RECORD OF PROCEEDINGS RELATING TO THE ADOPTION OF RESOLUTION NO. ___2018-08_____ OF THE TOWN COUNCIL TOWN OF EDGEWOOD, APRIL 18, 2018

STATE OF NEW MEXICO)
) ss.
COUNTY OF SANTA FE)

The Town Council (the "Governing Body") of the Town of Edgewood (the "Grantee") met in a regular session in full conformity with the law and the rules and regulations of the Governing Body at the Town of Edgewood Community Center, 27 East Frontage Road, Edgewood, New Mexico, 87015, being the meeting place of the Governing Body for the meeting held on the 18th day of April at the hour of 6:30 p.m. Upon roll call, the following members and officers were found to be present:

Present: _____

_____

_____

_____

_____

Absent: _____

_____

Also Present: _____

_____

Thereupon, there was officially filed with the Clerk/Treasurer a copy of a proposed Resolution in final form, as follows:

TOWN OF EDGEWOOD
RESOLUTION NO. _____

AUTHORIZING THE EXECUTION AND DELIVERY OF A LOCAL GOVERNMENT PLANNING GRANT AGREEMENT BY AND BETWEEN THE NEW MEXICO FINANCE AUTHORITY (THE "FINANCE AUTHORITY"), AND THE TOWN OF EDGEWOOD (THE "GRANTEE"), IN THE AMOUNT OF THIRTY SEVEN THOUSAND FIVE HUNDRED DOLLARS ($37,500) EVIDENCING AN OBLIGATION OF THE GRANTEE TO UTILIZE THE GRANT AMOUNT AND THE LOCAL MATCH AMOUNT SOLELY FOR THE PURPOSE OF FINANCING THE COSTS OF A PRELIMINARY ENGINEERING REPORT, AND SOLELY IN THE MANNER DESCRIBED IN THE GRANT AGREEMENT; CERTIFYING THAT THE GRANT AMOUNT, TOGETHER WITH THE LOCAL MATCH AMOUNT AND OTHER FUNDS AVAILABLE TO THE GRANTEE, IS SUFFICIENT TO COMPLETE THE PROJECT; APPROVING THE FORM OF AND OTHER DETAILS CONCERNING THE GRANT AGREEMENT; RATIFYING ACTIONS HERETOFORE TAKEN; REPEALING ALL ACTION INCONSISTENT WITH THIS RESOLUTION; AND AUTHORIZING THE TAKING OF OTHER ACTIONS IN CONNECTION WITH THE EXECUTION AND DELIVERY OF THE GRANT AGREEMENT.

Capitalized terms used in the following preambles have the same meaning as defined in Section 1 of the Resolution unless the context requires otherwise.

WHEREAS, the Grantee is a legally and regularly created, established, organized and existing incorporated municipality under the general laws of the State and more specifically, the Municipal Code, NMSA 1978, §§ 3-1-1 through 3-66-11, as amended; and

WHEREAS, the Grantee is qualified to receive the Planning Grant pursuant to the Finance Authority's Rules Governing the Local Government Planning Fund and NMSA 1978, § 6-21-6.4, as amended; and

WHEREAS, the Governing Body hereby determines that the Project may be financed with amounts granted pursuant to the Grant Agreement, that the Grant Amount, together with the Local Match and other moneys available to the Grantee, is sufficient to complete the Project, and that it is in the best interest of the Grantee and the public it serves that the Grant Agreement be executed and delivered and that the funding of the Project take place by executing and delivering the Grant Agreement; and

WHEREAS, the Governing Body has determined that it may lawfully enter into the Grant Agreement, accept the Grant Amount and be bound to the obligations and by the restrictions thereunder; and

WHEREAS, the Grantee acknowledges and understands that the Planning Grant must be expended and a Planning Document must be completed within one (1) year from the Closing

Date, or the Grantee will forfeit the ability to draw Grant funds from the Local Government Planning Fund; and

WHEREAS, the Grant Agreement shall not constitute a general obligation of the Grantee or a debt of pledge of the faith and credit of the Grantee, the Finance Authority or the State; and

WHEREAS, there have been presented to the Governing Body and there presently are on file with the Clerk/Treasurer this Resolution and the form of the Grant Agreement which is incorporated by reference and made a part hereof; and

WHEREAS, all required authorizations, consents and approvals in connection with (i) the use of the Grant Amount for the purposes described and according to the restrictions set forth in the Grant Agreement; and (ii) the authorization, execution and delivery of the Grant Agreement which are required to have been obtained by the date of this Resolution, have been obtained or are reasonably expected to be obtained.

NOW, THEREFORE, BE IT RESOLVED BY THE TOWN COUNCIL OF THE TOWN OF EDGEWOOD, NEW MEXICO:

Section 1. Definitions. All terms used herein have the same definition as contained in the draft Grant Agreement, dated April 27, 2018.

Section 2. Ratification. All action heretofore taken (not inconsistent with the provisions of this Resolution) by the Grantee and officers of the Grantee, directed toward the Project and the execution and delivery of the Grant Agreement, shall be and the same hereby is ratified, approved and confirmed.

Section 3. Authorization of the Project and the Grant Agreement. The Project and the method of funding the Project through execution and delivery of the Grant Agreement are hereby authorized and ordered. The Project is for the benefit and use of the Grantee and the public it serves.

Section 4. Findings. The Governing Body on behalf of the Grantee hereby declares that it has considered all relevant information and data and hereby makes the following findings:

A. The Project is needed to assess drainage solutions and storm water improvements.

B. The costs of the Project are beyond the local control and resources of the Grantee.

C. The Project and the execution and delivery of the Grant Agreement pursuant to the Act to provide funds for the financing of the Project are in the interest of the public health, safety and welfare of the public served by the Grantee.

D. The Grantee will perform (or cause to be performed) the Project with the proceeds of the Planning Grant, and will utilize the Project for the purposes set forth in the Grant Agreement.

E. The Grantee will forfeit the Planning Grant if the Grantee fails to utilize the Grant Amount within one (1) year of the Closing Date.

F. The Local Match is legally available to be applied to the Project.

Section 5. Grant Agreement—Authorization and Detail.

A. Authorization. This Resolution has been adopted by the affirmative vote of a majority of a quorum of the Governing Body. For the purpose of protecting the public health, conserving the property, and protecting the general welfare and prosperity of the public served by the Grantee and performing the Project, it is hereby declared necessary that the Grantee execute and deliver the Grant Agreement evidencing the Grantee's acceptance of the Grant Amount of Thirty Seven Thousand Five Hundred Dollars ($37,500) and the availability of the Local Match in the amount of Twelve Thousand Five Hundred Dollars ($12,500) to be utilized solely for the Project and solely in the manner and according to the restrictions set forth in the Grant Agreement, the execution and delivery of which are hereby authorized. The Grantee shall use the proceeds of the Grant and the Local Match, to finance the performance of the Project. The Project will be owned by the Grantee and will be utilized by the Grantee as set forth in the Grant Agreement.

B. Detail. The Grant Agreement shall be in substantially the form of the Grant Agreement presented at the meeting of the Governing Body at which this Resolution was adopted. The Grant shall be in the amount of Thirty Seven Thousand Five Hundred Dollars ($37,500).

Section 6. Approval of Grant Agreement. The form of the Grant Agreement as presented at the meeting of the Governing Body at which this Resolution was adopted is hereby approved. Authorized Officers are hereby individually authorized to execute, acknowledge and deliver the Grant Agreement with such changes, insertions, and deletions as may be approved by such individual Authorized Officers, and the Clerk/Treasurer is hereby authorized to affix the seal of the Grantee on the Grant Agreement and attest the same. The execution of the Grant Agreement shall be conclusive evidence of such approval.

Section 7. Disposition of Proceeds; Completion of Acquisition of the Project.

A. Grant Account. The Grantee hereby consents to creation of the Grant Account by the Finance Authority and approves of the deposit of the Grant Amount into the Grant Account. Until the Completion Date, the money in the Grant Account shall be used and paid out solely for the purpose of the Project in compliance with applicable law and the provisions of the Grant Agreement.

B. Completion of Acquisition of the Project. The Grantee shall proceed to acquire and complete the Project with all due diligence. Upon the Completion Date, the Grantee shall execute a certificate substantially in the form attached as Exhibit "C" to the Grant Agreement stating that acquisition of and payment for the Project have been completed. As soon as practicable and, in any event, not more than sixty (60) days after the Completion Date, any balance remaining in the Grant Account shall be transferred and returned to the Local Government Planning Grant Fund.

C. Finance Authority Not Responsible. The Finance Authority shall in no manner be responsible for the application or disposal by the Grantee or by the officers of the Grantee of the funds derived from the Grant Agreement or of any other funds held by or made available to the Grantee's in connection with use of the Project.

Section 8. Authorized Officers. Authorized Officers are hereby individually authorized and directed to execute and deliver any and all papers, instruments, opinions, affidavits and other documents and to do and cause to be done any and all acts and things necessary or proper for carrying out this Resolution, the Grant Agreement, and all other transactions contemplated hereby and thereby. Authorized Officers are hereby individually authorized to do all acts and things required of them by this Resolution and the Grant Agreement for the full, punctual and complete performance of all the terms, covenants and agreements contained in this Resolution and the Grant Agreement, including, but not limited to, the execution and delivery of closing documents in connection with the execution and delivery of the Grant Agreement.

Section 9. Amendment of Resolution. This Resolution after its adoption may be amended without receipt by the Grantee of any additional consideration, but only with the prior written consent of the Finance Authority.

Section 10. Resolution Irrepealable. After the Grant Agreement has been executed and delivered, this Resolution shall be and remain irrepealable until all obligations of the Grantee under the Grant Agreement shall be fully discharged, as herein provided.

Section 11. Severability Clause. If any section, paragraph, clause or provision of this Resolution shall for any reason be held to be invalid or unenforceable, the invalidity or unenforceability of such section, paragraph, clause or provision shall not affect any of the remaining provisions of this Resolution.

Section 12. Repealer Clause. All bylaws, orders, resolutions, ordinances, or parts thereof, inconsistent herewith are hereby repealed to the extent only of such inconsistency. This repealer shall not be construed to revive any bylaw, order, resolution or ordinance, or part thereof, heretofore repealed.

Section 13. Effective Date. Upon due adoption of this Resolution, it shall be recorded in the book of the Grantee kept for that purpose, authenticated by the signatures of the Mayor and Clerk/Treasurer of the Grantee, and this Resolution shall be in full force and effect thereafter, in accordance with law; provided, however, that if recording is not required for the

effectiveness of this Resolution, this Resolution shall be effective upon adoption of this Resolution by the Governing Body.

[*Remainder of page intentionally left blank.*]

Section 14. Execution of Agreements. The Town of Edgewood through its Governing Body agrees to authorize and execute all such agreements with the Finance Authority as are necessary to consummate the Grant contemplated herein and consistent with the terms and conditions attached hereto.

PASSED, APPROVED AND ADOPTED THIS 18th DAY OF APRIL 2018.

TOWN OF EDGEWOOD

By _____
John Bassett, Mayor

[SEAL]

ATTEST:

By _____
Juan Torres, Clerk/Treasurer

[*Remainder of page intentionally left blank.*]

Governing Body Member _____ then moved adoption of the foregoing Resolution, duly seconded by Governing Body Member _____.

The motion to adopt said Resolution, upon being put to a vote was passed and adopted on the following recorded vote:

Those Voting Aye: _____

_____

_____

_____

_____

Those Voting Nay: _____

_____

Those Absent: _____

_____

_____ (__) members of the Governing Body having voted in favor of said motion, the Mayor declared said motion carried and said Resolution adopted, whereupon the Mayor and the Clerk/Treasurer signed the Resolution upon the records of the minutes of the Governing Body.

After consideration of matters not relating to the Resolution, the meeting on motion duly made, seconded and carried, was adjourned.

[*Signature page follows.*]

TOWN OF EDGEWOOD

By _____
John Bassett, Mayor

[SEAL]

ATTEST:

By _____
Juan Torres, Clerk/Treasurer

[*Remainder of page intentionally left blank.*]

STATE OF NEW MEXICO)
) ss.
COUNTY OF SANTA FE)

I, Juan Torres, the duly qualified and acting Clerk/Treasurer of the Town of Edgewood (the "Grantee"), do hereby certify:

1. The foregoing pages are a true, perfect, and complete copy of the record of the proceedings of the Town Council of the Grantee constituting the Governing Body of the Grantee, had and taken at a duly called regular meeting held at Town of Edgewood Community Center, 27 East Frontage Road, Edgewood, New Mexico, 87015, on April 18, 2018 at the hour of 6:30 p.m., insofar as the same relate to the adoption of Resolution No. ___**2018-08**_____ and the execution and delivery of the proposed Grant Agreement, a copy of which is set forth in the official records of the proceedings of the Governing Body kept in the offices of the Grantee. None of the action taken in the said proceedings has been rescinded, repealed or modified.

2. Said proceedings were duly had and taken as therein shown, the meeting therein was duly held, and the persons therein named were present at said meeting, as therein shown.

3. Notice of said meeting was given in compliance with the permitted methods of giving notice of regular meetings of the Governing Body as required by the State Open Meetings Act, NMSA 1978, § 10-15-1, as amended, including, Grantee's Open Meetings Resolution No. 2018-01 dated January 17, 2018 and presently in effect.

IN WITNESS WHEREOF, I have hereunto set my hand this 27th day of April 2018.

TOWN OF EDGEWOOD

By_____
Juan Torrez, Clerk/Treasurer

[SEAL]

EXHIBIT "A"

Notice of Meeting

$37,500
Town of Edgewood
Planning Grant Agreement
Finance Authority No. 3630-PG

STATE OF NEW MEXICO)
) ss.
COUNTY OF SANTA FE)

CERTIFICATE OF GRANTEE

IT IS HEREBY CERTIFIED by the undersigned, the duly chosen, qualified and acting Mayor and Clerk/Treasurer of the Town of Edgewood (the "Grantee"), Santa Fe County, State of New Mexico, that:,

Capitalized terms used in this Certificate have the same meanings as defined in Resolution No. __**2018-08**_____ adopted by the Governing Body of the Grantee on April 18, 2018 (the "Resolution") in connection with this Planning Grant, unless otherwise defined in this Certificate or the context requires otherwise.

1. The Grantee is a legally and regularly created, established, organized and existing incorporated municipality under the general laws of the State and more specifically, the Municipal Code, NMSA 1978, §§ 3-1-1 through 3-66-11, as amended; and

2. The resolutions, rules and regulations governing the Project and customer service by the Grantee have been duly adopted and are now in full force and effect;

3. The Authorized Officers and Governing Body of the Grantee were duly and validly elected or appointed and are empowered to act for the Grantee; and

4. The Grantee has all requisite corporate power:

   (a) To perform or cause performance of the Project funded by the Planning Grant and the Local Match;

   (b) To execute and deliver Grant documents, including but not limited to those identified above; and

   (c) To perform all acts required by such Grant documents to be done by the Grantee.

5. All proceedings of the Grantee, its elected and appointed officers, and employees, required or necessary to be taken in connection with the authorization of the actions specified above have been duly taken and all such authorizations are presently in full force and effect.

6. The Resolution and the Grant Agreement have been duly signed and adopted in accordance with all applicable laws and neither has been repealed, rescinded, revoked, modified, amended or supplemented in any manner except as set forth in the Resolution. The Resolution

constitutes valid and sufficient legal authority for the Grantee to carry out and enforce the provisions of the Grant Agreement.

7. No event will result from the execution and delivery of the Grant Agreement that constitutes a default or an Event of Default under either the Grant Agreement or the Resolution, and no Event of Default and no default under the Grant Agreement or the Resolution has occurred and is continuing on the date of this Certificate.

8. The Grantee has duly authorized and approved the consummation by it of all transactions, and has complied with all requirements and satisfied all conditions, which are required by the Grant Agreement to have been authorized, approved, performed or consummated by the Grantee at or prior to the date of this Certificate. The Grantee has full legal right, power and authority to carry out and consummate the transactions contemplated by the Resolution and the Grant Agreement.

9. All approvals, consents and orders of any governmental authority having jurisdiction in the matter which would constitute a condition precedent to the enforceability of the Grant Agreement or any of the actions required to be taken by the Resolution or the Grant Agreement to the date of this Certificate have been obtained and are in full force and effect.

10. All approvals, consents and orders of any governmental authority having jurisdiction in the matter which would constitute a condition precedent to the completion of the Project have been obtained and are in full force and effect.

11. Neither the Grantee's adoption of the Resolution nor any action contemplated by or pursuant to the Resolution or the Grant Agreement conflicts or will conflict with, or constitute a breach by the Grantee of, or default by the Grantee under any law, court decree or order, governmental regulation, rule or order, resolution, agreement, indenture, mortgage or other instrument to which the Grantee is subject or by which it is bound.

12. There is no actual or threatened action, suit, proceeding, inquiry or investigation against the Grantee, at law or in equity, by or before any court, public board or body, nor to the Grantee's knowledge is there any basis therefore, affecting the existence of the Grantee or the titles of its officials to their respective offices, or in any way materially adversely affecting or questioning (a) the territorial jurisdiction of the Grantee, (b) the use of the proceeds of the Grant Agreement for the Project, (c) the validity or enforceability of the Grant Agreement or any proceedings of the Grantee with respect to the Grant Agreement or the Resolution, (d) the execution and delivery of the Grant Agreement or (e) the power of the Grantee to carry out the transactions contemplated by the Grant Agreement or the Resolution.

13. From at least April 1, 2018, to and including the date of this Certificate, the following were and now are the duly chosen, qualified and acting officers and members of the Governing Body of the Grantee:

John Bassett, Mayor

John Abrams, Mayor Pro Tem

Sherry Abraham, Councilor

Audrey Jaramillo, Councilor

Linda Holle, Councilor

Juan Torres, Clerk/Treasurer

14. To the best of our knowledge and belief after due investigation, none of the Events of Default referred to in Article IX of the Grant Agreement has occurred.

15. The Grantee has complied with all the covenants and satisfied all the conditions on its part to be performed or satisfied at or prior to the date hereof, and the representations and warranties of the Grantee contained in the Grant Agreement and in the Resolution are true and correct as of the date of this Certificate.

16. To the best of our knowledge and belief after due investigation, neither the Mayor, the Clerk/Treasurer, any member of the Governing Body of the Grantee, nor any other officer, employee or other agent of the Grantee is interested (except in the performance of his or her official rights, privileges, powers and duties), directly or indirectly, in the profits of any contract, or job for work, or services to be performed and appertaining to the Project.

17. Regular meetings of the Grantee's Governing Body and the meeting at which the Resolution was adopted have been held at Town of Edgewood Community Center, 27 East Frontage Road, Edgewood, New Mexico, 87015, the principal meeting place of the Grantee.

18. The Grantee's Governing Body has no rules of procedure which would invalidate or make ineffective the Resolution or other action taken by the Grantee's Governing Body in connection with the Grant Agreement. The Open Meetings Act Resolution No. 2018-01 (the "Open Meetings Act Resolution") adopted and approved by the Governing Body on January 17, 2018, establishes notice standards as required by Section 10-15-1, NMSA 1978, as amended and supplemented. The Open Meetings Act Resolution has not been amended or repealed. All action of the Governing Body with respect to the Grant Agreement and Resolution was taken at meetings held in compliance with the Open Meetings Act Resolution.

19. The Mayor and the Clerk/Treasurer, on the date of the signing of the Grant Agreement and on the date of this Certificate, are the duly chosen, qualified and acting officers of the Grantee authorized to execute the Grant Agreement.

20. This Certificate is for the benefit of the Finance Authority.

21. This Certificate may be executed in counterparts.

WITNESS our signatures and the seal of the Grantee this 27th day of April 2018.

TOWN OF EDGEWOOD

By _____
John Bassett, Mayor

[SEAL]

ATTEST:

By _____
Juan Torres, Clerk/Treasurer

$37,500

PLANNING GRANT AGREEMENT

dated

April 27, 2018

by and between

NEW MEXICO FINANCE AUTHORITY

and

TOWN OF EDGEWOOD

PLANNING GRANT AGREEMENT

THIS PLANNING GRANT AGREEMENT (the "Grant agreement"), dated April 27, 2018, is entered into by and between the NEW MEXICO FINANCE AUTHORITY (the "Finance Authority") and the TOWN OF EDGEWOOD (the "Grantee").

WITNESSETH:

WHEREAS, the Finance Authority is a public body politic and corporate, separate and apart from the State of New Mexico (the "State"), constituting a governmental instrumentality, duly organized and created under and pursuant to the laws of the State, particularly NMSA 1978 §§ 6-21-1 through 6-21-31, as amended, (the "New Mexico Finance Authority Act"); and

WHEREAS, NMSA 1978, § 6-21-6.4, as amended, creates the Local Government Planning Fund to be administered by the Finance Authority to make Grants to qualified entities to evaluate and to estimate the costs of implementing the most feasible alternatives for meeting water and/or wastewater public project needs, and pay administrative costs of the local government planning fund program; and

WHEREAS, Grantee is a legally and regularly created, established, organized and existing incorporated municipality under the general laws of the State and more specifically, the Municipal Code, NMSA 1978, §§ 3-1-1 through 3-66-11, as amended; and

WHEREAS, the Grantee is qualified to receive the Planning Grant pursuant to the Finance Authority's Rules and NMSA 1978, § 6-21-6.4, as amended; and

WHEREAS, the Grantee has applied to the Finance Authority for Planning Grant (as defined below) funding and has determined that it is in the best interest of the Grantee and the public it serves that the Grantee enter into this Grant Agreement with the Finance Authority and accept a grant in the amount of Thirty Seven Thousand Five Hundred Dollars ($37,500) from the Finance Authority to carry out the Project, as more fully described in Exhibit "A" attached hereto; and

WHEREAS, the Grantee acknowledges and understands that the Planning Grant must be expended and the Planning Documents must be completed within one (1) year from the Closing Date, or the Grantee will forfeit the ability to draw Grant funds from the Local Government Planning Fund; and

WHEREAS, the Grantee is prepared to perform all its obligations and to observe and obey all restrictions on the use of the Grant set forth in this Grant Agreement.

NOW, THEREFORE, for and in consideration of the foregoing premises and the mutual promises and covenants contained herein, the parties hereto agree:

ARTICLE I: DEFINITIONS

As used in this Agreement, including the foregoing recitals, the following terms shall, for all purposes, have the meanings herein specified, unless the context clearly requires otherwise (such meanings to be equally applicable to both the singular and the plural forms of the terms defined):

"Agreement Term" means the term of this Grant Agreement as provided under Article III of this Grant Agreement.

"Authorized Officers" means in the case of the Grantee the any one or more of the Mayor, Town Manager and Town Clerk thereof, and in the case of the Finance Authority the Chairperson, Vice-Chairperson and Secretary of the Board of Directors and the Chief Executive Officer, or any other officer or employee of the Finance Authority designated in writing by an Authorized Officer.

"Closing Date" means the date of execution, delivery and funding of this Grant Agreement.

"Event of Default" means one or more events of default as defined in Article IX of this Grant Agreement.

"Finance Authority" means the New Mexico Finance Authority.

"Force Majeure" means any act of God, fire, floods, storms, explosions, accidents, epidemics, war, civil disorder, strikes, lockouts or other labor difficulties, or any law, rule, regulation, order or other action adopted or taken by any federal, state or local government authority, or any other cause not reasonably within such party's control.

"Governing Body" means the Town Council of the Grantee, or any future governing body of the Grantee.

"Grant or Grant Amount" means the sum of Thirty Seven Thousand Five Hundred Dollars ($37,500).

"Grant Account" means the account in the name of the Grantee established pursuant to this Grant Agreement and held by the Finance Authority for deposit of the Grant Amount for disbursal to the Grantee for payment of the costs of the Project.

"Grant Agreement" means this grant agreement and any amendments or supplements hereto, including the Exhibits attached hereto.

"Grantee" means Town of Edgewood, Santa Fe County, New Mexico.

"Herein," "hereby," "hereunder," "hereof," "hereinabove," "hereafter" and similar words refer to this entire Grant Agreement and not solely to the particular section or paragraph of this Grant Agreement in which such word is used.

"Local Government Planning Fund" means the fund of the same name created pursuant to the Act and held and administered by the Finance Authority.

"Local Match" means Twelve Thousand Five Hundred Dollars ($12,500).

"NMSA 1978" means the New Mexico Statutes Annotated, 1978 Compilation, as amended and supplemented.

"Planning Document" means a written document in the form of a preliminary engineering report created for the purpose of evaluating and estimating the costs of alternatives to meet the Grantee's public project needs, namely to assess drainage solutions and storm water improvements.

"Planning Grant" or "Grant" means the amount provided to the Grantee pursuant to the Grant Agreement for the purpose of funding the Project, and is equal to the Grant Amount.

"Policy" or "Policies" means the New Mexico Finance Authority Local Government Planning Fund Project Management Policies.

"Project" means the preparation of the Planning Document as more particularly described in Exhibit "A" hereto.

"Resolution" means the Grantee's Resolution No. __**2018-08**_____ adopted on April 18, 2018, authorizing the Grantee's acceptance of the terms and conditions of this Grant Agreement.

"Rules" mean the Rules governing the Local Government Planning Fund as adopted by the Board of Directors of the Finance Authority, as amended and supplemented from time to time.

ARTICLE II: REPRESENTATIONS, WARRANTIES AND COVENANTS

Section 2.1. Representations, Warranties and Covenants of the Grantee. The Grantee represents, warrants and covenants as follows:

(a) Binding Nature of Covenants. All covenants, stipulations, obligations and agreements of the Grantee contained in this Grant Agreement and the Resolution shall be deemed to be the covenants, stipulations, obligations and agreements of the Grantee to the full extent authorized or permitted by law, and such covenants, stipulations, obligations and agreements shall be binding upon the Grantee and its successors and upon any board or body to which any powers or duties affecting such covenants, stipulations, obligations and agreement shall be transferred by or in accordance with law. Except as otherwise provided in this Grant Agreement, all rights, powers and privileges conferred and duties and liabilities imposed upon the Grantee by the provisions of this Grant Agreement and the Resolution shall be exercised or

performed by the Grantee or by such residents, officers, or officials of the Grantee as may be required by law to exercise such powers and to perform such duties.

(b) Personal Liability. No covenant, stipulation, obligation or agreement contained in this Grant Agreement shall be deemed to be a covenant, stipulation, obligation or agreement of any officer, agent or employee of the Grantee or member of the Governing Body in his or her individual capacity, and neither the members of the Governing Body nor any officer executing this Grant Agreement shall be liable personally on this Grant Agreement or be subject to any personal liability or accountability by reason of the execution and delivery thereof.

(c) Authorization of Grant Agreement. The Grantee is a political subdivision of the State, being a legally and regularly created, established, organized and existing incorporated municipality under the general laws of the State and more specifically, the Municipal Code, NMSA 1978, §§ 3-1-1 through 3-66-11, as amended and supplemented from time to time, the Grantee is authorized to enter into the transactions contemplated by this Grant Agreement and to carry out its obligations hereunder. The Grantee has duly authorized and approved the execution and delivery of this Grant Agreement and the other documents related to the transaction.

(d) Use of Grant Agreement Proceeds. The Grantee shall apply the proceeds of the Grant solely to the acquisition and completion of the Project, shall not use the Grant proceeds for any other purpose, and shall comply with all applicable ordinances and regulations, if any, and any and all applicable laws relating to the Project. The Grantee shall immediately apply all Grant proceeds disbursed to it toward the Project. The Grantee shall use the Grant proceeds and complete the Planning Document within one (1) year of the Closing Date or shall forfeit the full amount of the Grant.

(e) Selection of Contractors. All contractors providing services or materials in connection with the Project shall be selected in accordance with applicable provisions of the New Mexico Procurement Code, NMSA 1978, §§ 13-1-28 through 13-1-199, as amended, or, if the Grantee is not subject to the New Mexico Procurement Code, shall be selected in accordance with a documented procurement process duly authorized and established pursuant to laws and regulations applicable to the Grantee.

(f) Completion of Project. The Project will consist of the preparation of the Planning Document to assess drainage solutions and storm water improvements, and will be completed so as to comply with all applicable ordinances and regulations, if any, and any and all applicable laws, rules, and regulations of the State relating to the acquisition and completion of the Project and to the use of the Grant proceeds. If requested by the Finance Authority, the Grantee will allow the Office of the State Engineer, the New Mexico Environment Department or other appropriate agency of the State, or the Finance Authority to assist with completion of the Project and to review the Project as completed to assure compliance with applicable laws, rules and regulations of the State. The completed Planning Document must be in a form acceptable to and approved by the Finance Authority, in its sole discretion.

(g) Necessity of Project. The completion of the Project under the terms and conditions provided in this Grant Agreement is necessary, convenient and in furtherance of the governmental purposes of the Grantee and is in the best interest of the Grantee and the public it serves.

(h) Legal, Valid and Binding Obligation. The Grantee has taken all required action necessary to authorize the execution and delivery of this Grant Agreement and this Grant Agreement constitutes a legal agreement of the Grantee enforceable in accordance with its terms.

(i) Benefit to Grantee. The Project will at all times be used for the purpose of benefiting the Grantee and the public it serves as a whole.

(j) Grant Amount Does Not Exceed Project Cost. The Grant Amount as provided herein does not exceed the cost of the Project.

(k) No Breach or Default Caused by Grant Agreement. Neither the execution and delivery of this Grant Agreement, nor the fulfillment of or compliance with the terms and conditions in this Grant Agreement, nor the consummation of the transactions contemplated herein conflicts with or results in a breach of any terms, conditions or provisions of, or any restrictions contained in, any agreement or instrument to which the Grantee is a party or by which the Grantee is bound or any laws, ordinances, governmental rules or regulations or court or other governmental orders to which the Grantee or its properties are subject, or constitutes a default under any of the foregoing.

(l) Irrevocability of Grant Agreement. The terms of this Grant Agreement shall be irrevocable until the Project has been fully acquired and completed, and shall not be subject to amendment or modification in any manner which would result in any use of the proceeds of this Grant Agreement in a manner not permitted or contemplated by the terms hereof.

(m) No Litigation. To the best knowledge of the Grantee, no litigation or proceeding is pending or threatened against the Grantee or any other person affecting the right of the Grantee to execute this Grant Agreement or to comply with its obligations under this Grant Agreement. Neither the execution of this Grant Agreement by the Grantee nor compliance by the Grantee with the obligations hereunder requires the approval of any regulatory body, or any other entity, which approval has not been obtained or which is not reasonably expected to be obtained.

(n) Occurrence of Event of Default. No event has occurred and no condition exists which, upon the execution and delivery of this Grant Agreement, would constitute an Event of Default on the part of the Grantee hereunder.

(o) Grantee's Existence. The Grantee will maintain its legal identity and existence for the Agreement Term, unless another political subdivision by operation of law succeeds to the liabilities, rights, and duties of the Grantee without adversely affecting to any substantial degree the privileges and rights of the Finance Authority.

(p) Reports to Finance Authority. The Grantee shall report at least semi-annually to the Finance Authority on the status of the Planning Document.

(q) Records. The Grantee shall properly maintain separate project accounts in accordance with generally accepted accounting principles and conduct an annual audit or review of the Grantee's financial records related to the Project.

(r) Local Match. The Local Match is legally available for the Project, has been applied by Grantee solely for the purposes of the Project and sufficient evidence of the Local Match has been provided to the Finance Authority.

Section 2.2. Representations, Warranties and Covenants of the Finance Authority. The Finance Authority represents, warrants and covenants as follows:

(a) The Finance Authority is a public body politic and corporate, separate and apart from the State, constituting a governmental instrumentality duly organized, existing and in good standing under the laws of the State, has all necessary power and authority to enter into and perform and observe the covenants and agreements on its part contained in this Grant Agreement and, by proper action, has duly authorized the execution and delivery of this Grant Agreement.

(b) This Agreement constitutes a legal, valid and binding obligation of the Finance Authority enforceable in accordance with its terms.

ARTICLE III: AGREEMENT TERM

The Agreement Term shall commence on the Closing Date and shall terminate upon the earliest of the following events: a determination by the Finance Authority that (a) the Grantee is unable to proceed with the Project for the foreseeable future or has failed to commence the Project in a reasonably timely manner, (b) the Grant or any portion thereof is not necessary for the Project (in which case the Grant Amount may be modified by the Finance Authority)or (c) the Grantee has failed to utilize the Planning Grant to complete the Planning Document within one year of the Closing Date.

ARTICLE IV: GRANT; APPLICATION OF MONEYS

On the Closing Date, the Finance Authority shall transfer the amount shown on Exhibit "A" into the Grant Account to be disbursed by the Finance Authority pursuant to Section 6.2 of this Grant Agreement at the direction of the Grantee, as needed by the Grantee to acquire and complete the Project.

ARTICLE V: GRANT TO THE GRANTEE

Section 5.1. Grant to the Grantee. The Finance Authority hereby grants and the Grantee hereby accepts an amount equal to the Grant Amount. The Finance Authority shall establish and maintain, on behalf of the Grantee, a Grant Account, which Grant Account shall be kept separate and apart from all other accounts of the Finance Authority. The Grantee hereby pledges to the Finance Authority all its rights, title and interest in the funds held in the Grant

Account for the purpose of securing the Grantee's obligations under this Grant Agreement. Funds in the Grant Account shall be disbursed as provided in Sections 6.2 and 6.3 hereof.

Section 5.2. No General Obligation. No provision of this Grant Agreement shall be construed or interpreted as creating a general obligation or other indebtedness of the Grantee within the meaning of any constitutional or statutory debt limitation.

Section 5.3. Investment of Moneys in Grant Account. Money on deposit in the Grant Account may be invested by the Finance Authority for the credit of the Local Government Planning Fund.

ARTICLE VI: THE PROJECT

Section 6.1. Agreement to Acquire and Complete the Project. The Grantee hereby agrees that in order to effectuate the purposes of this Grant Agreement and to acquire and complete the Project it shall take such steps as are necessary and appropriate to acquire and complete the Project lawfully, efficiently and within one (1) year of the Closing Date.

Section 6.2. Disbursements from the Grant Account. So long as no Event of Default shall occur, the Finance Authority shall disburse moneys from the Grant Account, either to the Grantee or to vendors and contractors, as determined by the Finance Authority in its sole discretion, upon receipt by the Finance Authority of a requisition substantially in the form of Exhibit "B" attached hereto signed by an Authorized Officer of the Grantee, supported by certification by the Grantee's project architect, engineer, or other such authorized representative of the Grantee acceptable to the Finance Authority that the amount of the disbursement request represents the progress of completion, acquisition or other Project related activities accomplished as of the date of the disbursement request. The Grantee shall provide such records or access to the Project as the Finance Authority, in its sole discretion, may request in connection with the approval of the Grantee's disbursement requests made hereunder. No disbursement from the Grant Account may be made without receipt of evidence of the Local Match.

Section 6.3. Determination of Eligibility as condition Precedent to Disbursement. Prior to the disbursement of the Grant Amount or any portion thereof, the Finance Authority shall have determined that eh Grantee has met the readiness to proceed requirements established for the Grant by the Finance Authority and no Event of Default shall have occurred. No disbursement shall be made from the Grant Account except upon a determination by the Finance Authority that such disbursement is for payment of Project expenses, and that the disbursement does not exceed any limitation upon the amount payable.

Section 6.4. Reimbursement for Prior Expenditures. The Finance Authority, so long as no Event of Default shall occur and upon presentation of the Grantee's disbursement request with such certification and records as are required in accordance with Section 6.2 hereof, may disburse moneys from the Grant Account for reimbursement of Project expenses incurred after the Finance Authority Board of Directors approved the grant on October 27, 2016.

Section 6.5. Completion of Disbursement of Grant Funds. Upon completion of disbursement of the Grant Amount, an Authorized Officer of the Grantee shall deliver a certificate of completion, substantially in the form attached to this Grant Agreement as Exhibit "C", to the Finance Authority stating that, to the best of the Authorized Officer's knowledge the Project has been completed and the entire Grant Amount has been disbursed in accordance with the terms of this Grant Agreement. If any portion of the Grant Amount remains upon the delivery of the certificate of completion, the Finance Authority may, in its sole discretion, modify this Grant Agreement and reduce the amount of the Grant.

ARTICLE VII: COMPLIANCE WITH LAWS AND RULES; OTHER COVENANTS

Section 7.1. Further Assurances and Corrective Instruments. The Finance Authority and the Grantee agree that they will, from time to time, execute, acknowledge and deliver, or cause to be executed, acknowledged and delivered, such supplements hereto and such further instruments as may reasonably be required for carrying out the terms and intention hereof.

Section 7.2. Finance Authority and Grantee Representatives. Whenever under the provisions of this Grant Agreement the approval of the Finance Authority or the Grantee is required, or the Grantee or the Finance Authority is required to take some action at the request of the other, such approval or such request shall be given for the Finance Authority or for the Grantee by an Authorized Officer of the Finance Authority or the Grantee, as the case may be, and any party hereto shall be authorized to act or rely on any such approval or request.

Section 7.3. Requirements of Law. During the Agreement Term, the Grantee shall observe and comply promptly with all applicable federal, State and local laws and regulations affecting the Project, and all current and future orders of all courts and agencies of the State having jurisdiction over the Project and matters related to the Project.

ARTICLE VIII: NON-LIABILITY OF FINANCE AUTHORITY FOR ACTS OR OMISSIONS OF THE GRANTEE; INDEMNIFICATION

Section 8.1. Non-Liability of Finance Authority. The Finance Authority shall not be liable in any manner for the Project, Grantee's use of the Grant, the ownership, operation or maintenance of the Project, or any failure to act properly by the owner or operator of the Project.

Section 8.2. Indemnification of Finance Authority. The Finance Authority shall not be responsible for any act or omission of the Grantee upon which any claim, by or on behalf of any person, firm, corporation or other legal entity may be made, whether arising from the establishment or modification of the Project or otherwise. To the extent permitted by law, the Grantee shall and hereby agrees to indemnify and save harmless the Finance Authority and its designee, if any, from all claims by or on behalf of any person, firm, corporation or other legal entity arising from the acquisition and completion of the Project. In the event of any action or proceeding brought on any such claim, upon notice from the Finance Authority or its designee, Grantee shall defend the Finance Authority and its designee, if any, in any such action or proceeding.

ARTICLE IX: EVENTS OF DEFAULT AND REMEDIES

Section 9.1. Events of Default Defined. Any one of the following shall be an Event of Default under this Agreement:

(a) Use of the Grant Amount, or any portion thereof, by the Grantee for purposes other than the Project;

(b) Failure by the Grantee to utilize the Grant proceeds to complete the Project within one (1) year of the Closing Date;

(c) Failure by the Grantee to observe and perform any other covenant, condition or agreement on its part to be observed or performed under this Grant Agreement for a period of thirty (30) days after written notice, specifying such failure and requesting that it be remedied, is given to the Grantee by the Finance Authority, unless the Finance Authority shall agree in writing to an extension of such time prior to its expiration; provided, however, if the failure stated in the notice can be wholly cured within a period of time not materially detrimental to the rights of the Finance Authority, but cannot be cured within the applicable thirty (30)day period, the Finance Authority will not unreasonably withhold its consent to an extension of such time if corrective action is instituted by the Grantee within the applicable period and diligently pursued until the failure is corrected; and provided, further, that if by reason of Force Majeure the Grantee is unable to carry out the agreements on its part herein contained, the Grantee shall not be deemed in default under this paragraph during the continuance of such inability (but Force Majeure shall not excuse any other Event of Default); or

(d) Any warranty, representation or other statement by or on behalf of the Grantee contained in this Grant Agreement or in any instrument furnished in compliance with or in reference to this Grant Agreement is false or misleading in any material respect.

Section 9.2. Remedies on Default. Whenever any Event of Default has occurred and is continuing, and subject to Section 9.3 hereof, the Finance Authority may take whatever of the following actions may appear necessary or desirable to enforce performance of any agreement of the Grantee in this Grant Agreement:

(a) File a mandamus proceeding or other action or proceeding or suit at law or in equity to compel the Grantee to perform or carry out its duties under the law and the agreements and covenants required to be performed by it contained herein;

(b) Terminate this Grant Agreement;

(c) Cease disbursing any further amounts from the Grant Account;

(d) Demand that the Grantee immediately repay the Grant Amount or any portion thereof if such funds were not utilized in accordance with this Grant Agreement;

(e) File a suit in equity to enjoin any acts or things which are unlawful or violate the rights of the Finance Authority; or

(f) Take whatever other action at law or in equity may appear necessary or desirable to enforce any other of its rights hereunder.

The Grantee shall be responsible for reimbursing the Finance Authority for any and all fees and costs incurred in enforcing the terms of this Grant Agreement.

Section 9.3 Limitations on Remedies. A judgment requiring repayment of money entered against the Grantee may reach any available funds of the Grantee to the extent permitted by law.

Section 9.4. No Remedy Exclusive. No remedy herein conferred upon or reserved to the Finance Authority is intended to be exclusive, and every such remedy shall be cumulative and shall be in addition to every other remedy given hereunder or now or hereafter existing at law or in equity. No delay or omission to exercise any right or power accruing upon any default shall impair any such right or power or shall be construed to be a waiver thereof, but any such right and power may be exercised from time to time and as often as may be deemed expedient. In order to entitle the Finance Authority to exercise any remedy reserved in this Article IX, it shall not be necessary to give any notice, other than such notice as may be required in this Article IX.

Section 9.5. Waivers of Events of Default. The Finance Authority may in its sole discretion waive any Event of Default hereunder and the consequences of such an Event of Default; provided, however, all expenses of the Finance Authority in connection with such Event of Default shall have been paid or provided for. Such waiver shall be effective only if made by written statement of waiver issued by the Finance Authority. In case of any such waiver or rescission, or in case any proceeding taken by the Finance Authority on account of any Event of Default shall have been discontinued or abandoned or determined adversely, then the Finance Authority and the Grantee shall be restored to their former positions and rights hereunder, respectively, but no such waiver or rescission shall extend to any subsequent or other Event of Default, or impair any right consequent thereon.

Section 9.6. No Additional Waiver Implied by One Waiver. In the event that any agreement contained herein should be breached by either party and thereafter waived by the other party, such waiver shall be in writing and limited to the particular breach so waived and shall not be deemed to waive any other breach hereunder.

ARTICLE X: MISCELLANEOUS

Section 10.1. Notices. All notices, certificates or other communications hereunder shall be sufficiently given and shall be deemed given when delivered as follows:

If to the Grantee, then to:

Town of Edgewood
Attn.: Mayor
P.O. Box 3610
Santa Fe, New Mexico 87015

And if to the Finance Authority, then to:

New Mexico Finance Authority
Attn.: Chief Executive Officer
207 Shelby Street
Santa Fe, New Mexico 87501

The Grantee and the Finance Authority may, by written notice given hereunder, designate any further or different addresses to which subsequent notices, certificates or other communications shall be sent.

Section 10.2. Binding Effect. This Grant Agreement shall inure to the benefit of and shall be binding upon the Finance Authority, the Grantee and their respective successors and assigns, if any.

Section 10.3. Amendments. This Grant Agreement may be amended only with the written consent of the Finance Authority and the Grantee.

Section 10.4. No Liability of Individual Officers, Directors or Trustees. No recourse under or upon any obligation, covenant or agreement contained in this Grant Agreement shall be had against any member, employee, director or officer, as such, past, present or future, of the Finance Authority, or against any officer, employee, director or member of the Grantee, past, present or future, as an individual so long as such individual was acting in good faith and within the scope of his or her duties. Any and all personal liability of every nature, whether at common law or in equity, or by statute or by constitution or otherwise, of any such officer, employee, director or member of the Grantee or of the Finance Authority is hereby expressly waived and released by the Grantee and by the Finance Authority as a condition of and in consideration for the execution of this Agreement.

Section 10.5. Grantee Compliance. The Finance Authority shall not be responsible for assuring the Grantee's use of the Grant Amount or the Project for its intended purpose and shall have no obligation to monitor compliance by the Grantee with the provisions of this Grant Agreement.

Section 10.6. Severability. In the event that any provision of this Grant Agreement shall be held invalid or unenforceable by any court of competent jurisdiction, such holding shall not invalidate or render unenforceable any other provision hereof.

Section 10.7. Execution in Counterparts. This Grant Agreement may be simultaneously executed in several counterparts, each of which shall be an original and all of which shall constitute but one and the same instrument.

Section 10.8. Applicable Law. This Grant Agreement shall be governed by and construed in accordance with the laws of the State.

Section 10.9. Captions. The captions or headings herein are for convenience only and in no way define, limit or describe the scope or intent of any provisions or sections of this Grant Agreement.

[*Remainder of page intentionally left blank.*]

[*Signature pages follow.*]

IN WITNESS WHEREOF, the Finance Authority, on behalf of itself, and as authorized by the Finance Authority Board of Directors on October 27, 2016, has executed this Grant Agreement in its corporate name with its corporate seal hereunto affixed and attested by its duly Authorized Officers; and the Grantee has caused this Grant Agreement to be executed in its corporate name and the seal of the Grantee affixed and attested by its duly Authorized Officers. All of the above are effective as of the date first above written.

NEW MEXICO FINANCE AUTHORITY

By _____
Chief Executive Officer or Designee

[SEAL]

ATTEST:

By _____

Approved for Execution by Officers of the
New Mexico Finance Authority:

By_____
Daniel C. Opperman, General Counsel

TOWN OF EDGEWOOD

By _____
John Bassett, Mayor

[SEAL]

ATTEST:

By _____
Juan Torres, Clerk/Treasurer

EXHIBIT "A"

TERM SHEET

Grantee:	TOWN OF EDGEWOOD
Project Description:	Preparation of a Planning Document consisting of the preliminary engineering report assessing drainage solutions and storm water improvements.
Total Grant Amount:	Thirty Seven Thousand Five Hundred Dollars ($37,500)
Local Match:	Twelve Thousand Five Hundred Dollars ($12,500)
Closing Date:	April 27, 2018

EXHIBIT "B"
FORM OF REQUISITION

RE: Thirty Seven Thousand Five Hundred Dollars ($37,500) Planning Grant Agreement (the "Grant Agreement") by and between the New Mexico Finance Authority ("Finance Authority") and the Town of Edgewood ("Grantee"), Finance Authority Grant Number 3630-PG (the "Grant Agreement").

Closing Date: April 27, 2018

TO: NEW MEXICO FINANCE AUTHORITY

You are hereby authorized to disburse funds from the Grant Account, with regard to the above-referenced Grant Agreement, the following:

NAME AND ADDRESS OF PAYEE: _____

AMOUNT OF PAYMENT: $ _____

PURPOSE OF PAYMENT: _____

_____

WIRING INFORMATION

BANK NAME:	
ACCOUNT NUMBER:	
ROUTING NUMBER:	

Each obligation, item of cost or expense mentioned herein is for the Grant made by the New Mexico Finance Authority pursuant to the Grant Agreement to the Grantee, within the State of New Mexico, is due and payable, has not been the subject of any previous requisition and is a proper charge against the Grant Account held on behalf of the Grantee. All representations contained in the Grant Agreement and the related closing documents remain true and correct and the Grantee is not in breach of any of the covenants contained therein.

Capitalized terms used herein are used as defined or as used in the Grant Agreement.

DATED: _____

By: _____
Authorized Officer of the Grantee

Title: _____

EXHIBIT "C"

FORM OF CERTIFICATE OF COMPLETION

RE: Thirty Seven Thousand Five Hundred Dollars ($37,500) Planning Grant Agreement (the "Grant Agreement") by and between the New Mexico Finance Authority ("Finance Authority") and the Town of Edgewood ("Grantee"), Finance Authority Grant Number 3630-PG (the "Grant Agreement").

Closing Date: April 27, 2018

TO: NEW MEXICO FINANCE AUTHORITY

I, _____, the _____ of
[Name] [Title or position]

the Grantee, hereby certify as follows:

1. The project described in the Grant Agreement (the "Project") was completed and placed in service by the Grantee on _____, 20___.

2. The total cost of the Project was $ _____.

3. The Project was completed and is and shall be used consistent with and subject to the covenants set forth in the Grant Agreement.

TOWN OF EDGEWOOD

By: _____

Its: _____

NEW MEXICO
ENVIRONMENT DEPARTMENT

Harold Runnels Building
1190 St. Francis Drive
PO Box 5469
Santa Fe, NM 87502
Phone (505) 827-2806 Fax (505) 827-2837
www.env.nm.gov

SUSANA MARTINEZ
Governor

JOHN A. SANCHEZ
Lt. Governor

BUTCH TONGATE
Cabinet Secretary

J. C. BORREGO
Deputy Secretary

March 6, 2018

Mr. Scott Armstrong
Bohannan Huston
Courtyard 1
7500 Jefferson St. NE
Albuquerque, NM 87109

RE: **Review of Edgewood Master Drainage Plan/Drainage Crossing Plan, (NMFA 3630-PG)**

Dear Mr. Armstrong,

The New Mexico Environment Department Construction Programs Bureau received the revised final draft of the Town of Edgewood drainage plan on March 2, 2018. The previously requested information has been added to the plan. All items outlined in the contract for this document have been included in the plan and it is now complete.

The report needs to be stamped and signed by you and Mr. Carrillo. Once the report has been signed it is approved. If you have questions or comments please contact me at judi.kahl@state.nm.us or 505-827-1055.

Sincerely,

Judith L. Kahl, P.E.
Bureau Chief

cc: Mayor John Bassett, Edgewood, via email
Carla Salazar, Edgewood, via email
Juan Torres, Edgewood, via email
Mary Finney, NMFA, via e-mail
Andrea Pollock, NMED CPB, via email

NEW MEXICO FINANCE**AUTHORITY**

NMFA GRANT CLOSING QUESTIONNAIRE

Please fill out the information below and return this to NMFA at LGPF@nmfa.net.

1. Name of your Governing Body (such as Town Council, County Commission, Board of Trustees, Board of Directors). *Town of Edgewood Town Council*

2. Name and title of the members of the Governing Body. *Mayor John Bassett, Mayor Pro tem John Abrams, Councilor Rita Loy Simmons, Councilor Sherry Abraham, Councilor Linda Holle* *An election to fill two council seats is underway. Councilor Rita Loy Simmons is not running and Councilor Linda Holle's seat is being contested so the makeup of the council will change after March 6th, 2018*

3. Name, phone number, and email of the mayor and clerk, or Governing Body members, who will be signing the closing documents. *Mayor John Bassett, 505-286-4518, mayorbassett@edgewood-nm.gov; Clerk/Treasurer Juan Torres, 505-286-4518 jtorres@edgewood-nm.gov; Attorney Randy Autio, 505-242-2228* randy@roblesrael.com

4. Name, title, phone number, and email of all individuals to be included in correspondence regarding this grant closing, including legal counsel (if relevant to this transaction). *Mayor John Bassett, 505-286-4518, mayorbassett@edgewood-nm.gov, Clerk/Treasurer Juan Torres, 505-286-4518 jtorres@edgewood-nm.gov*

5. Date, time, and address of where the regular meetings of the Governing Body are held. Regular meetings of the Governing Body are held every first and third Wednesday of the month at 6:30 pm at the Town of Edgewood Community Center at 27 E. Frontage Rd, Edgewood, NM 87015

6. How many days prior to the meeting of the Governing Body must you receive final documents from NMFA in order to approve and adopt them? __*3 working days*_____

7. Copy of Open Meetings Act resolution, properly adopted, and dated within the last 12-14 months. *Attached.*

8. Copies of all invoices and canceled checks evidencing payment to the contractor, and/or confirmation that you would like the contractor to be paid directly with the grant funds. *Attached.*

Once we receive the information on this questionnaire, our closing attorney will start the closing process by drafting the closing documents listed below and emailing them to you for approval. If you require any changes/corrections, we will make them and send you a finalized PDF of the closing documents for adoption at your next meeting.

- The Authorizing Resolution which authorizes the execution of the Grant Agreement and will be adopted by your Governing Body at your next meeting;

- The Grant Agreement which outlines the terms and conditions upon which you agree in order to receive the grant funds;

- The Certificate of Grantee which certifies that all actions have been properly taken.

TOWN OF EDGEWOOD
OPEN MEETINGS ACT
RESOLUTION NO. 2018-01

WHEREAS,
The Town of Edgewood Governing Body met in regular session at the Edgewood Community Center, located at #27 E. Frontage Road, on January 17, 2018 at 6:30 P.M. as required by law; and

WHEREAS,
Section 10-15-1(B) of the Open Meetings Act (NMSA 1978, Sections 10-15-1 to 10-15-4) states that, except as may be otherwise provided in the Constitution or the provisions of the Open Meetings Act, all meetings of a quorum of members of any board, council, commission, administrative adjudicatory body or other policymaking body of any state or local public agency held for the purpose of formulating public policy, discussing public business or for the purpose of taking any action within the authority of or the delegated authority of such body, are declared to be public meetings open to the public at all times; and

WHEREAS,
any meetings subject to the Open Meetings Act at which the discussion or adoption of any proposed resolution, rule, regulation or formal action occurs shall be held only after reasonable notice to the public; and

WHEREAS,
Section 10-15-1 (D) of the Open Meetings Act requires the Town of Edgewood Governing Body to determine annually what constitutes reasonable notice of it public meetings;

NOW, THEREFORE, BE IT RESOLVED
by the Town of Edgewood Governing Body that:

1. All meetings shall be held at the Edgewood Community Center at #27 E. Frontage Road at 6:30 P.M. or as indicated in the meeting notice.

2. Unless otherwise specified, regular meetings shall be held each month on the first and third Wednesday. The agenda will be available at least seventy – two (72) hours prior to the meeting from the Town Clerk/Treasurer, whose office is located in Edgewood, New Mexico.

3. Notice of regular meetings other than those described in Paragraph 2 will be given ten days in advance of the meeting date. The notice will include a copy of the agenda or information on how a copy of the agenda may be obtained.

4. Special meetings may be called by the Mayor or a majority of the council members upon three days' notice. The notice for a special meeting shall include an agenda for the meeting or information on how a copy of the agenda may be obtained.

5. For the purposes all meetings, not including Emergency Meetings described in paragraph 2, 3, and 4 of this resolution, notice requirements are met if notice of the date, time, place and agenda and information on how to obtain a copy of such agenda is placed in a newspaper of general circulation, and in the state *or* if that same information is posted in the following locations:

    I. Edgewood Library – 171B New Mexico 344
    II. Smith's Grocery - 2B Highway 344
    III. Mr. Gas - #1 Highway 344
    IV. Edgewood Community Center - 27 E. Frontage Road
    V. Mail and Copy Business Center – 2 Marietta Court
    VI. Current Town Hall Office – 1911 Old Highway 66 (Bulletin board on South side of building) Future Town Hall Office – 171 B State Road 344
    VII. Town Website (www.edgewood-nm.gov)

Copies of the written notice shall also be mailed to those broadcast stations licensed by the Federal Communications Commission and newspapers of general circulation which have made a written request for notice of public meetings.

6. Emergency meetings will be called only under unforeseen circumstances that demand immediate action to protect the health, safety and property of citizens or to protect the public body from substantial financial loss. The Town of Edgewood will avoid emergency meetings whenever possible. Emergency meetings may be called by the Mayor or a majority of the council members with twenty-four hours prior notice, unless threat of personal injury or property damage requires less notice. The notice for all emergency meetings shall include an agenda for the meeting or information on how the public may obtain a copy of the agenda. If time and circumstances permit, an emergency agenda will be posted on the Town of Edgewood website: www.edgewood-nm.gov

7. For the purposes of special meetings and emergency meetings described in Paragraphs 4 and 6, notice requirements are met if notice of the date, time, place and agenda is provided by telephone to newspapers of general circulation in the state or posted outside Town Hall. Telephone notice also shall be given to those broadcast stations licensed by the Federal Communications Commission and newspapers of general circulation that have made a written request for notice of public meetings.

8. In addition to the information specified above, all notices shall include the following language:

   If you are an individual with a disability who is in need of a reader, amplifier, qualified sign language interpreter, or any other form of auxiliary aid or service to attend or participate in the hearing or meeting, please contact the Clerk/Treasurer at (505) 286-4518 at least one week prior to the meeting or as soon as possible. Public documents, including the agenda and minutes, can be provided in various accessible formats. Please contact the Clerk/Treasurer at (505) 286-4518 if a summary or other type of accessible format is needed.

9. The Town of Edgewood Governing Body may close a meeting to the public only if the subject matter of such discussion or action is an exception from the open meeting requirement under Section 10-15-1(H) of the Open Meetings Act.

   a) If any meeting is closed during an open meeting, such closure shall be approved by a majority vote of a quorum of the Town of Edgewood Governing Body taken during the open meeting. The authority for

the closed meeting and the subjects to be discussed shall be stated with reasonable specificity in the motion to close and the vote of each individual member on the motion to close shall be recorded in the minutes. Only those subjects specified in the motion may be discussed in the closed meeting.

b) If a closed meeting is conducted when the Town of Edgewood Governing Body is not in an open meeting, the closed meeting shall not be held until public notice, appropriate under the circumstances, stating the specific provision of law authorizing the closed meeting and the subjects to be discussed with reasonable specificity, is given to the members and to the general public.

c) Following completion of any closed meeting, the minutes of the open meeting that was closed, or the minutes of the next open meeting if the closed meeting was separately scheduled, shall state whether the matters were limited only to those specified in the motion or notice for closure.

d) Except as provided in Section 10-15-1 (h) of the Open Meetings Act, any action taken as a result of discussions in a closed meeting shall be made by vote of the Town of Edgewood Governing Body in an open public meeting.

