



111 E. COMMERCIAL STREET
WILLITS, CALIFORNIA 95490
(707) 459-4601 TEL
(707) 459-1562 FAX

WILLITS CITY COUNCIL AGENDA

NOVEMBER 12, 2014 ♦ 6:30 P.M. ♦ COUNCIL CHAMBERS

1. **OPENING MATTERS** – a) Call to Order; b) Pledge to Flag; c) Roll Call

2. **PUBLIC COMMUNICATIONS**

Council welcomes participation in its meetings. Comments shall be limited to three (3) minutes per person so that everyone may be given an opportunity to be heard. To expedite matters and avoid repetition, whenever any group of persons wishes to address the Council on the same subject matter, the Mayor may request that a spokesperson be chosen by the group. This item is limited to matters under the jurisdiction of the City Council which are not on the posted agenda. Public criticism of the City Council, Commission, Boards and Agencies will not be prohibited. No action shall be taken.

3. **PUBLIC MATTERS**

a. Update on Drought Conditions and Status of the City's Emergency Water Supply Project

4. **CONSENT CALENDAR**

Matters listed under the Consent Calendar are considered to be routine by the City Council and will be enacted by a single motion and roll call vote by the City Council. Items may be removed from the Consent Calendar upon request of a Councilmember and acted upon separately by the City Council.

The following items are recommended for approval, as follows:

- a. City Council Minutes – October 22, 2014
- b. Resolution Renewing the City's Declaration of Local Emergency and Extending the Existence of Local Emergency Due to Drought Conditions Pursuant to Resolution No. 2014-02
- c. Resolution Authorizing Change of Authorized Signatures for the City of Willits Checking Account Held at Savings Bank of Mendocino County
- d. Resolution Authorizing Certain City Staff to Transfer Funds Between the Local Agency Investment Fund and Savings Bank of Mendocino County
- e. Contract with Mead & Hunt to Conduct an Initial Study and Prepare a Negative Declaration or Mitigated Negative Declaration for REACH Air Medical Services to Establish an Operations Base at Willits Municipal Airport (Ells Field)

(Materials for this item will be finalized and distributed on Monday, November 10, 2014)

5. **INFORMATIONAL REPORTS**

Matters that do not require action by the City Council but are of public interest.

- a. Disbursements Journal(s):
 - Warrant Nos. 25279-25297, Totaling \$41,214.04
 - Warrant Nos. 25298-25369, Totaling \$210,796.40
- b. Building Inspection Activity Report(s) – October 2014
- c. Business License Activity Report(s) – October 2014
- d. Water Consumption/Revenue Chart – October 2014

6. **RIGHT TO APPEAL**

Persons who are dissatisfied with the decisions of the City Council may have the right to a review of that decision by a court. The City has adopted Section 1094.6 of the Code of Civil Procedure, which generally limits to 90 days the time within which the decisions of the City boards and agencies may be judicially challenged.

7. **COMMISSIONS, AGENCIES AND AUTHORITIES**

The Willits City Council meets concurrently as the City of Willits Planning Commission and City of Willits Successor Agency.

8. CITY MANAGER REPORTS AND RECOMMENDATIONS

- a. Verbal Reports – No Action

9. DEPARTMENT RECOMMENDATIONS

- a. Administration (City Clerk, Finance, Human Resources, Legal)
b. Public Safety
c. Community Development
d. Public Works & Engineering
e. Water & Wastewater Systems
(1) Discussion Regarding Wastewater Treatment Plant Influent Metering System Evaluation

10. CITY COUNCIL AND COMMITTEE REPORTS

- a. Mendocino Council of Governments (MCOG)
b. Local Agency Formation Commission (LAFCO)
c. Mendocino Transit Authority (MTA)
d. Mendocino Solid Waste Management Authority-Joint Powers Authority (MSWMA-JPA)
e. Economic Development and Financing Corporation (EDFC)
f. League of California Cities
g. Water & Wastewater Systems Committee
h. Revit-ED Committee
i. Finance Committee
j. Ad Hoc Committees
 - Caltrans Bypass Project
 - Solid Wastes of Willits Franchise Agreement
 - Solar Array Project
 - Main Street Improvements
- k. Other Committee Reports

11. COUNCIL MEMBER REPORTS AND RECOMMENDATIONS

- a. Review and Discussion of Draft Municipal Service Review
(Materials for this item will be finalized and distributed on Monday, November 10, 2014)

12. ENACTMENT OF ORDINANCES

13. GOOD & WELFARE

14. CLOSED SESSION NOTICE

- a. Conference with Legal Counsel Pursuant to Government Code §54956.9 – Existing Litigation: Brooktrails Township Community Services District, a Public Agency vs. City of Willits, a General Law City; and DOES 1 through 100, Inclusive; Case No. SCUJ CVG-1056037
b. Conference with Labor Negotiators Pursuant to Government Code §54957.6 – Agency Negotiators: Rick Haeg and Brandi Burtness; Employee Organization(s): All
c. Conference with Real Property Negotiators Pursuant to Government Code §54956.8 – Willits Justice Center, Located at 125 East Commercial Street, Willits, California 95490; Agency Negotiator: Adrienne Moore, City Manager, H. James Lance, City Attorney, and Gerardo Gonzalez, Chief of Police; Negotiating Parties: County of Mendocino; Under Negotiation: Potential Acquisition, Price, and Terms

15. ADJOURNMENT

I hereby certify under penalty of perjury under the laws of the State of California that the foregoing agenda was posted on the bulletin board at the main entrance of the City of Willits City Hall, located at 111 East Commercial Street, Willits, California, not less than 72 hours prior to the meeting set forth on this agenda.

*Dated this 7th day of November, 2014.
Cathy Sanders, Deputy City Clerk*



111 E. COMMERCIAL STREET
WILLITS, CALIFORNIA 95490
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(707) 459-1562 FAX

**WILLITS CITY COUNCIL
AGENDA ADDENDUM**

NOVEMBER 12, 2014 ♦ 6:30 P.M. ♦ COUNCIL CHAMBERS
(See Regular Agenda for Additional Council Business)

14. CLOSED SESSION NOTICE

- a. Conference with Legal Counsel Pursuant to Government Code §54956.9 – Anticipated Litigation – One Case

I hereby certify under penalty of perjury under the laws of the State of California that the foregoing agenda was posted on the bulletin board at the main entrance of the City of Willits City Hall, located at 111 East Commercial Street, Willits, California, not less than 72 hours prior to the meeting set forth on this agenda.

*Dated this 9th day of November, 2014.
Cathy Sanders, Deputy City Clerk*



111 E. COMMERCIAL STREET
WILLITS, CALIFORNIA 95490
(707) 459-4601 TEL
(707) 459-1562 FAX

**WILLITS CITY COUNCIL
MINUTES
WEDNESDAY, OCTOBER 22, 2014**

Mayor Madrigal called a regular meeting of the City Council to order at 6:33 p.m., in Council Chambers. The meeting was preceded by the pledge to the flag.

Roll Call: Councilmembers Larry Stranske, Madge Strong, Bruce Burton, Ron Orenstein, and Mayor Holly Madrigal were present.

Also present were staff members: Adrienne Moore, City Manager; Jim Lance, City Attorney; Gerry Gonzalez, Police Chief; Rod Wilburn, Public Works Director; Susie Holmes, Finance Director; J.C. England, Water/Wastewater Supervisor; and Kim Lensing, Administrative Assistant (Acting Deputy City Clerk).

OFF AGENDA ITEMS

(Amendments to the agenda require a 4/5th vote of the City Council)

Moved by Orenstein/Seconded by Stranske and carried unanimously to add the following two items to the agenda:

DISCUSSION AND POSSIBLE ACTION TO APPROVE AN INDEMNITY AGREEMENT WITH BROOKTRAILS COMMUNITY SERVICE DISTRICT

Public Comment: Randi Covin commented on the relationship between the City of Willits and Brooktrails Township, urging the Council to move toward resolving the dispute, noting that she will encourage Brooktrails Board to do the same.

Moved by Strong/Seconded by Orenstein and carried (4/11, with Burton dissenting) to approve the indemnity agreement with Brooktrails Community Service District, and authorize City Manager to execute same.

CLOSED SESSION NOTICE

Conference with Legal Counsel Pursuant to Government Code §54956.9b – Anticipated Litigation

2. PUBLIC COMMUNICATIONS

Victor Hansen commented that Mayor Madrigal's October 1st facebook post regarding campaign signs was inaccurate and offensive to him.

3A. DISCUSSION REGARDING ANTICIPATED MORATORIUM ON NEW AND EXPANDED WATER CONNECTIONS PURSUANT TO THE STATE WATER RESOURCES CONTROL BOARD, DIVISION OF DRINKING WATER

City Manager Moore stated that staff is still gathering information from the Regional Water Quality Control Board (RWQCB) to answer questions brought up by the recently received compliance order and the moratorium on new and expanded water services connections it imposes. The matter will be brought back to the City Council with more information as it becomes available.

Public Comment: Bill Barksdale commented on the curtailment activities recommended by the State.

No action taken.

3B. DISCUSSION AND POSSIBLE ADOPTION OF RESOLUTION IMPLEMENTING WATER WASTE PROHIBITIONS AND WATER CONSERVATION MEASURES IN COMPLIANCE WITH STATE WATER RESOURCES CONTROL BOARD RESOLUTION 2014-0038, EFFECTIVE IMMEDIATELY

City Attorney Jim Lance recommended that the City Council adopt the recommended resolution in order to be in compliance with the State's current mandates.

Public Comment: None presented.

Moved by Strong/Seconded by Madrigal and carried unanimously, to adopt Resolution (No. 2014-44) imposing immediate restrictions on the irrigation of ornamental landscapes and turf with City domestic water to supplement the existing voluntary Stage 1 Conservation Measures under the Water Shortage Emergency Plan, and provide direction to staff concerning establishment and implementation of a water waste fee schedule.

3C. DISCUSSION AND POSSIBLE ADOPTION OF RESOLUTION RENEWING THE CITY'S DECLARATION OF LOCAL EMERGENCY AND EXTENDING THE EXISTENCE OF LOCAL EMERGENCY DUE TO DROUGHT CONDITIONS PURSUANT TO RESOLUTION 2014-02

Mayor Madrigal introduced the matter, recognizing that the need for this resolution is still necessary.

Public Comment: None.

Moved by Orenstein/Seconded by Burton and carried unanimously to adopt Resolution (No. 2014-45) renewing City's declaration of a local emergency and extending the existence of a local emergency due to drought conditions pursuant to Resolution No. 2014-02.

3D. DISCUSSION AND POSSIBLE ACTION REGARDING REQUEST FROM BROOKTRAILS TOWNSHIP COMMUNITY SERVICES DISTRICT FOR AN INTER-TIE CONNECTION TO THE CITY'S WATER SYSTEM

City Manager Moore introduced the matter, stating that due to the recent correspondence from Regional Water Quality Control Board (RWQCB), insufficient information is available at this time to take action on this matter.

Public Comment: None.

No action taken.

8A. Discussion and Possible Approval of Contribution to the Leadership Mendocino Program

City Manager Moore described the benefits of the Leadership Mendocino program and its function within the community, noting several local alumni of the program. Council discussed many options and made no decision; this will be brought back at the next City Council meeting.

Public Comment: Heidi Dickerson spoke about the benefits and activities of Leadership Mendocino and the importance of the partnership with the City of Willits and the benefits of the requested contribution of \$1000.

No action taken.

RECESS: 8:09 – 8:15 P.M.

4. CONSENT CALENDAR

The following item(s) are recommended for approval:

- a. City Council Minutes – October 8, 2014 – **Approved**
- b. Resolution (**No. 2014-46**) Appointing the City Manager as Director and the Finance Director as Alternate Director to the Redwood Empire Municipal Fund (REMIF) Board of Directors – **Approved**
- c. Resolution (**No. 2014-47**) Appointing the Finance Director to Concurrently Hold the position of City Treasurer – **Approved**

Moved by Stranske/Seconded by Orenstein and carried unanimously to approve Consent Calendar items (a-c), with a correction to the minutes of October 8, 2014.

5. INFORMATIONAL REPORTS

Matters that do not require action by the City Council but are of public interest.

- a. Disbursements Journal(s):
 - Warrant Nos. 25189-25193, Totaling \$34,173.28
 - Warrant Nos. 25194-25278, Totaling \$251,187.76
- b. Written Update from Caltrans Regarding the Bypass Project

6. RIGHT TO APPEAL

None presented.

7. COMMISSIONS, AGENCIES AND AUTHORITIES

None presented.

8B. DISCUSSION and Possible Approval of Emergency Operating Revenue for the Willits Art Center

City Manager Moore spoke about the Art Center's current fiscal condition and the need for emergency funds to maintain operation until their non-profit status is achieved and their Board of Directors is seated. Mr. Barksdale was asked by Council to provide a budget or business plan for the Council to have a better understanding of how the funds will be used so that the matter can be revisited at the next City Council meeting.

Public Comment: Bill Barksdale spoke about the benefits to the community of having the Art Center revitalized.

No action taken.

8c. Verbal Reports

City Manager Moore reported on the following:

- REACH project update, last week REACH made a presentation to the Brooktrails Board of Directors, a TAC meeting was also held to discuss water and sewer connections;
- Labor negotiations are continuing; and
- Deputy City Clerk is on vacation and returning next week.

Public Comment: None.

9. DEPARTMENT RECOMMENDATIONS

- a. Administration (City Clerk, Finance, Human Resources, Legal) – no further reports.
- b. Public Safety:
 - Police Chief Gonzalez reminded the community that Halloween is next week and we should all drive carefully and watch for children. A car chase last Thursday on the

streets of Willits involving individuals suspected of burglary was resolved by City Police Officers, Sheriff's Deputies and California Highway Patrol.

- c. Community Development:
 - John Sherman is away this week at training; Frank Howard, retired Building Inspector is filling in for Mr. Sherman in his absence. Our new Planner, Dusty Duley is keeping busy with many local projects.
- d. Public Works & Engineering:
 - Public Works Director Rod Wilburn reported that the Emergency Water Supply project is continually moving forward, the building plans are being reviewed and updated, much of the work on the building to be completed by City Staff, expected to be mostly completed by December. Permit issues may prevent drilling the Elias Replacement Well until next spring. Issues with the Army Corps of Engineers are being addressed by City Staff. Then Main Street Waterline Project is waiting on encroachment permit from Caltrans.
- e. Water & Wastewater Systems – The Water Treatment Plant is entering the final phase of construction, the department will provide a more complete report next meeting.

10. CITY COUNCIL AND COMMITTEE REPORTS

- a. Mendocino Council of Governments (MCOG) – meets November 3, 2014.
- b. Local Agency Formation Commission (LAFCO) – Mayor Madrigal was unavailable to attend; next meeting is November 3, 2014.
- c. Mendocino Transit Authority (MTA) did not meet.
- d. Revit-ED Committee did not meet.
- e. Mendocino Solid Waste Management Authority-Joint Powers Authority (MSWMA-JPA) did not meet.
- f. Economic Development and Financing Corporation (EDFC) – discussed numerous upcoming projects.
- g. League of California Cities did not meet.
- h. Water Resources Committee did not meet.
- i. Sewer System Committee did not meet.
- j. Finance Committee – met last Monday, received Fiscal Year 2014-15 first quarter report.
- k. Ad Hoc Committees:
 - Caltrans Bypass Project – did not meet.
 - Solid Waste of Willits Franchise Agreement – meeting to be scheduled next week with Jerry Ward to begin negotiations.
 - Solar Array Project – met and still working on items to bring forward for City Council discussion.
 - Main Street Improvements – meets October 23rd, to continue work on the Caltrans Sustainable Transportation Planning Grant application, due October 31st.
- l. Other Committee Reports – no further reports.

11. COUNCIL MEMBER REPORTS AND RECOMMENDATIONS

None presented.

12. ENACTMENT OF ORDINANCES

None presented.

13. GOOD & WELFARE

Mayor Madrigal mentioned the Giants won the first game of the World Series and reminded the public to be careful on Halloween next Friday.

ADJOURNED TO CLOSED SESSION AT 9:52 P.M.

14. CLOSED SESSION NOTICE

- a. Conference with Legal Counsel Pursuant to Government Code §54956.9 – Existing Litigation: Brooktrails Township Community Services District, a Public Agency vs. City of Willits, a General Law City; and DOES 1 through 100, Inclusive; Case No. SCUK CVG-1056037
- b. Conference with Labor Negotiators Pursuant to Government Code §54957.6 – Agency Negotiators: Rick Haeg and Brandi Burtness; Employee Organization(s): All
- c. Conference with Real Property Negotiators Pursuant to Government Code §54956.8 – Willits Justice Center, Located at 125 East Commercial Street, Willits California 95490; Agency Negotiator: Adrienne Moore, City Manager, H. James Lance, City Attorney, and Gerardo Gonzalez, Chief of Police; Negotiating Parties: County of Mendocino; Under Negotiation: Potential Acquisition, Price and Terms
- d. Conference with Legal Counsel Pursuant to Government Code §54956.9b – Anticipated Litigation

Council reconvened to open session at 9:53 p.m., with no action to report from Closed Session.

Moved by Stranske/seconded by Orenstein and carried unanimously to adjourn the meeting at 11:31 p.m.

HOLLY MADRIGAL, Mayor

ATTEST:

KIM LENSING, Administrative Assistant
Acting Deputy City Clerk

COUNCIL MEETING RECORDINGS: City Council meetings are video recorded and broadcast live on the 2nd and 4th Wednesday of each month on Public Access Channel 3 and rebroadcast on Saturday and Sunday at 5:00 p.m. on Government Channel 64. DVD's are available for check-out or may be purchased (with advance notice) for \$15.00 at City Hall.

RESOLUTION NO. 2014-_____

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF WILLITS RENEWING ITS DECLARATION OF A LOCAL EMERGENCY AND EXTENDING THE EXISTENCE OF A LOCAL EMERGENCY DUE TO DROUGHT CONDITIONS PURSUANT TO RESOLUTION NO. 2014-02

WHEREAS, on January 8, 2014, the Willits City Council adopted Resolution No. 2014-02 declaring a local emergency due to drought conditions, which was renewed on February 6, 2014, February 26, 2014, March 26, 2014, April 23, 2014; May 28, 2014; June 25, 2014; July 23, 2014; August 13, 2014; September 10, 2014; October 8, 2014; October 22, 2014; and

WHEREAS, California Government Code §8630, Article 14 of the California Emergency Services Act requires that the Willits City Council review, at least every thirty days, the need for continuing the local emergency; and

WHEREAS, both Chapter 2.25 of the Willits Municipal Code (WMC), adopted as Ordinance No. 97-02 of the City of Willits and the California Emergency Services Act at Government Code Section 8550, et seq, empower the City Council to proclaim the existence or threatened existence of a local emergency when the City of Willits is affected by a public calamity or imminent conditions of disaster; and

WHEREAS, the total rainfall is significantly below normal, and the overall drought situation has not significantly diminished: and

WHEREAS, California experienced its warmest winter on record, recording its driest winter to date by March 2014, and the 2014 summer began with a deficit of rainfall over the previous two years, compounded with below average rainfall again for 2013/2014, which resulted in a long, dry summer; and

WHEREAS, the local fire season officially started on April 24, 2013, which resulted in unseasonal fuel moistures with poor recovery due to the drought conditions, and the northern half of California experienced significant fire activity; and

WHEREAS, due to continuing drought conditions, it is prudent and necessary to maintain a level of restriction for water use, mandate water conservation, provide a maximum ceiling for water use by commercial and private residents until such time our community can be assured of a safe, uninterrupted water supply; and

WHEREAS, it is imperative to plan for a continued drought for winter 2014/2015, or for the next prolonged drought period, and to take every reasonable measure to ensure we have adequate water supply for domestic use, commercial use, and fire protection.

WHEREAS, the City Council has been requested by the Director of Emergency Services of the City of Willits and the Fire Chief of the Little Lake Fire Protection District to renew the proclamation of the existence of a local emergency within the City; and

WHEREAS, the City Council does hereby find:

THAT conditions of imminent disaster and extreme peril to the safety of persons and property have continued within the City of Willits due to prolonged conditions of drought and insufficient water supply to maintain necessary water to provide for adequate fire suppression in the event of an ongoing and extended fire season while providing the minimum requirements of the department's customers, thereby constituting an immediate hazard to the safety and welfare

of City residents and other customers of the department, and resulting in the imposition of water emergency regulations pursuant to WMC Chapter 14.90; and

THAT the aforesaid conditions of imminent disaster and extreme peril warrant and necessitate the proclamation of the existence of a local emergency.

NOW, THEREFORE, IT IS HEREBY PROCLAIMED that during the existence of said local emergency the powers, functions, and duties of the Director of Emergency Services and the emergency organization of this City shall be those prescribed by state law, by ordinance and, resolutions of this City, and by the City of Willits Emergency Plan, as approved by the City Council on the day of 24th day of October, 2007 (Resolution No. 2007-40).

IT IS FURTHER PROCLAIMED AND ORDERED that said local emergency shall be deemed to continue to exist until its termination is proclaimed by the City Council of the City of Willits, State of California.

WHEREAS, the adverse environmental, economic, and social impacts of the drought pose an imminent threat of disaster and threaten to cause widespread harm to people, businesses, property, communities, wildlife and recreation within the City of Willits.

NOW, THEREFORE, BE IT RESOLVED that the Willits City Council declares that a local emergency and imminent threat of disaster continues to exist within the City of Willits due to ongoing long-term drought conditions.

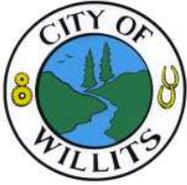
The above and foregoing Resolution was introduced by Councilmember _____ seconded by Councilmember _____, and passed and adopted at a regular meeting of the City Council of the City of Willits, held on the 12th day of November, 2014, by the following vote:

AYES:
NOES:
ABSENT:

HOLLY MADRIGAL, Mayor
City Council of the City of Willits

ATTEST:

CATHY SANDERS, Deputy City Clerk



Item No. **4c**

Meeting Date: **November 12, 2014**

AGENDA SUMMARY REPORT

To: Honorable Mayor and Council Members

From: Susie Holmes, Finance Director

Agenda Title: ADOPTION OF RESOLUTION AUTHORIZING A CHANGE OF AUTHORIZED SIGNATURES FOR THE CITY OF WILLITS CHECKING ACCOUNT AT SAVINGS BANK OF MENDOCINO COUNTY

Type: Presentation Consent Regular Agenda Public Hearing Urgent Time: N/A

Summary of Request: In accordance with procedures of the Savings Bank of Mendocino County, a resolution is required to authorize the change of signatures for the City of Willits' checking account, as well as the safe deposit box. This change will authorize the following signatures to account number 0100555301 held at the Savings Bank of Mendocino County:

Adrienne Moore
Gerry Gonzalez
Susie Holmes
Cathy Sanders

This change is a necessary as it had not been updated since the appointment of our current Finance Director.

Recommended Action: Adopt Resolution authorizing the change of signatures for the City of Willits' checking account number 0100555301 and safe deposit box held at Savings Bank of Mendocino County.

Alternative(s): None recommended.

Fiscal Impact: None.

Personnel Impact: None.

Reviewed by: City Manager City Attorney Finance Director Human Resources Risk

Council Action: Approved Denied Other: _____

Records: Agreement Resolution # _____ Ordinance # _____ Other _____

RESOLUTION NO. 2014-_____

RESOLUTION OF THE OF THE CITY COUNCIL OF THE CITY OF WILLITS AUTHORIZING SIGNATURES FOR THE CITY OF WILLITS CHECKING ACCOUNT HELD AT THE SAVINGS BANK OF MENDOCINO COUNTY

WHEREAS, the City of Willits ("City") maintains a checking account and a safe deposit box at Savings Bank of Mendocino County for the purpose of transactions for the City.

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Willits does hereby authorize the following signatures for the City of Willits at the Savings Bank of Mendocino County:

Adrienne Moore
Gerry Gonzalez
Susie Holmes
Cathy Sanders

The above and foregoing Resolution was introduced by Councilmember _____ seconded by Councilmember _____, and passed and adopted at a regular meeting of the City Council of the City of Willits, held on the 12th day of November, 2014, by the following vote:

AYES:
NOES:
ABSENT:

HOLLY MADRIGAL, Mayor

ATTEST:

CATHY SANDERS
Deputy City Clerk



AGENDA SUMMARY REPORT

To: Honorable Mayor and Council Members

From: Susie Holmes, Finance Director

Agenda Title: ADOPTION OF RESOLUTION AUTHORIZING CERTAIN CITY STAFF TO TRANSFER FUNDS BETWEEN THE LOCAL AGENCY INVESTMENT FUND AND THE SAVINGS BANK OF MENDOCINO COUNTY

Type: Presentation Consent Regular Agenda Public Hearing Urgent Time: N/A

Summary of Request: In accordance with procedures of the Local Agency Investment Fund (LAIF), a resolution is required to authorize staff members to transfer funds between the City's deposit accounts at the LAIF and the Savings Bank of Mendocino County. This change will authorize the following individuals to transfer funds:

- Adrienne Moore
- Gerry Gonzalez
- Susie Holmes
- Cathy Sanders

This change is a necessary as it had not been updated since the appointment of our current Finance Director.

Recommended Action: Adopt Resolution authorizing certain City staff to transfer LAIF funds.

Alternative(s): None recommended.

Fiscal Impact: None.

Personnel Impact: None.

Reviewed by: City Manager City Attorney Finance Director Human Resources Risk

Council Action: Approved Denied Other: _____

Records: Agreement Resolution # _____ Ordinance # _____ Other _____

RESOLUTION NO. 2014-_____

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF WILLITS AUTHORIZING CITY STAFF TO TRANSFER FUNDS BETWEEN THE LOCAL AGENCY INVESTMENT FUND AND SAVINGS BANK OF MENDOCINO COUNTY

WHEREAS, the City of Willits ("City") maintains deposit accounts at the Local Agency Investment Fund (LAIF) and Savings Bank of Mendocino County for the purpose of financial transactions on behalf of the City.

THEREFORE, BE IT RESOLVED by the City Council of the City of Willits that the following City staff is authorized to transfer funds between the Local Agency Investment Fund, Account 98-23-982, and Savings Bank of Mendocino County:

Adrienne Moore
Gerry Gonzalez
Susie Holmes
Cathy Sanders

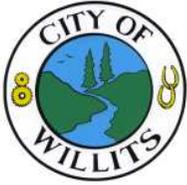
The above and foregoing Resolution was introduced by Councilmember _____ seconded by Councilmember _____, and passed and adopted at a regular meeting of the City Council of the City of Willits, held on the 12th day of November, 2014, by the following vote:

AYES:
NOES:
ABSENT:

HOLLY MADRIGAL, Mayor
City Council of the City of Willits

ATTEST:

CATHY SANDERS
Deputy City Clerk



AGENDA SUMMARY REPORT

To: Honorable Mayor and Council Members

From: Adrienne Moore, City Manager

Agenda Title: APPROVAL OF CONTRACT WITH MEAD & HUNT TO CONDUCT AN INITIAL STUDY AND, IF APPROPRIATE, PREPARE A NEGATIVE DECLARATION OR MITIGATED NEGATIVE DECLARATION FOR REACH AIR MEDICAL SERVICES TO ESTABLISH AN OPERATIONS BASE AT WILLITS MUNICIPAL AIRPORT (ELLS FIELD)

Type: Presentation Consent Regular Agenda Public Hearing Urgent Time: N/A

Summary of Request: On July 30, 2014, REACH Air Medical Services announced their plans to establish an operations base in Mendocino County at the Willits Municipal Airport (Ells Field). It has been determined that these plans, which will entail a land lease agreement for the placement of a manufactured building to serve as office space and crew quarters, constitute a project under the California Environmental Quality Act (CEQA). Therefore, we have requested a proposal from Mead & Hunt, who are the City’s aviation consultants for airport planning and engineering, to conduct an Initial Study and, if warranted, prepare a Negative Declaration or Mitigated Negative Declaration. In the event the Initial Study supports the need for an Environmental Impact Review (EIR), REACH will need to determine if they wish to proceed with the project and, if so, an amended scope of services and contract would need to be presented for Council discussion and approval.

City staff will concurrently execute an agreement with REACH for cost reimbursement of Mead & Hunt’s proposed scope of services, as well as to indemnify and hold the City harmless for losses or damages resulting from the City’s approval of their project.

Recommended Action: Approve contract with Mead & Hunt on behalf of the City as lead agency to conduct an Initial Study pursuant to the California Environmental Quality Act (CEQA) to determine the extent of potential environmental impacts and, if appropriate, prepare a Negative Declaration or Mitigated Negative Declaration for REACH Air Medical Services to establish an operations base at Willits Municipal Airport (Ells Field), in an amount not to exceed \$22,500, and contingent upon a fully executed agreement between REACH and the City of Willits for cost reimbursement and indemnification by REACH of the City.

Alternative(s): None recommended.

Fiscal Impact: Full cost reimbursement is a contingency of the contract approval.

Personnel Impact: There will be some staff time involved with this overall process.

Reviewed by: City Manager City Attorney Finance Director Human Resources Risk

Council Action: Approved Denied Other: _____

Records: Agreement Resolution # _____ Ordinance # _____ Other _____



Mead & Hunt, Inc.
M & H Architecture, Inc.
133 Aviation Boulevard, Suite 100
Santa Rosa, California 95403
707-526-5010
meadhunt.com

November 7, 2014

Sent via e-mail

Ms. Adrienne Moore
City Manager
City of Willits
111 E. Commercial Street
Willits, California 95490

Subject: Negative Declaration/Mitigated Negative Declaration for REACH Helicopter Base
Willits Municipal Airport – Willits, California
Scope of Services

Dear Ms. Moore:

Mead & Hunt, Inc. is pleased to provide the City of Willits (City) with this proposal to prepare a Negative Declaration, of if required, a Mitigated Negative Declaration for the proposed REACH helicopter base. This document will be formatted to support both City approval of the project and subsequent construction of the project by REACH. Although the full spectrum of environmental factors will be evaluated, we will be focusing on potential noise impacts. This document will provide the data and context necessary for the City Council, City staff, and the public to understand the potential effects of the proposed REACH helicopter base. Our services will include responding to any comments received on the draft Negative Declaration/Mitigated Negative Declaration and presenting the document at a hearing before the City Council.

We are proposing to undertake this task for a lump sum fee of \$22,500. We understand that there is a need to expedite the preparation of this environmental document. We are prepared to make extraordinary efforts to prepare a comprehensive document in the absolute shortest time possible. Some support from City staff will be needed to obtain data in a timely manner.

We look forward to supporting the City in this important matter and please contact me if you have any questions.

Sincerely,

MEAD & HUNT, Inc.

David P. Dietz, ACIP
Senior Airport Planner

SCOPE OF SERVICES
Negative Declaration/Mitigated Negative Declaration
to Support Approval of the
REACH Lease Agreement and Construction of the Helicopter Base

November 7, 2014

I. PROJECT DESCRIPTION

The project will involve preparation of a Negative Declaration (ND) or, if appropriate, a Mitigated Negative Declaration (MND) to support approval of the lease agreement for REACH and construction of its helicopter base at the Willits Airport (Airport). Environmental review of this project is required by the provisions of the California Environmental Quality Act (CEQA). Available information indicates that the environmental impact with the greatest potential to be significant is noise. It appears likely that all plan impacts will be less than significant or can be mitigated. An environmental impact report (EIR) is, therefore, not anticipated to be necessary. Should further evaluation indicate that an EIR is required, this Scope of Services and associated budget will need to be amended.

II. CONSULTING SERVICES TO BE PERFORMED

A. SCOPING

In cooperation with the City of Willits (City), Mead & Hunt, Inc. (Consultant) will develop a Scope of Services to prepare a ND/MND to support approval of the lease agreement for REACH and construction of its helicopter base. This ND/MND will utilize the Environmental Checklist Form contained in Appendix G of the current CEQA Guidelines unless an alternate version is provided by the City.

B. PREPARE DRAFT NEGATIVE DECLARATION/MITIGATED NEGATIVE DECLARATION

Project Description

The Consultant will prepare a draft project description that will be used in the CEQA documentation. This project description will describe all of the facilities and operations that will be associated with the project. The draft project description will be provided to the City and REACH for review and concurrence.

Impact Categories

The ND/MND will analyze potential project impacts in each of the categories that follow. If appropriate, mitigation measures will be defined to mitigate any potentially significant impacts of implementation of the project.

Aesthetics

The draft Master Plan provides sufficient information to characterize the visual qualities of the proposed new development. These visual qualities will be examined to document the effect on views from adjacent properties.

Assumptions and Limitations:

- The City will provide access to the site for visual assessment of its setting.

Deliverables:

- Provision of an element of the draft ND/MND.

Agriculture and Forestry Resources

There are no agricultural or forestry leaseholds on the Airport. Nor would any off-airport agricultural or forestry resources be affected by this project. This will be documented in the ND/MND.

Assumptions and Limitations:

- Data will be gathered from existing sources. No field investigations will be made.

Deliverables:

- Provision of an element of the draft ND/MND.

Air Quality and Greenhouse Gasses

The Airport is located in an area that is in attainment or unclassified for all emissions, except that it is in non-attainment for state standards for particulate matter (PM10). The air quality issues specific to the project will be evaluated based upon the policies of the Mendocino County Air Quality Management District (MCAQMD), the City, and the County. The following tasks will comprise this analysis:

- **Assess Project Operation-Period Impacts.** The proposed project has the potential to generate new vehicular trips to and from the project site. Emissions associated with long-term operations from vehicle trips will be calculated with the CalEEMod model. Project trip generation and other traffic data will be developed in consultation with the City.
- **Compile Emissions Inventory for Aviation Activities at the Project.** If required, a project specific aviation emissions inventory will be prepared using the Emissions and Dispersion Modeling System (EDMS) model. Modeling will be based upon operational data provided by REACH and the City.
- **Greenhouse Gasses.** An analysis of the greenhouse gasses associated with the project will be conducted and presented in accordance with the policies of the MCAQMD, the City, and County.
- **Describe Construction Procedures to Minimize Air Quality Impacts.** Based on MCAQMD guidelines, quantification of construction emissions may be required. Policies of the MCAQMD, the City, and County will be utilized to determine whether the proposed project would exceed MCAQMD thresholds of significance. If additional modeling is required, a new budget for this work will be prepared.
- **Mitigation Measures.** Feasible mitigation measures, as provided by the MCAQMD, will be defined for any potentially significant impacts identified during the analysis.

At this time, a dispersion analysis is not expected to be needed; however, should such dispersion modeling be needed, it will be scoped and budgeted separately.

Assumptions and Limitations:

- The City will provide all available data on vehicle and aircraft use.
- The City will review and approve an estimate of aircraft activity levels associated with the project.

Deliverables:

- Provision of an element of the draft ND/MND.

Biological Resources

A biological resources inventory was conducted on the Airport in 2009. Data from this inventory will be used to document the absence of wetlands, threatened or endangered species or critical habitat.

Assumptions and Limitations:

- Field investigations will not be made.

Deliverables:

- Provision of an element of the draft ND/MND.

Cultural Resources

A cultural survey of the Airport was conducted in 2009. Data from this survey will be used to document the absence of structures eligible for inclusion in the National Register of Historic Places or of prehistoric resources.

Assumptions and Limitations:

- Existing data will be utilized.
- No field investigations will be conducted.

Deliverables:

- Provision of an element of the draft ND/MND.

Paleontological Resources

A review of available paleontological mapping and literature will be conducted to determine whether resources are known to be present on-site. This review will also provide information about fossiliferous formations that might exist on the project site. The Consultant will summarize the results of the review of available data. If a high potential for paleontological resources is identified, additional budget may be required for a field investigation.

Assumptions and Limitations:

- Data will be gathered from existing sources. No field investigations will be made.

Deliverables:

- Provision of an element of the draft ND/MND.

Geology / Soils

Available soils and geologic data, including seismic, will be used to identify potential constraints to development. The City will provide any relevant data developed as part of past engineering design projects.

Assumptions and Limitations:

- Data will be gathered from existing sources. No field investigations will be made.

Deliverables:

- Provision of an element of the draft ND/MND.

Hazards and Hazardous Materials

The EnviroStor Data Base maintained by the California Department of Toxic Substances Control will be searched for known contaminated sites on or near the Airport. The City will provide documentation of any known hazardous material sites. A Phase 1 report is not proposed to be prepared as a part of this study. Potential hazards that might be associated with implementation of the AMP will be identified. Mitigation measures will be identified for any existing or anticipated hazards.

Assumptions and Limitations:

- Data will be gathered from existing sources. No field investigations will be made.

Deliverables:

- Provision of an element of the draft ND/MND.

Hydrology / Water Quality

Available information on the Airport's drainage system will be utilized to characterize its hydrologic system. Potential sources of contamination will be identified based upon the section on hazardous materials. Mitigation measures will be identified for any existing or anticipated drainage or water quality impacts.

Assumptions and Limitations:

- Data will be gathered from existing sources. No field investigations will be made.

Deliverables:

- Provision of an element of the draft ND/MND.

Land Use / Planning

Existing and proposed land uses in the vicinity of the Airport will be documented. Consistency between the proposed project and applicable zoning and general plan designations will be made. The need for amendment of any existing land use policies will be determined.

Assumptions and Limitations:

- Data will be gathered from existing sources. No field investigations will be made.

Deliverables:

- Provision of an element of the draft ND/MND.

Mineral Resources

Existing data from State of California and the general plan of Mendocino County will be used to document existing mineral resources. Potential effects of implementation of the project will be documented.

Assumptions and Limitations:

- Data will be gathered from existing sources. No field investigations will be made.

Deliverables:

- Provision of an element of the draft ND/MND.

Noise

Noise contours will be prepared to assess noise impacts. Noise contours with and without REACH helicopter operations will be prepared. The Federal Aviation Administration's Integrated Noise Model (Version 7.0d) will be utilized to create the noise contours. Estimates of current aircraft operations and REACH-related operations will be utilized to create the noise contours. Draft estimates of current aircraft operations will be provided to the City for review and concurrence. REACH will be contacted to obtain forecast helicopter operations. The distinct qualities of sounds produced by helicopters will be documented. A discussion of single-event noise characteristics will be provided. Compatibility policies in the adopted Airport Compatibility Plan, the California Airport Land Use Planning Handbook, and City ordinances will be used to evaluate noise impacts. The lack of agreed-upon thresholds for single-even aircraft noise will be noted.

Assumptions and Limitations:

- New noise contours will be produced.
- The City will review and approve an estimate of existing aircraft activity levels.

Deliverables:

- Noise contours with and without REACH helicopter operations.
- Provision of an element of the draft ND/MND.

Population / Housing

The lack of any effect on existing housing supply will be documented.

Assumptions and Limitations:

- Data will be gathered from existing sources. No field investigations will be made.

Deliverables:

- Provision of an element of the draft ND/MND.

Public Services

The potential for proposed improvements to require additional public services will be investigated. Data will be gathered through telephone interviews with appropriate staff from the City and County. If needed, appropriate mitigation measures will be developed.

Assumptions and Limitations:

- Data will be gathered from existing sources. No field investigations will be made.

Deliverables:

- Provision of an element of the draft ND/MND.

Recreation

A majority of the aircraft based at the Airport are used for recreational purposes. The potential impact of the project on their use will be documented. Other impacts of the project on nearby recreational facilities will be evaluated. If needed, appropriate mitigation measures will be developed.

Assumptions and Limitations:

- Data will be gathered from existing sources. No field investigations will be made.

Deliverables:

- Provision of an element of the draft ND/MND.

Transportation / Traffic

The low volume of employee and other project-related vehicles will be documented. Due to the low volume of vehicle movements, traffic modeling will not be undertaken.

Assumptions and Limitations:

- Traffic modeling will not be undertaken.

Deliverables:

- Provision of an element of the draft ND/MND.

Utilities / Service Systems

The adequacy and availability of existing utilities will be assessed based on data provided by the City and local service providers. The need for improvements to accommodate the project will be assessed. Service providers will be contacted by telephone to obtain data on requirements for future improvements. Appropriate mitigation measures will be defined, if needed.

Assumptions and Limitations:

- Data will be gathered from existing sources. No testing of utilities will be made.

Deliverables:

- Provision of an element of the draft ND/MND.

Administrative Draft Mitigated Negative Declaration

The Consultant will prepare an administrative draft of the ND/MND incorporating the project description and analyses described above. The administrative draft will be provided to the City for review in PDF format. City comments will be incorporated into the document and a public-review version of the ND/MND will be produced.

C. PUBLIC REVIEW AND ADOPTION**Public Notice**

Consultant will prepare the Notice of Intent to Prepare a Negative Declaration/Mitigated Negative Declaration. This will be provided to the City along with a memo describing the required distribution.

Public Review of Mitigated Negative Declaration

The Consultant will provide the City with up to five (5) printed copies of the ND/MND, five (5) printed copies of the technical appendices, and one (1) CD-ROM with the PDF versions of the ND/MND and technical appendices. The Consultant will also provide the City with a memo describing the required distribution.

At the close of the public review period, the Consultant will prepare responses to any comments received. A maximum of 16 hours of senior professional staff time has been allocated for this task. Additional hours will need to be treated as additional services, which would require prior authorization by the City. The proposed responses will be provided to the City for review. City comments will be incorporated into the response to comments document. This revised version will be provided to the City for use in the adoption process. The Consultant will prepare a mitigation monitoring plan to assist the City in implementing any mitigation measures contained in the ND/MND. One (1) unbound copy of the revised ND/MND with responses to comments and the mitigation monitoring plan will be provided, if appropriate. PDF versions of these two documents will also be provided on CD-ROM.

Approval of Mitigated Negative Declaration

The Consultant staff will participate in the hearing to adopt the ND/MND. The Consultant will make a brief presentation summarizing the key findings of the analysis and any mitigations required.

D. ADMINISTRATION AND MANAGEMENT

The Consultant will prepare necessary contract materials and monitor the work by its subconsultants. Invoices will be prepared on a monthly basis and will include a brief description of work accomplished during the billing period.

E. ADDITIONAL SERVICES

This task is designed to encompass any additional services not originally anticipated or that are specifically excluded. Additional services may include: site visits, participation in meetings, additional specialized analyses (e.g., wetland delineations), additional plan or report revisions, or additional copies of plans and reports. This Scope of Services does not include preparation of any environmental documentation under the National Environmental Policy Act. Additional services (scope, schedule, and fee) must be specifically authorized by the City.

