particular space and budget. During design we will continue to evaluate whether adequate space can be dedicated, in reasonably close proximity to other amenities, for a more substantial playground structure that could serve all users within budget constraints.

RECOMMENDATION

No further action is required at this time.

cc: Kyle Palzer