NOW, THEREFORE BE IT ALSO RESOLVED by the Governing Body that:

10. The Town of Edgewood Planning & Zoning Commission Meetings will be held at the Edgewood Community Center (#27 E. Frontage Road) at 6:00 P.M. or as indicated on the meeting notice.
    a) Unless otherwise specified, regular meetings shall be held on the first and third Monday. An agenda will be published and posted seventy-two (72) hours prior to the regular scheduled meetings as described in paragraph 5.
    b) The agenda will be posted-outside Town Hall and posted online on the Town's website at www.edgewood-nm.gov.

11. The Town of Edgewood Parks and Recreation Advisory Committee Meetings will be held at the Edgewood Community Center, #27 E. Frontage Road at 6:30 P.M. or as indicated on the meeting notice.
    a) Unless otherwise specified, regular meetings shall be held on the third Tuesday of every month.

b) An agenda will be published and posted (72) hours prior to the regular scheduled meeting as described in paragraph 5. This agenda will be available outside Town Hall.

WHEREAS: This Resolution supersedes Resolution No. 2016-23.

PASSED, ADOPTED AND APPROVED this 17th day of January 2018

John Bassett, Mayor

ATTEST:

Juan Torres, Clerk/Treasurer

R PLAN

	Invoice Date:	Invoice Amout:	Paid Date:	Check No.:	Check Amount:	
100823	03/06/2018	$15,566.00	03/06/2018	23497	$15,566.00	
						The Check was written for $27,565.15 but only $15,845.51 was payable towards the Drainage Master Plan. The balance of the check was for a different project
100115	02/06/2018	$11,077.88				
			02/21/2018	23447	$27,565.15	
100115	01/03/2018	$4,767.63				
						The Check was written for $16,170.83 but only $14,184.63.88 was payable towards the Drainage Master Plan. The balance of the check was for a different project
99943	12/07/2017	$8,207.63				
			01/05/2018	23309	$16,170.83	
99599	11/01/2017	$5,977.00				
						The Check was written for $10,529.63 but only $8,153.88 was payable towards the Drainage Master Plan. The balance of the check was for a different project
99256	10/04/2017	$8,153.88	10/18/2017	23023	$10,529.63	
		$53,750.02				

Bohannan Huston

Courtyard I
7500 Jefferson St. NE
Albuquerque, NM
87109-4335

www.bhinc.com

voice 505.823.1000
facsimile 505.798.7988
toll free 800.877.5332

INVOICE

Town of Edgewood
PO Box 3610
Edgewood, NM. 87015 US

Invoice Number : 100823
Project Number : 20180158
Project Name : Town of Edgewood DMP
Invoice Group : **
Invoice Date : 3/6/2018

Attention: Karen Mahalick

For Professional Services Rendered through: 3/2/2018

Phase Code / Name	Fee Type	Contract Amount	Percent Complete	Total Fee Earned	Previous Billing	Current Billing
001 -- Communications and Project Mgmt	LS	$8,700.00	100.00%	$8,700.00	$5,220.00	$3,480.00
002 -- Review of Existing Information	LS	$1,300.00	100.00%	$1,300.00	$1,300.00	$0.00
003 -- Drainage Master Plan	LS	$40,000.00	100.00%	$40,000.00	$29,000.00	$11,000.00
	Total :	$50,000.00		$50,000.00	$35,520.00	$14,480.00
				Current Albuq Gross Receipts Tax	7.5000%	$1,086.00
				Amount Due this Invoice		**$15,566.00**

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ston ** 023497 03/06/18

PO #	DESCRIPTION		AMOUNT
---------- G/L DISTRIBUTION ----------			
	Bohannan Huston		15,566.00
030	engineering services	3,741.00	
087	Drainage master plan	11,825.00	

E Courtyar CHECK TOTAL 15,566.00

0-4335

Bohannan ▲ Huston

Courtyard I
7500 Jefferson St. NE
Albuquerque, NM
87109-4335

www.bhinc.com

voice: 505.823.1000
facsimile: 505.798.7988
toll free: 800.877.5332

INVOICE

Town of Edgewood
PO Box 3610
Edgewood, NM. 87015 US

Invoice Number : 100540
Project Number : 20180158
Project Name : Town of Edgewood DMP
Invoice Group : **
Invoice Date : 2/6/2018

Attention: Karen Mahalick

For Professional Services Rendered through: 2/2/2018

Phase Code / Name	Fee Type	Contract Amount	Percent Complete	Total Fee Earned	Previous Billing	Current Billing
001 -- Communications and Project Mgmt	LS	$6,700.00	60.00%	$5,220.00	$3,915.00	$1,305.00
002 -- Review of Existing Information	LS	$1,300.00	100.00%	$1,300.00	$1,300.00	$0.00
003 -- Drainage Master Plan	LS	$40,000.00	72.50%	$29,000.00	$20,000.00	$9,000.00
	Total :	$50,000.00		$35,520.00	$25,215.00	$10,305.00
				Current Albuq Gross Receipts Tax	7.5000%	$772.88
				Amount Due this Invoice		$11,077.88

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Albuquerque, NM
87109-4335
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voice: 505.823.1000
facsimile: 505.798.7988
toll free: 800.877.5332

INVOICE

Town of Edgewood
PO Box 3610
Edgewood, NM, 87015 US

Invoice Number : 100115
Project Number : 20180158
Project Name : Town of Edgewood DMP
Invoice Group : **
Invoice Date : 1/3/2018

Attention: Karen Mahalick

For Professional Services Rendered through: 12/29/2017

Phase Code / Name	Fee Type	Contract Amount	Percent Complete	Total Fee Earned	Previous Billing	Current Billing
001 – Communications and Project Mgmt	LS	$8,700.00	45.00%	$3,915.00	$3,480.00	$435.00
002 – Review of Existing Information	LS	$1,300.00	100.00%	$1,300.00	$1,300.00	$0.00
003 – Drainage Master Plan	LS	$40,000.00	50.00%	$20,000.00	$16,000.00	$4,000.00
Total :		$50,000.00		$25,215.00	$20,780.00	$4,435.00
				Current Albuq Gross Receipts Tax	7.5000%	$332.63
				Amount Due this Invoice		$4,767.63

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100115 4767.63
100540 11,077.88

TOWN OF EDGEWOOD **23447**

01-0538 ** Bohannan Huston ** 023447 02/21/18

DATE	I.D.	PO #	DESCRIPTION		AMOUNT
			G/L DISTRIBUTION		
2/21/2018	022118		engineering services		27,565.15
		100-402-45030	engineering services	7,772.27	
		399-408-48087	Drainage Master Plan	13,975.00	
		100-409-45030	Engineering services	5,817.88	

** Bohannan Huston **
Accounts Payable
7500 Jefferson St. NE Courtyard ... CHECK TOTAL 27,565.15
Albuquerque, NM 87109-4335

23309

01-0538 ** Bohannan Huston ** 023309 01/05/18

DATE	I.D.	PO #	DESCRIPTION		AMOUNT
			G/L DISTRIBUTION		
1/05/2018	99599-99943-99924		Bohannan Huston		16,170.83
	100-402-45030		Engineering services	3,270.83	
	399-408-48087		Drainage Master Plan	12,900.00	

** Bohannan Huston **
Accounts Payable
7500 Jefferson St. NE Courtyar
Albuquerque, NM 87109-4335

CHECK TOTAL 16,170.83

Reorder from BEST CHECKS, 100 Executive Dr., Unit 1, Dulles, VA 20166 • Phone: 1-800-321-4019 • www.bestchecks.com QD1F-070012

99599 DMP for 5,977.00
99943 " " 8,207.63

Bohannan Huston

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7500 Jefferson St. NE
Albuquerque, NM
87109-4335

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voice: 505.823.1000
facsimile: 505.798.7988
toll free: 800.877.5332

INVOICE

Town of Edgewood
PO Box 3610
Edgewood, NM. 87015 US

Invoice Number : 99943
Project Number : 20180158
Project Name : Town of Edgewood DMP
Invoice Group : **
Invoice Date : 12/7/2017

Attention: Karen Mahalick

For Professional Services Rendered through: 12/1/2017

Phase Code / Name	Fee Type	Contract Amount	Percent Complete	Total Fee Earned	Previous Billing	Current Billing
001 -- Communications and Project Mgmt	LS	$8,700.00	40.00%	$3,480.00	$3,045.00	$435.00
002 -- Review of Existing Information	LS	$1,300.00	100.00%	$1,300.00	$1,300.00	$0.00
003 -- Drainage Master Plan	LS	$40,000.00	40.00%	$16,000.00	$8,800.00	$7,200.00
	Total :	$50,000.00		$20,780.00	$13,145.00	$7,635.00
				Current Albuq Gross Receipts Tax	7.5000%	$572.63
				Amount Due this Invoice		$8,207.63

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Bohannan ▲ Huston

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Albuquerque, NM
87109-4335
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voice: 505.823.1000
facsimile: 505.798.7988
toll free: 800.877.5332

INVOICE

Town of Edgewood
PO Box 3610
Edgewood, NM. 87015 US

Invoice Number : 99599
Project Number : 20160158
Project Name : Town of Edgewood DMP
Invoice Group : **
Invoice Date : 11/1/2017

Attention: Karen Mahalick

For Professional Services Rendered through: 10/27/2017

Phase Code / Name	Fee Type	Contract Amount	Percent Complete	Total Fee Earned	Previous Billing	Current Billing
001 – Communications and Project Mgmt	LS	$8,700.00	35.00%	$3,045.00	$2,610.00	$435.00
002 – Review of Existing Information	LS	$1,300.00	100.00%	$1,300.00	$975.00	$325.00
003 – Drainage Master Plan	LS	$40,000.00	22.00%	$8,800.00	$4,000.00	$4,800.00
Total :		$50,000.00		$13,145.00	$7,585.00	$5,560.00
				Current Albuq Gross Receipts Tax	7.5000%	$417.00
				Amount Due this Invoice		$5,977.00

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Spatial Data ▲
Advanced Technologies ▲

TOWN OF EDGEWOOD

23023

01-0538 ** Bohannan Huston ** 023023 10/18/17

DATE	I.D.	PO #	DESCRIPTION		AMOUNT
		G/L DISTRIBUTION			
10/18/2017	99324		Edgewood Dinkle survey		10,529.63
		100-402-45030	Edgewood Dinkle survey	2,150.00	
		100-402-45030	Edgewood Design Review	225.75	
		100-402-45030	Edgewood DMP	8,153.88	

** Bohannan Huston **
Accounts Payable
7500 Jefferson St. NE Courtyar
Albuquerque, NM 87109-4335

CHECK TOTAL 10,529.63

Bohannan ▲ Huston

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Albuquerque, NM
87109-4335

www.bhinc.com

voice: 505.823.1000
facsimile: 505.798.7988
toll free: 800.877.5332

INVOICE

Town of Edgewood
PO Box 3610
Edgewood, NM. 87015 US

Invoice Number : 99256
Project Number : 20180158
Project Name : Town of Edgewood DMP
Invoice Group : **
Invoice Date : 10/4/2017

Attention: Karen Mahallick

For Professional Services Rendered through: 9/29/2017

Phase Code / Name	Fee Type	Contract Amount	Percent Complete	Total Fee Earned	Previous Billing	Current Billing
001 -- Communications and Project Mgmt	LS	$8,700.00	30.00%	$2,610.00	$0.00	$2,610.00
002 -- Review of Existing Information	LS	$1,300.00	75.00%	$975.00	$0.00	$975.00
003 -- Drainage Master Plan	LS	$40,000.00	10.00%	$4,000.00	$0.00	$4,000.00
Total :		$50,000.00		$7,585.00	$0.00	$7,585.00
				Current Albuq Gross Receipts Tax	7.5000%	$568.88
				Amount Due this Invoice		$8,153.88

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Please include our invoice number on your payment advice.

~~DRAFT~~ FINAL DRAINAGE REPORT

FOR

TOWN OF EDGEWOOD DRAINAGE CROSSING ANALYSIS

MARCH 2018

Prepared for:

Town of Edgewood
1911 Historic Route 66
P.O. Box 3610
Edgewood, NM 87015

Prepared by:

Bohannan Huston

Engineering
Spatial Data
Advanced Technologies

SmA 3/7/18

DRAFT FINAL DRAINAGE REPORT

FOR

TOWN OF EDGEWOOD

DRAINAGE CROSSING ANALYSIS

MARCH 1, 2018

Prepared for:

TOWN OF EDGEWOOD

1911 HISTORIC ROUTE 66

PO BOX 3610

EDGEWOOD, NM 87015

Prepared by:

BOHANNAN HUSTON, INC.

7500 JEFFERSON STREET NE

ALBUQUERQUE, NM 87109

Prepared by:

3/7/18

Scott Armstrong, PE Date

3-7-18

Phillip Carrillo, PE Date

3-7-2018

Charles Wilson, EI Date

Town of Edgewood – Draft Final Drainage Report

I, Scott Armstrong, hereby certify I am a Registered Professional Engineer, registered in the State of New Mexico, and the following report was prepared under my direction and is true and correct to the best of my knowledge and belief.

Scott Armstrong, PE
NMPE NO. 15782

TABLE OF CONTENTS

TABLES

FIGURES

APPENDICES

I. EXECUTIVE SUMMARY

This report documents the completed hydrologic and hydraulic analyses for nine drainage crossings for the Town of Edgewood. The hydrologic and hydraulic analyses were completed in support of determining the hydraulic functionality of existing structures and to provide recommendations for future improvements at the nine roadway crossings. Analyses were completed using guidance from the New Mexico Department of Transportation (NMDOT) Drainage Volumes I and II.

Bohannan Huston, Inc. (BHI) analyzed four existing structures, DS-EX-03, DS-EX-04, DS-EX-06, and DS-EX-09 for capacity. Additionally, BHI analyzed proposed conditions for these four locations and five other crossings that currently do not have any drainage crossing structures.

Utilizing the results from the hydrologic and hydraulic analyses, the report provides conceptual recommendations for each crossing and provides a rough order of magnitude (ROM) cost associated with the design and construction of that crossing. The following sections of the report detail the processes, findings, and recommendations. The recommendations for each crossing are summarized in Table 1. A prioritization list is also included in the conclusions.

Table 1: Summary of Existing and Recommended Structures

Crossing No. / Location	Existing Structure Layout	Recommended Structure Layout
Crossing 1 / Moriarty Rd.	N/A – No existing structure	2 – 36" CMPs
Crossing 2 / Edgewood 7	N/A – No existing structure	5 – 4' x 1.75' CBCs
Crossing 3 / Cactus Rd.	3 – 36" CMPs	2 – 72" CMPs
[1]Crossing 4 / I-40	1 – 8' x 5' CBC	N/A – No analysis or recommendation
[2]Crossing 4 / Frontage Rd.	N/A – No existing structure	6 – 36" CMPs
Crossing 5 / Quail Tr.	N/A – No existing structure	4 – 72" CMPs
Crossing 6 / Dinkle Rd.	1 – 24" CMP	4 – 4' x 1.75 CBCs
Crossing 7 / Venus Rd.	N/A – No existing structure	3 – 72" CMPs
Crossing 8 / Horton Rd.	N/A – No existing structure	4 – 36" CMPs
Crossing 9 / Hill Ranch Rd.	6 – 18" CMPs	7 – 36" CMPs

[1] Crossing 4 Existing structure is the drainage crossing that traverses beneath I-40.
[2] Crossing 4 Proposed crossing is the drainage crossing for the I-40 frontage downstream of the Interstate.

II. INTRODUCTION

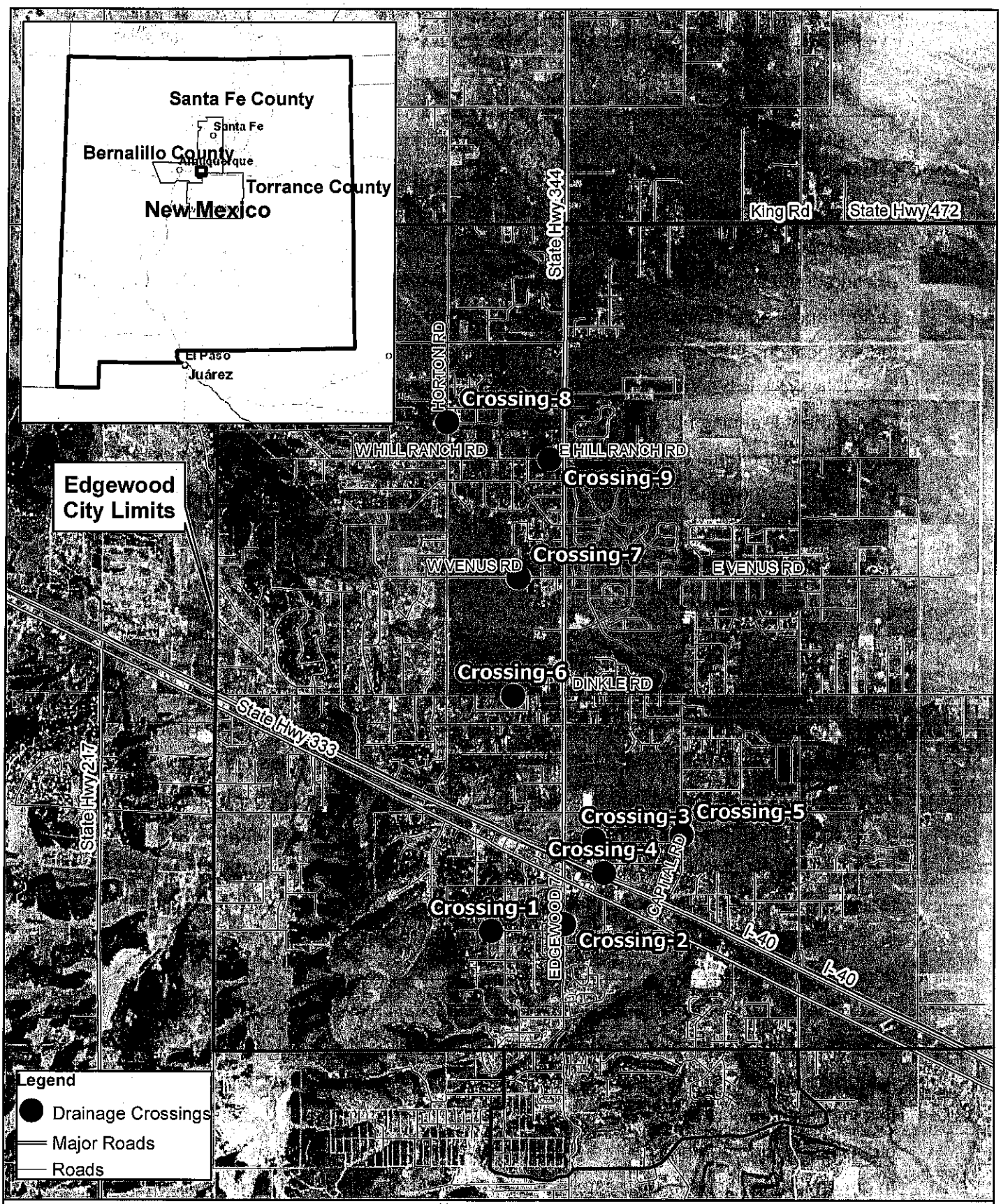
BHI has prepared this draft final drainage report to analyze drainage conveyance at select road crossing locations within the Town of Edgewood and provide recommendations for future improvements. Town officials identified nine road crossing locations where runoff has historically caused flooding or overtopping of the roadways. This report identifies existing drainage infrastructure at the nine crossing locations, analyzes their current performance, and recommends improvements. Similarly, recommendations are provided for the six locations that currently do not have drainage infrastructure.

The work is being completed using a New Mexico Finance Authority Local Government Planning Fund. For this project the fund is being administered by the New Mexico Environmental Department (NMED). Therefore, the report is being submitted to both the Town of Edgewood and NMED. Per the conditions of the funding, the analyses presented in this report were prepared in general conformity to the drainage procedures outlined by the NMDOT Drainage Manual, Volume I.

A. PROJECT LOCATION

Figure 1 provides a vicinity map of the area and shows the nine crossing locations. The Town of Edgewood rests in central New Mexico, 20 miles east of Albuquerque, and is in the southwestern portion of Santa Fe County; portions of the town limits also stretch to the counties of Bernalillo and Sandoval. Edgewood spans 53 square miles and is primarily a rural community of nearly 4,000 residents. Elevation ranges from 6,500 ft in the communal areas to over 7,000 ft in the forested mountain areas. Much of the topography is impacted from the foothills of the surrounding Manzanita, Manzano, and South Mountain ranges. The foothills lead to raised areas and depressions throughout the project area that define the drainage basins. Interstate 40 (I-40) is also a notable feature as it divides the town into north and south portions.

The analyzed crossing locations are at road locations where flooding has been observed. Two of the nine crossings are on the south side of I-40, while seven are on the north side. Much of the project area exhibits elements typical of a foothill geographical zone; this includes a mix of forest, shrub and grassland. The drainage basins of the analyzed crossings include portions of urban development, as well as rural areas of forest and grass. In general, runoff flows in the eastern direction away from the raised foothills. Bachelor



N

0 3,000 6,000 Feet

1 in = 6,000 ft

DRAFT

Edgewood Drainage Crossing Priorities

Figure 1
Vicinity and Project Location Map

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P:\20180158\WR\Reports\Final\Figures\MXDs\20180158_Figure1_VicinityMap.mxd
Author: mbaltazar

March 2018

Draw, which generally flows parallel to I-40 from the west, is the primary waterway that collects runoff in the area. Bachelor Draw is part of the greater Western Estancia Watershed.

B. NMDOT DESIGN CRITERIA

The Town of Edgewood has not adopted their own drainage criteria. Therefore, the analysis presented in this report will follow the NMDOT Drainage Design Criteria. The NMDOT criteria are based on the classification of the roadway at a given drainage conveyance. Using NMDOT data sources (http://arcg.is/2BzU2xS), we confirmed the East Frontage Road (Crossing 4) is a minor collector, and Edgewood 7 Road (Crossing 2) is a major collector. The other roadway locations are not classified; therefore, the analysis assumes they are local roads.

Furthermore, the criteria for both collectors and local roads are based on average daily traffic (ADT) counts. Reviewing available ADT counts from the Middle Rio Grande Council of Governments, it was determined data was only available for one of the nine roadway crossing locations, the area along Edgewood 7 Road (NM 344). This location has a nearby traffic count of 10,479 vehicles (at NM 344; NORTH OF NM 333 - SOUTH OF EDGEWOOD SOUTH RAMPS). This location is about 0.5 miles north of Crossing 2. No other traffic data was found for other crossing locations.

Based on the information available, the following assumptions were proposed and accepted by the Town:

- Crossing 2 on Edgewood 7 Road is assumed to have >400 ADT.
- Crossings 1, 3-9 are assumed to have < 400 ADT.

Accordingly, Tables 2A (Interstate Highways) and 2B (for collector and local roads) from the NMDOT Drainage Design Criteria were used to determine the prescribed storm event for the design and check floods. The primary applicable criteria for these roadway classifications are identified in Table 2 and Table 3 below.

Table 2: Storm Frequencies for Interstate Highways and Primary Arterials

Drainage Structure Type	Design Flood (All ADT* Range)	Check Flood (All ADT* Range)
Existing, New, and Sidewalk Culverts	50-year	100-year
Roadside Ditches and Inlets	50-year	100-year

Adopted from NMDOT Drainage Criteria Table 2A.
* ADT = projected average daily traffic measured in vehicles per day
**Use Overtopping flood if less than 100 years

Table 3: Storm Frequencies for Minor Arterials, Collectors, and Local Roads

Drainage Structure Type	Design Flood (Rural ≥ 400 ADT* and All Urban)	Check Flood (Rural ≥ 400 ADT* and All Urban)	Design Flood (Rural < 400 ADT*)	Check Flood (Rural < 400 ADT*)
Existing, New, and Sidewalk Culverts	50-year	100-year	25-year	50-year
Roadside Ditches and Inlets	10-year	50-year	10-year	25-year

Adopted from NMDOT Drainage Criteria Table 2B.
* ADT = projected average daily traffic measured in vehicles per day
**Use Overtopping flood if less than 100 years

Additional drainage design criteria for proposed structures or crossings is listed below and in Table 4.

- Minimum pipe diameter is 24 inches.
- Minimum pipe slopes are 0.3 percent for culverts and storm drains.
- Minimum cover is as specified by pipe manufacturer.
- Pipes shall meet NMDOT Specification 570.
- Minimum storm drain flow velocity is 2.5 ft per second.

Table 4: Drainage Design Criteria

Drainage Structure Type	Design Flood	Check Flood	
	(Two, Four, and Six Lane Roads)	(Two Lane Roads)	(Four and Six Lane Roads)
Existing Culverts	Limit headwater to the edge of the driving lane	Limit headwater to one half of a driving lane	Limit headwater to one driving lane
New Culverts	Ratio of headwater depth to culvert rise shall not exceed 1.5 and limit headwater to edge of shoulder	Limit headwater to one half of a driving lane	Limit headwater to one driving lane
Roadside Ditches and Inlets	Limit water depth to edge of shoulder	Limit water depth to one driving lane	Limit water depth to one driving lane

The above criteria represent the requirements for the Design Flood events; all infrastructure must also be evaluated for the Check Flood, which is a more intense flood used as a secondary criterion.

Based on the information presented above, culvert analysis for Crossing 2 will be required to pass the 50-year design storm event and will use the 100-year storm event as the check flood. All other locations will be analyzed using the 25-year and 50-year events, respectively.

III. EXISTING DRAINAGE STRUCTURE INVENTORY

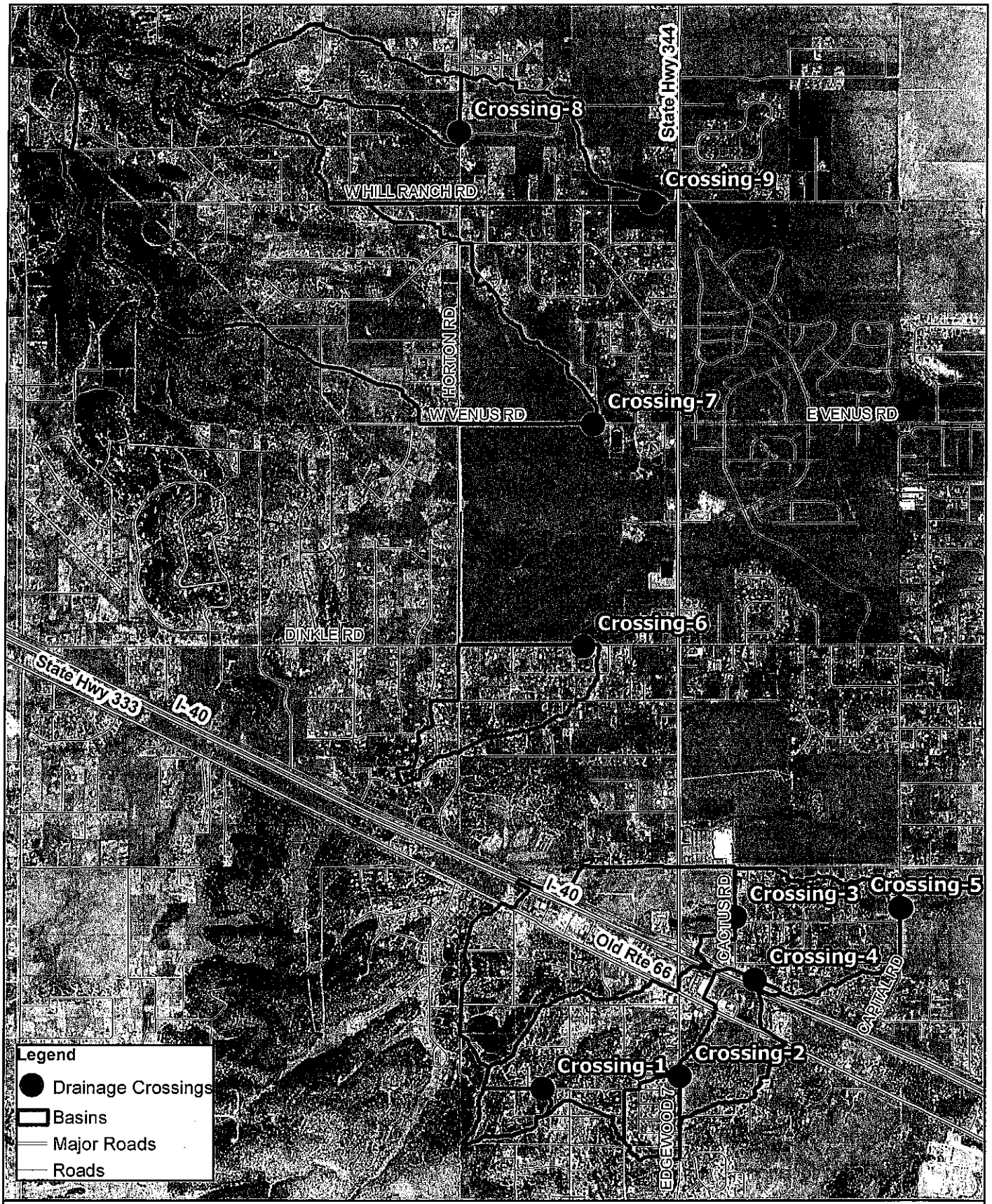
Bohannan Huston, Inc. (BHI) reviewed the sites using Google Earth Imagery, 2014 Santa Fe County LiDAR data (2-ft x 2-ft cell size) and field observations from a site visit on October 19, 2017. Each of the nine crossing locations were visited. Since an extensive ground survey was not scoped for the project, any pertinent measurements of existing drainage structures (noted as DS_EX in this report) were determined using a tape measure (i.e. pipe diameter, inlet/outlet dimensions, and road cover). In the case of Crossing 6, a field survey was performed using an auto-level, tripod, and a measuring rod to determine the inlet, center of road, and outlet differentials. To supplement any gathered measurements, a digital elevation map (DEM) with a 2-ft grid resolution (from the 2014 Santa Fe County LiDAR data) was used in ArcGIS to determine respective slopes, lengths, and relative elevations. Additional information was documented on NMDOT Drainage structure inventory sheets and is available in Appendix A.

Crossings 3, 6, and 9 were noted to have existing drainage structures. An existing drainage structure within the basin of Crossing 4 was also investigated and is noted as DS_EX_04-01. This unique case is to account for a concrete box culvert that conveys storm water under I-40, directly upstream of the Crossing 4 analysis point on the I-40 frontage road. Table 5 provides a list and summary of all existing drainage structures examined.

Table 5: Existing Drainage Structure Inventory

Drainage Structure	Basin ID	Structure Type	Condition	Culvert Properties				
				Pipe Type	Inlet Type	Barrel #	Span (in)	Rise (in)
DS_EX-03	3	CMP w/ ABS Lining	Fair	Circular	Conc. Mitered	3	36	
DS_EX-04-01	4	CBC	Good	Rectangular	Conc. wingwall	1	96	60
DS_EX-06	6	CMP	Poor	Circular	Thin edge projecting	1	24	
DS_EX-09	9	CMP	Fair	Circular	N/A (Pipe Opening)	6	18	

The remaining six crossings have no existing drainage structure, and the runoff crosses the earthen or paved roadway via a low flow crossing. Basins and drainage crossing locations are shown on Figure 2.



N

0 1,550 3,100 Feet

1 in = 3,200 ft

DRAFT

Edgewood Drainage Crossing Priorities

Figure 2
Drainage Basin Map
Crossing locations

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P:\20180158\WR\Reports\Final\Figures\MXDs\20180158_Figure2_BasinsMap.mxd
Author: mbaltazar

March 2018

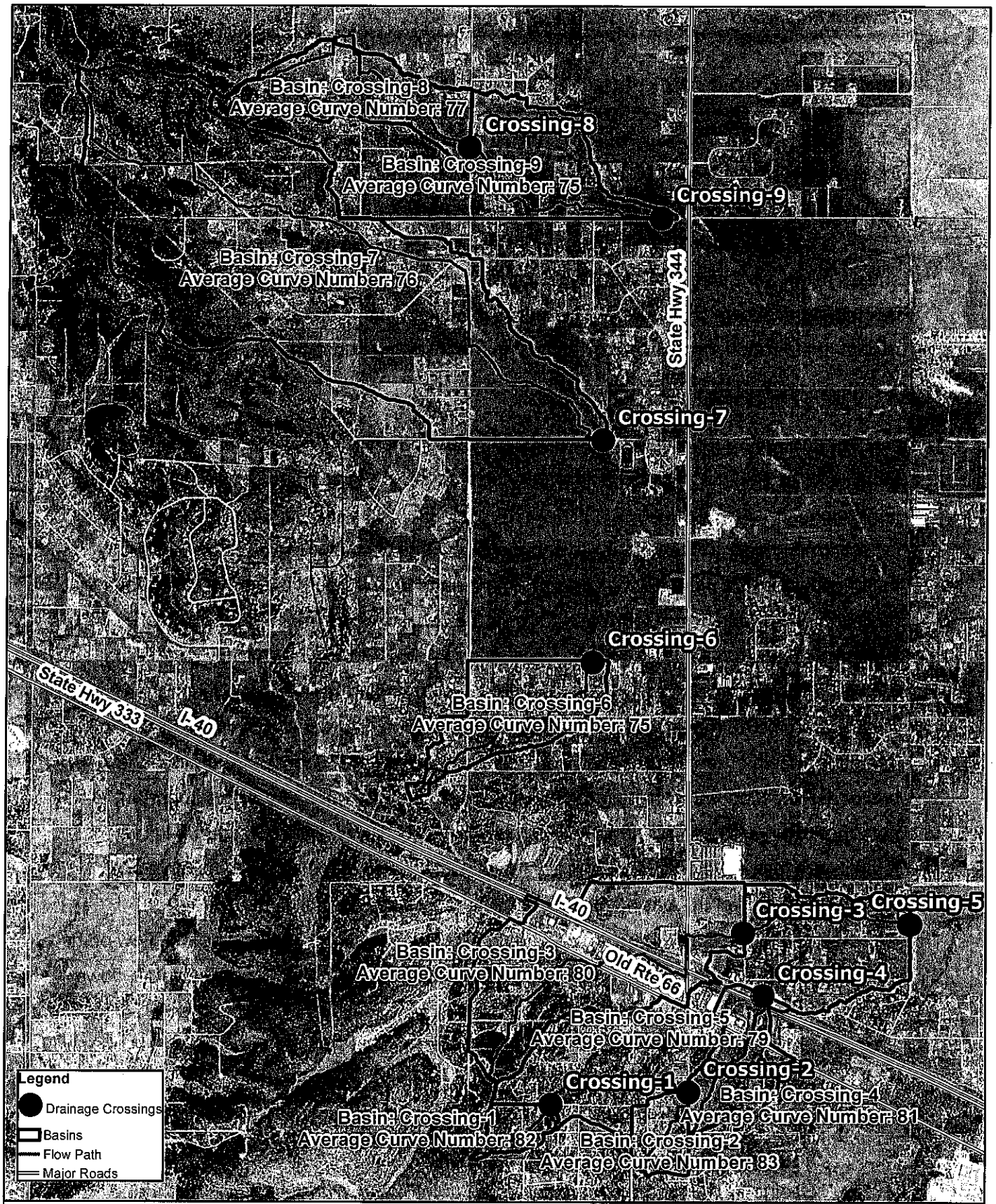
IV. HYDROLOGIC ANALYSIS

A hydrologic analysis was performed to quantify surface water runoff rates impacting the roadways and associated conveyance structures. Methodology prescribed in the NMDOT Drainage Manual (December 1995) was used for this project. As indicated by Figure 3-1 of the NMDOT Drainage Manual Volume I, rural drainage areas less than 5 square miles were analyzed using the Simplified Peak Flow. A total of nine basins were delineated as shown on Figure 3. The methodology applied, watershed characteristics, and results of the runoff analysis are discussed in the following subsections.

A. DRAINAGE PATTERNS

In general, runoff within Edgewood originates in the upper elevations of the forested foothills at approximately 7,000 ft Above Mean Sea Level (AMSL) and develops into gullied flows along grassed waterways until discharging in the valley of Bachelor Draw. While runoff is likely to originate from the foothills and move towards Bachelor Draw, two primary flow patterns exist in the proximity of Edgewood: drainage basins south of the I-40 and those that are north of it. Basin areas south of I-40 have the obstruction of the interstate and are expected to only cross at designated crossing structures. Flowpaths typically start in the foothills and head northeast, until reaching a crossing under the interstate; runoff then continues in the northeast direction and ends near Bachelor Draw, which runs parallel to the interstate. Basin areas north of the I-40 division originate from foothills and drain in the southeast direction until reaching the lower elevations of Bachelor Draw. It is important to note that basin areas near I-40 are moderately developed while areas higher up in the foothills are less developed and typically feature residential properties with multiple acre lots. A description of the basin characteristics is provided in the following:

- Basins 1, 2, and 4 are located south of I-40. These are small basins with flow paths that navigate through residential properties and primitive roadways. Overall, flows move in the northeast direction. Basin 1 drains directly into Basin 5, while Basin 2 drains directly into Basin 4. Basin 4 then drains into Basin 5.
- Basins 3 and 5 both have portions of their drainage basin on both sides of I-40. Flow paths south of I-40 cross through an existing concrete box culvert (CBC) crossing. The runoff from Basin 3 enters Basin 5.
- Basins 6, 7, 8, and 9 are located north of I-40, and all include flowpaths that navigate through residential properties and open areas that are primarily covered



N

0 1,600 3,200 Feet

1 in = 3,200 ft

DRAFT

Bohannan Huston
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Edgewood Drainage Crossing Priorities

Figure 3
Drainage Basins, Flow Paths, and Curve Numbers

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Author: mbaltazar

March 2018

in low-growing shrub and grass. Overall, flows move in the southeast direction. Basin 8 flows directly into Basin 9.

All drainage areas, except those of Basins 1, 2, 4, and 6, exhibited upland and gullied flows. The excluded basins featured flowpaths that are difficult to identify. Consequently, these flow paths were assumed to behave as upland flow.

The project area has constructed features such as roadside ditches, driveway culverts, earthen berms, check dams, and retention ponds. These features were used to estimate and delineate the basins for the study, but otherwise their impact was not modeled or analyzed in the hydrologic analysis. Runoff is assumed to reach each drainage structure without encountering any obstructions to halt the flowpath. In cases where flood water approaches the roadway, it is assumed the runoff will flow parallel to the roadway and exit at the drainage structure.

B. DRAINAGE AREAS

In total, nine drainage basins were delineated using Arc Hydro, a toolset in ESRI's ArcGIS. The nine primary drainage basins (Crossings 1-9) were delineated using a digital elevation map (DEM). The DEM was created from LiDAR collected in 2014 and has a 2-ft by 2-ft grid resolution.

While this approach yields accurate delineations for large basins, supplementary data was reviewed to more accurately delineate and verify basin boundaries. Supplementary data included field visit notes, the Google Earth Street View, and the USGS World Topographic Map provided by ESRI ArcGIS Software. Boundaries were adjusted accordingly to align with topography, such as high points or ponding areas, that were not previously visible in the utilized spatial surfaces.

The drainage area for Basin 5 (and therefore the analysis presented below) includes the area for Basins 1, 2, 3, and 4. Similarly, the area for Basin 9 includes Basin 8. Therefore, the results presented for Basin 5 and Basin 9 are the total flow reaching Crossing 5 and Crossing 9, respectively. This situation is slightly different for Basin 2 draining into Basin 4. Under existing conditions there is a potential for runoff from Basin 2 to enter either Basin 5 directly or enter Basin 4 prior to entering Basin 5. Based on this, Basin 4 was analyzed excluding the area from Basin 2. Our proposed conditions hydraulic analysis described below recommends culverts to convey Basin 2 flows to Basin 4. So as a result, the total flow at Crossing 4 needs to include the sum of the runoff from Basin 2 and Basin 4. This is further noted in the results presented below.

C. SIMPLIFIED PEAK ANALYSIS

This technique considers factors such as vegetation, soil type, flow path characteristics, precipitation, and overall area to assign a peak flow value to a drainage basin. A total of nine basins (Crossings 1-9) were analyzed using this approach. The procedures and results of the Simplified Peak Analysis are explained in the subsections to follow.

1. RUNOFF CURVE NUMBERS

Tables 3-1 through 3-4 of the NMDOT Drainage Manual were used to estimate the watershed conditions for each of the drainage basins. Surface characteristics affecting initial abstraction and infiltration rates represented by curve numbers were determined using the NRCS Soil Survey Geographic (SSURGO) Database and the USDA LANDFIRE Vegetation geo-spatial layer.

Given the extents of the project, there are predictably a variety of hydrologic soil groups (HSG). However, the delineated basin areas are predominantly HSG C and D, which are sandy clay loam and silty clay loam. There are sparse areas of HSG A and B, which are sandy loam and silt loam. Water infiltration decreases (and runoff increases) as the spectrum moves from HSG A to D. Any basins featuring HSG A are likely to experience lower flow rates due to higher infiltration rates. Any basins featuring HSG D are likely to experience higher flow rates due to lower infiltration rates.

Classification of land type was paired to determine a respective curve number for each basin. Overall, land classifications were typical of a foothill geographical area. Areas of higher elevation were more likely to feature trees, such as juniper and piñon while lower areas were more likely to feature low-growing shrub and herbaceous cover. Lower-elevated areas, especially near I-40, were more likely to contain developed areas. Other significant land classifications are residential properties with multiple acre lots and the paved/unpaved roadways scattered throughout the drainage basins.

The resultant curve numbers, determined from the soil types and land cover, are shown on Figure 3. Overall, curve numbers for the nine basins are relatively high ranging from 75 to 83. This is most likely from the high concentrations of HSG C and D paired with the occurrence of roadways, buildings, parking lots, and other developed, impermeable areas. In the case of Basin 2, the curve number value of 83 is reflective of the predominate HSG C and D and the multiple residential lots and roadways within its small 55-acre

drainage area. Other basins feature similar properties of Basin 2 that help justify the higher curve number values.

2. TIME OF CONCENTRATION

The Time of Concentration (T_c) values for the nine small and medium-sized drainage basins were determined using the Upland Method and Kirpich Formula in accordance with Table 3-6 of the NMDOT Drainage Manual. The Upland Method is used for un-gullied watersheds with overland flow and shallow concentrated flow regimes, while the Kirpich Formula solely applies to gullied portions of watersheds. The small and medium-sized basins all exhibited flow paths with a short length of overland flow and the remaining flow path as shallow concentrated flow, which according to NRCS is defined as, "assumed not to have a well-defined channel and has flow depths of 0.1 to 0.5 ft." The Upland Method requires an estimate of the velocity of sheet flow and of shallow concentrated flow, which was performed using Figure 3-10 of the NMDOT Drainage Manual. The velocity plotted on Figure 3-10 is a function of the basin slope and land use/flow regime. NMDOT Drainage Manual Figure 3-10 is derived from the equations presented in NRCS, Part 630 Hydrology, National Engineering Handbook, Table 15–3. For overland flow with slopes less than 0.5 percent, the equations were used to estimate the velocity.

Basins 3, 5, 7, 8, and 9 showed evidence of gullying and therefore fit the criteria for the Kirpich Formula. Gullied length was determined using the USGS Quad Map Blue River in GIS. The resultant length and stream elevations were then applied to Equation 3-18 of the NMDOT Drainage Manual to find the Time of Concentration. Since these specified basins only featured partial gullying, the Upland Method was applied for the remainder of the un-gullied waterways. The two resulting Time of Concentrations were then added together. The time of concentration calculations and results are provided as part of the Simplified Peak Method in Appendix B.

3. 24-HOUR RAINFALL DEPTHS

Rainfall depths were obtained from the National Oceanic and Atmospheric Administration (NOAA) Precipitation Frequency Data Server Atlas 14 (NOAA-14). This data was collected using the approximate centroid of the project area (35.0828°, -106.2031°). Using the 24-hour total depth of precipitation, the recurrence intervals of the 10, 25, 50, and 100-year storm events were analyzed. Respectively, these rainfall depths are: 2.34 in., 2.77 in., 3.1 in., and 3.45 in. These intervals are reflective of the NMDOT design criteria and can be further examined in Appendix B.

D. HYDROLOGIC RESULTS

As discussed earlier, the Simplified Peak Flow Method applied basin characteristics to determine the runoff from the basins with areas less than 5 square miles; this includes all nine of the original basins analyzed. Table 6 provides a summary of the hydrological properties for all nine basins, while Appendix B contains the calculations for each basin and its corresponding methodology.

Table 6 offers useful data on the expected flow rates from each basin for the 10, 25, 50, and 100-year flood events. As would be expected, basins featuring high curve numbers produce higher runoffs, while lower curve numbers generally produce lower runoff. A comparison of results was performed on a runoff per area basis. Basins 1 and 2 are noticeably higher in this evaluation. Basins 1 and 2 are unique in that they feature the smallest drainage area, yet they exhibit the steepest channel slopes at 8.8 percent and 4.8 percent, respectively. In addition, they also have the highest curve numbers; Basin 1 has a value 82 while Basin 2 has a value of 83. Factors such as these play a significant role in the expected behavior of any given basin and provide justification of why the expected runoff per acre appears so high.

Table 6: Hydrologic Analysis Results

Basin ID	CN	Q10 (cfs)	Q10 Qp / Acre (cfs/acre)	Q25 (cfs)	Q25 Qp / Acre (cfs/acre)	Q50 (cfs)	Q50 Qp / Acre (cfs/acre)	Q100 (cfs)	Q100 Qp / Acre (cfs/acre)
1	82	50	1.2	67.5	1.7	82	2.1	98	2.5
2	83	72	1.3	97.0	1.8	117	2.1	139	2.6
3	80	83	0.2	326.1	0.8	400	0.9	482	1.1
4	81	38	0.3	149.3	1.3	182	1.5	219	1.8
5	80	172	0.2	675.6	0.6	829	0.7	999	0.9
6	75	26	0.1	97.5	0.6	123	0.7	152	0.9
7	76	130	0.1	495.4	0.4	621	0.5	763	0.6
8	77	38	0.2	144.4	0.7	180	0.9	220	1.1
9	75	68	0.1	257.8	0.4	325	0.6	401	0.7

V. HYDRAULIC ANALYSIS

A. CULVERT HYDRAULIC ANALYSIS

The analysis of the existing culverts compared the hydraulic capacity of the existing structure / roadway configuration against the calculated peak discharge from the drainage basin. For Design Flood Events, the NMDOT Drainage Design Criteria was followed by assuming a maximum headwater depth equal to the edge of the roadway. For the case of the Check Flood Events, it is required that the headwater depth not exceed one half of a driving lane. Given most of the drainage crossings are on smaller roads, the elevation difference between the design flood criteria (edge of road) and check flood criteria (1/2 of driving lane) is negligible. Therefore, for all practical purposes the capacity of an existing structure for smaller roads is the same for a design flood and a check flood.

Detailed survey of the crossings and the roadway elevations was not conducted within the scope of this project. The nature of this hydraulic study and recommendations do not require detailed survey information for recommended drainage improvements and ROM cost. BHI recommends a detailed survey be completed at the time roadway and drainage improvements are designed.

All elevations were approximated from 2-ft contour data derived from Santa Fe County mapping. The hydraulic analysis of the crossing structures was modeled using the Federal Highway Administrations HY-8 culvert hydraulic analysis program. The program requires inputs of discharge, culvert size, shape, material and length, number of barrels, inlet and outlet inverts, and tailwater data based on the channel geometry and drainage characteristics downstream of the culvert. These data were input for each existing and proposed crossing as described below.

B. EXISTING CONDITIONS HYDRAULIC RESULTS

Using the hydraulic analysis outlined in Section V.A, three of the four existing structures do not provide adequate capacity for the design flood. This includes DS-EX-03, -06, and -09. Supporting details of this analysis and the results can be found in Table 7 and Appendix C. DS-EX-04-01 proved sufficient in both the design and check flood events by managing drainage flows adequately while maintaining an allowable headwater. As noted in Section III, DS-EX-04-01 was analyzed along I-40, whereas the actual location of Crossing 4 is on the I-40 frontage road. Therefore, as noted in the table below, the design / check flood criteria for an Interstate (50-year / 100-year) was used for this existing structure (Table 2) vs. the criteria for collector / local roads (Table 3). For purposes of the proposed conditions

analysis, which will evaluate Crossing 4 on the Frontage Road., the 25-year / 50-year criteria will be used.

Table 7: Hydraulic Analysis of Existing Structures

Structure No.	Design Flood	Check Flood	Design Flood Flow (cfs)	Check Flood Flow (cfs)	Centerline of Roadway (ft AMSL) (Approximate)	Culvert Size (ft)	No. of Barrels	Available Capacity (cfs)
DS-EX-03	25-year	50-year	326.1	400.0	6,582.3	3	3	126.8
DS-EX-04-01	50-year	100-year	299.0	358.0	6,626.0	8 x 5	1	444.1
DS-EX-06	25-year	50-year	97.5	123.0	6,584.5	2	1	10.5
DS-EX-09	25-year	50-year	257.8	325.0	6,569.0	1.5	6	42.3
Flows for Structure DS-EX-04-01 include the sum of flows from Basin 2 + Basin 4.								

C. PROPOSED CONDITIONS HYDRAULIC RESULTS

The proposed conditions analysis identified the required number of culverts that would be needed to accommodate the design storm event flows at each location. Proposed conditions models were run for DS-PR-01 through DS-PR-09 (i.e., Crossing 1 through Crossing 9). The analysis for DS-EX-04-01 analyzed the crossing that traverses beneath I-40. This culvert passes the runoff with sufficient capacity; therefore, the proposed conditions analysis will study the roadway immediately downstream of the culvert crossing, which is the I-40 frontage road.

For the proposed conditions, BHI conducted analyses on two different scenarios. The first scenario was using a "low-flow" channel crossing culvert, which is a CBC that uses a permeable grate as the top surface. The low-flow crossing is designed to pass higher frequency storm events, e.g., the 10-year or 25-year storm events, while maintaining roadway integrity after absorbing larger storm events, e.g. the 50-year or 100-year storm events. The second scenario was using conventional corrugated metal pipe (CMP) culverts. In most cases, 3-ft diameter CMP culverts were modeled due to the practicality of cost and installment when compared to the hydraulic capacity they provide. In both scenarios, BHI determined the minimum number of CBC or culverts required to pass the desired storm event. These calculations and the supporting information can be found in Appendix C. An example of a "low-flow" crossing is included in Appendix D.

Using HY-8 Culvert Hydraulic Analysis, proposed condition models were run to determine the minimum number of culverts required to pass the design discharge without allowing the headwater to reach the edge of roadway elevation. Roadway crossings DS-PR-

01, -02, -04, -05, -07, and -08 do not currently have any drainage infrastructure. The roadways at these locations currently accommodate the runoff via dip section or sag vertical curves in their profile. Roadway elevations for these proposed crossings were estimated based on the drainage structure being analyzed. Scenario one crossing analyses determined the minimum number of low-flow CBCs to pass the design storm event through the CBC, while allowing the overtopping effect of the check storm event. This option provides flood relief from smaller intensity and higher probability storm events. These low-flow crossings could be designed to maintain the roadway integrity for larger storm events.

Scenario two crossing analyses determined the minimum number of CMPs required to pass the check storm event while preventing the headwater elevation from exceeding the proposed centerline of roadway elevation. The proposed centerline was generally estimated as existing centerline + height of proposed structure + 2 ft of cover. As an initial evaluation, standard 3-ft diameter CMPs were modeled for this study. The determined proposed conditions are displayed in Table 8, while Appendix C provides supplemental calculations and relevant HY-8 tables.

As noted in the table, structures DS-PR-03, -05, and -07 would require a significant number of culvert barrels to adequately pass the design flows. Although a large number of additional pipes were shown, it was based solely on hydraulic analysis. These proposed configurations may not be practical due to cost or constructability. Therefore, additional analysis of these sites was considered using different size culverts. The alternative solutions for these locations are included in Table 9, and these will be carried forward for conceptual layouts.

Table 8: Proposed Conditions Hydraulic Analysis

Structure No.	Design Flood	Check Flood	Design Flood Flow (cfs)	Check Flood Flow (cfs)	Centerline of Roadway (ft AMSL) (Approximate)	Culvert Size (ft)	No. of Barrels	Available Capacity (cfs)
DS-PR-01-A	25-year	50-year	67.5	82.0	6,813.0	4'x1.75'	3	87.2
DS-PR-01-B	25-year	50-year	67.5	82.0	6,816.3	3	2	108.0
DS-PR-02-A	50-year	100-year	117.0	139.0	6,732.3	4'x1.75'	5	129.2
DS-PR-02-B	50-year	100-year	117.0	139.0	6,735.5	3	3	161.6
DS-PR-03-A	25-year	50-year	326.1	400.0	6,579.5	4'x1.75'	12	344.4
DS-PR-03-B	25-year	50-year	326.1	400.0	6,582.6	2.5	8	421.6
DS-PR-04-A	25-year	50-year	246.3	299.0	6,613.2	4'x1.75'	9	258.7
DS-PR-04-B	25-year	50-year	246.3	299.0	6,616.4	3	6	322.4
DS-PR-05-A	25-year	50-year	675.6	829.0	6,512.9	4'x1.75'	24	691.7
DS-PR-05-B	25-year	50-year	675.6	829.0	6,516.0	3	16	860.5
DS-PR-06-A	25-year	50-year	97.5	123.0	6,584.5	4'x1.75'	4	114.6
DS-PR-06-B	25-year	50-year	97.5	123.0	6,584.5	2	13	130.7
DS-PR-07-A	25-year	50-year	495.4	621.0	6,569.1	4'x1.75'	18	517.8
DS-PR-07-B	25-year	50-year	495.4	621.0	6,572.2	3	12	645.1
DS-PR-08-A	25-year	50-year	144.4	180.0	6,636.3	4'x1.75'	6	171.8
DS-PR-08-B	25-year	50-year	144.4	180.0	6,639.3	3	4	200.5
DS-PR-09-A	25-year	50-year	257.8	325.0	6,571.4	4'x1.75'	9	289.8
DS-PR-09-B	25-year	50-year	257.8	325.0	6,574.4	3	7	328.8
A – Designates the low flow crossing option. B – Designates the conventional 36" culverts. Flows for Structure DS-PR-04 include the sum of flows from Basin 2 + Basin 4.								

Table 9: Revised Proposed Conditions Hydraulic Analysis

Structure No.	Design Flood	Check Flood	Design Flood Flow (cfs)	Check Flood Flow (cfs)	Centerline of Roadway (ft AMSL) (Approximate)	Culvert Size (ft)	No. of Barrels	Available Capacity (cfs)
DS-PR-03-C	25-year	50-year	326.1	400.0	6,685.9	6	2	496.2
DS-PR-05-C	25-year	50-year	675.6	829.0	6,519.2	6	4	993.2
DS-PR-07-C	25-year	50-year	495.4	621.0	6,575.4	6	3	744.2
C – Designates use of 72" culverts.								

VI. RECOMMENDATIONS AND CONCEPTUAL LAYOUTS

BHI used the results of the proposed hydraulic analyses to determine the best recommendation that provides a balance between hydraulic feasibility and constructability. Hydraulic analysis provided an estimate of the required headwater elevation for the given culvert size and number of barrels recommended. This headwater will be achieved via an increase in roadway elevation and is a measurement of the change in elevation from the dip or sag in the roadway to the new proposed edge of roadway to prevent storm water flow from overtopping the road.

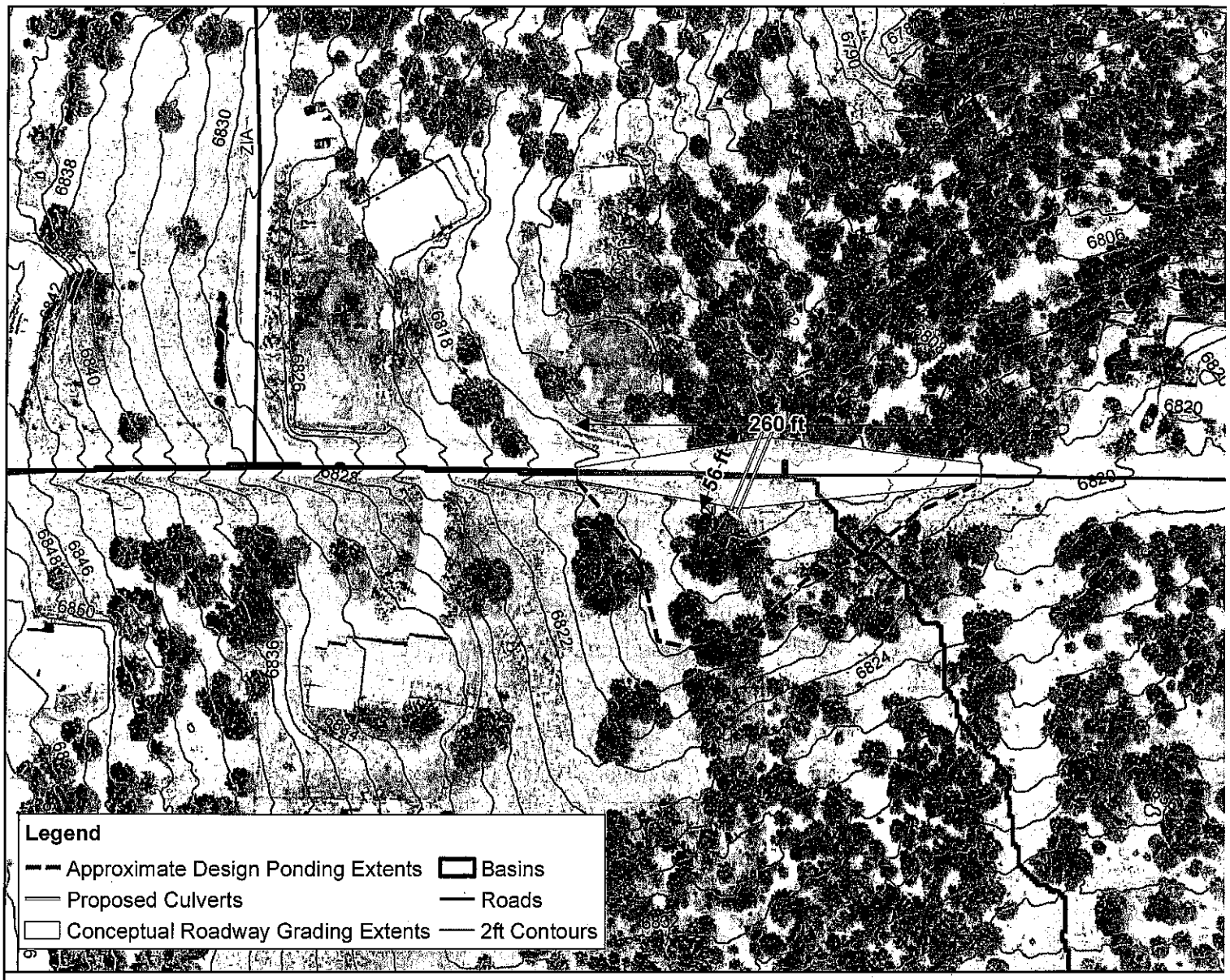
The anticipated width of the roadway embankment improvements is based on the existing roadway width plus an estimate of the length required for a tie slope from the edge of roadway down to existing ground at a 3:1 at the location where the culverts will be placed. This represents the maximum roadway width for the proposed improvements. The exception to this measurement is the recommended layout for Crossing 2. Crossing 2 contains roadside ditches on both edges of the roadway. An improvement to Barton Court would also be required to raise the roadway elevation to ensure hydraulic function of the culverts directing storm water flow to the east beneath Edgewood 7, and prevent split flow from draining to the north. Similar, yet smaller scale, improvements may be needed along adjacent roads for Crossing 7 and 9 as well. These could possibly be avoided and costs reduced with some upstream watershed grading / berming on the adjacent private properties to contain the runoff without overtopping the adjacent roads.