III. CITY RESPONSIBILITIES AND EXCLUSIONS

The City will be responsible for:

- Preparation of all notices except those explicitly listed in this Scope of Services.
- Distribution of notices and reports.
- Meeting arrangements.
- Provision of all readily available data on topics relevant to the ND/MND.
- Review of draft materials on a timely basis.
- Providing access to the Airport.

Disbursements Journal

WARRANT	DATE	VENDOR	DESCRIPTION	AMOUNT	CLAIM	INVOICE	PO#	F 9 S	ACCOUNT
GENERAL CHECK FORM									
25279	10/16/14	PETTY CASH	123 CITY COUNCIL REFRESHMEN	6.00	521529	141016		P N H	100.1001.2055.000
25279	10/16/14	PETTY CASH	123 ICE-SEWER LAB TESTING	5.94	521529	141016		P N H	501.5013.2061.015
25279	10/16/14	PETTY CASH	123 ICE & DIST WTR - EQUIP	34.40	521529	141016		P N H	503.5031.2041.000
25279	10/16/14	PETTY CASH	123 HP ADAPT & INTERNET CA	39.45	521529	141016		P N H	503.5033.2041.000
25279	10/16/14	PETTY CASH	123 COVER TILL SHORTAGE	50.00	521529	141016		P N H	100.1003.2199.000
				135.79	*CHECK TOTAL				
25280	10/16/14	RAYNER/JANET	4453 WCAC MGMT SVC AUG & 2,	2,000.00	521528	18		P M H	600.601
25281	10/16/14	DCT INC.	.09325 DUP BUSINESS LIC PAYM	305.00	521527	141016		P N H	100.1000.2202.000
25282	10/23/14	LEEF/KEVIN	.09324 PER DIEM - 10/28/2014	40.00	521526	141022		P N H	100.1020.2106.000
25283	10/23/14	SERRATO & ASSOCIATES	.09323 TURITION	60.00	521525	141022		P N H	100.1020.2106.000
25284	10/24/14	MENDO-LAKE CREDIT UN	104 DIRECT DEPOSIT	350.00	521524	141024		P N H	690.237
25285	10/24/14	MENDO-LAKE CREDIT UN	104 DIRECT DEPOSIT	350.00	521522	141024		P N H	690.237
25285	10/24/14	MENDO-LAKE CREDIT UN	104 DIRECT DEPOSIT	350.00CR	521523	141024		P N H	690.237
				0.00	*CHECK TOTAL				
25286	10/24/14	AFLAC	4036 125 PLAN POLICY PRE	1,246.26	521520	191057		P N H	690.246
25286	10/24/14	AFLAC	4036 125 PLAN POL PREM	1,246.26CR	521521	191057		P N H	690.246
				0.00	*CHECK TOTAL				
25287	10/24/14	MASSMUTUAL RETIREMEN	4870 DEFERRED COMP	1,490.00	521518	141024		P N H	690.236
25287	10/24/14	MASSMUTUAL RETIREMEN	4870 DEFERRED COMP	1,490.00CR	521519	141024		P N H	690.236
				0.00	*CHECK TOTAL				
25288	10/24/14	MENDOCINO COUNTY	4396 EARNING WITHHOLDING	1,063.77	521516	141024		P N H	690.233
25288	10/24/14	MENDOCINO COUNTY	4396 EARNING WITHHOLDING	1,063.77CR	521517	141024		P N H	690.233
				0.00	*CHECK TOTAL				
25289	10/24/14	AFLAC	4036 125 PLAN POLICY PRE	1,246.26	521515	191057		P N H	690.246
25290	10/24/14	MASSMUTUAL RETIREMEN	4870 DEFERRED COMPENSATI	1,490.00	521514	141024		P N H	690.236
25291	10/24/14	MENDOCINO COUNTY	4396 EARNING WITHHOLDING	1,063.77	521513	141024		P N H	690.233
25292	10/24/14	PERS	256 EMPLOYER CONTRIBUT	25,452.96	521512	141024		P N H	690.229
25292	10/24/14	PERS	256 EMPLOYEE CONTRIBUTI	8,213.76	521512	141024		P N H	690.230
				33,666.72	*CHECK TOTAL				
25293	10/29/14	KNISPEL/LAURA	.09322 VISION INS PREMIUM RE	210.00	521511	141029		P N H	100.1002.7230.000
25294	10/29/14	OBERDORF/LEAH	.09321 VISION INS PREMIUM RE	210.00	521510	141029		P N H	100.1002.7230.000
25295	10/29/14	PEABODY/BOB	4415 VISION INS PREMIUM RE	177.00	521509	141029		P N H	100.1002.7230.000

Disbursements Journal

WARRANT	DATE	VENDOR	DESCRIPTION	AMOUNT	CLAIM	INVOICE	PO#	F 9 S ACCOUNT
		GENERAL CHECK FORM						
25296	10/29/14	SCOFIELD/MIKE	4481 VISION INS PREMIUM REF	49.50	521508	141029		P N H 100.1002.7230.000
25297	10/29/14	MOGAVERO NOTESTINE A	1050 VISON INS PREMIUM REF	210.00	521507	141029		P N H 100.1002.7230.000
		GENERAL CHECK FORM						
			TOTAL	41,214.04				

WARRANT	DATE	VENDOR	DESCRIPTION	AMOUNT	CLAIM	INVOICE	PO#	F 9 S ACCOUNT
GENERAL CHECK FORM								
25298	10/31/14	ANTHEM BLUE CROSS	627 MEDICAL INS PREMIU	75,137.47	521392	000456185B		P N W 690.231
25299	10/31/14	ARAMARK UNIFORM SERV	4065 MATS/RAGS/MOPS	1,086.48	521390	141003		P N W 100.1016.2199.000
25299	10/31/14	ARAMARK UNIFORM SERV	4065 MATS/RAGS	514.12	521390	141003		P N W 501.5013.2199.000
25299	10/31/14	ARAMARK UNIFORM SERV	4065 MATS	13.23	521390	141003		P N W 100.1040.2081.030
25299	10/31/14	ARAMARK UNIFORM SERV	4065 MATS	15.87	521390	141003		P N W 100.1042.2081.030
				1,629.70	*CHECK TOTAL			
25300	10/31/14	AT&T	4123 POLICE	19.11	521492	5807398		P N W 100.1020.2015.000
25301	10/31/14	AT&T	4615 WATER	168.48	521391	141019		P N W 503.5030.2015.000
25302	10/31/14	AT&T MOBILITY	4253 POLICE	42.31	521491	10202014		P N W 100.1020.2015.000
25303	10/31/14	AUTO MART AUTO REPAI	4791 VEHICLE MAINT # 104	373.93	521393	17904		P M W 100.1041.2041.000
25303	10/31/14	AUTO MART AUTO REPAI	4791 VEHICLE MAINT #150	565.19	521394	17905		P M W 201.2011.2041.000
				939.12	*CHECK TOTAL			
25304	10/31/14	BADGER METER	4926 ELECTROMAGNETIC FLO	9,908.22	521396	1018111	003642	P N W 503.5031.4003.038
25305	10/31/14	BANK OF AMERICA	10 RESIDENTIAL CODE BOOK	117.23	521395	141018		P N W 100.1011.2105.000
25305	10/31/14	BANK OF AMERICA	10 CSMFO SEMINAR	425.00	521395	141018		P N W 100.1003.2105.000
25305	10/31/14	BANK OF AMERICA	10 MUNI REV SOURCES HANDB	26.00	521395	141018		P N W 100.1003.2055.000
25305	10/31/14	BANK OF AMERICA	10 WATER PLANT INTERNET	49.99	521395	141018		P N W 503.5030.2015.000
25305	10/31/14	BANK OF AMERICA	10 EVENING MTG FOOD	71.13	521395	141018		P N W 100.1002.2105.000
25305	10/31/14	BANK OF AMERICA	10 WORK BOOTS	18.37	521395	141018		P N W 100.1002.2199.000
25305	10/31/14	BANK OF AMERICA	10 LATE FEE/PENALTY	33.50	521395	141018		P N W 100.1002.2055.000
				741.22	*CHECK TOTAL			
25306	10/31/14	BENNETT/MICHAEL	4899 DINNER PER DIEM 11/16/	20.00	521493	141030		P N W 100.1020.2105.000
25306	10/31/14	BENNETT/MICHAEL	4899 PER DIEM 11/17-20/201	160.00	521493	141030		P N W 100.1020.2105.000
				180.00	*CHECK TOTAL			
25307	10/31/14	C. OVERAA & CO.	4515 WTP CONSTRUCTION	45,948.13	521398	BILLING 18		P M W 409.4090.4003.000
25308	10/31/14	CALIFORNIA ASSOCIATI	4543 MEMBERSHIP RENEWAL	25.00	521505	141030		P N W 100.1011.2050.000
25309	10/31/14	CANON SOLUTIONS AMER	4784 COPIER LEASE	150.54	521400	14257601		P N W 100.1040.2095.000
25309	10/31/14	CANON SOLUTIONS AMER	4784 COPIER LEASE	150.53	521400	14257601		P N W 100.1042.2095.000
				301.07	*CHECK TOTAL			
25310	10/31/14	CB&I ENVIRONMENTAL	4257 2014 GROUNDWATER	2,072.00	521399	827698R800501		P N W 213.2133.2081.030
25311	10/31/14	CHEVRON USA, INC.	27 PD FUEL	147.04	521495	42587750		P N W 100.1022.2044.000
25312	10/31/14	COAST RANGE DIGITAL	4048 VIDEO COUNCIL MEETING	350.00	521397	14 36		P M W 100.1001.2081.030
25313	10/31/14	COUNTY OF MENDOCINO	33 JC ELEC SVC SEPT 2014	930.31	521494	2014-9		P N W 100.1020.2110.000
25313	10/31/14	COUNTY OF MENDOCINO	33 JC WATER SVC SEPT 201	121.20	521494	2014-9		P N W 100.1020.2110.000
25313	10/31/14	COUNTY OF MENDOCINO	33 JC GARBAGE SVC SEPT 20	78.50	521494	2014-9		P N W 100.1020.2110.000

Disbursements Journal

WARRANT	DATE	VENDOR	DESCRIPTION	AMOUNT	CLAIM	INVOICE	PO#	F 9 S ACCOUNT
		GENERAL CHECK FORM						
				1,130.01		*CHECK TOTAL		
25314	10/31/14	D'ORAZIO/RENAULD	4928 PER DIEM 11/5/2014	40.00	521496	141030		P N W 100.1020.2106.000
25315	10/31/14	DEPARTMENT OF TRANSP	581 TRAFFIC SIGNALS & LIG	155.00	521401	SL150041		P N W 200.2003.2081.023
25316	10/31/14	DEZURIK	4922 SHIPPING	25.36	521402	60015948		P N W 503.5033.2041.000
25317	10/31/14	DISCOVERY OFFICE SYS	4244 MAINT CONTRACT - FAX	350.00	521497	55E1230647		P N W 100.1020.2041.000
25318	10/31/14	EEL RIVER FUELS	28 DIESEL FUEL	48.71	521403	338256		P N W 100.126
25318	10/31/14	EEL RIVER FUELS	28 FUEL	754.06	521404	338270		P N W 100.125
25318	10/31/14	EEL RIVER FUELS	28 ULTRA CLEAN SPINDLE	177.65	521405	337554		P N W 501.5013.2041.000
25318	10/31/14	EEL RIVER FUELS	28 DIESEL FUEL	117.45	521406	336934		P N W 100.126
25318	10/31/14	EEL RIVER FUELS	28 FUEL	660.53	521407	336933		P N W 100.125
				1,758.40		*CHECK TOTAL		
25319	10/31/14	ENTENMANN-ROVIN	392 POLICE OFFICER BADGES	147.92	521498	103275-IN		P N W 100.1020.2199.000
25319	10/31/14	ENTENMANN-ROVIN	392 SERGEANT WALLET BADGE	239.76	521498	103275-IN		P N W 651.6510.2199.000
				387.68		*CHECK TOTAL		
25320	10/31/14	EVOQUA WATER TECH LL	4927 WIPER-SKIMMER/GSKT/SQ	856.35	521408	901904712		P N W 501.5013.2041.000
25321	10/31/14	GOLDEN STATE OVERNIG	4728 EVIDENCE SHIPPING	7.02	521499	2657142		P N W 100.1022.2101.031
25322	10/31/14	GOSSETT ALARM, CORP.	4457 SERVICE CALL	143.00	521409	23302		P N W 600.601
25323	10/31/14	GRAINGER	173 MISC SITE MAINT	29.20	521410	9571069138		P M W 213.2133.2101.045
25323	10/31/14	GRAINGER	173 BLDG REPAIRS	148.78	521411	9568146600		P M W 100.1040.2041.000
				177.98		*CHECK TOTAL		
25324	10/31/14	HACH COMPANY	70 DIGITAL INSERTION MTG	640.68	521413	9056176		P N W 503.5033.2041.000
25325	10/31/14	HEIKEN/ERIK	4342 PER DIEM 11/5/2014	40.00	521500	141030		P N W 100.1020.2106.000
25326	10/31/14	HORN/SUSAN	.09316 WATER DEPOSIT REFUND	64.71	521412	10105790011		P N W 503.111
25327	10/31/14	I B E W	255 EMPLOYEE CONTRIBUTION	443.05	521414	141024		P N W 690.235
25328	10/31/14	JDS	4324 PARKING CITATION ADMI	100.00	521501	4842		P N W 100.1020.2081.030
25329	10/31/14	KILLION/FRED	4607 JANITORIAL	130.00	521415	PW&ENG14/15-04		P M W 100.1042.2081.030
25329	10/31/14	KILLION/FRED	4607 JANITORIAL	130.00	521415	PW&ENG14/15-04		P M W 100.1040.2081.030
25329	10/31/14	KILLION/FRED	4607 CITY HALL JANITORIAL	800.00	521416	141027		P M W 100.1016.2061.020
25329	10/31/14	KILLION/FRED	4607 EVENT CLEAN UP	75.00	521416	141027		P M W 600.602
				1,135.00		*CHECK TOTAL		
25330	10/31/14	MASON/CODY	4929 PER DIEM 11/5/2014	40.00	521502	141030		P N W 100.1020.2106.000

WARRANT	DATE	VENDOR	DESCRIPTION	AMOUNT	CLAIM	INVOICE	PO#	F 9 S	ACCOUNT
GENERAL CHECK FORM									
25331	10/31/14	MATHESON TRI-GAS INC	4194 CARBON DIOXIDE	3,183.45	521419	10041908	003662	P N W	503.5033.2101.034
25331	10/31/14	MATHESON TRI-GAS INC	4194 ACETYLENE/OXYGEN	78.74	521420	10014923		P N W	501.5013.2041.000
				3,262.19	*CHECK TOTAL				
25332	10/31/14	MCC CONTROL SYSTEMS	4682 CALIBRATION FLOWMET	5,125.00	521421	2001654		P N W	501.5013.2041.000
25333	10/31/14	MEDORA CORPORATION	4762 SOLARBEE LEASE	2,724.75	521417	75409		P N W	503.5033.2095.000
25334	10/31/14	MENDOCINO JANITORIAL	4255 PD JANITORIAL	1,100.00	521423	223742		P M W	100.1016.2061.020
25334	10/31/14	MENDOCINO JANITORIAL	4255 PD SHAMPOO CARPET	300.00	521423	223742		P M W	100.1016.2061.020
25334	10/31/14	MENDOCINO JANITORIAL	4255 REPLACEMENT CHAIR GLID	41.51	521423	223742		P N W	100.1016.2061.020
				1,441.51	*CHECK TOTAL				
25335	10/31/14	MSC INDUSTRIAL SUPPL	4687 LIGHT BULB	155.73	521422	79980854		P N W	100.1016.2025.000
25336	10/31/14	MUNICIPAL CODE CORPO	4530 ANNUAL BILLING	650.00	521418	247931		P N W	100.1001.2081.030
25337	10/31/14	NGUYEN/VIET	4930 PER DIEM 11/5/2014	40.00	521503	141030		P N W	100.1020.2106.000
25338	10/31/14	OUR DAILY BREAD	651 2ND QTR PAYMENT	750.00	521424	141031		P N W	100.1070.3042.000
25339	10/31/14	P G & E COMPANY	114 ENGINEERING	83.44	521425	141014		P N W	100.1042.2110.000
25339	10/31/14	P G & E COMPANY	114 PARKS	349.44	521425	141014		P N W	100.1050.2110.000
25339	10/31/14	P G & E COMPANY	114 SEWER	49.94	521425	141014		P N W	501.5013.2110.000
25339	10/31/14	P G & E COMPANY	114 WATER	20.38	521425	141014		P N W	503.5033.2110.000
25339	10/31/14	P G & E COMPANY	114 PUBLIC WORKS	83.43	521425	141014		P N W	100.1040.2110.000
				586.63	*CHECK TOTAL				
25340	10/31/14	PACE SUPPLY CORP	12 GASKET/PLUG/LID/BOX	191.62	521429	22500939		P N W	501.5011.2041.000
25340	10/31/14	PACE SUPPLY CORP	12 SPIGOT GASKET/CLEAN O	165.13	521430	022500939-1		P N W	501.5013.2041.000
25340	10/31/14	PACE SUPPLY CORP	12 WATER LINE REPAIR P	2,663.23	521431	022504708	003663	P N W	503.5031.2041.000
25340	10/31/14	PACE SUPPLY CORP	12 EMERG WTR LINE PARTS	20.63	521432	022505178		P N W	503.5031.4003.038
25340	10/31/14	PACE SUPPLY CORP	12 WATERLINE REPAIR PART	919.60	521433	022504708-1	003663	P N W	503.5031.2041.000
25340	10/31/14	PACE SUPPLY CORP	12 WATERLINE REPAIR PARTS	51.90	521434	022504708-2	003663	P N W	503.5031.2041.000
25340	10/31/14	PACE SUPPLY CORP	12 WATERLINE REPAIR PART	564.41	521435	022504708-3	003663	P N W	503.5031.2041.000
25340	10/31/14	PACE SUPPLY CORP	12 EMERG WTR LINE PARTS	115.26	521436	022505178-1		P N W	503.5031.4003.038
25340	10/31/14	PACE SUPPLY CORP	12 WATERLINE REPAIR PARTS	77.85	521437	022504708-4	003663	P N W	503.5031.2041.000
25340	10/31/14	PACE SUPPLY CORP	12 WATERLINE REPAIR PARTS	54.06	521438	022504708-5	003663	P N W	503.5031.2041.000
25340	10/31/14	PACE SUPPLY CORP	12 EMERG WTR LINE PARTS	99.48	521439	022513487		P N W	503.5031.4003.038
25340	10/31/14	PACE SUPPLY CORP	12 EMERG WTR LINE PARTS	55.14	521440	022514812		P N W	503.5031.4003.038
25340	10/31/14	PACE SUPPLY CORP	12 EMERG WTR LINE PARTS	170.57	521441	022513487-1		P N W	503.5031.4003.038
25340	10/31/14	PACE SUPPLY CORP	12 EMERG WTR LINE PARTS	141.27	521442	022514812-1		P N W	503.5031.4003.038
25340	10/31/14	PACE SUPPLY CORP	12 EMERG WTR LINE PAR	11,412.38	521443	022515745	003668	P N W	503.5031.4003.038
25340	10/31/14	PACE SUPPLY CORP	12 EMERG WTR LINE PART	2,221.97	521444	022516324		P N W	503.5031.4003.038
25340	10/31/14	PACE SUPPLY CORP	12 EMERG WTR LINE PARTS	19.46	521445	022518009		P N W	503.5031.4003.038
25340	10/31/14	PACE SUPPLY CORP	12 EMERG WTR LINE PARTS	248.96	521446	022515745-1		P N W	503.5031.4003.038
25340	10/31/14	PACE SUPPLY CORP	12 EMERG WTR LINE PARTS	25.95	521447	022520293		P N W	503.5031.4003.038
25340	10/31/14	PACE SUPPLY CORP	12 EMERG WTR LINE PARTS	234.63	521448	022521460		P N W	503.5031.4003.038

Disbursements Journal

WARRANT	DATE	VENDOR	DESCRIPTION	AMOUNT	CLAIM	INVOICE	PO#	F 9 S	ACCOUNT
GENERAL CHECK FORM									
25340	10/31/14	PACE SUPPLY CORP	12 EMERG WTR LINE PARTS	408.71	521449	022521491		P N W	503.5031.4003.038
25340	10/31/14	PACE SUPPLY CORP	12 EMERG WTR LINE PARTS	183.81	521450	022515745-2	003668	P N W	503.5031.4003.038
25340	10/31/14	PACE SUPPLY CORP	12 EMERG WTR LINE PARTS	75.69	521451	022515745-3	003668	P N W	503.5031.4003.038
25340	10/31/14	PACE SUPPLY CORP	12 WTR LINE REPAIR PARTS	53.52	521452	022504708-6	003663	P N W	503.5031.2041.000
25340	10/31/14	PACE SUPPLY CORP	12 WTR LINE REPAIR PARTS	506.81	521453	022501052		P N W	503.5031.2041.000
25340	10/31/14	PACE SUPPLY CORP	12 EMERG WTR LINE PARTS	18.38	521454	022515745-4	003668	P N W	503.5031.4003.038
25340	10/31/14	PACE SUPPLY CORP	12 PARTS RETURN	117.04	521455	CM022505178		P N W	503.5031.4003.038
				20,583.38	*CHECK TOTAL				
25341	10/31/14	PACIFIC TELEMANGEME	4767 AIRPORT PAY PHONE	50.00	521428	692504		P N W	500.5001.2110.000
25342	10/31/14	PITNEY BOWES	4507 POSTAGE METER FUNDS	2,000.00	521456	141012		P N W	100.1002.2055.000
25343	10/31/14	PLATT	4506 EMERG WTR LINE SUPP	1,165.03	521426	F330577	003669	P N W	503.5031.4003.038
25344	10/31/14	PRINTING PLUS	127 POSTERS/POSTCARDS	83.53	521427	2337		P M W	600.601
25345	10/31/14	ROOTS-LIFE PRODUCTIO	.09317 BUS LIC FEE/IN BROOKTR	20.00	521457	140919		P N W	100.1003.6650.000
25345	10/31/14	ROOTS-LIFE PRODUCTIO	.09317 BUS LIC FEE/IN BROOKTRA	1.00	521457	140919		P N W	600.614
				21.00	*CHECK TOTAL				
25346	10/31/14	ROUND TREE GLASS INC	138 WINDSHIELD INSTALL	247.59	521458	62679		P M W	501.5011.2041.000
25346	10/31/14	ROUND TREE GLASS INC	138 VEHICLE MAINT UNIT 24	395.49	521504	62758		P M W	100.1022.2044.000
				643.08	*CHECK TOTAL				
25347	10/31/14	S & S AUTO	1434 SMOG UNIT 251	50.00	521462	30254		P M W	100.1022.2044.000
25348	10/31/14	SAFETYLINE	4362 UNIFORMS	114.13	521461	26414		P N W	201.2011.2101.045
25349	10/31/14	SCHULZ/ROBERTA	.09320 WATER OVERPAYMENT	95.00	521467	10104100001		P N W	503.0503.6600.000
25350	10/31/14	SIMMONS/ANDREW	.09318 REIMBURSEMENT	20.00	521464	14-8792		P N W	100.1022.2101.031
25351	10/31/14	SIRCHIE FINGER PRINT	762 DRUG TEST KIT/FINGERP	193.02	521463	182008-IN		P N W	100.1022.2101.031
25352	10/31/14	STATE WATER RES CONT	468 DIST CERT RENEW HERMAN	90.00	521465	141031		P N W	503.5030.2001.002
25353	10/31/14	STATEWIDE TRAFFIC	4511 PAINT	998.41	521459	2216/9		P N W	202.2020.2101.045
25354	10/31/14	SWOFFORD/AUDREY	.09319 WATER DEPOSIT REFUND	24.15	521466	10402740001		P N W	503.111
25355	10/31/14	UKIAH PAPER SUPPLY I	164 JANITORIAL SUPPLIES	145.05	521468	432853		P N W	100.1050.2101.045
25355	10/31/14	UKIAH PAPER SUPPLY I	164 CENTER PULL TOWEL	51.93	521470	433032		P N W	600.601
25355	10/31/14	UKIAH PAPER SUPPLY I	164 JANITORIAL SUPPLIES	149.58	521471	433317		P N W	100.1050.2101.045
25355	10/31/14	UKIAH PAPER SUPPLY I	164 JANITORIAL SUPPLIES	50.88	521472	433413		P N W	100.1016.2025.000
				397.44	*CHECK TOTAL				
25356	10/31/14	UKIAH VALLEY MEDICAL	332 PRE EMP PHYSICAL	1,484.73	521477	141012		P M W	100.1005.2061.013
25356	10/31/14	UKIAH VALLEY MEDICAL	332 20%-30 DAY PAY DISCOU	296.95	521477	141012		P M W	100.1005.2061.013
				1,187.78	*CHECK TOTAL				

Disbursements Journal

WARRANT	DATE	VENDOR	DESCRIPTION	AMOUNT	CLAIM	INVOICE	PO#	F 9 S ACCOUNT
GENERAL CHECK FORM								
25357	10/31/14	UNITED PARCEL SERVIC	165 LANDFILL PAPERWORK	6.19	521476	5382F9414		P M W 213.2133.2101.045
25357	10/31/14	UNITED PARCEL SERVIC	165 EMRG WTR	7.92	521476	5382F9414		P M W 503.5031.4003.038
25357	10/31/14	UNITED PARCEL SERVIC	165 MAIN ST WATERLINE	5.97	521476	5382F9414		P M W 100.1042.2101.045
25357	10/31/14	UNITED PARCEL SERVIC	165 EMERG WTR PJCT	14.53	521476	5382F9414		P M W 503.5031.4003.038
25357	10/31/14	UNITED PARCEL SERVIC	165 CALTRANS PERMITS	11.52	521476	5382F9414		P M W 100.1042.2101.045
				46.13	*CHECK TOTAL			
25358	10/31/14	UNIVAR USA INC	655 WATER PLANT CHEMICA	5,407.74	521473	SJ648173		P N W 503.5033.2101.034
25359	10/31/14	UTILITY SUPPLY OF AM	3997 LAB SCOOP/WEIGH PAPER	122.59	521474	479186		P N W 501.5013.2101.034
25360	10/31/14	VALERIUS/JANE	4010 WWTP 2014 REPORT PR	1,024.72	521480	2014-108		P M W 501.5013.2061.012
25360	10/31/14	VALERIUS/JANE	4010 WWTP 2014 ANN REP AME	345.00	521481	2014-084		P M W 501.5013.2061.012
				1,369.72	*CHECK TOTAL			
25361	10/31/14	VERIZON WIRELESS	4828 WILLITS PD	4.37	521478	9733783989		P N W 100.1020.2015.000
25361	10/31/14	VERIZON WIRELESS	4828 PUBLIC WORKS	12.14	521479	9733783990		P N W 100.1040.2015.000
25361	10/31/14	VERIZON WIRELESS	4828 CODE ENFORCEMENT	12.02	521479	9733783990		P N W 100.1011.2015.000
25361	10/31/14	VERIZON WIRELESS	4828 SEWER	40.00	521479	9733783990		P N W 501.5013.2015.000
25361	10/31/14	VERIZON WIRELESS	4828 POOL WIFI HOTSPOT	36.99CR	521479	9733783990		P N W 100.1030.2101.045
				31.54	*CHECK TOTAL			
25362	10/31/14	W P O A	262 EMPLOYEE CONTRIBUTION	922.68	521482	141024		P N W 690.234
25363	10/31/14	WELLS FARGO EQUIPMEN	4677 INTEREST	334.53	521487	9609524		P N W 501.5011.3002.000
25363	10/31/14	WELLS FARGO EQUIPMEN	4677 PRINCIPAL	4,229.95	521487	9609524		P N W 501.5011.3001.000
				4,564.48	*CHECK TOTAL			
25364	10/31/14	WILLITS CHAMBER OF C	300 TOT 1ST QTR PAYMENT	6,943.75	521484	141031		P N W 100.1070.3030.000
25365	10/31/14	WILLITS COMMUNITY SE	656 2ND QTR PAYMENT	1,500.00	521486	141031		P N W 100.1070.3040.000
25366	10/31/14	WILLITS KIDS CLUB	3981 PAYROLL DEDITION	20.00	521483	141024		P N W 690.248
25367	10/31/14	WILLITS SENIORS INC	301 2ND QTR PAYMENT	1,875.00	521485	141031		P N W 100.1070.3031.000
25368	10/31/14	ZAP MANUFACTURING IN	4327 SIGN MATERIALS	93.74	521488	43168		P N W 202.2020.2101.045
25369	10/31/14	101 TRAILER AND RV	474 VEHICLE MAINT UNIT 16	292.31	521489	120294		P N W 201.2011.2041.000
25369	10/31/14	101 TRAILER AND RV	474 VEHCILE MAINT UNIT 117	51.85	521490	120358		P N W 100.1041.2041.000
				344.16	*CHECK TOTAL			
GENERAL CHECK FORM			TOTAL	210,796.40				

CITY OF WILLITS
BUILDING AND SAFETY
111 E. Commercial St. Willits, Ca. 95490
(707) 459-7122

DATE: 11/03/2014

TO:

Mendocino County Assessor
Att: Joe
501 Low Gap Rd., 1020
Ukiah, CA. 95482

FROM: Building Department, City of Willits

RE: Permit Completion for Month of October 2014

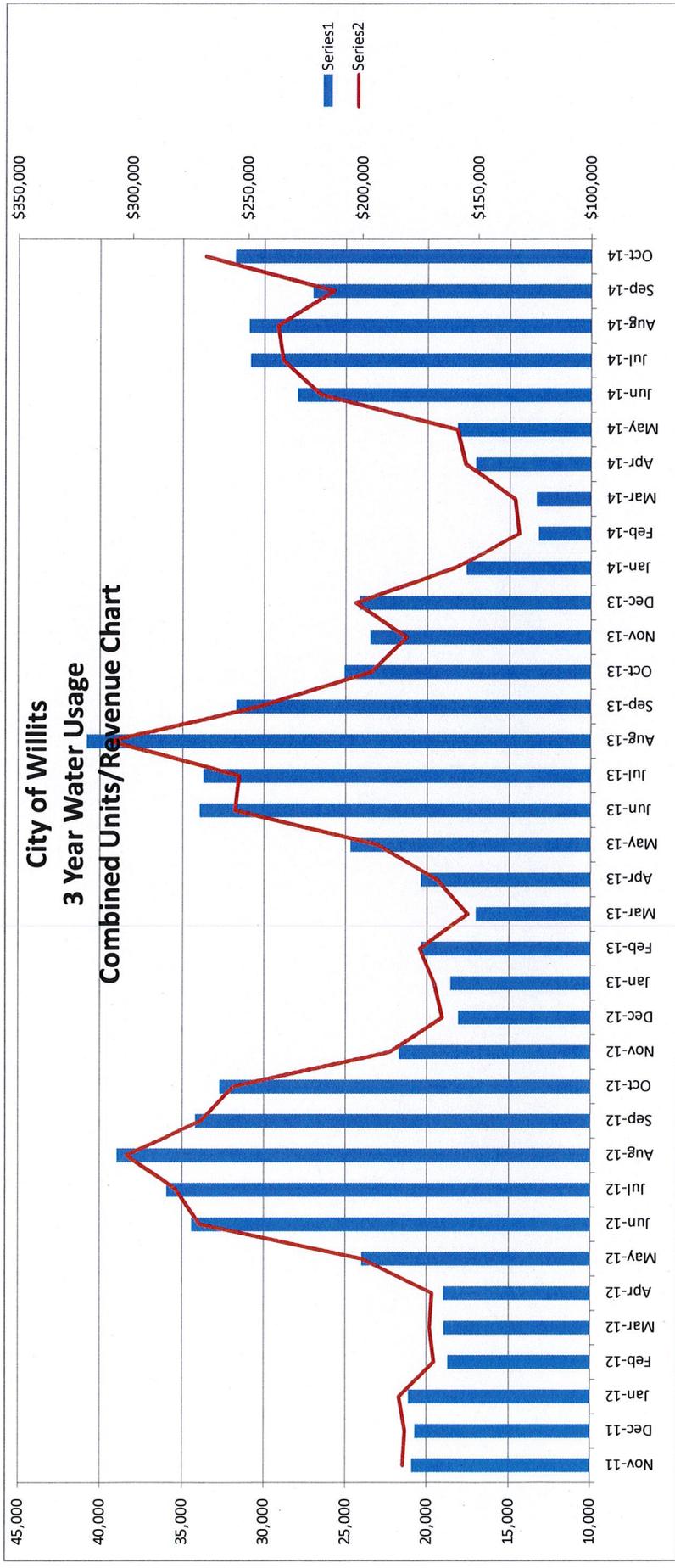
PARCEL#	WORK DONE	ADDRESS	VALUE	DATE	PERMIT #
The following permits were issued.					
006-044-06	Replace water service	123 E. Valley St.	\$1,000	10/03/14	8280
005-150-03	Const. 436 sq ft deck	190 Bittenbender Ln.	9,500	10/06/14	8281
006-131-09	Tearoff reroof	35 W. Oak St.	2,500	10/06/14	8283
007-291-04	Replace siding	227 Bonnie Ln.	2,500	10/06/14	8284
006-010-46	Tearoff reroof	359 Laurel St.	2,500	10/06/14	8282
006-210-19	7.15 KW Solar array	1265 Blosser Ln.	23,500	10/06/14	8285
005-130-18	Relocate steel building/rack	307 E. Commercial St.	231,250	10/07/14	8286
007-200-31	Replace wall furnace	1761 S. Main St.	750	10/13/14	8287
005-091-47	20 amp circuit & sump pump	136 Mill Creek Dr.	250	10/17/14	8288
006-041-25	Replace elect. service panel	411 Coast St.	450	10/28/14	8290
007-232-15	Const. 2046 sq. ft. SFD / 3 car garage	240 Haehl Creek Ct.	301,410	10/31/14	8291
007-232-30	Const. 2046 sq ft SFD / 2 car garage	433 Grove St.	288,750	10/31/14	8292
COMPLETED PROJECTS					
006-110-23	Whole house remodel	325 Ft. Bragg Rd	\$28,500	5/29/14	8236
005-150-81	Reinforce ceiling joists	114 W. Commercial St.	6,000	6/26/14	8254
007-140-01	Remodel commercial kitchen	1611D S. Main St.	15,000	4/28/14	8219

007-140-01	Const ext. deck w/ ADA ramp	1611D S. Main St.	3,500	8/06/14	8274
007-200-31	Replace wall furnace	1761 S. Main St.	750	10/13/14	8287
007-170-20	Const. 120 sq ft storage building	1726 H S. Main St.	3,500	1/29/14	8192
005-202-13	Whole house remodel	300 E. Valley St.	10,500	7/25/14	8268
005-242-06	Add 20 amp circuit for hot tub	364 Redwood Ave.	250	9/15/14	8273
005-130-19	Demolish storage sheds	307 E. Commercial St.	1,500	8/22/14	8286
006-120-28	Replace siding	785 Coast St.	4,000	6/04/14	8242
005-182-01	Replace foundation/elect service panel	193 W. Commercial St.	12,000	5/09/14	8228
006-190-08	Const steel storage building	351 Franklin Ave.	11,000	7/18/14	8265
006-181-12	Overlay reroof	118 Ft. Bragg Rd.	2,000	8/08/14	8277
005-201-23	Replace wall furnace	160 S. Lenore Ave. #31	2,000	9/30/14	8279
005-171-13	Install air conditioning to exist. HVAC system	586 Lincoln St.	2,500	6/16/14	8248
006-210-19	Install modular classroom	1265 Blosser Lane	3,500	7/23/14	8267
006-210-19	Install 7.15 kw solar array	1265 Blosser Lane	23,500	10/06/14	8285
006-210-19	Grading and install playground equipment	1265 Blosser Lane	10,000	5/15/13	8089
005-091-47	20 amp sump pump circuit	136 Mill Creek Dr.	250	10/17/14	8288
007-280-29	Tearoff reroof / replace windows	215 Bonnie Ln.	6,500	8/12/14	8280
007-100-23	Reroof apt. complex	1475 Baechtel Rd.	33,500	8/01/14	8271
038-253-02	Repair fire damage / whole house remodel	175 Holly St.	91,000	6/18/14	8257
005-215-19	Install propane backup generator	193 S. Humboldt St.	11,000	8/01/14	8270
007-232-04	In ground swimming pool	130 Haehl Creek Dr.	25,000	7/30/14	8269
006-044-06	Replace water service	123 E. Valley St.	1,000	10/03/14	8280
006-041-25	Replace elect. service panel	411 Coast St.	450	10/28/14	8290
006-210-24	Const 4960 sq ft commercial shop building	1030 Locust St.	76,000	6/11/14	8252

John Sherman
City of Willits Building Inspector

New Business License - October 2014

<i>BL#</i>	<i>Name</i>	<i>Owner</i>	<i>Address</i>	<i>Date Issued</i>	<i>Type of Bussiness</i>
6411	North Coast Claims Company	Steven Benavidez	5706 Ridgewood Rd, Willits	10/8/2014	Claims Adjusment Business
6412	AlliedBarton Security Services LP	William Whitmore	100 Howe St, Sacramento, CA	10/8/2014	Security Guard Service
6413	Brickhouse Coffee	Tom Mann	3 S. Main, Willits, CA 95490	10/8/2014	Coffee Shop
6414	Falck Northern California, dba Verihealth	Gary Tennyson	1110 Poplar Ave, Willits	10/8/2014	Ambulance Service
6415	Pacific Contract Flooring	Perry Ordaz	3950 N. Chestnut Ave, Fresno	10/8/2014	Commercial Flooring
6416	Dendy's Computer Service	Chris Dendy	251 Shell Lane Unit J, Willits	10/8/2014	Computer IT Support
6417	Willits Mini Storage	William Meckel	261 Franklin Ave., Willits	10/8/2014	Storage Units



CITY OF WILLIAMS
WATER USAGE COMPARISONS

UNITS	Oct-14	Sep-14	Aug-14	Jul-14	Jun-14	May-14	Apr-14	Mar-14	Feb-14	Jan-14	Dec-13	Nov-13
Apartment MF	2652	2732	2855	2859	2739	1,904	1,857	1,458	1,451	1,949	2,054	2,042
Large Business	453	699	573	499	550	298	204	156	189	306	399	345
Churches	198	251	294	338	339	132	82	61	57	76	116	160
Restaurants & Bar	877	790	953	1032	857	655	665	770	536	684	879	770
Grocery	259	201	219	232	195	177	195	190	205	258	370	294
Hospital	1517	1551	1916	1631	1481	723	618	478	612	490	555	535
Industrial	1028	909	890	1309	810	598	372	194	188	424	605	671
Laundry	444	317	305	328	310	281	390	332	333	376	396	381
Motels	757	680	806	940	771	541	400	400	394	525	630	678
Public Facility	1774	3085	4435	2917	3095	1,278	872	471	486	464	1,410	3,634
Residential SF	18057	11748	13166	13637	12553	8,604	8,453	6,864	6,603	9,328	13,404	10,320
Small Business	1449	1439	1603	1672	1458	1,166	1,196	996	886	1,071	1,636	1,466
Mble Hm/Trailers	1510	1443	1776	2010	1623	1,174	1,357	1,035	931	1,529	1,139	1,639
City Accounts	812	1165	1167	1461	1161	681	332	220	375	209	562	556
TOTAL UNITS	31,787	27,010	30,938	30,865	27,942	18,212	17,142	13,377	13,246	17,689	24,155	23,491
% of prev year	127%	85%	76%	91%	82%	74%	84%	78%	65%	95%	133%	108%
% of two year prior	97%	79%	79%	86%	81%	76%	90%	70%	71%	84%	117%	112%

WATER BILLING MONTHLY

UNITS	Oct-14	Sep-14	Aug-14	Jul-14	Jun-14	May-14	Apr-14	Mar-14	Feb-14	Jan-14	Dec-13	Nov-13
Apartment MF	16008	16465.65	17,041.65	17,369.60	16,416.00	11,318.10	11,409.25	8,737.55	8,589.80	11,686.55	13,010.60	12,179.35
Large Business	2715.15	4,194.00	3,435.15	2,991.15	3,297.15	1,788.00	1,221.15	933.15	1,128.30	1,833.15	2,391.15	2,070.00
Churches	1188	1,506.00	1,764.00	2,028.00	2,034.00	792.00	492.00	366.00	342.00	456.00	696.00	960.00
Restaurants & Bar	5252.25	4,735.45	5,715.25	6,185.65	5,132.05	3,920.25	3,980.25	3,138.25	3,206.25	4,094.05	5,276.65	4,615.45
Grocery	1554	1,206.00	1,314.00	1,392.00	1,170.00	1,062.00	1,170.00	1,140.00	1,230.00	1,548.00	2,220.00	1,764.00
Hospital	9279.25	9,551.65	11,726.45	10,047.65	8,756.45	3,712.45	2,859.25	3,159.15	3,159.15	2,931.45	3,321.05	3,162.65
Industrial	6168	5,454.00	5,340.00	7,854.00	4,860.00	3,588.00	2,232.00	1,164.00	1,128.00	2,544.00	3,630.00	4,026.00
Laundry	2664	1,902.00	1,890.00	1,968.00	1,860.00	1,686.00	2,340.00	1,992.00	1,998.00	2,376.00	2,376.00	2,286.00
Motels	4542	4,080.00	4,836.00	5,640.00	4,626.00	3,294.00	2,400.00	2,400.00	2,364.00	3,150.00	3,780.00	4,068.00
Public Facility	10608	17,802.00	25,836.00	16,392.00	17,838.00	6,642.00	4,872.00	2,622.00	2,736.00	2,784.00	8,364.00	8,640.00
Residential SF	123259.5	60,640.15	70,017.20	73,490.30	66,193.45	39,064.95	37,954.80	29,271.75	27,810.20	44,524.15	75,619.90	50,734.95
Small Business	8679.85	8,615.90	9,603.10	10,006.75	8,741.35	6,981.10	7,169.35	5,957.90	5,300.35	6,488.90	6,839.35	8,786.85
Mble Hm/Trailers	9060	8,658.00	10,656.00	12,060.00	9,738.00	7,044.00	8,142.00	6,210.00	5,586.00	9,174.00	9,834.00	9,834.00
City Accounts	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL USAGE REVENUE	200,978.00	144,810.80	169,114.80	167,425.10	150,662.45	91,700.85	87,989.25	66,791.85	64,578.05	93,420.25	137,358.70	113,127.25