For each location BHI has prepared approximate estimates for the length of roadway improvement needed for the recommended layout. This length is determined by projecting the proposed edge of roadway elevation along the roadway alignment until it intersects with the existing ground at the same elevation. These recommendations have been incorporated into schematic layouts for recommendations and conceptual costs to assist in capital planning for long-term drainage improvements for the Town of Edgewood. Recommended layouts are further described below.

The schematic layouts of the conceptual recommendations are shown on Figure 4 through Figure 12.

- The recommended improvement layout for Crossing 1 includes two 36-in. CMP culverts. The placement of the culverts would require an increase of the roadway elevation approximately 6 feet. The overall culvert length would be approximately 56 ft. The length of roadway improvement needed is approximately 260 ft.

- The recommended improvement layout for Crossing 2 includes five 4 ft x 1.75 ft CBCs. The placement of the culverts would increase the roadway elevation approximately 4 ft. The overall culvert length would be approximately 40 ft. The length of roadway improvement needed is approximately 286 ft.
- The recommended improvement layout for Crossing 3 includes two 72-in. CMP culverts. The placement of the culverts would increase the roadway elevation approximately 6 feet. The overall culvert length would be approximately 74 ft. The length of roadway improvement needed is approximately 290 ft.
- The recommended improvement layout for Crossing 4 includes six 36-in. CMP culverts. The placement of the culverts would increase the roadway elevation approximately 6 feet. The overall culvert length would be approximately 62 ft. The length of roadway improvement needed is approximately 270 ft.
- The recommended improvement layout for Crossing 5 includes four 72-in. CMP culverts. The placement of the culverts would increase the roadway elevation approximately 9 feet. The overall culvert length would be approximately 80 ft. The length of roadway improvement needed is approximately 400 ft.
- The recommended improvement layout for Crossing 6 includes four 4 ft x 1.75 ft CBCs. The placement of the culverts would increase the roadway elevation approximately 2 feet. The overall culvert length would be approximately 38 ft. The length of roadway improvement needed is approximately 350 ft.
- The recommended improvement layout for Crossing 7 includes three 72-in. CMP culverts. The placement of the culverts would increase the roadway elevation approximately 9 feet. The overall culvert length would be approximately 80 ft. The length of roadway improvement needed is approximately 1,215 ft.
- The recommended improvement layout for Crossing 8 includes four 36-in. CMP culverts. The placement of the culverts would increase the roadway elevation approximately 5 feet. The overall culvert length would be approximately 62 ft. The length of roadway improvement needed is approximately 370 ft.
- The recommended improvement layout for Crossing 9 includes seven 36-in. CMP culverts. The placement of the culverts would increase the roadway elevation approximately 5 feet. The overall culvert length would be approximately 77 ft. The length of roadway improvement needed is approximately 1,730 ft.



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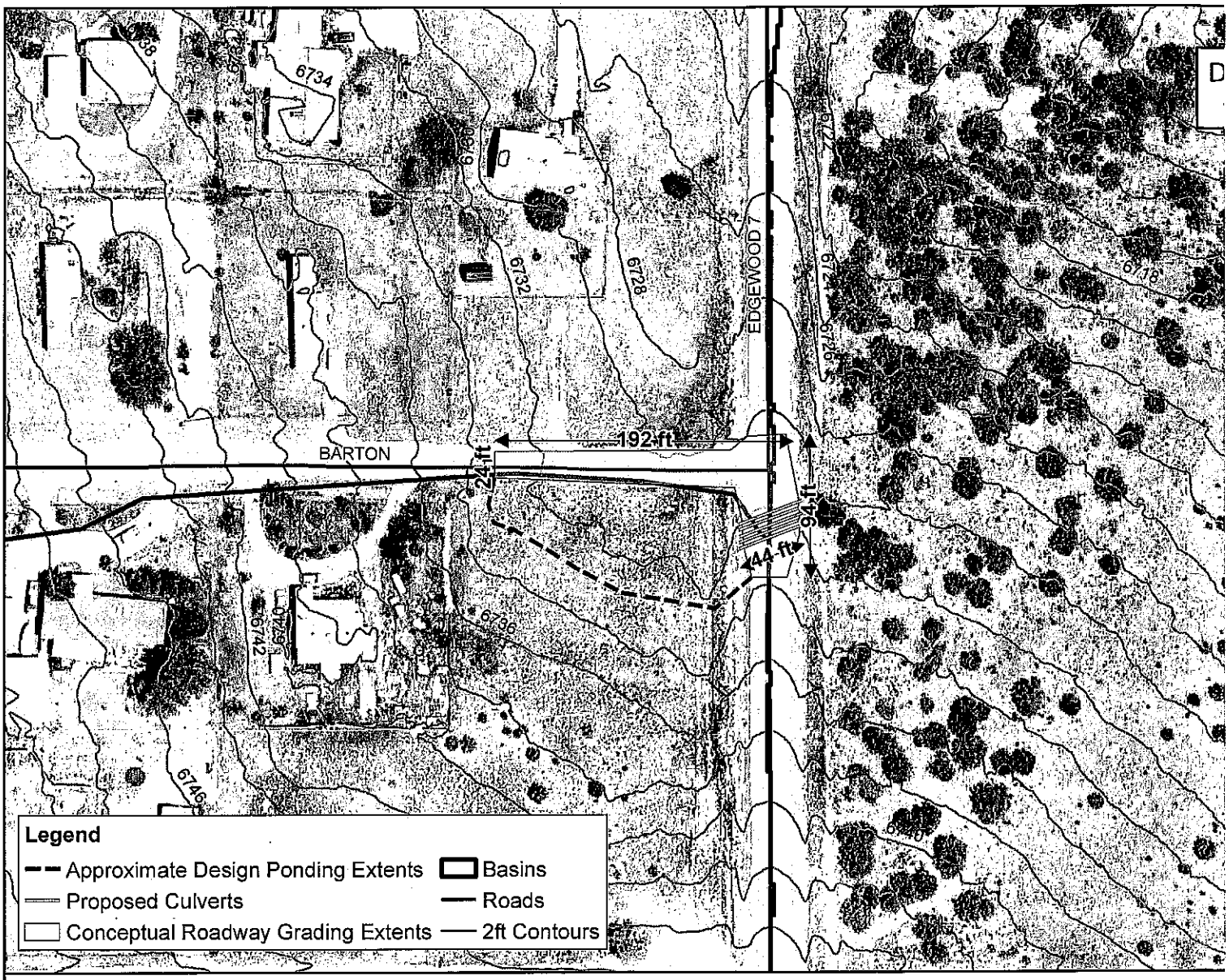

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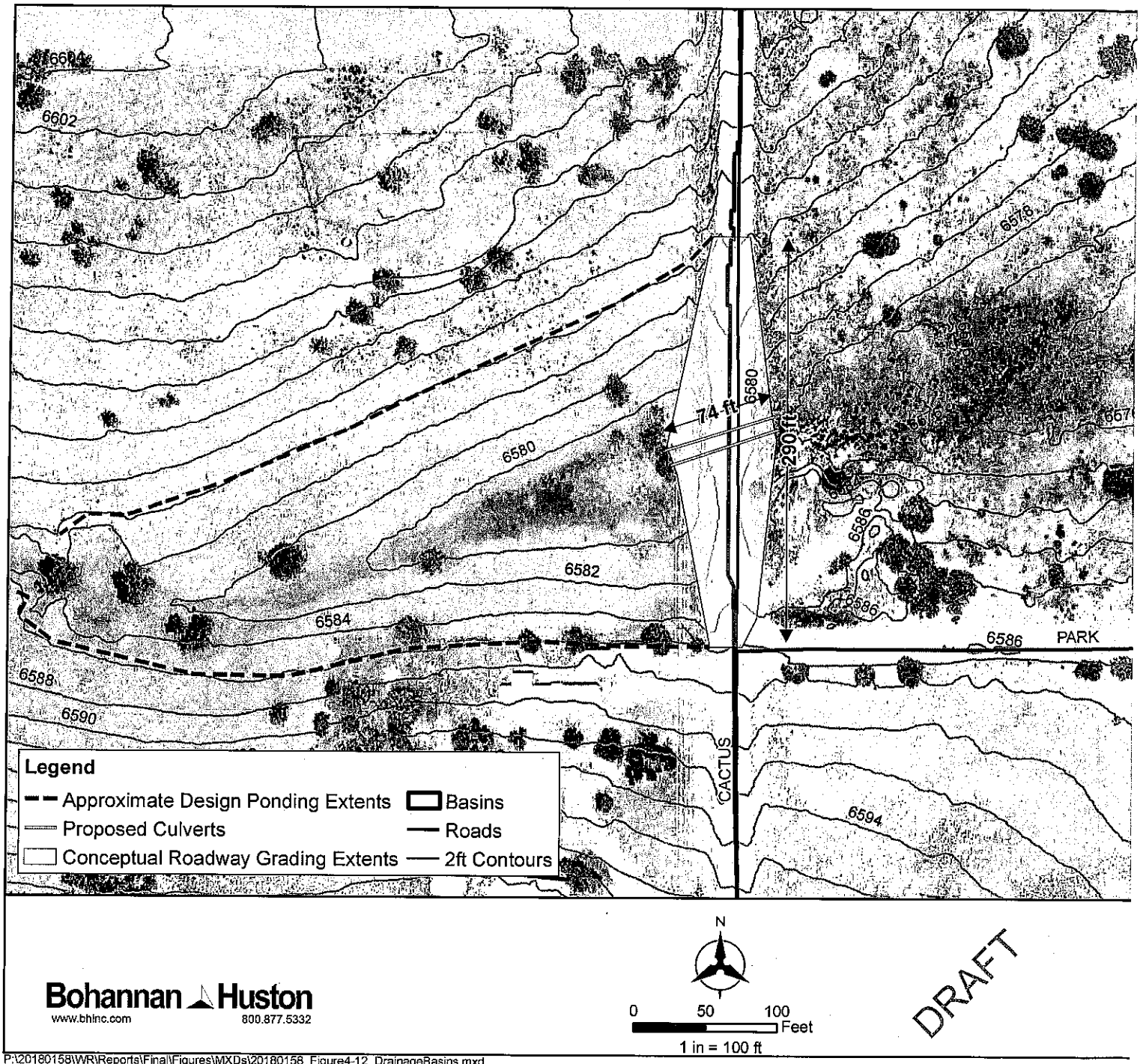

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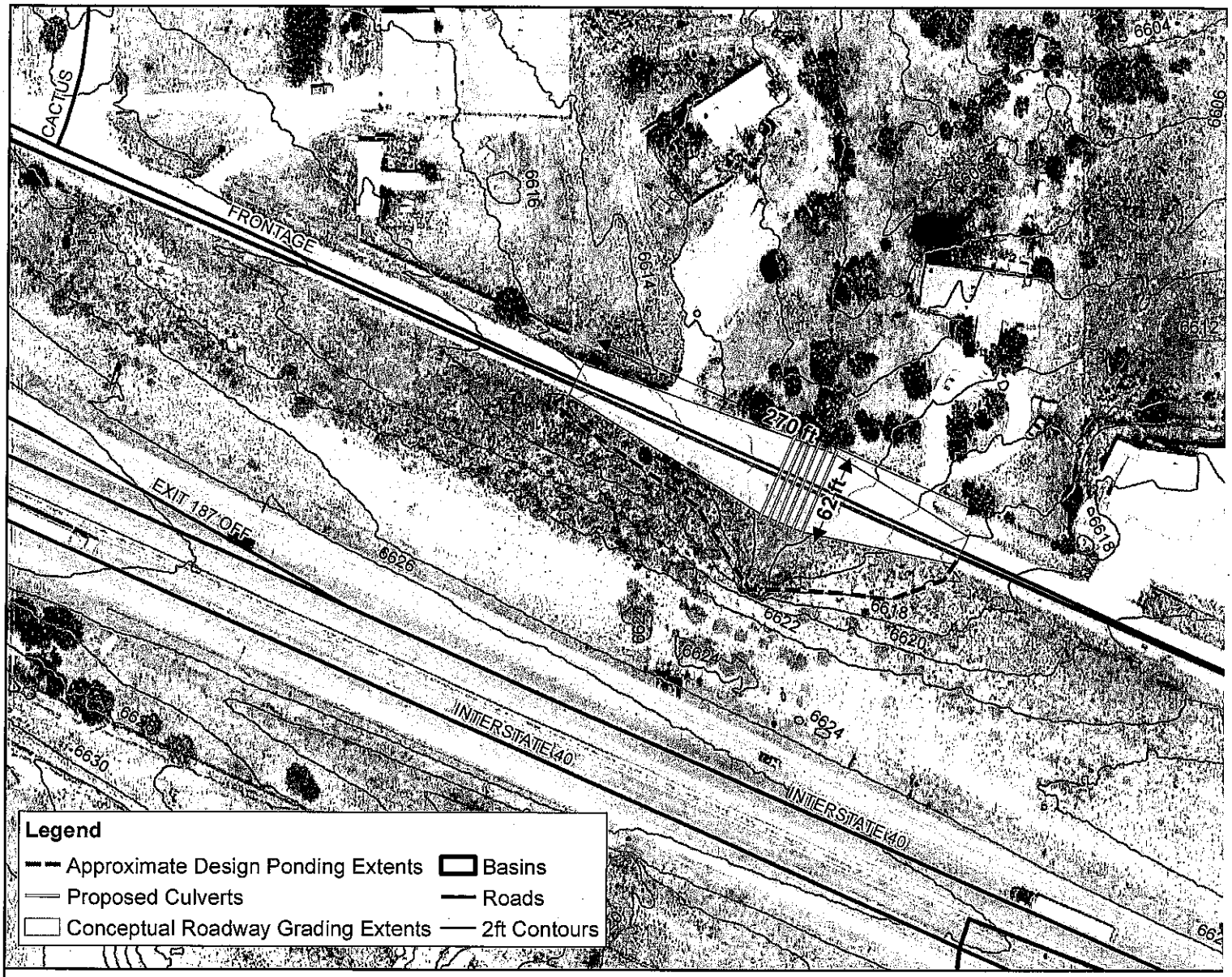

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1 in = 100 ft

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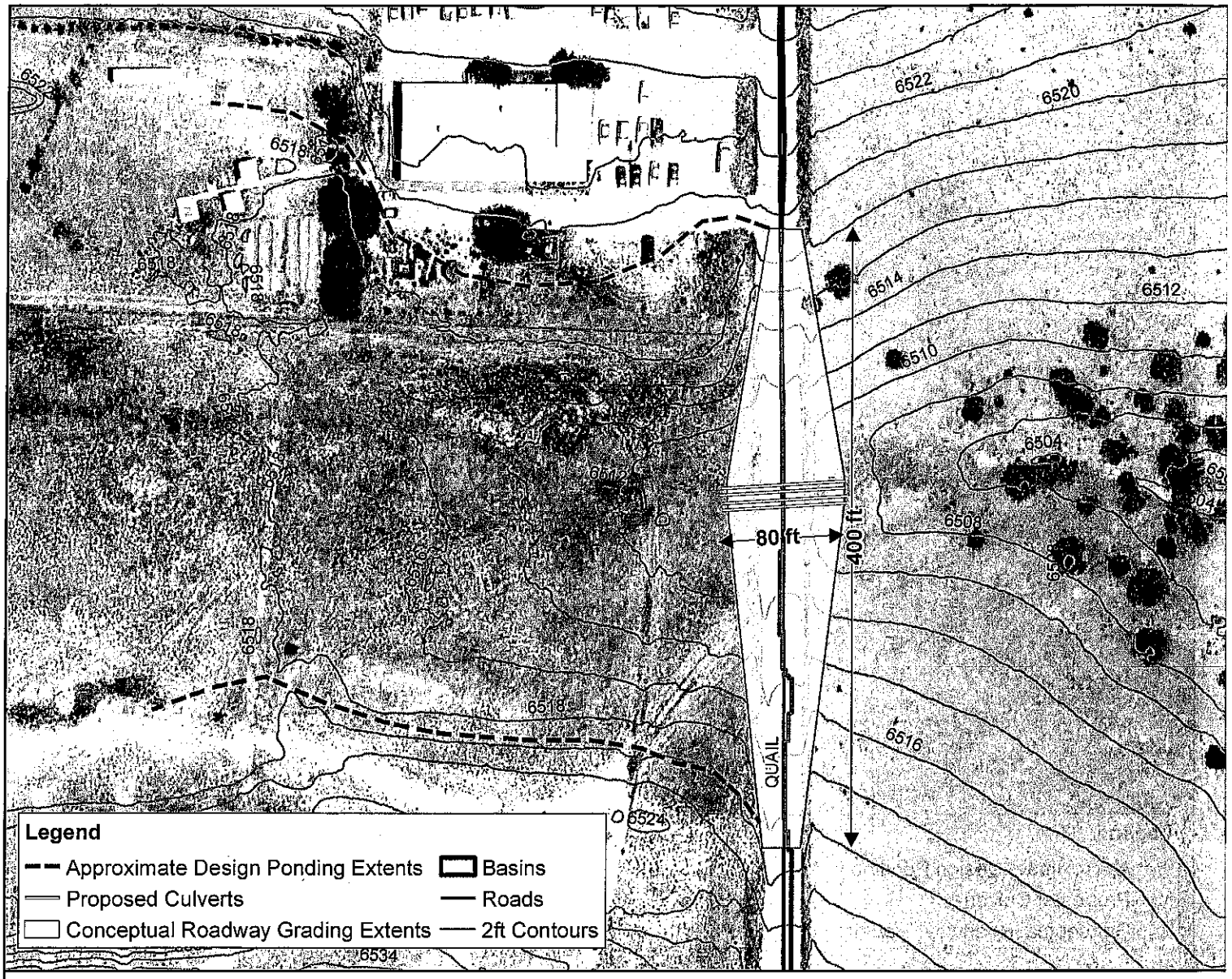

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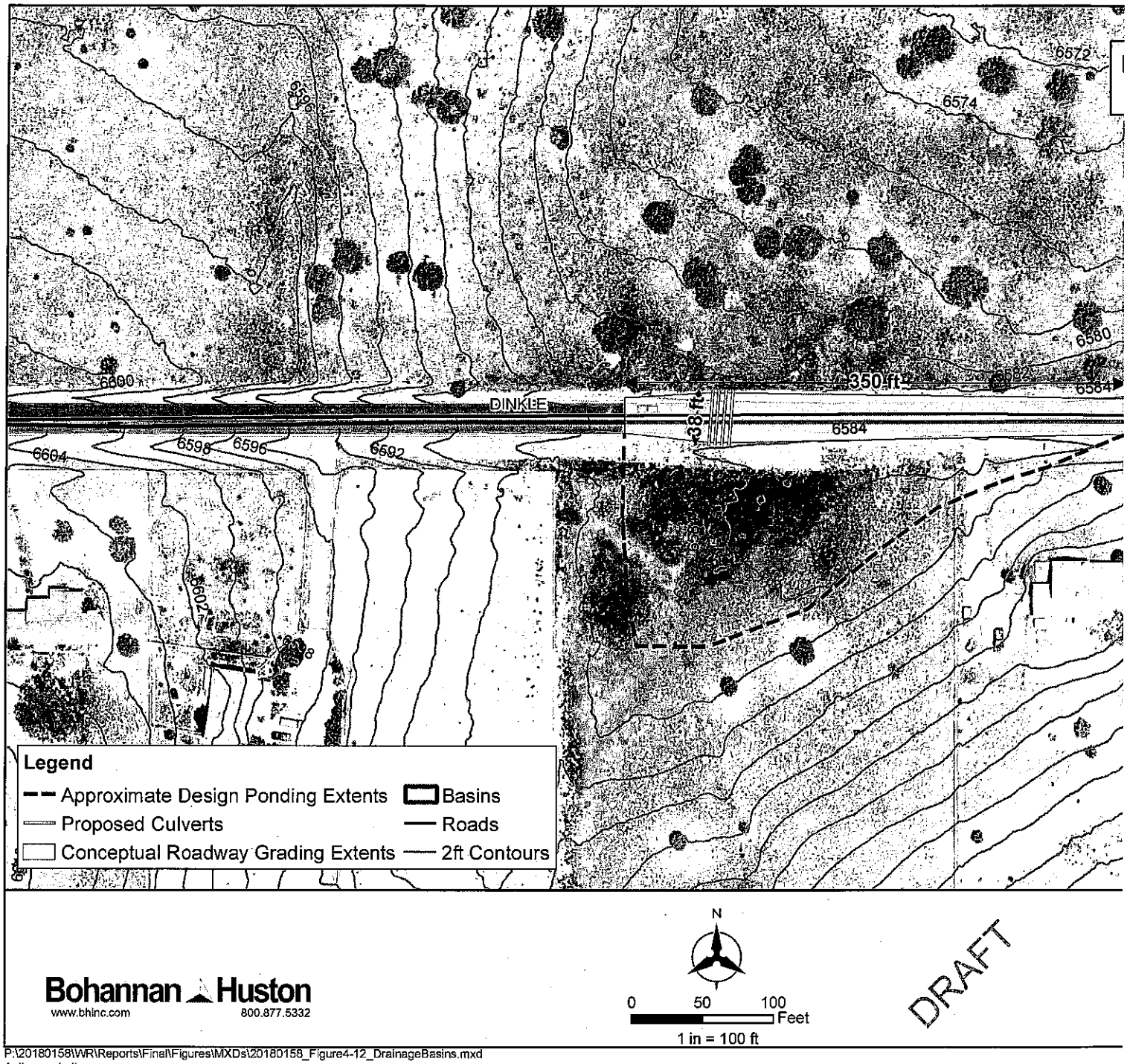

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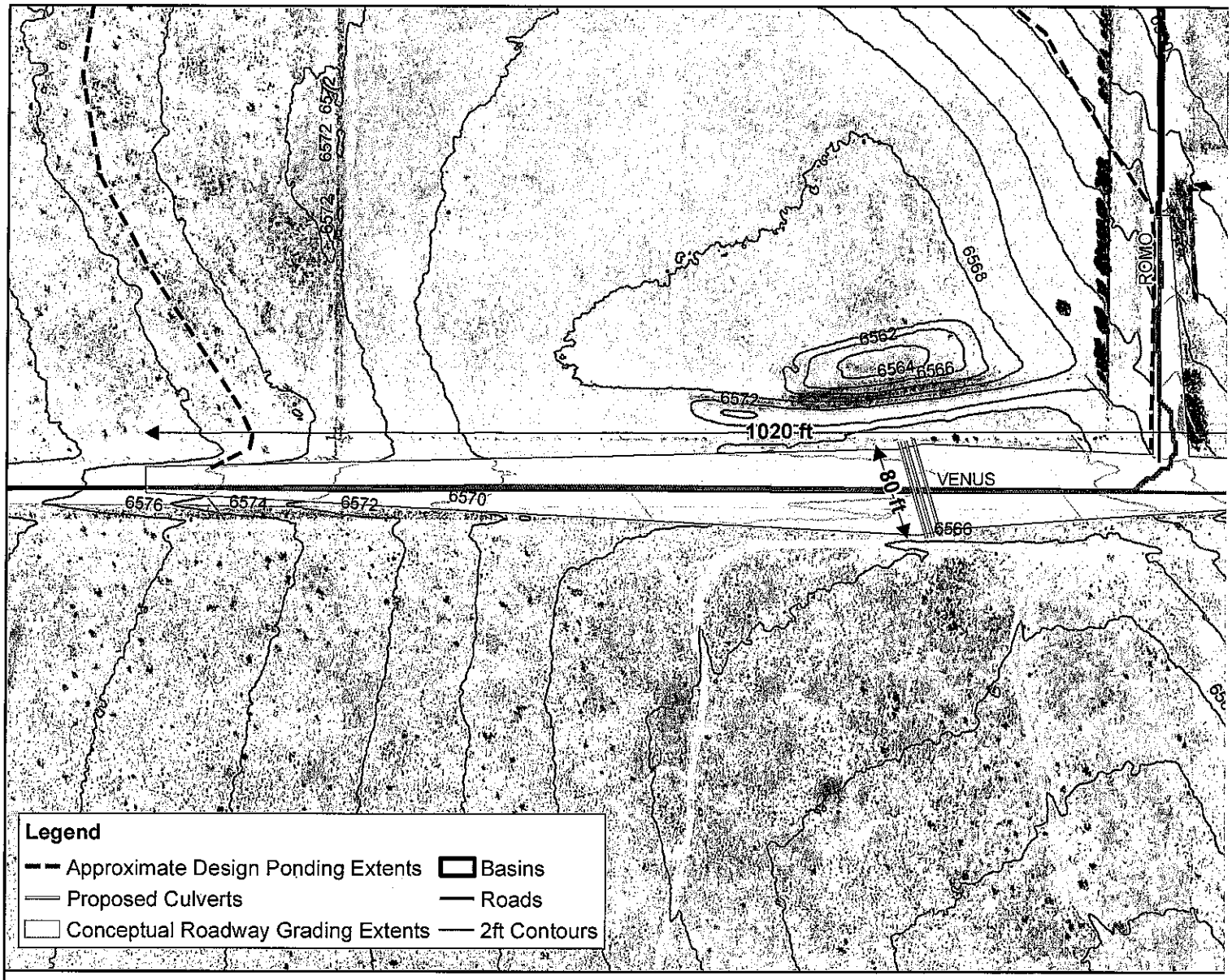

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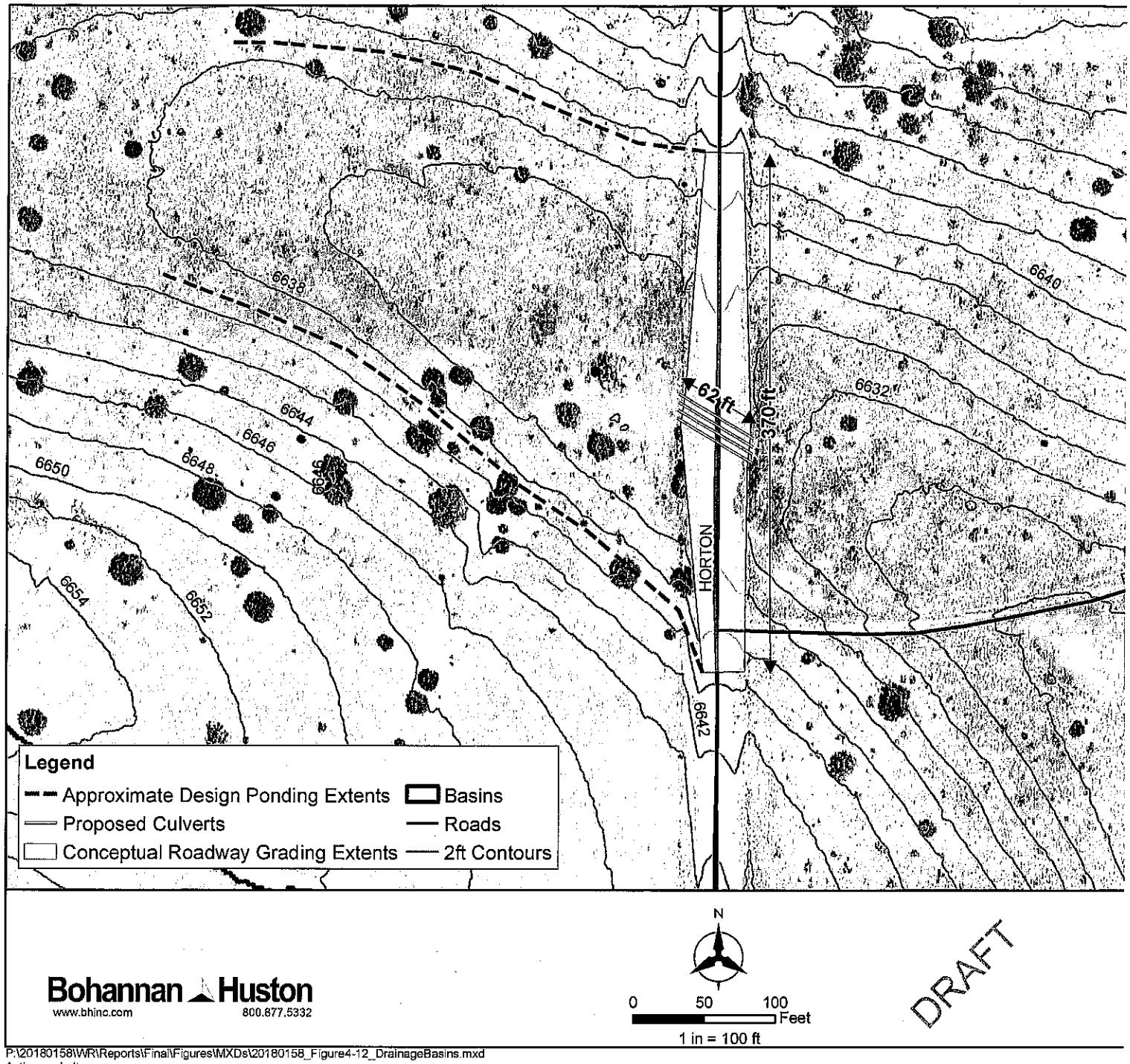

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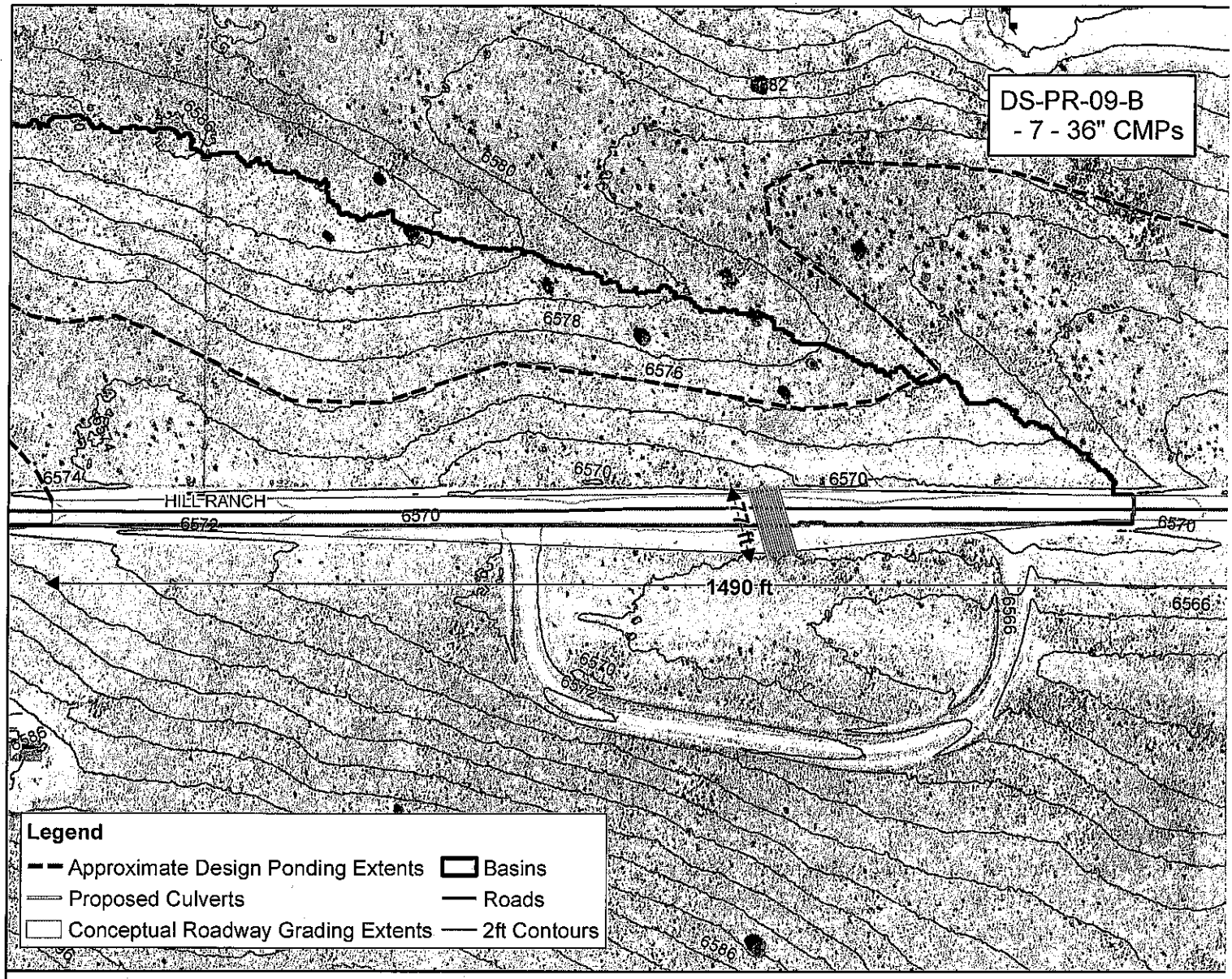

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1 in = 167 ft

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VII. CONCEPTUAL COST ESTIMATES

Conceptual cost estimates are provided for each of the nine crossings based on the recommended layout. These cost estimates provide a ROM cost to assist in planning and development of final design options for each crossing. The costs outlined utilized the 2017 NMDOT Average Bid Unit Prices along with the recommendations from the BHI Traffic and Transportation group based on their project experience and knowledge. More detailed cost estimates will need to be completed at the time of final design for each crossing. Those detailed cost estimates should include additional recommendations such as, but not limited to, embankment protection, permitting, establishment of easements, and construction phase traffic control plans.

Cost estimates for the nine crossings include estimates for fill material, culvert pipes or concrete for the low-flow RBC, roadway paving (where applicable), guardrails, and outfall erosion protection. Measurements for quantities are based on changes in roadway elevation, culvert material, size, quantity, roadway improvement lengths, roadway widths, and riprap details from NMDOT standard detail sheet 602-02-1/1. A 30 percent contingency has been included for each crossing to account for fluctuations in unit prices and quantities that may become further refined when final designs are completed. Soft costs were also included to account for final engineering and geotechnical design; permitting and environmental compliance; surveying; certifications; right-of-way (ROW) or easement acquisition; and construction administration. Table 10 includes the cost estimate for each proposed layout. These estimates are also found in Appendix E.

Table 10: Conceptual Design Cost Estimate for Proposed Layouts

[1]Structure No.	Construction Cost with Contingency	Soft Costs	Subtotal Cost	[2]NM Gross Receipts Tax	Total Cost Estimate
DS-PR-01-B	$89,000	$32,000	$121,000	$10,000	***$131,000***
DS-PR-02-A	$130,000	$46,000	$176,000	$15,000	***$191,000***
DS-PR-03-C	$165,000	$58,000	$223,000	$19,000	***$242,000***
DS-PR-04-B	$189,000	$67,000	$256,000	$21,000	***$277,000***
DS-PR-05-C	$295,000	$104,000	$399,000	$33,000	***$432,000***
DS-PR-06-A	$165,000	$58,000	$223,000	$19,000	***$242,000***
DS-PR-07-C	$681,000	$239,000	$920,000	$76,000	***$996,000***
DS-PR-08-B	$146,000	$52,000	$198,000	$17,000	***$215,000***
DS-PR-09-B	$687,000	$241,000	$928,000	$76,000	***$1,004,000***

[1]All costs have been rounded up to the nearest $1,000.
[2]The 2018 NMGRT of 8.1875% has been applied for the Town of Edgewood.

VIII. CONCLUSION

This report provides a summary of the hydrologic and hydraulic analysis performed for nine crossings in the Town of Edgewood. These analyses provide guidance on recommended improvements at the nine locations. The recommended layouts and improvements are shown on Figure 4 through Figure 12. It should be noted the recommendations presented herein are conceptual. During final design there may be additional information available which may necessitate a change to the recommended infrastructure. This may include limitations on right-of-way or easements available, utilities in the area, aesthetics of the improvements, local resident preference, roadway design speeds, future roadway improvement projects, etc.

For some of the larger crossing recommendations, additional configurations may be considered during design. These may include pipe arches, larger traditional CBC's, or even small bridges.

Regardless of the proposed drainage infrastructure chosen for final layouts, design details will be required and incorporated into the Construction Plans.

Based on the recommended layouts and costs provided, the Town of Edgewood has provided the following prioritization:

Priority 1: Cactus Rd. – Crossing 3
Priority 2: Quail Tr. – Crossing 5
Priority 3: Venus Rd. – Crossing 7
Priority 4: Horton Rd. – Crossing 8
Priority 5: Edgewood 7 – Crossing 2
Priority 6: Dinkle Rd. – Crossing 6
Priority 7: Hill Ranch Rd. – Crossing 9
Priority 8: Moriarty Rd. – Crossing 1
Priority 9: Frontage Rd. – Crossing 4

The rationale for the prioritization is the first four are unpaved roads, which also happen to be on the Town's paving priority list. Therefore, it makes sense to install the drainage infrastructure prior to paving the roads. Additionally, Priority 1 – Cactus Rd. is scheduled for sewer line work soon, so it is more likely that this drainage infrastructure work could be completed in the same time frame. The last two Priorities were set since the proposed crossing location on Moriarty Rd. (Crossing 1) is on a private road, and the Frontage Rd. is an NMDOT facility. Therefore, it will take additional time to develop and execute the necessary agreements required for construction at these two locations.

APPENDIX A:
EXISTING STRUCTURE INVENTORY

DS_EX-03; Basin 3

Drainage Structure Field Inspection Form

Verify Watershed Conditions

Land Use: Rural with some developed lots
Hydraulic Improvements: _____
Vegetation Type: herbaceous ground cover with trees/shrubs
Percent Cover: Refer to CN Grid
Verify – Effective Drainage Area: 0.7 sq. miles
Upstream Diversions: _____
Stock Ponds or Detention Facilities: 2 Det. Ponds seen
Percent Impervious: _____
Other Comments: Basin Features major CBC crossing under I-40

Structure Type

Size or Span: 36" Diameter Pipe
# of Piers or Barrells: 3 Barrels
Clear Height: ~3"- (Top of Pipe is exposed at inlet)
Invert to Pavement Height: ~39"
Structure Skew: _____
Structure Slope: 0.015 (Based on DEM Elev.)
Pier Type: _____
Evidence of, Bridge Scour: _____
Bed Lowering: _____
Bed Material: _____
General Condition of Structure: Good
Erosion: _____
Spalling: _____
Cracking: _____
Barrell Deformation: Pipe exposed over road surface at inlet; south-most outlet pipe is bent.
Other Comments: 40 ft. Pipe Length

Structure Inlet Conditions

Wingwalls: Steel
Headwalls: N/A
Training Dikes: _____
Height: ~38"
Upstream Channel: _____
Bottom Width: ~8.5'/ 5.3' length
Sideslopes: _____
Longitudinal Slope: _____
Evidence of, Debris: _____
Sediment Deposition: _____
Bank Caving: _____
Headcutting: _____
Evidence of, Ponding: _____
Highwater Marks: _____
Maintenance: _____
Channel Bed Material: Soil/low growing veg.
Channel Capacity Similar to Structure Capacity: _____

Structure Outlet Conditions

Wingwalls: Steel
Headwalls: _____
Training Dikes: _____
Height: ~38"
Outlet Apron: 5.3' length
Length: ~8.5'
Erosion Control Measures: _____
Length: _____
Evidence of, Erosion at Outlet: _____
Downstream Channel Instability: _____

*10" of Clear Height at outlet/Evidence of ponding/vegetation growth near outlet

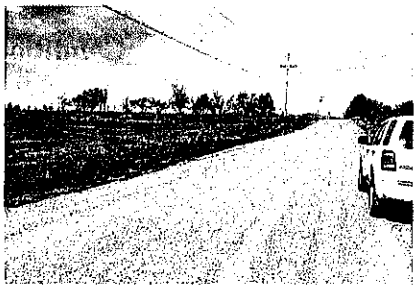
General Conditions

Calculated Peak Design Flow: 25 yr (326 cfs)
Is This Reasonable? _____
Evidence of Flood Damage to Adjacent Properties: _____
Evidence of Stream Instability Effecting Adjacent Properties: _____
Irrigation Facilities Affected: _____
Environmental Hazards Present: _____
Photos Taken of: See Attached
Survey Required: N/A- Tape Measure used for field measurments (10/19/2017)
Items to Research Back at the Office: Slope/Elevations/Pipe length via 2 ft. DEM; Hydraulic analysis to be completed
Other Comments: _____

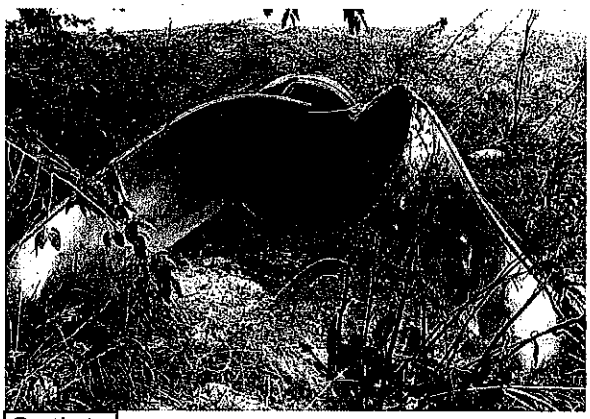
Project Location: Town of Edgewood, NM
CN#: 80
Date: 10/19/2017
Inspected by: Charles Wilson, EI (BHI)
Structure Location: •Crossing 3: Near Park Rd. and Co. Rd 7a; Under primitive roadway
Project Station: _____

Figure 2–1 Drainage Structure Field Inspection Form

Drainage Structure	Basin ID	Structure Type	Field Visit Notes	Pipe Type	Inlet Type	Barrel #	Span (in)	Rise (in)
DS_EX-03	3	CMP w/ ABS Lining	One culvert damaged at outlet; Pipe has little to no embankment cover 3' pipe diameter/ Little to no cover at inlet./ 10" cover at outlet/8.5 ft. outlet wing wall span that extends out 64"	Circular	Conc. Mitered	3	36	



Upstream View



Outlet

Inlet

DS_EX-04-01; Existing structure is immediately upstream of the crossing 4 analysis point; Basin 4 is the primary contributing basin.

Drainage Structure Field Inspection Form

Verify Watershed Conditions

Land Use: Rural with some developed lots
Hydraulic Improvements: _____
Vegetation Type: herbaceous ground cover with trees/shrubs
Percent Cover: Refer to CN Grid
Verify – Effective Drainage Area: 0.19 sq. miles
Upstream Diversions: Observed berms in Flowpath
Stock Ponds or Detention Facilities: 1 Det. Pond Observed
Percent Impervious: _____
Other Comments: Basin Features major CBC crossing under I-40

Structure Type

Size or Span: 8' wide x 5' height
# of Piers or Barrells: 1 Barrel
Clear Height: ~3' (Based on DEM Elevation reading)
Invert to Pavement Height: ~8 ft. (Taken from DEM Elvation reading; True analysi point is on rdwy immediately downstream)
Structure Skew: _____
Structure Slope: 0.035 (Based on DEM Elev.)
Pier Type: _____
Evidence of, Bridge Scour: _____
Bed Lowering: _____
Bed Material: _____
General Condition of Structure: Good
Erosion: _____
Spalling: _____
Cracking: _____
Barrell Deformation: _____
Other Comments: 180 ft. Pipe Length

Structure Inlet Conditions

Wingwalls: Concrete
Headwalls: N/A
Training Dikes: _____
Height: _____
Upstream Channel: _____
Bottom Width: Not observed
Sideslopes: _____
Longitudinal Slope: _____
Evidence of, Debris: _____
Sediment Deposition: _____
Bank Caving: _____
Headcutting: _____
Evidence of, Ponding: _____
Highwater Marks: _____
Maintenance: _____
Channel Bed Material: N/A
Channel Capacity Similar to Structure Capacity: _____

Structure Outlet Conditions

Wingwalls: Concrete (Span ~ 10')
Headwalls: _____
Training Dikes: _____
Height: _____
Outlet Apron: N/A
Length: _____
Erosion Control Measures: _____
Length: _____
Evidence of, Erosion at Outlet: _____
Downstream Channel Instability: _____

General Conditions

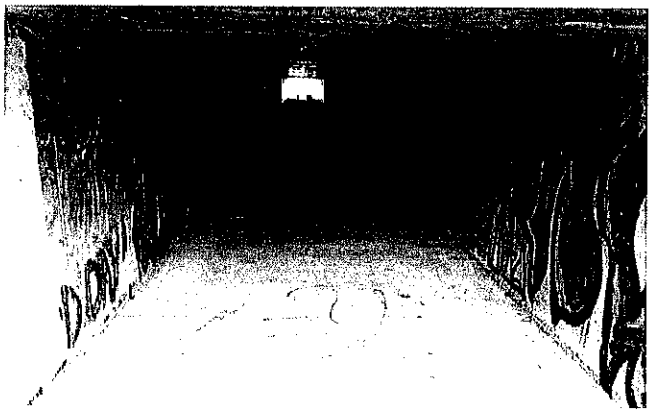
Calculated Peak Design Flow: 25yr(149cfs); 50yr (182cfs)
Is This Reasonable? _____
Evidence of Flood Damage to Adjacent Properties: _____
Evidence of Stream Instability Effecting Adjacent Properties: _____
Irrigation Facilities Affected: _____
Environmental Hazards Present: _____
Photos Taken of: See Attached
Survey Required: N/A- Tape Measurer used for culvert hught and width only.(10/19/2017)
Items to Research Back at the Office: Determine where runoff can be safely routed; Runoff from Basin 2 may need to be considered
Other Comments: _____

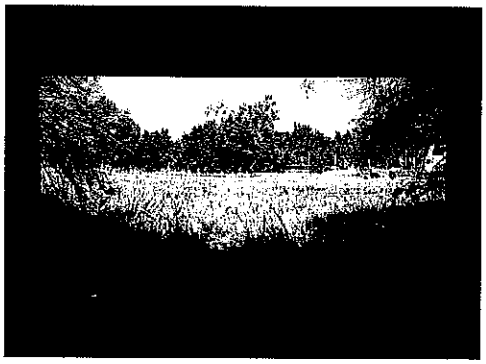
Project Location: Town of Edgewood, NM
CN#: 81
Date: 10/19/2017
Inspected by: Charles Wilson, EI (BHI)
Structure Location: Upstream of Crossing 4: Near East Frontage Road and Co. Rd. 7a;
Project Station: CBC is under I-40

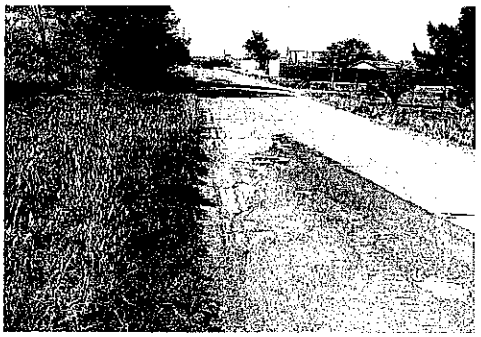
Figure 2-1 Drainage Structure Field Inspection Form

Drainage Structure	Basin ID	Structure Type	Field Visit Notes	Pipe Type	Inlet Type	Barrel #	Span (in)	Rise (in)
DS_EX-04-01	4	CBC	Directly upstream of analysis point for Crossing 4. Runoff drains from CBC and crosses paved road. Evident ponding at roadway.	Rectangular (Box Culvert)	Conc. wingwall	1	96	60

Outlet







DS_EX-06; Basin 6
*Field survey notes are attached

Drainage Structure Field Inspection Form

Verify Watershed Conditions

Land Use: Rural with some developed lots
Hydraulic Improvements: _____
Vegetation Type: herbaceous ground cover with trees/shrubs
Percent Cover: Refer to CN Grid
Verify – Effective Drainage Area: 0.27 sq. miles
Upstream Diversions: _____
Stock Ponds or Detention Facilities: N/A
Percent Impervious: _____
Other Comments: Flow path crosses multiple residential areas

Structure Type

Size or Span: 24" Diameter Pipe
# of Piers or Barrells: 1 Barrel
Clear Height: 13.4" (field survey taken on 10/19/17;Attached)
Invert to Pavement Height: 37.4"
Structure Skew: _____ Structure Slope: 0.018-DEM (0.001-Survey) Pier Type: _____
Evidence of, Bridge Scour: _____ Bed Lowering: _____ Bed Material: _____
General Condition of Structure: Moderate (no clear flow path/pipe is bent in multiple areas.)
Erosion: _____ Spalling: _____ Cracking: _____ Barrell Deformation: _____
Other Comments: 60 ft. Pipe Length

Structure Inlet Conditions

Wingwalls: N/A Headwalls: N/A Training Dikes: _____ Height: _____
Upstream Channel: _____ Bottom Width: _____ Sideslopes: _____ Longitudinal Slope: _____
Evidence of, Debris: _____ Sediment Deposition: _____ Bank Caving: _____ Headcutting: _____
Evidence of, Ponding: _____ Highwater Marks: _____ Maintenance: _____
Channel Bed Material: Soil/low growing veg. Channel Capacity Similar to Structure Capacity: _____

Structure Outlet Conditions

Wingwalls: None Headwalls: N/A Training Dikes: _____ Height: _____
Outlet Apron: _____ Length: N/A Erosion Control Measures: _____ Length: _____
Evidence of, Erosion at Outlet: _____ Downstream Channel Instability: _____

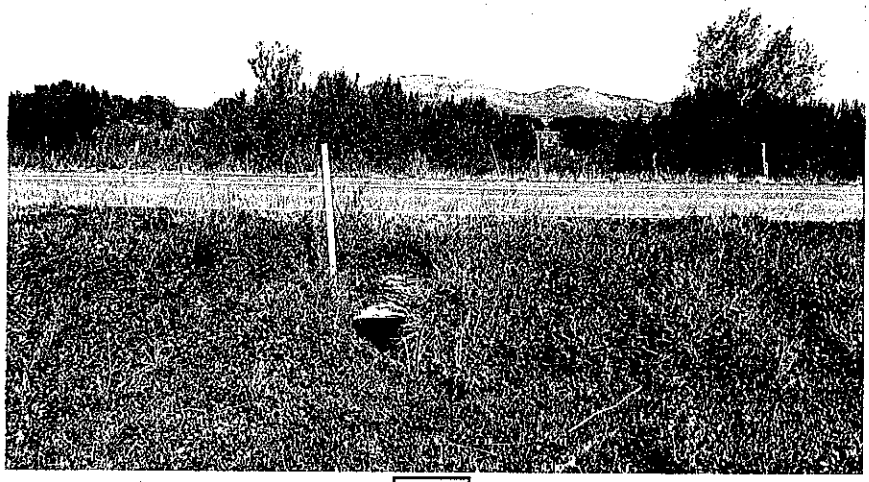
General Conditions

Calculated Peak Design Flow: 25 yr (98 cfs) Is This Reasonable? _____
Evidence of Flood Damage to Adjacent Properties: _____
Evidence of Stream Instability Effecting Adjacent Properties: _____
Irrigation Facilities Affected: _____
Environmental Hazards Present: _____
Photos Taken of: See Attached
Survey Required: Field survey taken with auto-level, tripod, and a measuring rod the of inlet, center of road, and outlet differentials.
Items to Research Back at the Office: _____
Other Comments: _____

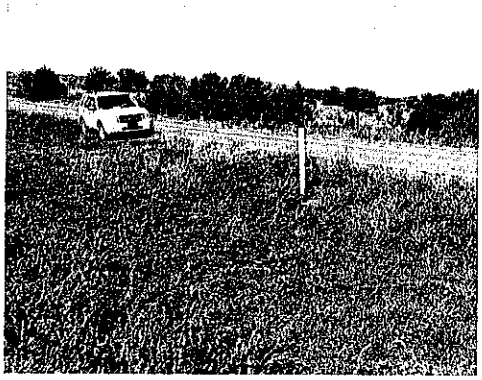
Project Location: Town of Edgewood, NM
CN#: 75
Date: 10/19/2017
Inspected by: Charles Wilson, EI (BHI)
Structure Location: Crossing 6: Near Dinkle Rd. Salida Del Sol; Under paved roadway
Project Station: _____

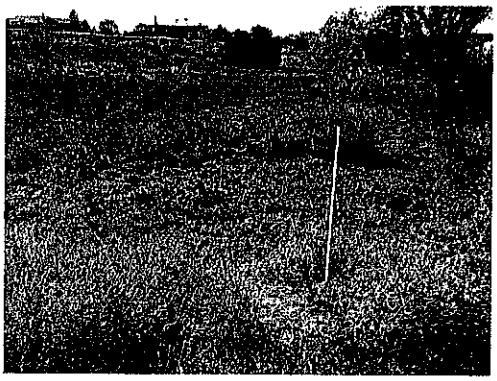
Figure 2–1 Drainage Structure Field Inspection Form

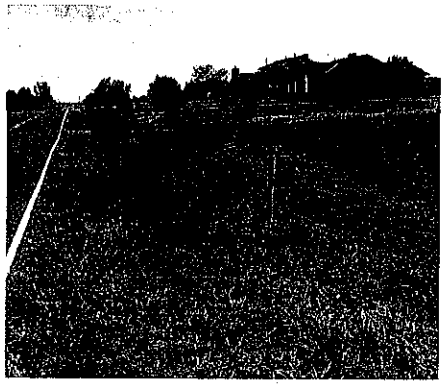
Drainage Structure	Basin ID	Structure Type	Field Visit Notes	Pipe Type	Inlet Type	Barrel #	Span (in)	Rise (in)
DS-06	6	CMP	1 24-inch round CMP/ Field survey taken with auto-level, tripod, and a measuring rod to determine the inlet, center of road, and outlet differentials. (Survey details attached)	Circular	N/A (Pipe orifice)	1	24	



Inlet







Outlet

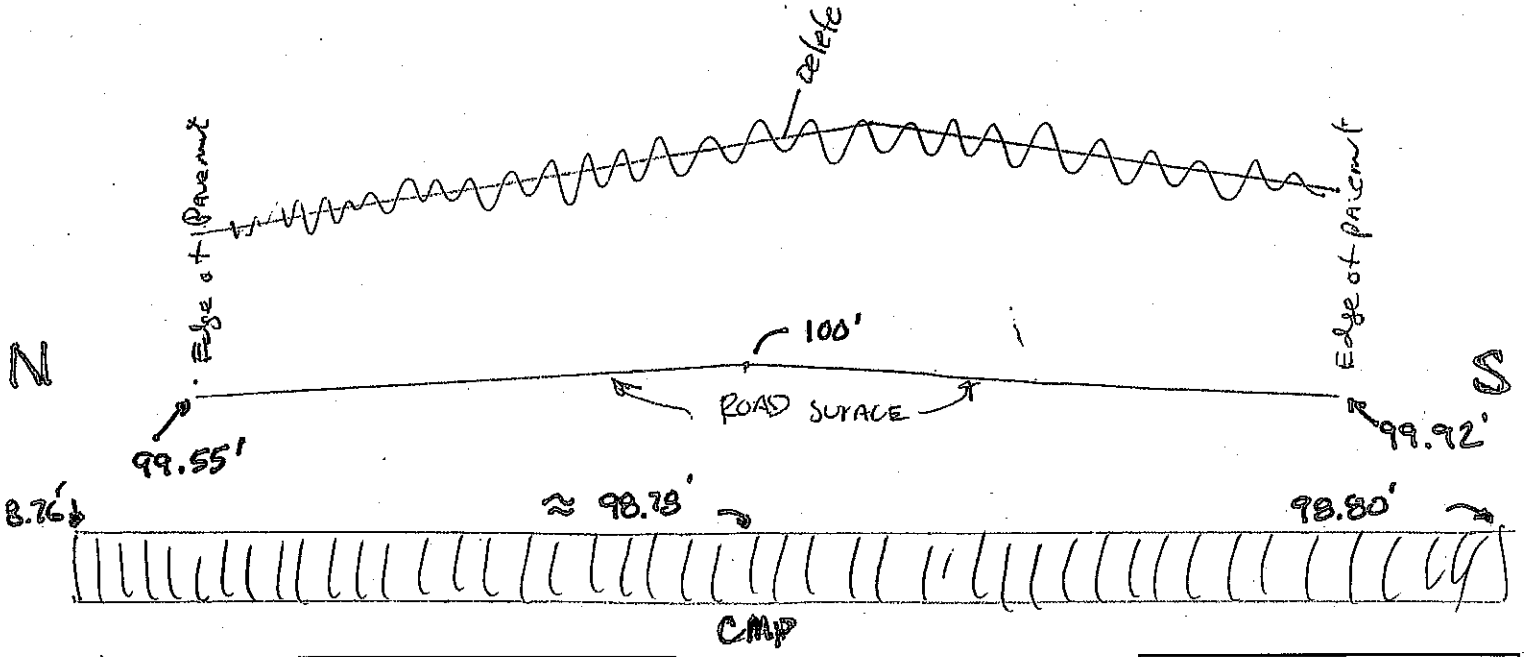
Bohannan Huston
Albuquerque Las Cruces Denver

Subject: Edgewood DMP Crossing 6 Date: 10-19-17

Notes: Field review DAW CW

Crossing #6

℄ ROAD	3.40'	℄ = 100' Elev.
N EOP	3.85'	99.55'
N top end of Pipe	4.64'	98.76'
S EOP	3.48	99.92'
S top end of Pipe	4.60	98.80'



1x24" CMP

North Invert (Outlet)
98.76'-2.0'=96.76'

South Invert (Inlet)
98.80'-2.0'=96.80'

DS_EX-09; Basin 9

Drainage Structure
Field Inspection Form

Verify Watershed Conditions

Land Use: Rural with some developed lots
Hydraulic Improvements: _____
Vegetation Type: herbaceous ground cover with trees/shrubs
Percent Cover: Refer to CN Grid
Verify – Effective Drainage Area: 0.9 sq. miles
Upstream Diversions: _____
Stock Ponds or Detention Facilities: Minor Ret. Pond
Percent Impervious: _____
Other Comments: Berm is in flow path directly upstream of culvert system. Crossing is not at low spot.