METER REVENUE

UNITS	Oct-14	Sep-14	Aug-14	Jul-14	Jun-14	May-14	Apr-14	Mar-14	Feb-14	Jan-14	Dec-13	Nov-13
Apartment MF	4,254.10	4,254.10	4,260.72	4,254.10	4,228.20	4,254.10	4,254.10	4,255.57	4,231.57	4,230.10	3,734.10	4,230.10
Large Business	1,135.95	1,135.95	1,135.95	1,135.95	1,135.95	1,135.21	1,135.95	1,135.95	1,124.21	1,135.95	1,143.30	1,135.95
Churches	665.97	662.30	662.30	662.30	662.30	684.35	684.35	684.35	684.35	684.35	684.35	684.35
Restaurants & Bar	1,190.19	1,192.34	1,189.40	1,189.40	1,189.40	1,189.40	1,198.65	1,143.83	1,145.30	1,145.30	1,150.44	1,167.35
Grocery	380.85	380.85	380.85	380.85	380.85	380.85	380.85	371.85	380.85	380.85	380.85	380.85
Hospital	1,399.15	1,399.15	1,399.15	1,233.15	1,233.15	1,233.15	1,233.15	1,233.15	1,209.15	1,199.15	1,139.15	1,209.15
Industrial	2,698.50	2,698.50	2,698.50	2,698.50	2,604.63	2,522.50	2,522.50	2,522.50	2,522.50	2,522.50	2,522.50	2,522.50
Laundry	341.50	341.50	341.50	341.50	341.50	341.50	341.50	341.50	341.50	341.50	341.50	341.50
Motels	1,588.15	1,588.15	1,588.15	1,588.15	1,588.15	1,588.15	1,588.15	1,588.15	1,588.15	1,588.15	1,235.15	1,588.15
Public Facility	4,890.30	4,890.30	4,890.30	4,516.34	4,866.03	4,890.30	4,890.30	4,537.30	4,890.30	4,394.30	4,890.30	4,890.30
Residential SF	41,912.43	41,664.79	41,855.48	41,683.16	41,603.58	41,603.58	41,525.72	41,586.64	41,531.49	41,920.28	41,789.50	41,789.50
Small Business	5,168.77	5,159.95	5,159.95	5,145.62	5,145.62	5,182.00	5,190.82	5,158.47	5,159.95	5,121.35	5,211.40	5,222.42
Mble Hm/Trailers	2,203.10	2,203.10	2,203.10	2,203.10	2,203.10	2,203.10	2,203.10	2,203.10	2,203.10	2,203.10	1,100.10	2,203.10
City Accounts	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL METER REVENUE	67,828.96	67,570.98	67,765.35	67,123.22	67,262.04	67,052.70	67,227.00	66,701.44	67,067.57	66,478.09	65,453.42	67,365.22

TOTAL BILLED

TOTAL BILLED	268,806.96	212,381.78	236,880.15	234,554.32	217,924.49	158,753.55	155,216.25	133,493.29	131,645.62	159,898.34	202,812.12	180,492.47
% of prev yr usage rev	156%	81%	70%	89%	80%	72%	87%	76%	60%	93%	142%	95%
% of prev yr ttl rev	137%	87%	76%	92%	60%	53%	57%	51%	47%	58%	74%	61%

CITY OF WILLIAMS
WATER USAGE COMPARISONS

UNITS	Oct-13	Sep-13	Aug-13	Jul-13	Jun-13	May-13	Apr-13	Mar-13	Feb-13	Jan-13	Dec-12	Nov-12
Apartment MF	2,526	3,303	4,131	3,527	3,587	3,392	1,987	1,785	1,918	1,809	1,712	2,151
Large Business	339	428	706	468	414	506	496	287	270	194	486	235
Churches	220	309	573	433	381	254	163	80	79	74	85	118
Restaurants & Bar	852	945	1,286	1,052	1,067	932	738	635	661	762	661	881
Grocery	387	277	425	327	333	303	261	272	333	305	375	657
Hospital	953	1,336	1,720	1,387	1,155	923	499	350	437	371	459	573
Industrial	705	1,062	943	1,006	1,135	747	562	473	567	299	470	573
Laundry	349	326	351	306	339	356	350	313	387	392	313	450
Motels	821	851	1,125	891	860	722	615	530	569	651	546	776
Public Facility	1,719	2,992	3,272	2,914	3,246	2,391	924	678	780	644	945	642
Residential SF	11,626	14,978	20,595	16,297	16,621	9,557	9,765	8,752	10,614	9,950	9,308	11,425
Small Business	1,458	1,929	2,087	1,788	1,873	1,745	1,215	1,174	1,278	1,143	1,110	1,370
Mble Hm/Trailers	1,724	2,185	2,782	2,315	2,143	2,071	1,430	1,430	1,788	1,665	1,280	1,597
City Accounts	1,388	794	825	1,029	815	785	1,337	347	356	310	468	385
TOTAL UNITS	25,067	31,715	40,821	33,740	33,969	24,684	20,384	17,106	20,368	18,582	18,130	21,699
% of prev year	77%	93%	105%	94%	99%	103%	107%	90%	109%	88%	87%	104%
% of two year prior	114%	80%	113%	109%	121%	108%	94%	91%	115%	90%	95%	109%

WATER BILLING MONTHLY

UNITS	Oct-13	Sep-13	Aug-13	Jul-13	Jun-13	May-13	Apr-13	Mar-13	Feb-13	Jan-13	Dec-12	Nov-12
Apartment MF	15,168.30	19,957.60	25,324.80	21,508.40	21,793.60	20,579.80	11,805.40	10,582.70	11,604.15	10,909.55	10,211.25	12,882.30
Large Business	2,031.15	2,568.00	4,233.15	2,808.00	2,481.15	3,027.45	2,967.25	1,713.45	2,967.25	1,154.85	2,907.45	1,400.85
Churches	1,320.00	1,854.00	3,438.00	2,598.00	2,286.00	1,524.00	978.00	480.00	1,610.25	444.00	510.00	708.00
Restaurants & Bar	5,114.65	5,670.85	7,832.45	6,325.85	6,396.30	5,886.30	4,419.25	3,804.30	5,946.30	4,563.05	3,960.30	5,277.45
Grocery	2,322.00	1,662.00	2,550.00	1,962.00	1,998.00	1,818.00	1,566.00	1,632.00	1,998.00	2,250.00	2,226.00	2,754.00
Hospital	5,574.25	8,318.65	10,320.00	8,322.00	6,930.00	5,338.00	2,634.00	2,100.00	2,622.00	2,304.00	2,226.00	2,754.00
Industrial	4,230.00	6,372.00	5,658.00	6,036.00	6,810.00	4,482.00	3,372.00	2,838.00	3,402.00	1,794.00	2,820.00	3,438.00
Laundry	2,094.00	1,956.00	2,106.00	2,034.00	2,136.00	2,100.00	2,100.00	1,878.00	2,322.00	2,352.00	1,878.00	2,700.00
Motels	4,926.00	5,106.00	6,750.00	5,346.00	5,160.00	4,332.00	3,690.00	3,180.00	3,414.00	3,906.00	3,276.00	4,656.00
Public Facility	8,304.00	16,530.00	19,632.00	13,728.00	14,538.00	10,908.00	4,818.00	3,744.00	4,614.00	3,864.00	5,670.00	7,000.00
Residential SF	58,587.10	83,000.85	125,892.35	92,037.45	94,401.70	43,905.05	46,405.75	40,054.95	51,957.30	48,443.45	43,828.55	58,016.15
Small Business	8,734.90	11,580.25	12,520.65	10,714.90	11,238.65	10,449.45	7,275.15	7,026.50	7,653.75	6,849.45	6,642.50	8,204.35
Mble Hm/Trailers	10,344.90	13,110.00	16,692.00	13,890.00	12,858.00	12,426.00	9,192.00	8,580.00	10,728.00	9,990.00	7,680.00	9,582.00
City Accounts	128,751.25	177,686.20	242,949.40	187,112.60	188,925.40	126,712.05	101,222.80	87,613.90	108,345.75	100,301.00	2,837.05	2,301.45
TOTAL USAGE REVENUE	128,751.25	177,686.20	242,949.40	187,112.60	188,925.40	126,712.05	101,222.80	87,613.90	108,345.75	100,301.00	96,697.10	119,564.55

UNITS	Oct-13	Sep-13	Aug-13	Jul-13	Jun-13	May-13	Apr-13	Mar-13	Feb-13	Jan-13	Dec-12	Nov-12
Apartment MF	4,230.10	4,230.10	4,340.10	4,222.27	4,221.10	4,165.60	4,165.60	4,247.00	4,221.10	4,160.05	4,219.25	4,222.95
Large Business	1,135.95	1,135.95	1,135.95	1,135.95	1,135.95	1,135.95	1,223.95	1,311.95	1,311.95	1,311.95	1,311.95	1,311.95
Churches	684.35	684.35	688.02	684.35	684.35	684.35	684.35	684.35	684.35	683.61	684.35	684.35
Restaurants & Bar	1,167.35	1,167.35	1,176.60	1,179.17	1,188.40	1,188.40	1,173.70	1,188.40	1,188.40	1,155.32	1,166.35	1,166.35
Grocery	380.85	380.85	380.85	380.85	380.85	380.85	380.85	380.85	380.85	380.85	380.85	380.85
Hospital	1,199.15	1,704.91	754.10	754.10	754.10	954.10	754.10	754.10	754.10	754.10	754.10	754.10
Industrial	2,522.50	2,522.50	2,522.50	2,522.50	2,515.10	2,467.00	2,291.00	2,323.34	2,313.05	2,313.05	2,313.05	2,313.05
Laundry	341.50	341.50	341.50	341.50	341.50	341.50	341.50	341.50	341.50	341.50	341.50	341.50
Motels	1,588.15	1,588.15	1,588.15	1,588.15	1,588.15	1,588.15	1,588.15	1,588.15	1,588.15	1,588.15	1,588.15	1,588.15
Public Facility	4,890.30	4,881.48	4,868.25	4,893.97	4,890.30	4,537.30	4,618.80	4,618.80	4,794.80	5,543.05	5,543.05	5,543.05
Residential SF	41,753.45	41,460.72	41,931.67	41,653.80	41,671.37	41,635.35	41,379.86	41,684.34	41,369.15	41,549.22	41,525.46	41,505.33
Small Business	5,187.13	5,199.63	5,213.60	5,203.32	5,184.94	5,226.10	5,182.00	5,224.63	5,161.42	5,174.65	5,204.77	5,202.58
Mble Hm/Trailers	2,203.10	2,203.10	2,203.10	2,203.10	2,203.10	2,203.10	2,203.10	2,203.10	2,203.10	2,203.10	2,203.10	2,203.10
City Accounts	67,283.88	67,500.59	67,144.39	66,763.03	66,759.21	66,507.75	65,986.96	66,550.51	66,311.92	68,118.40	68,195.73	68,177.11
TOTAL METER REVENUE	196,035.13	245,186.79	310,093.79	253,875.63	253,875.63	301,122.55	274,561.72	262,048.92	282,275.59	277,812.80	274,332.56	297,132.77
% of prev yr usage rev	68%	87%	109%	88%	99%	96%	100%	85%	108%	86%	85%	105%
% of prev yr ttl rev	54%	65%	75%	65%	65%	97%	99%	94%	102%	95%	95%	102%

CITY OF WILLIAMS
WATER USAGE COMPARISONS

UNITS	Oct-12	Sep-12	Aug-12	Jul-12	Jun-12	May-12	Apr-12	Mar-12	Feb-12	Jan-12	Dec-11	Nov-11
Apartment MF	3,365	3,304	3,492	3,239	3,295	2,284	1,915	1,994	2,138	2,089	2,100	2,418
Large Business	409	415	485	461	551	394	252	242	312	758	282	339
Churches	306	447	609	506	527	169	55	94	70	77	94	149
Restaurants & Bar	1,057	1,020	1,073	999	1,017	791	731	707	689	700	690	800
Hospital	619	498	438	404	400	409	482	325	330	341	347	427
Industrial	928	1,217	1,559	1,367	1,098	679	343	392	370	344	388	534
Laundry	709	748	1,000	895	752	487	301	488	259	534	401	554
Motels	361	310	326	304	355	304	368	332	344	374	369	413
Public Facility	819	872	937	844	955	665	567	534	569	506	565	614
Residential SF	4,065	3,685	3,562	3,923	2,632	1,181	1,315	936	949	913	1,245	1,198
Small Business	13,914	16,472	19,271	17,384	17,360	11,873	9,239	9,749	9,670	10,695	10,622	10,559
Mble Hm/Trailers	3,238	1,955	2,206	2,06	2,092	1,579	1,216	1,208	1,201	1,518	1,305	1,383
City Accounts	2,000	2,272	2,712	2,336	2,237	1,795	1,715	1,570	1,505	1,818	1,736	1,553
TOTAL UNITS	32,716	34,228	38,949	35,983	34,439	23,998	18,997	18,980	18,755	21,108	20,728	20,924
% of prev year	149%	87%	107%	116%	123%	105%	88%	101%	106%	102%	108%	105%
% of two year prior	121%	92%	95%	99%	106%	87%	86%	109%	88%	101%	82%	99%

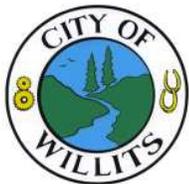
WATER BILLING MONTHLY

UNITS	Oct-12	Sep-12	Aug-12	Jul-12	Jun-12	May-12	Apr-12	Mar-12	Feb-12	Jan-12	Dec-11	Nov-11
Apartment MF	20,316.60	19,977.00	21,268.20	19,775.40	20,178.40	13,776.20	11,446.95	11,831.90	12,770.50	12,603.05	12,622.25	14,576.00
Large Business	2,445.45	2,484.30	2,907.15	2,760.30	3,297.45	2,355.45	1,503.45	1,443.05	1,863.45	4,539.45	1,686.30	2,028.30
Churches	1,836.00	2,682.00	3,654.00	3,036.00	3,162.00	1,014.00	330.00	564.00	420.00	462.00	564.00	894.00
Restaurants & Bar	6,332.05	6,110.25	6,433.45	5,984.05	6,093.25	4,737.45	4,377.05	4,232.65	4,124.65	4,191.85	4,130.05	4,793.65
Grocery	3,714.00	2,988.00	2,628.00	2,424.00	2,400.00	2,454.00	2,892.00	1,950.00	1,980.00	2,046.00	2,082.00	2,562.00
Hospital	5,568.00	7,302.00	8,202.00	6,588.00	4,512.00	4,071.15	2,058.00	2,352.00	2,220.00	2,064.00	2,325.15	2,058.00
Industrial	4,254.00	4,488.00	6,000.00	5,370.00	4,512.00	2,622.00	1,806.00	2,928.00	1,554.00	3,204.00	2,406.00	3,204.00
Laundry	2,166.00	1,860.00	1,956.00	1,824.00	2,130.00	1,824.00	2,008.00	1,992.00	2,064.00	2,244.00	2,214.00	2,478.00
Motels	4,914.00	5,232.00	5,622.00	5,064.00	5,730.00	3,990.00	3,402.00	3,204.00	3,414.00	3,036.00	3,990.00	3,684.00
Public Facility	24,390.00	22,110.00	21,372.00	23,538.00	15,792.00	7,086.00	7,890.00	5,616.00	5,694.00	5,478.00	7,470.00	7,188.00
Residential SF	75,564.50	95,506.10	116,085.55	101,012.05	100,603.55	59,620.55	43,088.50	47,290.05	46,394.70	53,508.85	52,686.10	52,004.45
Small Business	19,407.65	11,712.90	13,908.45	13,736.25	12,543.45	9,453.05	7,278.30	7,224.80	7,197.25	9,099.45	7,824.30	8,289.25
Mble Hm/Trailers	11,997.15	13,682.00	16,272.00	14,016.00	13,422.00	10,770.00	10,290.00	9,420.00	9,090.00	10,908.00	10,416.00	9,318.00
City Accounts	5,957.45	7,091.25	7,721.80	6,807.40	6,971.40	8,628.00	2,988.00	2,454.00	1,974.00	2,646.00	3,504.00	1,164.00
TOTAL USAGE REVENUE	188,862.85	203,175.80	235,182.60	213,549.45	203,423.50	132,401.85	101,558.25	102,502.45	100,700.55	116,030.65	113,320.15	114,241.65

METER REVENUE

UNITS	Oct-12	Sep-12	Aug-12	Jul-12	Jun-12	May-12	Apr-12	Mar-12	Feb-12	Jan-12	Dec-11	Nov-11
Apartment MF	4,221.10	4,221.10	4,221.10	4,221.10	4,221.10	4,221.10	4,221.10	4,221.10	4,220.37	4,221.10	4,224.75	4,221.10
Large Business	1,311.95	1,311.95	1,311.95	1,311.95	1,311.95	1,311.95	1,311.95	1,311.95	1,311.95	1,311.95	1,311.95	1,311.95
Churches	684.35	684.35	684.35	684.35	684.35	684.35	684.35	684.35	684.35	684.35	684.35	684.35
Restaurants & Bar	1,139.89	1,163.41	1,134.01	1,166.35	1,166.35	1,166.35	1,166.35	1,166.35	1,166.35	1,166.35	1,166.35	1,193.54
Grocery	380.85	380.85	380.85	380.85	380.85	380.85	380.85	380.85	380.85	380.85	380.85	380.85
Hospital	754.10	754.10	754.10	754.10	754.10	754.10	754.10	754.10	754.10	754.10	754.10	754.10
Industrial	2,313.05	2,313.05	2,313.05	2,273.05	2,313.05	2,330.69	2,335.10	2,335.10	2,335.10	2,335.10	2,335.10	2,335.10
Laundry	341.50	341.50	341.50	341.50	341.50	341.50	341.50	341.50	341.50	341.50	341.50	341.50
Motels	1,588.15	1,588.15	1,588.15	1,588.15	1,588.15	1,588.15	1,588.15	1,588.15	1,588.15	1,588.15	1,588.15	1,588.15
Public Facility	5,540.72	5,473.05	5,467.90	5,451.00	5,098.00	5,451.00	5,451.00	5,451.00	5,451.00	5,451.00	5,451.00	5,451.00
Residential SF	40,767.35	41,137.11	40,999.23	41,289.39	41,606.92	41,776.51	41,199.00	41,274.53	41,280.55	41,166.46	41,261.24	41,183.57
Small Business	5,107.00	5,113.64	5,097.47	5,127.60	5,050.79	5,118.85	5,115.85	5,091.59	5,009.00	5,005.96	5,022.87	5,064.76
Mble Hm/Trailers	2,214.83	2,203.10	2,203.10	2,205.05	2,205.05	2,205.05	2,205.05	2,205.05	2,205.05	2,205.05	2,205.05	2,205.05
City Accounts	959.80	959.80	959.80	959.80	948.04	937.75	937.75	937.75	937.75	937.75	937.75	937.75
TOTAL METER REVENUE	67,324.64	67,645.16	67,456.56	67,754.24	67,670.20	67,767.41	67,692.10	67,743.37	67,666.07	67,552.61	67,665.01	67,652.77

TOTAL BILLED	364,695.13	379,619.12	411,217.72	390,148.93	379,824.90	308,966.67	277,942.45	278,958.19	276,972.69	292,044.87	289,528.17	290,395.19
% of prev yr usage rev	155%	85%	109%	118%	134%	120%	96%	107%	113%	107%	115%	110%
% of prev yr ttl rev	122%	92%	105%	110%	119%	112%	178%	204%	310%	270%	294%	280%



Item No. 9e (1)

Meeting Date: November 12, 2014

AGENDA SUMMARY REPORT

To: Honorable Mayor and Council Members

From: Rod Wilburn, Public Works Director

Agenda Title: DISCUSSION REGARDING WASTEWATER TREATMENT PLANT INFLUENT METERING SYSTEM EVALUATION

Type: Presentation Consent Regular Agenda Public Hearing Urgent Time: 30 min.

Summary of Request: This presentation to the City Council is meant to provide an overview of the issues related to the influent metering system at the Willits Wastewater Treatment Plant (WWTP), seeking City Council direction as to how to proceed in rectifying the construction-related issues. The accuracy of the influent meter was called into question by a report prepared by Brelje & Race for the Brooktrails Township Community Services District (BTCSD) on October 18, 2013. This report was subsequently provided to the City of Willits and no further action was taken until July 2014 when the records for the calibration of the influent meter were requested through a Public Records Act Request.

It was at this time that the City contacted MCC Control Systems (MCC) to schedule a Parshall flume inspection and meter calibration to verify accuracy or confirm any issues raised by the Brelje & Race report. As a result of this communication with MCC, City staff learned that MCC had inspected the influent meter and flume on October 3, 2013. MCC supplied the City with that report on July 30, 2014 and that report identified several issues that could potentially affect the accuracy of the influent meter. After reviewing these two reports, it was apparent that two separate elements of the influent metering system needed to be evaluated. The first being the construction of the Parshall flume and the second being how the meter itself and its associated transducer were installed.

The primary issue with the construction of the Parshall flume as presented in the Brelje & Race report was that the flume was constructed at a 1% longitudinal slope and that was affecting the level of flows within the flume and, thus, skewing the resulting flow calculations. Another issue raised in the report is the fact that there are triangular voids in the concrete walls immediately upstream of the Parshall flume that cause eddies or interrupted flow that also affects the accuracy of the meter. The existence of the triangular voids is not disputed and should be corrected if the Parshall flume remains as part of the influent metering system. In order to confirm or deny the construction issue, I asked the City Engineer and staff to perform a field survey of the flume. We found a longitudinal slope of 0.88% and determined through discussions with MCC that this slope would not affect the accuracy of the influent meter.

City staff scheduled MCC for another field evaluation of the influent meter, the Brooktrails Sewer Meter on Mill Creek Drive, and other mag-meters at the Wastewater Treatment Plant on August 14, 2014. City staff, BTCSD staff and Engineering Representative, and a GHD Engineering Representative on behalf of the City of Willits were in attendance to observe the MCC field evaluation. MCC found the same issues with this evaluation as were found on October 3, 2013 and provided a report dated August 20, 2014 summarizing the issues. Subsequent to this report, MCC was scheduled to return to the site on September 26, 2014, at which time they moved the meter transducer to the proper, specified location. MCC also checked the accuracy of the transducer with respect to measuring the distance to the surface of the influent since that is how the volume of wastewater is calculated. As is stated in their report, it was determined that the distance from the bottom of the transducer to the bottom of the flume was 42-7/8 inches and the maximum distance measured by the transducer was set to 38 inches. This created the circumstance mentioned in the Brelje & Race report in which the meter would not measure flows below what was estimated to be 4 inches. When the meter was installed,

this parameter was “mis-set” creating a meter that would only read down to approximately 350-400 gallons per minute. These issues were resolved by MCC and the meter and flume can be considered accurate.

However, during the field survey by the City Engineer and staff, a construction issue was identified immediately downstream of the Parshall flume that also affects the accuracy of the influent metering system. The survey revealed that the 30” between the two manholes immediately downstream of the Parshall flume was installed at an adverse slope of 1.36% and the bottom of the pipe is below the bottom of the most downstream manhole. The pipe is also offset horizontally, creating a 3 inch lip both at the bottom of the pipe and a lip of approximately the same dimension on the south side of the pipe at the manhole. A plan and profile drawing that illustrates the situation in detail is included herewith and entitled, *Gravity Inlet Sewer Plan and Profile*.

When considering the accuracy of the influent meter as a result of all of the above mentioned construction and installation issues, staff chose to compare the influent meter values to the values calculated at the new mag-meter installed on August 18, 2012, which measures the discharge from the mechanical treatment plant to the enhancement wetlands and is referred to as EFF-002. The difference between the influent meter and EFF-002 for the following 10 months of fiscal year 2012-2013 and fiscal year 2013-2014 is shown in the following tables:

Influent -Effluent (EFF-002) Comparison (09/12 – 06/14)					
	Influent Meter Value	Influent Flow (gallons)	EFF-002 Meter Value	Effluent Flow (gallons)	Difference (gallons)
July 1, 2012	4,703,461	25,431,000			
August 1, 2012	4,728,892	26,103,000	New effluent meter installed 8-18-12.		
September 1, 2012	4,754,995	24,679,000	18,239	16,260,000	8,419,000
October 1, 2012	4,779,674	20,887,000	34,499	18,067,000	2,820,000
November 1, 2012	4,800,561	35,173,000	52,566	31,737,000	3,436,000
December 1, 2012	4,835,734	101,639,000	84,303	97,673,000	3,966,000
January 1, 2013	4,937,373	43,214,000	181,976	40,707,000	2,507,000
February 1, 2013	4,980,587	38,382,000	222,683	26,469,000	11,913,000
March 1, 2013	5,018,969	46,970,000	249,152	35,820,000	11,150,000
April 1, 2013	5,065,939	34,660,000	284,972	32,032,000	2,628,000
May 1, 2013	5,100,599	22,584,000	317,004	22,347,000	237,000
June 1, 2013	5,123,183	21,316,000	339,351	20,460,000	856,000
July 1, 2013	5,144,499		359,811		
	07/12 – 06/13	441,038,000			
	09/12-06/13	389,504,000	09/12 - 06/13	341,572,000	47,932,000
				Percent Difference*	12.3%

*Percentage based on 09/12-06/13, new EFF-002 meter was installed and fully operational by 09/01/12

	Influent Meter Value	Influent Flow (gallons)	EFF-002 Meter Value	Effluent Flow (gallons)	Difference (gallons)
July 1, 2013	5,144,499	17,621,000	359,811	19,278,000	(1,657,000)
August 1, 2013	5,162,120	17,396,000	379,089	18,584,000	(1,188,000)
September 1, 2013	5,179,516	18,385,000	397,673	18,206,000	179,000
October 1, 2013	5,197,901	18,879,000	415,879	18,860,000	19,000
November 1, 2013	5,216,780	18,927,000	434,739	18,282,000	645,000
December 1, 2013	5,235,707	20,257,000	453,021	20,157,000	100,000
January 1, 2014	5,255,964	17,007,000	473,178	17,545,000	(538,000)
February 1, 2014	5,272,971	41,761,000	490,723	40,209,000	1,552,000
March 1, 2014	5,314,732	67,831,000	530,932	62,371,000	5,460,000

April 1, 2014	5,382,563	38,772,000	593,303	36,818,000	1,954,000
May 1, 2014	5,421,335	19,358,000	630,121	20,569,000	(1,211,000)
June 1, 2014	5,440,693	15,186,000	650,690	15,943,000	(757,000)
July 1, 2014	5,455,879		666,633		
		311,380,000		306,822,000	4,558,000
				Percent Difference	1.5%

Following the discovery of this construction issue, SHN was asked to evaluate the situation and provide a recommendation; MCC was advised so it could be considered in their calibration reporting; and GHD was asked to review the issue and documentation and provide recommendations, as well. These reports and some email correspondence regarding recommendations have been included herewith.

It has been recommended by both MCC and GHD that the effluent flow meter EFF-002 be used for totalizing flow, given the issue identified by staff, immediately downstream of the influent meter. This would have a direct effect on the annual cost allocation for BTCSD, especially given the large disparity for the 10 months in fiscal year 2012-2013 of 47,932,000 gallons.

At this time, we do not have a chosen alternative for the repair and/or alterations to the influent metering system because BTCSD will likely have their Engineering Representative perform their own evaluation. Once we have their opinion, we will move towards a plan for resolving the issue.

Recommended Action: No action necessary at this time; informational only.

Reviewed by: City Manager City Attorney Finance Director Human Resources Risk

Council Action: Approved Denied Other: _____

Records: Agreement Resolution # _____ Ordinance # _____ Other _____

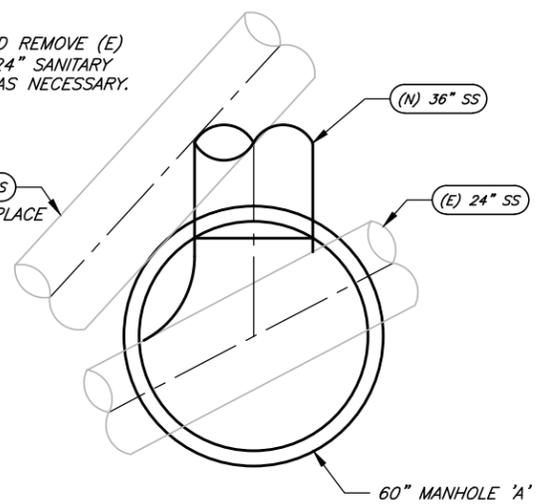
CONSTRUCTION NOTES PER RECORD DRAWINGS

1. ABANDON (E) 24" SANITARY SEWER IN PLACE BY FILLING WITH CLSM AFTER BREAKING OUT (E) PIPE IN MANHOLE 'D'.
2. DEMOLISH UPPER PORTION OF (E) METER MANHOLE TO MAKE WAY FOR NEW 16" PE LINES. BACK FILL REMAINING MANHOLE BOTTOM WITH CLSM. BACK FILL ABOVE REMAINING MANHOLE BASE WITH 1" CAB. SALVAGE SUMP PUMP AND METER CABINET AND (E) BOLLARDS.
3. MANHOLE 'D': SEE DETAIL 2, THIS SHEET.
 - A. CONSTRUCT NEW MANHOLE 'F' AND NEW 8" DRAIN LINE AS SHOWN.
 - B. CONSTRUCT INTER TIE WITH (E) 24" SANITARY SEWER LINE.
 - C. DO NOT BREAK OUT (E) PIPE IN MANHOLE 'D' UNTIL THE NEW HEADWORKS BUILDING AND EQUIPMENT ARE READY FOR USE AND OBTAINING WRITTEN PERMISSION FROM CITY'S REPRESENTATIVE.
4. MANHOLE 'A': SEE DETAIL 1, THIS SHEET.
 - A. DO NOT BREAK OUT EXISTING PIPE IN THIS MANHOLE UNTIL THE NEW HEADWORKS FACILITY IS FUNCTIONING SATISFACTORY TO THE CITY AND HAS BEEN ACCEPTED IN WRITING AND PERMISSION IS GIVEN IN WRITING BY THE PROJECT REPRESENTATIVE.
5. ABANDON (E) 24" SANITARY SEWER IN PLACE BY FILLING WITH CLSM ONLY AFTER BREAKING OUT (E) PIPE IN MANHOLE 'A'.

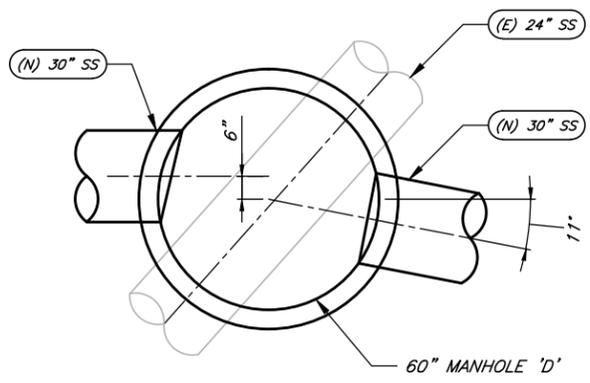
NOTES:
1. SEE SHEET M-1 FOR MECHANICAL EQUIPMENT SCHEDULE.

DEMOLISH AND REMOVE (E) ABANDONED 24" SANITARY SEWER PIPE AS NECESSARY.

MANHOLE LOCATION			
MANHOLE	NORTHING	EASTING	IE OUT
A	107285.84'	109348.32'	1340.35
B	107307.14'	109348.32'	1340.11
C	107357.14'	109396.32'	1339.51
D	107357.14'	109408.07'	1339.93
E	107357.14'	109444.69'	1337.84
F	107331.58'	109444.69'	1339.29
CONTROL POINT - CP 50	106894.27'	109349.22'	1350.603

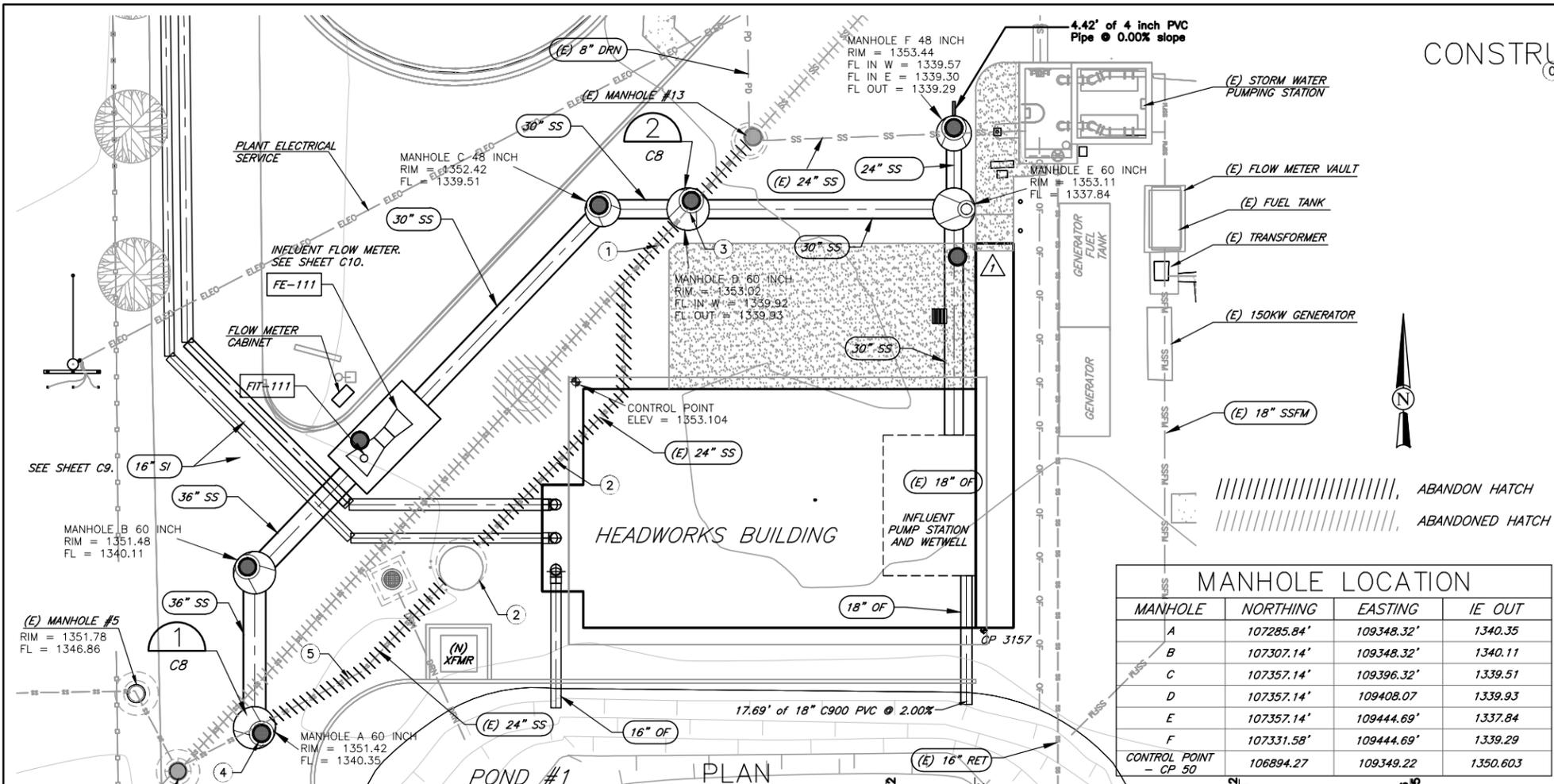


MANHOLE 'A'
Scale: NONE

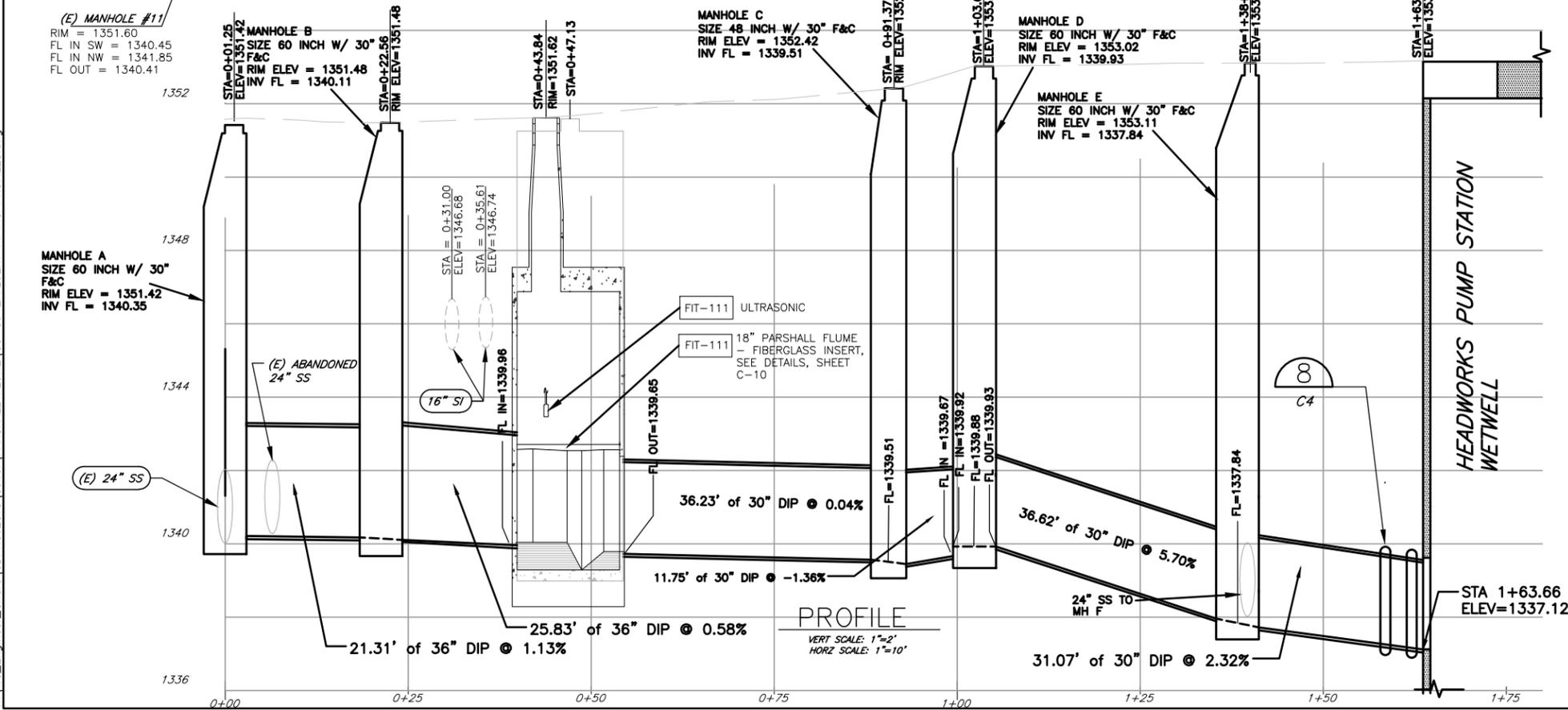


MANHOLE 'D'
Scale: NONE

AS-BUILT DRAWING



PLAN
SCALE: 1"=10'



PROFILE
VERT SCALE: 1"=2'
HORZ SCALE: 1"=10'

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
IF NOT ONE INCH ON THIS SHEET, INDICATE SCALE, ACCURACY



City of Willits
Engineering Department
380 East Commercial St.
Willits, California 95490-3188

NO.	DATE	REVISION	BY

PROJECT LOCATION
GRAVITY INLET SEWER
PLAN AND PROFILE

SHEET
DATE
PROJ. NO.

Rod Wilburn

From: Alex Culick <Alex.Culick@ghd.com>
Sent: Thursday, October 30, 2014 11:22 AM
To: Rod Wilburn
Cc: lancelaw@pacific.net; Adrienne Moore; Andrea Trincado; Steven Mitchell; David Carter
Subject: RE: Willits WWTP Influent Metering Issues

Rod –

Based on our conversation on Tuesday below is a summary of GHD's input and recommendations:

1. Our opinion is that the option to use multiple ultrasonic level meters and make a calculation to estimate the flow is not acceptable. The City should have a more reliable way to physically measure the flow as originally designed for the project.
2. It is our opinion that either the flume should be repaired so that it operates properly as designed or a magnetic flow meter be installed to measure the flow.
3. A magnetic flow meter could be installed upstream of the influent pump station. This would require a modification to the influent piping, installation of a vault or manhole and a new magnetic flow meter. The influent piping at this location is approximately 9 feet deep and new piping/flow meter would have to be installed at this depth.
4. We understand there are magnetic flow meters on the discharge of both influent pumps. Some flow is returned from the treatment process to the head of the plant. Another option and in order to accurately measure the influent flow the returned flow(s) should also be metered and deducted from the overall flow measured at the flow meters on the influent pumps. The SCADA system could be programmed to make the required deductions and report and overall influent flow. This may be the most economical and acceptable way to measure the influent flow.
5. In the meantime we would recommend that the City use the effluent flow meter for reporting purposes of influent flow. We reviewed the water balance and plant evaporation appears to be well less than 1% so the effluent flow meter is a relatively accurate measurement of influent flow on a monthly basis. Obviously depending on what is occurring within the plant the instantaneous and potentially daily flow may be approximated differently. In addition when flows are low in the summer and as they have been throughout the drought the influent Flume will still provide accurate flow measurement when the backwater affects are not occurring so the Flume flow can also be used and compared to the effluent flow meter for reporting purposes.

If you have any questions please don't hesitate to give me a call.

Alex Culick, PE
Water Conveyance and Infrastructure
Service Group Manager

GHD

T: 707 523 1010 | F: 707 527 8679 | C: 707 599 6936 | E: alexculick@ghd.com
2235 Mercury Way, Suite 150 Santa Rosa, CA 95407-5472 USA | www.ghd.com

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Please consider our environment before printing this email

From: Rod Wilburn [mailto:rwilburn@willitscity.com]

Sent: Wednesday, October 22, 2014 4:42 PM

To: Alex Culick

Cc: lancelaw@pacific.net; Adrienne Moore; Andrea Trincado; Steven Mitchell; David Carter

Subject: Willits WWTP Influent Metering Issues

Alex,

After discussions with Jim and Adrienne, I am forwarding you the memorandum prepared by SHN related to the issues we've encountered immediately downstream of the parshall flume at the wastewater treatment plant.

I believe we are in agreement that the adverse slope and offset pipe can affect the accuracy of the total flow measurements. In addition to considering this memorandum for the water balance calculations, we are interested in having GHD review and comment on the approach and conclusions presented by SHN.

Please give me a call when you have the opportunity to discuss this matter. Thank you.

Respectfully,

Rod Wilburn, P.E.

Public Works Director

City of Willits

380 E. Commercial St.

Willits, CA 95490

707-459-7143 *office*

707-304-2996 *cell*

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Reference: 412072.001

October 22, 2014

Mr. Rod Wilburn, Director of Public Works
City of Willits
111 E. Commercial Street
Willits, CA 95490

Subject: Parshall Flume Design Memorandum

Dear Mr. Wilburn:

On February 24, 2009, SHN presented to the City of Willits a memorandum that detailed the design parameters used to size the Parshall flume at the City of Willits wastewater treatment plant. These design parameters are as follows:

- Maximum Expected 2025 Peak Day Flow: 9.59 MGD
- Hydraulic Peak Day Flow: 10 MGD
- Maximum Peak Instantaneous Flow: 14.25 MGD

The memorandum indicated that the expected operating level of the new wet well is at an elevation of $\pm 1,335.0$ feet. The memorandum stated that this level will not have a backwater impact on the Parshall flume and that the Parshall flume will be able to handle the flows shown above that are expected by the City.

It was recently discovered that one of the pipes downstream of the flume (between manholes C and D) was installed with an adverse grade. SHN created a model of the as-built condition to evaluate the extent of backwater effects and whether there could be an effect on the flow measurements at the flume. SHN used AutoCAD Storm and Sanitary Analysis 2012 modeling software. This software uses Manning's Equation to calculate the flow rate in conduits and open channels, and solves the complete St. Venant equations to model backwater effects through a drainage network.

To determine if there are backwater impacts on the Parshall flume at peak day flows, the piping system segment from MH B, located just upstream of the flume down to the wet well, was entered into the modeling program. The rim and invert elevations used were measured by SHN surveyors on September 9, 2014. The surveyed inverts indicated that the pipe section between MH-C and MH-D has an adverse grade, with the outlet end of the pipe being 0.27 feet higher than the inlet end. This adverse grade was included in the model. In addition, the pipe entering MH D does not align properly with the "as-constructed" manhole opening. This misalignment was determined to be 3 inches, which constricts flow as it enters the manhole. To account for this constriction in the model, a pipe that is 3 inches smaller in diameter was used for the pipe section upstream of MH D. The remaining pipe sizes and lengths were taken off of as-built drawings, and pipe slopes were then automatically calculated by the program.

Parshall Flume Design Memorandum

October 22, 2014

Page 2

The Parshall flume was modeled as a 2-foot-long rectangular channel with dimensions matching those provided by the manufacturer and a 0% slope. A short section of pipe was also added to the model directly upstream of the 2-foot flume section. This added section is where the depth of flow is being measured to compare the theoretical flow depth and the modeled flow depth. The junction structures between the flume and the upstream pipe are required by the modeling software; however, to reduce modeling error, the entrance and exit losses at this structure were set to zero. To complete the model, additional assumptions were made based on the above referenced memorandum and are as follows:

- Water surface elevation at the wet well is 1,335.0 feet (wet well elevation at the invert of the 30-inch influent pipe)
- The model was calibrated at each flow run to match the theoretical flow depth of the flume in the pipe section upstream of the modeled flume section.

The model for each run was calibrated by running the model with a free outfall condition directly past the flume. The entrance loss and the roughness coefficient of the flume section were adjusted until the pipe section directly upstream of the flume was at the theoretical flow depth, as published by the Bureau of Reclamation. Once the model of the Parshall flume was calibrated, the downstream pipe network was added in to match as-built conditions and the model was run again. The model was then changed to match the as-designed conditions and was run again to verify whether the as-designed condition had any effect on the Parshall flume. For each of these conditions, three different flows were modeled, and the following table shows the theoretical flow depth, the free outfall modeled flow depth, the as-built flow depth, and the as-designed flow depth.

	1.18 MGD*	5 MGD	10MGD
Theoretical Head	0.46 ft	1.18 ft	1.85 ft
Free outfall modeled Head	0.46 ft	1.18 ft	1.84 ft
As-Designed modeled Head	0.46 ft	1.21 ft	1.97 ft
As-Built modeled Head	0.47 ft	1.35 ft	2.11 ft
*2025 projected average dry weather flow			

The overall model results (see attached hydraulic profiles) show that there are effects at the flume due to backwater under all three flow conditions for the as-built condition. Based on the published data, the backwater effect would result in a reading of 1.21 MGD vs. 1.18 MGD (2.5% increase), then 6.15 MGD vs. 5 MGD (23% increase), and finally 12.23 MGD vs. 10 MGD (22% increase). The model also indicates that at the as-designed condition, there would be some backwater effect at the 5-MGD and 10-MGD flow depths.

Based on discussions with a flume manufacturer, there are two ways to mitigate for the backwater effects on the flow measurement. The first is to raise the floor of the flume so that the bottom of the flume is above any backwater effects from downstream. The second is to install ultrasonic level readers at two locations along the flume. The level readings would then be fed to a programmable logic controller (PLC), which would use the correct theoretical equation, based on the presence or absence of backwater conditions, to calculate the correct flows to within the normal tolerance of a

Mr. Rod Wilburn
Parshall Flume Design Memorandum
October 22, 2014
Page 3

Parshall flume ($\pm 3-5\%$). We would be happy to discuss these options further with you. It should be noted that the model is a simulation of real conditions and the numeric results should be taken as a general indication only.

Please call me if you have further questions.

Sincerely,

SHN Consulting Engineers & Geologists, Inc.

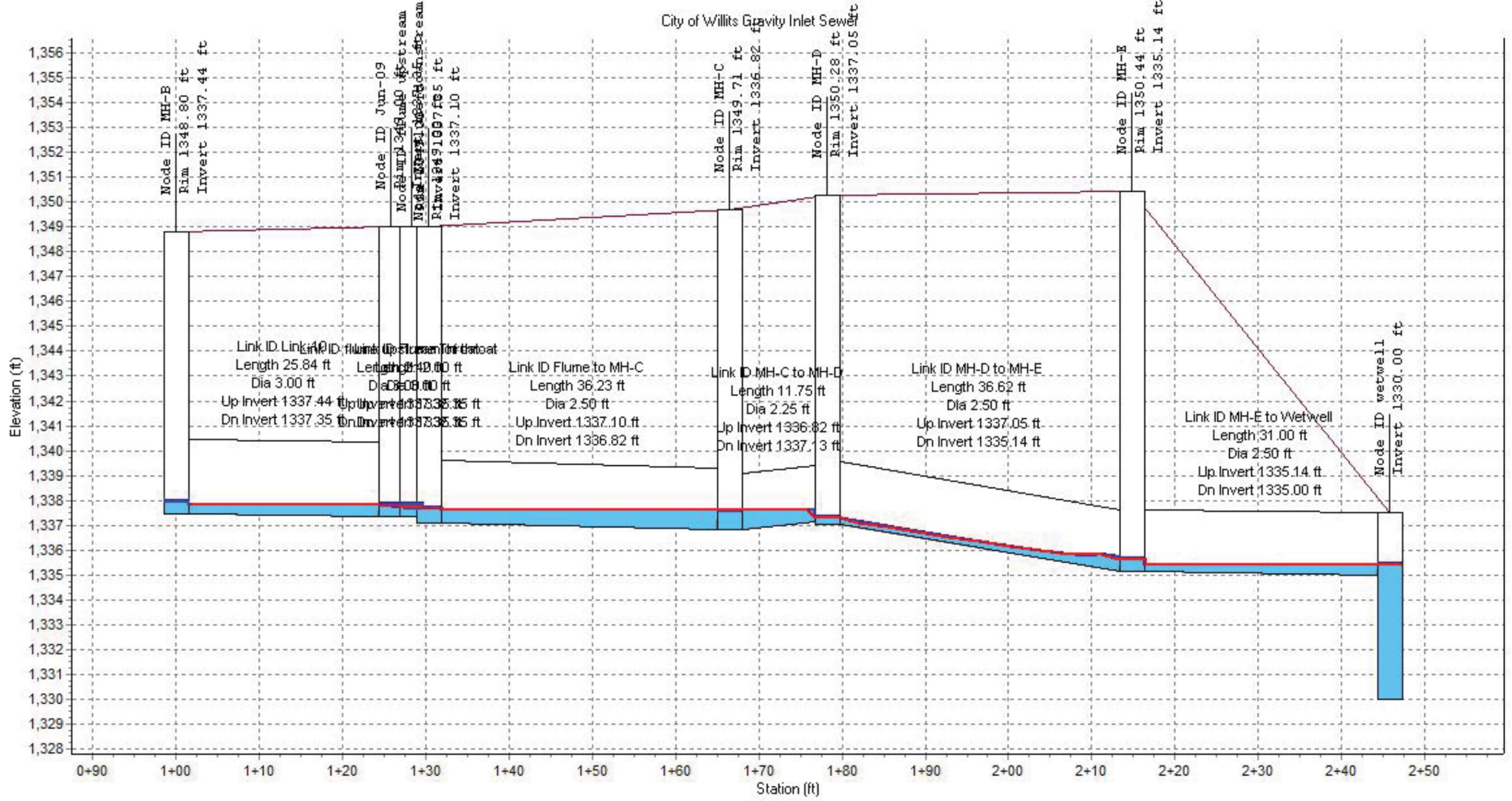


Gregory N. Hufford, PE
Project Engineer
Tel: 707-441-8855
Cell: 707-498-3779



GNH:lms

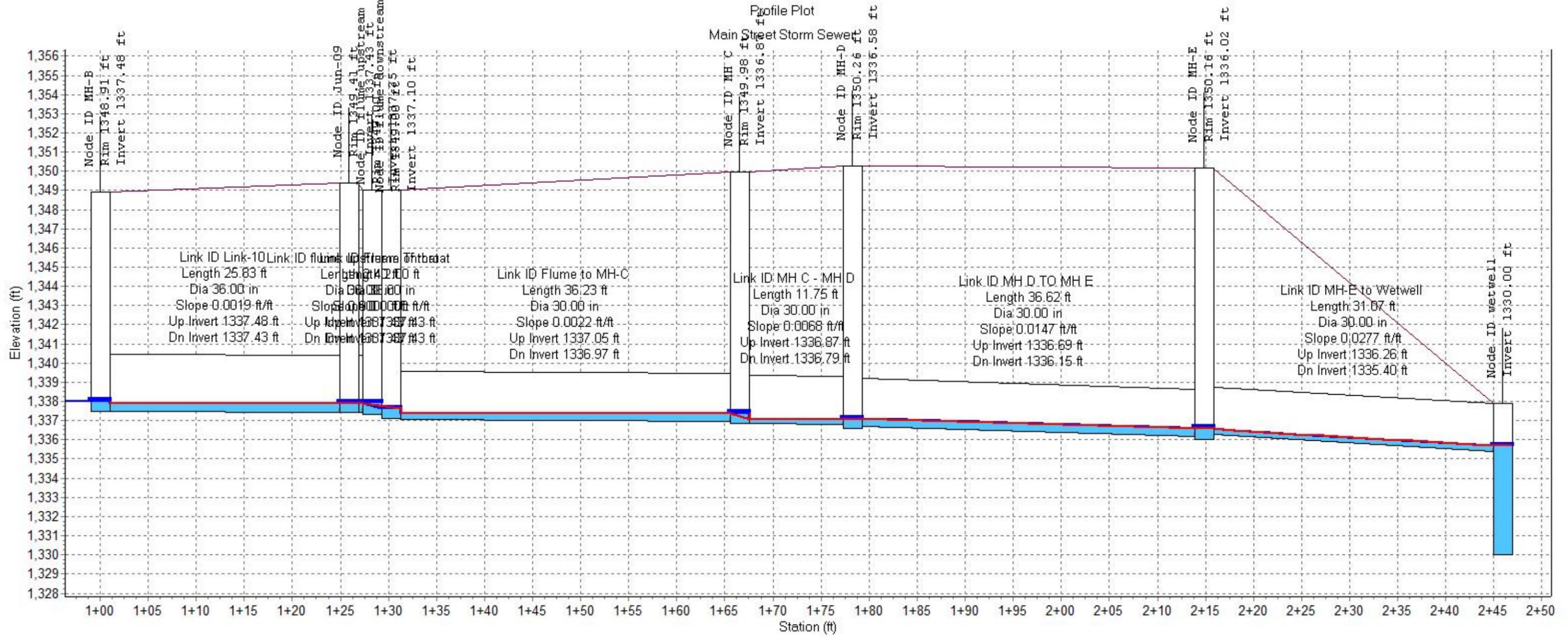
Attachments: AutoCAD Storm and Sanitary Analysis Hydraulic Profiles



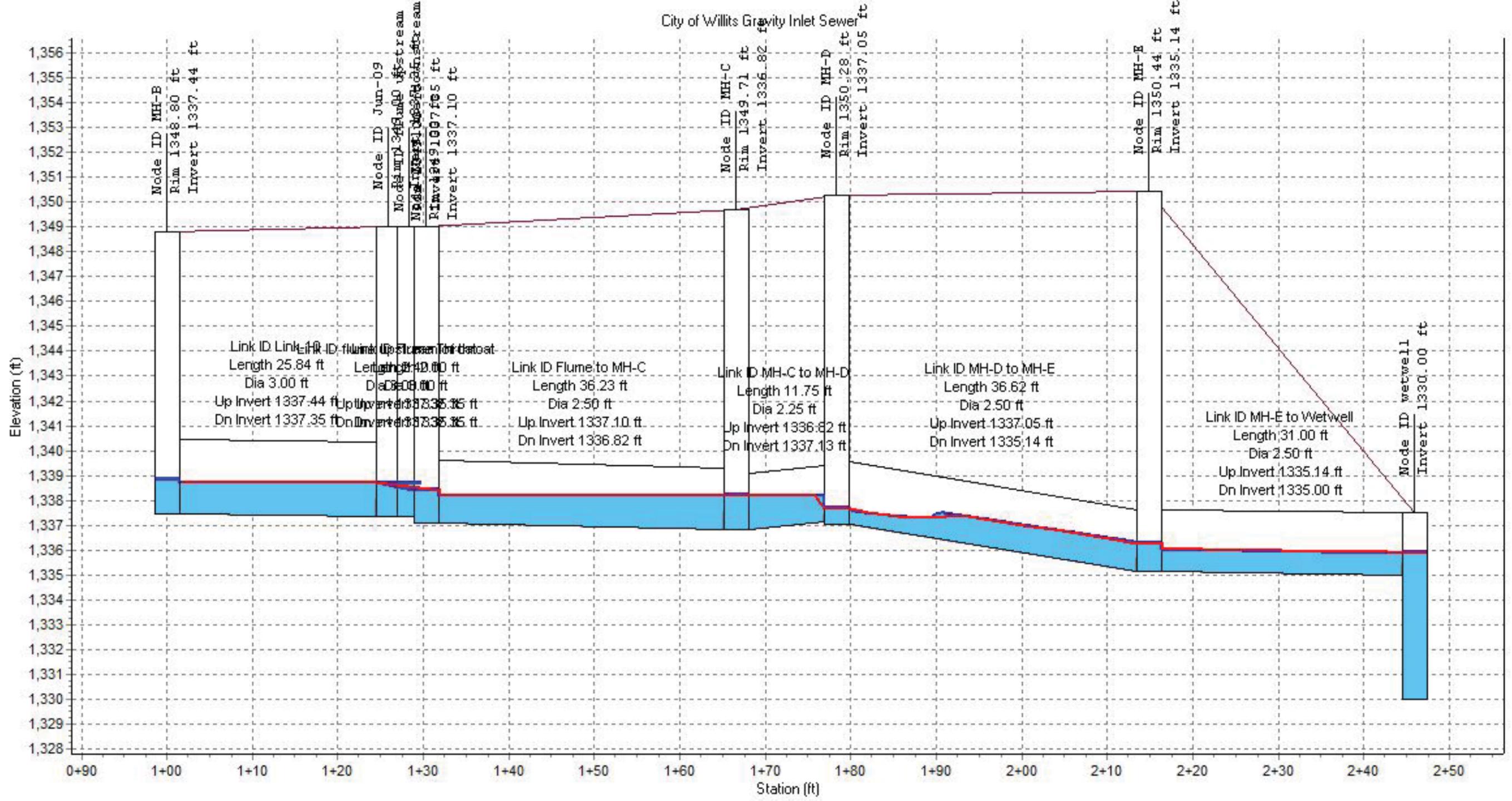
1.18 MGD As Built Condition

Node ID:	MH-B	Jun-09	flume upstream	flume downstream	MH-C	MH-D	MH-E	wetwell
Rim (ft):	1348.80	1349.00	1349.00	1349.00	1349.71	1350.28	1350.44	
Invert (ft):	1337.44	1337.35	1337.35	1337.10	1336.82	1337.05	1335.14	1330.00
Min Pipe Cover (ft):	8.36	8.65	8.65	8.65	10.39	10.73	12.80	
Max HGL (ft):	1338.51	1338.51	1349.00	1340.35	1338.04	1337.49	1335.89	1335.76
Link ID:	Link-10	flume upstream of...	Flume Throat	Flume to MH-C	MH-C to MH-D	MH-D to MH-E	MH-E to Wetwell	
Length (ft):	25.84	2.40	2.00	36.23	11.75	36.62	31.00	
Dia (ft):	3.00	3.00	3.00	2.50	2.25	2.50	2.50	
Slope (ft/ft):	0.0035	0.0000	0.0000	0.0077	-0.0264	0.0522	0.0045	
Up Invert (ft):	1337.44	1337.35	1337.35	1337.10	1336.82	1337.05	1335.14	
Dn Invert (ft):	1337.35	1337.35	1337.35	1336.82	1337.13	1335.14	1335.00	
Max Q (mgd):	2.95	10.00	675.45	10.00	2.82	5.07	3.61	
Max Vel (ft/s):	3.47	3.87	50.00	4.27	3.76	7.10	6.64	
Max Depth (ft):	0.50	0.47	0.40	0.68	0.53	0.37	0.47	

1.18 MGD As Built Condition



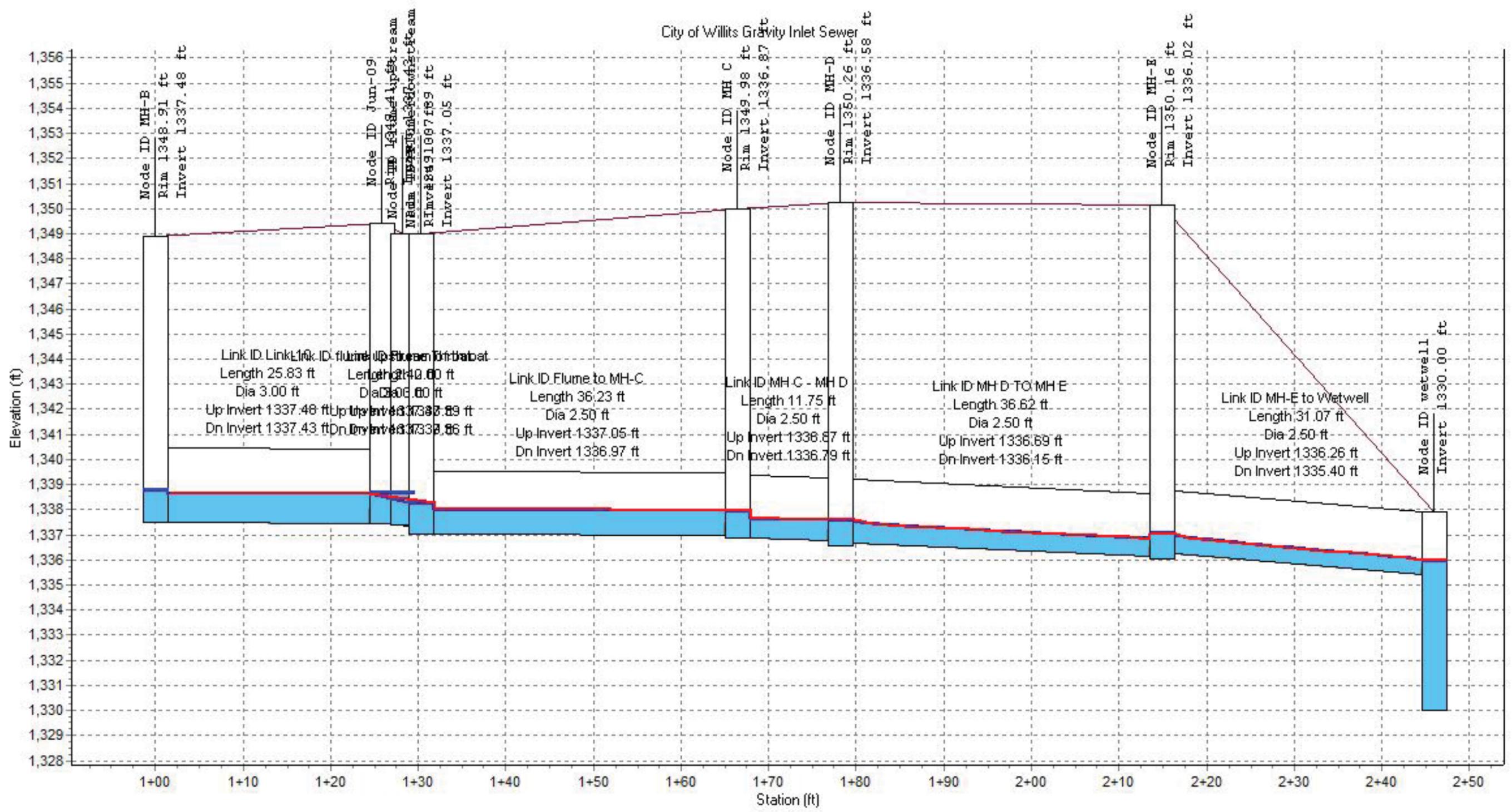
Node ID:	MH-B	Jun-09	flume upstream	flume downstream	MH C	MH-D	MH-E	wetwell
Rim (ft):	1348.91	1349.41	1349.00	1349.00	1349.98	1350.26	1350.16	
Invert (ft):	1337.48	1337.43	1337.35	1337.10	1336.87	1336.58	1336.02	1330.00
Min Pipe Cover (ft):	8.43	8.98	8.57	8.57	10.51	10.97	11.40	
Max HGL (ft):	1340.03	1339.73	1349.00	1339.59	1339.93	1342.19	1343.19	1336.21
Link ID:	Link-10	flume upstream of throat	Flume Throat	Flume to MH-C	MH C - MH D	MH D TO MH E	MH-E to Wetwell	
Length (ft):	25.83	2.40	2.00	36.23	11.75	36.62	31.07	
Dia (in):	36.00	36.00	36.00	30.00	30.00	30.00	30.00	
Slope (ft/ft):	0.0019	0.0000	0.0000	0.0022	0.0068	0.0147	0.0277	
Up Invert (ft):	1337.48	1337.43	1337.43	1337.05	1336.87	1336.69	1336.26	
Dn Invert (ft):	1337.43	1337.43	1337.43	1336.97	1336.79	1336.15	1335.40	
Max Q (mgd):	10.00	10.00	225.56	10.00	10.00	10.82	10.00	
Max Vel (ft/s):	3.38	4.05	50.00	6.30	4.59	5.52	9.05	
Max Depth (ft):	0.50	0.46	0.38	0.48	0.45	0.41	0.30	



5 MGD As Built Condition

Node ID:	MH-B	Jun-09	flume upstream	flume downstream	MH-C	MH-D	MH-E	wetwell
Rim (ft):	1348.80	1349.00	1349.00	1349.00	1349.71	1350.28	1350.44	
Invert (ft):	1337.44	1337.35	1337.35	1337.10	1336.82	1337.05	1335.14	1330.00
Min Pipe Cover (ft):	8.36	8.65	8.65	8.65	10.39	10.73	12.80	
Max HGL (ft):	1338.81	1338.70	1338.70	1338.39	1338.21	1337.69	1336.24	1335.91
Link ID:	Link-10	flume upstream of...	Flume Throat	Flume to MH-C	MH-C to MH-D	MH-D to MH-E	MH-E to Wetwell	
Length (ft):	25.84	2.40	2.00	36.23	11.75	36.62	31.00	
Dia (ft):	3.00	3.00	3.00	2.50	2.25	2.50	2.50	
Slope (ft/ft):	0.0035	0.0000	0.0000	0.0077	-0.0264	0.0522	0.0045	
Up Invert (ft):	1337.44	1337.35	1337.35	1337.10	1336.82	1337.05	1335.14	
Dn Invert (ft):	1337.35	1337.35	1337.35	1336.82	1337.13	1335.14	1335.00	
Max Q (mgd):	5.47	5.00	5.00	5.00	5.00	5.00	5.00	
Max Vel (ft/s):	5.15	3.38	5.26	5.23	4.59	7.47	4.20	
Max Depth (ft):	1.36	1.35	1.19	1.34	0.99	0.85	1.00	

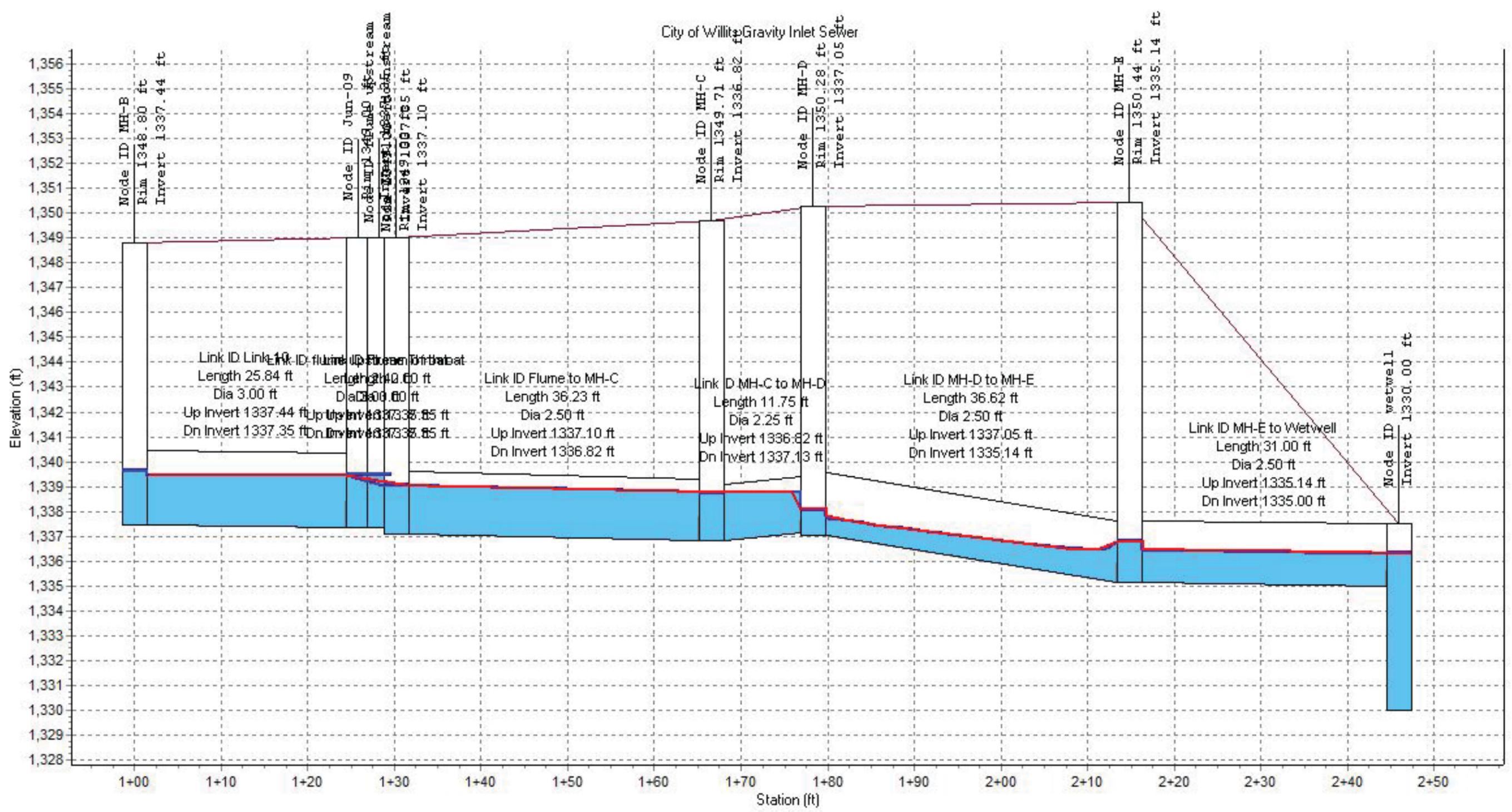
5 MGD As Built Condition



5 MGD As Designed Condition

Node ID:	MH-B	Jun-09	flume upstream	flume downstream	MH C	MH-D	MH-E	wetwell
Rim (ft):	1348.91	1349.41	1349.00	1349.00	1349.98	1350.26	1350.16	
Invert (ft):	1337.48	1337.43	1337.39	1337.05	1336.87	1336.58	1336.02	1330.00
Min Pipe Cover (ft):	8.43	8.98	8.57	8.64	10.51	10.97	11.40	
Max HGL (ft):	1338.78	1338.64	1338.63	1338.26	1337.95	1337.60	1337.08	1335.99
Link ID:	Link-10	flume upstream of...	Flume Throat	Flume to MH-C	MH C - MH D	MH D TO MH E	MH-E to Wetwell	
Length (ft):	25.83	2.40	2.00	36.23	11.75	36.62	31.07	
Dia (ft):	3.00	3.00	3.00	2.50	2.50	2.50	2.50	
Slope (ft/ft):	0.0019	0.0150	0.0150	0.0022	0.0068	0.0147	0.0277	
Up Invert (ft):	1337.48	1337.43	1337.39	1337.05	1336.87	1336.69	1336.26	
Dn Invert (ft):	1337.43	1337.39	1337.36	1336.97	1336.79	1336.15	1335.40	
Max Q (mgd):	5.46	5.00	5.00	5.00	5.00	5.00	5.35	
Max Vel (ft/s):	5.08	3.61	4.87	3.80	4.54	5.04	7.59	
Max Depth (ft):	1.25	1.21	1.07	1.09	0.95	0.88	0.67	

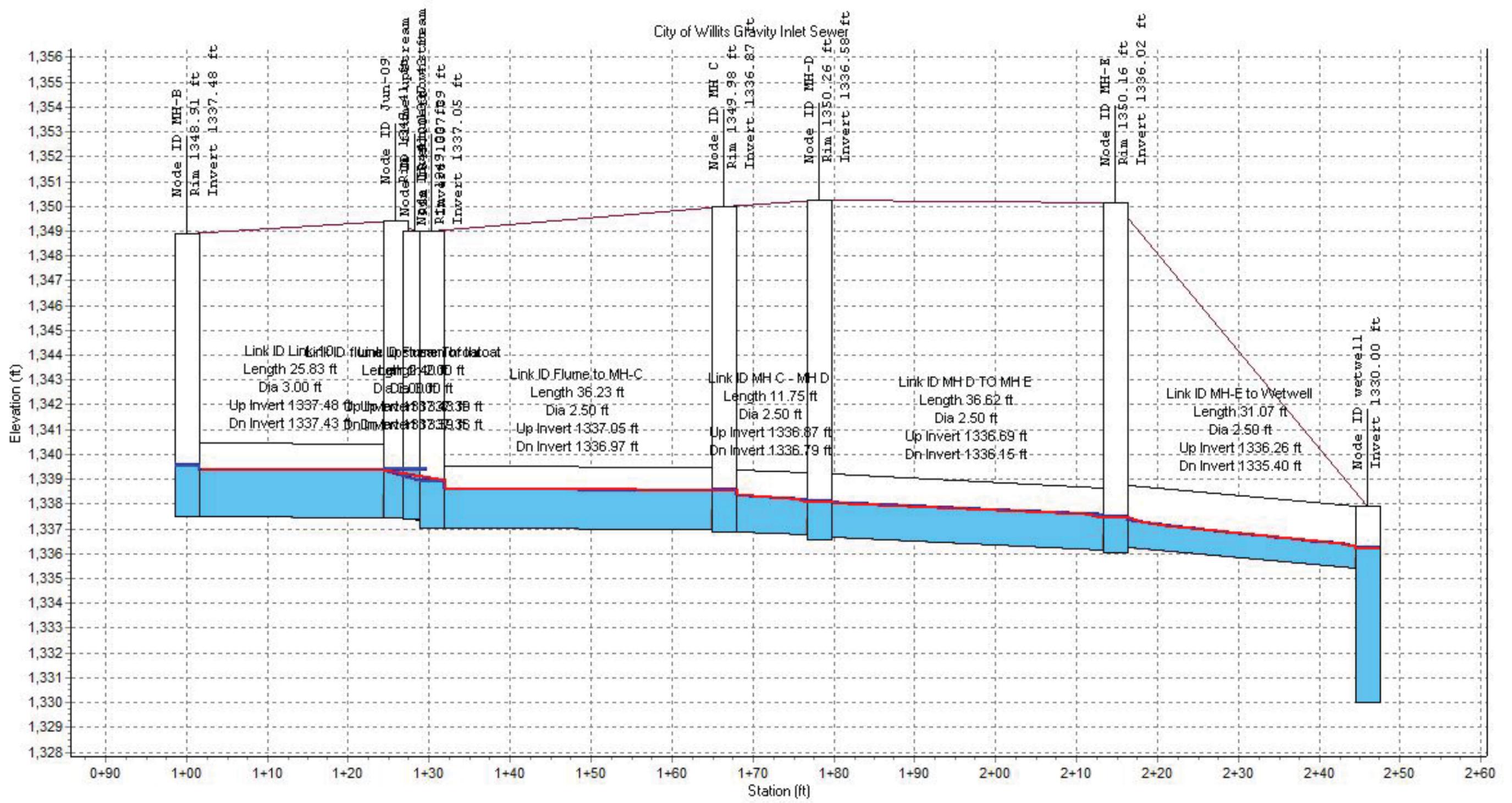
5 MGD As Designed Condition



10 MGD As Built Condition

Node ID:	MH-B	Jun-09	flume upstream	flume downstream	MH-C	MH-D	MH-E	wetwell
Rim (ft):	1348.80	1349.00	1349.00	1349.00	1349.71	1350.28	1350.44	
Invert (ft):	1337.44	1337.35	1337.35	1337.10	1336.82	1337.05	1335.14	1330.00
Min Pipe Cover (ft):	8.36	8.65	8.65	8.65	10.39	10.73	12.80	
Max HGL (ft):	1339.61	1339.46	1339.46	1339.06	1338.75	1338.14	1336.82	1336.33
Link ID:	Link-10	flume upstream of...	Flume Throat	Flume to MH-C	MH-C to MH-D	MH-D to MH-E	MH-E to Wetwell	
Length (ft):	25.84	2.40	2.00	36.23	11.75	36.62	31.00	
Dia (ft):	3.00	3.00	3.00	2.50	2.25	2.50	2.50	
Slope (ft/ft):	0.0035	0.0000	0.0000	0.0077	-0.0264	0.0522	0.0045	
Up Invert (ft):	1337.44	1337.35	1337.35	1337.10	1336.82	1337.05	1335.14	
Dn Invert (ft):	1337.35	1337.35	1337.35	1336.82	1337.13	1335.14	1335.00	
Max Q (mgd):	10.00	10.00	10.00	10.00	10.00	10.00	10.00	
Max Vel (ft/s):	6.03	4.73	6.38	6.11	5.78	8.10	5.07	
Max Depth (ft):	2.14	2.11	1.91	1.95	1.44	1.34	1.49	

10 MGD As Built Condition



10 MGD As Designed Condition

Node ID:	MH-B	Jun-09	flume upstream	flume downstream	MH C	MH-D	MH-E	wetwell
Rim (ft):	1348.91	1349.41	1349.00	1349.00	1349.98	1350.26	1350.16	
Invert (ft):	1337.48	1337.43	1337.39	1337.05	1336.87	1336.58	1336.02	1330.00
Min Pipe Cover (ft):	8.43	8.98	8.57	8.64	10.51	10.97	11.40	
Max HGL (ft):	1339.56	1339.40	1339.39	1338.93	1338.54	1338.10	1337.51	1336.21
Link ID:	Link-10	flume upstream of...	Flume Throat	Flume to MH-C	MH C - MH D	MH D TO MH E	MH-E to Wetwell	
Length (ft):	25.83	2.40	2.00	36.23	11.75	36.62	31.07	
Dia (ft):	3.00	3.00	3.00	2.50	2.50	2.50	2.50	
Slope (ft/ft):	0.0019	0.0150	0.0150	0.0022	0.0068	0.0147	0.0277	
Up Invert (ft):	1337.48	1337.43	1337.39	1337.05	1336.87	1336.69	1336.26	
Dn Invert (ft):	1337.43	1337.39	1337.36	1336.97	1336.79	1336.15	1335.40	
Max Q (mgd):	10.00	10.00	10.00	10.00	10.00	10.00	10.00	
Max Vel (ft/s):	5.88	4.36	6.22	4.52	5.15	5.78	8.55	
Max Depth (ft):	2.02	1.97	1.79	1.73	1.48	1.34	0.99	

10 MGD As Designed Condition

Rod Wilburn

From: Raul Baca <rsbaca@mccwater.com>
Sent: Monday, October 06, 2014 8:37 AM
To: Rod Wilburn
Cc: Andrea Trincado
Subject: Effluent Flowmeter and Billing

Dear Mr. Wilburn (and whomever else it may concern with the City of Willits),

This is a follow-up to an earlier discussion. I would be inclined to use the Effluent Flowmeter for flow totalization which is intended for billing purposes. The reasons for this are:

- It is new and factory calibrated. As such it is as accurate as a flowmeter can be in your application.
- It is an industry standard instrument.
- There are no known, or even suspected, issues with its installation or with its associated piping (to my knowledge).
- It thus offers flow totals that are more easily defended than the Influent Meter.

While the Influent Flowmeter seems to be working very well, and is as accurate as it can be calibrated to be, there are some facets of its associated piping and physical installation which allow questions to be raised about its accuracy. Using the Effluent Flowmeter removes these from any possible future discussion. (It would be interesting to keep track of the flow total differential though.)

Cordially,

Raul Baca

Field Services Manager & RME

859 Cotting Ct. Suite G, Vacaville, Ca. 95688
Phone 707-449-0341 ext 215
Cell 707-974-8273
Fax 707-449-8860





September 29, 2014

Willits WWTP Parshall Flume Flowmeter Calibration

On September 26, 2014 MCC CS performed calibration services on the Willits WWTP Influent Flowmeter. As all parties are aware, this is an 18" Parshall Flume flowmeter with a Siemens OCM III ultrasonic measurement instrument.

Previous site investigations had brought to light two facts that were cause for concern regarding this instrument's accuracy. First, the transducer head was located too far forward by approximately 3.75". Second, the flowmeter was not registering flow at flume depths under approximately 4 inches. The first issue may possibly have been within an acceptable range of tolerance; there were differing professional opinions on this topic among engineers onsite during a recent visit. However, all of the industry reference literature MCC CS was able to find, as well as all of the Siemens literature, was insistent that the ultrasonic transducer be located exactly two-thirds of the way along the flume funnel (please refer to the first attached drawing as it explains this better than this paragraph). Some reference material showed this "two-thirds" distance measured along the flume centerline. Other material showed the "two-thirds" distance measured along the hypotenuse of the flume funnel (with the centerline being the base of the triangle, so to speak). As the difference between these layouts worked out to less than an inch, MCC CS split the difference between the two to arrive at a correct location.

While on-site, MCC CS removed the transducer. We cleaned the sensor and also wished to affix it to a test jig where distance measurements could be taken accurately under a controlled environment. It should be noted that the OCM III was configured to hold any last 4-20mA output under echo loss conditions, which meant readings to SCADA remained constant while we performed our removal, cleaning, and reinstallation work. During measurement tests SCADA did receive some brief but erroneous flow signals. Flow in the flume itself remained very constant during our time onsite.

The transducer was found to be in good shape and was successfully cleaned. The OCM III's temperature transducer was found to be in good condition and functional as well. While removing the transducer, we found the existing EYS (explosion proof conduit body) had not been packed and sealed. This was concerning as it conceivably allowed sewer gases to migrate up the conduit to the OCM III. This is primarily a concern as a possible source of combustion if methane were to find a spark or heat source. MCC CS sealed the fitting when we were done.

While we had come equipped to remove and replace the existing conduit and transducer mounting, it was found that the transducer mount was loose enough to allow it to be moved. So the transducer was simply relocated to the proper location and the existing hardware was retained. It should be made clear that "loose" meant the assembly could be moved with an 18" Rigid pipe wrench. It was by no means loose enough to move by hand. The end result was that the transducer location was satisfactorily corrected.

MCC CS also measured the actual distance from the bottom of the flume (directly below the transducer face) to the transducer face with a straightedge scale. This was found to be 42 7/8". This measurement was verified upon reinstallation.



Once the transducer itself was affixed to our test jig, out of the vault and at street level, we found that the transducer/OCM III was indeed not measuring past approximately 38". This was found to be caused by parameters D9 and P45 being mis-set. D9 is Nominal Target Range. This was set to low, resulting in the loss of readings at 38". P45 is Low Flow Cut-Off, in other words, where to begin ignoring readings. This was set at 1.88", which also differed from the recorded setting of 1.5" in the O&M provided to City of Willits and then supplied to MCC CS. The difference in these parameter settings explained why the flowmeter was not "seeing" flow until there was 4' of water in the flume. We adjusted both settings (to 43 and 0 respectively) and found the OCM was then able to see targets out to 43" and measure flume depths down to .25". We ran multiple tests in our jig to confirm the readings before any changes were made to the parameters, during the parameter changes and afterwards. All of this was done in order to be 100% certain the instrument was behaving exactly as desired. All tests reflected a level of performance that inspired confidence and that was greatly improved.

While conducting these distance measurement tests, the flow results at various test "depths" were monitored and compared to known flow values for 18" Parshall Flume flowmeters. The measurements showed some discrepancies at low levels, but were increasingly accurate as "flows" rose. At higher flows the results were spot on. (It should be noted that the measurements cannot be expected to be 100% accurate in our test jig. The temperature transducer was located in the vault where ambient temperature was much warmer than at our test jig. Thus, the sound speed compensation was off somewhat. Our test target is also wood, as opposed to the flume's water, resulting in different resonant characteristics. So some difference at low flow was not unexpected or alarming in our tests. The jig provides an easy way to test target settings and instrument set-up and is more accurate than trying to provide a movable target in the flume itself. All of our test results were within expected tolerances.)