Structure Type

Size or Span: 18" Diameter Pipe
# of Piers or Barrells: 6 Barrels
Clear Height: ~18" (Measured with tape measurer)
Invert to Pavement Height: ~36"
Structure Skew: _____ Structure Slope: 0.004 (Based on DEM Elev.) Pier Type: _____
Evidence of, Bridge Scour: _____ Bed Lowering: _____ Bed Material: _____
General Condition of Structure: Good
Erosion: _____ Spalling: _____ Cracking: _____ Barrell Deformation: _____
Other Comments: 45 ft. Pipe Length

Structure Inlet Conditions

Wingwalls: None at inlet Headwalls: N/A Training Dikes: _____ Height: _____
Upstream Channel: _____ Bottom Width: _____ Sideslopes: _____ Longitudinal Slope: _____
Evidence of, Debris: _____ Sediment Deposition: _____ Bank Caving: _____ Headcutting: _____
Evidence of, Ponding: _____ Highwater Marks: _____ Maintenance: _____
Channel Bed Material: Soil/low growing veg. Channel Capacity Similar to Structure Capacity: _____

Structure Outlet Conditions

Wingwalls: Steel; 4' W 28"Length Headwalls: _____ Training Dikes: _____ Height: _____
Outlet Apron: _____ Length: _____ Erosion Control Measures: _____ Length: _____
Evidence of, Erosion at Outlet: _____ Downstream Channel Instability: _____

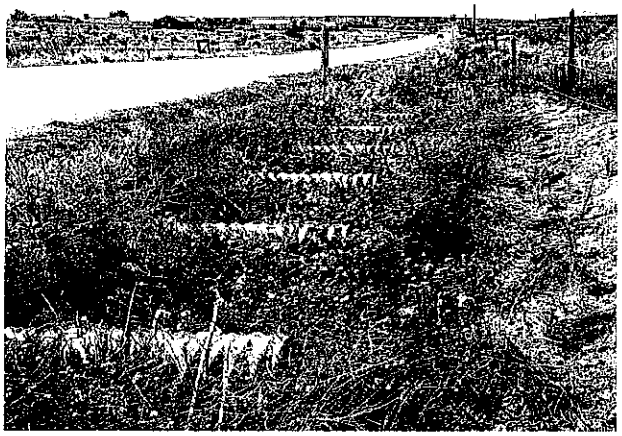
General Conditions

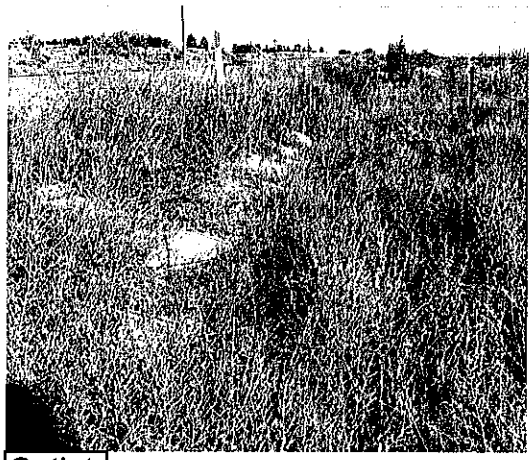
Calculated Peak Design Flow: 25 yr (258 cfs) Is This Reasonable? _____
Evidence of Flood Damage to Adjacent Properties: _____
Evidence of Stream Instability Effecting Adjacent Properties: _____
Irrigation Facilities Affected: _____
Environmental Hazards Present: _____
Photos Taken of: See Attached
Survey Required: N/A- Tape Measurer used for field measurements (10/19/2017)
Items to Research Back at the Office: May be better crossing location at low spot in roadway.
Other Comments: _____

Project Location: Town of Edgewood, NM
CN#: 75
Date: 10/19/2017
Inspected by: Charles Wilson, EI (BHI)
Structure Location: Crossing 9: Near W. Hill Ranch Rd. and Sunflower Trail (Under Paved Rdwy)
Project Station: _____

Figure 2–1 Drainage Structure Field Inspection Form

Drainage Structure	Basin ID	Structure Type	Field Visit Notes	Pipe Type	Inlet Type	Barrel #	Span (in)	Rise (in)
DS-09	9	CMP	6 x 18" CMP with approximately 18" of soil cover at inlet / outlets have steel wing walls with a 4 ft. bottom width and goes 28" length	Circular	Pipe orifice	6	18	

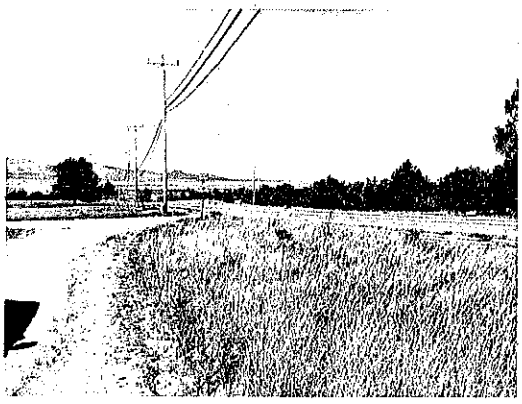




Crossing Locations with No Existing Drainage Structures

- Crossing 1: Near Moriarty and Zia Court

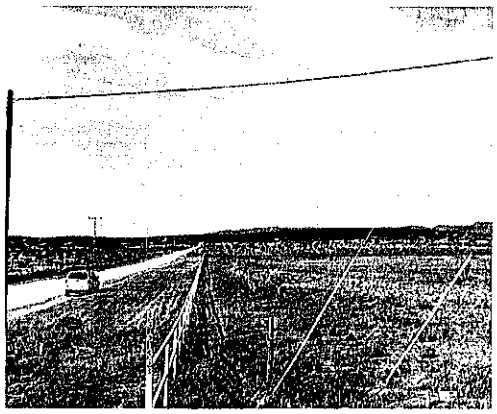
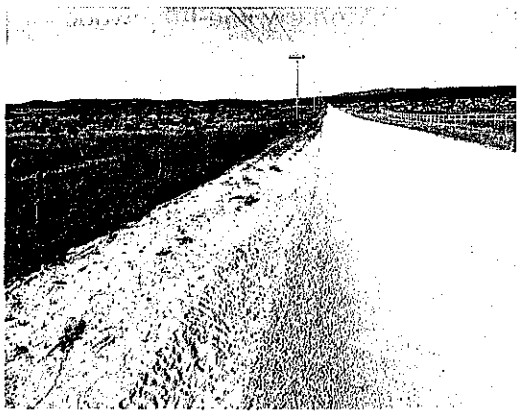

- Crossing 2: Near Moriarty and Edgewood 7 (NM 344)



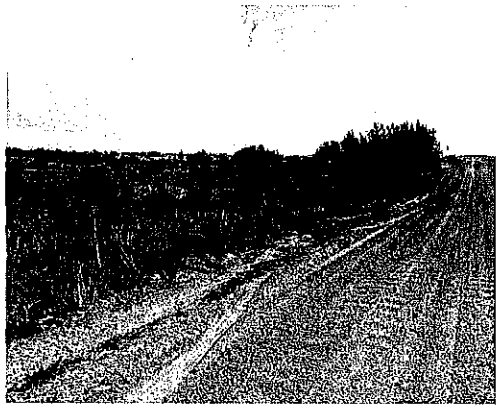

- Crossing 4: Near East Frontage Road and Co. Rd. 7a (Features existing drainage structure immediately upstream; DS_EX-04-01)


- Crossing 5: Near Quail Trail and Park Rd.


- Crossing 7: Near Romo Ln. and Venus Rd W.

- Crossing 8: Near Horton Rd. and Rory Road




APPENDIX B:
HYDROLOGIC ANALYSIS

SIMPLIFIED PEAK METHOD

Color Key	
Input	Calculation

Gullied Flow

Coefficient	Exponent	Sheet Vel	Shallow Flow Description	Coeffcient	Exponent	Shallow Vel	Upland Tc	Arroyo Length	Upstream Elev.	Downstream Elev.	Arroyo Slope	Arroyo Tc	Total Tc	Adjusted Tc	10^x	qu
		(ft/sec)				(ft/sec)	(min)	(ft)	(ft)	(ft)	(ft/ft)	(min)	(hr)	(hr)		cfs/ac-in
		13B	*14a*			*14b*	*15*	*16*	*17*	*18*	*19*	*20*	*21*	*22*	*23*	*24*
0.2512	0.5038	0.75	Grassed Waterway	1.4514	0.5089	4.38	16.74	0	6811	6811	0.000	0.00	0.28	0.28	0.92	1.41
0.7075	0.5007	1.55	Grassed Waterway	1.4514	0.5089	3.22	16.81	0	6730	6730	0.000	0.00	0.28	0.28	0.92	1.40
0.2512	0.5038	0.82	Grassed Waterway	1.4514	0.5089	4.77	14.27	6423	6729	6582	0.023	28.55	0.71	0.71	1.00	0.71
0.7075	0.5007	1.46	Grassed Waterway	1.4514	0.5089	3.03	24.65	0	6612	6611	0.000	0.00	0.41	0.41	0.98	1.10
0.2512	0.5038	0.82	Grassed Waterway	1.4514	0.5089	4.77	14.27	10697	6729	6510	0.020	44.14	0.97	0.97	1.00	0.55
0.7075	0.5007	1.26	Grassed Waterway	1.4514	0.5089	2.61	45.14	0	6582	6582	0.000	0.00	0.75	0.75	1.00	0.68
0.2512	0.5038	0.84	Grassed Waterway	1.4514	0.5089	4.91	9.76	17485	6978	6567	0.024	61.10	1.18	1.18	1.00	0.47
0.2512	0.5038	0.67	Grassed Waterway	1.4514	0.5089	3.92	17.60	4809	6805	6634	0.036	19.28	0.61	0.61	1.00	0.81
0.2512	0.5038	0.67	Grassed Waterway	1.4514	0.5089	3.92	17.60	10419	6805	6571	0.022	41.74	0.99	0.99	1.00	0.55

Peak Flow Rates (Q10, Q25, Q50, Q100)

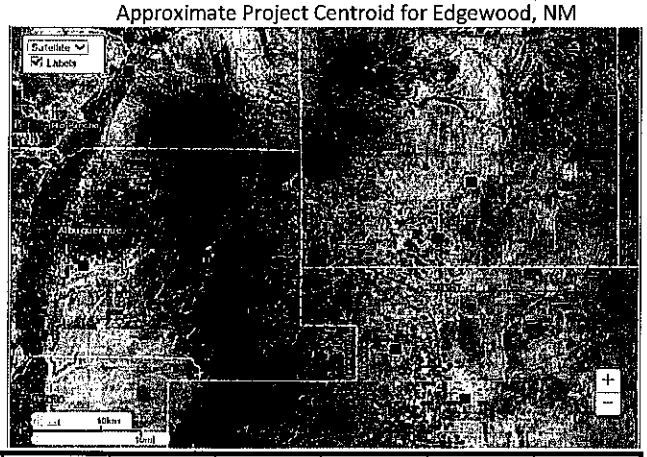
		Q10			Q25			Q50			Q100			Runoff Volume		
P24,50	P24,100	Qd	Qp	Qp/Acre	Qd	Qp	Qp/Acre	Qd	Qp	Qp/Acre	Qd	Qp	Qp/Acre	Qv, 10	Qv, 50	Qv, 100
(in)	(in)	(in)	(cfs)	(cfs/acre)	(in)	(cfs)	(cfs/acre)	(in)	(cfs)	(cfs/Ac)	(in)	(cfs)	(cfs/Ac)	(ac-ft)	(ac-ft)	(ac-ft)
		3	4												5	
3.1	3.45	0.9	50	1.2	1.2	67.5	1.7	1.5	82	2.1	1.7	98	2.5	2.9	4.8	5.8
3.1	3.45	0.9	72	1.3	1.3	97.0	1.8	1.5	117	2.1	1.8	139	2.6	4.3	7.0	8.3
3.1	3.45	0.3	83	0.2	1.1	326.1	0.8	1.3	400	0.9	1.6	482	1.1	9.7	46.7	56.2
3.1	3.45	0.3	38	0.3	1.1	149.3	1.3	1.4	182	1.5	1.7	219	1.8	2.8	13.8	16.6
3.1	3.45	0.3	172	0.2	1.1	675.6	0.6	1.3	829	0.7	1.6	999	0.9	25.8	124.5	150.0
3.1	3.45	0.2	26	0.1	0.8	97.5	0.6	1.0	123	0.7	1.3	152	0.9	3.1	15.0	18.5
3.1	3.45	0.2	130	0.1	0.9	495.4	0.4	1.1	621	0.5	1.3	763	0.6	22.9	109.2	134.0
3.1	3.45	0.2	38	0.2	0.9	144.4	0.7	1.1	180	0.9	1.4	220	1.1	3.9	18.6	22.7
3.1	3.45	0.2	68	0.1	0.8	257.8	0.4	1.0	325	0.6	1.3	401	0.7	10.4	49.5	61.0

ing Tables 3-1 to 3-4 of the NM Hydrology Manual (1995) which is originally sourced from the USDA SCS, TR-55 NMDOT Drainage Manual. The GEO-HMS Extension in ArcGIS was then ers to each basin based on supplemental land calssification data provided by Landfire.gov and the NRCS Soil Survey Geographic (SSURGO) Database. Basins 5 and 9 were analyzed in ns since they include internal basins. For more information on the process, refer to*P:\20180158\WR\Calculations\Misc CalcsCNLookUp_2018158_.xlsx* which is also found in Appendix B.
itions\Programs\ArcGIS\Data\Current for the shapefile of the final delineations and curve number grid.
las 14, Volume 1, Version 5. (Latitude: 35.0828°, Longitude: -106.2031°; Elevation (USGS): 6618.94 ft)
asin) =(P24-(200/CN)+2)^2/(P24+(800/CN)-8)
NMDOT Drainage Manual Equation 3-24, pg. 3-50)
f) = (Qd*Area)/12 (NMDOT Drainage Manual Equation 3-25, pg. 3-50)
evaluated as directed by Table II on pg 4 of the Drainage Design Criteria for NMDOT Projects: Fourth Revision (2007).

Point Precipitation Frequency Estimates (inches)

Point precipitation frequency estimates (inches)
NOAA Atlas 14 Volume 1 Version 5
Data type: Precipitation depth
Time series type: Partial duration
Project area: Southwest
Location name (ESRI Maps): Edgewood, New Mexico, USA
Station Name: OTTO FAA AIRPORT
Latitude: 35.0828°
Longitude: -106.2031°
Elevation (USGS): 6618.94 ft

Approximate Project Centroid for Edgewood, NM



PRECIPITATION FREQUENCY ESTIMATES

By duration for ARI (years):	1	2	5	10	25	50	100	200	500	1000
5-min:	0.21	0.28	0.37	0.44	0.53	0.60	0.68	0.76	0.86	0.94
10-min:	0.33	0.42	0.56	0.67	0.81	0.92	1.03	1.15	1.31	1.43
15-min:	0.40	0.52	0.70	0.83	1.00	1.14	1.28	1.42	1.62	1.78
30-min:	0.54	0.70	0.94	1.11	1.35	1.53	1.72	1.92	2.18	2.39
60-min:	0.67	0.87	1.16	1.38	1.67	1.90	2.13	2.37	2.70	2.96
2-hr:	0.78	1.00	1.32	1.57	1.92	2.19	2.48	2.78	3.19	3.52
3-hr:	0.84	1.06	1.38	1.64	1.99	2.27	2.57	2.87	3.30	3.64
6-hr:	0.96	1.21	1.54	1.81	2.17	2.45	2.75	3.05	3.46	3.79
12-hr:	1.09	1.37	1.73	2.01	2.39	2.69	3.00	3.31	3.73	4.07
24-hr:	1.29	1.61	2.01	**2.34**	**2.77**	**3.10**	**3.45**	3.80	4.27	4.63
2-day:	1.43	1.79	2.24	2.59	3.08	3.45	3.84	4.23	4.76	5.17
3-day:	1.57	1.96	2.44	2.82	3.34	3.74	4.16	4.58	5.15	5.58
4-day:	1.70	2.12	2.64	3.05	3.61	4.04	4.48	4.93	5.53	6.00
7-day:	1.99	2.49	3.07	3.53	4.15	4.62	5.11	5.59	6.23	6.73
10-day:	2.25	2.81	3.48	4.02	4.74	5.29	5.85	6.42	7.18	7.76
20-day:	2.99	3.73	4.58	5.22	6.05	6.67	7.28	7.87	8.64	9.21
30-day:	3.65	4.55	5.54	6.28	7.22	7.91	8.58	9.23	10.00	10.60
45-day:	4.47	5.56	6.69	7.52	8.55	9.29	10.00	10.70	11.50	12.10
60-day:	5.15	6.42	7.72	8.66	9.82	10.60	11.40	12.10	13.10	13.70

Date/time (GMT): Mon Oct 9 22:25:10 2017
pyRunTime: 0.123492002487
Raw NOAA Atlas 14 PDF Output avaliable at: *\\a-abq-fs2\projects\20180158\Archive\Received\NOAA Atlas 14\NOAA Atlas 14_Edgewood Area.pdf*

Curve Number Look Up Table

Project: **Edgewood Drainage**
BHI Job No. **20180158**
Prepared By: **Charles Wilson**
Date: **12/12/2017**

Original Landfire.gov Classification				Revised Classification (TR-55)				
Grid Code	COUNT	% of Project Area	USGS/DOI Landfire Program Existing Vegetative Cover Class Name	Hydrologic Soil Code A	B	C	D	Source
13	810	0.18	Developed-Upland Deciduous Forest	57	75	85	89	
14	2046	0.45	Developed-Upland Evergreen Forest	57	75	85	89	[Table 3-1]: Pinon, Juniper, or both; Grass Understory
15	496	0.11	Developed-Upland Mixed Forest	57	75	85	89	
16	3567	0.79	Developed-Upland Herbaceous	72	82	87	89	[Table 3-4]: Sreets and Roads: Dirt (including right-of-way)
17	2635	0.59	Developed-Upland Shrubland	72	82	87	89	
22	1369	0.30	Developed - Low Intensity	61	75	83	87	[Table 3-4]: 1/4 Acre Lots (38% Impervious)
23	363	0.08	Developed - Medium Intensity	89	92	94	95	[Table 3-4]: Runoff Curve Numbers Urban Areas; Commercial and Business
24	76	0.02	Developed - High Intensity	89	92	94	95	
25	18579	4.13	Developed-Roads	98	98	98	98	[Table 3-4]: Roads; Some areas are unpaved
31	129	0.03	Barren	77	86	91	94	[Table 3-4]: Newly Graded Areas
32	283	0.06	Quarries-Strip Mines-Gravel Pits	77	86	91	94	[Table 3-2]
64	2	0.00	NASS-Row Crop	77	86	91	94	
65	3	0.00	NASS-Close Grown Crop	72	81	88	91	
100	170	0.04	Sparse Vegetation Canopy	68	79	86	89	[Table 3-4]:Open Space-Poor Cond.
101	9233	2.05	Tree Cover >= 10 and < 20%	*57*	75	85	89	[Table 3-1]: Pinon, Juniper, or both; Grass Understory **Soil A derived from Woods cover in Table 3-3*
102	30419	6.76	Tree Cover >= 20 and < 30%	*57*	75	85	89	
103	94514	21.01	Tree Cover >= 30 and < 40%	*57*	58	73	80	
104	77415	17.21	Tree Cover >= 40 and < 50%	*57*	58	73	80	
105	23246	5.17	Tree Cover >= 50 and < 60%	*43*	58	73	80	
106	2490	0.55	Tree Cover >= 60 and < 70%	*43*	58	73	80	
107	22	0.00	Tree Cover >= 70 and < 80%	*38*	*41*	*61*	*71*	
111	50	0.01	Shrub Cover >= 10 and < 20%	51	68	79	84	[Table 3-4]: 1 Acre Lots (20% Impervious Area); **Shrubland cover is predominantly identified on residential properties and do not necessarily reflect shrub cover in the Landfire classification.*
112	67	0.01	Shrub Cover >= 20 and < 30%	51	68	79	84	
113	5162	1.15	Shrub Cover >= 30 and < 40%	51	68	79	84	
114	31801	7.07	Shrub Cover >= 40 and < 50%	51	68	79	84	
115	2466	0.55	Shrub Cover >= 50 and < 60%	51	68	79	84	
116	7	0.00	Shrub Cover >= 60 and < 70%	51	68	79	84	
121	208	0.05	Herb Cover >= 10 and < 20%	*68*	80	87	93	[Table 3-1]: Herbaceous-Mixture of grass,weeds, and low growing brush (minor element); **Soil A derived from Pasture, grassland, or range of Table 3-3.*
123	15	0.00	Herb Cover >= 30 and < 40%	*68*	71	81	89	
124	816	0.18	Herb Cover >= 40 and < 50%	*68*	71	81	89	
125	16162	3.59	Herb Cover >= 50 and < 60%	*49*	71	81	89	
126	17219	3.83	Herb Cover >= 60 and < 70%	*49*	71	81	89	
127	93877	20.87	Herb Cover >= 70 and < 80%	*44*	*62*	*74*	*85*	
128	14199	3.16	Herb Cover >= 80 and < 90%	*39*	*62*	*74*	*85*	
129	4	0.00	Herb Cover >= 90 and <= 100%	*39*	*62*	*74*	*85*	

Poor Cover	Fair Cover	Good Cover

Notes:

1. Curve Number Values were chosen from Tables 3-1 to 3-4 of the NM Hydrology Manual (1995) which are originally sourced from the USDA SCS, TR-55
2. Soil Type A has undefinded values for rural areas so other tables were reffered to as indicated in the source section
3. Soil A Classification- Poor:<50%, Fair: 50-75%, Good >75% (Any CN in the 70-80% Bracket was averaged between fair and good)
4. Soil B-D Classification- Poor:<30%, Fair: 30-70%, Good >70%
5. "Developed" CN's reflect areas along the road's right of way. This area is best described as herbaceaous and features the same CN's as Fair, Hebaceaous (Table 3-1)
6. CN Assignments were inserted to each defined Landfire Gridcode and further processed with the NRCS Soil Survey Geographic (SSURGO) Database via ArcGIS to develop a curve number grid. The CN Assignment is available at: \\a-abq-fs2\projects\20180158\WR\Calculations\Programs\ArcGIS\Data\Working

APPENDIX C:
HYDRAULIC ANALYSIS

Edgewood Drainage Crossing Analysis - Existing Hydraulic Analysis

20180158

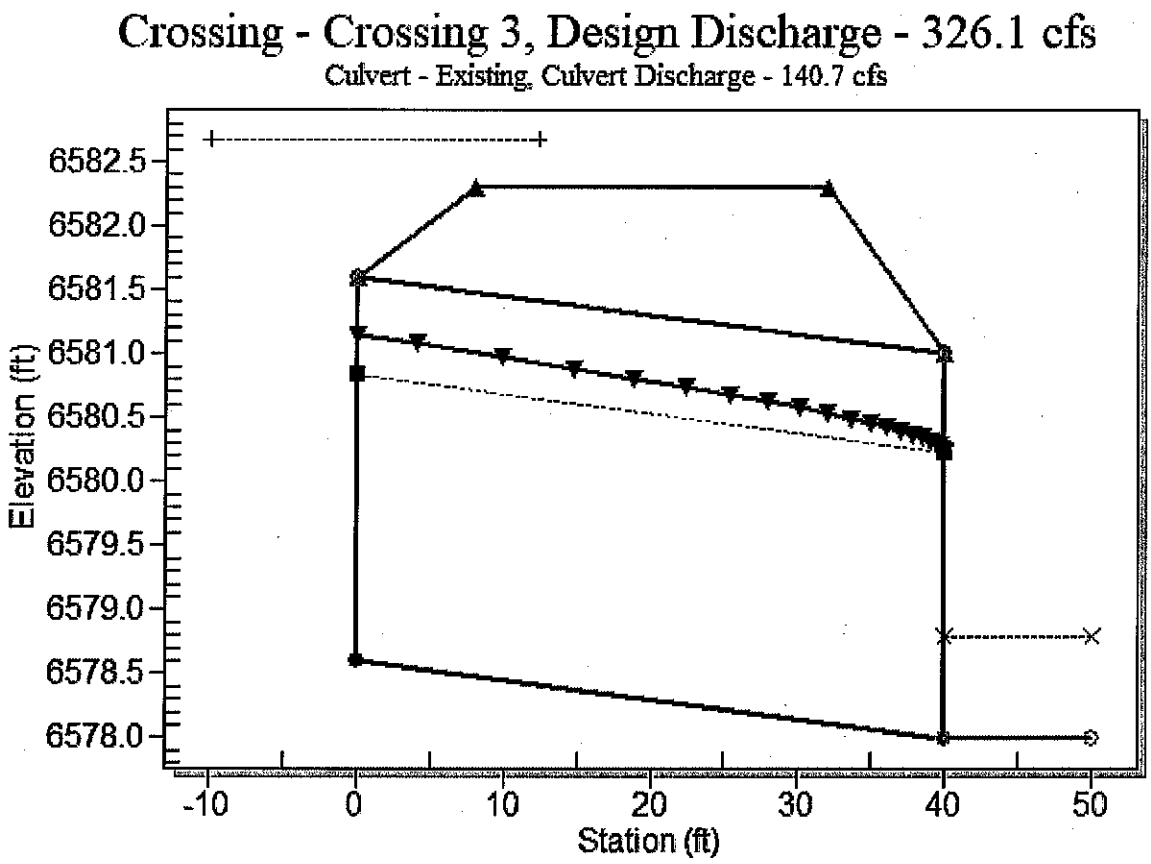
Parameter	DS-EX-03	[25]DS-EX-04	DS-EX-06	DS-EX-09
	Existing	Existing	Existing	Existing
[1] Roadway Classification	*Minor Arterials, Collectors, and Local Roads*	*Interstate Highways and Primary Arterials*	*Minor Arterials, Collectors, and Local Roads*	*Minor Arterials, Collectors, and Local Roads*
[2] Traffic Classification	*Rural < 400 ADT*	*All ADT*	*Rural < 400 ADT*	*Rural < 400 ADT*
[2] Design Event	25-yr	50-yr	25-yr	25-yr
[2] Check Event	50-yr	100-yr	50-yr	50-yr
[3] Design Flow	326.1	299.0	97.5	257.8
[4] Check Flow	400.0	358.0	123.0	325.0
[5] Existing Channel Type	Trapezoidal	Trapezoidal	Rectangular	Rectangular
[6] Channel Bottom Width	76	16	187	271
[7] Channel Side Slope (X:1)	3	2	N/A	N/A
[8] Channel Slope	0.022	0.014	0.041	0.015
[9] Manning's n (Channel)	0.035	0.035	0.035	0.035
[10] Channel Invert Elevation	6,578.0	6,611.7	6,582.2	6,569.0
[11] Crest Length	300	300	300	300
[12] Crest Elevation	6,582.3	6,626.0	6,584.5	6,571.4
[13] Roadway Surface	Gravel	Paved	Paved	Paved
[14] Existing Top Width	24	73	24	24
[15] Shape	Circular	Rectangular	Circular	Circular
[16] Material	CMP	Concrete	CMP	CMP
[17] Diameter/Span	3	8'w x 5'h	2	1.5
[18] Inlet Type	Mitered to Conform to Slope	Concrete Wingwall (30°-75° flare)	Thin Edge Projecting	Thin Edge Projecting
[19] Manning's n (Culvert)	0.024	0.015	0.024	0.024
[20] Inlet Elevation	6,578.6	6,618.0	6,582.5	6,569.2
[21] Length	40	180	60	45
[22] Outlet Elevation	6,578.0	6,611.7	6,582.2	6,569.0
[23] No. of Barrels	3	1	1	6
[24] Flow Capacity	126.8	444.1	10.0	42.3

Notes:

1. Classification based on Tables 1 from NMDOT Drainage Design Criteria.
2. Classification based on Tables 2A and 2B from NMDOT Drainage Design Criteria.
3. Design flow is from hydrology calculations completed previously on this project (P:\20180158\WR\Calculations\Misc Calcs\Simplified Peak Flow NMDOT_20180158.xls).
4. Check flow is from hydrology calculations completed previously on this project (P:\20180158\WR\Calculations\Misc Calcs\Simplified Peak Flow NMDOT_20180158.xls).
5. Channel type is channel immediately downstream of roadway crossing based on 2-ft contours.
6. Channel bottom width is assumed width based on 2-ft contours; Some channels are undefined so best estimate using contours was applied.
7. Sideslopes of channel; Estimated based on 2-ft contour data.
8. Channel slope is taken from contour upstream of crossing to contour downstream of crossing.
9. Manning's n value is a composite value of "Natural Channel" from NMDOT Drainage Manual Volume II: Hydraulics, Sedimentation, and Erosion - Table 3-1
10. Channel invert elevation is culvert outfall invert; Channel invert elevation is downstream of the roadway crossing based on HY8 inputs.
11. Crest length is length of roadway perpendicular to flow direction; 300 feet selected as default to simulate roadways in project areas.
12. Crest elevation is roadway elevation; Relative elevations estimated from field investigation conducted previously (P:\20180158\WR\Calculations\Misc Calcs\Existing-Drainage-Structure-Hydraulics.xls).
13. Roadway surface is paved for existing roadways.
14. Top width is width of roadway perpendicular to the flow direction.
15. Shape is culvert geometric opening.
16. Material is culvert composition (CMP = corrugated metal pipe; Concrete = cast-in-place concrete with steel reinforcement or pre-cast concrete with steel reinforcement)
17. Diameter or span is measured opening of culvert pipe or box.
18. Inlet type is configuration of inlet on upstream side of roadway crossing.
19. Manning's n value is determined from NMDOT Drainage Manual Volume II: Hydraulics, Sedimentation, and Erosion (Table 3-1).
20. Inlet elevation is invert elevation of culvert on upstream side of roadway crossing; Relative elevations estimated from field investigation conducted previously.
21. Length is the total length of the culvert from upstream invert to downstream invert.
22. Outlet elevation is invert elevation of culvert on downstream side of roadway crossing; Elevations estimated from field investigation conducted previously (P:\20180158\WR\Calculations\Misc Calcs\Existing-Drainage-Structure-Hydraulics.xls).
23. Existing installed culverts.
24. HY8 model calculation for maximum capacity of culvert with a headwater elevation equal to the roadway surface.
25. Existing Crossing 4 culvert analysis is for CBC that traverses I-40; Proposed Crossing 4 will analyze I-40 frontage road immediately downstream of roadway crossing; Flows for Crossing flow include the peak discharge for Crossing 2, which is a contributing upstream basin.

HY-8 Culvert Analysis Report

Water Surface Profile Plot for Culvert: Existing



Site Data - Existing

Site Data Option: Culvert Invert Data

Inlet Station: 0.00 ft

Inlet Elevation: 6578.60 ft

Outlet Station: 40.00 ft

Outlet Elevation: 6578.00 ft

Number of Barrels: 3

Culvert Data Summary - Existing

Barrel Shape: Circular

Barrel Diameter: 3.00 ft

Barrel Material: Corrugated Steel

Embedment: 0.00 in

Barrel Manning's n: 0.0240

Culvert Type: Straight

Inlet Configuration: Mitered to Conform to Slope

Inlet Depression: None

Table 1 - Culvert Summary Table: Existing

Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth (ft)	Outlet Control Depth (ft)	Flow Type	Normal Depth (ft)	Critical Depth (ft)	Outlet Depth (ft)	Tailwater Depth (ft)	Outlet Velocity (ft/s)	Tailwater Velocity (ft/s)
0.00	0.00	6578.60	0.000	0.000	0-NF	0.000	0.000	0.000	0.000	0.000	0.000
40.00	40.00	6580.31	1.711	0.707	1-S2n	1.099	1.158	1.099	0.225	5.490	2.316
80.00	80.00	6581.14	2.543	1.658	1-S2n	1.634	1.666	1.634	0.341	6.560	3.044
120.00	120.00	6582.18	3.468	3.579	7-M2c	2.173	2.057	2.057	0.435	7.743	3.570
160.00	132.00	6582.41	3.808	3.795	7-M2c	2.376	2.158	2.158	0.516	8.082	3.995
200.00	134.72	6582.49	3.890	3.845	7-M2c	3.000	2.180	2.180	0.590	8.160	4.358
240.00	136.86	6582.56	3.956	3.888	7-M2c	3.000	2.198	2.198	0.658	8.221	4.677
280.00	138.77	6582.62	4.016	3.927	7-M2c	3.000	2.213	2.213	0.721	8.276	4.965
320.00	140.47	6582.67	4.070	3.962	7-M2c	3.000	2.226	2.226	0.781	8.326	5.228
326.10	140.72	6582.68	4.078	3.967	7-M2c	3.000	2.228	2.228	0.790	8.333	5.266
400.00	143.44	6582.77	4.166	4.025	7-M2c	3.000	2.249	2.249	0.893	8.412	5.696

****

Straight Culvert

Inlet Elevation (invert): 6578.60 ft, Outlet Elevation (invert): 6578.00 ft

Culvert Length: 40.00 ft, Culvert Slope: 0.0150

****

Crossing Discharge Data

Discharge Selection Method: Specify Minimum, Design, and Maximum Flow

Minimum Flow: 0 cfs

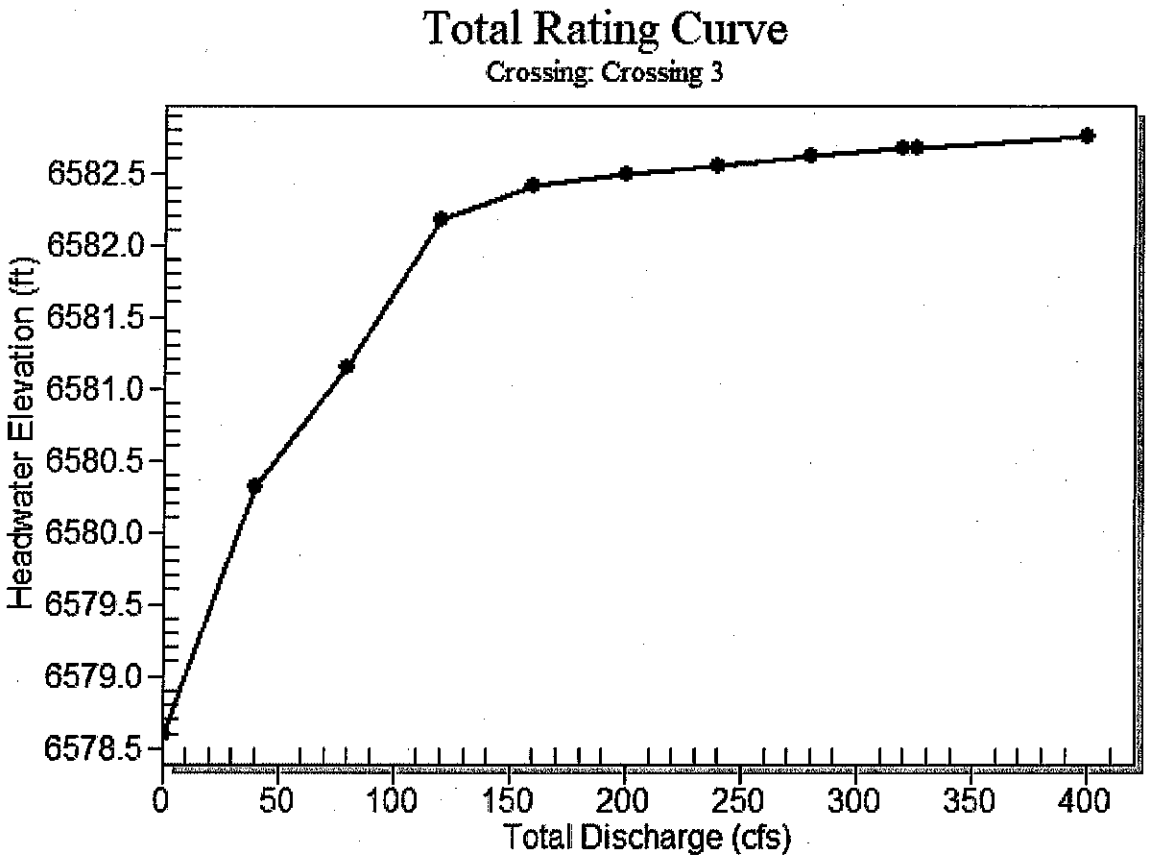
Design Flow: 326.1 cfs

Maximum Flow: 400 cfs

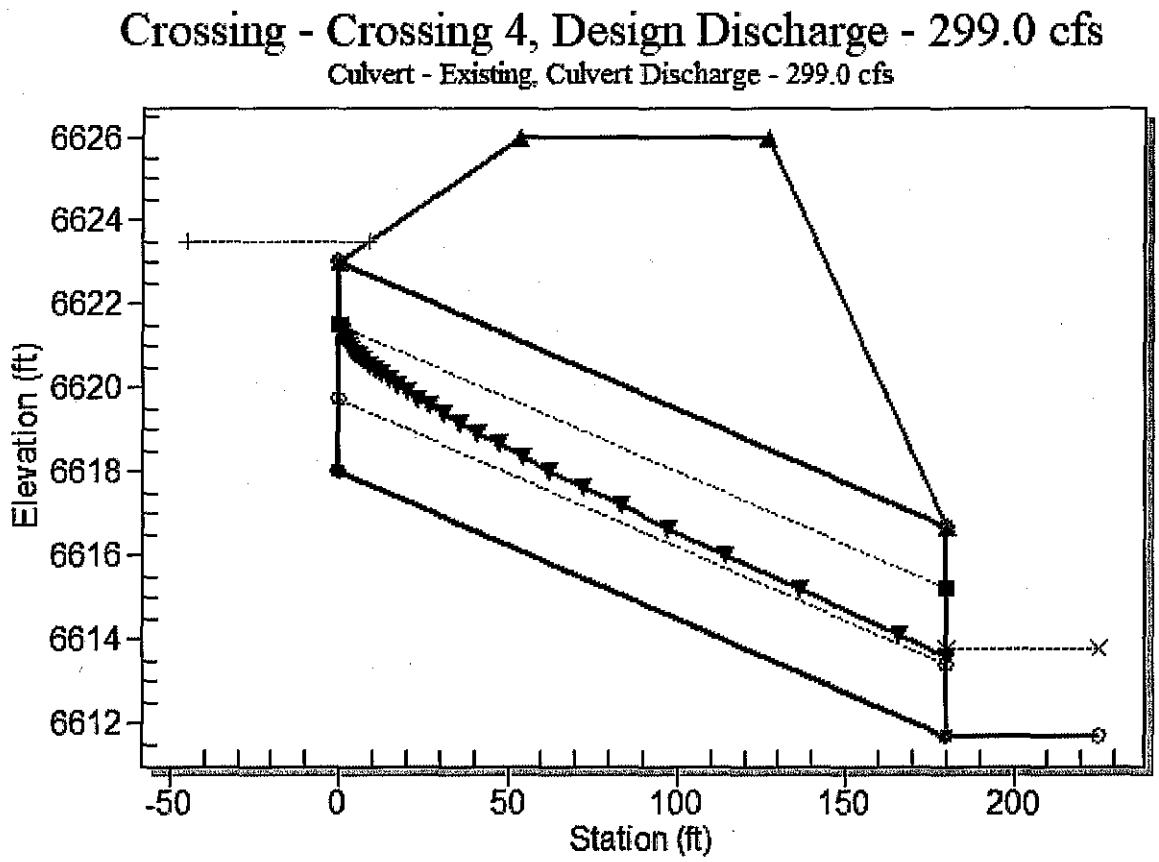
Table 2 - Summary of Culvert Flows at Crossing: Crossing 3

Headwater Elevation (ft)	Total Discharge (cfs)	Existing Discharge (cfs)	Roadway Discharge (cfs)	Iterations
6578.60	0.00	0.00	0.00	1
6580.31	40.00	40.00	0.00	1
6581.14	80.00	80.00	0.00	1
6582.18	120.00	120.00	0.00	1
6582.41	160.00	132.00	27.50	9
6582.49	200.00	134.72	64.73	5
6582.56	240.00	136.86	102.42	4
6582.62	280.00	138.77	140.90	4
6582.67	320.00	140.47	179.39	4
6582.68	326.10	140.72	185.24	3
6582.77	400.00	143.44	256.02	3
6582.30	126.77	126.77	0.00	Overtopping

Rating Curve Plot for Crossing: Crossing 3



Water Surface Profile Plot for Culvert: Existing



Site Data - Existing

Site Data Option: Culvert Invert Data

Inlet Station: 0.00 ft

Inlet Elevation: 6618.00 ft

Outlet Station: 180.00 ft

Outlet Elevation: 6611.70 ft

Number of Barrels: 1

Culvert Data Summary - Existing

Barrel Shape: Concrete Box

Barrel Span: 8.00 ft

Barrel Rise: 5.00 ft

Barrel Material: Concrete

Embedment: 0.00 in

Barrel Manning's n: 0.0150

Culvert Type: Straight

Inlet Configuration: Square Edge (30-75° flare) Wingwall

Inlet Depression: None

Table 3 - Culvert Summary Table: Existing

Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth (ft)	Outlet Control Depth (ft)	Flow Type	Normal Depth (ft)	Critical Depth (ft)	Outlet Depth (ft)	Tailwater Depth (ft)	Outlet Velocity (ft/s)	Tailwater Velocity (ft/s)
0.00	0.00	6618.00	0.000	0.000	0-NF	0.000	0.000	0.000	0.000	0.000	0.000
35.80	35.80	6619.27	1.269	0.0*	1-S2n	0.430	0.854	0.430	0.609	10.400	3.414
71.60	71.60	6620.01	2.014	0.0*	1-S2n	0.669	1.355	0.669	0.917	13.379	4.378
107.40	107.40	6620.65	2.649	0.0*	1-S2n	0.868	1.776	0.920	1.163	14.600	5.041
143.20	143.20	6621.24	3.237	0.0*	1-S2n	1.048	2.151	1.103	1.374	16.236	5.558
179.00	179.00	6621.77	3.772	0.0*	1-S2n	1.214	2.496	1.295	1.563	17.282	5.986
214.80	214.80	6622.28	4.279	0.0*	1-S2n	1.371	2.818	1.481	1.736	18.133	6.354
250.60	250.60	6622.78	4.780	0.0*	1-S2n	1.521	3.124	1.661	1.896	18.860	6.679
286.40	286.40	6623.29	5.292	0.0*	5-S2n	1.666	3.414	1.836	2.045	19.496	6.970
299.00	299.00	6623.48	5.477	0.0*	5-S2n	1.715	3.514	1.897	2.096	19.701	7.065
358.00	358.00	6624.40	6.405	0.745	5-S2n	1.941	3.962	2.177	2.320	20.556	7.476

****

Straight Culvert

Inlet Elevation (invert): 6618.00 ft, Outlet Elevation (invert): 6611.70 ft

Culvert Length: 180.11 ft, Culvert Slope: 0.0350

****

Crossing Discharge Data

Discharge Selection Method: Specify Minimum, Design, and Maximum Flow

Minimum Flow: 0 cfs

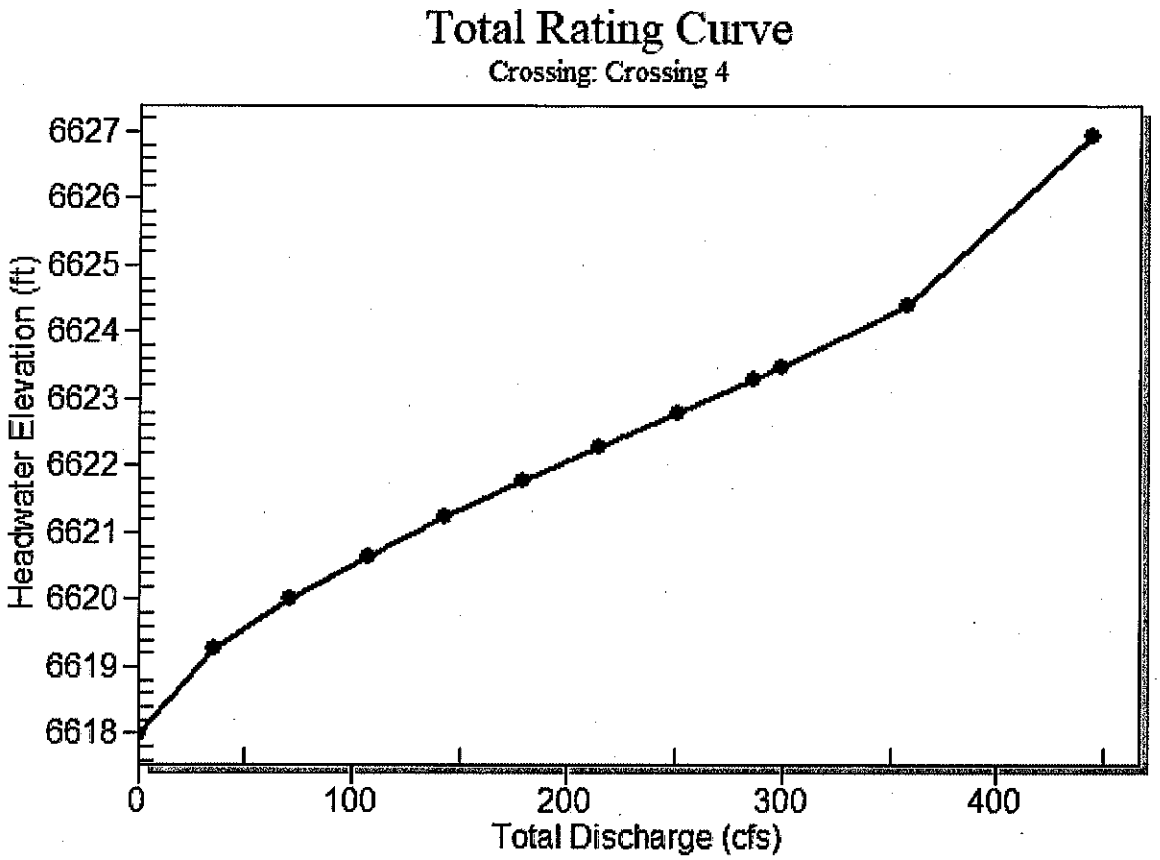
Design Flow: 299 cfs

Maximum Flow: 358 cfs

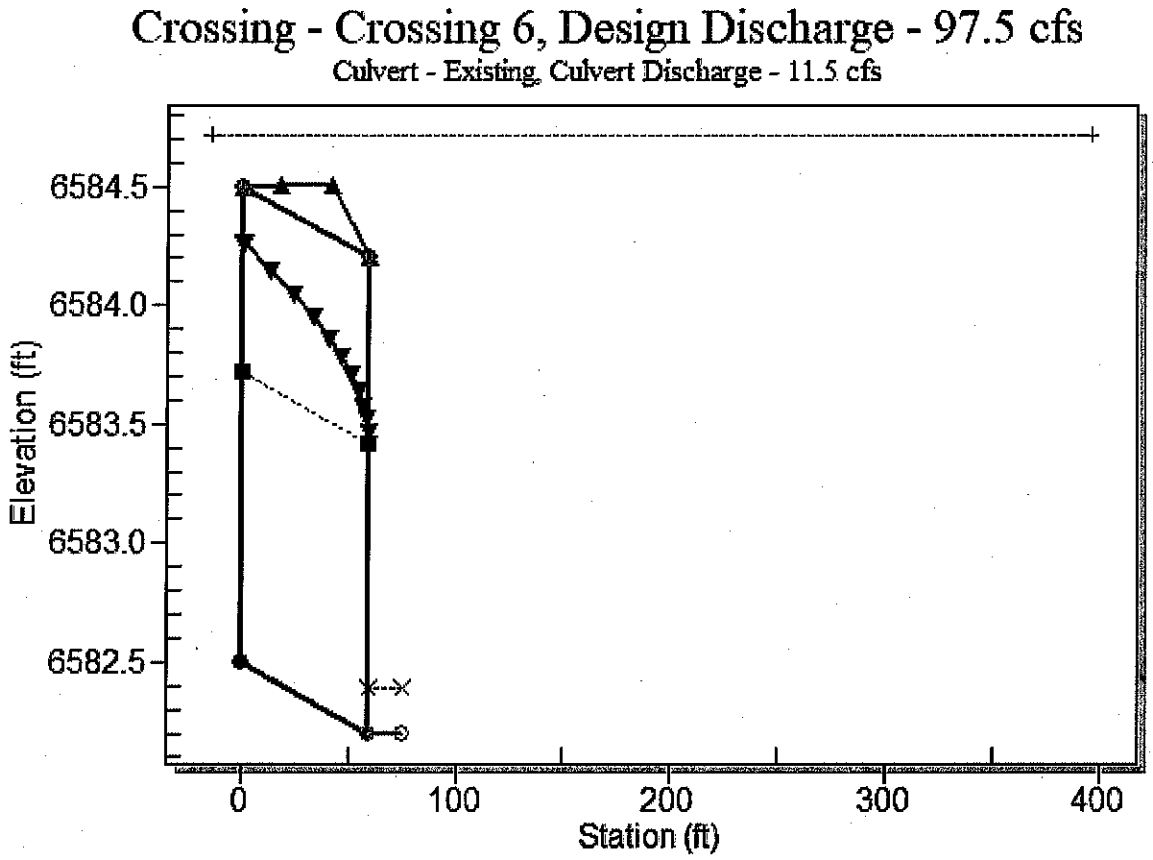
Table 4 - Summary of Culvert Flows at Crossing: Crossing 4

Headwater Elevation (ft)	Total Discharge (cfs)	Existing Discharge (cfs)	Roadway Discharge (cfs)	Iterations
6618.00	0.00	0.00	0.00	1
6619.27	35.80	35.80	0.00	1
6620.01	71.60	71.60	0.00	1
6620.65	107.40	107.40	0.00	1
6621.24	143.20	143.20	0.00	1
6621.77	179.00	179.00	0.00	1
6622.28	214.80	214.80	0.00	1
6622.78	250.60	250.60	0.00	1
6623.29	286.40	286.40	0.00	1
6623.48	299.00	299.00	0.00	1
6624.40	358.00	358.00	0.00	1
6626.00	444.13	444.13	0.00	Overtopping

Rating Curve Plot for Crossing: Crossing 4



Water Surface Profile Plot for Culvert: Existing



Site Data - Existing

Site Data Option: Culvert Invert Data

Inlet Station: 0.00 ft

Inlet Elevation: 6582.50 ft

Outlet Station: 60.00 ft

Outlet Elevation: 6582.20 ft

Number of Barrels: 1

Culvert Data Summary - Existing

Barrel Shape: Circular

Barrel Diameter: 2.00 ft

Barrel Material: Corrugated Steel

Embedment: 0.00 in

Barrel Manning's n: 0.0240

Culvert Type: Straight

Inlet Configuration: Thin Edge Projecting

Inlet Depression: None

Table 5 - Culvert Summary Table: Existing

Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth (ft)	Outlet Control Depth (ft)	Flow Type	Normal Depth (ft)	Critical Depth (ft)	Outlet Depth (ft)	Tailwater Depth (ft)	Outlet Velocity (ft/s)	Tailwater Velocity (ft/s)
0.00	0.00	6582.50	0.000	0.000	0-NF	0.000	0.000	0.000	0.000	0.000	0.000
12.30	10.16	6584.53	1.849	2.028	7-M2c	2.000	1.135	1.135	0.054	5.521	1.227
24.60	10.49	6584.57	1.891	2.074	7-M2c	2.000	1.157	1.157	0.081	5.566	1.617
36.90	10.72	6584.61	1.921	2.106	7-M2c	2.000	1.170	1.170	0.104	5.612	1.900
49.20	10.92	6584.63	1.947	2.134	7-M2c	2.000	1.181	1.181	0.123	5.653	2.135
61.50	11.09	6584.66	1.969	2.158	7-M2c	2.000	1.191	1.191	0.141	5.687	2.331
73.80	11.24	6584.68	1.990	2.181	7-M2c	2.000	1.199	1.199	0.157	5.719	2.509
86.10	11.39	6584.70	2.009	2.202	7-M2c	2.000	1.207	1.207	0.173	5.748	2.667
97.50	11.52	6584.72	2.026	2.221	7-M2c	2.000	1.214	1.214	0.186	5.773	2.804
110.70	11.66	6584.74	2.045	2.241	7-M2c	2.000	1.221	1.221	0.201	5.801	2.949
123.00	11.78	6584.76	2.062	2.259	7-M2c	2.000	1.228	1.228	0.214	5.826	3.077