After adjusting the two parameters mentioned above, we were able to measure flow down to 11 gpm with consistency. Due to the flow measurement cutting-off at 4", previous minimum flow measurements would have been around 400-350gpm. Any flow below that would have been ignored and un-measured.

Mill Creek Flow Meter Calibration

Also on September 26, 2014, MCC CS tested the flowmeter located at the Mill Creek intersection. This flowmeter is also an exponential flume type with an ultrasonic transducer. It however uses a Sigma 970 flow measurement instrument.

Calibration and maintenance are very simple for this instrument. Other than regular cleaning, the manufacturer does not recommend any other servicing. "Calibration" merely consists of measuring the actual head and flow media depth and then comparing that information to the 970's actively displayed data. This activity is what was performed and the measurements were found to be spot on. MCC CS is confident this instrument is performing properly.

It should be pointed out that this device is long discontinued and no longer supported by the manufacturer. It may be worth beginning to consider a replacement for the Mill Creek Sigma 970. While the device itself is currently fine, as it is no longer supported and is a "vintage" piece of equipment one must expect it to expire in the not too distant future. It would be prudent to plan accordingly.

Flowmeter Accuracy, Installation and Related Issues

Some time ago, the topic of flow differential between the WWTP's recorded influent and effluent totals was discussed. Quoted below is the email reply to this topic.

As you are well aware there are numerous variables involved in evaluating why recorded flow between two such instruments can differ. They include:

- *Whether influent liquid is being re-routed (temporarily) through the process to assist with aeration, digestion, etc.*
- *Whether liquid is being re-directed for use in sludge thickening (depending on the sludge processing this can account for an almost 1% difference in flow totals alone, according to my research).*
- *Whether water is being used for on-site irrigation.*
- *Losses to evaporation can be significant as well, depending on time of year and the processes involved.*
- *Influent solids are likely less of a concern than we expected. From what I've learned a heavy solids concentration is around 1250 ppm (roughly .1%).*
- *And most importantly, no two instruments ever are in perfect agreement. We can honestly expect a .5% difference between the two flowmeters to be normal.*

With all of that reiterated, after speaking to others here at MCC with far more experience than myself, we all agreed 2% was not an unreasonable difference over a roughly two year period between the influent and effluent meters. As your most recent calculations show a difference of only 1.45% I feel comfortable that your differences in flow are well within an acceptable margin.

While onsite on the 26th of September, more information was provided which relates directly to this topic. As detailed in the attached drawings, there is a significant installation issue with the installation of the WWTP's influent flowmeter. An elevation discrepancy exists between the flow meter flume's outlet and the piping behind it. This conceivably could cause flow to back-up into the Parshall Flume. This would greatly, and adversely, affect the accuracy of the device. The elevation difference appears to be .27 tenths of a foot. This equates to roughly 360 gpm if my calculations are correct. Combined with the mis-set parameters found in the flowmeter, it seems likely there has been a great deal of flow through this device which has gone unrecorded over the years. Unlike the parameter issue, the issue with the actual installation will be much more difficult to address. While there are tests which can be performed to determine if the flume is suffering from a submergence condition, they would require an amount of labor equal to installing a new flow measurement device. As such, it would be the opinion of MCC CS that the effort would be better directed at procuring and installing a replacement flow measurement instrument that would not be affected by the flume's actual physical installation. MCC CS concurs with the City opinion that a Hach FloDar would work well as the WWTP influent measuring device. Eventually, the best course of action would be to replace entire Parshall Flume with a Magnetic Flowmeter (such as a Siemens Sitrans). These are the world wide industry standard and almost above reproach for accuracy and dependability. Given their factory calibration and the need for zero maintenance after installation, installation of such an instrument would provide a great deal of peace of mind for the City in this application.

While this paragraph may seem to conflict with some of what is written above, it is worth pointing out that despite all of the issues mentioned in this portion of this report, a differential of 1.45% as discussed



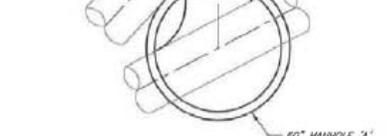
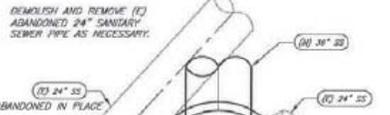
above is still within an acceptable margin. Whether the data gathered to arrive at this 1.45% flow differential was accurate may be questionable given the physical installation issues that have come to light as well as the OCM III's previous configuration. It also brings into question the 1.45% itself. Until an influent flowmeter is in place that is known to be reliable and accurate, flow totals, flow differentials, and the like are somewhat conjectural.

The current influent flow meter is configured as accurately as possible. The OCM III is functional and providing accurate flow totals in relation to the flume depths it is detecting. Any issues that may exist with the flume installation are outside of what can be corrected by the OCM III set-up.

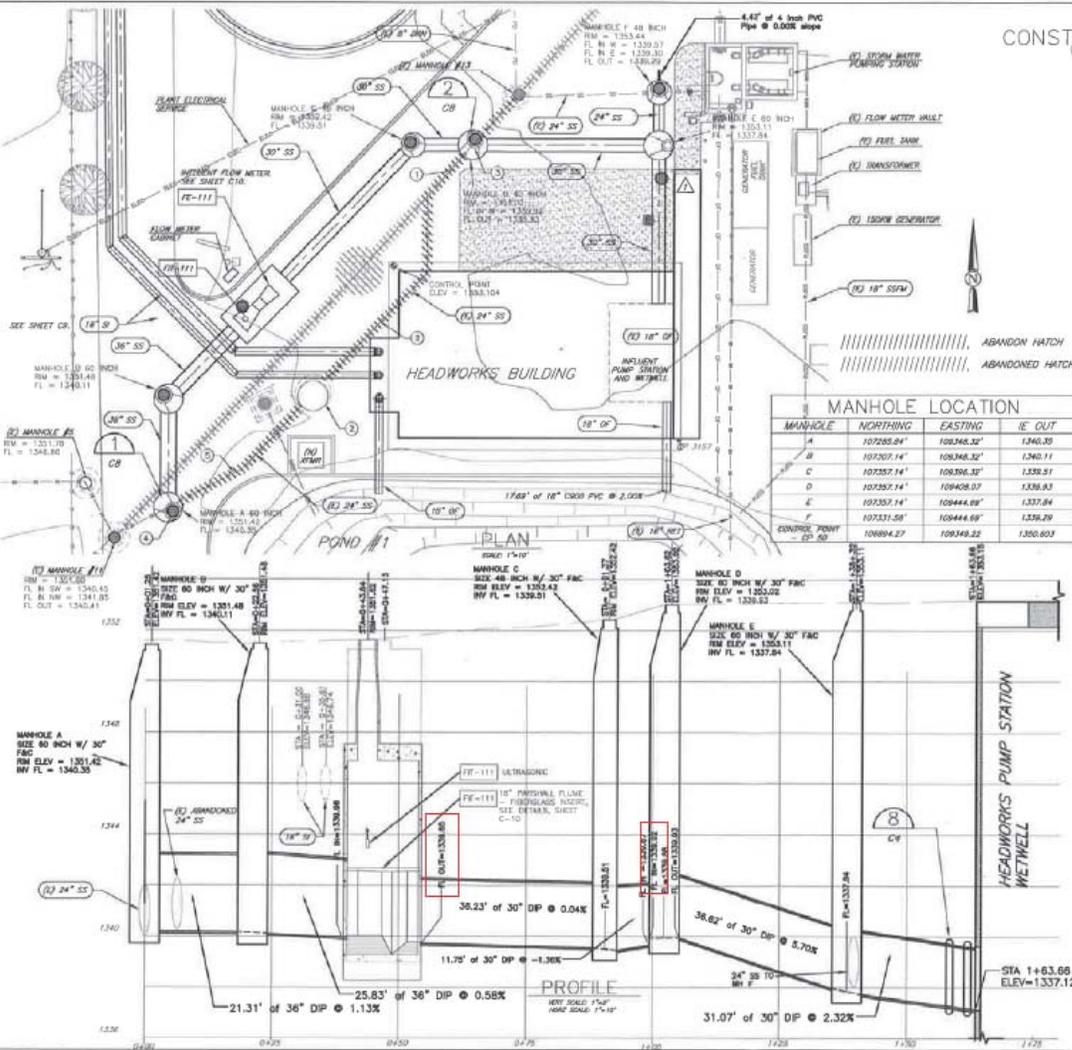
CONSTRUCTION NOTES PER RECORD DRAWINGS

1. ABANDON (E) 24" SANITARY SEWER IN PLACE BY FILING WITH CLSM AFTER BREAKING OUT (E) PIPE IN MANHOLE 'D'.
2. DEMOLISH LOWER PORTION OF (E) METER MANHOLE TO MAKE WAY FOR NEW 16" PE LINE. BRICK FALL REMAINING MANHOLE BOTTOM WITH CLSM. BRICK FALL ABOVE REMAINING APPROXIMATE BRICK WITH 1" GAS SEALING DAMP PUMP AND METER CABINET AND (E) ISOLATORS.
3. MANHOLE 'D': SEE DETAIL 2, THIS SHEET.
 - A. CONSTRUCT NEW MANHOLE 'F' AND NEW 8" DRAIN LINE AS SHOWN.
 - B. CONTRACTOR UNDER THE NEW (E) 24" SANITARY SEWER LINE.
 - C. DO NOT BREAK OUT (E) PIPE IN MANHOLE 'D' UNTIL THE NEW HEADWORKS BUILDING AND EQUIPMENT ARE READY FOR USE AND OBTAINING WRITTEN PERMISSION FROM CITY'S REPRESENTATIVE.
4. MANHOLE 'A' SEE DETAIL 1, THIS SHEET.
 - A. DO NOT BREAK OUT EXISTING PIPE IN THIS MANHOLE UNTIL THE NEW HEADWORKS FACILITY IS FUNCTIONING SATISFACTORILY TO THE CITY AND HAS BEEN ACCEPTED BY WRITING AND PERMISSION IS GIVEN IN WRITING BY THE PROJECT REPRESENTATIVE.
5. ABANDON (E) 24" SANITARY SEWER IN PLACE BY FILING WITH CLSM ONLY AFTER BREAKING OUT (E) PIPE IN MANHOLE 'A'.

NOTES:
1. SEE SHEET M-1 FOR MECHANICAL EQUIPMENT SCHEDULE.



AS-BUILT DRAWING



City of Wilkes
Engineering Department
380 East Commercial St.
Wilkes, California 95490-3188

PROJECT LOCATION
GRAVITY INLET SEWER
PLAN AND PROFILE

DATE: _____
PROJECT NO.: _____



MCC CONTROL SYSTEMS

YOUR PARTNER IN AUTOMATION

August 20, 2014
City of Willits
Andrae Trincado
Influent Flowmeter Evaluation

This report is intended to document the findings of our site investigation conducted on August 14, 2014. It will be brief as the investigation was well observed and was also discussed at length with all parties onsite.

With regards to the Influent Parshall Flume Flowmeter there are a few things of significance which are worth noting. First, it is greatly reassuring that the flowmeter has been inspected by a qualified engineer and found to be acceptably level (I believe I recall it was found to be within one half of a degree side-to-side and fore-to-aft). Second, we were able to confirm the sensor head is mounted 3.6" too far forward compared to the manufacturer's recommendations. The sensor was also slightly out of plume, which while not a major issue is, however, not ideal. Flow through the flume appeared to be proper.

Prior to calibration we would recommend relocating the sensor to the proper location, installing it plume and level, and raising it slightly so that it has greater buffer distance between the top of the flume and the sensors "blanking distance" (i.e. where measured medium is so close to the sensor that it can no longer be "seen" by the instrument). This will involve dismantling the current EYS conduit and conduit and remounting the sensor. I am strongly considering a new EYS at the current location, a stainless steel strut assembly to mount the sensor and sealt-tite conduit between the two. The only reason I recommend replacing the EYS is that due to corrosion I suspect it will not survive disassembly. If this is acceptable to the City of Willits I will order the material to perform this work at once.

The MagTube Flowmeters at the WWTP all appear to be properly installed and functioning fine. While two are installed in vertical piping runs, and this is usually not recommended by the manufacturers, they are installed in such a manner that the flow tubes should remain full which will ensure they operate accurately. It should be kept in mind that Magmeters need to have the flow tubes full for proper measurement to occur.

The Mill Creek flowmeter is an older device that I am still researching. I am hoping to hear back from the manufacturer very soon regarding it after which I can offer accurate advice.

Cordially,
Raul Baca

October 3, 2013

MCC CS inspected the Influent Siemens Open Channel Flow Meter at the Willits WWTP on October 1, 2013. We had been asked to examine the flow meter to determine if it was operating properly. Brelje & Race Consulting Engineers was onsite concurrent with our presence.

Several things must be explained as a preface to our report.

- Flowmeters cannot be field **calibrated** except under extraordinary circumstances. Depending on the type of meter, doing so without the manufacturer's engineering representative present usually voids the warranty as well as any guarantee of accuracy.
- Open flume flowmeters can have their calibration adjusted more easily than Ultra-sonic or Magmeter type meters.
- This calibration is dependent upon accurately measuring the **actual flow**. This can only be done by routing the flow into a sealed vessel where in the actual volume of liquid can be then measured and correlated against the time it took to fill the vessel.
- This must be done with the utmost accuracy. The calibration is only as accurate as the least significant digit in any of the measurements.
- Calibration must be done at as many different flow medium levels in the flume as is possible and each measurement must be repeated as many times as possible to achieve an accurate mean number at each level. In our case, I would feel it necessary to measure flow at 1 inch intervals from 0 to 36.
- This obviously borders the impossible due to time constraints and the reality of flowmeter piping installations.
- All flowmeters are more accurate the higher the flow volume. Almost all are inherently inaccurate at low flows. Some more so than others depending on the volume of media to be measured, where it is to be measured, and the type of meter in question. Meter selection is a balancing act of media, physical installation requirements, maintenance concerns and environmental concerns.
- As might be expected from the above information, MCC CS can only vouch for the configuration (that is the set-up) of the current Influent flowmeter. We can offer a "ball park" assessment of accuracy.
- Contrary to what some parties involved in this issue seems to believe, when Robert Pitts of MCC CS was involved with this meter some months ago, he did not calibrate it. Nor did he configure it. He checked it for fault codes and any obvious errors in parameter set-up. As he found nothing of significance, he left it configured as he found it.
- The presence of Brelje & Race was unexpected by MCC CS. Many of the tests they ran were ones we had intended to.

With all of the above stated, we can discuss our findings.

The Siemens flowmeter is a Milltronics OCM III. At first inspection it seemed to be installed and functioning correctly. We made several measurements of the actual physical installation of the hardware as accurately as was possible under the conditions present. Doing so was important in that the physical dimensions are crucial to proper set-up and function of the flowmeter. It is also desirable to have such information recorded for future use.

During the testing and evaluation several areas of concern became apparent.

- The most concerning of these was that any depth of water through the flume less than 4" did not register any flow. This is greatly concerning as the volume, while not great on a momentary basis, would be large cumulatively. It would be necessary to examine historical trending data from SCADA to see how often flow is "zero". One would expect this should be almost never. Prolonged periods of "zero flow" may indicate unrecorded influent flow.
- The ultra-sonic transducer appears to be mounted too low. The manufacturer's manual specifies the face be greater than the "blanking distance" from the top of the flume (max head height). This is not the case as our drawing of measured dimensions shows. Blanking distance is set at 12 inches, which is likely near the minimum blanking distance for such a transducer and cannot be reduced. And while maximum head is set in the parameters at 30 inches, the top of the flume is 36 inches. Under normal conditions, this allows a margin of .5 inches. As the influent could get to 36 inches, the current installation is possibly inadequate under some conditions of high flow. It would be advisable to raise the transducer six inches or so if possible. (Blanking distance is the area close to the transducer in which it cannot accurately measure distances and the flowmeter is thus configured to ignore such false readings in that area.)
- We also noted a good deal of solids deposits on the downstream slope of the flume. This can act as an unintended weir and throw off the accuracy of the Flowmeter. MCC CS recommends these be cleaned out on a regular basis to ensure proper accuracy of readings.

Brelje & Race attempted to record level measurements and flow readings and we applaud their efforts. However, having attempted the same exercise on numerous occasions in the past we were able to recognize areas of concern regarding the accuracy of their gathered data.

- While attempting to determine the accuracy of the transducers' level measurements, they were relying on a hand held scale and clipboard as a reflective target. As these flowmeters measure distance from the transducer to the media surface to determine depth and then use an algorithm to extrapolate flow from depth in a known volume over time (which is a greatly simplified explanation of the process) the distance measurement must be **very accurate**. From experience we know hand held measuring devices are not accurate to .1 inch, much less to the .001 required.

- Also, while later simulating flow readings, influent level measurements were taken from the installed scale in the flume. This did not provide nearly the fine measurement of level readings needed. Comparing this to the indicated flow shown on the flowmeter Human Machine Interface is made difficult by the damping and sample time intervals built into the flow meter itself.
- In these instances MCC CS has found it best to pull the transducer from service, install it in a test stand with a mechanically adjustable target that can be torqued into position to assure it does not move, flex, or vibrate, and then measure the transducer to target distance with an engineering scale certified to .001 inch at various distances. Any other measurement is simply not accurate enough to calibrate the transducers readings.

We have attached a list of current configuration parameters. We have also attached a drawing of the flume and its dimensions. The flume layout and shape was copied directly from the Siemens manual for the flowmeter in question.

In conclusion MCC CS offers the following observations and recommendations.

- It is clear the current Flowmeter is accurate at mid-range flow levels.
- It is clear it is inaccurate at very low flow levels.
- There exists the possibility for inaccuracy at very high flow levels.
- The current installation requires adjustment of transducer elevation.
- The downstream portion of the flume requires regular cleaning.
- If low flow measurement is a concern, a flowmeter of lesser range is required to accurately record it. The current unit is most likely over-sized for this application.
- Customers having concerns about their flow into the Willits WWTP should install a reputable and accurate flowmeter to measure their discharge. This is the only way to accurately gauge the level of their flow. Doing so is an industry standard between municipalities in similar situations.
- McCrometer and Siemens offer Flowmeters that are considered industry standards.

Siemens Milltronics OCM III

Parameters

(recorded 10/1/2013)

P0	Language	0 (English)
P1	Dimensional Units	1 (Inches)
P2	Temperature Units	1 (Fahrenheit)
P3	Primary Element	0 (Exponential Device)
P4	Method of calculation	1 (Ratiometric)
P5	Flow Rate Units	3 (US Gallons/Minute)
P6	Flow at Max Head	11023
P7	Height of Maximum Head	30"
P8		
P13	Display Dampening	0 (Off)
P14	Display Lighting	0 (On)
P15		35 (Flow Pulse Totalization)
P16		1000 Gallons/Pulse
P24	mA Assignment	0 (Flow Rate)
P26	mA Span	0 (4-20)
P27	mA Damping	10 Seconds
P28	mA Options	0 (Don't Track Emulator)
P29	Fail Safe Time	60 Seconds
P30	Fail safe analog Value	0 (Hold Last Value)
P32	Totalizer Multiplier	3 (x1)
P33	Flow Rate Display	0 (No Decimal Places)
P36	Measurement Interval	0 (1 Seconds)
P42	Head Determination	0 (OCM-3 Sensor)
P45	Low Flow Cut-Off	1.5"
P47	Blanking Distance	12"



859 COTTING COURT, SUITE G
VACAVILLE, CALIFORNIA 95688
707-449-0341 www.mccwater.com

DIMENSIONS

UNLESS OTHERWISE SPECIFIED
INCHES

- AND TOLERANCES FOR
 1 PLACE DIMS ± 0.1
 2 PLACE DIMS ± 0.01
 3 PLACE DIMS ± 0.002
 ANGULAR DIMS ± 30'
 FRACTION DIMS ± 3/2"



THIS LINE EQUALS ONE INCH, IF NOT ON
THIS SHEET, ADJUST SCALES ACCORDINGLY

REVISIONS

NO.	DATE	REVISION	BY	APP

TESTING

TEST	DATE	BY

PROJECT: WILLITS WWTP

TITLE: 18" FLUME

CUSTOMER:

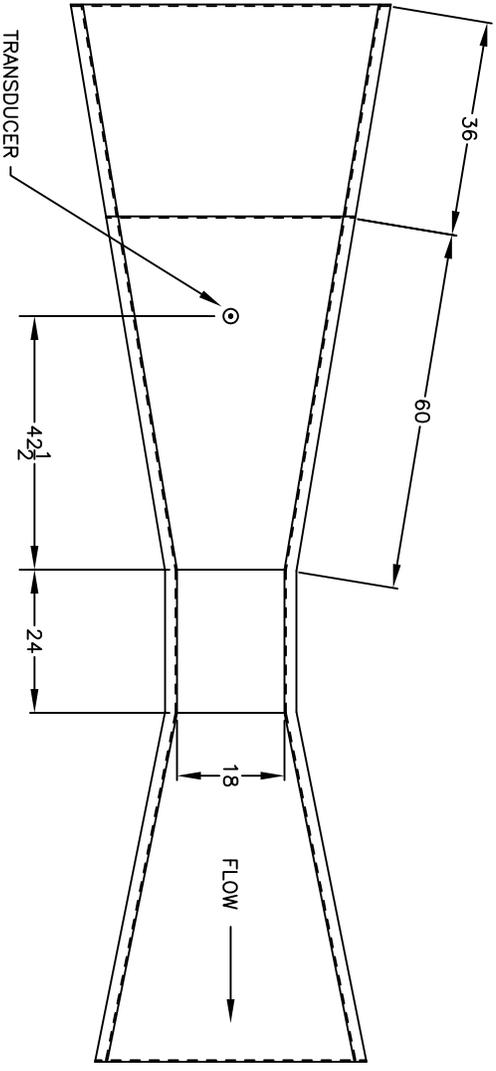
DESIGNED BY: RB DATE: 10/13

DRAWN BY: PC SCALE: NTS

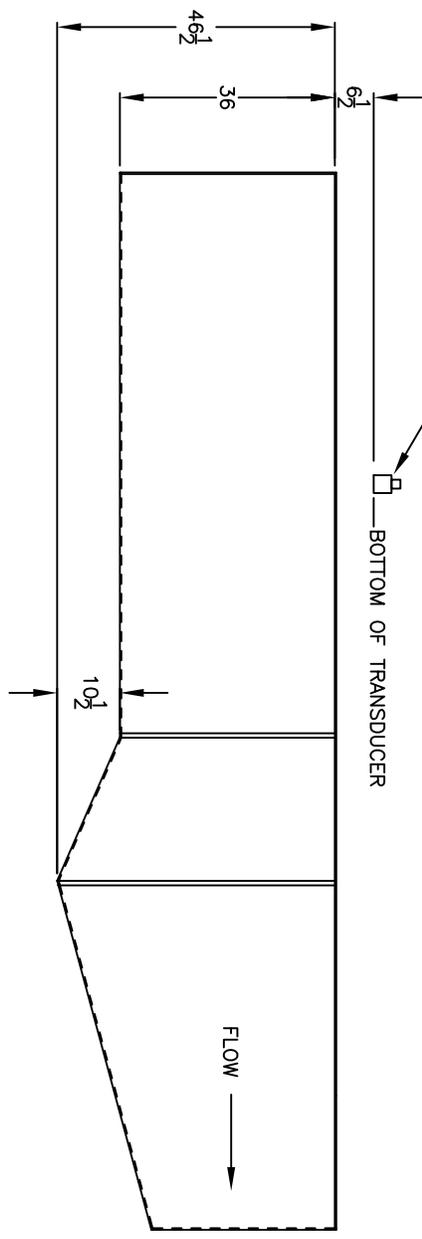
CHECKED BY: RB RHP

APPROVED BY: RB SHEET 1 OF 1

SIZE: A DRAWING: 07640.01-A01



PLAN VIEW



SIDE VIEW

TRANSDUCER
 BOTTOM OF TRANSDUCER

MEMORANDUM

TO: Board of Directors, Brooktrails Community Services District

FROM: Richard Ingram, Sarah Yardley

SUBJECT: Review of City of Willits Wastewater Treatment Plant Influent Flow Meter
B&R File No. 3478.00

DATE: October 18, 2013

At the request of Brooktrails Community Services District (BTCSD), Brelje & Race (B&R) conducted a review of the installation and flow readings of the influent flow meter at the City of Willits (City) wastewater treatment plant (WWTP) on October 1, 2013. BTCSD staff and City operations staff provided essential assistance to the review. This memorandum summarizes our observations. Sections of the memorandum include Background, Observations, Discussion and Conclusions. A list of references, and supporting exhibits, are at the end of the memorandum.

BTCSD contracts with the City for treatment and disposal of its wastewater. The annual fee is based upon the year's average dry weather flow (ADWF) measurement for BTCSD as a fraction of the measured ADWF at the City WWTP. The ADWF is calculated as the average daily flow for the months of May through September, for each entity. BTCSD staff are concerned that the reported 2013 early dry season flows at the City WWTP have been 20 to 30 percent lower than typical of recent years. Review of the meter was intended to indicate whether the low recorded flows measurements may be due to inaccuracy of the meter.

Background

The influent meter at the City WWTP is an 18-inch Parshall Flume, installed in a vault approximately 12 feet below ground surface in the plant entrance road. The flume was installed in 2009 as part of Phase 1 of the City's recent WWTP improvement project. A copy of the City's as-built record drawing for the vault is attached as Exhibit A. Access to the vault is through a 36-inch manhole.

The Parshall Flume was developed in the 1920's by Dr. Ralph Parshall of the U.S. Soil Conservation Service, primarily to measure flows in irrigation channels. The constricted throat and drop in the floor of the downstream section produce a predictable relationship between flow and water depth upstream of the throat. The rate of flow can be calculated from a properly measured depth of flow. The flume design is not patented and discharge tables are widely available (The discharge table for

an 18-inch Parshall Flume is attached as Exhibit B.). If the flume is configured precisely as specified, flow measurement is typically accurate within $\pm 3\%$ [1].

The literature advises against relying on an 18-inch Parshall Flume for measuring flows less than 80 gallons per minute (gpm) (0.10 foot water depth) or greater than 11,000 gpm (2.5 foot water depth)[2]. We were told by City operations staff that electronic controller of the City's meter was configured to interpret any depth less than 1.5 inches (0.125 feet) as zero flow. At times that the influent flow rate was less than approximately 110 gpm, the flow totalizer would therefore be expected to register no flow.

The City WWTP installation includes a staff gauge for visual monitoring of flow depth and an ultrasonic level instrument for measuring the height of the water surface. Measurement on the staff gauge is in decimal feet, at 0.02 foot increments. The level instrument transmits its reading to a PLC (programmable logic controller), which translates the height of the water surface into flowrate (gallons per minute, also total gallons), which can be observed at an operator interface next to the road adjoining the vault. Values are transmitted to the plant SCADA (Supervisory Control and Data Acquisition) for recording and display.

Observations

Observations are presented in the following paragraphs. The potential effects of the observed irregularities on measurement and recording of dry weather flows are discussed in the following section.

A. Flume Configuration

The dimensions of the flume were measured in the field, to the extent possible, and compared with the dimensions specified by the flume design. A figure with the comparative dimensions is attached as Exhibit C. Photographs of the flume installation are included in Exhibit D. The flume was constructed using a preformed fiberglass form, which ensured that the basic dimensions are correct. As can be seen in the photographs, the throat and downstream sections of the flume and channel are covered by grating. Dried wastes on the top of the grating and adjoining floor give evidence that sewage has backed up into the vault in the past. The frequency of such events is not known. B&R was not able to lift the grates to measure and observe the downstream portions of the flume and channel.

A few discrepancies between the specified Parshall Flume configuration and the installed flume were noted, as follows:

1. The upstream configuration does not include the specified radiused entrance walls or ramp in the floor. The ramp is often eliminated in flume installations for sewage flow measurement, because of concerns that solids deposition will occur in the channel upstream of the ramp [1]. The radiused walls are intended to enable water from a wide channel to enter the flume with a consistent velocity distribution. The absence of radiused walls is

believed to be of little or no importance at the City's WWTP because the flow is coming from a 36-inch sewer pipe with a straight 20-foot long approach.

2. It was, however, observed that the walls of the influent channel from the sewer pipe outlet to the molded flume are not as shown in the as-built record drawing (Exhibit A). The drawing shows the walls going directly from the sides of the sewer pipe to the opening of the flume structure. In fact, the walls go from the corners of the vault to the flume opening, as can be seen in the attached Exhibit D, Photograph 1. This configuration creates triangular "coves" on each side of the channel. The coves may cause flow irregularities such as stagnant zones or eddies.

It is not known what, if any, effect the channel wall configuration may have on water depth at the measuring device, when compared to the specified configuration. The literature discusses the importance of creating inlet conditions that produce a flattening of the incoming velocity distribution and states that "a sudden change in direction of the sidewall from the straight channel to the converging wall of the flume causes lateral curvature in the entrance flow" [1]. In Photograph 1, the water appears to be exhibiting this behavior, with mounding on each side of the channel as it funnels into the flume.

3. The ultrasonic level measuring device appears to be located approximately three inches upstream of the specified position. The water level may be slightly greater at the installed location, which could cause the flume to read a higher flow rate than actually occurs. The difference is not likely to be more than a few percentage points.
4. The angle of the floor of the throat was measured using an electronic level. The flume is level laterally. The instrument indicated that the floor of accessible portions of the flume is not level longitudinally, but slopes 1.2% downstream (slope of 0.012). A downstream slope would result in reduced water depth and a computed flow rate lower than the actual rate. Error due to sloping floors has been observed to increase with decreasing water depth. The literature states laboratory experiments on a 3-inch flume at a slope of 0.01 have shown an error of 3% at a depth of 0.5 feet, increasing to an error of approximately 10% at a depth of 0.15 feet. These depths would be comparable to depths of approximately 3.0 feet and 0.9 feet in an 18-inch flume. The literature further states that case-specific calculations have been developed to correct for a sloping floor for installations where the slope is less than 0.005 [1].

We are not aware of any documentation of the effect of a sloping floor on the accuracy of an 18-inch flume, nor of corrective methods for a slope greater than 0.005, as in this case. We would expect that flowrates may be under-represented by 3 to 10 percent, with potential for greater error at flow rates below approximately 2,000 gpm (depth 0.9 feet and less).

B. Depth Measurements and Flow Readings

The depth in the flume and the flow reading at the PLC operator interface adjoining the vault were recorded simultaneously. Flow rates associated with the measured depths were then compared with flowrates in the flume discharge tables. The comparisons were made in two ways, which are described below.

First, WWTP staff used an inflatable pig to block the upstream sewer and stop flow into the flume. The manhole where the pig was placed is approximately 20 feet upstream of the flume. B&R then held a flat surface (a clipboard) level in the flume, beneath the ultrasonic level instrument, at a series of measured distances from the channel floor, to simulate a water surface. Distance from the floor to the board was measured using the staff gauge, which had been previously been verified to measure from the floor of the flume, on one side, and a graduated steel measuring ruler on another side. The clipboard was held at each level for approximately 30 seconds or longer. The board was held by hand. Accuracy of the board height and reading is estimated to be ± 0.02 feet.

At the same time, the flow measurements displayed at the PLC were recorded. It was observed that the display would hold a steady value for ten or fifteen seconds, and then show an up-dated measurement. Typically three readings were made for each height of the board in the flume to allow the controller to equilibrate, as can be seen on the observation sheets in Exhibit E.

These measurements were intended to allow measurement of the water depth/flow reading relationship in a controlled manner, particularly for higher water depths that would not be available using the plant flows at the time. The measurements began with a high level reading and continued through a low reading. Readings are shown in Table 1, below. Copies of the observation sheets are attached as Exhibit E.

Table 1: Comparison of WWTP Flow Display and Tabulated Flow Rates (First Trial)

Board Height ¹	Flow Rate		Difference in flow (display compared to table)		Difference Within Acceptable Error ^{4?}
	WWTP Display ²	Discharge Table ³	gpm	percent	
ft.	gpm	gpm	gpm	percent	
2.50	10,682	11,020	-338	-3.1%	YES
2.33	9,774	9,890	-117	-1.2%	YES
1.33	4,131	4,175	-44	-1.1%	YES
1.17	3,129	3,428	-299	-8.7%	NO
1.00	2,406	2,693	-288	-10.7%	NO
0.83	1,908	2,022	-114	-5.6%	YES
0.67	1,302	1,454	-150	-10.3%	NO
0.50	922	927	-5	-0.5%	YES
0.33	462	489	-27	-5.5%	YES
0.17	459	176	283	160.8%	NO
0.13	120	110	3	2.6%	YES

Measurements are shown in the order they were taken, at descending board heights.
¹ Values in the Board Height column are the measurements of the height of the board held by B&R engineer, read from the steel ruler. Accuracy is ± 0.02 feet.
² Values under WWTP Display are the average values displayed at the operator interface adjoining the meter vault. Several flow readings were made for each board height, until the meter appeared to have stabilized. Early readings are not included in the average in cases where they are greatly different from the last reading(s). Calculations are in Exhibit F.
³ Values under Discharge Table are the flow values given in the standard table for an 18-inch Parshall Flume, for the measured board height.
⁴ "Acceptable Error" consists of the industry-recognized 3% allowable error plus the visual measurement error of ± 0.02 feet.

In assessing the accuracy of the displayed flow readings, the industry-recognized meter error of $\pm 3\%$ and the error of the field measurement of the water depth were considered. Column six of Table 1 indicates whether each displayed flow rate was within the combined acceptable error (Calculations may be found in Exhibit F). Seven of the eleven measured board heights yielded flow readings that were within the acceptable range of error. The remaining flow rates displayed on the operator interface were greater or smaller than the tabulated flow rates by 8% or more.

After the tests using a board to simulate water level had been completed, the WWTP operations staff allowed the sewer flow to resume gradually, by incrementally releasing air from the inflatable pig that had been blocking the sewer. At each increment, the depth was allowed to stabilize and then measured at the staff gauge. The flow reading at the PLC interface was recorded at the same time. Readings are shown in Table 2, below. Copies of the field observation sheets are attached as Exhibit E. It should be noted that, because the water was pushing through narrow spaces between the pig and the pipe walls, the flow patterns were disturbed, as evidenced by wave patterns on the water surface (Exhibit D, Photograph 5). The surface waves, which caused the water depth to range within a band of approximately ± 0.01 feet, could have caused flow measurement to be less accurate than under usual flow conditions.

Table 2: Comparison of WWTP Flow Display and Tabulated Flow Rates (Second Trial)

Water Depth ¹	Flow Rate		Difference in flow (display as compared to table)		Difference Within Acceptable Error ⁴ ?
	WWTP Display ²	Discharge Table ³	gpm	percent	
ft.	gpm	gpm	gpm	percent	
0.20	0	227	-227	-100.0%	NO
0.30	0	423	-423	-100.0%	NO
0.35	0	536	-536	-100.0%	NO
0.40	554	658	-104	-15.8%	NO
0.50	695	927	-232	-25.0%	NO
0.55	812	1,074	-262	-24.4%	NO
0.60	959	1,227	-268	-21.8%	NO
0.65	884	1,388	-504	-36.3%	NO
0.70	1,262	1,556	-294	-18.9%	NO
0.74	1,457	1,695	-238	-14.0%	NO
0.78	1,478	1,838	-360	-19.6%	NO
0.80	1,612	1,911	-299	-15.6%	NO
0.85	1,841	2,097	-256	-12.2%	NO
0.90	2,040	2,290	-250	-10.9%	NO
0.95	2,129	2,489	-360	-14.5%	NO
1.00	2,301	2,693	-392	-14.6%	NO
1.08	2,494	3,031	-537	-17.7%	NO

Measurements are shown in the order they were taken, at increasing water depths.

¹ Values in the Water Depth column are the measurements of the depth at the staff gauge at the flume, as read by B&R engineer. Accuracy is ± 0.02 feet.

² Values under WWTP Display are the average values displayed at the operator interface adjoining the meter vault. Several flow readings were made for each water depth, until the meter appeared to have stabilized. Early readings are not included in the average in cases where they are greatly different from the last reading(s). Calculations are in Exhibit F.

³ Values under Discharge Table are the flow values given in the standard table for an 18-inch Parshall Flume, for the measured water depth.

⁴ "Allowable Error" consists of the industry-recognized 3% allowable error plus the visual measurement error of ± 0.02 feet.

The industry-recognized meter error of $\pm 3\%$ and the error of the field measurement of the water depth were considered in assessing the accuracy of the displayed flow readings. As in the first trial, an error of ± 0.02 feet was used to account for visual measurement of the water depth. As can be seen in Table 2, all of the flow readings at the operator interface were lower than associated with the observed water depth and were outside the acceptable range of error (Calculations may be found in Exhibit F).

In this second series of measurements, the readings at the PLC were zero gallons per minute at water depths up to 0.35 feet (4.2 inches). It appears that the controller may have a built-in delay, in the order of several minutes, that causes it not to register the transition between flows too low to record and flows great enough to record, until the transition has been established for some period of time. This sort of delay mechanism is commonly used in controllers, as it avoids data "chatter." If there is a delay mechanism, it would not make a measureable impact on total flow measurement.

At depths of 0.4 feet and above, the displayed flow rates were consistently lower than the values in the Parshall Flume discharge table, by an average of 18 percent. It was observed that the displayed flow rate would sometimes stay the same through several cycles and other times would continue to change (Exhibit E, field observation sheets).

The system's reporting of lower flow rates than would be expected based upon measured water depth at the staff gauge may reflect a delay mechanism in the controller. Also the flows in the sewer were not representative of typical operations, due to the sewage flowing around the pig under pressure. The water surface was observed to fluctuate, which is known to impair flow reading [2].

A graph of the WWTP SCADA trending for influent flow rate was printed for the period of the observations. A copy of the graph is attached as Exhibit G. Notation has been added to indicate the activities at the flume.

C. Graphs of Flow Trends

Graphs of the WWTP influent flow rate were printed from the WWTP SCADA for the night hours of the preceding night and of the night one week earlier (September 23 and 24, 2013). The graphs are included as Exhibit H, attached. The nighttime graphs were reviewed for an indication of the potential effect of the low water depth cut-off of flume meter readings on the total flow readings for the nights. The lowest flow rate that registers on the graphs is approximately 110 gpm, which is consistent with the information provided by plant operations (Note that the two graphs are at different vertical scales.). In the early hours of September 24, the meter recorded zero flow for just over four hours. If the actual flow had been 100 gpm during the period, approximately 24,000 gallons of sewage flow would not have been recorded. By contrast, the meter recorded zero flow three times, each only a few minutes, in the early hours of October 1, making a negligible effect on measured total daily flow.

Discussion

This review focused on the physical configuration of the flume and on a comparison of instantaneous depth/flow rate readings. The findings are discussed below.

A. Flume Configuration

The above-noted discrepancies in the flume configuration may cause inaccuracies in the flow measurement. The cumulative extent and consistency of such potential inaccuracies are not known. Two aspects of the installed configuration are not consistent with recommended Parshall Flume installation:

1. The side walls of the channel flare out between the incoming sewer and the beginning of the flume structure. Observations indicate that eddying occurs in the side coves produced by this configuration, and water entering the flume was observed to mound. The City's as-built record plan shows the walls making a direct, smooth transition from the edge of the sewer to the flume. There may be reasons, which we are unaware of, for installation to have been built as it is, but our conclusion is that the transition walls shown on the plans would have produced less irregularities in the water surface.
2. Measurements indicate that the floor of the flume slopes downstream at a slope of 0.012. This slope could have a real impact on flow measurement. Flow rates may be under-represented by 3 to 10 percent, and there is potential for greater error at flow rates below approximately 2,000 gpm (depth 0.9 feet and less). It should be noted that any effect on flow records would have been occurring since the flume was installed and would not lead to the reduction in recorded flow observed in the 2013 dry season.

B. Depth Measurements and Flow Readings

The flow rate displayed at the operator interface showed a general correspondence with flow values in the discharge table for the measured water depths. In the first trial, which used a board to simulate water depth, the difference between the displayed and tabulated flowrates was greater than the acceptable error in less than one half the measurements. In the second trial, which measured depth of water while the sewer which was partially blocked by the inflatable pig, all displayed flow rates were lower than tabulated values. The greater difference that occurred during the second trial may have been due to undulations of the water surface or delays in the controller logic. Because the available methods used to measure the depth are responsible for introducing some error, it is not possible to conclude whether the meter is displaying the correct flow rate for water depth.

C. Graphs of Flow Trends

The graphs of influent flows during early morning hours indicate that on at least one occasion the meter did not record approximately 24,000 gallons of influent flow. If the daily

flow was 770,000 gallons (the City's dry season average daily flow, based on available records from 2010 through 2013), the recorded flow for that day may have been low by approximately three percent. Without a full review of flow records for the entire dry season, the effect of this flow recording method might have on calculation of the Average Dry Weather Flow cannot be determined.

The professional services scope did not include comparison of instantaneous display of flow rates with flow recorded into the SCADA history. The translation of data streams into a manageable set of discrete values for recording typically entails averaging of groups of data points over specific time increments. Average values that appear in data records therefore are typically slightly different from specific values read in real time at an operator interface. We have no reason to believe that the data recording is not accurate and do not recommend pursuit of that question.

Conclusions

The observations of the influent Parshall Flume at the City of Willits WWTP on October 1, 2013, indicate that the sloped floor of the flume installation may cause depths to be lower than standard for flows through a Parshall Flume. If the water depths are lower than normal, the reported flow would be lower than flows actually passing through the flume. Additionally, the configuration of the sidewalls between the upstream sewer and the flume opening may cause a non-uniform flow distribution and non-standard water depths through the flume. Note that errors due to the flume configuration would have been occurring since the flume was installed and would not be associated with the observed decrease in measured flows in the 2013 dry season.

There were significant differences between the flow rates displayed at the operator interface and the flowrates in the standard Parshall Flume tables for the measured water depths. The differences may be due to measurement errors and/or to the condition of the influent flow at the time. It is also possible that the meter is recording flows inaccurately. Observations of the controller-measured flow rates as compared to the tabulated rates for particular flow depths support the possibility that the meter may record lower flows than are associated with the water depths in the flume. If there are errors in the meter, they may be recent, or may be long-standing.

An accurate way to verify the influent flow readings would be to conduct a test using the downstream wet well to measure total flow, for comparison with metered flow. The test would be done by pumping the wet well down to its lowest level and turning off the pumps while the wet well filled. It appears, based on the as-built record plans for the wet well, that there would in the range of 4,000 to 5,000 gallons of wet well capacity for the test. The increase in the volume of water in the wet well could then be compared to the influent meter's totalized flow for the time span. The test would require careful coordination of start and finish times and measurement of the water depths as well as an understanding of the relationship between instantaneous flow measurements and display of totalized flow by the meter controller. It should be noted that the floor of the wet well has a complex configuration, probably designed to minimize solids settling, which would make volume determinations challenging. Such a test would best be performed by the WWTP staff. We do not know whether tests were conducted for flume calibration during start-up of the facilities in 2009.

References

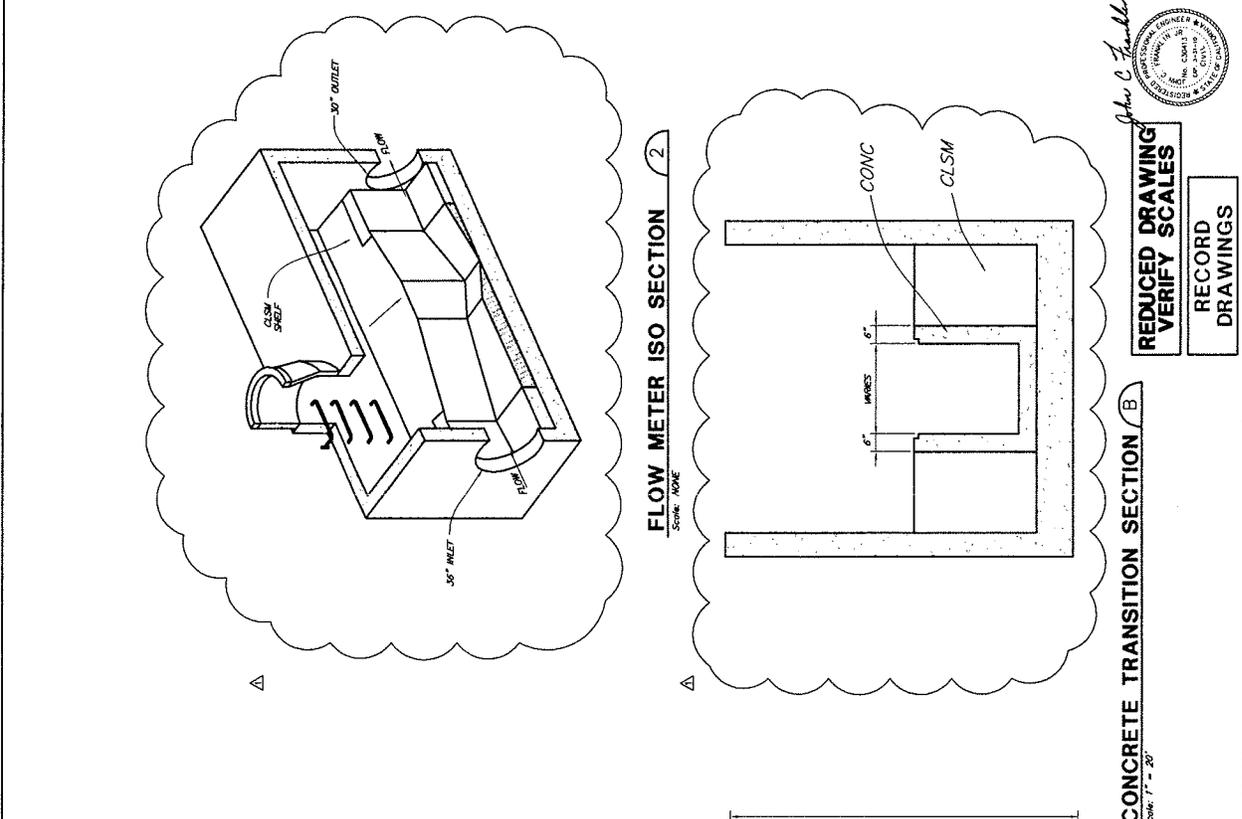
- [1] U.S. National Bureau of Standards, "Recommended Practice for the Use of Parshall Flumes and Palmer-Bowlus Flumes in Wastewater Treatment Plants," November 1984 (EPA600/2-84-186)
- [2] Grant, Douglas M., Open Channel Flow Measurement Handbook, Third Edition, 1989, ISCO, Inc.

Attachments

- Exhibit A. Record Drawing, City of Willits Influent Metering Vault
- Exhibit B. 18-inch Parshall Flume Discharge Table
- Exhibit C. Figure with Parshall Flume Dimensions (specified and field measured)
- Exhibit D. Photographs
- Exhibit E. Field Observation Sheets
- Exhibit F. Comparison of displayed flows with values in Parshall Flume discharge table
- Exhibit G. City WWTP SCADA trending graph for influent flow, morning of October 1, 2013
- Exhibit H. City WWTP SCADA trending graphs for influent flow, night hours of September 24 and October 1, 2013

Exhibit A

Record Drawing, City of Willits Influent Metering Vault



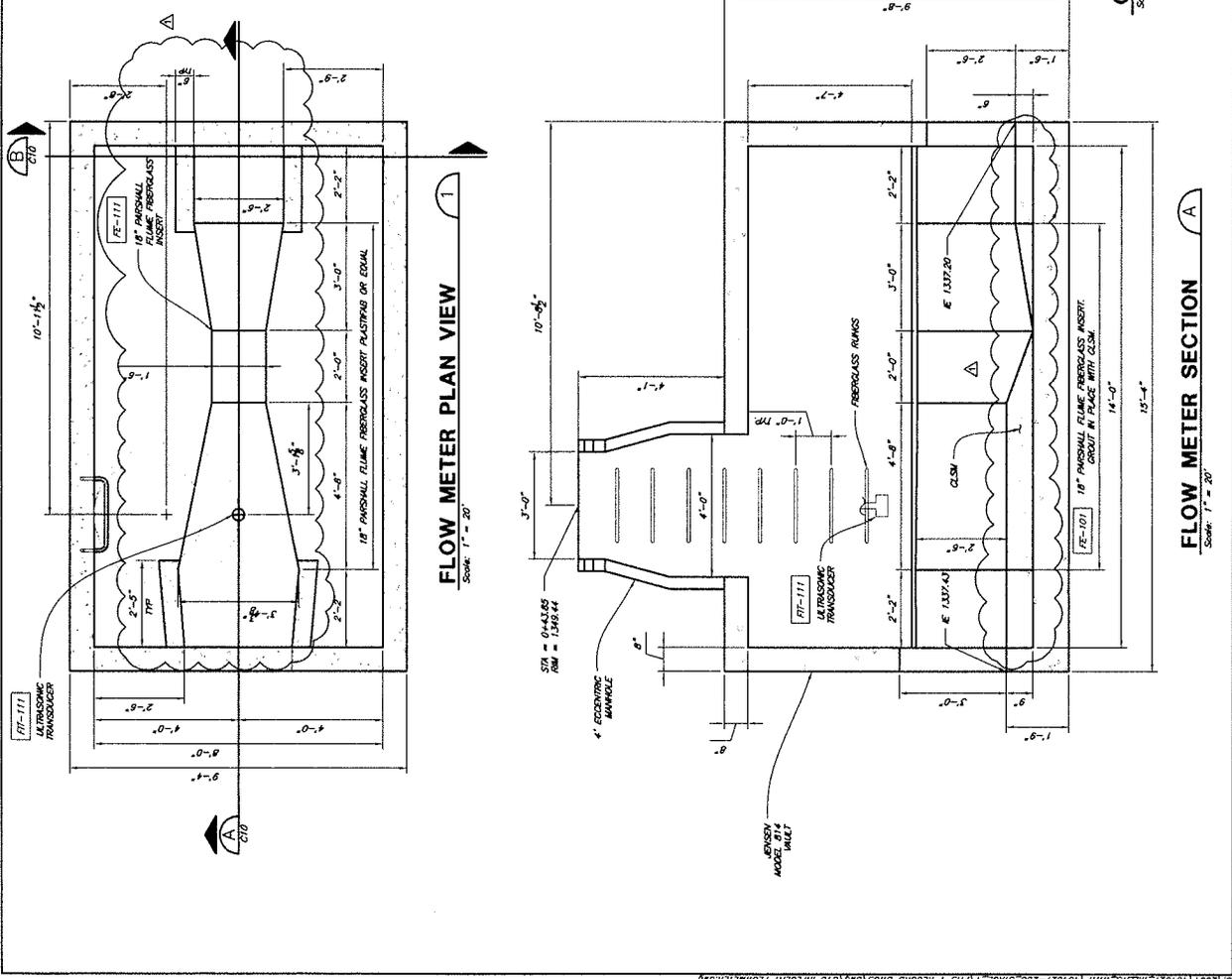
CONCRETE TRANSITION SECTION B
 Scale: 1" = 20"

FLOW METER ISO SECTION 2
 Scale: NONE

REDUCED DRAWING
 VERIFY SCALES

RECORD
 DRAWINGS

John C. Funder



FLOW METER SECTION A
 Scale: 1" = 20"

FLOW METER PLAN VIEW
 Scale: 1" = 20"

Exhibit B

18-inch Parshall Flume Discharge Table

12-7: 1 1/2 ft. Parshall Flume Discharge Table

Formulas: CFS = 6.000H^{1.538} GPM = CFS x 7.481
 GPM = CFS x 448.8 MGD = CFS x 0.6463 1.538
 GPM = 2.693 H^{1.538}

Head Feet	CFS	GPS	GPM	MGD	Head Feet	CFS	GPS	GPM	MGD
0.01	0.0050	0.0377	2.260	0.0033	0.51	2.130	15.94	966.0	1.377
0.02	0.0146	0.1094	6.564	0.0095	0.52	2.195	16.42	985.0	1.418
0.03	0.0273	0.2041	12.25	0.0176	0.53	2.260	16.91	1014	1.461
0.04	0.0425	0.3177	19.06	0.0275	0.54	2.326	17.40	1044	1.503
0.05	0.0599	0.4478	26.87	0.0387	0.55	2.392	17.90	1074	1.546
0.06	0.0792	0.5928	35.56	0.0512	0.56	2.460	18.40	1104	1.590
0.07	0.1004	0.7514	45.08	0.0649	0.57	2.527	18.91	1134	1.634
0.08	0.1233	0.9227	55.35	0.0797	0.58	2.596	19.42	1165	1.678
0.09	0.1478	1.106	66.35	0.0955	0.59	2.665	19.94	1196	1.722
0.10	0.1738	1.301	78.02	0.1124	0.60	2.735	20.46	1227	1.768
0.11	0.2013	1.506	90.34	0.1301	0.61	2.805	20.99	1259	1.813
0.12	0.2301	1.721	103.3	0.1487	0.62	2.876	21.52	1291	1.859
0.13	0.2603	1.947	116.8	0.1682	0.63	2.948	22.05	1323	1.905
0.14	0.2917	2.182	130.9	0.1885	0.64	3.020	22.60	1356	1.952
0.15	0.3243	2.426	145.6	0.2096	0.65	3.093	23.14	1388	1.999
0.16	0.3582	2.679	160.7	0.2315	0.66	3.167	23.69	1421	2.047
0.17	0.3932	2.941	176.5	0.2541	0.67	3.241	24.24	1454	2.095
0.18	0.4293	3.212	192.7	0.2775	0.68	3.316	24.80	1488	2.143
0.19	0.4665	3.490	209.4	0.3015	0.69	3.391	25.37	1522	2.191
0.20	0.5048	3.777	226.6	0.3263	0.70	3.467	25.93	1556	2.241
0.21	0.5442	4.071	244.2	0.3517	0.71	3.543	26.51	1590	2.290
0.22	0.5845	4.373	262.3	0.3778	0.72	3.620	27.08	1625	2.340
0.23	0.6259	4.682	280.9	0.4045	0.73	3.698	27.66	1660	2.390
0.24	0.6682	4.999	299.9	0.4319	0.74	3.776	28.25	1695	2.440
0.25	0.7115	5.323	319.3	0.4599	0.75	3.855	28.84	1730	2.491
0.26	0.7558	5.654	339.2	0.4884	0.76	3.934	29.43	1766	2.543
0.27	0.8009	5.992	359.5	0.5176	0.77	4.014	30.03	1801	2.594
0.28	0.8470	6.336	380.1	0.5474	0.78	4.094	30.63	1838	2.646
0.29	0.8940	6.688	401.2	0.5778	0.79	4.175	31.24	1874	2.699
0.30	0.9418	7.046	422.7	0.6087	0.80	4.257	31.85	1911	2.751
0.31	0.9905	7.410	444.5	0.6402	0.81	4.339	32.46	1947	2.804
0.32	1.040	7.781	466.8	0.6722	0.82	4.422	33.08	1984	2.858
0.33	1.091	8.158	489.4	0.7048	0.83	4.505	33.70	2022	2.912
0.34	1.142	8.541	512.4	0.7379	0.84	4.589	34.33	2059	2.966
0.35	1.194	8.931	535.8	0.7715	0.85	4.673	34.96	2097	3.020
0.36	1.247	9.326	559.5	0.8057	0.86	4.758	35.59	2135	3.075
0.37	1.300	9.728	583.6	0.8404	0.87	4.843	36.23	2174	3.130
0.38	1.355	10.13	608.0	0.8756	0.88	4.929	36.87	2212	3.186
0.39	1.410	10.55	632.8	0.9113	0.89	5.015	37.52	2251	3.242
0.40	1.466	10.97	657.9	0.9474	0.90	5.102	38.17	2290	3.298
0.41	1.523	11.39	683.4	0.9841	0.91	5.190	38.83	2329	3.354
0.42	1.580	11.82	709.2	1.021	0.92	5.278	39.48	2369	3.411
0.43	1.638	12.26	735.3	1.059	0.93	5.366	40.15	2408	3.468
0.44	1.697	12.70	761.8	1.097	0.94	5.455	40.81	2448	3.526
0.45	1.757	13.14	788.6	1.136	0.95	5.545	41.48	2489	3.584
0.46	1.817	13.60	815.7	1.175	0.96	5.635	42.15	2529	3.642
0.47	1.879	14.05	843.1	1.214	0.97	5.725	42.83	2570	3.700
0.48	1.940	14.52	870.9	1.254	0.98	5.816	43.51	2610	3.759
0.49	2.003	14.98	898.9	1.295	0.99	5.908	44.20	2651	3.818
0.50	2.066	15.46	927.3	1.335	1.00	6.000	44.89	2693	3.878

12-7: 1 1/2 ft. Parshall Flume Discharge Table
 (Continued)

Formulas: CFS = 6.000H^{1.538} GPM = CFS x 7.481
 GPM = CFS x 448.8 MGD = CFS x 0.6463 1.538
 GPM = 2.693 H^{1.538}

Head Feet	CFS	GPS	GPM	MGD	Head Feet	CFS	GPS	GPM	MGD
1.01	6.093	45.58	2734	3.938	1.51	11.31	84.60	5075	7.309
1.02	6.186	46.27	2776	3.998	1.52	11.42	85.46	5127	7.383
1.03	6.279	46.97	2818	4.058	1.53	11.54	86.33	5179	7.458
1.04	6.373	47.68	2860	4.119	1.54	11.66	87.20	5231	7.533
1.05	6.468	48.38	2903	4.180	1.55	11.77	88.07	5284	7.609
1.06	6.563	49.09	2945	4.241	1.56	11.89	88.95	5336	7.684
1.07	6.658	49.81	2988	4.303	1.57	12.01	89.83	5389	7.760
1.08	6.754	50.53	3031	4.365	1.58	12.13	90.71	5442	7.836
1.09	6.850	51.25	3074	4.427	1.59	12.24	91.59	5495	7.913
1.10	6.947	51.97	3118	4.490	1.60	12.36	92.48	5548	7.990
1.11	7.045	52.70	3162	4.553	1.61	12.48	93.37	5601	8.066
1.12	7.142	53.43	3206	4.616	1.62	12.60	94.26	5655	8.144
1.13	7.241	54.17	3250	4.680	1.63	12.72	95.16	5709	8.221
1.14	7.340	54.91	3294	4.744	1.64	12.84	96.06	5763	8.299
1.15	7.439	55.65	3338	4.808	1.65	12.96	96.96	5817	8.377
1.16	7.539	56.40	3383	4.872	1.66	13.08	97.87	5871	8.455
1.17	7.639	57.15	3428	4.937	1.67	13.20	98.78	5925	8.533
1.18	7.739	57.90	3473	5.002	1.68	13.33	99.69	5980	8.612
1.19	7.840	58.65	3519	5.067	1.69	13.45	100.6	6035	8.691
1.20	7.942	59.41	3564	5.133	1.70	13.57	101.5	6090	8.770
1.21	8.044	60.18	3610	5.199	1.71	13.69	102.4	6145	8.850
1.22	8.147	60.94	3656	5.265	1.72	13.82	103.4	6201	8.930
1.23	8.249	61.71	3702	5.332	1.73	13.94	104.3	6256	9.009
1.24	8.353	62.49	3749	5.398	1.74	14.06	105.2	6312	9.090
1.25	8.457	63.26	3795	5.466	1.75	14.19	106.1	6368	9.170
1.26	8.561	64.04	3842	5.533	1.76	14.31	107.1	6424	9.251
1.27	8.666	64.83	3889	5.601	1.77	14.44	108.0	6480	9.332
1.28	8.771	65.61	3936	5.669	1.78	14.56	109.0	6537	9.413
1.29	8.876	66.40	3984	5.737	1.79	14.69	109.9	6593	9.495
1.30	8.982	67.20	4031	5.805	1.80	14.82	110.8	6650	9.576
1.31	9.089	67.99	4079	5.874	1.81	14.94	111.8	6707	9.658
1.32	9.196	68.79	4127	5.943	1.82	15.07	112.7	6764	9.740
1.33	9.303	69.60	4175	6.013	1.83	15.20	113.7	6821	9.823
1.34	9.411	70.40	4224	6.082	1.84	15.33	114.7	6879	9.905
1.35	9.519	71.21	4272	6.152	1.85	15.45	115.6	6936	9.988
1.36	9.628	72.03	4321	6.223	1.86	15.58	116.6	6994	10.07
1.37	9.737	72.84	4370	6.293	1.87	15.71	117.5	7052	10.15
1.38	9.847	73.66	4419	6.364	1.88	15.84	118.5	7110	10.22
1.39	9.957	74.48	4468	6.435	1.89	15.97	119.5	7168	10.30
1.41	10.18	76.14	4568	6.578	1.91	16.23	121.4	7285	10.49
1.42	10.29	76.97	4618	6.650	1.92	16.36	122.4	7343	10.58
1.43	10.40	77.81	4668	6.722	1.93	16.49	123.4	7403	10.66
1.44	10.51	78.65	4718	6.794	1.94	16.63	124.4	7462	10.75
1.45	10.63	79.49	4769	6.867	1.95	16.76	125.4	7521	10.83
1.46	10.74	80.33	4819	6.940	1.96	16.89	126.4	7580	10.92
1.47	10.85	81.18	4870	7.013	1.97	17.02	127.4	7640	11.00
1.48	10.97	82.03	4921	7.087	1.98	17.16	128.3	7700	11.09
1.49	11.08	82.88	4972	7.161	1.99	17.29	129.3	7760	11.17
1.50	11.19	83.74	5024	7.235	2.00	17.42	130.3	7820	11.26

12-7: 1 1/2 ft. Parshall Flume Discharge Table
(Continued)

Formulas: CFS = 6.000H^{1.538} GPS = CFS x 7.481
 GPM = CFS x 448.8 MGD = CFS x 0.6463

Head Feet	CFS	GPS	GPM	MGD	Head Feet	CFS	GPS	GPM	MGD
2.01	17.56	131.3	7880	1.35	2.51	24.71	184.8	11990	15.97
2.02	17.69	132.4	7940	1.43	2.52	24.86	186.0	11160	16.07
2.03	17.83	133.4	8001	1.52	2.53	25.01	187.1	11230	16.17
2.04	17.96	134.4	8061	1.61	2.54	25.16	188.3	11290	16.26
2.05	18.10	135.4	8122	1.70	2.55	25.32	189.4	11360	16.36
2.06	18.23	136.4	8183	1.78	2.56	25.47	190.5	11430	16.46
2.07	18.37	137.4	8245	1.87	2.57	25.62	191.7	11500	16.55
2.08	18.51	138.4	8306	1.96	2.58	25.78	192.8	11570	16.66
2.09	18.64	139.5	8367	2.05	2.59	25.93	194.0	11640	16.76
2.10	18.78	140.5	8429	2.14	2.60	26.08	195.1	11710	16.86
2.11	18.92	141.5	8491	2.23	2.61	26.24	196.3	11780	16.96
2.12	19.06	142.6	8553	2.32	2.62	26.39	197.5	11850	17.06
2.13	19.20	143.6	8615	2.41	2.63	26.55	198.6	11920	17.16
2.14	19.33	144.6	8677	2.50	2.64	26.70	199.8	11980	17.26
2.15	19.47	145.7	8740	2.59	2.65	26.86	200.9	12050	17.36
2.16	19.61	146.7	8802	2.68	2.66	27.02	202.1	12120	17.46
2.17	19.75	147.8	8865	2.77	2.67	27.17	203.3	12190	17.56
2.18	19.89	148.8	8928	2.86	2.68	27.33	204.4	12270	17.66
2.19	20.03	149.9	8991	2.95	2.69	27.49	205.6	12340	17.76
2.20	20.17	150.9	9054	3.04	2.70	27.64	206.8	12410	17.87
2.21	20.32	152.0	9118	3.13	2.71	27.80	208.0	12480	17.97
2.22	20.46	153.0	9181	3.22	2.72	27.96	209.2	12550	18.07
2.23	20.60	154.1	9245	3.31	2.73	28.12	210.3	12620	18.17
2.24	20.74	155.2	9309	3.41	2.74	28.28	211.5	12690	18.27
2.25	20.88	156.2	9373	3.50	2.75	28.43	212.7	12760	18.38
2.26	21.03	157.3	9437	3.59	2.76	28.59	213.9	12830	18.48
2.27	21.17	158.4	9501	3.68	2.77	28.75	215.1	12900	18.58
2.28	21.31	159.4	9566	3.77	2.78	28.91	216.3	12980	18.69
2.29	21.46	160.5	9630	3.87	2.79	29.07	217.5	13050	18.79
2.30	21.60	161.6	9695	3.96	2.80	29.23	218.7	13120	18.89
2.31	21.75	162.7	9760	4.05	2.81	29.39	219.9	13190	19.00
2.32	21.89	163.8	9825	4.15	2.82	29.56	221.1	13260	19.10
2.33	22.04	164.9	9890	4.24	2.83	29.72	222.3	13340	19.21
2.34	22.18	165.9	9955	4.34	2.84	29.88	223.5	13410	19.31
2.35	22.33	167.0	10020	4.43	2.85	30.04	224.7	13480	19.41
2.36	22.47	168.1	10090	4.53	2.86	30.20	225.9	13550	19.52
2.37	22.62	169.2	10160	4.62	2.87	30.37	227.2	13630	19.62
2.38	22.77	170.3	10230	4.72	2.88	30.53	228.4	13700	19.73
2.39	22.92	171.4	10300	4.81	2.89	30.69	229.6	13770	19.84
2.40	23.06	172.5	10370	4.91	2.90	30.85	230.8	13850	19.94
2.41	23.21	173.6	10440	5.00	2.91	31.02	232.0	13920	20.05
2.42	23.36	174.8	10510	5.10	2.92	31.18	233.3	13990	20.15
2.43	23.51	175.9	10580	5.19	2.93	31.35	234.5	14070	20.26
2.44	23.66	177.0	10650	5.29	2.94	31.51	235.7	14140	20.37
2.45	23.81	178.1	10720	5.39	2.95	31.68	237.0	14220	20.47
2.46	23.96	179.2	10790	5.48	2.96	31.84	238.2	14290	20.58
2.47	24.11	180.3	10860	5.58	2.97	32.01	239.4	14360	20.69
2.48	24.26	181.5	10930	5.68	2.98	32.17	240.7	14440	20.79
2.49	24.41	182.6	10990	5.77	2.99	32.34	241.9	14510	20.90
2.50	24.56	183.7	11020	5.87	3.00	32.51	243.2	14590	21.01

12-8: 2 ft. Parshall Flume Discharge Table

Formulas: CFS = 8.000H^{1.550} GPS = CFS x 7.481
 GPM = CFS x 448.8 MGD = CFS x 0.6463

Head Feet	CFS	GPS	GPM	MGD	Head Feet	CFS	GPS	GPM	MGD
0.01	0.0064	0.0475	2.852	0.0041	0.51	2.817	21.08	1264	1.821
0.02	0.0186	0.1392	8.351	0.0120	0.52	2.903	21.72	1303	1.876
0.03	0.0349	0.2610	15.66	0.0225	0.53	2.990	22.37	1342	1.933
0.04	0.0545	0.4076	24.45	0.0352	0.54	3.078	23.03	1382	1.989
0.05	0.0770	0.5760	34.56	0.0498	0.55	3.167	23.69	1421	2.047
0.06	0.1021	0.7642	45.84	0.0660	0.56	3.257	24.36	1462	2.105
0.07	0.1297	0.9704	58.22	0.0838	0.57	3.347	25.04	1502	2.163
0.08	0.1595	1.194	71.60	0.1031	0.58	3.439	25.73	1543	2.222
0.09	0.1915	1.433	85.94	0.1238	0.59	3.531	26.42	1585	2.282
0.10	0.2255	1.687	101.2	0.1457	0.60	3.624	27.11	1627	2.342
0.11	0.2614	1.955	117.3	0.1688	0.61	3.718	27.82	1669	2.403
0.12	0.2991	2.238	134.2	0.1933	0.62	3.813	28.53	1711	2.465
0.13	0.3386	2.533	152.0	0.2188	0.63	3.909	29.24	1754	2.526
0.14	0.3798	2.842	170.5	0.2455	0.64	4.006	29.97	1798	2.589
0.15	0.4227	3.162	189.7	0.2732	0.65	4.103	30.69	1841	2.652
0.16	0.4672	3.495	209.3	0.3019	0.66	4.201	31.43	1886	2.715
0.17	0.5132	3.839	230.3	0.3317	0.67	4.300	32.17	1930	2.779
0.18	0.5607	4.195	251.7	0.3624	0.68	4.400	32.92	1975	2.844
0.19	0.6098	4.562	273.7	0.3941	0.69	4.501	33.67	2020	2.909
0.20	0.6602	4.939	296.3	0.4267	0.70	4.602	34.43	2066	2.975
0.21	0.7121	5.327	319.6	0.4602	0.71	4.705	35.20	2112	3.041
0.22	0.7653	5.725	343.5	0.4946	0.72	4.808	35.97	2158	3.107
0.23	0.8198	6.134	368.0	0.5299	0.73	4.912	36.75	2204	3.174
0.24	0.8758	6.552	393.1	0.5660	0.74	5.016	37.53	2251	3.242
0.25	0.9330	6.980	418.7	0.6030	0.75	5.122	38.32	2299	3.310
0.26	0.9915	7.418	445.0	0.6408	0.76	5.228	39.11	2346	3.379
0.27	1.051	7.864	471.8	0.6794	0.77	5.335	39.91	2394	3.448
0.28	1.112	8.320	499.2	0.7188	0.78	5.443	40.72	2443	3.518
0.29	1.174	8.786	527.1	0.7590	0.79	5.552	41.53	2492	3.586
0.30	1.238	9.260	555.5	0.7999	0.80	5.661	42.35	2541	3.659
0.31	1.302	9.742	584.5	0.8417	0.81	5.771	43.17	2590	3.730
0.32	1.368	10.23	613.9	0.8841	0.82	5.882	44.00	2640	3.801
0.33	1.435	10.73	643.9	0.9273	0.83	5.993	44.84	2690	3.873
0.34	1.503	11.24	674.4	0.9712	0.84	6.106	45.68	2740	3.946
0.35	1.572	11.76	705.4	1.016	0.85	6.219	46.52	2791	4.019
0.37	1.713	12.82	766.9	1.107	0.87	6.447	48.23	2893	4.167
0.38	1.785	13.36	801.3	1.154	0.88	6.562	49.09	2945	4.241
0.39	1.859	13.91	834.2	1.201	0.89	6.678	49.96	2997	4.316
0.40	1.933	14.46	867.6	1.249	0.90	6.795	50.83	3049	4.391
0.41	2.009	15.03	901.5	1.298	0.91	6.912	51.71	3102	4.467
0.42	2.085	15.60	935.8	1.348	0.92	7.030	52.59	3155	4.544
0.43	2.163	16.18	970.6	1.398	0.93	7.149	53.48	3208	4.620
0.44	2.241	16.76	1006	1.448	0.94	7.268	54.37	3262	4.698
0.45	2.320	17.36	1041	1.500	0.95	7.389	55.27	3316	4.775
0.46	2.401	17.96	1078	1.552	0.96	7.509	56.18	3370	4.853
0.47	2.482	18.57	1114	1.604	0.97	7.631	57.09	3425	4.932
0.48	2.565	19.19	1151	1.657	0.98	7.753	58.00	3480	5.011
0.49	2.648	19.81	1188	1.711	0.99	7.876	58.92	3535	5.090
0.50	2.732	20.44	1226	1.766	1.00	8.000	59.85	3590	5.170

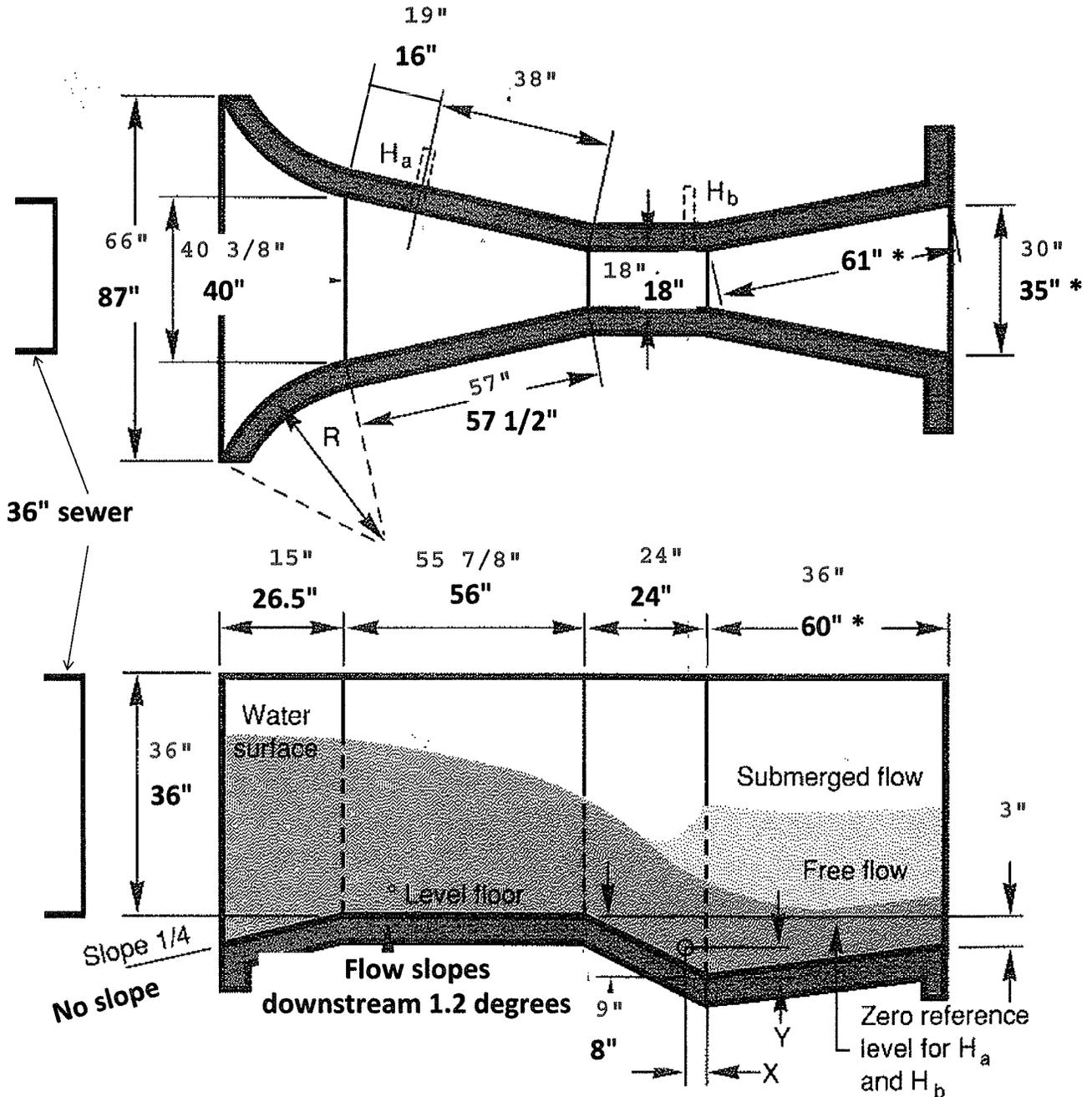
Exhibit C

Figure with Parshall Flume Dimensions (specified and field measured)

BROOKTRAILS CSD REVIEW OF CITY OF WILLITS WWTP INFLUENT FLOW METER
COMPARISON OF THE INSTALLED FLUME DIMENSIONS WITH THE SPECIFIED PARSHALL FLUME CONFIGURATION

Dimensions specified for an 18" Parshall Flume are in this font.

Dimensions measured at the site are in this font.



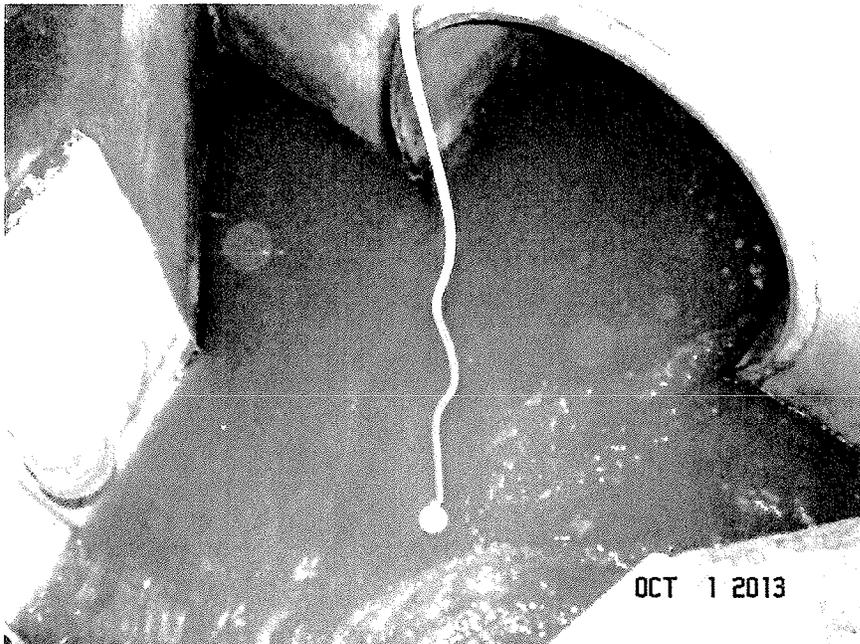
* Measurement to wall of vault, not end of flume structure

Drawing is not to scale.

Exhibit D

Photographs

Exhibit D
Photographs of the Flume

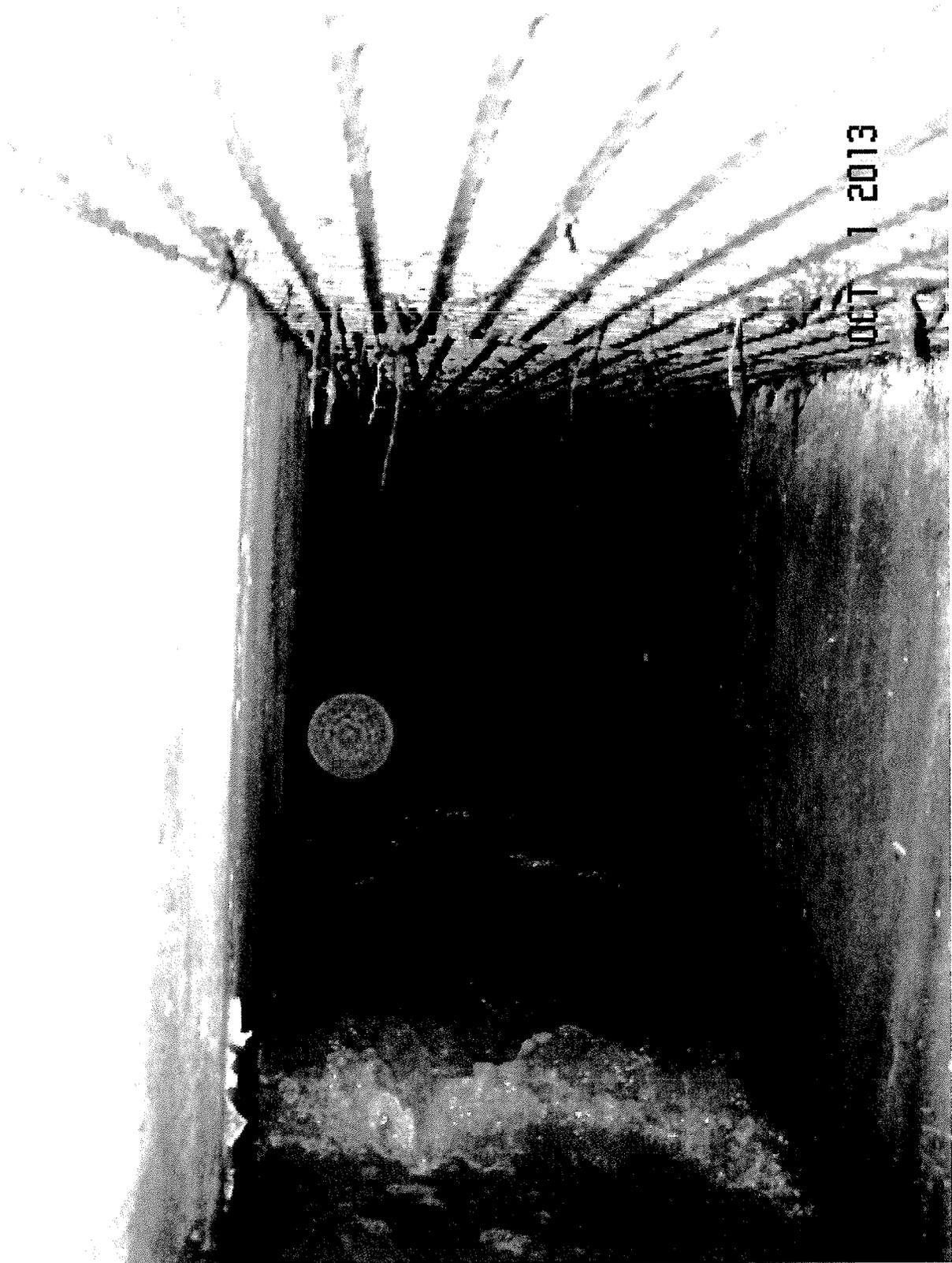


1. Inlet to flume. 36" sewer at upper right. Staff gauge and ultrasonic level device at lower left. Device at center is gas detection device for confined space entry.



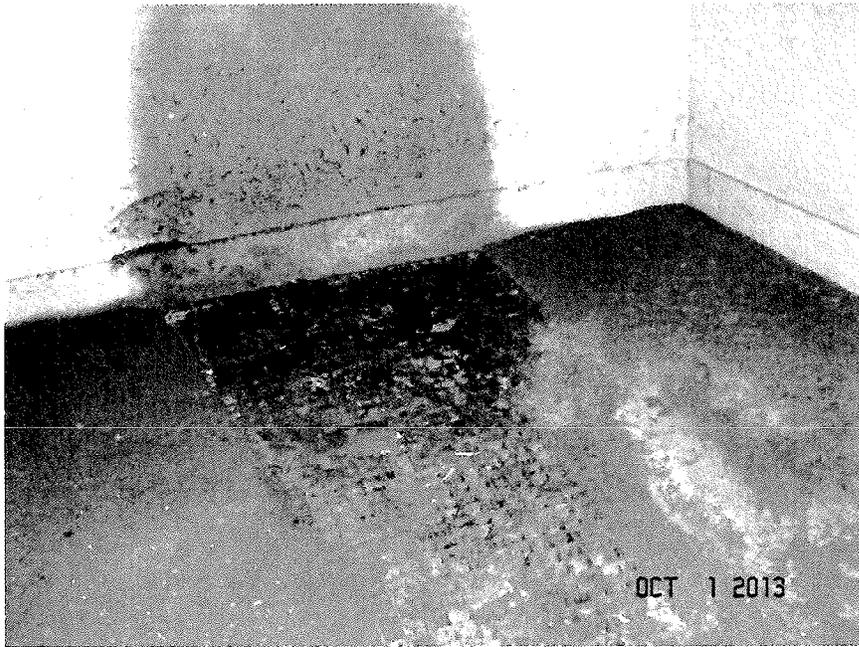
2. Flume inlet with staff gauge and ultrasonic level instrument. The upstream sewer had been blocked and flow is just starting again.