****

Straight Culvert

Inlet Elevation (invert): 6582.50 ft, Outlet Elevation (invert): 6582.20 ft

Culvert Length: 60.00 ft, Culvert Slope: 0.0050

****

Crossing Discharge Data

Discharge Selection Method: Specify Minimum, Design, and Maximum Flow

Minimum Flow: 0 cfs

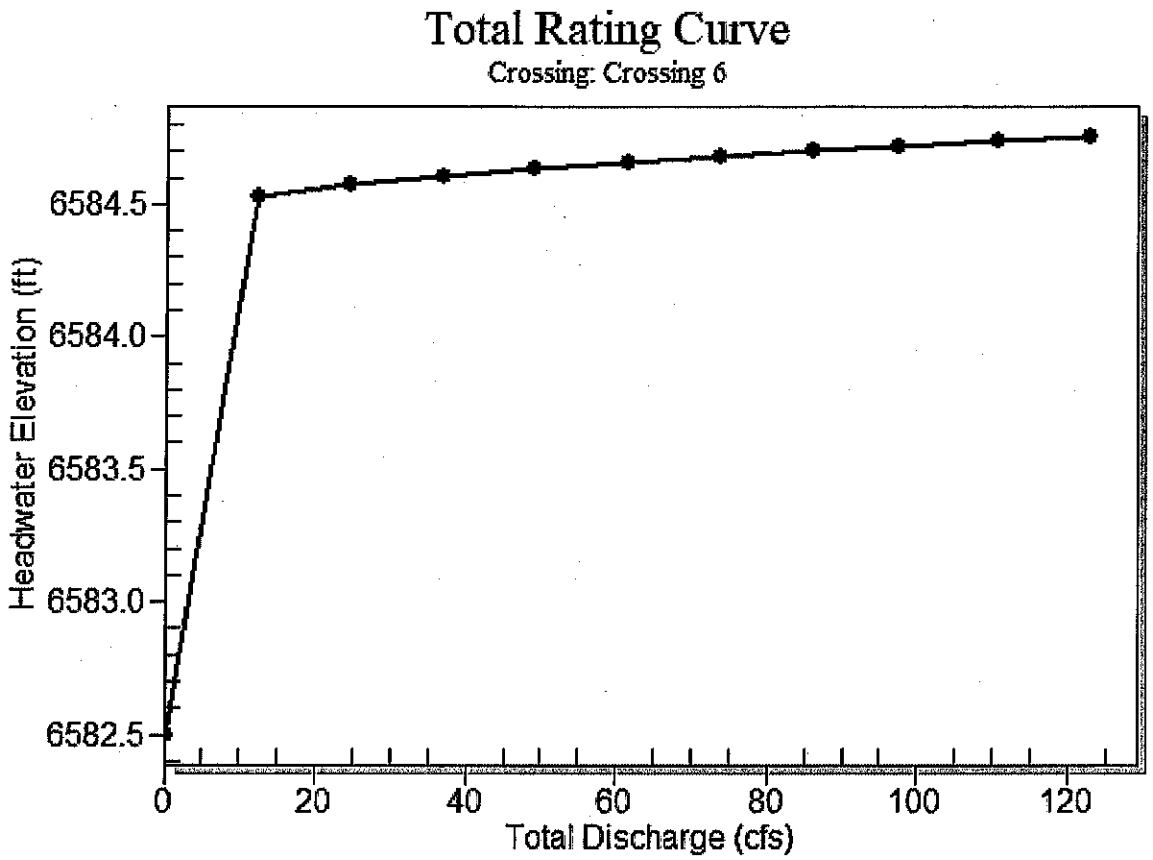
Design Flow: 97.5 cfs

Maximum Flow: 123 cfs

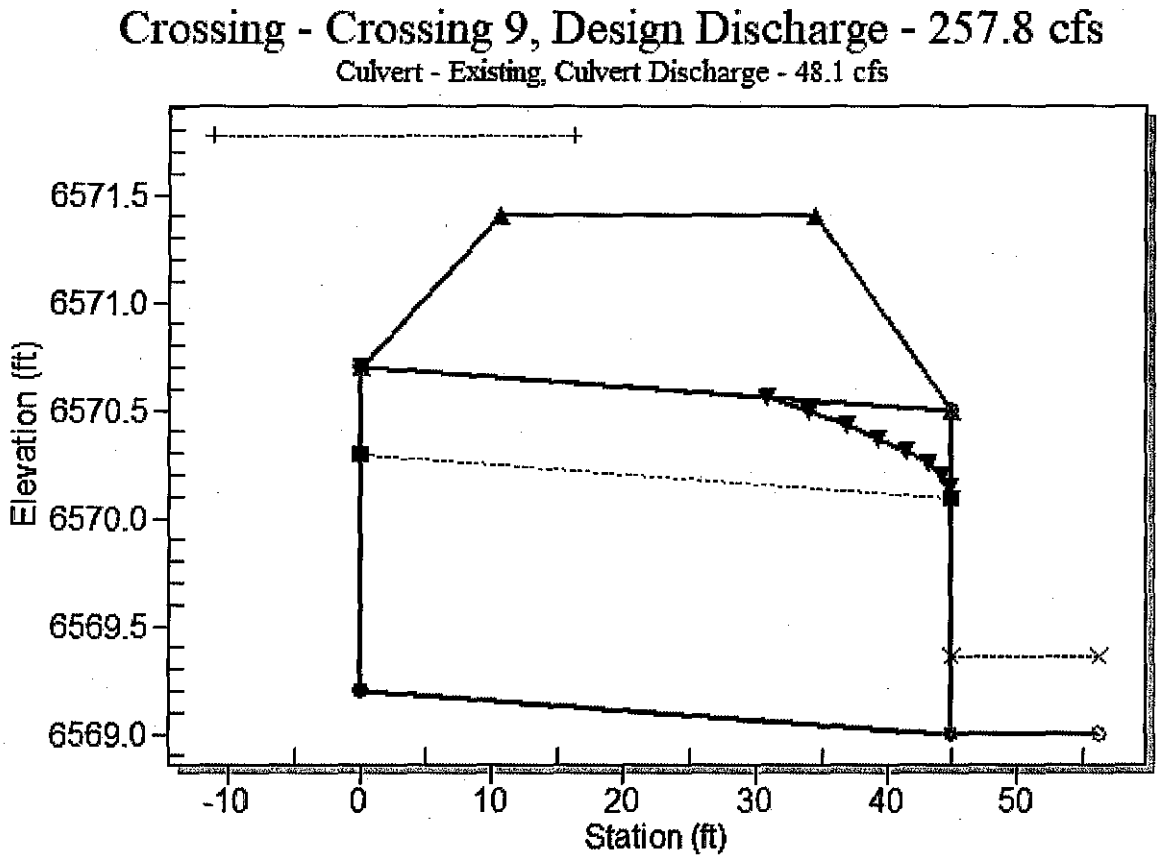
Table 6 - Summary of Culvert Flows at Crossing: Crossing 6

Headwater Elevation (ft)	Total Discharge (cfs)	Existing Discharge (cfs)	Roadway Discharge (cfs)	Iterations
6582.50	0.00	0.00	0.00	1
6584.53	12.30	10.16	2.02	13
6584.57	24.60	10.49	13.95	6
6584.61	36.90	10.72	25.87	4
6584.63	49.20	10.92	38.15	4
6584.66	61.50	11.09	50.08	3
6584.68	73.80	11.24	62.33	3
6584.70	86.10	11.39	74.59	3
6584.72	97.50	11.52	85.93	3
6584.74	110.70	11.66	98.49	2
6584.76	123.00	11.78	110.73	2
6584.51	10.03	10.03	0.00	Overtopping

Rating Curve Plot for Crossing: Crossing 6



Water Surface Profile Plot for Culvert: Existing



Site Data - Existing

Site Data Option: Culvert Invert Data

Inlet Station: 0.00 ft

Inlet Elevation: 6569.20 ft

Outlet Station: 45.00 ft

Outlet Elevation: 6569.00 ft

Number of Barrels: 6

Culvert Data Summary - Existing

Barrel Shape: Circular

Barrel Diameter: 1.50 ft

Barrel Material: Corrugated Steel

Embedment: 0.00 in

Barrel Manning's n: 0.0240

Culvert Type: Straight

Inlet Configuration: Thin Edge Projecting

Inlet Depression: None

Table 7 - Culvert Summary Table: Existing

Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth (ft)	Outlet Control Depth (ft)	Flow Type	Normal Depth (ft)	Critical Depth (ft)	Outlet Depth (ft)	Tailwater Depth (ft)	Outlet Velocity (ft/s)	Tailwater Velocity (ft/s)
0.00	0.00	6569.20	0.000	0.000	0-NF	0.000	0.000	0.000	0.000	0.000	0.000
32.50	32.50	6570.86	1.481	1.658	7-M2c	1.500	0.894	0.894	0.104	4.931	1.156
65.00	43.74	6571.48	1.894	2.282	7-M2c	1.500	1.043	1.043	0.157	5.561	1.525
97.50	44.86	6571.55	1.939	2.350	7-M2c	1.500	1.056	1.056	0.201	5.625	1.793
130.00	45.70	6571.61	1.974	2.406	7-M2c	1.500	1.066	1.066	0.239	5.672	2.011
162.50	46.42	6571.66	2.005	2.456	7-M2c	1.500	1.074	1.074	0.273	5.714	2.199
195.00	46.75	6571.70	2.019	2.500	7-M2c	1.500	1.078	1.078	0.304	5.733	2.364
227.50	47.46	6571.74	2.050	2.541	7-M2c	1.500	1.086	1.086	0.334	5.774	2.515
257.80	48.06	6571.78	2.076	2.577	7-M2c	1.500	1.093	1.093	0.360	5.809	2.644
292.50	48.71	6571.82	2.104	2.617	7-M2c	1.500	1.100	1.100	0.388	5.846	2.780
325.00	49.19	6571.85	2.126	2.651	7-M2c	1.500	1.105	1.105	0.414	5.874	2.900

****

Straight Culvert

Inlet Elevation (invert): 6569.20 ft, Outlet Elevation (invert): 6569.00 ft

Culvert Length: 45.00 ft, Culvert Slope: 0.0044

****

Crossing Discharge Data

Discharge Selection Method: Specify Minimum, Design, and Maximum Flow

Minimum Flow: 0 cfs

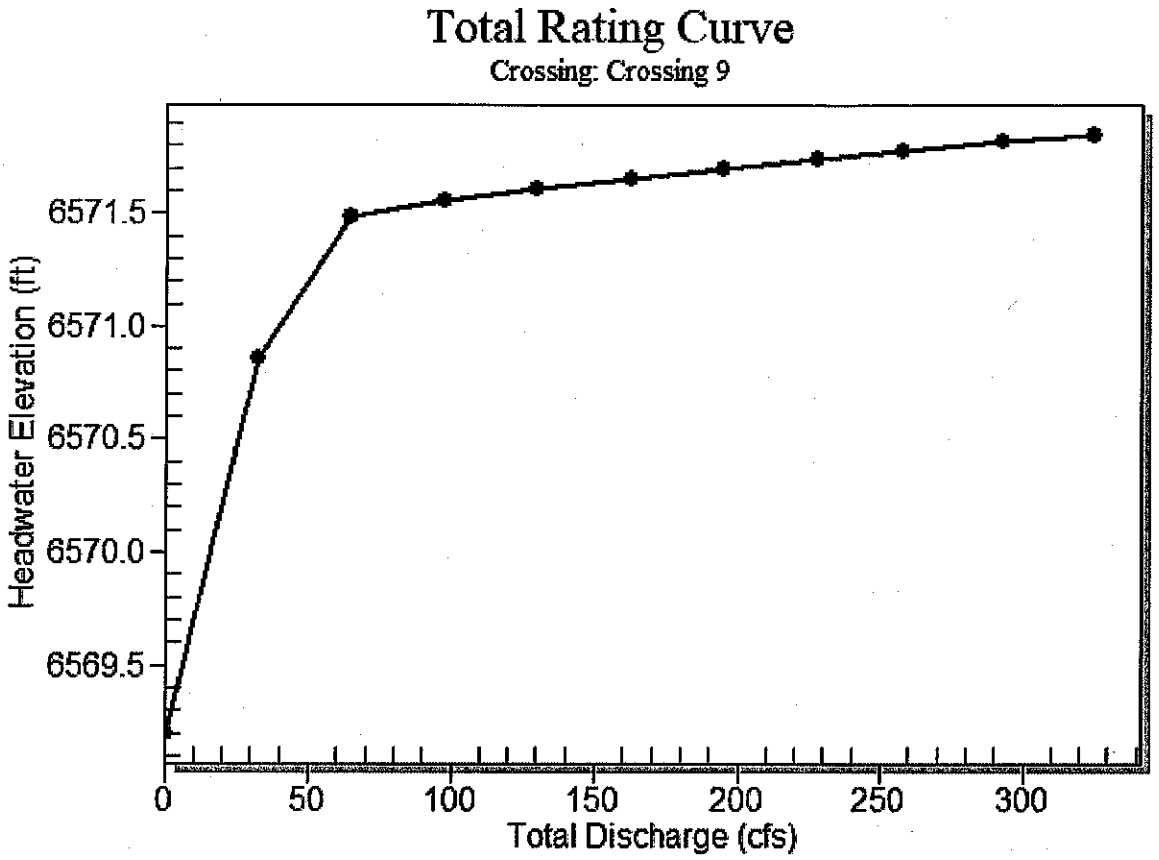
Design Flow: 257.8 cfs

Maximum Flow: 325 cfs

Table 8 - Summary of Culvert Flows at Crossing: Crossing 9

Headwater Elevation (ft)	Total Discharge (cfs)	Existing Discharge (cfs)	Roadway Discharge (cfs)	Iterations
6569.20	0.00	0.00	0.00	1
6570.86	32.50	32.50	0.00	1
6571.48	65.00	43.74	20.85	15
6571.55	97.50	44.86	52.18	5
6571.61	130.00	45.70	83.76	4
6571.66	162.50	46.42	115.85	4
6571.70	195.00	46.75	147.53	3
6571.74	227.50	47.46	179.65	3
6571.78	257.80	48.06	209.55	3
6571.82	292.50	48.71	243.73	3
6571.85	325.00	49.19	275.08	2
6571.40	42.29	42.29	0.00	Overtopping

Rating Curve Plot for Crossing: Crossing 9

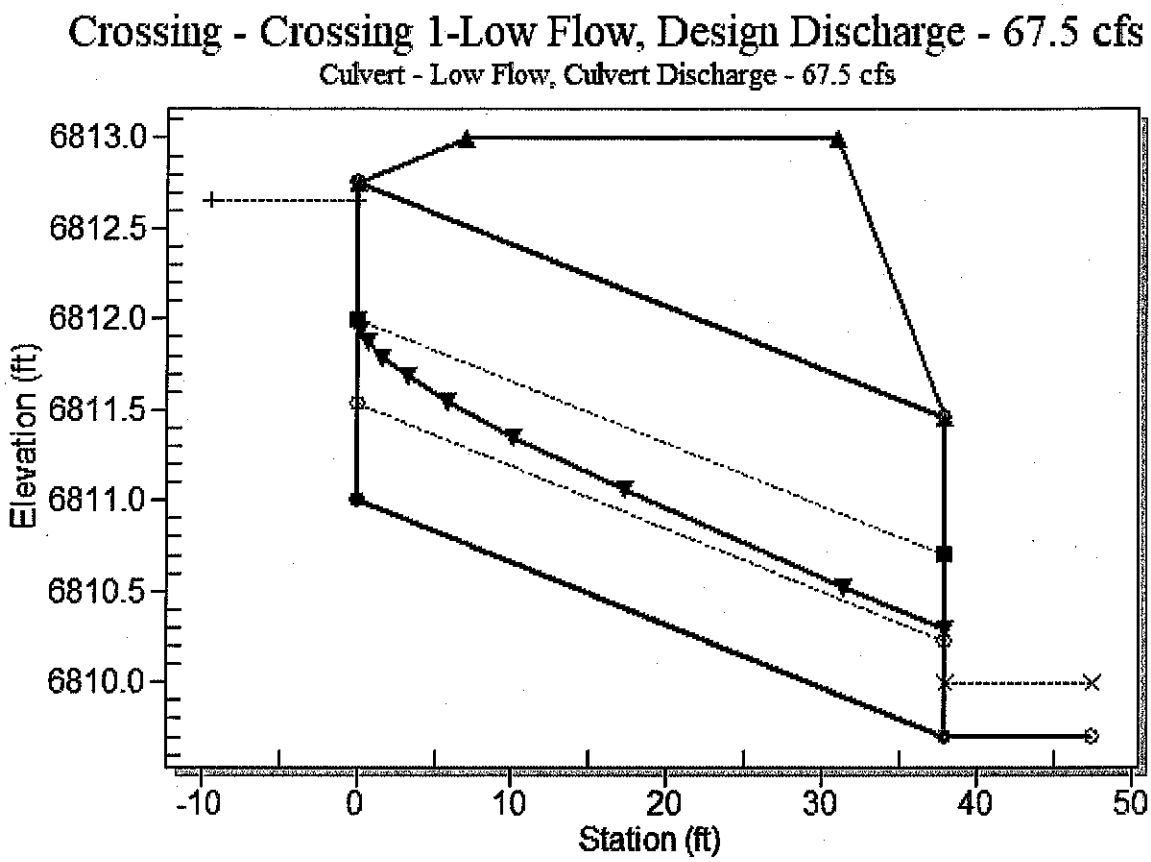


Crossing 5		Crossing 6		Crossing 7		Crossing 8		Crossing 9	
:-05-A	DS-PR-05-B	DS-PR-06-A	DS-PR-06-B	DS-PR-07-A	DS-PR-07-B	DS-PR-08-A	DS-PR-08-B	DS-PR-09-A	DS-PR-09-B
rterials, ırs, and Roads	*Minor Arterials, Collectors, and Local Roads*	*Minor Arterials, Collectors, and Local Roads*	*Minor Arterials, Collectors, and Local Roads*	*Minor Arterials, Collectors, and Local Roads*	*Minor Arterials, Collectors, and Local Roads*	*Minor Arterials, Collectors, and Local Roads*	*Minor Arterials, Collectors, and Local Roads*	*Minor Arterials, Collectors, and Local Roads*	*Minor Arterials, Collectors, and Local Roads*
100 ADT	*Rural < 400 ADT*	*Rural < 400 ADT*	*Rural < 400 ADT*	*Rural < 400 ADT*	*Rural < 400 ADT*	*Rural < 400 ADT*	*Rural < 400 ADT*	*Rural < 400 ADT*	*Rural < 400 ADT*
-yr	25-yr	25-yr	25-yr	25-yr	25-yr	25-yr	25-yr	25-yr	25-yr
-yr	50-yr	50-yr	50-yr	50-yr	50-yr	50-yr	50-yr	50-yr	50-yr
5.6	675.6	**97.5**	97.5	**495.4**	495.4	**144.4**	144.4	**257.8**	257.8
9.0	**829.0**	123.0	**123.0**	621.0	**621.0**	180.0	**180.0**	325.0	**325.0**
zoidal	Trapezoidal	Rectangular	Rectangular	Rectangular	Rectangular	Trapezoidal	Trapezoidal	Rectangular	Rectangular
)9	109	187	187	446	446	124	124	271	271
3	3	N/A	N/A	N/A	N/A	3	3	N/A	N/A
)48	0.048	0.041	0.041	0.014	0.014	0.026	0.026	0.015	0.015
)35	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035
10.1	6,509.9	6,582.2	6,582.2	6,566.4	6,566.2	6,634.0	6,634.0	6,569.0	6,569.0
)0	300	300	300	300	300	300	300	300	300
12.9	6,516.0	6,584.5	6,584.5	6,569.1	6,572.2	6,636.3	6,639.3	6,571.4	6,574.2
ved	Paved	Paved	Paved	Paved	Paved	Paved	Paved	Paved	Paved
0	30	24	24	30	30	30	30	45	45
ngular	Circular	Rectangular	Circular	Rectangular	Circular	Rectangular	Circular	Rectangular	Circular
crete	CMP	Concrete	CMP	Concrete	CMP	Concrete	CMP	Concrete	CMP
1.75'h	3	4'w x 1.75'h	2	4'w x 1.75'h	3	4'w x 1.75'h	3	4'w x 1.75'h	3
dge (90°) dwall	Thin Edge Projecting	Square Edge (90°) Headwall	Thin Edge Projecting	Square Edge (90°) Headwall	Thin Edge Projecting	Square Edge (90°) Headwall	Thin Edge Projecting	Square Edge (90°) Headwall	Thin Edge Projecting
)15	0.024	0.015	0.024	0.015	0.024	0.015	0.024	0.015	0.024
10.9	6,511.0	6,582.5	6,582.5	6,567.1	6,567.2	6,634.3	6,634.3	6,569.2	6,569.2
4	62	38	56	44	62	44	62	59	77
10.1	6,509.9	6,582.2	6,582.2	6,566.4	6,566.2	6,634.0	6,634.0	6,569.0	6,569.0
4	**16**	**4**	**13**	**18**	**12**	**6**	**4**	**9**	**7**
1.7	**860.5**	**114.6**	**130.7**	**517.8**	**645.1**	**171.8**	**200.5**	**289.8**	**328.8**
)0	**300**	**350**	**350**	**410**	**770**	**210**	**370**	**930**	**1120**

ak discharge for Crossing 2, which is a contributing upstream basin.

HY-8 Culvert Analysis Report

Water Surface Profile Plot for Culvert: Low Flow



Site Data - Low Flow

Site Data Option: Culvert Invert Data

Inlet Station: 0.00 ft

Inlet Elevation: 6811.00 ft

Outlet Station: 38.00 ft

Outlet Elevation: 6809.70 ft

Number of Barrels: 3

Culvert Data Summary - Low Flow

Barrel Shape: Concrete Box

Barrel Span: 4.00 ft

Barrel Rise: 1.75 ft

Barrel Material: Concrete

Embedment: 0.00 in

Barrel Manning's n: 0.0150

Culvert Type: Straight

Inlet Configuration: Square Edge (90º) Headwall

Inlet Depression: None

Table 1 - Culvert Summary Table: Low Flow

Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth (ft)	Outlet Control Depth (ft)	Flow Type	Normal Depth (ft)	Critical Depth (ft)	Outlet Depth (ft)	Tailwater Depth (ft)	Outlet Velocity (ft/s)	Tailwater Velocity (ft/s)
0.00	0.00	6811.00	0.000	0.000	0-NF	0.000	0.000	0.000	0.000	0.000	0.000
8.20	8.20	6811.40	0.404	0.0*	1-S2n	0.139	0.244	0.142	0.082	4.814	2.197
16.40	16.40	6811.64	0.642	0.0*	1-S2n	0.213	0.387	0.222	0.124	6.156	2.891
24.60	24.60	6811.84	0.841	0.0*	1-S2n	0.275	0.507	0.289	0.159	7.086	3.389
32.80	32.80	6812.02	1.019	0.0*	1-S2n	0.331	0.614	0.350	0.188	7.813	3.792
41.00	41.00	6812.18	1.181	0.0*	1-S2n	0.381	0.713	0.406	0.215	8.412	4.136
49.20	49.20	6812.33	1.334	0.0*	1-S2n	0.429	0.805	0.464	0.240	8.843	4.439
57.40	57.40	6812.48	1.480	0.0*	1-S2n	0.474	0.892	0.517	0.263	9.258	4.713
65.60	65.60	6812.62	1.622	0.0*	1-S2n	0.517	0.975	0.573	0.285	9.540	4.961
67.50	67.50	6812.65	1.655	0.012	1-S2n	0.527	0.994	0.588	0.290	9.574	5.016
82.00	82.00	6812.91	1.907	0.301	5-S2n	0.599	1.132	0.676	0.325	10.110	5.405

****

Straight Culvert

Inlet Elevation (invert): 6811.00 ft, Outlet Elevation (invert): 6809.70 ft

Culvert Length: 38.02 ft, Culvert Slope: 0.0342

****

Crossing Discharge Data

Discharge Selection Method: Specify Minimum, Design, and Maximum Flow

Minimum Flow: 0 cfs

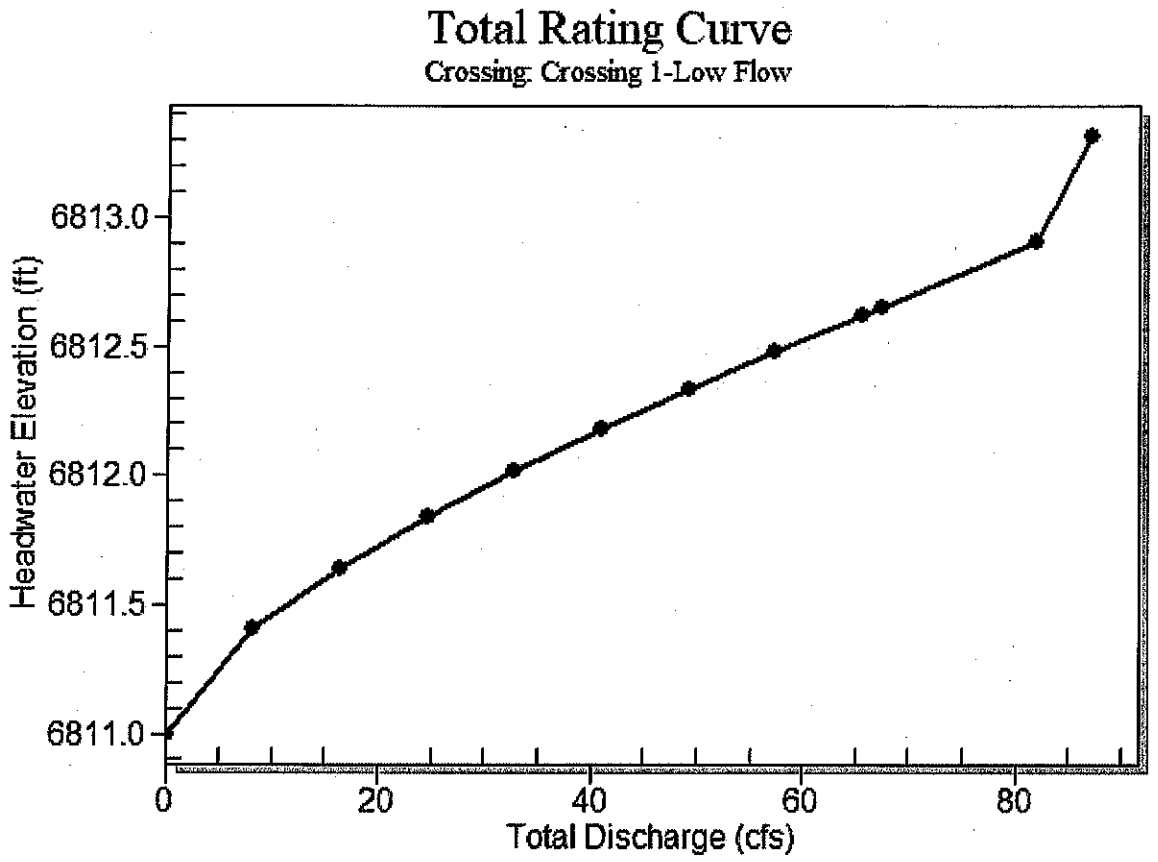
Design Flow: 67.5 cfs

Maximum Flow: 82 cfs

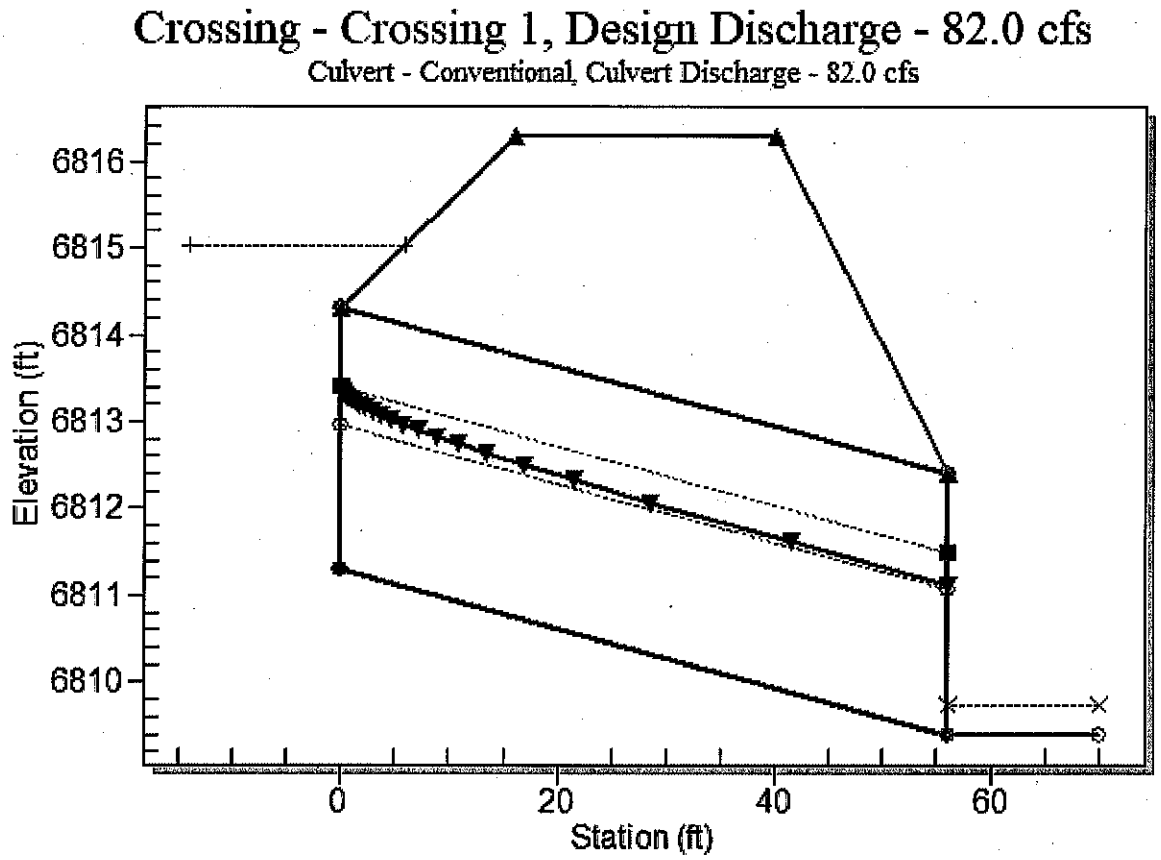
Table 2 - Summary of Culvert Flows at Crossing: Crossing 1-Low Flow

Headwater Elevation (ft)	Total Discharge (cfs)	Low Flow Discharge (cfs)	Roadway Discharge (cfs)	Iterations
6811.00	0.00	0.00	0.00	1
6811.40	8.20	8.20	0.00	1
6811.64	16.40	16.40	0.00	1
6811.84	24.60	24.60	0.00	1
6812.02	32.80	32.80	0.00	1
6812.18	41.00	41.00	0.00	1
6812.33	49.20	49.20	0.00	1
6812.48	57.40	57.40	0.00	1
6812.62	65.60	65.60	0.00	1
6812.65	67.50	67.50	0.00	1
6812.91	82.00	82.00	0.00	1
6813.00	87.24	87.24	0.00	Overtopping

Rating Curve Plot for Crossing: Crossing 1-Low Flow



Water Surface Profile Plot for Culvert: Conventional



Site Data - Conventional

Site Data Option: Culvert Invert Data

Inlet Station: 0.00 ft

Inlet Elevation: 6811.30 ft

Outlet Station: 56.00 ft

Outlet Elevation: 6809.40 ft

Number of Barrels: 2

Culvert Data Summary - Conventional

Barrel Shape: Circular

Barrel Diameter: 3.00 ft

Barrel Material: Corrugated Steel

Embedment: 0.00 in

Barrel Manning's n: 0.0240

Culvert Type: Straight

Inlet Configuration: Thin Edge Projecting

Inlet Depression: None

Table 3 - Culvert Summary Table: Conventional

Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth (ft)	Outlet Control Depth (ft)	Flow Type	Normal Depth (ft)	Critical Depth (ft)	Outlet Depth (ft)	Tailwater Depth (ft)	Outlet Velocity (ft/s)	Tailwater Velocity (ft/s)
0.00	0.00	6811.30	0.000	0.000	0-NF	0.000	0.000	0.000	0.000	0.000	0.000
8.20	8.20	6812.20	0.903	0.0*	1-S2n	0.490	0.628	0.490	0.082	5.270	2.197
16.40	16.40	6812.60	1.300	0.0*	1-S2n	0.692	0.898	0.712	0.124	6.158	2.891
24.60	24.60	6812.92	1.624	0.0*	1-S2n	0.850	1.109	0.850	0.159	7.201	3.389
32.80	32.80	6813.23	1.927	0.0*	1-S2n	0.987	1.292	1.021	0.188	7.463	3.792
41.00	41.00	6813.51	2.214	0.0*	1-S2n	1.112	1.454	1.150	0.215	7.942	4.136
49.20	49.20	6813.79	2.495	0.312	1-S2n	1.229	1.596	1.229	0.240	8.720	4.439
57.40	57.40	6814.08	2.779	0.668	1-S2n	1.340	1.730	1.387	0.263	8.687	4.713
65.60	65.60	6814.37	3.074	1.050	5-S2n	1.447	1.856	1.447	0.285	9.396	4.961
73.80	73.80	6814.69	3.386	1.456	5-S2n	1.553	1.971	1.553	0.305	9.672	5.193
82.00	82.00	6815.02	3.723	1.893	5-S2n	1.657	2.083	1.713	0.325	9.524	5.405

****

Straight Culvert

Inlet Elevation (invert): 6811.30 ft, Outlet Elevation (invert): 6809.40 ft

Culvert Length: 56.03 ft, Culvert Slope: 0.0339

****

Crossing Discharge Data

Discharge Selection Method: Specify Minimum, Design, and Maximum Flow

Minimum Flow: 0 cfs

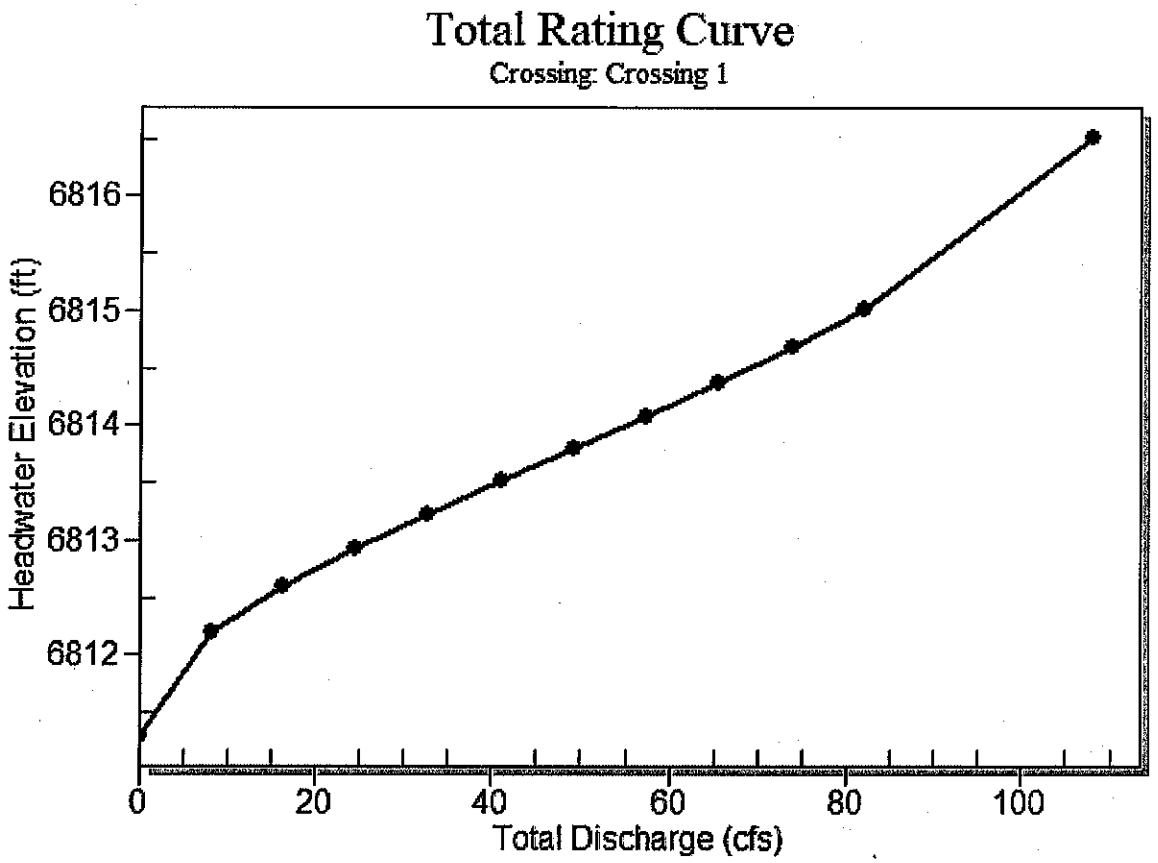
Design Flow: 82 cfs

Maximum Flow: 82 cfs

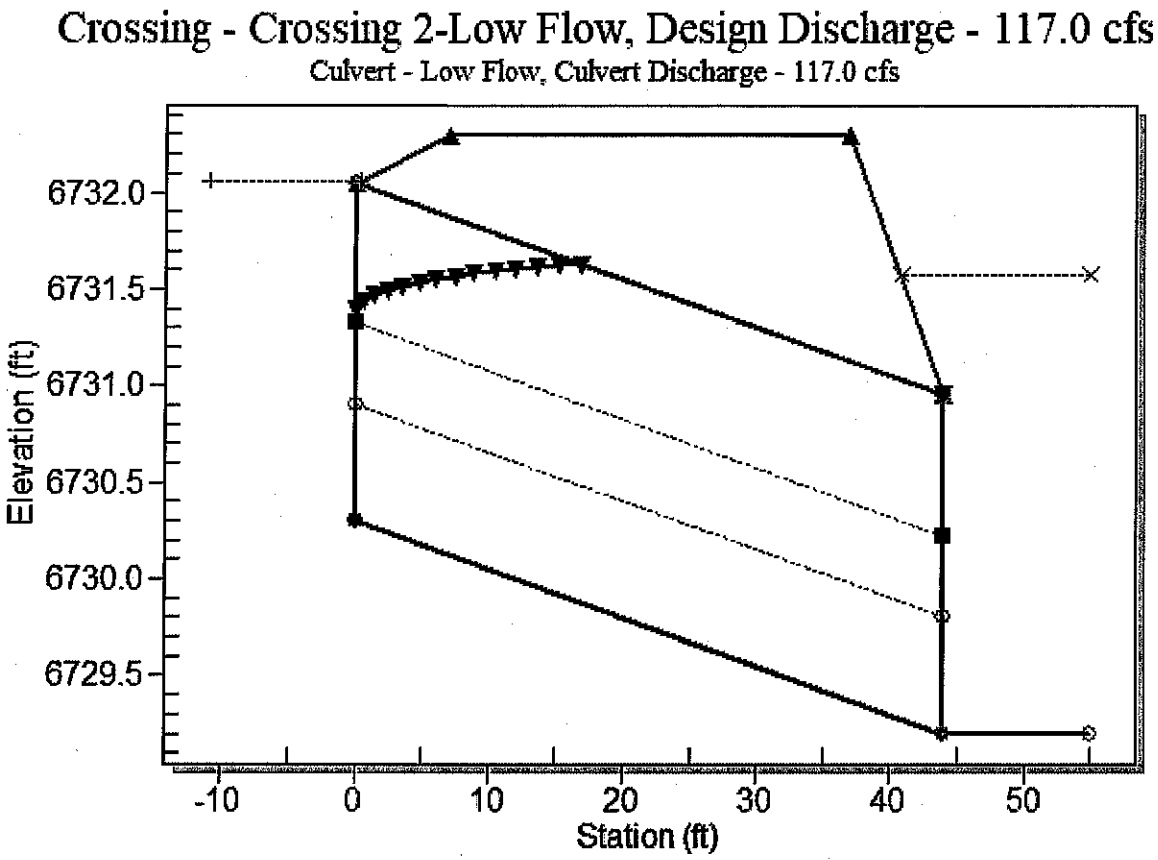
Table 4 - Summary of Culvert Flows at Crossing: Crossing 1

Headwater Elevation (ft)	Total Discharge (cfs)	Conventional Discharge (cfs)	Roadway Discharge (cfs)	Iterations
6811.30	0.00	0.00	0.00	1
6812.20	8.20	8.20	0.00	1
6812.60	16.40	16.40	0.00	1
6812.92	24.60	24.60	0.00	1
6813.23	32.80	32.80	0.00	1
6813.51	41.00	41.00	0.00	1
6813.79	49.20	49.20	0.00	1
6814.08	57.40	57.40	0.00	1
6814.37	65.60	65.60	0.00	1
6814.69	73.80	73.80	0.00	1
6815.02	82.00	82.00	0.00	1
6816.30	107.99	107.99	0.00	Overtopping

Rating Curve Plot for Crossing: Crossing 1



Water Surface Profile Plot for Culvert: Low Flow



Site Data - Low Flow

Site Data Option: Culvert Invert Data

Inlet Station: 0.00 ft

Inlet Elevation: 6730.30 ft

Outlet Station: 44.00 ft

Outlet Elevation: 6729.20 ft

Number of Barrels: 5

Culvert Data Summary - Low Flow

Barrel Shape: Concrete Box

Barrel Span: 4.00 ft

Barrel Rise: 1.75 ft

Barrel Material: Concrete

Embedment: 0.00 in

Barrel Manning's n: 0.0150

Culvert Type: Straight

Inlet Configuration: Square Edge (90º) Headwall

Inlet Depression: None

Table 5 - Culvert Summary Table: Low Flow

Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth (ft)	Outlet Control Depth (ft)	Flow Type	Normal Depth (ft)	Critical Depth (ft)	Outlet Depth (ft)	Tailwater Depth (ft)	Outlet Velocity (ft/s)	Tailwater Velocity (ft/s)
0.00	0.00	6730.30	0.000	0.000	0-NF	0.000	0.000	0.000	0.000	0.000	0.000
13.90	13.90	6730.71	0.413	0.0*	1-JS1t	0.154	0.247	1.065	1.065	0.653	6.128
27.80	27.80	6730.96	0.655	0.301	1-JS1t	0.238	0.391	1.381	1.381	1.006	7.287
41.70	41.70	6731.16	0.859	0.553	1-JS1t	0.308	0.513	1.608	1.608	1.297	8.064
55.60	55.60	6731.34	1.038	0.771	1-JS1f	0.369	0.621	1.750	1.791	1.589	8.666
69.50	69.50	6731.50	1.203	0.973	1-JS1f	0.427	0.721	1.750	1.947	1.986	9.163
83.40	83.40	6731.66	1.357	1.166	1-JS1f	0.480	0.814	1.750	2.085	2.383	9.590
97.30	97.30	6731.80	1.505	1.356	1-JS1f	0.531	0.902	1.750	2.209	2.780	9.967
111.20	111.20	6731.95	1.649	1.545	1-JS1f	0.580	0.987	1.750	2.323	3.177	10.305
117.00	117.00	6732.06	1.709	1.760	1-S1f	0.600	1.021	1.750	2.367	3.343	10.437
139.00	138.49	6732.28	1.934	1.978	1-S1f	0.671	1.142	1.750	2.526	3.957	10.897

****

Straight Culvert

Inlet Elevation (invert): 6730.30 ft, Outlet Elevation (invert): 6729.20 ft

Culvert Length: 44.01 ft, Culvert Slope: 0.0250

****

Crossing Discharge Data

Discharge Selection Method: Specify Minimum, Design, and Maximum Flow

Minimum Flow: 0 cfs

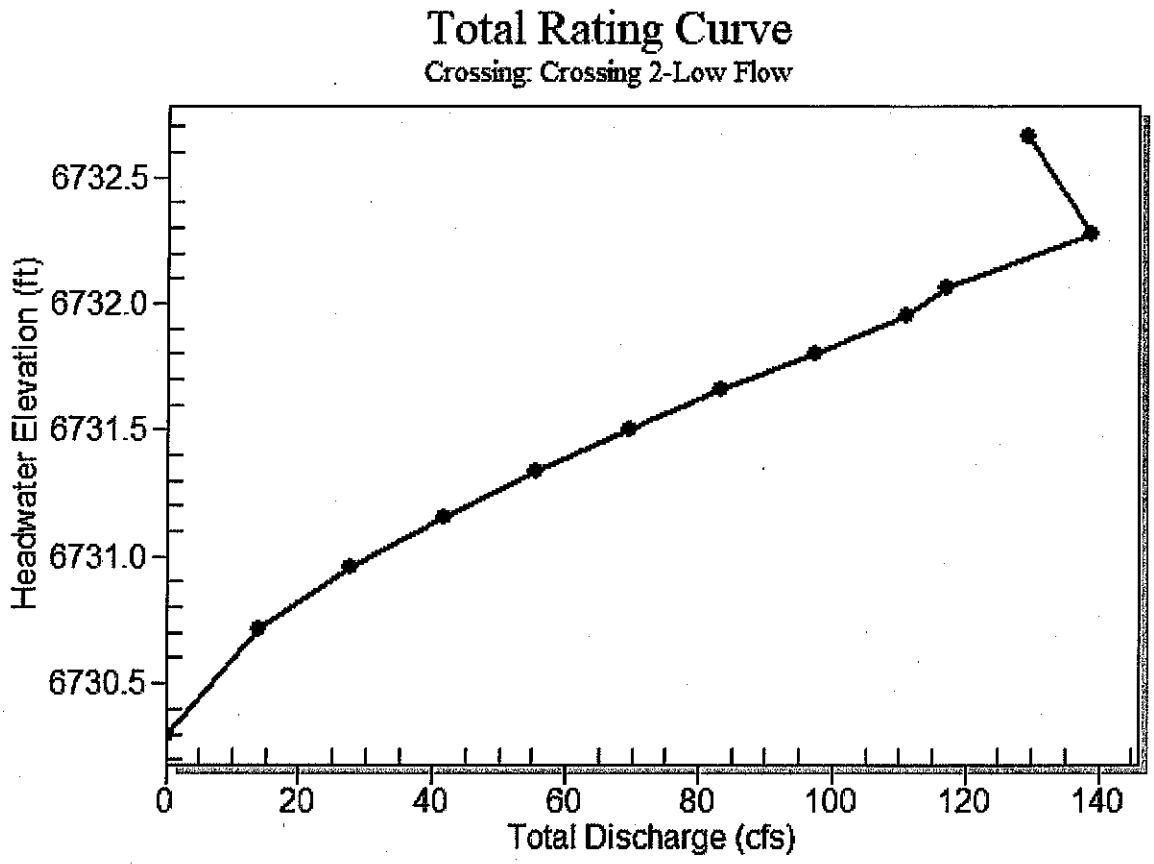
Design Flow: 117 cfs

Maximum Flow: 139 cfs

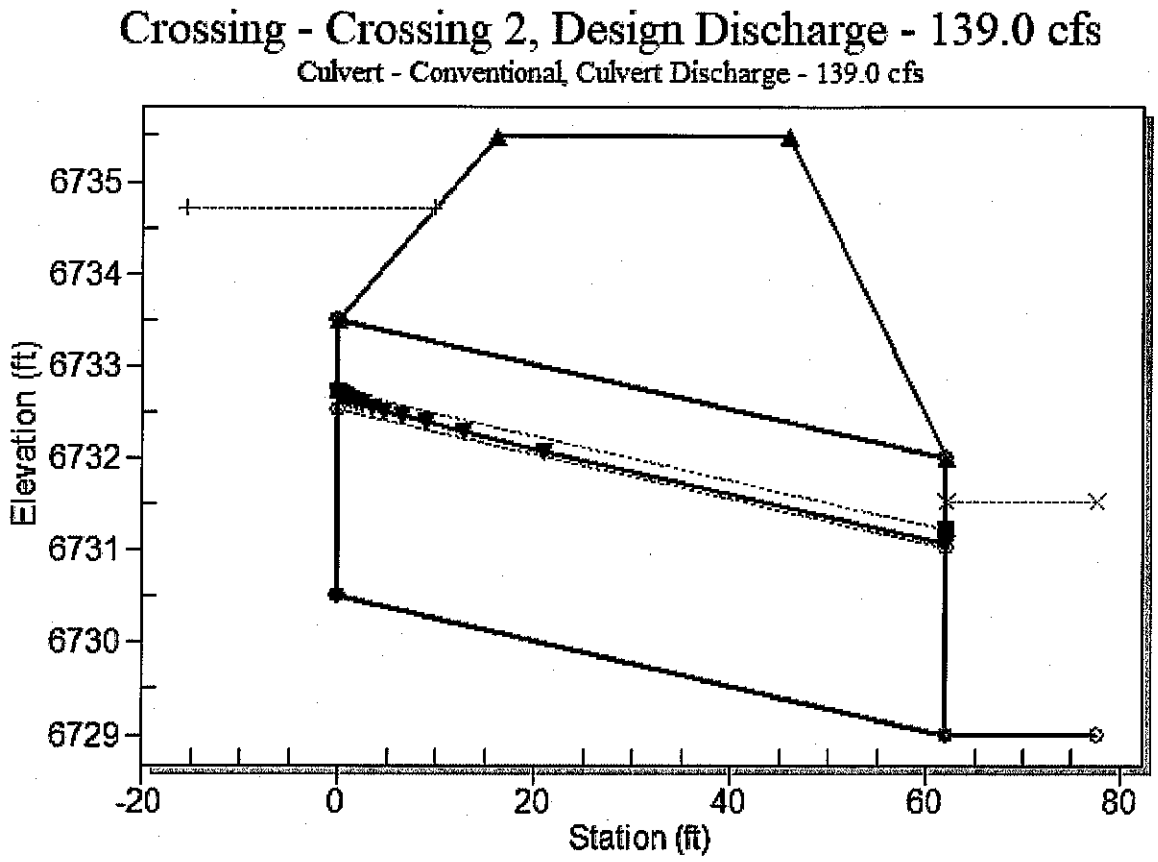
Table 6 - Summary of Culvert Flows at Crossing: Crossing 2-Low Flow

Headwater Elevation (ft)	Total Discharge (cfs)	Low Flow Discharge (cfs)	Roadway Discharge (cfs)	Iterations
6730.30	0.00	0.00	0.00	1
6730.71	13.90	13.90	0.00	1
6730.96	27.80	27.80	0.00	1
6731.16	41.70	41.70	0.00	1
6731.34	55.60	55.60	0.00	1
6731.50	69.50	69.50	0.00	1
6731.66	83.40	83.40	0.00	1
6731.80	97.30	97.30	0.00	1
6731.95	111.20	111.20	0.00	1
6732.06	117.00	117.00	0.00	1
6732.28	139.00	138.49	0.00	19
6732.30	129.21	129.21	0.00	Overtopping

Rating Curve Plot for Crossing: Crossing 2-Low Flow



Water Surface Profile Plot for Culvert: Conventional



Site Data - Conventional

Site Data Option: Culvert Invert Data

Inlet Station: 0.00 ft

Inlet Elevation: 6730.50 ft

Outlet Station: 62.00 ft

Outlet Elevation: 6729.00 ft

Number of Barrels: 3

Culvert Data Summary - Conventional

Barrel Shape: Circular

Barrel Diameter: 3.00 ft

Barrel Material: Corrugated Steel

Embedment: 0.00 in

Barrel Manning's n: 0.0240

Culvert Type: Straight

Inlet Configuration: Thin Edge Projecting

Inlet Depression: None

Table 7 - Culvert Summary Table: Conventional

Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth (ft)	Outlet Control Depth (ft)	Flow Type	Normal Depth (ft)	Critical Depth (ft)	Outlet Depth (ft)	Tailwater Depth (ft)	Outlet Velocity (ft/s)	Tailwater Velocity (ft/s)
0.00	0.00	6730.50	0.000	0.000	0-NF	0.000	0.000	0.000	0.000	0.000	0.000
13.90	13.90	6731.47	0.971	0.0*	1-JS1t	0.566	0.670	1.065	1.065	1.990	6.128
27.80	27.80	6731.90	1.402	0.0*	1-JS1t	0.801	0.958	1.381	1.381	2.819	7.287
41.70	41.70	6732.26	1.760	0.313	1-S2n	0.989	1.184	1.017	1.608	6.354	8.064
55.60	55.60	6732.59	2.092	0.656	1-S2n	1.154	1.379	1.188	1.791	6.871	8.666
69.50	69.50	6732.91	2.411	1.018	1-S2n	1.306	1.549	1.306	1.947	7.578	9.163
83.40	83.40	6733.23	2.731	1.407	1-S2n	1.451	1.702	1.451	2.085	7.941	9.590
97.30	97.30	6733.56	3.061	1.827	5-S2n	1.591	1.845	1.591	2.209	8.247	9.967
111.20	111.20	6733.91	3.414	2.283	5-S2n	1.731	1.976	1.731	2.323	8.503	10.305
125.10	125.10	6734.30	3.797	2.776	5-S2n	1.872	2.101	1.872	2.428	8.718	10.613
139.00	139.00	6734.72	4.218	3.307	5-S2n	2.020	2.215	2.077	2.526	8.624	10.897

****

Straight Culvert

Inlet Elevation (invert): 6730.50 ft, Outlet Elevation (invert): 6729.00 ft

Culvert Length: 62.02 ft, Culvert Slope: 0.0242

****

Crossing Discharge Data

Discharge Selection Method: Specify Minimum, Design, and Maximum Flow

Minimum Flow: 0 cfs

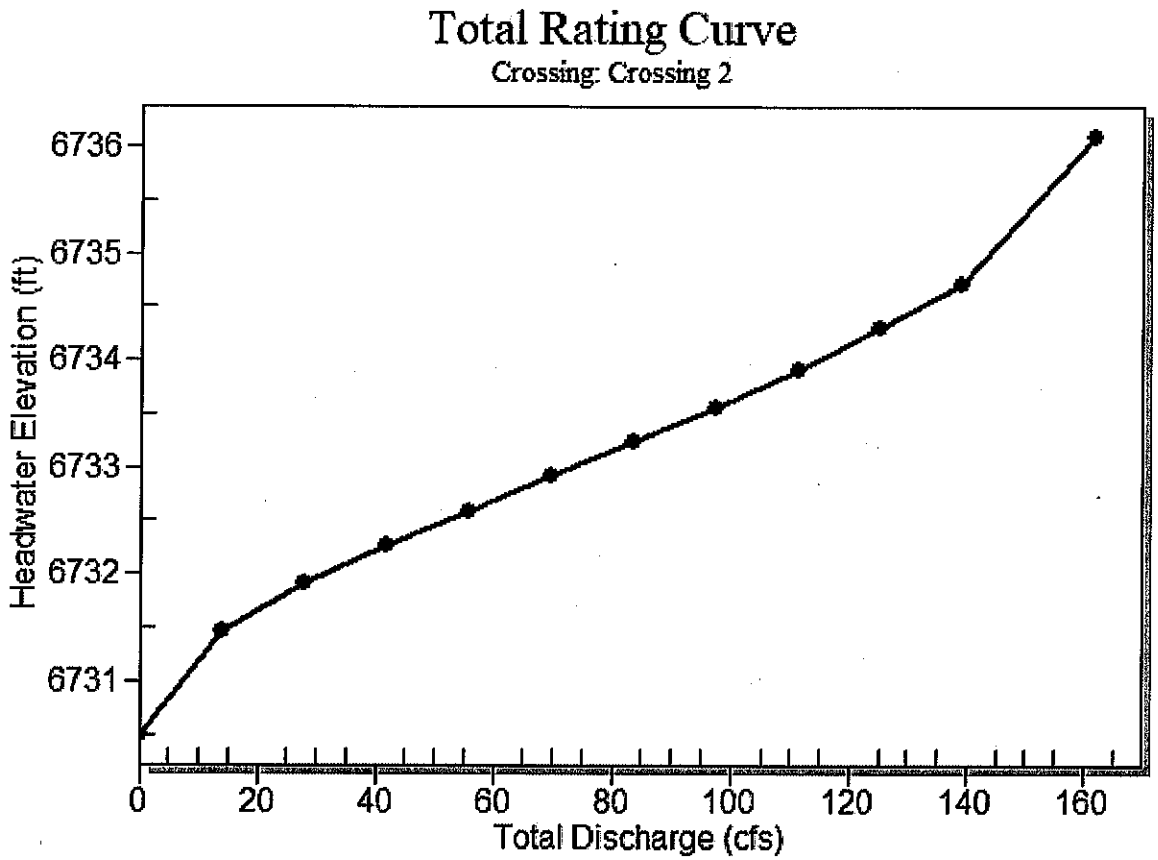
Design Flow: 139 cfs

Maximum Flow: 139 cfs

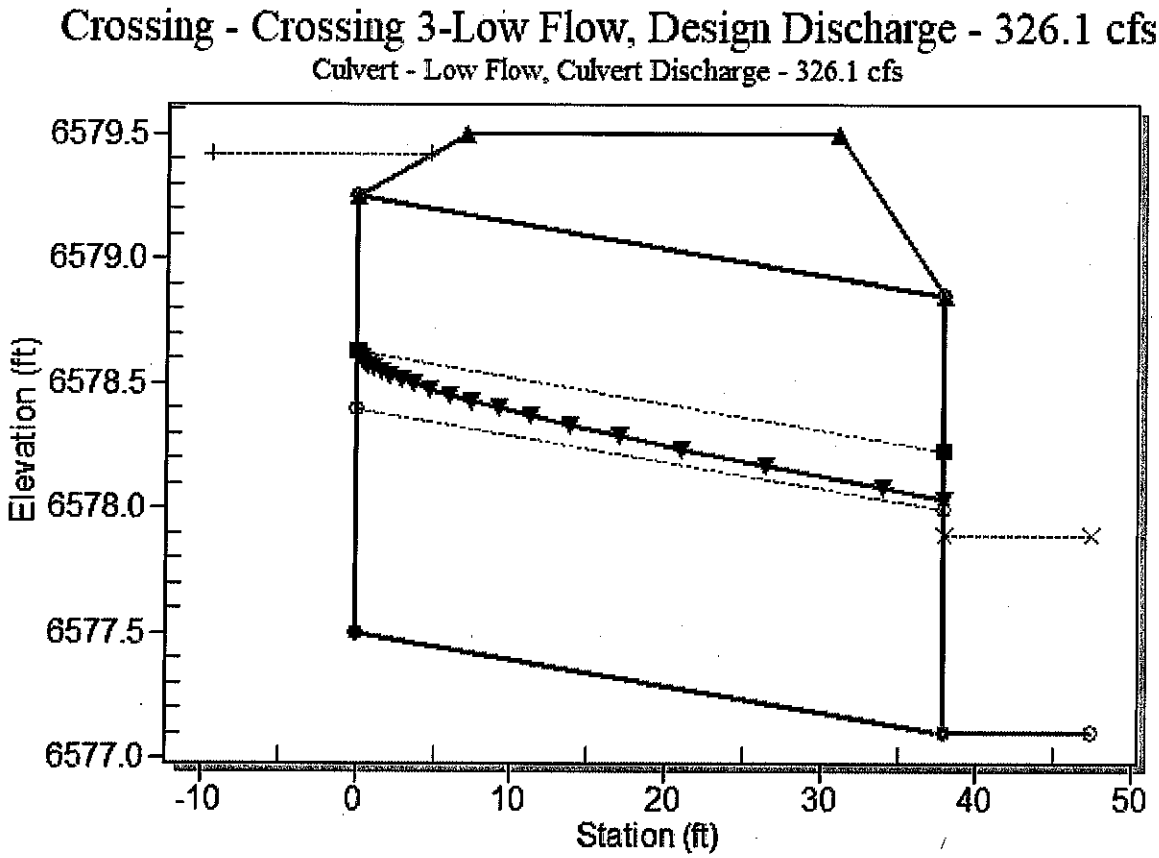
Table 8 - Summary of Culvert Flows at Crossing: Crossing 2

Headwater Elevation (ft)	Total Discharge (cfs)	Conventional Discharge (cfs)	Roadway Discharge (cfs)	Iterations
6730.50	0.00	0.00	0.00	1
6731.47	13.90	13.90	0.00	1
6731.90	27.80	27.80	0.00	1
6732.26	41.70	41.70	0.00	1
6732.59	55.60	55.60	0.00	1
6732.91	69.50	69.50	0.00	1
6733.23	83.40	83.40	0.00	1
6733.56	97.30	97.30	0.00	1
6733.91	111.20	111.20	0.00	1
6734.30	125.10	125.10	0.00	1
6734.72	139.00	139.00	0.00	1
6735.50	161.60	161.60	0.00	Overtopping

Rating Curve Plot for Crossing: Crossing 2



Water Surface Profile Plot for Culvert: Low Flow



Site Data - Low Flow

Site Data Option: Culvert Invert Data

Inlet Station: 0.00 ft

Inlet Elevation: 6577.50 ft

Outlet Station: 38.00 ft

Outlet Elevation: 6577.10 ft

Number of Barrels: 12

Culvert Data Summary - Low Flow

Barrel Shape: Concrete Box

Barrel Span: 4.00 ft

Barrel Rise: 1.75 ft

Barrel Material: Concrete

Embedment: 0.00 in

Barrel Manning's n: 0.0150

Culvert Type: Straight

Inlet Configuration: Square Edge (90°) Headwall

Inlet Depression: None

Table 9 - Culvert Summary Table: Low Flow

Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth (ft)	Outlet Control Depth (ft)	Flow Type	Normal Depth (ft)	Critical Depth (ft)	Outlet Depth (ft)	Tailwater Depth (ft)	Outlet Velocity (ft/s)	Tailwater Velocity (ft/s)
0.00	0.00	6577.50	0.000	0.000	0-NF	0.000	0.000	0.000	0.000	0.000	0.000
40.00	40.00	6577.97	0.473	0.0*	1-S2n	0.227	0.278	0.227	0.225	3.677	2.316
80.00	80.00	6578.25	0.751	0.070	1-S2n	0.351	0.442	0.351	0.341	4.745	3.044
120.00	120.00	6578.48	0.981	0.242	1-S2n	0.456	0.579	0.456	0.435	5.480	3.570
160.00	160.00	6578.68	1.183	0.413	1-S2n	0.551	0.701	0.571	0.516	5.840	3.995
200.00	200.00	6578.87	1.369	0.588	1-S2n	0.638	0.814	0.665	0.590	6.266	4.358
240.00	240.00	6579.05	1.546	0.770	1-S2n	0.721	0.919	0.753	0.658	6.637	4.677
280.00	280.00	6579.22	1.719	0.960	1-S2n	0.800	1.019	0.839	0.721	6.956	4.965
320.00	320.00	6579.39	1.892	1.160	5-S2n	0.877	1.113	0.921	0.781	7.237	5.228
326.10	326.10	6579.42	1.919	1.191	5-S2n	0.888	1.128	0.933	0.790	7.278	5.266
400.00	368.24	6579.61	2.108	1.414	5-S2n	0.966	1.223	1.017	0.893	7.545	5.696

****

Straight Culvert

Inlet Elevation (invert): 6577.50 ft, Outlet Elevation (invert): 6577.10 ft

Culvert Length: 38.00 ft, Culvert Slope: 0.0105

****

Crossing Discharge Data

Discharge Selection Method: Specify Minimum, Design, and Maximum Flow

Minimum Flow: 0 cfs

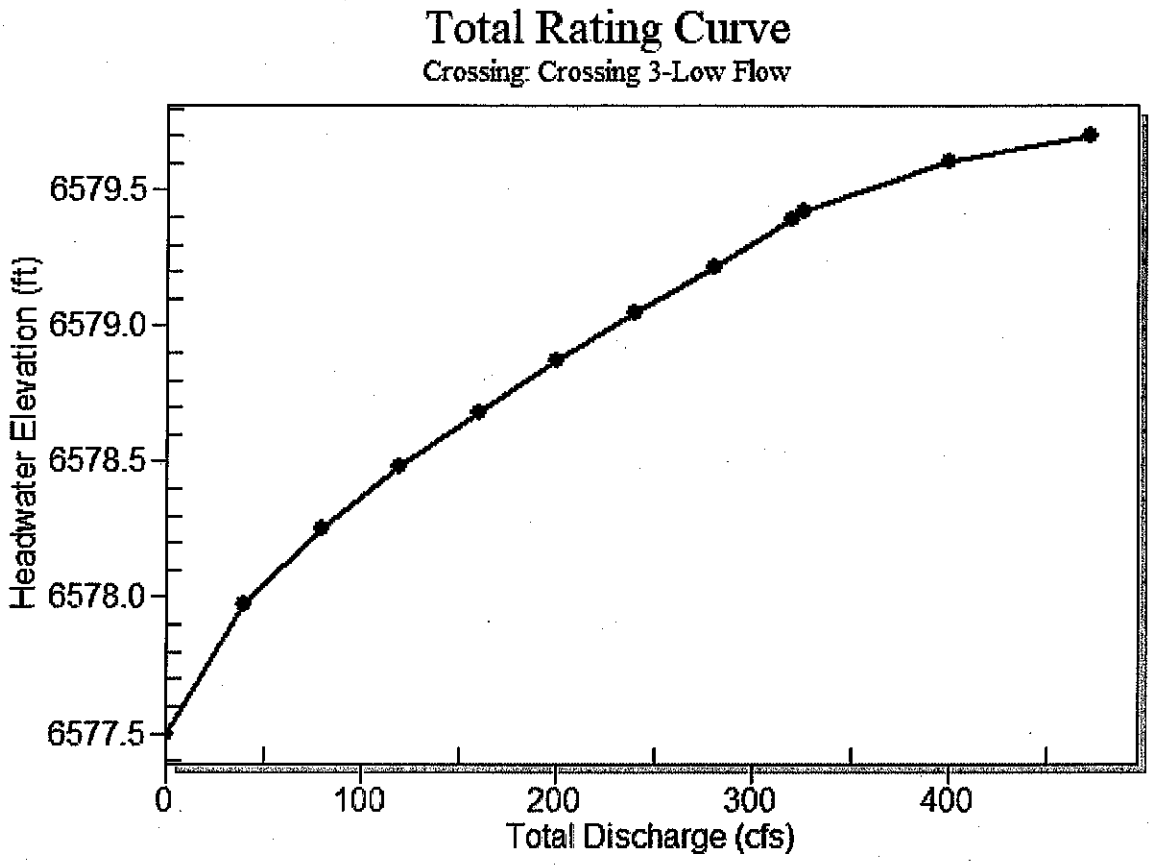
Design Flow: 326.1 cfs

Maximum Flow: 400 cfs

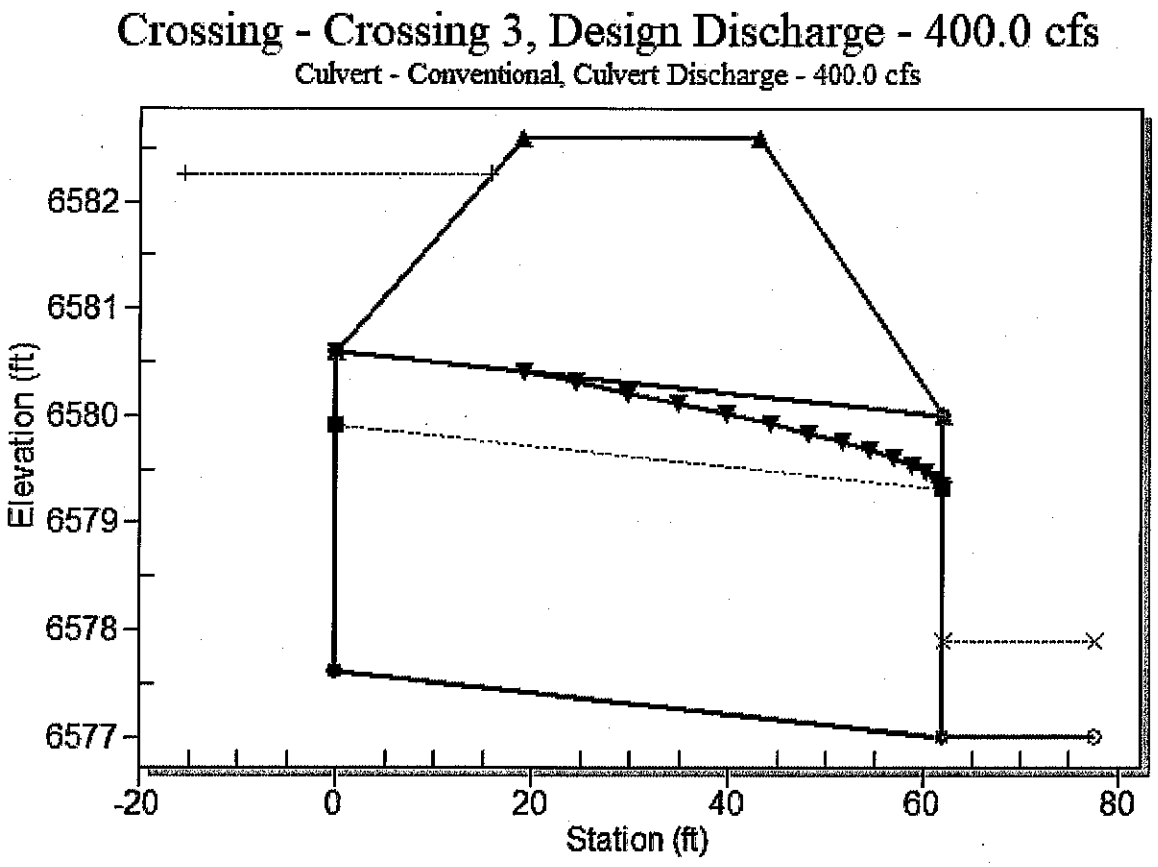
Table 10 - Summary of Culvert Flows at Crossing: Crossing 3-Low Flow

Headwater Elevation (ft)	Total Discharge (cfs)	Low Flow Discharge (cfs)	Roadway Discharge (cfs)	Iterations
6577.50	0.00	0.00	0.00	1
6577.97	40.00	40.00	0.00	1
6578.25	80.00	80.00	0.00	1
6578.48	120.00	120.00	0.00	1
6578.68	160.00	160.00	0.00	1
6578.87	200.00	200.00	0.00	1
6579.05	240.00	240.00	0.00	1
6579.22	280.00	280.00	0.00	1
6579.39	320.00	320.00	0.00	1
6579.42	326.10	326.10	0.00	1
6579.61	400.00	368.24	31.39	7
6579.50	344.35	344.35	0.00	Overtopping

Rating Curve Plot for Crossing: Crossing 3-Low Flow



Water Surface Profile Plot for Culvert: Conventional



Site Data - Conventional

Site Data Option: Culvert Invert Data

Inlet Station: 0.00 ft

Inlet Elevation: 6577.60 ft

Outlet Station: 62.00 ft

Outlet Elevation: 6577.00 ft

Number of Barrels: 8

Culvert Data Summary - Conventional

Barrel Shape: Circular

Barrel Diameter: 3.00 ft

Barrel Material: Corrugated Steel

Embedment: 0.00 in

Barrel Manning's n: 0.0240

Culvert Type: Straight

Inlet Configuration: Thin Edge Projecting

Inlet Depression: None

Table 11 - Culvert Summary Table: Conventional

Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth (ft)	Outlet Control Depth (ft)	Flow Type	Normal Depth (ft)	Critical Depth (ft)	Outlet Depth (ft)	Tailwater Depth (ft)	Outlet Velocity (ft/s)	Tailwater Velocity (ft/s)
0.00	0.00	6577.60	0.000	0.000	0-NF	0.000	0.000	0.000	0.000	0.000	0.000
40.00	40.00	6578.74	1.025	1.142	2-M2c	0.739	0.697	0.697	0.225	4.016	2.316
80.00	80.00	6579.25	1.480	1.652	2-M2c	1.059	0.997	0.997	0.341	4.866	3.044
120.00	120.00	6579.66	1.862	2.059	2-M2c	1.324	1.231	1.231	0.435	5.492	3.570
160.00	160.00	6580.01	2.216	2.414	2-M2c	1.567	1.436	1.436	0.516	5.986	3.995
200.00	200.00	6580.34	2.559	2.740	2-M2c	1.806	1.609	1.609	0.590	6.473	4.358
240.00	240.00	6580.65	2.907	3.053	7-M2c	2.056	1.769	1.769	0.658	6.916	4.677
280.00	280.00	6580.97	3.275	3.372	7-M2c	2.353	1.919	1.919	0.721	7.331	4.965
320.00	320.00	6581.31	3.674	3.708	7-M2c	3.000	2.057	2.057	0.781	7.743	5.228
360.00	360.00	6581.71	4.115	4.093	7-M2c	3.000	2.183	2.183	0.838	8.168	5.470
400.00	400.00	6582.26	4.605	4.655	7-M2c	3.000	2.298	2.298	0.893	8.604	5.696

****

Straight Culvert

Inlet Elevation (invert): 6577.60 ft, Outlet Elevation (invert): 6577.00 ft

Culvert Length: 62.00 ft, Culvert Slope: 0.0097

****

Crossing Discharge Data

Discharge Selection Method: Specify Minimum, Design, and Maximum Flow

Minimum Flow: 0 cfs

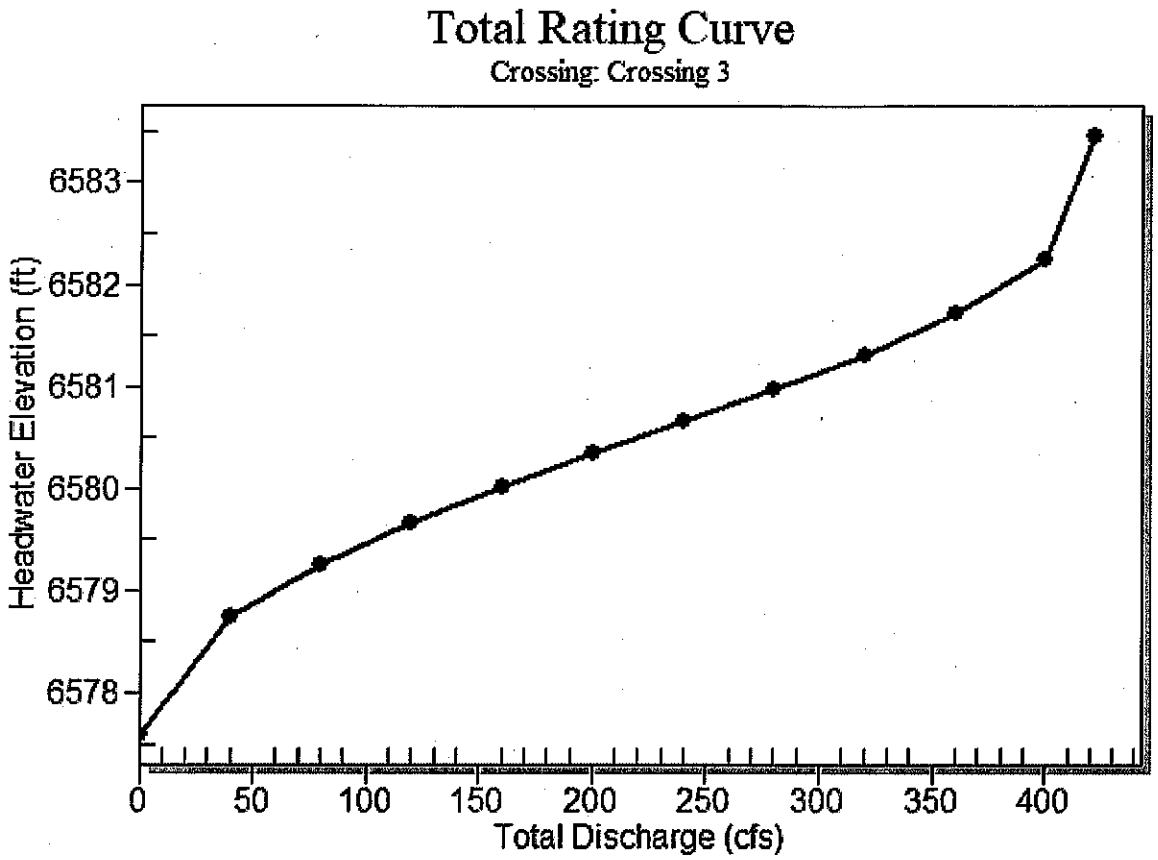
Design Flow: 400 cfs

Maximum Flow: 400 cfs

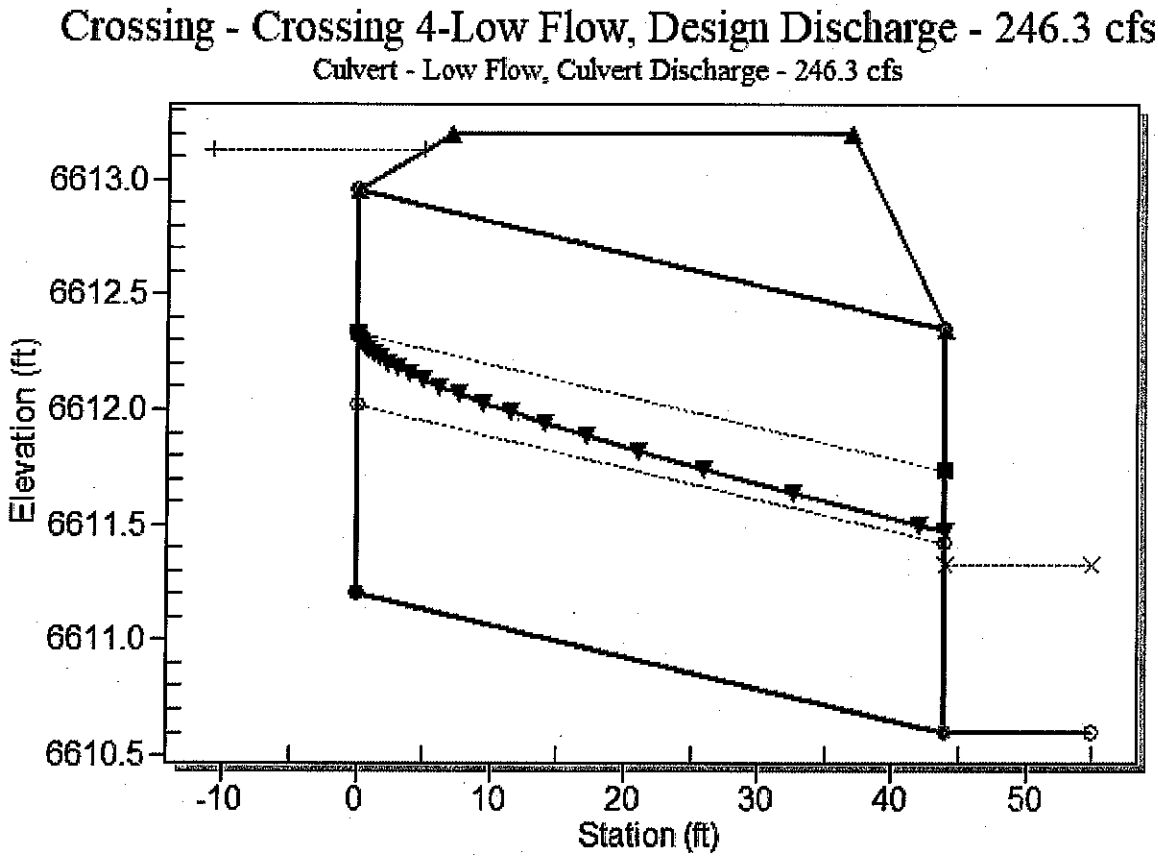
Table 12 - Summary of Culvert Flows at Crossing: Crossing 3

Headwater Elevation (ft)	Total Discharge (cfs)	Conventional Discharge (cfs)	Roadway Discharge (cfs)	Iterations
6577.60	0.00	0.00	0.00	1
6578.74	40.00	40.00	0.00	1
6579.25	80.00	80.00	0.00	1
6579.66	120.00	120.00	0.00	1
6580.01	160.00	160.00	0.00	1
6580.34	200.00	200.00	0.00	1
6580.65	240.00	240.00	0.00	1
6580.97	280.00	280.00	0.00	1
6581.31	320.00	320.00	0.00	1
6581.71	360.00	360.00	0.00	1
6582.26	400.00	400.00	0.00	1
6582.60	421.60	421.60	0.00	Overtopping

Rating Curve Plot for Crossing: Crossing 3



Water Surface Profile Plot for Culvert: Low Flow



Site Data - Low Flow

Site Data Option: Culvert Invert Data

Inlet Station: 0.00 ft

Inlet Elevation: 6611.20 ft

Outlet Station: 44.00 ft

Outlet Elevation: 6610.60 ft

Number of Barrels: 9

Culvert Data Summary - Low Flow

Barrel Shape: Concrete Box

Barrel Span: 4.00 ft

Barrel Rise: 1.75 ft

Barrel Material: Concrete

Embedment: 0.00 in

Barrel Manning's n: 0.0150

Culvert Type: Straight

Inlet Configuration: Square Edge (90°) Headwall

Inlet Depression: None

Table 13 - Culvert Summary Table: Low Flow

Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth (ft)	Outlet Control Depth (ft)	Flow Type	Normal Depth (ft)	Critical Depth (ft)	Outlet Depth (ft)	Tailwater Depth (ft)	Outlet Velocity (ft/s)	Tailwater Velocity (ft/s)
0.00	0.00	6611.20	0.000	0.000	0-NF	0.000	0.000	0.000	0.000	0.000	0.000
29.90	29.90	6611.67	0.470	0.0*	1-S2n	0.208	0.278	0.215	0.204	3.870	1.751
59.80	59.80	6611.95	0.747	0.0*	1-S2n	0.323	0.441	0.332	0.309	5.004	2.303
89.70	89.70	6612.18	0.976	0.042	1-S2n	0.418	0.578	0.434	0.394	5.742	2.702
119.60	119.60	6612.38	1.178	0.215	1-S2n	0.505	0.700	0.525	0.468	6.331	3.025
149.50	149.50	6612.56	1.363	0.392	1-S2n	0.585	0.812	0.611	0.535	6.792	3.301
179.40	179.40	6612.74	1.540	0.576	1-S2n	0.660	0.917	0.694	0.597	7.184	3.544
209.30	209.30	6612.91	1.712	0.769	1-S2n	0.732	1.016	0.773	0.655	7.520	3.763
239.20	239.20	6613.08	1.885	0.971	5-S2n	0.801	1.111	0.849	0.709	7.825	3.963
246.30	246.30	6613.13	1.926	1.021	5-S2n	0.817	1.133	0.867	0.721	7.890	4.009
299.00	274.01	6613.29	2.092	1.220	5-S2n	0.878	1.216	0.935	0.810	8.137	4.321

****

Straight Culvert

Inlet Elevation (invert): 6611.20 ft, Outlet Elevation (invert): 6610.60 ft

Culvert Length: 44.00 ft, Culvert Slope: 0.0136

****

Crossing Discharge Data

Discharge Selection Method: Specify Minimum, Design, and Maximum Flow

Minimum Flow: 0 cfs

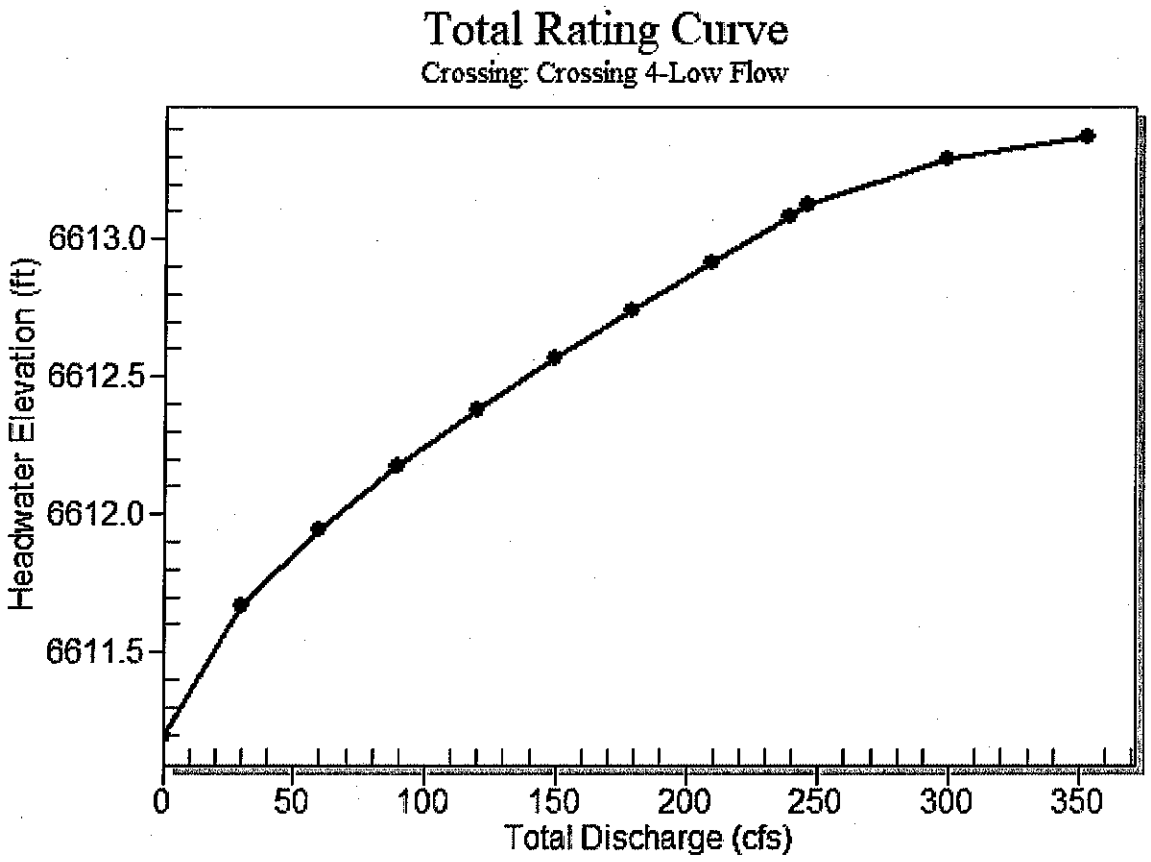
Design Flow: 246.3 cfs

Maximum Flow: 299 cfs

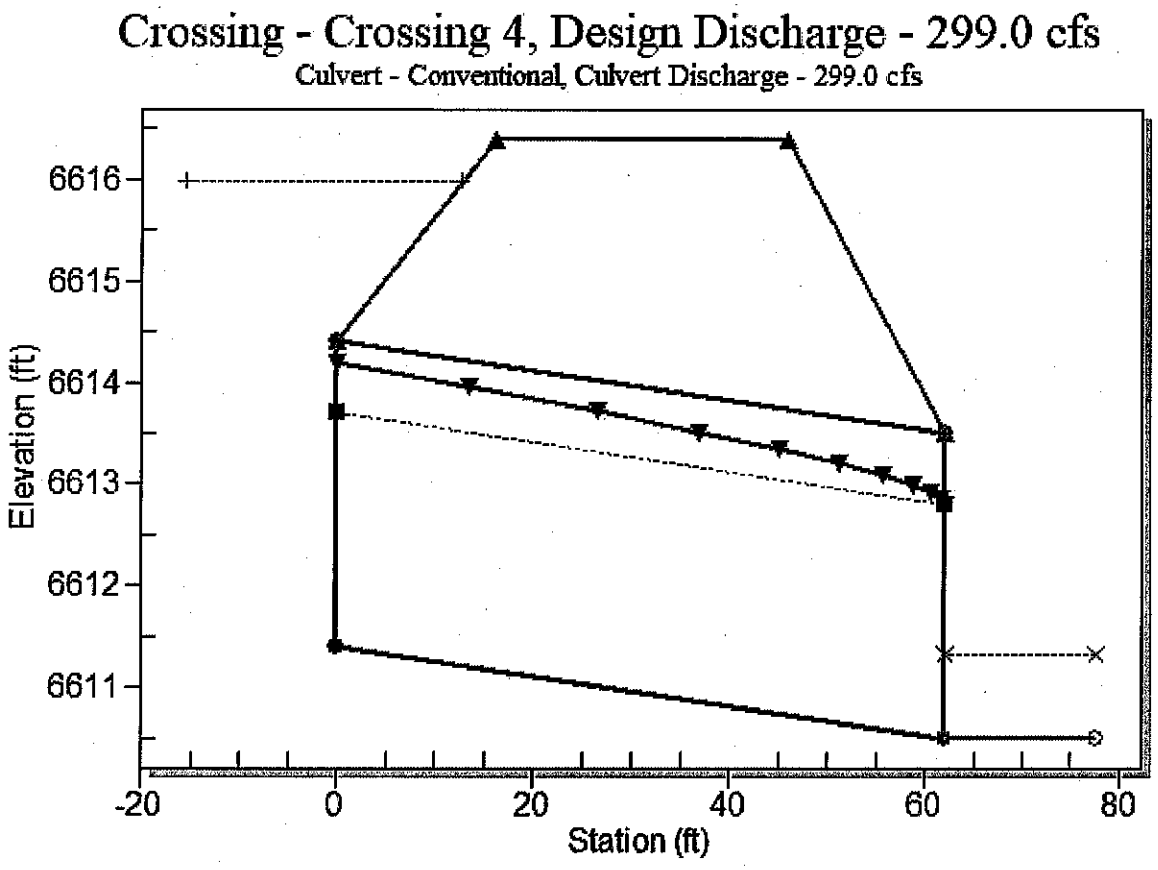
Table 14 - Summary of Culvert Flows at Crossing: Crossing 4-Low Flow

Headwater Elevation (ft)	Total Discharge (cfs)	Low Flow Discharge (cfs)	Roadway Discharge (cfs)	Iterations
6611.20	0.00	0.00	0.00	1
6611.67	29.90	29.90	0.00	1
6611.95	59.80	59.80	0.00	1
6612.18	89.70	89.70	0.00	1
6612.38	119.60	119.60	0.00	1
6612.56	149.50	149.50	0.00	1
6612.74	179.40	179.40	0.00	1
6612.91	209.30	209.30	0.00	1
6613.08	239.20	239.20	0.00	1
6613.13	246.30	246.30	0.00	1
6613.29	299.00	274.01	24.62	7
6613.20	258.72	258.72	0.00	Overtopping

Rating Curve Plot for Crossing: Crossing 4-Low Flow



Water Surface Profile Plot for Culvert: Conventional



Site Data - Conventional

Site Data Option: Culvert Invert Data

Inlet Station: 0.00 ft

Inlet Elevation: 6611.40 ft

Outlet Station: 62.00 ft

Outlet Elevation: 6610.50 ft

Number of Barrels: 6

Culvert Data Summary - Conventional

Barrel Shape: Circular

Barrel Diameter: 3.00 ft

Barrel Material: Corrugated Steel

Embedment: 0.00 in

Barrel Manning's n: 0.0240

Culvert Type: Straight

Inlet Configuration: Thin Edge Projecting

Inlet Depression: None

Table 15 - Culvert Summary Table: Conventional

Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth (ft)	Outlet Control Depth (ft)	Flow Type	Normal Depth (ft)	Critical Depth (ft)	Outlet Depth (ft)	Tailwater Depth (ft)	Outlet Velocity (ft/s)	Tailwater Velocity (ft/s)
0.00	0.00	6611.40	0.000	0.000	0-NF	0.000	0.000	0.000	0.000	0.000	0.000
29.90	29.90	6612.42	1.018	0.0*	1-S2n	0.666	0.695	0.666	0.204	4.107	1.751
59.80	59.80	6612.87	1.470	0.201	1-S2n	0.950	0.996	0.950	0.309	5.009	2.303
89.70	89.70	6613.25	1.851	0.566	1-S2n	1.180	1.229	1.180	0.394	5.596	2.702
119.60	119.60	6613.60	2.204	0.955	1-S2n	1.387	1.433	1.387	0.468	6.032	3.025
149.50	149.50	6613.95	2.546	1.367	1-S2n	1.583	1.607	1.583	0.535	6.375	3.301
179.40	179.40	6614.57	2.893	3.165	7-M2c	1.777	1.766	1.766	0.597	6.907	3.544
209.30	209.30	6614.85	3.259	3.448	7-M2c	1.978	1.915	1.915	0.655	7.321	3.763
239.20	239.20	6615.12	3.656	3.722	7-M2c	2.197	2.054	2.054	0.709	7.731	3.963
269.10	269.10	6615.49	4.094	3.999	7-M2c	3.000	2.179	2.179	0.761	8.155	4.149
299.00	299.00	6615.98	4.580	4.352	7-M2c	3.000	2.295	2.295	0.810	8.590	4.321

****

Straight Culvert

Inlet Elevation (invert): 6611.40 ft, Outlet Elevation (invert): 6610.50 ft

Culvert Length: 62.01 ft, Culvert Slope: 0.0145

****

Crossing Discharge Data

Discharge Selection Method: Specify Minimum, Design, and Maximum Flow

Minimum Flow: 0 cfs

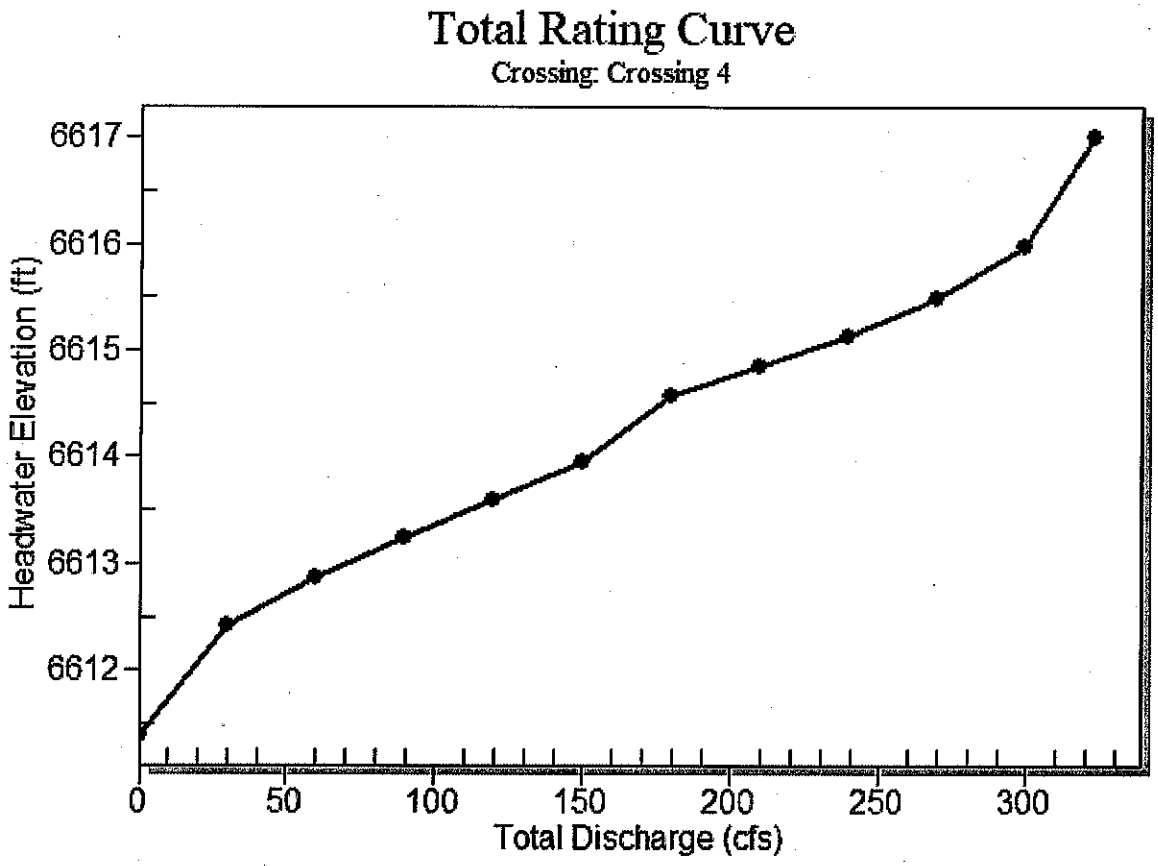
Design Flow: 299 cfs

Maximum Flow: 299 cfs

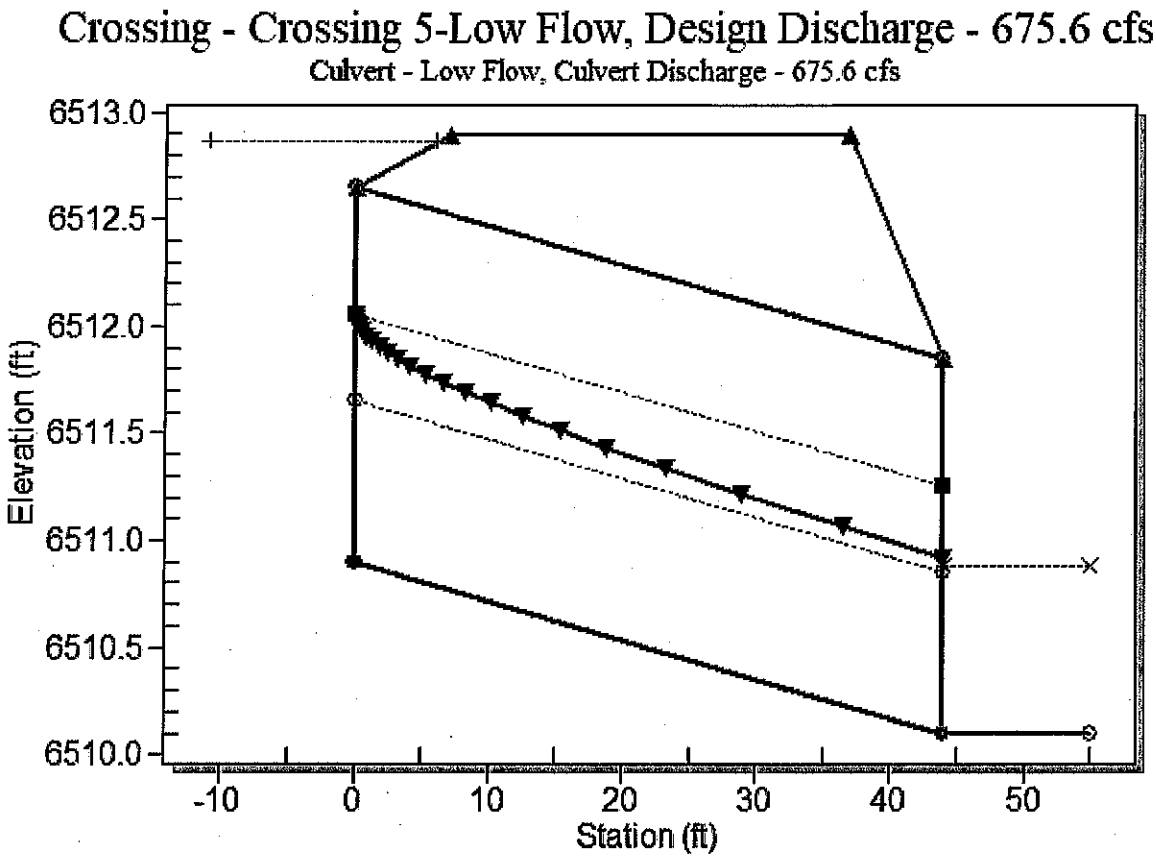
Table 16 - Summary of Culvert Flows at Crossing: Crossing 4

Headwater Elevation (ft)	Total Discharge (cfs)	Conventional Discharge (cfs)	Roadway Discharge (cfs)	Iterations
6611.40	0.00	0.00	0.00	1
6612.42	29.90	29.90	0.00	1
6612.87	59.80	59.80	0.00	1
6613.25	89.70	89.70	0.00	1
6613.60	119.60	119.60	0.00	1
6613.95	149.50	149.50	0.00	1
6614.57	179.40	179.40	0.00	1
6614.85	209.30	209.30	0.00	1
6615.12	239.20	239.20	0.00	1
6615.49	269.10	269.10	0.00	1
6615.98	299.00	299.00	0.00	1
6616.40	322.43	322.43	0.00	Overtopping

Rating Curve Plot for Crossing: Crossing 4



Water Surface Profile Plot for Culvert: Low Flow



Site Data - Low Flow

Site Data Option: Culvert Invert Data

Inlet Station: 0.00 ft

Inlet Elevation: 6510.90 ft

Outlet Station: 44.00 ft

Outlet Elevation: 6510.10 ft

Number of Barrels: 24

Culvert Data Summary - Low Flow

Barrel Shape: Concrete Box

Barrel Span: 4.00 ft

Barrel Rise: 1.75 ft

Barrel Material: Concrete

Embedment: 0.00 in

Barrel Manning's n: 0.0150

Culvert Type: Straight

Inlet Configuration: Square Edge (90º) Headwall

Inlet Depression: None

Table 17 - Culvert Summary Table: Low Flow

Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth (ft)	Outlet Control Depth (ft)	Flow Type	Normal Depth (ft)	Critical Depth (ft)	Outlet Depth (ft)	Tailwater Depth (ft)	Outlet Velocity (ft/s)	Tailwater Velocity (ft/s)
0.00	0.00	6510.90	0.000	0.000	0-NF	0.000	0.000	0.000	0.000	0.000	0.000
82.90	82.90	6511.38	0.480	0.0*	1-S2n	0.195	0.285	0.195	0.222	4.432	3.400
165.80	165.80	6511.66	0.763	0.0*	1-S2n	0.302	0.452	0.302	0.337	5.723	4.475
248.70	248.70	6511.90	0.997	0.0*	1-S2n	0.391	0.593	0.408	0.430	6.352	5.249
331.60	331.60	6512.10	1.204	0.043	1-S2n	0.471	0.718	0.494	0.510	6.991	5.880
414.50	414.50	6512.29	1.395	0.228	1-S2n	0.545	0.833	0.577	0.583	7.483	6.419
497.40	497.40	6512.48	1.577	0.421	1-S2n	0.615	0.941	0.655	0.650	7.914	6.893
580.30	580.30	6512.66	1.756	0.624	5-S2n	0.682	1.043	0.731	0.713	8.274	7.321
663.20	663.20	6512.84	1.936	0.838	5-S2n	0.746	1.140	0.805	0.772	8.584	7.713
675.60	675.60	6512.86	1.964	0.871	5-S2n	0.755	1.154	0.816	0.781	8.626	7.768
829.00	766.02	6513.07	2.170	1.119	5-S2n	0.822	1.255	0.894	0.883	8.929	8.413

****

Straight Culvert

Inlet Elevation (invert): 6510.90 ft, Outlet Elevation (invert): 6510.10 ft

Culvert Length: 44.01 ft, Culvert Slope: 0.0182

****

Crossing Discharge Data

Discharge Selection Method: Specify Minimum, Design, and Maximum Flow

Minimum Flow: 0 cfs

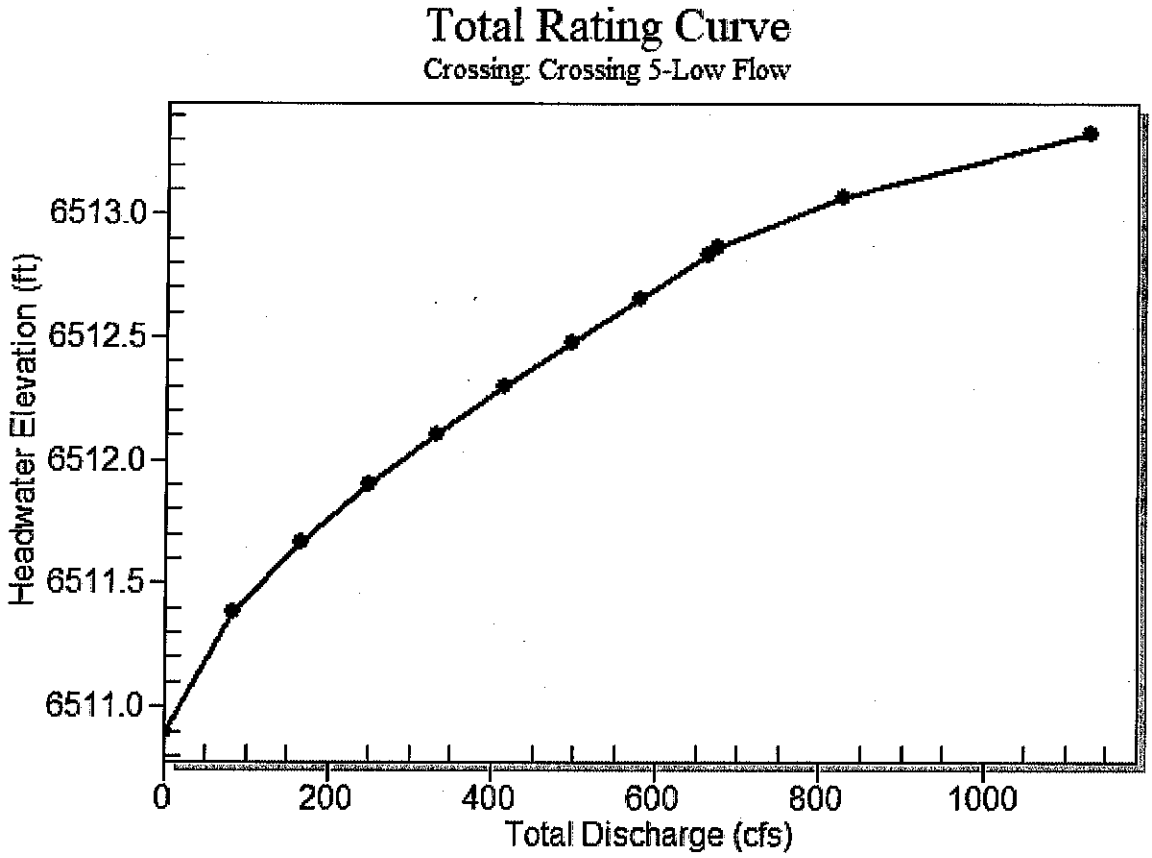
Design Flow: 675.6 cfs

Maximum Flow: 829 cfs

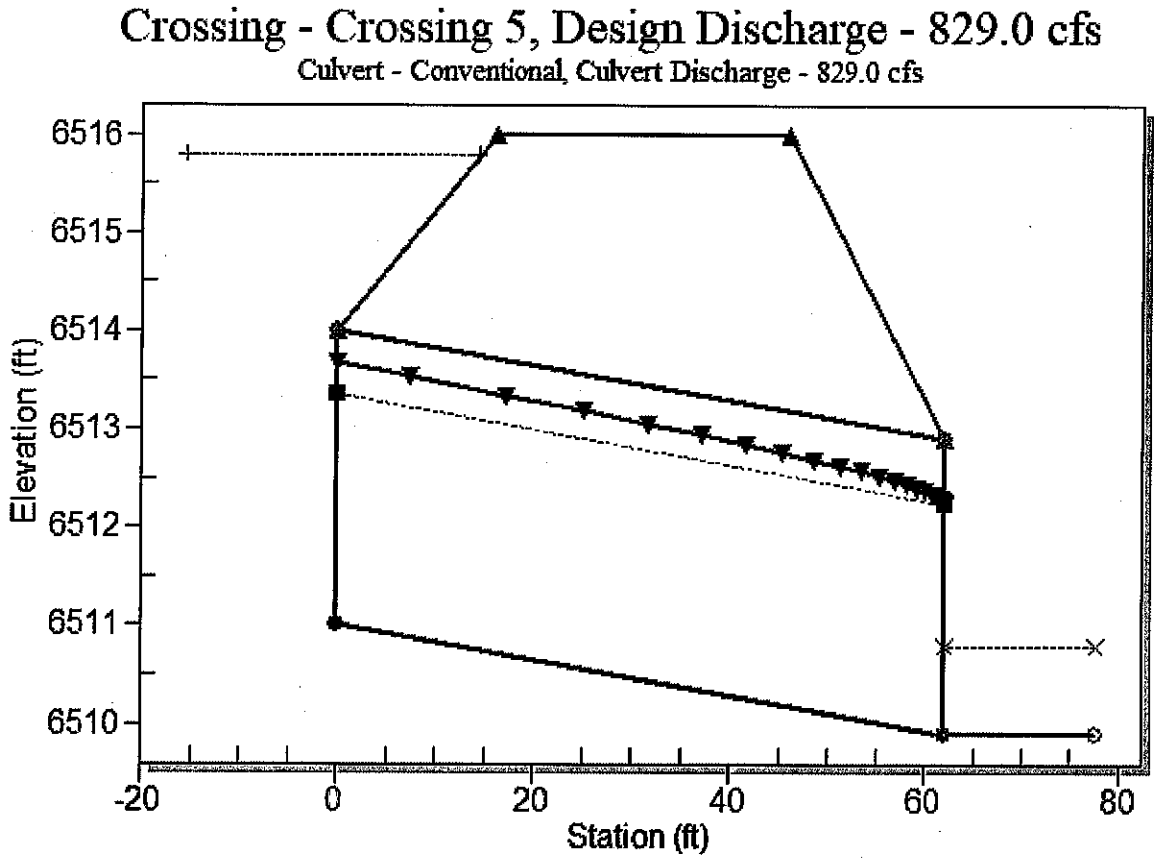
Table 18 - Summary of Culvert Flows at Crossing: Crossing 5-Low Flow

Headwater Elevation (ft)	Total Discharge (cfs)	Low Flow Discharge (cfs)	Roadway Discharge (cfs)	Iterations
6510.90	0.00	0.00	0.00	1
6511.38	82.90	82.90	0.00	1
6511.66	165.80	165.80	0.00	1
6511.90	248.70	248.70	0.00	1
6512.10	331.60	331.60	0.00	1
6512.29	414.50	414.50	0.00	1
6512.48	497.40	497.40	0.00	1
6512.66	580.30	580.30	0.00	1
6512.84	663.20	663.20	0.00	1
6512.86	675.60	675.60	0.00	1
6513.07	829.00	766.02	62.36	6
6512.90	691.71	691.71	0.00	Overtopping

Rating Curve Plot for Crossing: Crossing 5-Low Flow



Water Surface Profile Plot for Culvert: Conventional



Site Data - Conventional

Site Data Option: Culvert Invert Data

Inlet Station: 0.00 ft

Inlet Elevation: 6511.00 ft

Outlet Station: 62.00 ft

Outlet Elevation: 6509.90 ft

Number of Barrels: 16

Culvert Data Summary - Conventional

Barrel Shape: Circular

Barrel Diameter: 3.00 ft

Barrel Material: Corrugated Steel

Embedment: 0.00 in

Barrel Manning's n: 0.0240

Culvert Type: Straight

Inlet Configuration: Thin Edge Projecting

Inlet Depression: None

Table 19 - Culvert Summary Table: Conventional

Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth (ft)	Outlet Control Depth (ft)	Flow Type	Normal Depth (ft)	Critical Depth (ft)	Outlet Depth (ft)	Tailwater Depth (ft)	Outlet Velocity (ft/s)	Tailwater Velocity (ft/s)
0.00	0.00	6511.00	0.000	0.000	0-NF	0.000	0.000	0.000	0.000	0.000	0.000
82.90	82.90	6512.04	1.036	0.0*	1-S2n	0.646	0.710	0.646	0.222	4.474	3.400
165.80	165.80	6512.50	1.497	0.030	1-S2n	0.920	1.016	0.920	0.337	5.436	4.475
248.70	248.70	6512.89	1.890	0.412	1-S2n	1.141	1.255	1.141	0.430	6.082	5.249
331.60	331.60	6513.25	2.254	0.819	1-S2n	1.339	1.462	1.339	0.510	6.566	5.880
414.50	414.50	6513.61	2.609	1.252	1-S2n	1.525	1.638	1.525	0.583	6.944	6.419
497.40	497.40	6513.97	2.973	1.733	1-S2n	1.708	1.805	1.708	0.650	7.248	6.893
580.30	580.30	6514.36	3.361	2.252	5-S2n	1.893	1.954	1.893	0.713	7.487	7.321
663.20	663.20	6514.79	3.785	2.821	5-S2n	2.089	2.095	2.089	0.772	7.669	7.713
746.10	746.10	6515.26	4.257	4.190	7-M2c	2.314	2.222	2.222	0.829	8.309	8.075
829.00	829.00	6515.78	4.784	4.465	7-M2c	3.000	2.338	2.338	0.883	8.766	8.413

****

Straight Culvert

Inlet Elevation (invert): 6511.00 ft, Outlet Elevation (invert): 6509.90 ft

Culvert Length: 62.01 ft, Culvert Slope: 0.0177

****

Crossing Discharge Data

Discharge Selection Method: Specify Minimum, Design, and Maximum Flow

Minimum Flow: 0 cfs

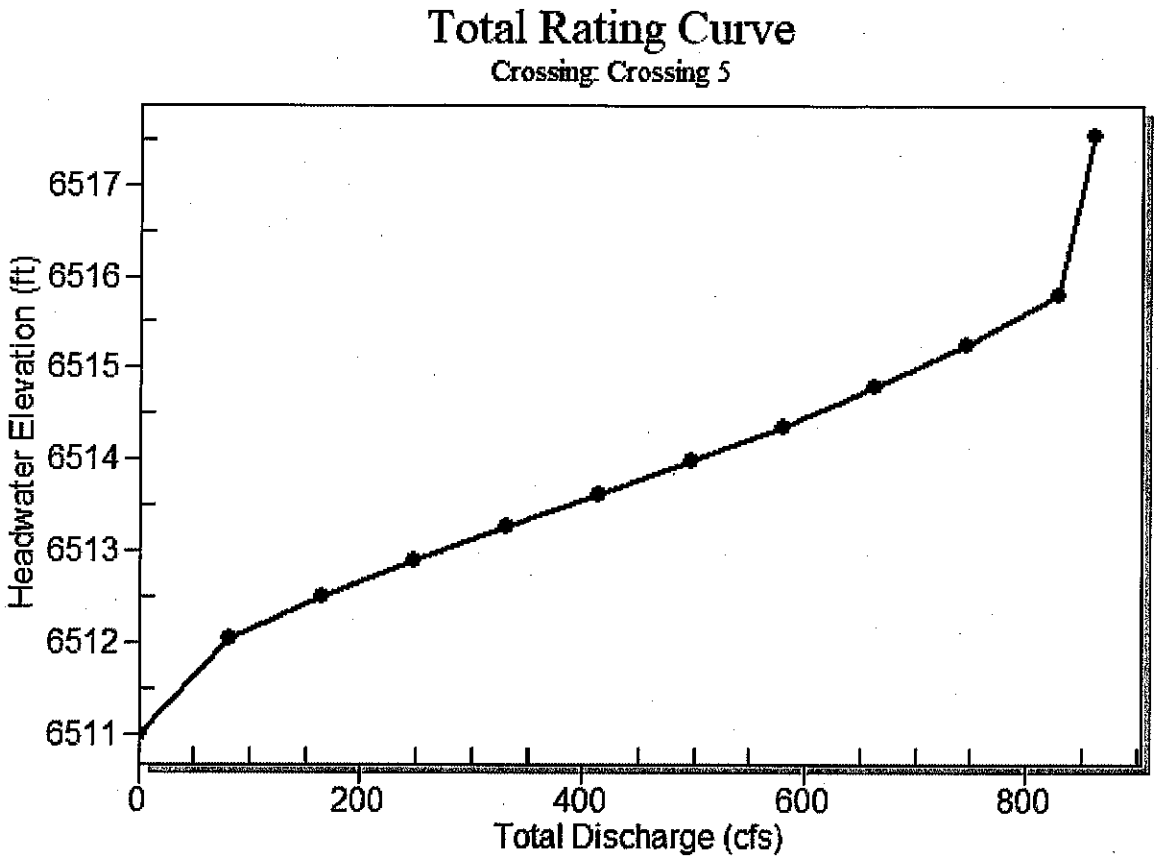
Design Flow: 829 cfs

Maximum Flow: 829 cfs

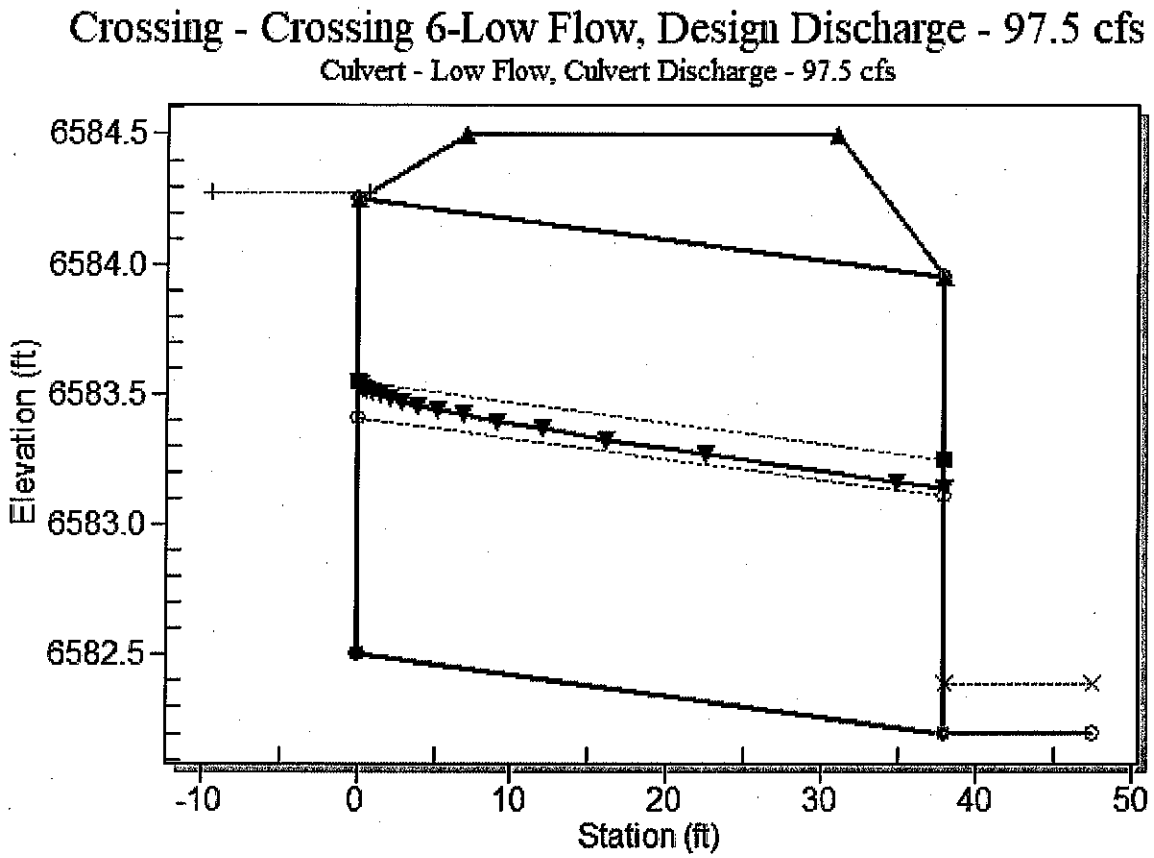
Table 20 - Summary of Culvert Flows at Crossing: Crossing 5