Exhibit D
Photographs of the Flume

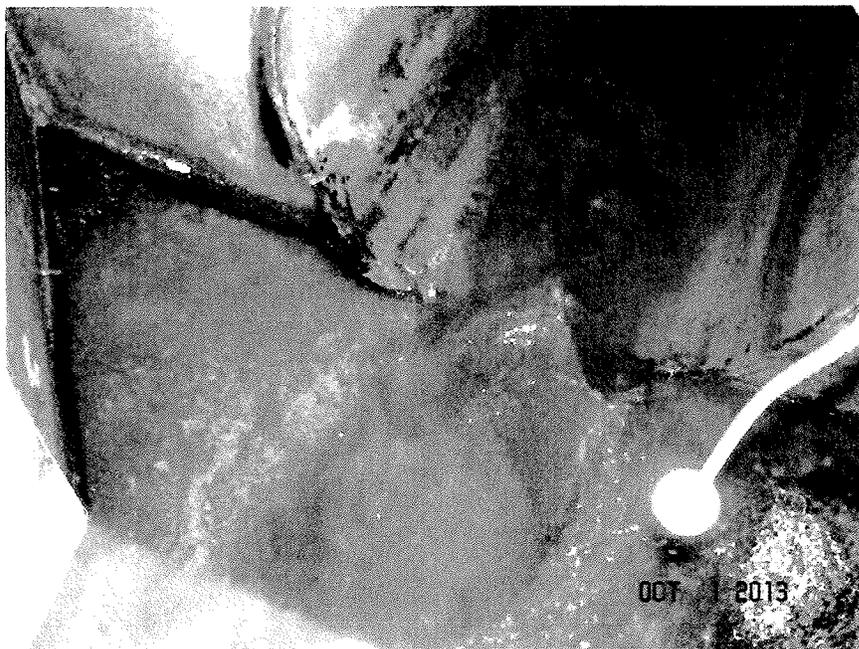


3. Looking through the flume downstream. A hydraulic jump is visible in the foreground.

Exhibit D
Photographs of the Flume



4. Debris on floor and obstructing grating above the flume outlet.



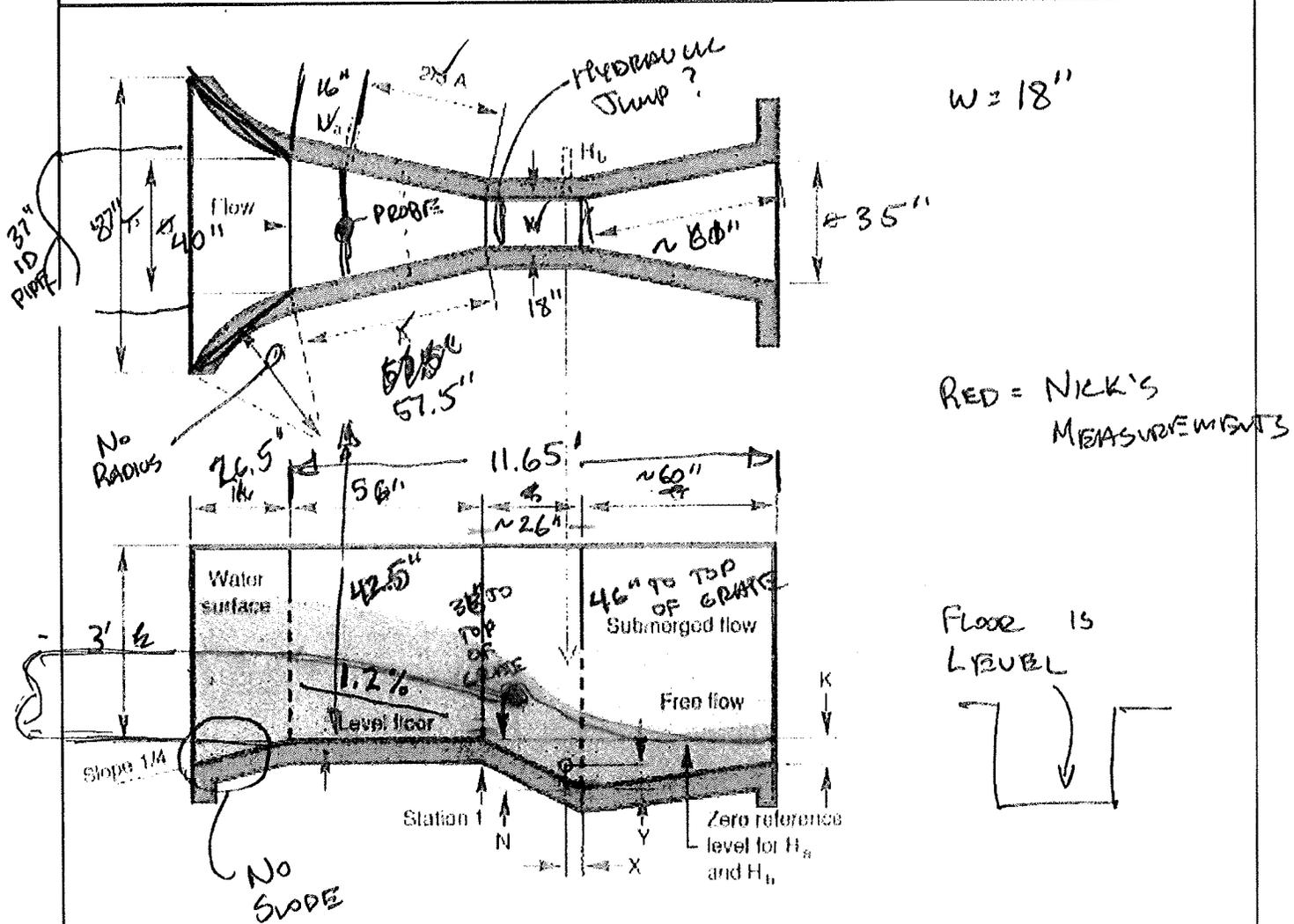
5. Inlet flow during period that pig was being deflated, with waves visible

Exhibit E
Field Observation Sheets

Date: October 1, 2013 @ _____

Project Information	
Project:	City of Willits WWTP Influent Meter
Owner / Agency:	Brooktrails TCSD
Personnel and Information	
Site:	City of Willits Wastewater Treatment Plant
Personnel at Site:	Sarah Yardley (B&R), Benjamin Bryant (B&R),
Activities:	Measure dimensions and alignments of Parshall Flume. Compare measured water depth in flume with readings at plant SCADA.

Flume Measurements



Longitudinally Level?
Transversely Level?

Field Observations

Upstream Channel:

Length _____

Obstructions? _____

Description _____

Downstream Channel:

Length _____

Obstructions? _____

Description _____

Flow Characteristics

Upstream Water Surface _____

Approaching Flow Distribution _____

Downstream Hydraulic Jump? _____

Downstream Submergence? _____

Flow/Depth Measurements - *using clipboard for bits*

Time	Water depth, feet <i>met</i>	Flow - WWTP reading*	Flow - Table <i>gpm</i>	Comments
11:30	30 ^{2.15}	797 10682 807	11020	
	28 ^{2.33}	9133 4147 4200	9890	
	16 ^{1.33}	4122 4139	4175	
	14 ^{1.17}	3027 3220	3428	
	12 ^{1.00}	2403 2466 2405	2693	
	10 ^{0.83}	1889 1910 1906	2020	
	8 ^{0.67}	1210 1304 1299	1454	
	6 ^{0.5}	978 909 1029	927	
	4 ^{0.33}	462 460 464	489	
	2 ^{0.17}	459 459	176	

.WWTP 1.5 ^{0.125} ~~459~~ 120 110

Field Observations

Upstream Channel:

Length _____
Obstructions? _____
Description _____

Downstream Channel:

Length _____
Obstructions? _____
Description _____

Flow Characteristics

Upstream Water Surface _____
Approaching Flow Distribution _____
Downstream Hydraulic Jump? _____
Downstream Submergence? _____

Flow/Depth Measurements

sewage

Time	Water depth, feet	Flow - WWTP reading*	Flow - Table	Comments
12:19	0.2	φ		
	0.3	φ		
	0.35	φ		
	0.4	φ 554		
	0.5	693		
		696		
	0.55	812		
	0.6	1003		
		877 998		
	0.65	884		
	0.7	1155		
	0.7	1369		
	0.74	1457 1457		
	0.78	1478		
	0.8	1493		
	0.8	1612	<i>Peak</i>	<i>pulling pi</i>

WWTP _____

Exhibit F

Comparison of displayed flows with values in Parshall Flume discharge table

BROOKTRAILS CSD REVIEW OF CITY OF WILLITS WWTP INFLUENT PARSHALL FLUME
COMPARISON OF SCADA FLOW READINGS WITH TABULATED FLUME FLOW VALUES, FOR MEASURED WATER DEPTHS

allowable error
-3%

TRIAL NO.1 - USE OF BOARD TO SIMULATE WATER DEPTH

Board Height*, feet	Flow Readings Recorded from Treatment Plant Operator Interface, gpm					Flow Values from Parshall Flume Discharge Table, gpm			Potential Percent Error due to Visual Measurement Method	Difference in flow***		Acceptable error (allowable + meas't errors)	Was read within acceptable error?
	Read No.1	Read No.2	Read No.3	Read No.4	Read No.5	Average**	for Ht -0.02'	for Ht +0.02'		gpm	percent		
2.50	997	10,682	807			10,682	10,890	11,160	-1.2% to 1.3%	-338	-3.1%	-4.2%	YES
2.33	9,773	9,747	9,800			9,773	9,760	9,890	-1.3% to 1.3%	-117	-1.2%	-4.3%	YES
1.33		4,122	4,139			4,131	4,079	4,175	-2.2% to 2.3%	-44	-1.1%	-5.2%	YES
1.17		3,037	3,220			3,129	3,339	3,428	-2.5% to 2.7%	-299	-8.7%	-5.5%	NO
1.00	2,403	2,406	2,405			2,405	2,610	2,693	-3.0% to 3.1%	-288	-10.7%	-6.0%	NO
0.83	1,889	1,910	1,906			1,908	1,947	2,022	-3.6% to 3.7%	-114	-5.6%	-6.6%	YES
0.67	1,310	1,304	1,299			1,304	1,388	1,454	-4.3% to 4.7%	-150	-10.3%	-7.3%	NO
0.50	927	809	1,029			922	871	927	-5.7% to 6.3%	-5	-0.5%	-8.7%	YES
0.33	462	460	464			462	444	489	-8.4% to 9.6%	-27	-5.5%	-11.4%	YES
0.17		459	459			459	146	176	-14.4% to 18.8%	283	160.8%	21.8%	NO
0.13		459	120			120	90	117	-18.5% to 24.8%	3	2.6%	27.8%	YES

7 of 11 were within allowable error + measurement error

TRIAL NO.2 - MEASUREMENT OF WATER DEPTH AS INFLATED PIG WAS REMOVED FROM THE SEWER

Water Depth*, feet	Flow Readings Recorded from Treatment Plant Operator Interface, gpm					Flow Values from Parshall Flume Discharge Table, gpm			Potential Percent Error due to Visual Measurement Method	Difference in flow***		Acceptable error (allowable + meas't errors)	Was read within acceptable error?
	Read No.1	Read No.2	Read No.3	Read No.4	Read No.5	Average**	for Ht -0.02'	for Ht +0.02'		gpm	percent		
0.20	0	0	0			0	193	227	-13.0% to 15.4%	-227	-100.0%	-16.0%	NO
0.30	0	0	0			0	380	423	-9.2% to 10.4%	-423	-100.0%	-12.2%	NO
0.35	0	0	0			0	489	536	-8.0% to 9.0%	-536	-100.0%	-11.0%	NO
0.40	0	554	696			554	608	658	-7.1% to 7.8%	-104	-15.8%	-10.1%	NO
0.50	812	693	696			695	871	927	-5.7% to 6.3%	-232	-25.0%	-8.7%	NO
0.60	1,003	877	998			959	1,014	1,074	-5.3% to 5.6%	-262	-24.4%	-8.3%	NO
0.65	884					884	1,165	1,227	-4.8% to 5.2%	-268	-21.8%	-7.8%	NO
0.70	1,155	1,369				1,262	1,323	1,388	-4.5% to 4.8%	-504	-36.3%	-7.5%	NO
0.74	1,457					1,457	1,488	1,556	-4.2% to 4.4%	-294	-18.9%	-7.2%	NO
0.78	1,478					1,478	1,625	1,695	-4.0% to 4.2%	-238	-14.0%	-7.0%	NO
0.80	1,493	1612				1,612	1,766	1,838	-3.8% to 4.0%	-360	-19.6%	-6.8%	NO
0.85	1,846	1836				1,841	1,838	1,911	-3.7% to 3.8%	-299	-15.6%	-6.7%	NO
0.90	1,891	1,838	2178	1967	1974	2,040	2,022	2,097	-3.4% to 3.7%	-256	-12.2%	-6.4%	NO
0.95	2,129	2128				2,129	2,212	2,290	-3.3% to 3.4%	-250	-10.9%	-6.3%	NO
1.00	2,128	2281	2297	2305	2,294	2,294	2,408	2,489	-3.2% to 3.3%	-360	-14.5%	-6.2%	NO
1.08	2,305	2488	2498	2497	2,494	2,494	3,031	3,031	0.0% to 2.9%	-537	-17.7%	-3.0%	NO

Average percent difference between displayed and discharge table flow values -18.7%

All displayed flow values were greater than table readings + allowable error + measurement error

*Field measurement

**Values not used in average are shown as crossed-out.

*** Difference between value from discharge table and value read at operator interface

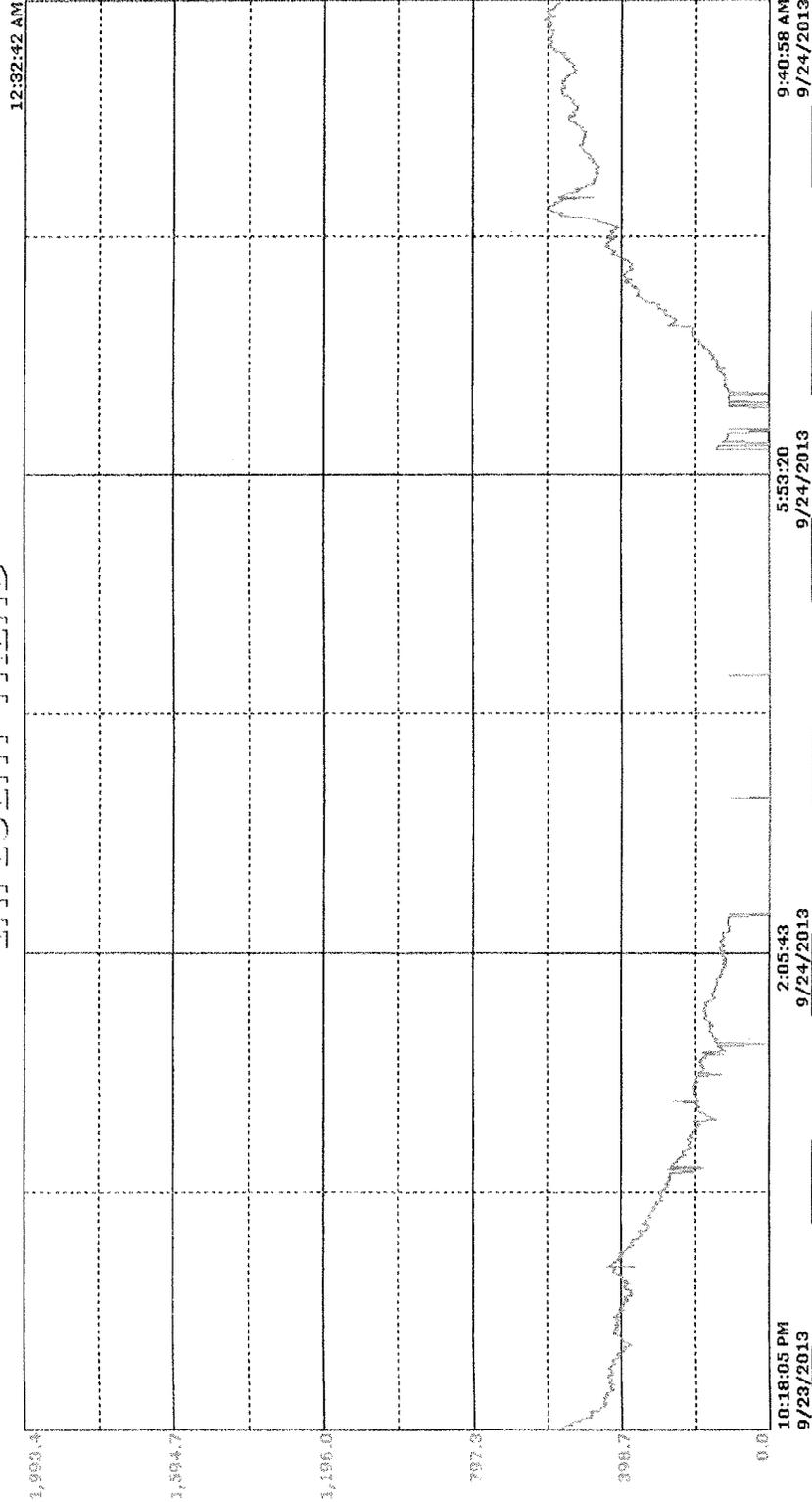
Exhibit G

City WWTP SCADA trending graph for influent flow, morning of October 1, 2013

Exhibit H

**City WWTP SCADA trending graphs for influent flow, night hours of September 24 and
October 1, 2013**

INFLUENT TREND



12:52:42 AM | 5:53:20 | 9/24/2013 | 9:40:58 AM | 9/24/2013

Units:

Influent	Grit	Aeration Blowers	Aeration Basin 1	Aeration Basin 2	RAS/WAS	Aerobic Digester	Aerobic Digester #2	UV / Effluent	Utility Water	Irrigation / Wetlands	Buildings
9/30/2013 11:42:13 PM		B-613 Aeration Blower #3 Comms Fail Alarm									
9/30/2013 11:42:47 PM		B-613 Aeration Blower #3 Comms Fail Alarm									
9/30/2013 11:41:47 PM		B-613 Aeration Blower #3 Comms Fail Alarm									
9/30/2013 11:41:43 PM		B-613 Aeration Blower #3 Comms Fail Alarm									
9/30/2013 11:40:43 PM		B-613 Aeration Blower #3 Comms Fail Alarm									
9/30/2013 11:30:30 PM		B-613 Aeration Blower #3 Comms Fail Alarm									

Caption: Min Max | Plant Influent Flow | 0.0 | 1,993.4 gpm

System Alarm Acknowledge: Floodworks Building | Operations Building | Solids Building | Irrigation Pump Sta | System Alarm Reset

Ack Page: Ack All

Des: Clear

Subject: RE: Sewage system meter readings
From: "Joanne Cavallari" <Joanne@WillitsCity.com>
Date: 10/1/2012 9:05 AM
To: "Mike Phelan", "Lori Mayo"
CC: "Paul Cayler"

Good Morning Mike & Lori:

The readings for August 1, September 1, and October 1 are:

	<u>Influent</u>	<u>Brooktrails (External)</u>
August 1	4,728,892	645,153
September 1	4,754,995	650,754
October 1	4,779,590	656,258

Let me know if you need any other information.

Joanne



Item No. 11a

Meeting Date: November 12, 2014

AGENDA SUMMARY REPORT

To: Honorable Mayor and Council Members

From: Mayor Holly Madrigal

Agenda Title: REVIEW AND DISCUSSION OF ADMINISTRATIVE DRAFT MUNICIPAL SERVICE REVIEW (MSR)

Type: Presentation Consent Regular Agenda Public Hearing Urgent Time: 20 min.

Summary of Request: Local agencies are required to update their Municipal Service Review (MSR) and Sphere of Influence (SOI) every five years. The Local Agency Formation Commission (LAFCo) has submitted the City of Willits' Administrative Draft Municipal Service Review (MSR) for the City Council's review and comment.

The purpose of the MSR is to collect data in order to provide a comprehensive analysis of service provision by the City. The MSR evaluates the structure and operation of the City and discusses possible areas for improvement, coordination, or changes to the SOI. Key sources for this study included agency-specific information gathered through a questionnaire, strategic plans, general plans, websites, financial reports, agency audits, research, personal communication, and the MSR Guidelines published by the Governor's Office of Planning and Research.

The MSR also provides the necessary information to help LAFCO make decisions on proposed SOI updates. In evaluating proposed SOI's, the MSR provides the information necessary to determine if the agency has the capability to serve a larger area. Alternatively, the MSR can recommend changes of organization: consolidation, dissolution, merger, establishment of a subsidiary district, or the creation of a new agency that typically involves a consolidation of agencies.

Comments are requested as soon as possible so that they will be considered in time for LAFCo's meeting on December 1st.

Recommended Action: No formal action required; rather, provide comments on the Administrative Draft Municipal Service Review (MSR) no later than November 21st.

Alternative(s): N/A

Fiscal Impact: N/A

Personnel Impact: N/A

Reviewed by: City Manager City Attorney Finance Director Human Resources Risk

Council Action: Approved Denied Other: _____

Records: Agreement Resolution # _____ Ordinance # _____ Other _____

**MENDOCINO
LOCAL AGENCY FORMATION COMMISSION**

**ADMINISTRATIVE DRAFT
MUNICIPAL SERVICE REVIEW**

CITY OF WILLITS

OCTOBER 2014

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1. AGENCY OVERVIEW

The City of Willits is a direct provider of: Administrative Services including City Council, City Manager, Human Resources, and Finance/Treasurer; Law Enforcement; Community Development including planning and building inspection; Project Engineering; Seasonal Recreation; Public Works including streets, bridges, traffic safety, storm drains, sidewalks, city buildings and facilities, park maintenance, and landfills; Water supply, treatment and distribution; and Wastewater collection, treatment and disposal. By agreement, the City provides wastewater treatment and disposal services for the Brooktrails Township Community Services District and the Meadowbrook Manor Sanitation District. The City also owns and manages the City Airport. The City contracts with Solid Waste of Willits, Inc. for solid waste services and recycling. The Little Lake Fire Protection District provides fire protection services.

FORMATION

The City of Willits (formerly Little Lake and Willitsville) was incorporated on November 19, 1888 and is a General Law City with a City Council-City Manager form of government.

BOUNDARY

The City is located in the central portion of Mendocino County within Little Lake Valley and 20 miles north of Ukiah along US Highway 101 (The Redwood Highway). The City lies in the coastal mountains and is known as "The Gateway to the Redwoods." There are no unincorporated islands within the City Limits. The City of Willits has a total land area of 2.82 square miles (1,804 acres), of which 2.65 square miles comprise the City proper.

The most recent addition to the City's boundary was the "Southeast Annexation" in 1986, which added 260 acres to the City and is zoned for a variety of uses. The annexation area is partially developed, and includes the new Frank R. Howard Memorial Hospital which is scheduled to open in 2015. In June of 2014, a 5.5 acre discontinuous parcel that was the site of the City's former water treatment plant and now in private ownership was detached from the City as required by law. No subsequent actions relating to Willits annexations, detachments, boundaries or SOI have occurred. (Refer to Figure 1: City of Willits Map)

There are two discontinuous islands of City territory: the City Airport, located on 73 acres northwest of the City; and the City Water Treatment Plant, located on 34 acres southeast of the City. (Refer to 'Outlying City Areas' on Figure 1)

SPHERE OF INFLUENCE

There is no information available to indicate that a Sphere of Influence (SOI) has been adopted by Mendocino LAFCo for the City of Willits. The City's 1992 General Plan Planning Area is limited to the then (and current) City Limits. The current SOI for the City is considered to be coterminous with the current City boundary. (Refer to Figure 1)

The City's General Plan identifies an area in the southwest quadrant (approximately 250-acres) for future annexation and development. Depending on the City's ability to provide municipal services to this area, consideration should be given to adding this area to the City's SOI. A small peninsula on the east side of the City between Commercial Street and Center Valley Road has also been proposed for inclusion in the SOI.

When the City SOI is updated, consideration should also be given with respect to including the City Airport and the City Water Treatment Plant within the SOI.

Extra Territorial Services

The City provides an unknown number (15 at last count) water and sewer connections to individual parcels outside the City Limits; some of which received LAFCo approval and some that did not. As a starting point, these out-of-agency service connections should be definitively identified and considered for inclusion in the SOI as a first step toward annexation. Most of these out-of-agency services are located in the Della Avenue and Locust Street area (which is within the future annexation area described above), but also include other fringe areas outside City Limits.

Through an agreement executed in November of 1995, the City provides water and sewer service to the Sherwood Valley Indian Rancheria. The service area is located just south of the existing southwest City Limits and includes residential units, the Tribe's gaming facility (casino), and its community center. The agreement provides for the water needs of up to 50 residential units or their functional equivalent.

Areas of Interest

The City has expressed concerns regarding land use and future development adjacent to the two interchanges being constructed as part of the Willits Highway 101 Bypass project. One interchange is located just north of the current City limits and is designated by Mendocino County as Agriculture (40-acre minimum lot size) on the east, and Suburban Residential on the west. The second interchange is located south of the City, east of Walker Road. This area is designated by the County as Range Land on the east and Remote Residential (20-acre lots) and Rural Residential (1-acre lots) on the west.

As part of the City's SOI Update, and pursuant to Government Code Section 56425(b), the City is required to meet and confer with the County with respect the SOI proposal, development standards, and planning and zoning requirements. This will allow the City the opportunity to address their concerns.

The discussion framework will also be related to the County's Community Plan for the Willits Area, including the following:

Goal CP-W-1: Coordinate planning and development of the area around Willits in a manner that will complement the City of Willits' role as the local center for services and civic life.

Goal CP-W-3: Adopt planning policies to govern new development opportunities along the State Route 101 Willits Bypass route east of the City in advance of development demand.

Policy CP-W-1: Places and facilities that create a sense of community should be established in the Willits area.

Policy CP-W-2: The County will work with the City of Willits to create a unified community encompassing urban development both within and adjacent to the City.

Policy CP-W-3: Residential uses in the unincorporated area should be focused in areas south of the City of Willits and in the Brooktrails Township (as supported by necessary water and sewer service connections).

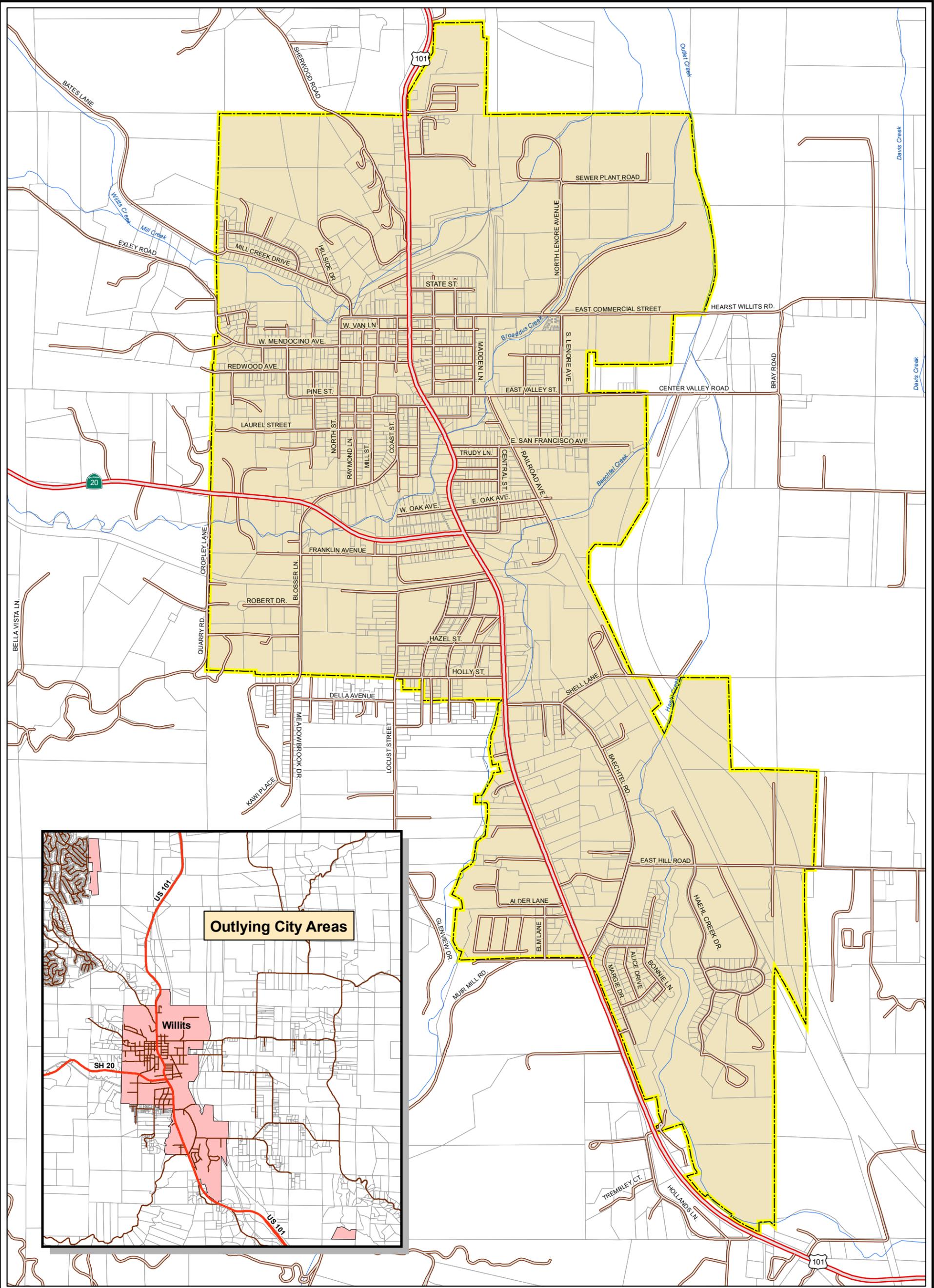
Policy CP-W-5: The County shall seek to maximize the compatibility of the US 101 Willits Bypass with community identity and the protection of economic ventures and agricultural resources.

Policy CP-W-6: The County shall actively plan for changes in circulation and associated effects that will accompany the US 101 Willits Bypass. The following concepts shall be included in the County's plans for the Willits area when the Bypass is complete:

- Maintain land use patterns as they existed in 2007 around the Bypass interchanges unless contiguous to the City.
- New development should be focused on the western side of the Bypass.
- The side of the Bypass closest to the City should develop first before permitting development to the "outside" of the Bypass.
- Create substantial green space buffers around the Bypass ramps reflecting a rural perspective and mitigating the visual impacts of new development where allowed.
- Avoid locating highway commercial uses (gas stations, fast food, convenience store, etc.) within green space buffers around the Bypass ramps.

Figure 1: City of Willits Map

[Refer to attached map.]



City of Willits

Source: This map was created by the Mendocino County Department of Information Services GIS Program, April 2013.

Note: This map is not a survey product.

- City of Willits
- Parcels
- Highways
- Roads
- Streams



ACCOUNTABILITY AND GOVERNANCE

Accountability of a governing body is signified by a combination of several indicators. The indicators chosen here are limited to: 1) agency efforts to engage and educate constituents through outreach activities, in addition to legally required activities such as agenda posting and public meetings; 2) a defined complaint process designed to handle all issues to resolution; and 3) transparency of the agency as indicated by cooperation with the MSR process and information disclosure.

Willits is a General Law City under the California Constitution, and operates as a City Council-City Manager form of government. The City Council has five members elected at large to four-year terms. The Willits City Council meets each month on the second and fourth Wednesday at 6:30 PM. Meetings are held in the City Council Chamber at City Hall, 111 E. Commercial Street. The City Council also serves as the Planning Commission and the Community Development Agency (successor to the Willits Redevelopment Agency). Council Members serve on various committees including Finance, Revitalization and Economic Development (Revit-ED), and Water & Wastewater Systems.

The City Manager is the administrative officer for the City and reports to the City Council. The City Manager is also the City Clerk, the Risk Manager, the Director of Emergency Services and the Human Resources Director.

Current Council Members, positions, and terms are shown in Figure 2, along with contact information and meeting information. City Council Members do not receive a meeting stipend or salary. The City contributes \$7,331 annually for the Mayor's health coverage, and \$14,886 annually for the four Council Members' health coverage.

City posts public documents, including agendas and agenda packets on its website. The Agenda packets include City Council Draft Minutes, Staff Reports ('Agenda Summary Reports'), proposed resolutions and ordinances, and technical data and information. City Council Agendas are also posted on the bulletin board at the main entrance to City Hall. City Hall office hours are 9:00 AM to 5:00 PM Monday through Friday.

City Council elections are held in November of even numbered years. The most recent election, held on November 6, 2012 involved five candidates vying for three Council seats and a total voter turnout of 64.9%. The 2010 General Election involved three candidates vying for two seats and a voter turnout of 58.3%. The election in 2008 involved seven candidates for three positions and a voter turnout of 73.4%.

The City of Willits demonstrated accountability in its disclosure of information and cooperation with LAFCo questionnaires and interview requests. The agency responded to LAFCo's written questionnaires and document requests, and participated in interviews.

Figure 2: Willits Governing Body

City of Willits				
City Administration				
Contact:	Adrienne Moore, City Manager			
Address:	City Hall, 111 E. Commercial Street, Willits CA 95490			
Telephone:	707-459-4601			
E-mail/Website:	amoore@willitscity.com www.thecityofwillits.com			
City Council				
Member Name	Position	Term Expiration	Manner of Selection	Length of Term
Holly Madrigal	Mayor	November 2016	Elected At-large	4 years
Ron Orenstein	Vice Mayor	November 2014	Elected At-large	4 years
Bruce Burton	Council Member	November 2016	Elected At-large	4 years
Larry Stranske	Council Member	November 2014	Elected At-large	4 years
Madge Strong	Council Member	November 2016	Elected At-large	4 years
Meetings				
Date:	2nd and 4th Wednesday of each month, 6:30 PM			
Location:	Council Chambers, 111 E. Commercial Street, Willits			
Agenda Distribution:	Posted on the City website, plus City Hall bulletin board main entrance			
Minutes Distribution:	Available on the City website; along with agendas and staff reports.			

Citizen complaints may be filed with the City Clerk. Appropriate City staff members are then responsible for resolving complaints; or if not resolved, referred to the City Manager and/or the City Council. No complaints have been filed with the City during the past two years. The Police Department has a formal complaint resolution process, including determinations on whether the complaint was unfounded, exonerated, not sustained, or sustained. For 2013, the Police Department received three non-criminal complaints and one felony criminal complaint. For 2012, the Police Department received two non-criminal complaints. None of these complaints were sustained.

MANAGEMENT AND STAFFING

While public sector management standards vary depending on the size and scope of the organization, there are minimum standards. Well-managed organizations evaluate employees annually, track employee and agency productivity, periodically review agency performance, prepare a budget before the beginning of the fiscal year, conduct periodic financial audits to safeguard the public trust, maintain relatively current financial records, conduct advanced planning for future service needs, and plan and budget for capital needs.

The City of Willits has ten departments: City Council, City Administration, Finance, Police, Community Development, Engineering, Seasonal Parks/Recreation, Public Works, Sewer Treatment, and Water Treatment. The City employs 65 staff members on a full time or part time basis for a total of 58.83 full time equivalent (FTE) positions. The number of FTEs by department are as follows: City Council – 5.0; City Administration – 3.0; Finance – 4.0; Police – 19.45; Community Development – 2.5; Engineering – 2.24; Seasonal Parks/Recreation – 2.14; Public Works – 8.5; Sewer Treatment – 7.-; Water Treatment – 5.0.

The City has adopted a Mission Statement, but does not have a Code of Conduct.

All line employees are evaluated annually by their department heads. Department heads are evaluated annually by the City Manager. The City Manager is evaluated annually by the City Council. The last City Manager evaluation was held on July 23, 2014. An evaluation form is utilized for all evaluations and follows prescribed steps.

All employees submit detailed time sheets by job task. This is important because of an employee working in more than one department during a pay period. All time sheets are reviewed by the City Manager and entered into the bookkeeping system by the Finance Department. In consultation with the City Council, the City Manager manages employee workload and makes adjustments as necessary. The City does not conduct bench-marking or other evaluation measures.

The City normally prepares a preliminary budget in March of each year, which is reviewed in detail by the City Council at scheduled budget workshop meetings. The Final Budget is then presented to the Council for adoption in June in preparation for the new Fiscal Year which begins on July 1st. However, in the most recent budget preparation cycle, one Budget Workshop was conducted by the City Council on June 23, 2014; a Draft Budget was presented to the City Council on August 27, 2014; and the Final Budget for the 2014-15 Fiscal Year was adopted on September 24, 2014.

GROWTH AND POPULATION PROJECTIONS

This section discusses the factors affecting service demand such as land use, anticipated population growth, and future development projects.

Land Use

The City's total land area is approximately 2.82 square miles (1,804 acres). This area includes the discontinuous Airport property (73-acres), and the Water Treatment Plant property (34-acres). Total acreage of the City proper is 1,696 acres, or 2.65 square miles.

Willits has a full range of land uses in the City, ranging from low density residential through multi-family residential, retail and service commercial, manufacturing, public facilities, recreation, and undeveloped properties. The 1992 General plan identified general land use categories as follows: Residential – 650 acres (37%); Commercial – 241 acres (14%); Industrial – 646 acres (37%); Public Facilities – 174 acres (10%); and Open Space – 35 acres (2%).

As of January 2014, the State Department of Finance (DOF) estimates that there are 2,082 dwelling units in the City, of which 1,218 (59%) are single-family units, 587 (28%) are multi-family units and 277 (13%) are mobile homes. The current vacancy rate in the City is 7.7%.

According to the 2009 Draft Housing Element of the General Plan, the top ten employers in the City were: Howard Memorial Hospital (260), Willits Unified School District (225), Metal/fx Custom Manufacturing (121), Safeway Stores (107), Sherwood Valley Rancheria Casino (90), Sparetime Garden Supply (65), Ray's Food Place (60), City of Willits (52), Shusters Transportation & Logging, Inc. (42), and Microphor, Inc. Manufacturing (30).

The City also has important local services including the Willits Branch of the Mendocino County Library System, the Willits Center of Mendocino Community College, the Mendocino County Museum, The Skunk Train Excursions, Willits City Park, Recreation Grove Park, Willits Rodeo Grounds, Willits News newspaper, and the Noyo Theater.

Existing and Projected Population

According to DOF, the City of Willits has a population of approximately 4,937 as of January 2014. Since 2000, the population has declined by 136 residents or 2.7%, which is attributed to an aging population and out-migration. However, the City population increased between January 2013 and January 2014 by 33 persons, a 0.7% increase. Willits is the 428th largest city in California (out of 482 cities total); or perhaps more properly stated, the 54th smallest city in California.

The 2009 Draft Housing Element projects a City population of 7,500 at plan buildout of the General Plan in 2020. Over the past 14-years, there have been 69 new residential dwelling units constructed in the City (an average of five per year), with an approximate population of 174 (based on 2.52 persons per household).

At the current rate of residential construction, the population of Willits will be approximately 5,013 in the year 2020.

Projected Growth and Development

The current City General Plan was adopted by the City Council in August 1992 with a planning horizon to the year 2020. The General Plan contains goals and policies related to public safety services (police, fire and emergency medical services) and infrastructure (water, sanitary sewer and storm drainage).

The General Plan looked at three growth scenarios: 1.0% population growth per year; 1.7% population growth per year; and 2.5% population growth per year. The most conservative growth rate (1.0%) would result in an estimated 2020 population of 6,680, which is still higher than the actual growth rate since the year 2000. If new residential development projects come to fruition over the next six years, there would still need to be on average, 115 new dwelling units constructed each year to reach the 6,680 population by 2020.

The General Plan evaluated properties within the existing City Limits that could accommodate residential development. Twenty-seven sites were identified for both single-family and multi-family dwellings, and estimated that 1,631 residential units could be constructed on these properties. Even at the 1.0% growth rate and 115 new dwelling units per year, the amount of land available would be sufficient for the next 15-years. The lower the growth rate (currently 0.3% per year) the longer the time period required to utilize all the land identified on these 27 sites.

Disadvantaged Unincorporated Communities

LAFCo is required to evaluate disadvantaged unincorporated communities as part of this service review, including the location and characteristics of any such communities. A disadvantaged unincorporated community (DUC) is defined as any area with 12 or more registered voters where the median household income is less than 80 percent of the statewide median household income. Within a DUC, three basic services are evaluated: water supply, sewage disposal, and structural fire protection.

The median household income for Willits is \$36,466, which is less than 80 percent (59%) of the statewide median household income of \$61,632. The City is therefore considered to be a disadvantaged community, and may have DUC's in proximity, especially given the existing out-of-agency water and sewer services currently being provided by the City.

Should future annexations to the City be proposed, consideration will need to be given for any DUC's affected by the annexation. The City does not provide structural fire protection, and is therefore not responsible for assuring that that this service is adequately provided to the community. The City is responsible however, for water supply and sewage disposal.

FINANCING

The financial ability of agencies to provide services is affected by available financing sources and financing constraints. This section discusses the major financing components for the City of Point Arena, and identifies the revenue sources and expenditures currently being experienced by the City.

All City services are funded by the General Fund except: Water Service, Wastewater Service, Solid Waste, and the Airport, which are operated as Enterprise Funds, meaning that charges for services are intended to pay for the costs of providing such services.

Revenues

Revenues for the past three Fiscal Years are shown in Figure 3. Total revenues have declined over the past three fiscal years while expenditures have remained fairly steady. The core operations of the City are accounted for in the General Fund, and the General Fund balance is a key measure of the financial health of the City. For the period ending June 20, 2013, the General Fund balance was \$2,160,081. This is a decrease of \$233,027 (9.7%) from the July 1, 2012 balance of \$2,393,108, and an indication that the City is utilizing reserve funds to balance the General Fund budget.

Willits relies on General Fund revenues to fund 64% of City expenses. Primary revenue generators for the city are property tax, sales tax, and transportation tax. (Refer to Figure 3) The City reported that current financial levels are adequate to deliver services and that the City is operating with a balanced budget. (Adrienne Moore City Manager; personal communication)

It appears that the City is not yet back to normal from the economic downturn, as sales tax revenue declined significantly in FY 2012-13.

Expenditures

Total expenditures for FY 10-11 were \$9.32 million, for FY 11-12, \$10.69 million, and for FY 12-13, \$10.36 million. Most expenditure categories have remained relatively steady, with slight increases each year. The Police Department utilizes 60% of the General Fund budget, which is lower than most cities of similar size. Community Development costs have been reduced and are expected to go lower as the City has contracted with Mendocino County Planning and Building Services Department for planning services at \$50,000 per year.

The Airport Enterprise Fund is operating at a deficit for the three years reported, although costs have decreased each year. The Water and Wastewater Enterprise Funds appear to be operating appropriately.