Headwater Elevation (ft)	Total Discharge (cfs)	Conventional Discharge (cfs)	Roadway Discharge (cfs)	Iterations
6511.00	0.00	0.00	0.00	1
6512.04	82.90	82.90	0.00	1
6512.50	165.80	165.80	0.00	1
6512.89	248.70	248.70	0.00	1
6513.25	331.60	331.60	0.00	1
6513.61	414.50	414.50	0.00	1
6513.97	497.40	497.40	0.00	1
6514.36	580.30	580.30	0.00	1
6514.79	663.20	663.20	0.00	1
6515.26	746.10	746.10	0.00	1
6515.78	829.00	829.00	0.00	1
6516.00	860.46	860.46	0.00	Overtopping

Rating Curve Plot for Crossing: Crossing 5



Water Surface Profile Plot for Culvert: Low Flow



Site Data - Low Flow

Site Data Option: Culvert Invert Data

Inlet Station: 0.00 ft

Inlet Elevation: 6582.50 ft

Outlet Station: 38.00 ft

Outlet Elevation: 6582.20 ft

Number of Barrels: 4

Culvert Data Summary - Low Flow

Barrel Shape: Concrete Box

Barrel Span: 4.00 ft

Barrel Rise: 1.75 ft

Barrel Material: Concrete

Embedment: 0.00 in

Barrel Manning's n: 0.0150

Culvert Type: Straight

Inlet Configuration: Square Edge (90°) Headwall

Inlet Depression: None

Table 21 - Culvert Summary Table: Low Flow

Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth (ft)	Outlet Control Depth (ft)	Flow Type	Normal Depth (ft)	Critical Depth (ft)	Outlet Depth (ft)	Tailwater Depth (ft)	Outlet Velocity (ft/s)	Tailwater Velocity (ft/s)
0.00	0.00	6582.50	0.000	0.000	0-NF	0.000	0.000	0.000	0.000	0.000	0.000
12.30	12.30	6582.95	0.449	0.0*	1-S2n	0.235	0.264	0.235	0.054	3.265	1.227
24.60	24.60	6583.21	0.713	0.142	1-S2n	0.366	0.419	0.377	0.081	4.075	1.617
36.90	36.90	6583.43	0.933	0.302	1-S2n	0.475	0.549	0.489	0.104	4.716	1.900
49.20	49.20	6583.62	1.125	0.460	1-S2n	0.574	0.665	0.591	0.123	5.202	2.135
61.50	61.50	6583.80	1.301	0.620	1-S2n	0.666	0.771	0.686	0.141	5.600	2.331
73.80	73.80	6583.97	1.467	0.785	1-S2n	0.752	0.871	0.777	0.157	5.937	2.509
86.10	86.10	6584.13	1.627	0.956	1-S2n	0.835	0.965	0.863	0.173	6.235	2.667
97.50	97.50	6584.27	1.775	1.122	5-S2n	0.910	1.049	0.940	0.186	6.484	2.804
110.70	110.70	6584.45	1.948	1.322	5-S2n	0.993	1.141	1.026	0.201	6.743	2.949
123.00	117.11	6584.53	2.034	1.423	5-S2n	1.033	1.185	1.068	0.214	6.856	3.077

****

Straight Culvert

Inlet Elevation (invert): 6582.50 ft, Outlet Elevation (invert): 6582.20 ft

Culvert Length: 38.00 ft, Culvert Slope: 0.0079

****

Crossing Discharge Data

Discharge Selection Method: Specify Minimum, Design, and Maximum Flow

Minimum Flow: 0 cfs

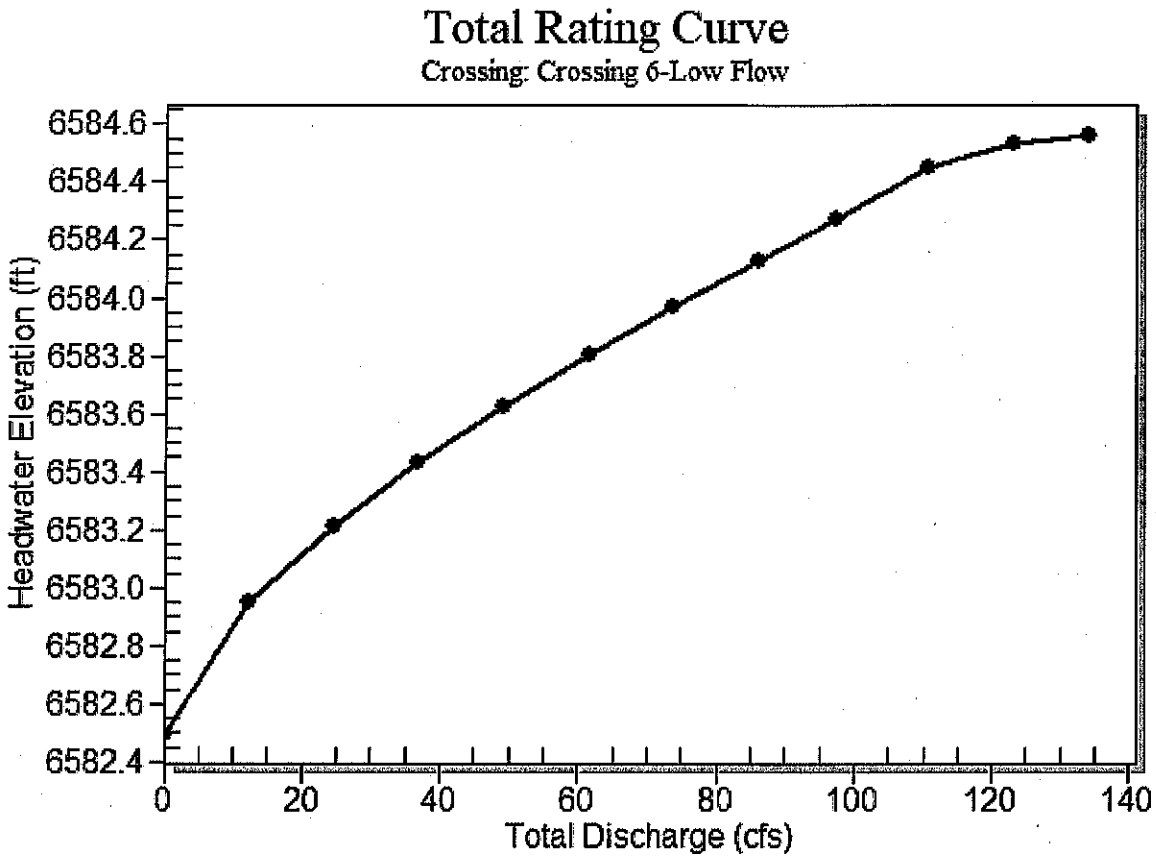
Design Flow: 97.5 cfs

Maximum Flow: 123 cfs

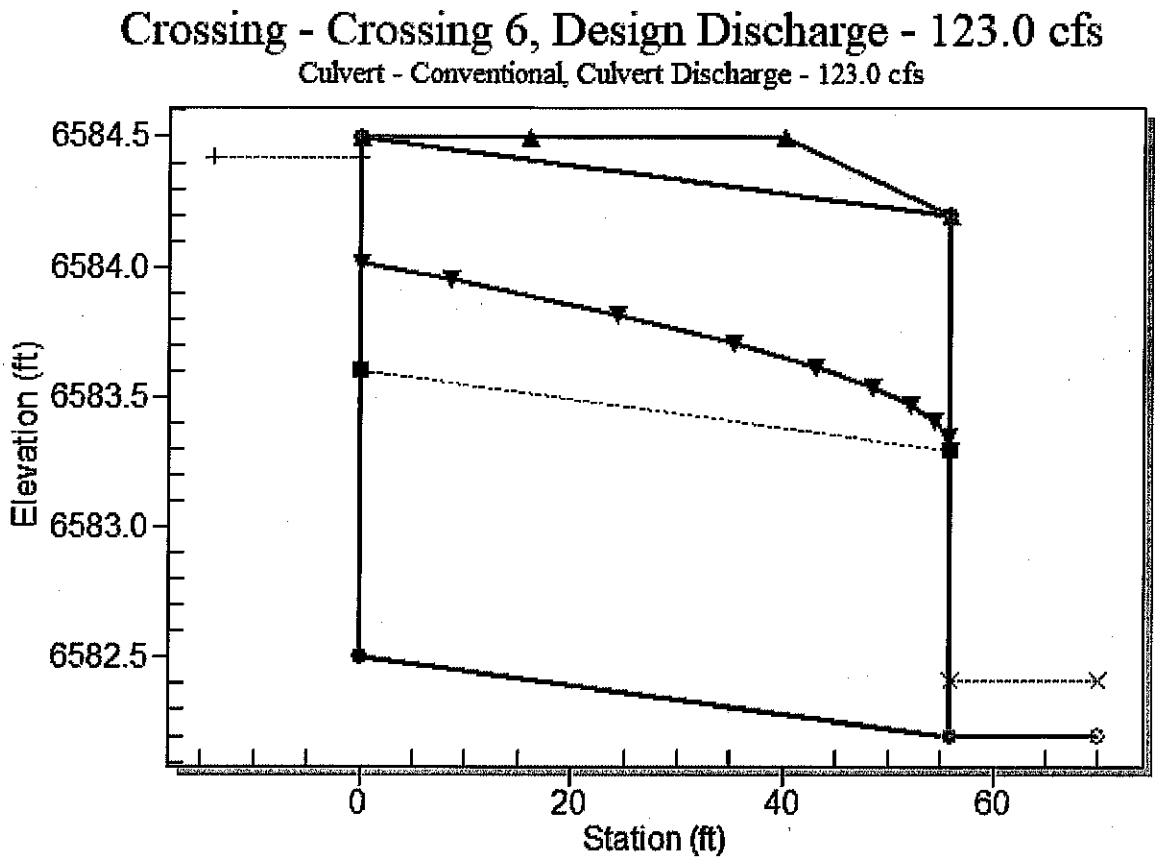
Table 22 - Summary of Culvert Flows at Crossing: Crossing 6-Low Flow

Headwater Elevation (ft)	Total Discharge (cfs)	Low Flow Discharge (cfs)	Roadway Discharge (cfs)	Iterations
6582.50	0.00	0.00	0.00	1
6582.95	12.30	12.30	0.00	1
6583.21	24.60	24.60	0.00	1
6583.43	36.90	36.90	0.00	1
6583.62	49.20	49.20	0.00	1
6583.80	61.50	61.50	0.00	1
6583.97	73.80	73.80	0.00	1
6584.13	86.10	86.10	0.00	1
6584.27	97.50	97.50	0.00	1
6584.45	110.70	110.70	0.00	1
6584.53	123.00	117.11	5.53	8
6584.50	114.57	114.57	0.00	Overtopping

Rating Curve Plot for Crossing: Crossing 6-Low Flow



Water Surface Profile Plot for Culvert: Conventional



Site Data - Conventional

Site Data Option: Culvert Invert Data

Inlet Station: 0.00 ft

Inlet Elevation: 6582.50 ft

Outlet Station: 56.00 ft

Outlet Elevation: 6582.20 ft

Number of Barrels: 13

Culvert Data Summary - Conventional

Barrel Shape: Circular

Barrel Diameter: 2.00 ft

Barrel Material: Corrugated Steel

Embedment: 0.00 in

Barrel Manning's n: 0.0240

Culvert Type: Straight

Inlet Configuration: Thin Edge Projecting

Inlet Depression: None

Table 23 - Culvert Summary Table: Conventional

Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth (ft)	Outlet Control Depth (ft)	Flow Type	Normal Depth (ft)	Critical Depth (ft)	Outlet Depth (ft)	Tailwater Depth (ft)	Outlet Velocity (ft/s)	Tailwater Velocity (ft/s)
0.00	0.00	6582.50	0.000	0.000	0-NF	0.000	0.000	0.000	0.000	0.000	0.000
12.30	12.30	6583.04	0.491	0.536	2-M2c	0.426	0.330	0.330	0.054	2.789	1.227
24.60	24.60	6583.27	0.701	0.770	2-M2c	0.607	0.475	0.475	0.081	3.315	1.617
36.90	36.90	6583.46	0.869	0.956	2-M2c	0.752	0.584	0.584	0.104	3.717	1.900
49.20	49.20	6583.62	1.014	1.119	2-M2c	0.882	0.677	0.677	0.123	4.044	2.135
61.50	61.50	6583.77	1.149	1.269	2-M2c	1.004	0.763	0.763	0.141	4.295	2.331
73.80	73.80	6583.91	1.277	1.409	2-M2c	1.124	0.840	0.840	0.157	4.537	2.509
86.10	86.10	6584.04	1.400	1.541	2-M2c	1.244	0.912	0.912	0.173	4.748	2.667
98.40	98.40	6584.17	1.521	1.669	2-M2c	1.371	0.978	0.978	0.187	4.956	2.815
110.70	110.70	6584.30	1.640	1.795	2-M2c	1.513	1.039	1.039	0.201	5.164	2.949
123.00	123.00	6584.42	1.759	1.920	2-M2c	2.000	1.096	1.096	0.214	5.370	3.077

****

Straight Culvert

Inlet Elevation (invert): 6582.50 ft, Outlet Elevation (invert): 6582.20 ft

Culvert Length: 56.00 ft, Culvert Slope: 0.0054

****

Crossing Discharge Data

Discharge Selection Method: Specify Minimum, Design, and Maximum Flow

Minimum Flow: 0 cfs

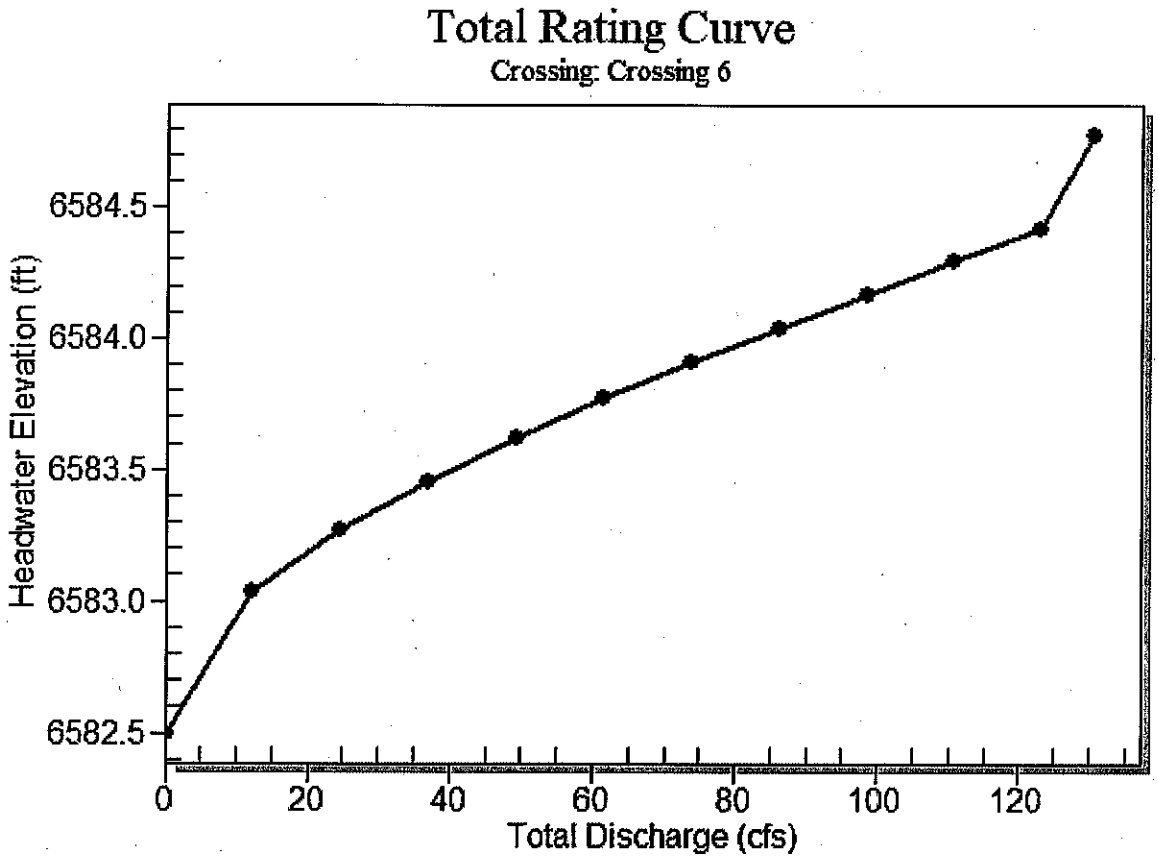
Design Flow: 123 cfs

Maximum Flow: 123 cfs

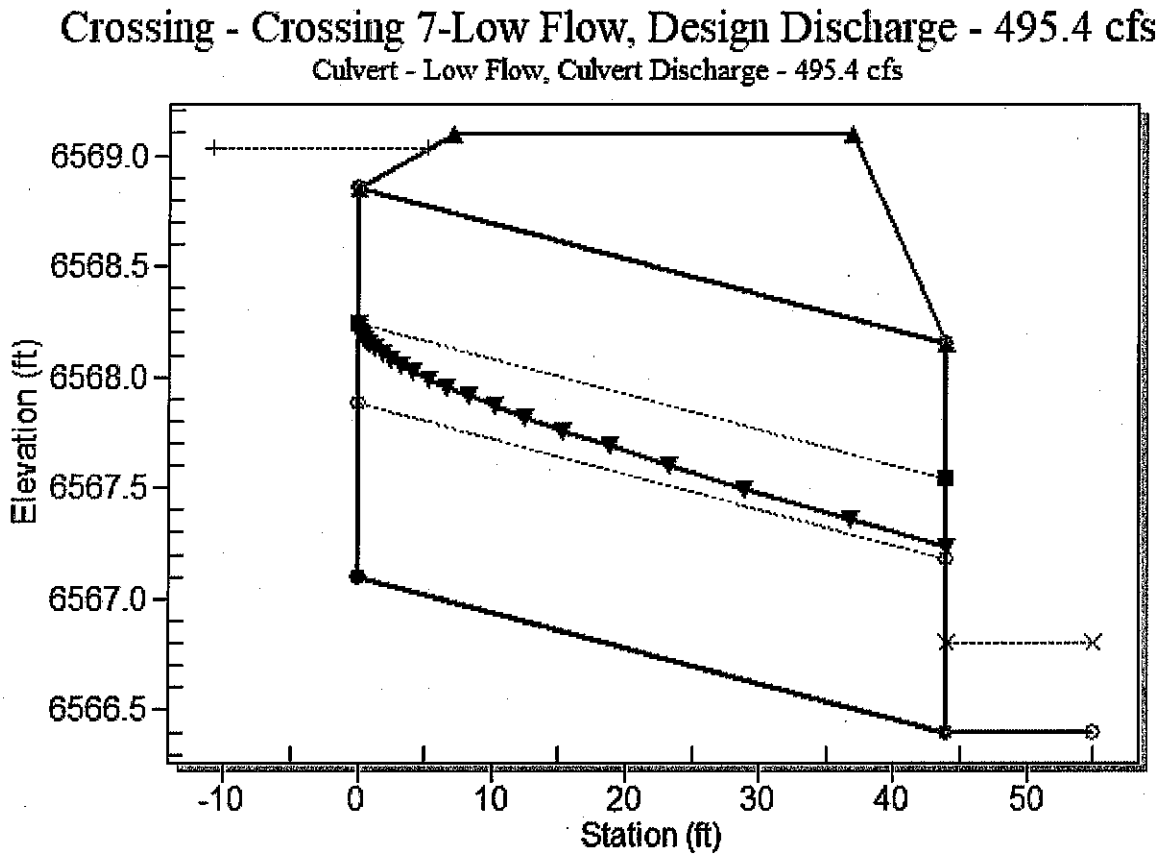
Table 24 - Summary of Culvert Flows at Crossing: Crossing 6

Headwater Elevation (ft)	Total Discharge (cfs)	Conventional Discharge (cfs)	Roadway Discharge (cfs)	Iterations
6582.50	0.00	0.00	0.00	1
6583.04	12.30	12.30	0.00	1
6583.27	24.60	24.60	0.00	1
6583.46	36.90	36.90	0.00	1
6583.62	49.20	49.20	0.00	1
6583.77	61.50	61.50	0.00	1
6583.91	73.80	73.80	0.00	1
6584.04	86.10	86.10	0.00	1
6584.17	98.40	98.40	0.00	1
6584.30	110.70	110.70	0.00	1
6584.42	123.00	123.00	0.00	1
6584.50	130.65	130.65	0.00	Overtopping

Rating Curve Plot for Crossing: Crossing 6



Water Surface Profile Plot for Culvert: Low Flow



Site Data - Low Flow

Site Data Option: Culvert Invert Data

Inlet Station: 0.00 ft

Inlet Elevation: 6567.10 ft

Outlet Station: 44.00 ft

Outlet Elevation: 6566.40 ft

Number of Barrels: 18

Culvert Data Summary - Low Flow

Barrel Shape: Concrete Box

Barrel Span: 4.00 ft

Barrel Rise: 1.75 ft

Barrel Material: Concrete

Embedment: 0.00 in

Barrel Manning's n: 0.0150

Culvert Type: Straight

Inlet Configuration: Square Edge (90°) Headwall

Inlet Depression: None

Table 25 - Culvert Summary Table: Low Flow

Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth (ft)	Outlet Control Depth (ft)	Flow Type	Normal Depth (ft)	Critical Depth (ft)	Outlet Depth (ft)	Tailwater Depth (ft)	Outlet Velocity (ft/s)	Tailwater Velocity (ft/s)
0.00	0.00	6567.10	0.000	0.000	0-NF	0.000	0.000	0.000	0.000	0.000	0.000
62.10	62.10	6567.58	0.481	0.0*	1-S2n	0.203	0.285	0.203	0.116	4.250	1.196
124.20	124.20	6567.86	0.764	0.0*	1-S2n	0.315	0.452	0.315	0.176	5.478	1.579
186.30	186.30	6568.10	0.998	0.0*	1-S2n	0.408	0.592	0.423	0.225	6.113	1.857
248.40	248.40	6568.31	1.205	0.142	1-S2n	0.492	0.718	0.515	0.267	6.701	2.083
310.50	310.50	6568.50	1.396	0.327	1-S2n	0.569	0.833	0.600	0.306	7.192	2.278
372.60	372.60	6568.68	1.578	0.520	1-S2n	0.643	0.940	0.681	0.341	7.601	2.450
434.70	434.70	6568.86	1.756	0.722	5-S2n	0.712	1.042	0.759	0.374	7.958	2.606
495.40	495.40	6569.03	1.933	0.931	5-S2n	0.778	1.137	0.834	0.405	8.252	2.745
558.90	541.44	6569.17	2.070	1.096	5-S2n	0.826	1.206	0.888	0.435	8.466	2.880
621.00	567.82	6569.25	2.151	1.194	5-S2n	0.854	1.245	0.919	0.463	8.577	3.004

****

Straight Culvert

Inlet Elevation (invert): 6567.10 ft, Outlet Elevation (invert): 6566.40 ft

Culvert Length: 44.01 ft, Culvert Slope: 0.0159

****

Crossing Discharge Data

Discharge Selection Method: Specify Minimum, Design, and Maximum Flow

Minimum Flow: 0 cfs

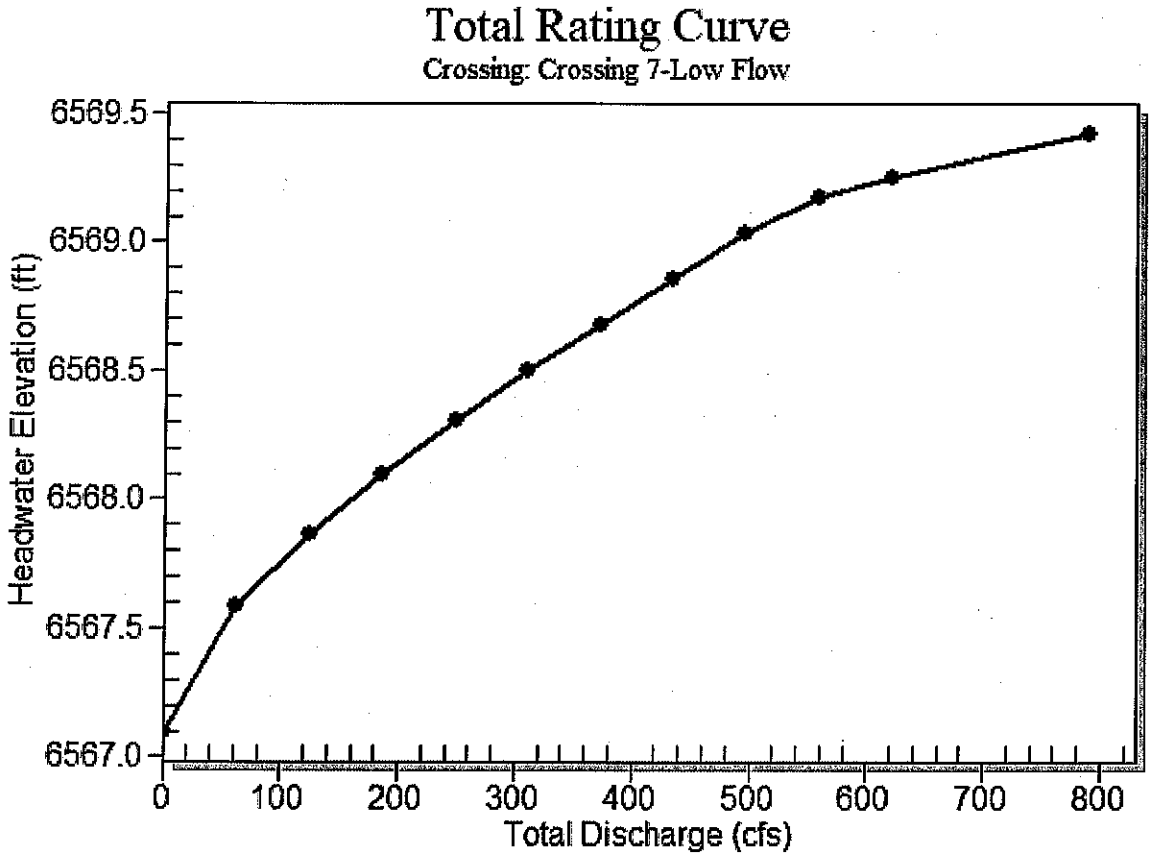
Design Flow: 495.4 cfs

Maximum Flow: 621 cfs

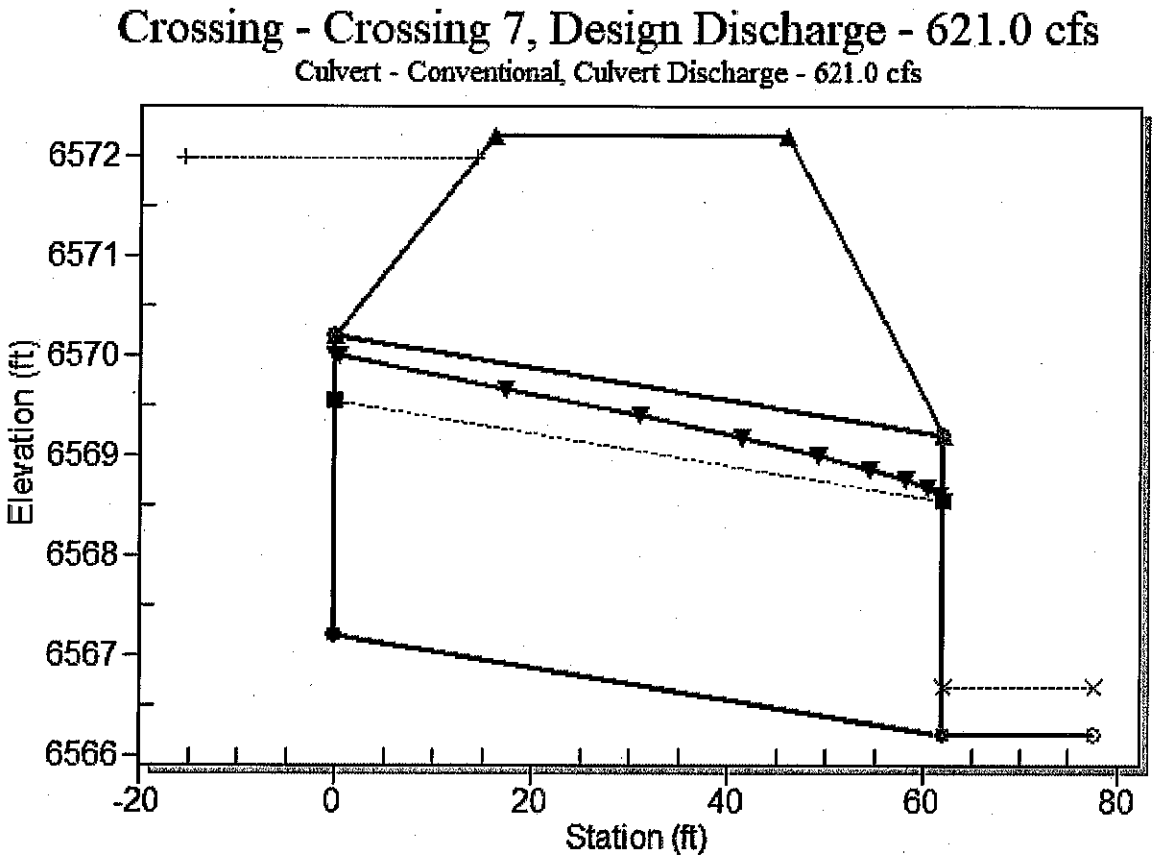
Table 26 - Summary of Culvert Flows at Crossing: Crossing 7-Low Flow

Headwater Elevation (ft)	Total Discharge (cfs)	Low Flow Discharge (cfs)	Roadway Discharge (cfs)	Iterations
6567.10	0.00	0.00	0.00	1
6567.58	62.10	62.10	0.00	1
6567.86	124.20	124.20	0.00	1
6568.10	186.30	186.30	0.00	1
6568.31	248.40	248.40	0.00	1
6568.50	310.50	310.50	0.00	1
6568.68	372.60	372.60	0.00	1
6568.86	434.70	434.70	0.00	1
6569.03	495.40	495.40	0.00	1
6569.17	558.90	541.44	16.59	7
6569.25	621.00	567.82	52.50	5
6569.10	517.81	517.81	0.00	Overtopping

Rating Curve Plot for Crossing: Crossing 7-Low Flow



Water Surface Profile Plot for Culvert: Conventional



Site Data - Conventional

Site Data Option: Culvert Invert Data

Inlet Station: 0.00 ft

Inlet Elevation: 6567.20 ft

Outlet Station: 62.00 ft

Outlet Elevation: 6566.20 ft

Number of Barrels: 12

Culvert Data Summary - Conventional

Barrel Shape: Circular

Barrel Diameter: 3.00 ft

Barrel Material: Corrugated Steel

Embedment: 0.00 in

Barrel Manning's n: 0.0240

Culvert Type: Straight

Inlet Configuration: Thin Edge Projecting

Inlet Depression: None

Table 27 - Culvert Summary Table: Conventional

Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth (ft)	Outlet Control Depth (ft)	Flow Type	Normal Depth (ft)	Critical Depth (ft)	Outlet Depth (ft)	Tailwater Depth (ft)	Outlet Velocity (ft/s)	Tailwater Velocity (ft/s)
0.00	0.00	6567.20	0.000	0.000	0-NF	0.000	0.000	0.000	0.000	0.000	0.000
62.10	62.10	6568.24	1.037	0.0*	1-S2n	0.661	0.709	0.661	0.116	4.330	1.196
124.20	124.20	6568.70	1.498	0.130	1-S2n	0.942	1.016	0.942	0.176	5.256	1.579
186.30	186.30	6569.09	1.891	0.510	1-S2n	1.170	1.254	1.170	0.225	5.874	1.857
248.40	248.40	6569.45	2.254	0.917	1-S2n	1.375	1.461	1.414	0.267	6.108	2.083
310.50	310.50	6569.81	2.609	1.349	1-S2n	1.569	1.637	1.569	0.306	6.696	2.278
372.60	372.60	6570.17	2.973	1.829	1-S2n	1.760	1.804	1.760	0.341	6.983	2.450
434.70	434.70	6570.78	3.360	3.582	7-M2c	1.956	1.953	1.953	0.374	7.436	2.606
496.80	496.80	6571.06	3.784	3.859	7-M2c	2.169	2.093	2.093	0.405	7.861	2.748
558.90	558.90	6571.45	4.254	4.120	7-M2c	3.000	2.220	2.220	0.435	8.304	2.880
621.00	621.00	6571.98	4.779	4.474	7-M2c	3.000	2.337	2.337	0.463	8.761	3.004

****

Straight Culvert

Inlet Elevation (invert): 6567.20 ft, Outlet Elevation (invert): 6566.20 ft

Culvert Length: 62.01 ft, Culvert Slope: 0.0161

****

Crossing Discharge Data

Discharge Selection Method: Specify Minimum, Design, and Maximum Flow

Minimum Flow: 0 cfs

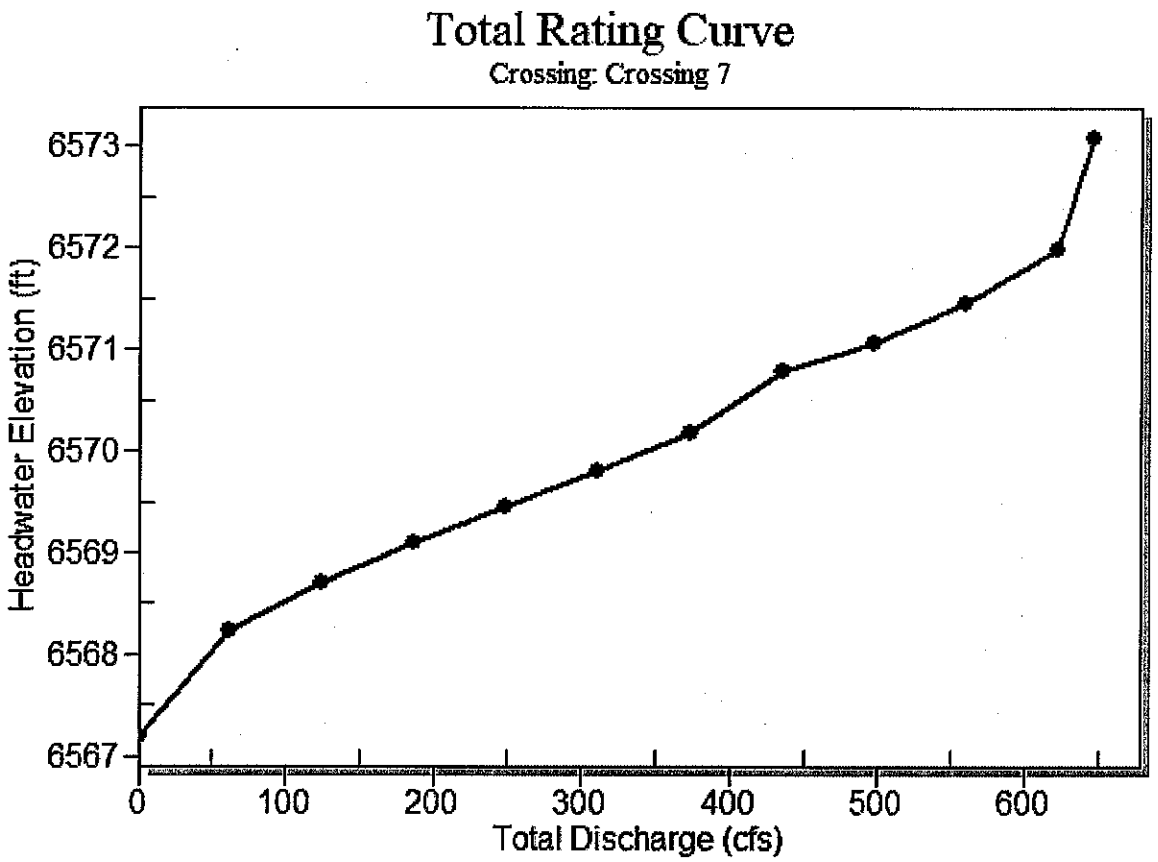
Design Flow: 621 cfs

Maximum Flow: 621 cfs

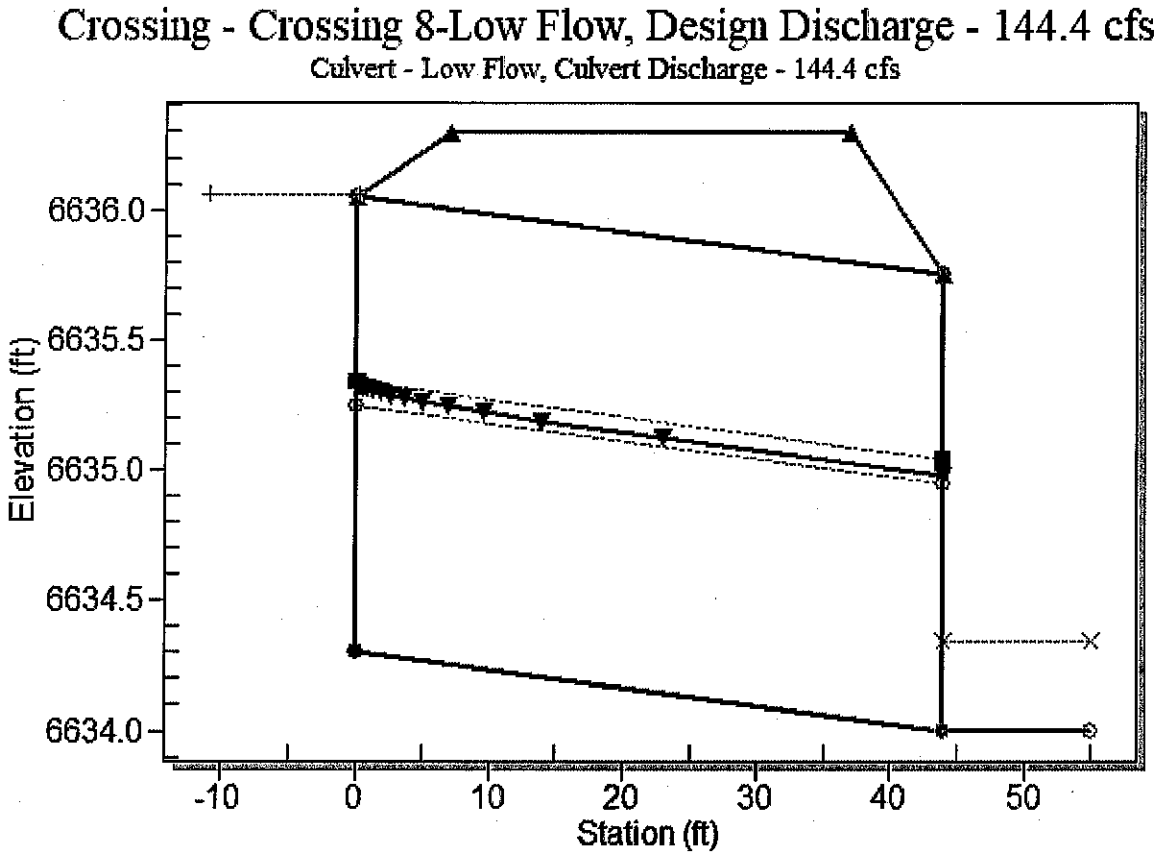
Table 28 - Summary of Culvert Flows at Crossing: Crossing 7

Headwater Elevation (ft)	Total Discharge (cfs)	Conventional Discharge (cfs)	Roadway Discharge (cfs)	Iterations
6567.20	0.00	0.00	0.00	1
6568.24	62.10	62.10	0.00	1
6568.70	124.20	124.20	0.00	1
6569.09	186.30	186.30	0.00	1
6569.45	248.40	248.40	0.00	1
6569.81	310.50	310.50	0.00	1
6570.17	372.60	372.60	0.00	1
6570.78	434.70	434.70	0.00	1
6571.06	496.80	496.80	0.00	1
6571.45	558.90	558.90	0.00	1
6571.98	621.00	621.00	0.00	1
6572.20	645.12	645.12	0.00	Overtopping

Rating Curve Plot for Crossing: Crossing 7



Water Surface Profile Plot for Culvert: Low Flow



Site Data - Low Flow

Site Data Option: Culvert Invert Data

Inlet Station: 0.00 ft

Inlet Elevation: 6634.30 ft

Outlet Station: 44.00 ft

Outlet Elevation: 6634.00 ft

Number of Barrels: 6

Culvert Data Summary - Low Flow

Barrel Shape: Concrete Box

Barrel Span: 4.00 ft

Barrel Rise: 1.75 ft

Barrel Material: Concrete

Embedment: 0.00 in

Barrel Manning's n: 0.0150

Culvert Type: Straight

Inlet Configuration: Square Edge (90°) Headwall

Inlet Depression: None

Table 29 - Culvert Summary Table: Low Flow

Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth (ft)	Outlet Control Depth (ft)	Flow Type	Normal Depth (ft)	Critical Depth (ft)	Outlet Depth (ft)	Tailwater Depth (ft)	Outlet Velocity (ft/s)	Tailwater Velocity (ft/s)
0.00	0.00	6634.30	0.000	0.000	0-NF	0.000	0.000	0.000	0.000	0.000	0.000
18.00	18.00	6634.74	0.443	0.0*	1-S2n	0.243	0.259	0.243	0.099	3.091	1.462
36.00	36.00	6635.00	0.702	0.135	1-S2n	0.377	0.412	0.377	0.150	3.977	1.927
54.00	54.00	6635.22	0.919	0.293	1-S2n	0.491	0.540	0.491	0.191	4.585	2.266
72.00	72.00	6635.41	1.108	0.448	1-S2n	0.593	0.654	0.593	0.227	5.061	2.539
90.00	90.00	6635.58	1.281	0.605	1-S2n	0.688	0.759	0.688	0.260	5.453	2.775
108.00	108.00	6635.74	1.444	0.768	1-S2n	0.778	0.857	0.778	0.290	5.787	2.983
126.00	126.00	6635.90	1.601	0.937	1-S2n	0.864	0.949	0.888	0.318	5.911	3.171
144.00	144.00	6636.06	1.756	1.113	5-S2n	0.947	1.038	0.975	0.344	6.155	3.344
144.40	144.40	6636.06	1.760	1.117	5-S2n	0.948	1.040	0.977	0.345	6.160	3.348
180.00	175.15	6636.33	2.030	1.438	5-S2n	1.085	1.183	1.085	0.394	6.728	3.653

****

Straight Culvert

Inlet Elevation (invert): 6634.30 ft, Outlet Elevation (invert): 6634.00 ft

Culvert Length: 44.00 ft, Culvert Slope: 0.0068

****

Crossing Discharge Data

Discharge Selection Method: Specify Minimum, Design, and Maximum Flow

Minimum Flow: 0 cfs

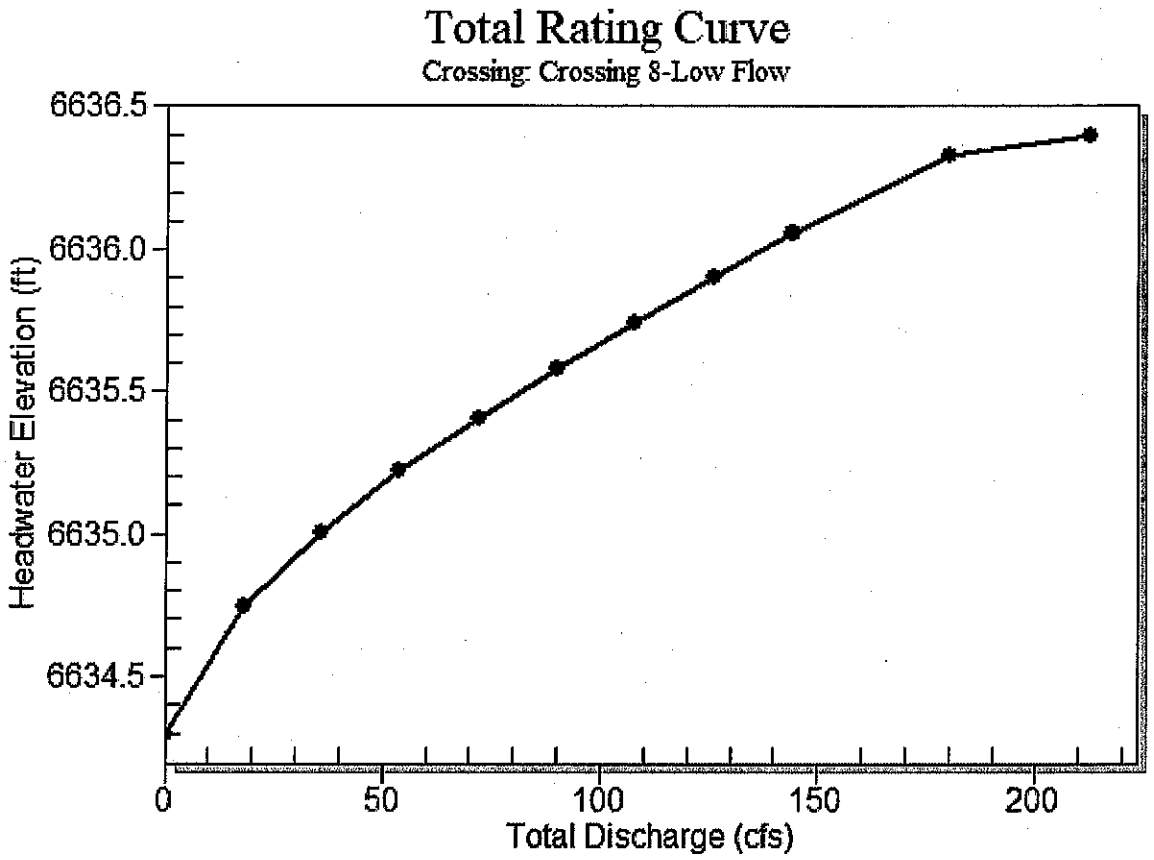
Design Flow: 144.4 cfs

Maximum Flow: 180 cfs

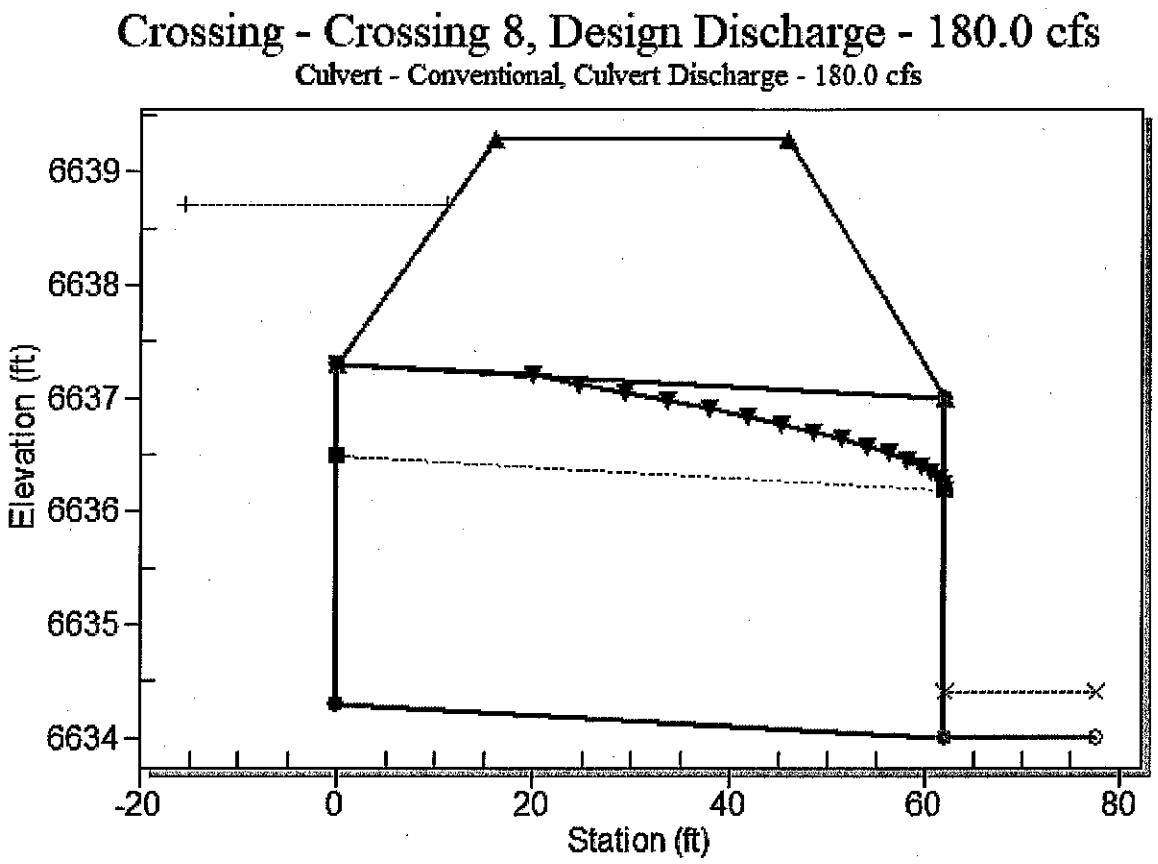
Table 30 - Summary of Culvert Flows at Crossing: Crossing 8-Low Flow

Headwater Elevation (ft)	Total Discharge (cfs)	Low Flow Discharge (cfs)	Roadway Discharge (cfs)	Iterations
6634.30	0.00	0.00	0.00	1
6634.74	18.00	18.00	0.00	1
6635.00	36.00	36.00	0.00	1
6635.22	54.00	54.00	0.00	1
6635.41	72.00	72.00	0.00	1
6635.58	90.00	90.00	0.00	1
6635.74	108.00	108.00	0.00	1
6635.90	126.00	126.00	0.00	1
6636.06	144.00	144.00	0.00	1
6636.06	144.40	144.40	0.00	1
6636.33	180.00	175.15	4.48	12
6636.30	171.82	171.82	0.00	Overtopping

Rating Curve Plot for Crossing: Crossing 8-Low Flow



Water Surface Profile Plot for Culvert: Conventional



Site Data - Conventional

Site Data Option: Culvert Invert Data

Inlet Station: 0.00 ft

Inlet Elevation: 6634.30 ft

Outlet Station: 62.00 ft

Outlet Elevation: 6634.00 ft

Number of Barrels: 4

Culvert Data Summary - Conventional

Barrel Shape: Circular

Barrel Diameter: 3.00 ft

Barrel Material: Corrugated Steel

Embedment: 0.00 in

Barrel Manning's n: 0.0240

Culvert Type: Straight

Inlet Configuration: Thin Edge Projecting

Inlet Depression: None

Table 31 - Culvert Summary Table: Conventional

Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth (ft)	Outlet Control Depth (ft)	Flow Type	Normal Depth (ft)	Critical Depth (ft)	Outlet Depth (ft)	Tailwater Depth (ft)	Outlet Velocity (ft/s)	Tailwater Velocity (ft/s)
0.00	0.00	6634.30	0.000	0.000	0-NF	0.000	0.000	0.000	0.000	0.000	0.000
18.00	18.00	6635.37	0.977	1.067	2-M2c	0.836	0.659	0.659	0.099	3.908	1.462
36.00	36.00	6635.84	1.406	1.545	2-M2c	1.207	0.944	0.944	0.150	4.727	1.927
54.00	54.00	6636.23	1.759	1.931	2-M2c	1.523	1.166	1.166	0.191	5.313	2.266
72.00	72.00	6636.57	2.084	2.275	2-M2c	1.828	1.358	1.358	0.227	5.790	2.539
90.00	90.00	6636.90	2.395	2.595	2-M2c	2.155	1.526	1.526	0.260	6.230	2.775
108.00	108.00	6637.21	2.704	2.907	2-M2c	3.000	1.677	1.677	0.290	6.645	2.983
126.00	126.00	6637.52	3.022	3.219	7-M2c	3.000	1.818	1.818	0.318	7.031	3.171
144.00	144.00	6637.84	3.360	3.544	7-M2c	3.000	1.947	1.947	0.344	7.417	3.344
162.00	162.00	6638.21	3.724	3.908	7-M2c	3.000	2.070	2.070	0.370	7.785	3.503
180.00	180.00	6638.71	4.122	4.408	7-M2c	3.000	2.183	2.183	0.394	8.168	3.653

****

Straight Culvert

Inlet Elevation (invert): 6634.30 ft, Outlet Elevation (invert): 6634.00 ft

Culvert Length: 62.00 ft, Culvert Slope: 0.0048

****

Crossing Discharge Data

Discharge Selection Method: Specify Minimum, Design, and Maximum Flow

Minimum Flow: 0 cfs

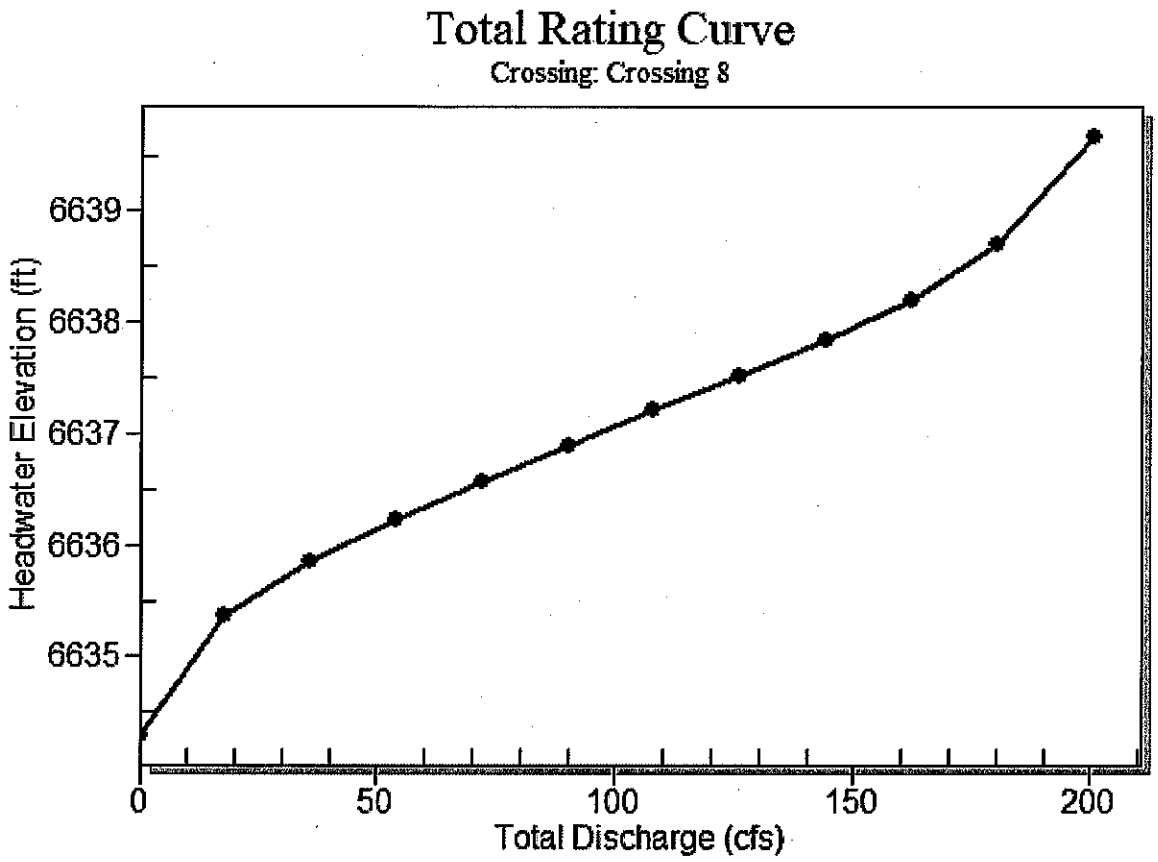
Design Flow: 180 cfs

Maximum Flow: 180 cfs

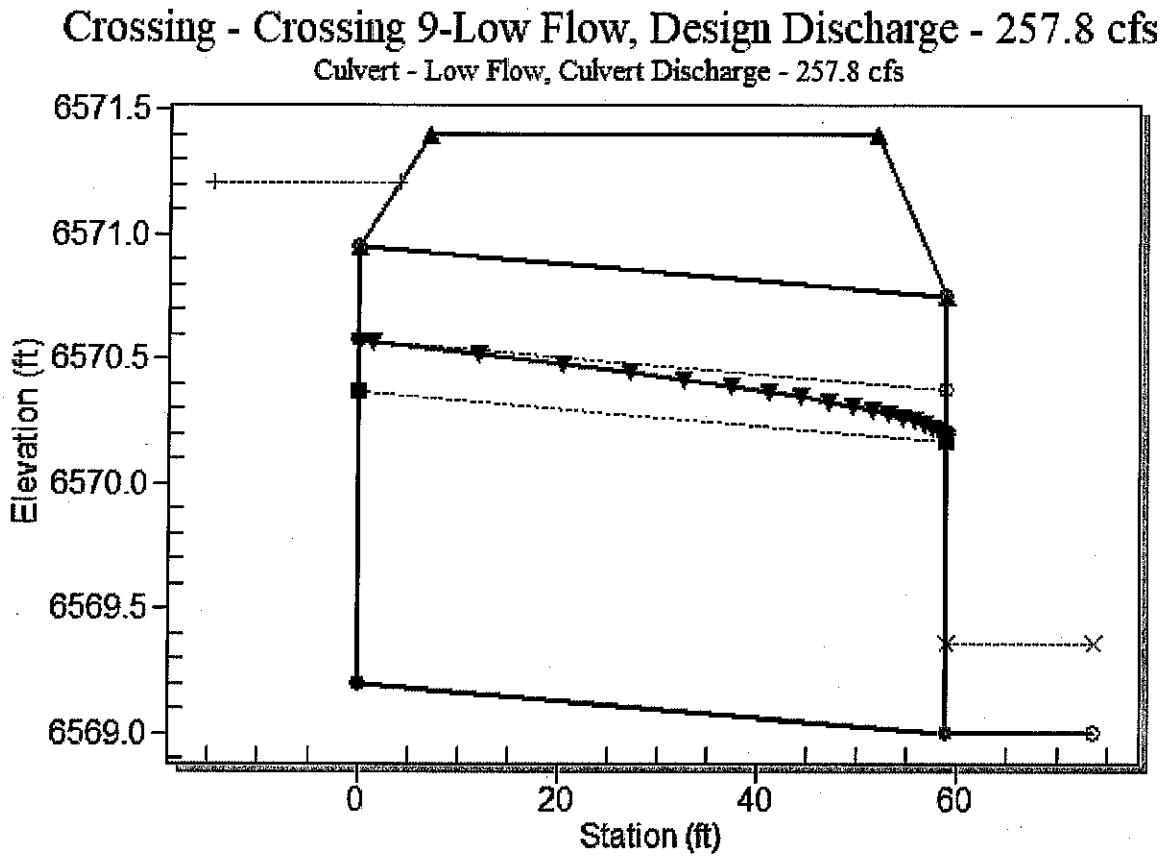
Table 32 - Summary of Culvert Flows at Crossing: Crossing 8