Figure 3: Willits Revenues and Expenses for FY 10-11, FY 11-12 and FY 12-13

<i>Fiscal Year</i>	<i>FY 10-11</i>		<i>FY 11-12</i>		<i>FY 12-13</i>	
Revenues						
Property Tax	\$1,338,063	11%	\$1,173,262	11%	\$1,890,027	18%
Voter Approved Tax	\$13,615	0%	\$13,252	0%	\$13,200	0%
Sales Tax	\$1,340,292	11%	\$1,552,852	14%	\$852,536	8%
Transportation Tax	\$712,385	6%	\$878,451	8%	\$816,844	8%
Transient Lodging Tax	\$153,090	1%	\$236,838	2%		0%
Fines and Forfeitures	\$11,657	0%	\$9,733	0%	\$8,899	0%
Business License Taxes	\$154,419	1%	\$217,589	2%	\$358,054	3%
Franchises	\$211,164	2%	\$236,838	3%	\$216,104	2%
Other Non-Property Taxes	\$314,826	3%	\$338,889	3%		0%
Investment Earnings	\$16,580	0%	\$18,508	0%	\$16,033	0%
Intergovernmental	\$2,142,220	17%	\$531,730	5%	\$599,863	6%
Sewer Service Charges	\$2,379,644	19%	\$2,588,200	23%	\$2,529,962	23%
Water Service charges	\$2,041,295	16%	\$2,531,237	23%	\$2,610,515	24%
Airport Revenues	\$61,239	0%	\$55,159	0%	\$56,165	1%
Other Revenues	\$1,508,562	12%	\$773,378	7%	\$827,086	8%
Total Income	\$12,399,051	100%	\$11,155,916	100%	\$10,795,288	100%
Expenses						
General Government	\$1,043,195	11%	\$1,018,395	10%	\$1,106,560	11%
Police	\$2,234,218	24%	\$2,243,322	21%	\$2,409,109	23%
Streets	\$386,616	4%	\$2,352,181	22%	\$2,733,989	26%
Airport	\$129,007	1%	\$121,730	1%	\$96,329	1%
Community Development	\$746,781	8%	\$313,926	3%	\$109,918	1%
Sewers	\$1,536,340	16%	\$2,610,823	24%	\$1,786,853	17%
Water	\$1,770,631	19%	\$1,754,690	16%	\$1,820,665	18%
Parks & Recreation	\$182,257	2%	\$188,799	2%	\$221,201	2%
Other Expenditures	\$1,293,260	14%	\$88,696	1%	\$78,727	1%
Total Expenses	\$9,322,305	100%	\$10,692,562	100%	\$10,363,351	100%
Net Income (or Loss)	\$3,076,746		\$463,354		\$431,937	

Long-Term Financial Considerations

Audit Reports

The City’s financial records are audited each year by a qualified Certified Public Account. The most recent City Audit was for the 2012-13 Fiscal Year and was prepared by R.J. Riccardi, Inc., CPA. The Audit was prepared in February 2014, but it is not known if the Audit was presented to the City Council.

Reserves

As of June 30, 2013, the City maintained a number of assets which can be considered to be reserves, although some are restricted for specific purposes.

The General Fund balance totaled \$2,160,081, including \$2,156,008 in unassigned monies which can be considered unrestricted reserves.

Funds restricted for capital expenditures, maintenance, rehabilitation, reconstruction, and construction of City streets and roads in the Sales Tax Transportation Improvement Fund totaled \$2,216,084.

The Sewer Enterprise Fund balance stood at \$15,067,743, while the Water Enterprise Fund had a balance of \$7,684,725.

The Solid Waste Fund ended the fiscal year with a \$382,988 deficit, although the City is paying down the balance incrementally each year.

The Airport Enterprise Fund ended the year with \$229,050 in reserves; however, \$30,164 in the reserve fund was utilized to pay for costs in Fiscal Year 2012-13.

Outstanding Debt

The City has a number of long term bonds and loans (primarily for water and sewer improvements) that total \$38.5 million, of which \$25.1 million is currently owed.

<u>Loan</u>	<u>Interest Rate</u>	<u>Loan Date</u>	<u>Maturity Date</u>	<u>Loan Amount</u>	<u>Balance</u>
USDA WWTP Loan	4.25%	2007	2047	\$10,285,000	\$8,405,500
USDA WWTP Loan	2.5%	2011	2050	\$8,300,000	\$7,920,000
Public Facilities Corp Loan	2.5-5.1%	1994	2015	\$4,765,000	\$340,000
Sewer Revenue Bond	5.125%	1993	2034	\$4,710,000	\$3,440,000
California DWR Loan-Water	4.1439%		2020	\$3,375,000	\$1,001,364
State Revolving Loan Fund	0.0%	2011	2041	\$2,779,623	\$401,309
Tax Allocation Bond-RDA	4.0-5.0%	2002	2024	\$4,310,000	\$3,610,000

Residential loans are provided for low-income home improvement and construction through the Revolving Loan Account under the Community Development Block Grant (CDBG) program. Current loans receivable total \$219,909.

2. MUNICIPAL SERVICES

This section provides a description of municipal-type services provided by the City.

CITY COUNCIL

The City is governed by a five-member City Council, elected 'at large' to staggered 4-year terms. At the first meeting in December, the City Council appoints a Mayor and Vice Mayor, each for a one year term. Staff support for the City Council includes the City Manager, the Deputy City Clerk/Administrative Assistant (0.3 FTE), and the Contract City Attorney.

The City Council also serves as the Planning Commission, the Community Development Agency (successor to the Willits Redevelopment Agency - RDA), and the Industrial Development Authority. Council Members serve on various committees including Finance, Revitalization and Economic Development (Revit-ED), and Water & Wastewater Systems.

CITY ADMINISTRATION

The City operates its administrative functions out of City Hall at 111 East Commercial Street. Staff functions located at City Hall include City Manager, City Clerk and Elections Official, City Treasurer, Accounting, Human Resources, Risk Management, and Emergency Services on the main floor. City Council Chambers are also located on the main floor. Planning, Building Inspection and Code Enforcement are located on the second floor. Services provided at City Hall include interaction with City Council Members, business licenses, permits, job applications, accounts payable, and document requests. City Hall office hours are 9:00 AM to 5:00 PM Monday through Friday.

At the present time, the City Manager also serves as the City Clerk, the Human Resources Director, the Risk Management Director, the City's Bargaining Unit Negotiator, the Facilities Manager, and the Director of Emergency Services. The City Manager position is funded as follows: 0.50 FTE from the General Fund; 0.10 FTE from the Gas Tax Transportation Fund; 0.20 from the Sewer Enterprise Fund; and 0.20 FTE from the Water Enterprise Fund. The City Manager is supported by a Deputy City Clerk/Administrative Assistant (0.3 FTE), and a Human Resources Technician (1.0 FTE).

The City utilizes a Contract City Attorney and a Contract City Planner.

FINANCE/TREASURER

The Finance Director/City Treasurer is an appointed position, and is the Chief Financial Officer with authority over the accounting of all departments. The Finance Director/City Treasurer position is allocated as follows: 0.3 FTE from the General Fund; 0.10 FTE from the RDA Successor Agency; 0.30 FTE from the Sewer Enterprise Fund; and 0.30 FTE from the Water Enterprise Fund.

The Finance Director/City Treasurer is supported by a Senior Accountant (0.5 FTE from the General Fund; 0.20 FTE from the Sewer Enterprise Fund; 0.20 FTE from the Water Enterprise Fund; and 0.10 FTE from Grant Funding); and two Office Assistant III's; one of which is assigned to Accounts Payable and is funded 1.0 FTE by the General Fund; and the other to Utility Billings funded 0.10 FTE from the General Fund, 0.30 FTE from the Sewer Enterprise Fund; 0.60 FTE from the Water Enterprise Fund.

The Finance Department maintains all basic financial information including: receipt and disbursement of all City funds; cash management; budgetary control; payroll preparation; billing (accounts payable); approval and payment of all claims (accounts receivable); processes business license applications; coordination of the annual audit; preparation of various State and Federal reports; and oversees the data processing system. The Finance Director/Treasurer also assists in preparation of the City Budget under the direction of the City Manager and oversees the RDA-Successor Agency trust fund and obligation payment schedule.

LAW ENFORCEMENT

The Willits Police Department operates out of the joint County of Mendocino-City of Willits Justice Center, which is located adjacent to City Hall at 125 East Commercial Street. Services are available 24-hours per day, seven days per week. Normal business hours are Monday through Friday from 8:00 AM to 4:00 PM.

The Police Department (PD) is comprised of three divisions: Administration; Public Safety Dispatch; and Field Operations. The PD also operates the Justice Center Temporary Holding Facility with support from one Community Services Officer II (1.0 FTE), and provides a School Resource Officer to the Willits Unified School District at both Willits High School and Baechtel Grove Middle School.

The PD is staffed by a total of 19.45 FTE positions, all funded by the General Fund except for one Police Officer and one Community Services Officer II funded by an annual Citizens Options for Public Safety (COPS) grant; and the School Resource Officer funded by a State of California School and Violence Prevention Program grant obtained by the School District.

Administration

The Police Administration Division oversees the general administration of police services and is responsible for the overall planning and directing of PD personnel in preserving order, protecting life and property, and enforcement of laws. The Administrative Division is also responsible for the Department budget, public contact on law enforcement and public safety issues, recruitment, City Council and community meetings, staff training and evaluation, and internal investigations. This division is also responsible for jail, dispatch and records administration. These responsibilities are carried out by one full-time Chief of Police, and one full-time Administrative Supervisor.

Public Safety Dispatch

Willits PD is the Public Safety Answering Point (PSAP) for responding to emergency calls for service (9-1-1) within the City of Willits and the surrounding area. In addition the PD, the Public Safety Dispatch Division dispatches for the Little Lake Fire Protection District by agreement, and coordinates with the Mendocino County Sheriff's Office, the California Highway Patrol, and the California Department of Forestry and Fire Protection. The Division also operates the California Law Enforcement Telecommunications System (CLETS) terminal and Computer Aided Dispatch (CAD). Other duties include interacting with the public, answering the PD business phones, monitoring persons in custody via video monitor, collect bails and fines, and perform all records functions. The Division is staffed by five full-time Dispatcher/Clerk positions and one part-time Dispatcher/Clerk (vacation relief at 0.22 FTE).

Field Operations Division

The Field Division responds to and investigates all types of calls for service involving criminal, civil, traffic, and emergency medical incidents. The PD Field Operations Division is responsible for incident reports, arrests, issuing of citations, collecting and preserving evidence, booking and process suspects, and transporting prisoners to the County jail. Other duties include testifying in court, making crime prevention presentations in the schools and to community based organizations, training, and assisting other law enforcement agencies. This Division is staffed by four full-time Police Sergeants and eight Police Officers, one of which is funded by the COPS grant. Also assisting is one part-time investigator (0.18 FTE) and one part-time Reserve Officer 0.05 FTE).

The Field Operations Division provides 24-hour emergency response to all life threatening incidents. The Division also performs crime prevention and/or investigation as well as traffic violation prevention and/or enforcement by utilizing uniformed patrol officers. Patrol officers work 12 hour shifts; three the first week, followed by three the second week plus one 8-hour shift (total of 80-hours every two weeks). Normally, two officers are assigned to each patrol vehicle. The Division is budgeted for one K-9 unit (handler and dog), and is currently in the process of obtaining a new dog.

The Willits PD operates under a 'community-based policing' policy. The City is divided into eight beats for purposes of assignments, which allows officers to develop 'ownership' of particular neighborhoods. However, for a small community such as Willits, actual patrol beats are not mutually exclusive, but are coordinated based on particular patrol assignments. The PD also works extensively with the schools, and partners with community organizations for service delivery. The Police Department prides itself on knowing the community and how to best use limited resources to serve the community. (Gerardo Gonzales, Chief of Police; personal communication)

COMMUNITY DEVELOPMENT

The Community Development Department is housed on the second floor of City Hall and is comprised of three divisions: Planning; Building Safety; and Code Enforcement.

Planning

The Planning function was formerly staffed with City employees. However, beginning with the 2014-15 Fiscal Year, planning services are now provided under contract with the Mendocino County Planning and Building Services Department. Support is provided the Administrative Assistant/Deputy City Clerk (0.05 FTE).

The Contract Planner is responsible for interacting with the public and project applicants on planning, subdivision and zoning matters; preparing staff reports for the City Council/Planning Commission; coordinating project reviews with the Technical Advisory Committee (TAC); oversee long-range planning issues and the General Plan; and interface with state and regional planning organizations.

Building Safety Division

The Building Safety Division is responsible for building code enforcement, construction inspections, plan checking, and issuance of building permits. The Division is staffed by one Building Inspector (0.40 FTE), who is also the Code Enforcement Officer (0.50 FTE), and oversees building maintenance (0.05 FTE), including managing building maintenance contracts and cleaning schedules. The facilities maintenance function is supported by a Public Works Maintenance Worker (0.16 FTE), and the Administrative Assistant/Deputy City Clerk (0.10 FTE).

Code Enforcement

The Building Inspector/Code Enforcement Officer enforces building codes and municipal code regulations including: building, housing and zoning violations; abandoned vehicles; hazardous or blighted conditions; recreation vehicles; and neighborhood cleanups. This position also serves as the City's Health and Safety Officer.

PROJECT ENGINEERING

The Engineering Department is responsible for overseeing City construction projects within the City, including engineering, construction management, inspection and contract administration. Specific tasks include preparation of construction plans and specifications, cost estimating, and supervision of outside contractors. This Department is also responsible for all City mapping, including street rights-of-way, infrastructure, and utilities. The Engineering Department is located in the Public Works building at 380 East Commercial Street.

Allocated positions include the full-time City Engineer (0.10 FTE from the General Fund; 0.20 FTE from the Sales Tax Transportation Fund; 0.40 FTE from the Water Project Fund; 0.20 FTE from the Sewer Enterprise Fund; and 0.10 FTE from the Water Enterprise Fund), a full time Engineering Tech III (0.10 FTE from the General Fund; 0.50 FTE from the Sales Tax Transportation Fund; 0.10 from the Sewer Enterprise Fund; and 0.30 FTE from the Water Enterprise Fund), an Administrative Assistant (0.15 FTE), and an Engineering Technical Writer (0.10 FTE). Current projects include: West Commercial Street Rehabilitation; Central Street Rehabilitation; Holly Street Sewer Line Replacement; Van Lane Storm Drain; Quail Meadows Lift Station; Main Street Water Line Replacement, Phase 2; Humboldt Street Rehabilitation; and the Water Main Replacement Project, Phase 2.

The City Transportation Local Sales Tax (0.5% approved in 2003) is dedicated to the maintenance, rehabilitation, reconstruction, and construction of City streets and roads (refer to Public Works Department for details.) These funds are also utilized to provide staffing to the Engineering Department as indicated above.

The Water Project Fund (Fund 409) is dedicated to improvements to the City Water Treatment Plant, including design and construction of a pretreatment upflow clarifier and a third filtration unit at the treatment plant. This project is funded by a \$3.0 million grant and a \$2.78 million loan from the State Water Resources Control Board, Division of Drinking Water Programs. Completion is scheduled for _____ and is expected to allow the City to increase treatment capacity to address peak demand during summer daylight hours.

SEASONAL RECREATION

During the summer season (June 16 – August 16), the City funds and operates the community pool for recreation purposes including, recreational swimming, swim lessons, lap swim, family swim, and water aerobics. Fees are charged to offset the maintenance costs.

The pool is staffed by seasonal employees including one Pool Manager (0.43 FTE), one Assistant Pool Manager (0.41 FTE), 13 Lifeguards (0.86 FTE), and several Swim Instructors. Support for pool maintenance is provided by a Public Works Parks Maintenance Worker (0.44 FTE).

PUBLIC WORKS

The Public Works Department operates out of its facilities located at 380 East Commercial Street, including administrative offices and corporation yard. The City also leases a portion of the Corporation Yard to Mendocino Transit Authority (MTA) for bus parking. Regular office hours are Monday through Friday from 8:00 AM to 4:30 PM. Public access to the Public Works offices off Commercial Street (behind the Library) is indirect and somewhat obscure.

The Public Works Department is comprised of the following divisions: Administration, Operations, Parks Maintenance, Traffic Safety, Street Administration, Street Maintenance, Storm Drain Maintenance, and Parks and Recreation Maintenance, and Landfill Remediation and Closure.

The Public Works Department (PWD) is staffed by a total of 8.5 FTE positions which are funded by various revenue sources as detailed below. Positions include the Public Works Director, one Lead Person, one Administrative Assistant, one Engineering Technical Writer, and five Maintenance Workers.

Administration Division

The Administration Division administers and directs the PWD, including: managing the City's public works projects; administration of outside contracts; project development, scheduling and funding; and management of the public bidding process. The Administrative Division also issues Encroachment Permits, acknowledges and resolves citizen complaints, serves as a funding mechanism for the County of Mendocino Animal Control and Weed Abatement contracts. The Administration Division is staffed by the Public Works Director (0.40 FTE), as well as an Administrative Assistant (0.25 FTE), and a part-time Office Assistant (0.15 FTE).

Public Works Administration is also responsible as the Lead Agency for administration, oversight, and monitoring of the Remco Hydraulics, Inc. properties. The former industrial machining and manufacturing facility was placed under control of the Willits Environmental Remediation Trust by Federal Court order in 1997. The Trust has been required to characterize and remediate any contamination resulting from Remco Hydraulics operations between 1945 and 1995. These facilities include: the main plant at 934 South Main Street; satellite facilities at 266 Shell Lane and 475 East San Francisco Avenue; and the Page Property at 3920 Canyon Road approximately 3-miles east of the City, which operated as a landfill and disposal area. The Administrative Division assists in implementing the work programs to clean up these facilities, and monitors expenditures related to monitoring, sampling and analyzing groundwater and surface water from the Page Landfill site.

Operations Division

The Operations Division is responsible for maintaining City infrastructure and buildings including: City Hall and Community Center building and grounds; Public Works buildings and grounds; Airport buildings, grounds, and fuel system; inspection and maintenance of the City arch; and holiday decoration installation and removal. The Division also supports the Water and Sewer Departments.

PW Operations also oversees vehicle and equipment repairs, and establishes operating costs for all City departments. The Division is staffed by a PW Lead Person (0.18 FTE) and a PW Maintenance Worker (0.44 FTE).

Parks Maintenance Division

The Parks Maintenance Division maintains the City's parks and recreation facilities including: two family parks with playground equipment; three neighborhood parks; four baseball diamonds; one soccer field; four tennis courts; one 3-acre open use field; and one skate park.

The Parks Maintenance Division is staffed by a PW Lead Person (0.13 FTE), a PW Maintenance Worker (0.55 FTE), and a Seasonal Parks Maintenance worker (0.44 FTE). The Division also performs electrical repairs, graffiti removal, tree trimming, tree removal, painting, vandalism repair, plumbing repairs, fence repair, and maintenance of the irrigation system from the City well. The Division also provides restroom supplies, and support for community activities in City parks (traffic control; trash collection). The City also provides swimming pool maintenance under an agreement with the Willits Unified School District.

Traffic Safety Division

The Traffic Safety Division oversees and administers the City's traffic safety program. Functions include: repair and replacement of traffic and street signs; painting of pavement stripping and pavement markings; and coordination with Caltrans on traffic safety issues. The Division is staffed with a PW Lead Person (0.10 FTE), a PW Maintenance Worker (0.15 FTE).

Street Administration

The Street Administration Division oversees and administers all Divisions funded by Gas Tax revenues including: Street Maintenance; Storm Drain Maintenance; Traffic Safety; and Street Administration. The City Manager is allocated 0.10 FTE and the Public Director 0.20 FTE to carry out this function. Duties include contract administration, updating the Pavement Management System, and working closely with Mendocino Council of Government (COG) to secure street rehabilitation funding.

Street Maintenance Division

The Street Maintenance Division is responsible for maintenance and repair of City streets and sidewalks, including pothole patching, section repairs, chip sealing, dust control, tree trimming for safety site distance, and street sweeping (including State Highways 101 and 20). Division functions are staffed by a PW Lead Person (0.40 FTE) and PW Maintenance Workers (2.45 FTE). The street crew coordinates work with other City departments to maintain City streets in a Safe drivable condition to reduce and limit the City's liability exposure.

Storm Drain Maintenance Division

The Storm Drainage Maintenance Division is staffed by a PW Lead Person (0.09 FTE) and a PW Maintenance Worker (0.23 FTE) and is responsible for clearing debris from storm drainage grates, catch basins, and drainage channels. The Division also constructs and replaces storm drains and catch basins.

Sales Tax Improvement Program

The City's 0.5% sales tax dedicated to streets and roads is utilized for maintenance, rehabilitation, reconstruction and construction of City streets and roads. Projects also include sidewalks, curbs and gutters, ADA accessibility, and drainage facilities. Engineering services are also funded by this program.

A number of street improvement projects are currently underway including Humboldt Street rehabilitation, and feasibility studies for the Railroad Avenue/Baechtel Road Corridor project.

Landfill Division

The Landfill Division is responsible for post-closure of the Willits Landfill for a 30-year period. The Willits Landfill is located approximately 5-miles east of the City on Canyon Road and adjacent to Berry Creek. This disposal site was operated by the City in conjunction with the County of Mendocino, and was closed in 1997. The remediation efforts include overseeing maintenance of the final cover and monitoring the final cover system. This function is staffed by the PW Lead Person (0.01 FTE), a PW Maintenance Worker (0.08 FTE), and by the PW Administrative Assistant (0.05 FTE).

WATER SERVICES

The City operates and maintains a potable water system including water supply, treatment, and distribution. Responsibility for water service within the City is the responsibility of the Water Department, which operates as an Enterprise Fund. The Water Department is staffed directly by the Chief Water Operator, three Water Operators, and a Water Operator-in-Training; and is supported by other Departments as detailed by Division, below. The Water Department has a total staffing level of 7.44 FTE.

The City water system provides potable water within its service area, which is the same as the City boundary, with the exception of several out-of-agency service connections to individual homeowners. The Willits water system is classified as a 'Large Water System', having more than 500 connections. The Willits water system is under the jurisdiction of the State Water Resources Control Board (SWRCB), Division of Drinking Water.

On October 17, 2014, the SWRCB issued the City a compliance order which determined that the City did not have a reliable supply of water to serve its customers due to the drought conditions and senior water right demands. The order does allow the City to serve existing customers, but prohibits new service connections. It also requires the City to secure a reliable long-term supply of water.

The primary water supply for Willits is surface water from Davis Creek, which is tributary to Outlet Creek, which is tributary to the Eel River. The City stores water at Morris Reservoir (726 acre-feet capacity) and Centennial Reservoir (635 acre-feet capacity), both on Davis Creek. The watershed area for Davis Creek upstream from Morris Dam is 5.8 square miles (3,712 acres).

Based on a water supply planning study prepared by West Yost and Associates in 2006, water demand was 886 acre-feet per year, of which 565 acre-feet per year was for residential use. Based on 2,245 water service connections at that time, the average water usage was 154 gallons per person per day.

The Water Treatment Plant (WTP) is located adjacent to Morris Dam and utilizes alternative filtration technology and an upflow clarifier process to produce treated water. There are five storage tanks: a 3.0 million gallon (MG) tank installed in 1980; and a 1.5 MG tank and clear well installed in 1989 (both adjacent to the treatment plant); a 0.125 MG tank on Locust Street installed in 1993; a 0.043 MG tank on Laurel Street installed in 1977; and a 0.043 MG tank on Berry Hill installed in 1980. There are eight pressure zones within the water distribution system.

A photovoltaic (PV) system was installed between Morris Reservoir and the water treatment plant, and began operation in November 2008. The system consists of a solar array of 756 PV modules and is capable of producing up to 530,000 kilowatts per year; enough to provide 100% of the power needs of the water treatment plant.

The water treatment plant pumped an average of 4.45 million gallons per year (1.22 million gallon per day) between 1994 and 2002. For future planning purposes, the study suggested that 2,240 acre-feet per year (2.0 million gallons per day -- mgd) would be needed. Currently, the water treatment plant can treat 2.2 mgd.

In 2011, the treatment plant produced 270 million gallons per year (0.74 million gallons per day), significantly less than the water produced between 1994 and 2002. At 0.74 million gallons of water usage per day, and with the 8,062 service population estimated by the City, this equates to 92 gallons per person per day. A 'Water Conservation' paper prepared by the City estimates that with water conservation, water use can be reduced by 48% to 48 gallons per person per day.

The water system currently has 2,374 connections, of which 1,974 (83%) are residential, 260 (11%) are commercial, 36 (1.5%) are industrial, and 104 (4.5%) are miscellaneous. The Water Department indicated that it had one emergency interconnection (unknown source).

Current water rates are based on a monthly flat base rate plus variable usage rate for residential; and a uniform monthly usage rate and a variable base rate for commercial and industrial. Residential users pay \$22.05 per EDU (Equivalent Dwelling Unit) per month, and \$3.15 to \$9.80 based on usage. Commercial and industrial users pay \$22.05 to \$1,103 per month based on EDUs, and a flat \$6.00 per 100 cubic feet. The average monthly water bill for a residential unit is \$34.65.

In 2011, there were a total of 40 complaints reported by customers. Of these, 34 were for turbidity and six were for color. Corrective actions were taken for both types of complaints by flushing affected water lines. In 2011, there were 22 problems related to the system: eight service connection breaks due to aging lines; 12 main line breaks due to aging lines; and 2 water outages due to lines damaged by contractors. Repairs were made in a timely manner for all problems.

The City's 2013 Consumer Confidence Report indicates that turbidity standards at the water treatment plant were exceeded three times during the year. Water samples taken during the year did not exceed standards for coliform bacteria, lead, copper, aluminum, chlorine, iron, total trihalomethanes, manganese, and color. The threshold for haloacetic acids at 5 parts per billion (HAA5) was exceeded, as was odor. Both were corrected by adjusting the treatment process and adding flow mixer to the 3.0 MG tank for better circulation.

Water Administration Division

The Water Administration Division is responsible for compliance with water laws and regulations including reports to the State Division of Drinking Water, Division of Safety of Dams, Department of Water Resources, and the Department of Forestry and Fire Protection. The Division insures that changes to the water system meet the needs of the community and comply with all regulatory requirements. Staffing is provided by the City Manager (0.20 FTE), the Finance Director/City Treasurer (0.30 FTE), a Senior Accountant (0.20 FTE), an Administrative Assistant (0.25 FTE), and an Office Assistant III (0.60 FTE). Administrative tasks include assisting water customers, contract administration for water-related professional services, and preparation of the budget and capital improvement program.

Water System Maintenance Division

The Water System Maintenance Division is responsible for operation and maintenance of water lines, pump stations, water storage tanks, leak detection, pipeline replacement, utility locating, fire hydrants, water system flushing, pipeline inspection, valve exercising, emergency response, coordination with water billing staff, service termination and restoration, meter installation, meter reading, cross connection prevention, corrosion control, and 24-hour on-call service. This Division is staffed by the Public Works Director (0.20 FTE), Water Operators I/II/III (1.25 FTE), a Water Operator-in-Training (0.25 FTE), a Public Works Lead Person (0.15 FTE), and a Public Works Maintenance Worker (0.52 FTE).

Water Plant Operations Division

The Water Plant Operations Division is responsible for the operation and maintenance of the water treatment plant and watershed. Tasks include: monitoring and adjusting the treatment process; chemical laboratory analysis; treatment strategy; instrumentation calibration; filter and clarifier inspection and servicing, disinfection; lake and dam operation and maintenance; and 24-hour on-call service. The Division is staffed by a Chief Plant Operator (0.05 FTE), a Chief Water Operator (1.0 FTE), Water Operators I/II/III (1.75 FTE), and a Water Operator-in-Training (0.50 FTE).

Water Engineering

Water Engineering is a component of the Engineering Department. Refer to that section for details.

WASTEWATER SERVICES

The City owns and operates a municipal Wastewater Treatment Facility (WWTF), along with a sewage collection system consisting of approximately 22-miles of gravity sewer mains ranging in size from 4-inches in diameter to 24-inches in diameter; one lift station and 450 manholes. The WWTF also includes associated reclamation and disposal facilities. The facility is located in the northeast corner of the City at the end of Sewer Plant Road via North Lenore Avenue and East Commercial Street. The northerly portion of the treatment plant area is located outside the City Limits. Responsibility for wastewater services within the City is the responsibility of the Sewer Treatment Department, which operates as an Enterprise Fund. The Wastewater Treatment Department is staffed directly by a Chief Plant Operator, a Sewer Plant Supervisor, five Waste Water Treatment Operators, a Waste Water Treatment Operator-in-Training; and is supported by other Departments as detailed by Division, below. The Sewer Treatment Department has a total staffing level of 7.60 FTE.

The City (population 5,000) also provides wastewater services by agreement: in 1967 with Brooktrails Township Community Services District (population 3,300); in 1956 with Meadowbrook Manor Sanitation District (population 200); and in 1989 with the Sherwood Valley Rancheria (population 100) for a total population served of approximately 8,600.

The original secondary aeration treatment plant dates from 1975. Subsequent up grades included headworks with grit removal, two extended aeration basins, a circular clarifier, a chlorine contact chamber, and dechlorination capability. That facility was designed to treat an average dry weather flow (ADWF) of 1.3 million gallons per day (mgd), and peak flows up to 3.0 mgd. However, the City experienced wet weather flows exceeding secondary treatment capability; and utilized up to five holding basins with a capacity of 16 million gallons to capture the overflow.

At that time, the City was operating under Regional Water Quality Control Board (RWQCB) Order No. R1-2001-71. In response to Statewide General Waste Discharge Requirements issued in 2006, and a Supplemental Report of Waste Discharge submitted by the City in 2009, the City proposed to upgrade its WWTF to include enhanced secondary level treatment of wastewater. Construction of the new WWTF includes septage receiving stations prior to the existing headworks, extended aeration/activated sludge processes with nutrient removal, ultraviolet (UV) disinfection, and enhanced effluent polishing within a new 30-acre treatment wetland.

In July of 2010 the RWQCB issued Order No. R1-2010-0017 establishing new waste discharge requirements as well as reclamation requirements for the City of Willits. The Regional Board also required: relocation of the discharge point on Outfall Creek; prohibited discharge of treated effluent between May 15th and October 30th of each year; set new limitations on biochemical oxygen demand (BOD), total suspended solids (TSS), pH, nitrogen, and total coliform; placed requirements for land disposal of treated effluent; and specified standard provisions and additional monitoring requirements.

The new WWTF has a design discharge capacity of 7.0 mgd; however the City requested that permitted flow be limited to 4.0 mgd based on projected needs through 2025. The treatment plant currently treats an average of ___ mgd, dry weather flow, and ____ mgd wet weather flow.

Sewer Administration

The Sewer Administration Division is responsible for administrative support including assisting with program administration, contract administration for sewer-related professional contracts, filing regulatory reports, preparing the annual Capital Improvement Program, and preparing requests for proposals (RFPs). This Division is staffed by the City Manager (0.20 FTE), the City Engineer/Sewer Director (0.20 FTE), the Finance Director/City Treasurer (0.30 FTE), a Senior Accountant (0.20 FTE). An Office Assistant III (utility billing clerk) (0.30); an Administrative Assistant (0.15 FTE), and an Engineering Technical Writer (0.30 FTE).

Sewer Maintenance Division

The Sewer Maintenance Division maintains and repairs the City sewer collection system, including: inspection, cleaning, and repair of sewer lines; and implementation and enforcement of the inflow and infiltration (I&I) program and the Fats, Oils and Grease (FOG) program. This Division also administers the Flow Monitoring Program and the Wastewater Discharge Program. Other duties include responding and resolving sewer problems, addressing emergency overflows, lift station maintenance, new pipeline construction inspection, and identifying line locations for Underground Service Alert (USA). This Division is staffed by a Chief Sewer Plant Operator (0.25 FTE), the Public Works Director (0.20 FTE), Treatment Plant Operators II/III (1.20 FTE), a Treatment Plant Operator I (0.70), a Public Works Lead Person (0.04 FTE), a Public Works Maintenance Worker (0.16), and a Treatment Plant Operator-in-Training (0.25 FTE).

Sewer Operations Division

The Sewer Operations Division is responsible for the operation and maintenance of the City's sewer plant as well as: reclaimed water irrigation; sludge thickening and dewatering; and compost mixing and disposal. Other duties include: laboratory testing for regulatory compliance in conjunction with the City's NPDES permit; disinfection and disposal of effluent water; and response to all sewer plant alarms and emergencies. This Division is staffed by the Chief Plant Operator (0.65 FTE), Treatment Plant Operators II/III (1.70 FTE), a Treatment plant Operator I (0.30 FTE), and a Treatment Plant operator-in-Training (0.25 FTE).

Sewer Engineering

Wastewater Engineering is a component of the Engineering Department. Refer to that section for details.

Septage Receiving Division

The Septage Receiving Division is responsible for monitoring, recording, and collection of fees for wastewater trucked in from outlying areas and delivered to the WWTF. This Division is staffed by the Chief Plant operator (0.05 FTE), and a Treatment Plant Operator III (0.10 FTE).

Outstanding Litigation

On September 11, 1967 the City of Willits (City) and the Brooktrails Resort Improvement District – now the Brooktrails Township Community Services District (District) entered into an agreement allowing the District to dispose of up to 0.49 mgd ADWF of sewage into the City WWTF.

The Agreement has been amended over the years: Amendment No. 2 in 1975 (which also repealed Amendment No. 1); Amendment No. 3 in 1982; and Amendment No. 3 in 2007. In 1997, a dispute arose between the District and the City regarding the allocation of operating costs for the WWTF. This dispute, along with several other issues has been ongoing for the past 17-years. In 2010, the District filed a lawsuit in Mendocino County Superior Court seeking declaratory relief regarding a number of issues, including metering to measure the flow of sewage, accounting methods and allocation of operating costs, annual audits, WWTF construction costs and plant capacity, and disposal of treated effluent.

The degree of time and energy devoted to this situation is best reflected in the respective meeting agendas of the City and the District, as at practically every regular and special meeting there is a closed session on this litigation. There does not appear to be any resolution of these issues in the foreseeable future. As the District said in a report to its ratepayers in June 2014: "Township officials in 1997 did not believe litigation was the best option for the region. As it turns out, it has been made clear after 17 years that the only way all four components of the dispute can be resolved is through an 'independent adjudicator, be it judge, jury or arbitrator,' as the [then] City Attorney threatened in 1997."

From the LAFCo perspective, perhaps it is time to propose a new governance structure for the City's Wastewater Services Enterprise Fund; one which allows for an independent decision-making body, an independent staff including legal counsel and auditor services, and an independent operation. A joint powers authority (JPA) may be an appropriate avenue to explore, in which the City would appoint two non-Council Members, the District would appoint two non-Board Members, with each member having knowledge of sewer enterprise operations. These four members would then appoint a public representative with similar qualifications.

Because the wastewater collection, treatment and disposal process is such a highly regulated and technical activity; and given the complexity of the ongoing dispute with the District, it does not appear that the current system being utilized by the City will pay long-term dividends.

AIRPORT OPERATIONS

The City owns and operates the Willits Municipal Airport – O28 (Ells Field) which is located northwest of the City adjacent to Brooktrails Township. (Refer to 'Outlying City Areas' Map on Figure 1) The Airport is utilized for General Aviation and recreation-oriented flights. Facilities at the Airport include a 3,000 foot runway (16-34), lights for night operations, a 24-hour self-serve fueling station, and the 'Pilot Cave' – which includes a pilot's lounge, restrooms, showers, kitchen, and outdoor picnic tables. There are 23 hangars on site, all rented; and 25 tie-downs available for \$5.00 per night.

The Airport operates as an Enterprise Fund, and is managed under contract by Mulligan Aviation. The airport began operations in the 1960's by the Deerwood Corporation as a destination for flights from Oakland to potential buyers of lots in the adjacent Brooktrails Vacation Village. The Airport property was donated to the City in 1964.

REACH Air Medical Services are proposing to locate a medical helicopter (EU 135) at the Airport as a new medical transport service.

THE FOLLOWING SERVICES ARE PROVIDED BY CONTRACT TO THE CITY OF WILLITS, OR ARE PROVIDED BY OTHER SERVICE PROVIDERS.

FIRE PROTECTION SERVICES

Fire protection services within the City are provided by the Little Lake Fire Protection District (LLFPD), which also serves the surrounding area of Little Lake Valley (except Brooktrails Township which has its own fire department). The District has been operational since 1964 and encompasses 360 square miles. In 1974, the Willits City Fire Department merged into LLFPD.

LLFPD provides structural and wildland fire protection, rescue and extraction, and hazardous materials response. The main fire station is located at 74 East Commercial Street in Willits. An un-staffed satellite station is located at 1575 Baechtel Road in Willits.

Water for fire protection within the City is provided by the City water system with an ISO rating of 4. Outlying areas within 5-miles of the station have an ISO rating of 8, and beyond 5-miles, an ISO Rating of 10. There are ___ fire hydrants on the City water system.

Ambulance service is provided by _____ which is located _____.

SOLID WASTE SERVICES

The City contracts with Solid Waste of Willits, Inc. (SWOW) for waste collection services and recycling. SWOW pays a franchise fee to the City as the service provider.

Curbside pickup for both garbage and recycling occurs Monday through Thursday depending on the location within the City. In addition, SWOW maintains a recycle center at the Willits Transfer Station at 350 Franklin Street. Recyclables are accepted at no charge and can include: newspapers; cardboard; office paper; food and beverage glass; steel cans; plastic food and beverage containers; and aluminum cans. Yard waste is picked up on alternating Fridays; west of Highway 101 one Friday, east of Highway 101 the following Friday.

3. MSR DETERMINATIONS

Growth and Population Projections for the Affected Area

- ❖ As of January 2014, the estimated population of Willits was 4,937.
- ❖ Since 2000, the population of Willits has declined by 136 residents or 2.7%. However, between January 2013 and January 2014, the City added 32 persons, a 0.7% increase.
- ❖ Based on growth projections in the 2009 Draft Housing Element of the General Plan, the population of Willits was anticipated to be 7,500 by 2020, which is an increase of 2,563 persons.
- ❖ More likely is a slight increase in population to 5,013 by 2020, based on the historical average of five new dwelling units constructed per year.
- ❖ The City's wastewater system serves approximately 8,600 persons; the City (population 5,000), Brooktrails Township Community Services District (population 3,300), Meadowbrook Manor Sanitation District (population 200), and the Sherwood Valley Rancheria (population 100).
- ❖ Sufficient land is available within the existing City Limits to accommodate residential development for the next 15-years
- ❖ Prior to making application to Mendocino LAFCo to update the Sphere of Influence, the City should enter into discussions with the County of Mendocino as required by Government Code Section 56425(b); with an emphasis on land use and development activity adjacent to the two Highway 101 Bypass interchanges.

The Location and Characteristics of Any Disadvantaged Unincorporated Communities Within or Contiguous to the Sphere of Influence

- ❖ No disadvantaged unincorporated communities exist within the existing Sphere of Influence because the Sphere of Influence is coterminous with the City Limits and there are no unincorporated areas within the Sphere.
- ❖ Because of their proximity to the existing Sphere of Influence, those parcels outside the City Limits currently receiving water and/or sewer services are considered to be disadvantaged unincorporated communities. Priority consideration should be given to annexing these properties to the City in an expeditious and cost-conscious manner.

Present and Planned Capacity of Public Facilities and Adequacy of Public Services, Including Infrastructure Needs and Deficiencies

- ❖ Given the relatively small size of the City's water supply watershed (Davis Creek; 5.8 square miles) and the relatively small storage capacity of the City's two reservoirs (Morris at 726 acre-feet; and Centennial at 635 acre-feet), it does not appear that the City's long-term water supplies will be adequate to serve the community.
- ❖ Although not required because the City has less than 5,000 water connections, it would be appropriate for the City to develop an Urban Water Management Plan (UWMP) for the 2015 cycle of the State Water Resources Control Board. The UWMP can evaluate future water needs, long-term supply, drought response, and identification of new water sources.
- ❖ Given the success of the photovoltaic (PV) solar array installed at the Water Treatment Plant, consideration should be given to adding additional PV systems to City facilities such as the Wastewater Treatment Facility and the Public Works Corporation Yard.
- ❖ Inflow and infiltration (I&I) into the City's wastewater collection system has been identified as a significant problem. The City should allocate additional resources to eliminate I&I in a timely manner.

Financial Ability of the Agency to Provide Services

- ❖ The City reported that its financing was generally adequate to deliver services.
- ❖ Budget data reflect a General Fund balance that declined 9.7% from July 1, 2012 to July 1, 2013, indicating that the City is utilizing its reserve funds to balance the General Fund budget.
- ❖ The City has a number of long-term bonds and loans, with maturity dates ranging from 2015 to 2050.
- ❖ The City has not yet recovered from the economic downturn, as sales tax revenues declined significantly in Fiscal Year 2012-13.
- ❖ Community Development Department costs for planning services have been reduced by contracting with Mendocino County Planning and Building Services Department.
- ❖ Airport Operations are operating at a deficit which may require a review of fees charged for services.

Status of, and Opportunities for, Shared Facilities

- ❖ The Police Department is the Public Safety Answering Point (PSAP) for emergency (9-1-1) calls within the City and in the surrounding area. The Police Department coordinates with the Mendocino County Sheriff's Office, the California Highway Patrol, the Little Lake Fire Protection District, and the California Department of forestry and Fire Protection.
- ❖ The Police Department provides dispatch services for the Little Lake Fire Protection District.
- ❖ A School Resource Officer position is staffed by the Police Department with funding from the State of California School and Violence Prevention Program.
- ❖ The City, in conjunction with the Willits Unified School District, operate a summer swim program at the Community Pool on the Willits High School campus.

Accountability for Community Service Needs, Including Governmental Structure and Operational Efficiencies

- ❖ Government structure options should be pursued only if there are potential benefits in terms of reduced costs, greater efficiency, greater accountability or other advantages to the public. The Willits City Council is very receptive to public input and new ideas, and may benefit from establishing a Task Force to evaluate City operations, practices, and activities.
- ❖ The City Manager is tasked with a significant number of duties including City Clerk, the Human Resources Director, the Risk Management Director, the City's Bargaining Unit Negotiator, the Facilities Manager, and the Director of Emergency Services. Consideration should be given to reducing the City Manager's workload by adding a Public Administration-type Analyst with abilities and skills in human resources, bargaining, facilities, and risk management.
- ❖ A review of City Departments for this MSR did not identify any instances where government functions are 'over-staffed.' On the contrary, the City of Willits operates in a very efficient manner with employees who are capable of accomplishing different tasks in a 'seamless' manner.
- ❖ Renewed efforts should be undertaken to involve the public in the City Budget process, to conduct Budget workshops in a timely manner, and to adopt the Budget prior to the start of each Fiscal Year.

- ❖ When the Sphere of Influence for the City of Willits is updated, consideration should be given to: 1) evaluating the two areas for SOI expansion that are included in the 1992 City General Plan – the 250-acre area in the southwest quadrant (which also includes the Sherwood Valley Rancheria property), and the peninsula on the east side of the City between East Commercial Street and Center Valley Road; and 2) evaluate the inclusion or exclusion of the Municipal Airport property and the Water Treatment Plant property within the SOI.
- ❖ With respect to a new governance structure, perhaps it is time to address the City's Wastewater Services Enterprise Fund; one which allows for an independent decision-making body, an independent staff, and an independent operation. A joint powers authority (JPA) may be an appropriate avenue to explore.
- ❖ The City's website is incomplete, out of date, and lacking search capabilities for City documents and information. Consideration should be given to establishing a Webmaster position to update, improve, and technologically upgrade the website.
- ❖ As development activity increases following the economic downturn, consideration should be given to re-establishing the Planning Commission. With the City Council serving as the Planning Commission, opportunities to provide greater public input and review; as well as a defined appeal process are excluded from the planning process.