Headwater Elevation (ft)	Total Discharge (cfs)	Conventional Discharge (cfs)	Roadway Discharge (cfs)	Iterations
6634.30	0.00	0.00	0.00	1
6635.37	18.00	18.00	0.00	1
6635.84	36.00	36.00	0.00	1
6636.23	54.00	54.00	0.00	1
6636.57	72.00	72.00	0.00	1
6636.90	90.00	90.00	0.00	1
6637.21	108.00	108.00	0.00	1
6637.52	126.00	126.00	0.00	1
6637.84	144.00	144.00	0.00	1
6638.21	162.00	162.00	0.00	1
6638.71	180.00	180.00	0.00	1
6639.30	200.51	200.51	0.00	Overtopping

Rating Curve Plot for Crossing: Crossing 8



Water Surface Profile Plot for Culvert: Low Flow



Site Data - Low Flow

Site Data Option: Culvert Invert Data

Inlet Station: 0.00 ft

Inlet Elevation: 6569.20 ft

Outlet Station: 59.00 ft

Outlet Elevation: 6569.00 ft

Number of Barrels: 9

Culvert Data Summary - Low Flow

Barrel Shape: Concrete Box

Barrel Span: 4.00 ft

Barrel Rise: 1.75 ft

Barrel Material: Concrete

Embedment: 0.00 in

Barrel Manning's n: 0.0150

Culvert Type: Straight

Inlet Configuration: Square Edge (90°) Headwall

Inlet Depression: None

Table 33 - Culvert Summary Table: Low Flow

Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth (ft)	Outlet Control Depth (ft)	Flow Type	Normal Depth (ft)	Critical Depth (ft)	Outlet Depth (ft)	Tailwater Depth (ft)	Outlet Velocity (ft/s)	Tailwater Velocity (ft/s)
0.00	0.00	6569.20	0.000	0.000	0-NF	0.000	0.000	0.000	0.000	0.000	0.000
32.50	32.50	6569.70	0.503	0.504	2-M2c	0.341	0.294	0.294	0.104	3.075	1.156
65.00	65.00	6570.00	0.798	0.800	2-M2c	0.534	0.466	0.466	0.157	3.874	1.525
97.50	97.50	6570.25	1.039	1.049	2-M2c	0.699	0.611	0.611	0.201	4.435	1.793
130.00	130.00	6570.47	1.253	1.271	2-M2c	0.849	0.740	0.740	0.239	4.881	2.011
162.50	162.50	6570.67	1.450	1.475	2-M2c	0.990	0.859	0.859	0.273	5.258	2.199
195.00	195.00	6570.87	1.639	1.665	2-M2c	1.124	0.969	0.969	0.304	5.587	2.364
227.50	227.50	6571.05	1.826	1.846	7-M2c	1.254	1.074	1.074	0.334	5.882	2.515
257.80	257.80	6571.21	2.003	2.007	7-M2c	1.371	1.168	1.168	0.360	6.132	2.644
292.50	291.23	6571.41	2.208	2.177	7-M2c	1.498	1.267	1.267	0.388	6.386	2.780
325.00	303.15	6571.48	2.284	2.236	7-M2c	1.542	1.301	1.301	0.414	6.472	2.900

****

Straight Culvert

Inlet Elevation (invert): 6569.20 ft, Outlet Elevation (invert): 6569.00 ft

Culvert Length: 59.00 ft, Culvert Slope: 0.0034

****

Crossing Discharge Data

Discharge Selection Method: Specify Minimum, Design, and Maximum Flow

Minimum Flow: 0 cfs

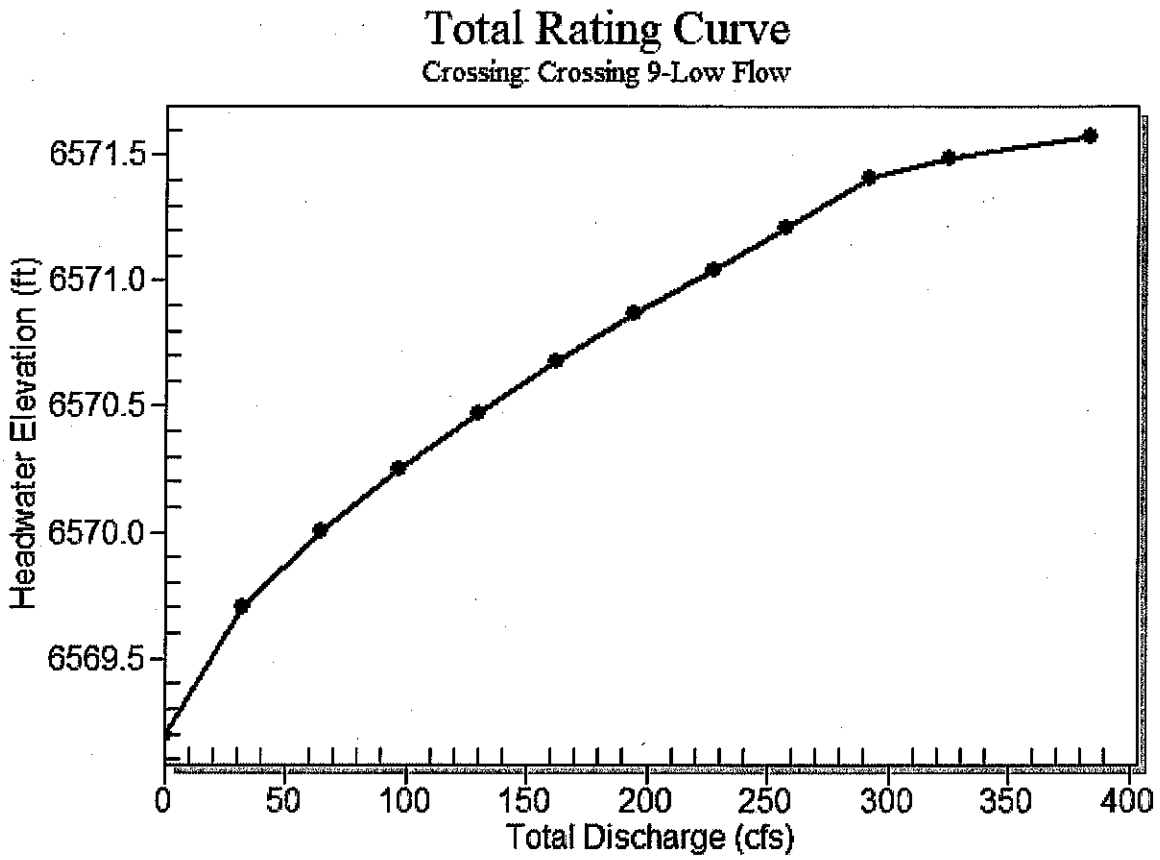
Design Flow: 257.8 cfs

Maximum Flow: 325 cfs

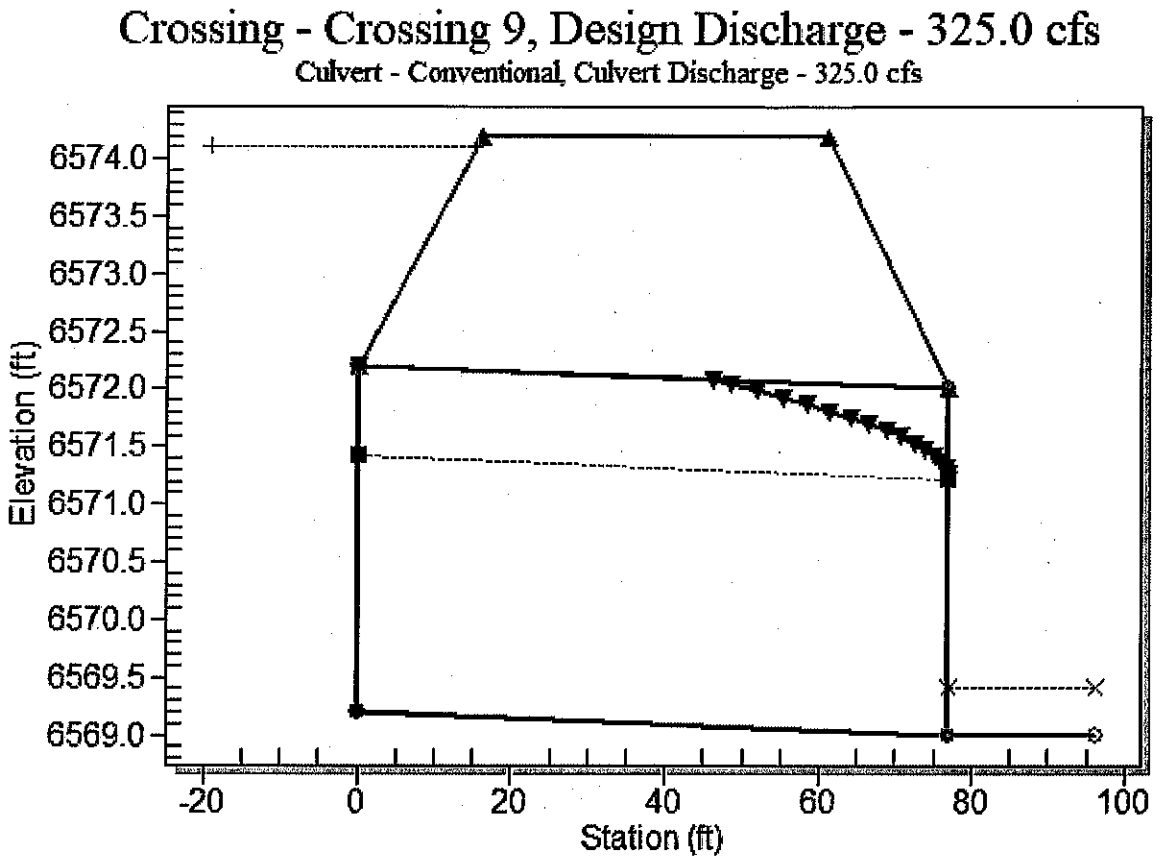
Table 34 - Summary of Culvert Flows at Crossing: Crossing 9-Low Flow

Headwater Elevation (ft)	Total Discharge (cfs)	Low Flow Discharge (cfs)	Roadway Discharge (cfs)	Iterations
6569.20	0.00	0.00	0.00	1
6569.70	32.50	32.50	0.00	1
6570.00	65.00	65.00	0.00	1
6570.25	97.50	97.50	0.00	1
6570.47	130.00	130.00	0.00	1
6570.67	162.50	162.50	0.00	1
6570.87	195.00	195.00	0.00	1
6571.05	227.50	227.50	0.00	1
6571.21	257.80	257.80	0.00	1
6571.41	292.50	291.23	0.68	15
6571.48	325.00	303.15	21.42	6
6571.40	289.81	289.81	0.00	Overtopping

Rating Curve Plot for Crossing: Crossing 9-Low Flow



Water Surface Profile Plot for Culvert: Conventional



Site Data - Conventional

Site Data Option: Culvert Invert Data

Inlet Station: 0.00 ft

Inlet Elevation: 6569.20 ft

Outlet Station: 77.00 ft

Outlet Elevation: 6569.00 ft

Number of Barrels: 7

Culvert Data Summary - Conventional

Barrel Shape: Circular

Barrel Diameter: 3.00 ft

Barrel Material: Corrugated Steel

Embedment: 0.00 in

Barrel Manning's n: 0.0240

Culvert Type: Straight

Inlet Configuration: Thin Edge Projecting

Inlet Depression: None

Table 35 - Culvert Summary Table: Conventional

Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth (ft)	Outlet Control Depth (ft)	Flow Type	Normal Depth (ft)	Critical Depth (ft)	Outlet Depth (ft)	Tailwater Depth (ft)	Outlet Velocity (ft/s)	Tailwater Velocity (ft/s)
0.00	0.00	6569.20	0.000	0.000	0-NF	0.000	0.000	0.000	0.000	0.000	0.000
32.50	32.50	6570.33	0.992	1.132	2-M2c	1.000	0.670	0.670	0.104	3.940	1.156
65.00	65.00	6570.82	1.433	1.625	2-M2c	1.467	0.959	0.959	0.157	4.767	1.525
97.50	97.50	6571.23	1.794	2.026	2-M2c	1.898	1.186	1.186	0.201	5.361	1.793
130.00	130.00	6571.59	2.127	2.385	2-M2c	3.000	1.381	1.381	0.239	5.846	2.011
162.50	162.50	6571.93	2.447	2.727	2-M2c	3.000	1.550	1.550	0.273	6.300	2.199
195.00	195.00	6572.26	2.767	3.064	7-M2c	3.000	1.704	1.704	0.304	6.723	2.364
227.50	227.50	6572.61	3.099	3.415	7-M2c	3.000	1.847	1.847	0.334	7.117	2.515
260.00	260.00	6573.04	3.453	3.842	7-M2c	3.000	1.978	1.978	0.362	7.514	2.652
292.50	292.50	6573.55	3.837	4.346	7-M2c	3.000	2.103	2.103	0.388	7.894	2.780
325.00	325.00	6574.11	4.260	4.912	7-M2c	3.000	2.217	2.217	0.414	8.291	2.900

****

Straight Culvert

Inlet Elevation (invert): 6569.20 ft, Outlet Elevation (invert): 6569.00 ft

Culvert Length: 77.00 ft, Culvert Slope: 0.0026

****

Crossing Discharge Data

Discharge Selection Method: Specify Minimum, Design, and Maximum Flow

Minimum Flow: 0 cfs

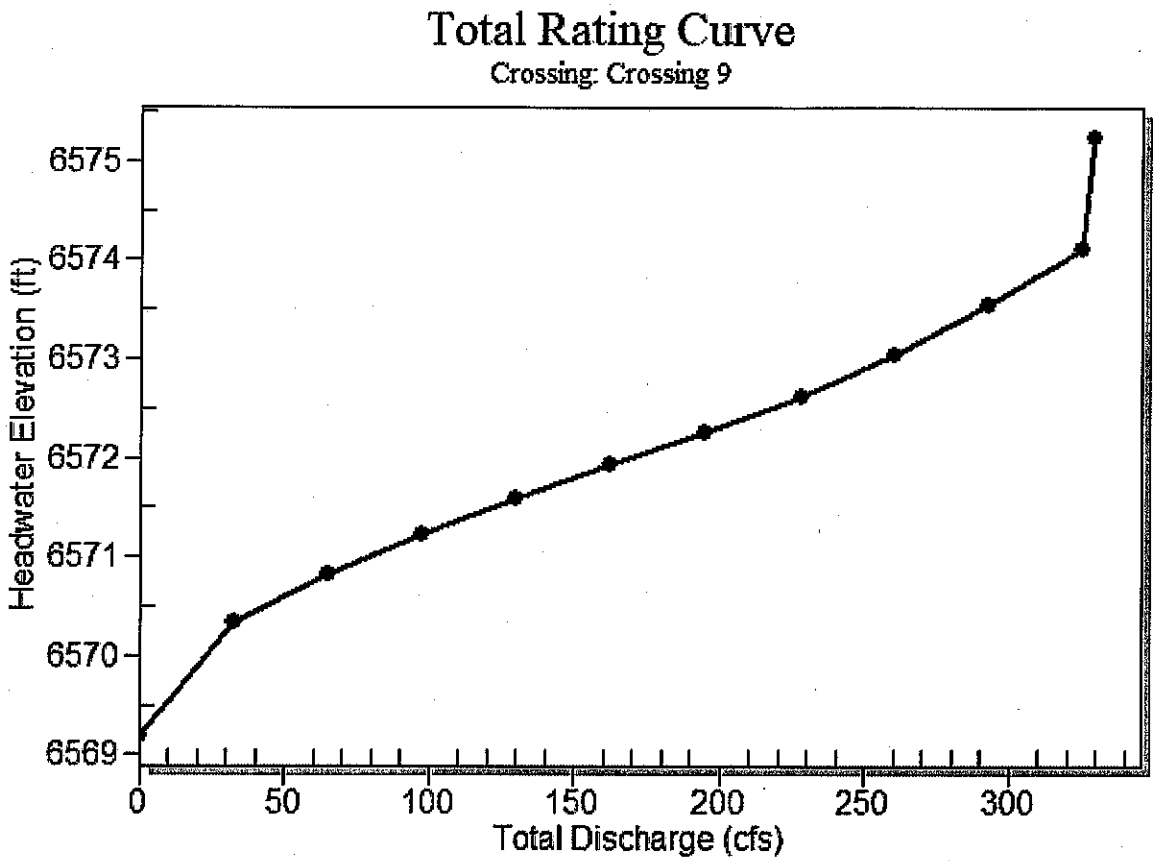
Design Flow: 325 cfs

Maximum Flow: 325 cfs

Table 36 - Summary of Culvert Flows at Crossing: Crossing 9

Headwater Elevation (ft)	Total Discharge (cfs)	Conventional Discharge (cfs)	Roadway Discharge (cfs)	Iterations
6569.20	0.00	0.00	0.00	1
6570.33	32.50	32.50	0.00	1
6570.82	65.00	65.00	0.00	1
6571.23	97.50	97.50	0.00	1
6571.59	130.00	130.00	0.00	1
6571.93	162.50	162.50	0.00	1
6572.26	195.00	195.00	0.00	1
6572.61	227.50	227.50	0.00	1
6573.04	260.00	260.00	0.00	1
6573.55	292.50	292.50	0.00	1
6574.11	325.00	325.00	0.00	1
6574.20	328.77	328.77	0.00	Overtopping

Rating Curve Plot for Crossing: Crossing 9



Edgewood Drainage Crossing Analysis - Proposed Upsized Hydraulic Analysis

20180158

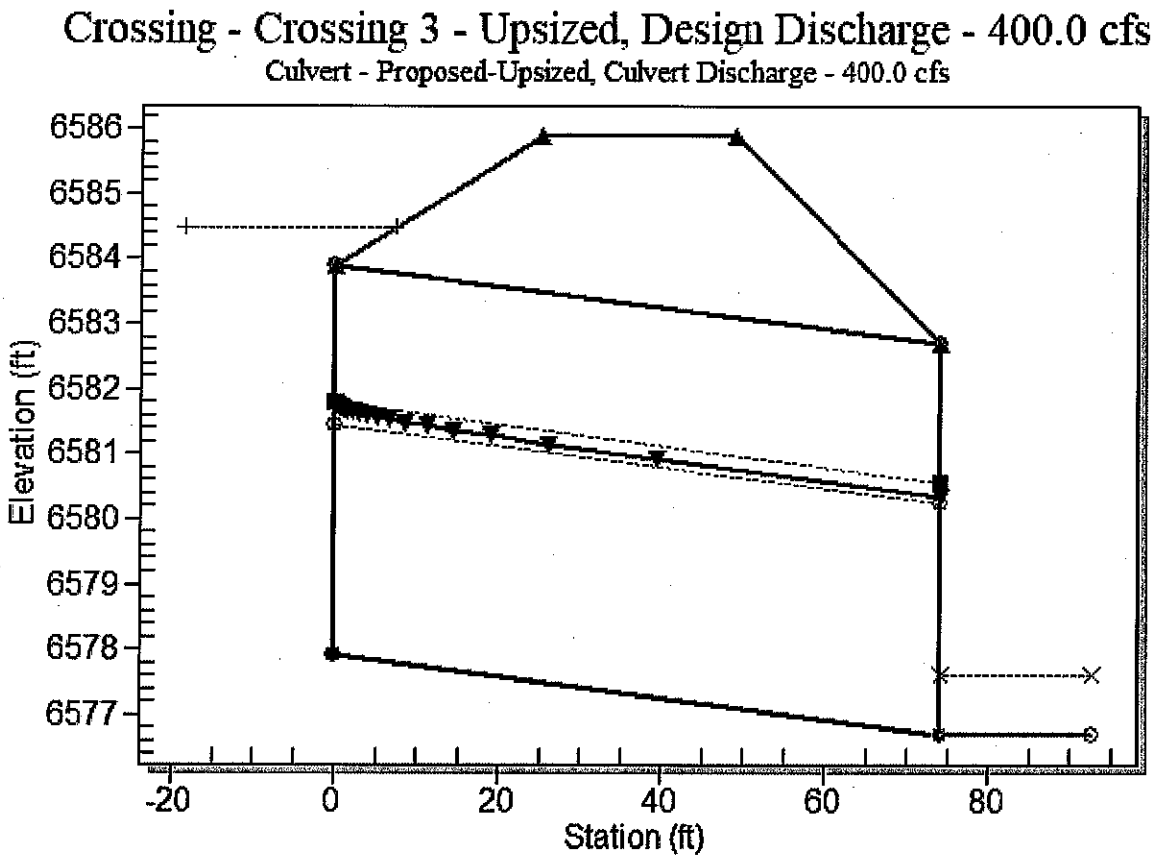
	Parameter	Crossing 3	Crossing 5	Crossing 7	Crossing 9
		DS-PR-03-C	DS-PR-05-C	DS-PR-07-C	DS-PR-09-C
1	Roadway Classification	*Minor Arterials, Collectors, and Local Roads*	*Minor Arterials, Collectors, and Local Roads*	*Minor Arterials, Collectors, and Local Roads*	*Minor Arterials, Collectors, and Local Roads*
2	Traffic Classification	*Rural < 400 ADT*	*Rural < 400 ADT*	*Rural < 400 ADT*	*Rural < 400 ADT*
	Design Event	25-yr	25-yr	25-yr	25-yr
	Check Event	50-yr	50-yr	50-yr	50-yr
3	Design Flow	326.1	675.6	495.4	257.8
4	Check Flow	**400.0**	**829.0**	**621.0**	**325.0**
5	Existing Channel Type	Trapezoidal	Trapezoidal	Rectangular	Rectangular
6	Channel Bottom Width	76	109	446	271
7	Channel Side Slope (X:1)	3	3	N/A	N/A
8	Channel Slope	0.022	0.048	0.014	0.015
9	Manning's n (Channel)	0.035	0.035	0.035	0.035
10	Channel Invert Elevation	6,576.7	6,509.7	6,566.1	6,569.0
11	Crest Length	300	300	300	300
12	Crest Elevation	6,585.9	6,519.2	6,575.4	6,577.2
13	Roadway Surface	Paved	Paved	Paved	Paved
14	Proposed Top Width	24	30	30	45
15	Shape	Circular	Circular	Circular	Circular
16	Material	CMP	CMP	CMP	CMP
17	Diameter/Span	6	6	6	6
18	Inlet Type	Thin Edge	Thin Edge	Thin Edge	Thin Edge
19	Manning's n (Culvert)	0.024	0.024	0.024	0.024
20	Inlet Elevation	6,577.9	6,511.2	6,567.4	6,569.2
21	Length	74	80	80	95
22	Outlet Elevation	6,576.7	6,509.7	6,566.1	6,569.0
23	No. of Barrels	**2**	**4**	**3**	**2**
24	Flow Capacity	**496.2**	**993.2**	**744.2**	**480.4**
25	Proposed Roadway Extents	**290**	**400**	**1020**	**1480**

Notes:

1. Classification based on Tables 2A and 2B from NMDOT Drainage Design Criteria.
2. Classification based on estimated traffic flow.
3. Design flow is from hydrology calculations completed previously on this project (P:\20180158\WR\Calculations\Misc Calcs\Simplified Peak Flow NMDOT_20180158.xls).
4. Check flow is from hydrology calculations completed previously on this project (P:\20180158\WR\Calculations\Misc Calcs\Simplified Peak Flow NMDOT_20180158.xls).
5. Channel type is channel immediately downstream of roadway crossing based on 2-ft contours.
6. Channel bottom width is assumed width based on 2-ft contours; Some channels are undefined so best estimate using contours was applied.
7. Sideslopes of channel; Estimated based on 2-ft contour data.
8. Channel slope is taken from contour upstream of roadway crossing to contour downstream of roadway crossing.
9. Manning's n value is a composite value of "Natural Channel" from NMDOT Drainage Manual Volume II: Hydraulics, Sedimentation, and Erosion - Table 3-1
10. Channel invert elevation is culvert outfall invert; Channel invert elevation is downstream of the roadway crossing.
11. Crest length is length of roadway perpendicular to flow direction; 300 feet selected as default to simulate roadways in project areas.
12. Crest elevation is roadway elevation; Elevations estimated from field investigation conducted previously.
13. Roadway surface is assumed to be paved with concrete or asphalt for proposed roadways.
14. Top width is width of roadway perpendicular to the flow direction.
15. Shape is culvert geometric opening.
16. Material is culvert composition (CMP = corrugated metal pipe; Concrete = cast-in-place concrete with steel reinforcement or pre-cast concrete with steel reinforcement)
17. Diameter or span is measured opening of culvert pipe or box.
18. Inlet type is configuration of inlet on upstream side of roadway crossing.
19. Manning's n value is determined from NMDOT Drainage Manual Volume II: Hydraulics, Sedimentation, and Erosion (Table 3-1).
20. Inlet elevation is invert elevation of culvert on upstream side of roadway crossing; Elevations estimated from field investigation conducted previously.
21. Length is the total length of the culvert from upstream invert to downstream invert.
22. Outlet elevation is invert elevation of culvert on downstream side of roadway crossing; Elevations estimated from field investigation conducted previously.
23. Needed culverts to pass storm flow.
24. HY8 model calculation for maximum capacity of culvert with a headwater elevation equal to the roadway surface.
25. Proposed roadway extents is the distance required to project the proposed roadway elevation (12) to meet the adjacent contours of the same elevation.

HY-8 Culvert Analysis Report

Water Surface Profile Plot for Culvert: Proposed-Upsized



Site Data - Proposed-Upsized

Site Data Option: Culvert Invert Data

Inlet Station: 0.00 ft

Inlet Elevation: 6577.90 ft

Outlet Station: 74.00 ft

Outlet Elevation: 6576.70 ft

Number of Barrels: 2

Culvert Data Summary - Proposed-Upsized

Barrel Shape: Circular

Barrel Diameter: 6.00 ft

Barrel Material: Corrugated Steel

Embedment: 0.00 in

Barrel Manning's n: 0.0240

Culvert Type: Straight

Inlet Configuration: Thin Edge Projecting

Inlet Depression: None

Table 1 - Culvert Summary Table: Proposed-Upsized

Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth (ft)	Outlet Control Depth (ft)	Flow Type	Normal Depth (ft)	Critical Depth (ft)	Outlet Depth (ft)	Tailwater Depth (ft)	Outlet Velocity (ft/s)	Tailwater Velocity (ft/s)
0.00	0.00	6577.90	0.000	0.000	0-NF	0.000	0.000	0.000	0.000	0.000	0.000
40.00	40.00	6579.60	1.698	0.0*	1-S2n	1.033	1.169	1.033	0.225	5.930	2.316
80.00	80.00	6580.34	2.443	0.550	1-S2n	1.458	1.669	1.458	0.341	7.256	3.044
120.00	120.00	6580.94	3.038	1.041	1-S2n	1.795	2.058	1.850	0.435	7.811	3.570
160.00	160.00	6581.48	3.579	1.516	1-S2n	2.088	2.391	2.153	0.516	8.466	3.995
200.00	200.00	6581.99	4.088	1.999	1-S2n	2.355	2.690	2.425	0.590	9.020	4.358
240.00	240.00	6582.48	4.579	2.493	1-S2n	2.607	2.960	2.684	0.658	9.474	4.677
280.00	280.00	6582.96	5.064	3.004	1-S2n	2.848	3.206	2.930	0.721	9.874	4.965
320.00	320.00	6583.45	5.553	3.541	1-S2n	3.083	3.438	3.175	0.781	10.200	5.228
360.00	360.00	6583.96	6.057	4.103	5-S2n	3.314	3.654	3.408	0.838	10.521	5.470
400.00	400.00	6584.49	6.585	4.698	5-S2n	3.547	3.862	3.648	0.893	10.781	5.696

****

Straight Culvert

Inlet Elevation (invert): 6577.90 ft, Outlet Elevation (invert): 6576.70 ft

Culvert Length: 74.01 ft, Culvert Slope: 0.0162

****

Crossing Discharge Data

Discharge Selection Method: Specify Minimum, Design, and Maximum Flow

Minimum Flow: 0 cfs

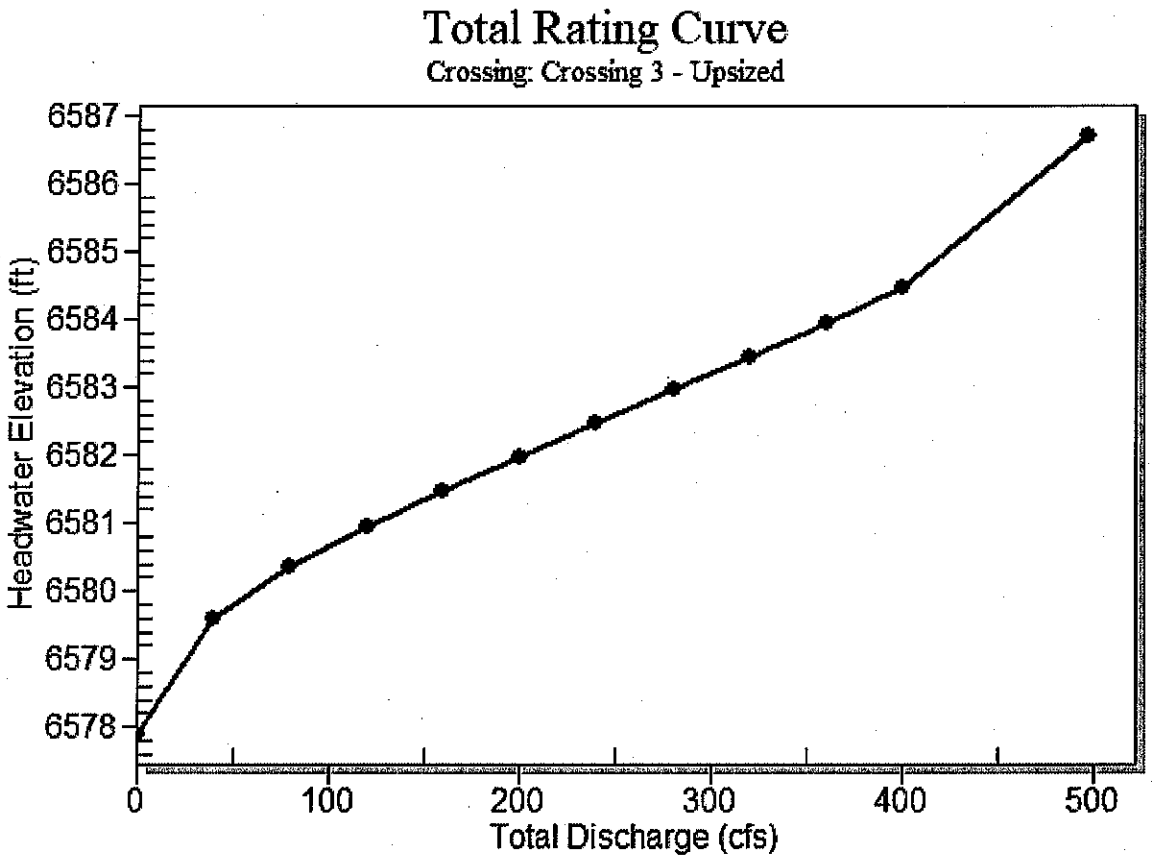
Design Flow: 400 cfs

Maximum Flow: 400 cfs

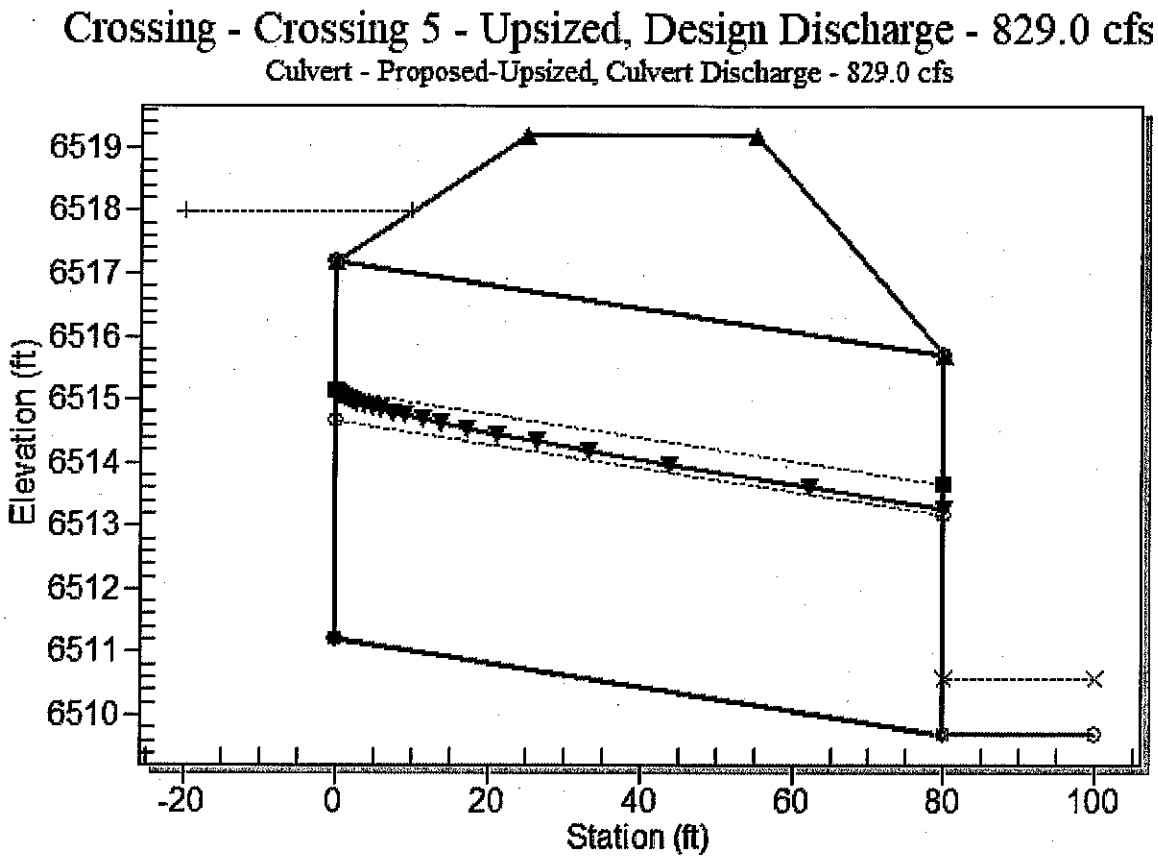
Table 2 - Summary of Culvert Flows at Crossing: Crossing 3 - Upsized

Headwater Elevation (ft)	Total Discharge (cfs)	Proposed-Upsized Discharge (cfs)	Roadway Discharge (cfs)	Iterations
6577.90	0.00	0.00	0.00	1
6579.60	40.00	40.00	0.00	1
6580.34	80.00	80.00	0.00	1
6580.94	120.00	120.00	0.00	1
6581.48	160.00	160.00	0.00	1
6581.99	200.00	200.00	0.00	1
6582.48	240.00	240.00	0.00	1
6582.96	280.00	280.00	0.00	1
6583.45	320.00	320.00	0.00	1
6583.96	360.00	360.00	0.00	1
6584.49	400.00	400.00	0.00	1
6585.90	496.15	496.15	0.00	Overtopping

Rating Curve Plot for Crossing: Crossing 3 - Upsized



Water Surface Profile Plot for Culvert: Proposed-Upsized



Site Data - Proposed-Upsized

Site Data Option: Culvert Invert Data

Inlet Station: 0.00 ft

Inlet Elevation: 6511.20 ft

Outlet Station: 80.00 ft

Outlet Elevation: 6509.70 ft

Number of Barrels: 4

Culvert Data Summary - Proposed-Upsized

Barrel Shape: Circular

Barrel Diameter: 6.00 ft

Barrel Material: Corrugated Steel

Embedment: 0.00 in

Barrel Manning's n: 0.0240

Culvert Type: Straight

Inlet Configuration: Thin Edge Projecting

Inlet Depression: None

Table 3 - Culvert Summary Table: Proposed-Upsized

Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth (ft)	Outlet Control Depth (ft)	Flow Type	Normal Depth (ft)	Critical Depth (ft)	Outlet Depth (ft)	Tailwater Depth (ft)	Outlet Velocity (ft/s)	Tailwater Velocity (ft/s)
0.00	0.00	6511.20	0.000	0.000	0-NF	0.000	0.000	0.000	0.000	0.000	0.000
82.90	82.90	6512.93	1.726	0.0*	1-S2n	1.014	1.191	1.014	0.222	6.310	3.400
165.80	165.80	6513.68	2.484	0.289	1-S2n	1.431	1.700	1.431	0.337	7.732	4.475
248.70	248.70	6514.29	3.091	0.798	1-S2n	1.760	2.097	1.814	0.430	8.315	5.249
331.60	331.60	6514.85	3.647	1.294	1-S2n	2.047	2.436	2.112	0.510	9.004	5.880
414.50	414.50	6515.37	4.171	1.800	1-S2n	2.309	2.741	2.381	0.583	9.577	6.419
497.40	497.40	6515.88	4.677	2.320	1-S2n	2.553	3.015	2.631	0.650	10.075	6.893
580.30	580.30	6516.38	5.179	2.861	1-S2n	2.787	3.266	2.877	0.713	10.473	7.321
663.20	663.20	6516.89	5.690	3.432	1-S2n	3.015	3.502	3.111	0.772	10.841	7.713
746.10	746.10	6517.42	6.219	4.032	5-S2n	3.239	3.722	3.338	0.829	11.179	8.075
829.00	829.00	6517.98	6.777	4.668	5-S2n	3.462	3.934	3.570	0.883	11.459	8.413

****

Straight Culvert

Inlet Elevation (invert): 6511.20 ft, Outlet Elevation (invert): 6509.70 ft

Culvert Length: 80.01 ft, Culvert Slope: 0.0187

****

Crossing Discharge Data

Discharge Selection Method: Specify Minimum, Design, and Maximum Flow

Minimum Flow: 0 cfs

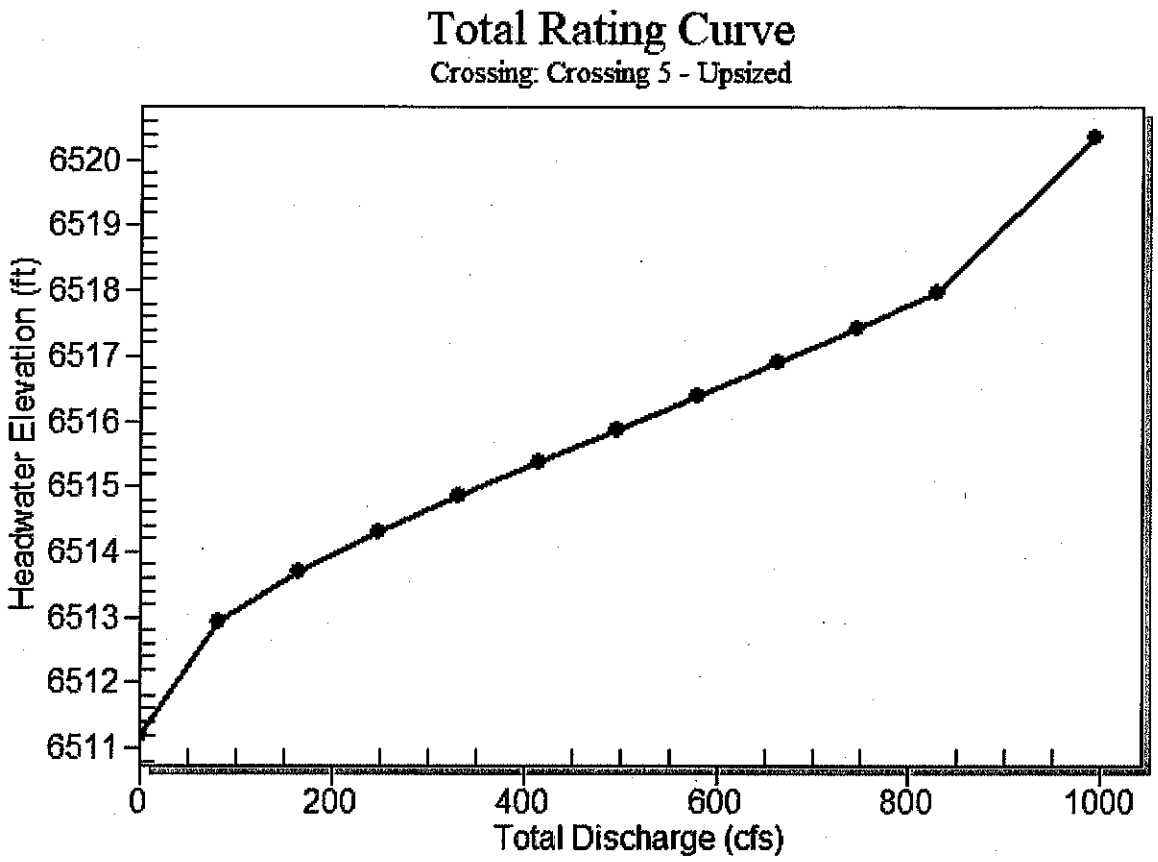
Design Flow: 829 cfs

Maximum Flow: 829 cfs

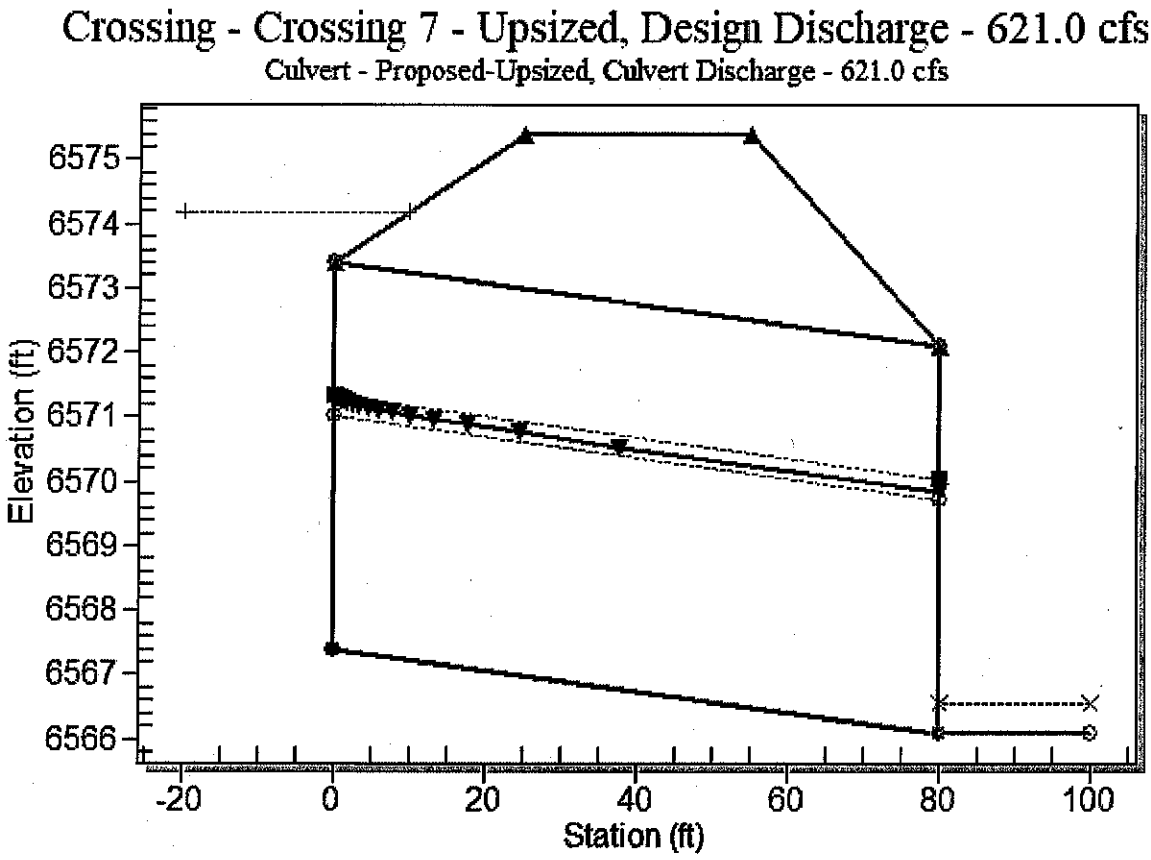
Table 4 - Summary of Culvert Flows at Crossing: Crossing 5 - Upsized

Headwater Elevation (ft)	Total Discharge (cfs)	Proposed-Upsized Discharge (cfs)	Roadway Discharge (cfs)	Iterations
6511.20	0.00	0.00	0.00	1
6512.93	82.90	82.90	0.00	1
6513.68	165.80	165.80	0.00	1
6514.29	248.70	248.70	0.00	1
6514.85	331.60	331.60	0.00	1
6515.37	414.50	414.50	0.00	1
6515.88	497.40	497.40	0.00	1
6516.38	580.30	580.30	0.00	1
6516.89	663.20	663.20	0.00	1
6517.42	746.10	746.10	0.00	1
6517.98	829.00	829.00	0.00	1
6519.20	993.23	993.23	0.00	Overtopping

Rating Curve Plot for Crossing: Crossing 5 - Upsized



Water Surface Profile Plot for Culvert: Proposed-Upsized



Site Data - Proposed-Upsized

Site Data Option: Culvert Invert Data

Inlet Station: 0.00 ft

Inlet Elevation: 6567.40 ft

Outlet Station: 80.00 ft

Outlet Elevation: 6566.10 ft

Number of Barrels: 3

Culvert Data Summary - Proposed-Upsized

Barrel Shape: Circular

Barrel Diameter: 6.00 ft

Barrel Material: Corrugated Steel

Embedment: 0.00 in

Barrel Manning's n: 0.0240

Culvert Type: Straight

Inlet Configuration: Thin Edge Projecting

Inlet Depression: None

Table 5 - Culvert Summary Table: Proposed-Upsized

Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth (ft)	Outlet Control Depth (ft)	Flow Type	Normal Depth (ft)	Critical Depth (ft)	Outlet Depth (ft)	Tailwater Depth (ft)	Outlet Velocity (ft/s)	Tailwater Velocity (ft/s)
0.00	0.00	6567.40	0.000	0.000	0-NF	0.000	0.000	0.000	0.000	0.000	0.000
62.10	62.10	6569.13	1.729	0.0*	1-S2n	1.050	1.190	1.050	0.116	5.991	1.196
124.20	124.20	6569.89	2.489	0.488	1-S2n	1.483	1.699	1.483	0.176	7.333	1.579
186.30	186.30	6570.50	3.097	0.996	1-S2n	1.827	2.095	1.881	0.225	7.906	1.857
248.40	248.40	6571.05	3.652	1.491	1-S2n	2.126	2.435	2.191	0.267	8.560	2.083
310.50	310.50	6571.57	4.175	1.997	1-S2n	2.399	2.740	2.469	0.306	9.118	2.278
372.60	372.60	6572.08	4.681	2.516	1-S2n	2.657	3.013	2.737	0.341	9.561	2.450
434.70	434.70	6572.58	5.182	3.056	1-S2n	2.904	3.264	2.986	0.374	9.975	2.606
496.80	496.80	6573.09	5.692	3.627	1-S2n	3.146	3.500	3.222	0.405	10.366	2.748
558.90	558.90	6573.62	6.220	4.225	5-S2n	3.385	3.720	3.482	0.435	10.612	2.880
621.00	621.00	6574.18	6.777	4.860	5-S2n	3.626	3.931	3.728	0.463	10.875	3.004

****

Straight Culvert

Inlet Elevation (invert): 6567.40 ft, Outlet Elevation (invert): 6566.10 ft

Culvert Length: 80.01 ft, Culvert Slope: 0.0162

****

Crossing Discharge Data

Discharge Selection Method: Specify Minimum, Design, and Maximum Flow

Minimum Flow: 0 cfs

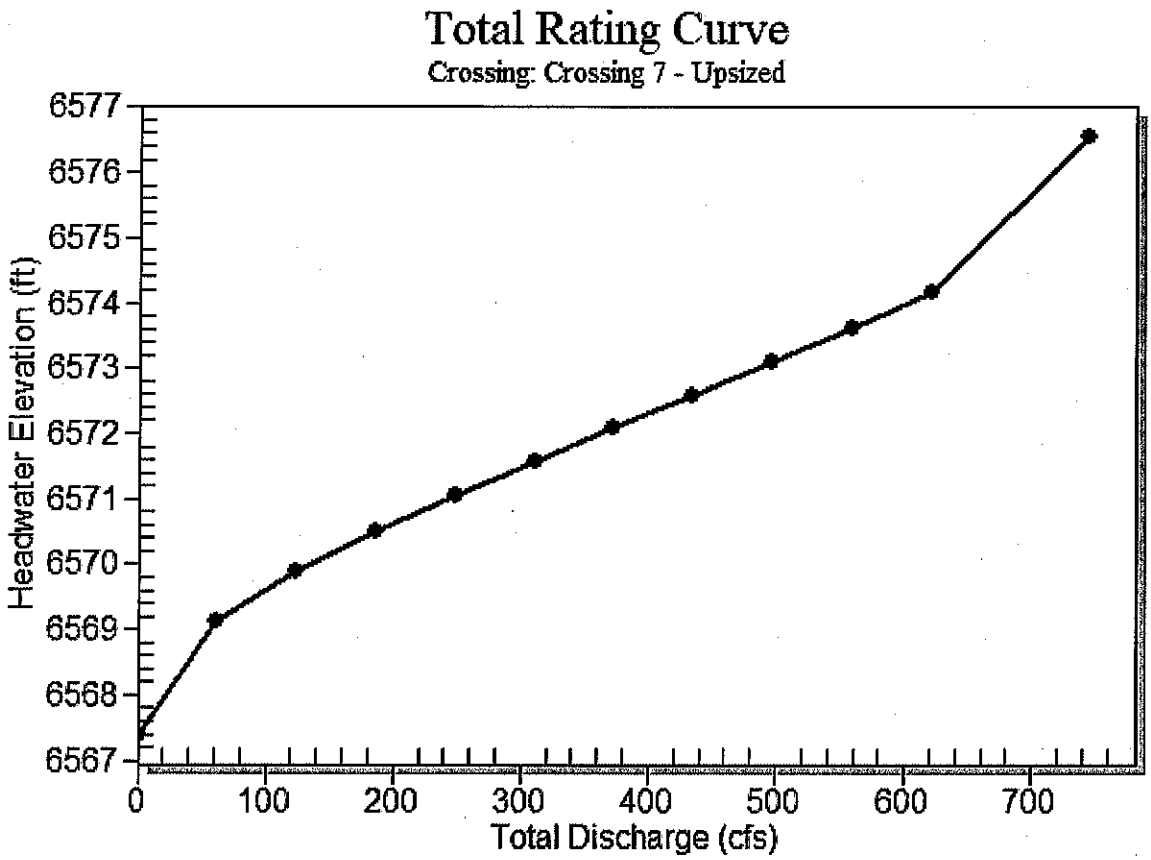
Design Flow: 621 cfs

Maximum Flow: 621 cfs

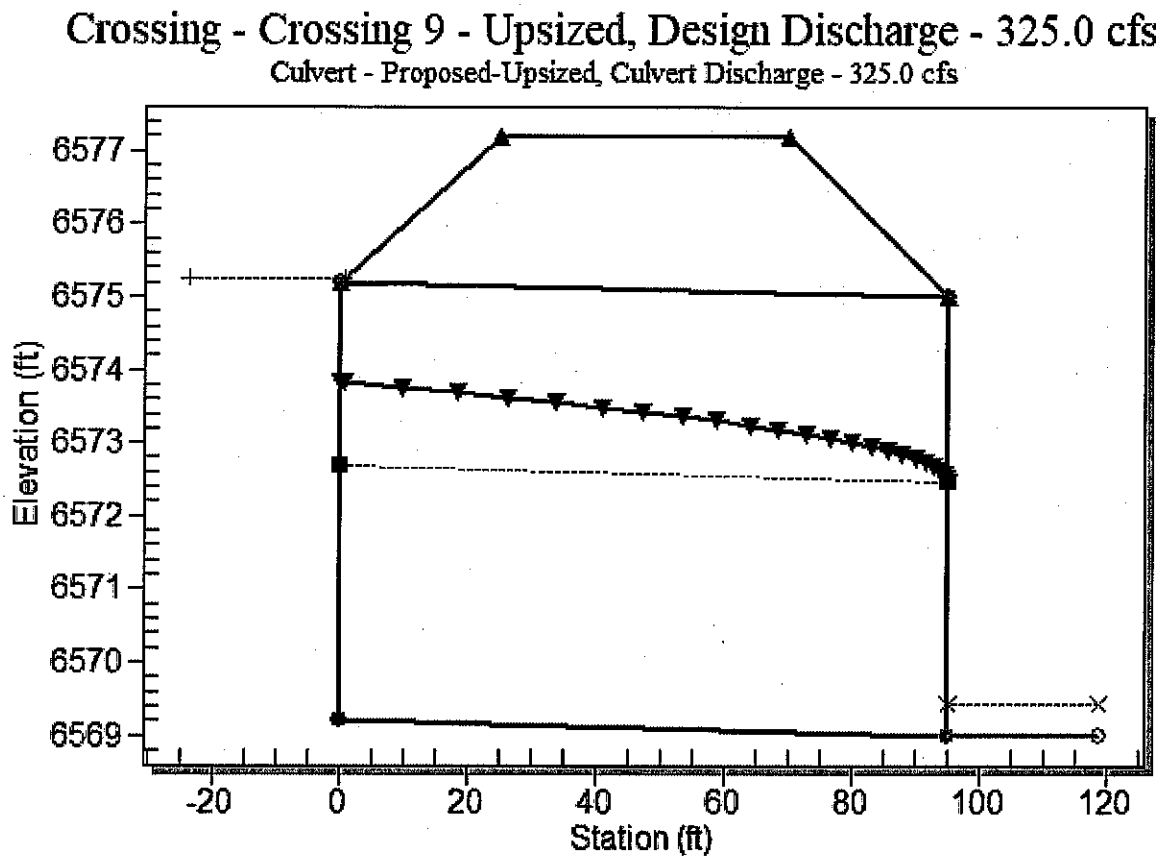
Table 6 - Summary of Culvert Flows at Crossing: Crossing 7 - Upsized

Headwater Elevation (ft)	Total Discharge (cfs)	Proposed-Upsized Discharge (cfs)	Roadway Discharge (cfs)	Iterations
6567.40	0.00	0.00	0.00	1
6569.13	62.10	62.10	0.00	1
6569.89	124.20	124.20	0.00	1
6570.50	186.30	186.30	0.00	1
6571.05	248.40	248.40	0.00	1
6571.57	310.50	310.50	0.00	1
6572.08	372.60	372.60	0.00	1
6572.58	434.70	434.70	0.00	1
6573.09	496.80	496.80	0.00	1
6573.62	558.90	558.90	0.00	1
6574.18	621.00	621.00	0.00	1
6575.40	744.22	744.22	0.00	Overtopping

Rating Curve Plot for Crossing: Crossing 7 - Upsized



Water Surface Profile Plot for Culvert: Proposed-Upsized



Site Data - Proposed-Upsized

Site Data Option: Culvert Invert Data

Inlet Station: 0.00 ft

Inlet Elevation: 6569.20 ft

Outlet Station: 95.00 ft

Outlet Elevation: 6569.00 ft

Number of Barrels: 2

Culvert Data Summary - Proposed-Upsized

Barrel Shape: Circular

Barrel Diameter: 6.00 ft

Barrel Material: Corrugated Steel

Embedment: 0.00 in

Barrel Manning's n: 0.0240

Culvert Type: Straight

Inlet Configuration: Thin Edge Projecting

Inlet Depression: None

Table 7 - Culvert Summary Table: Proposed-Upsized

Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth (ft)	Outlet Control Depth (ft)	Flow Type	Normal Depth (ft)	Critical Depth (ft)	Outlet Depth (ft)	Tailwater Depth (ft)	Outlet Velocity (ft/s)	Tailwater Velocity (ft/s)
0.00	0.00	6569.20	0.000	0.000	0-NF	0.000	0.000	0.000	0.000	0.000	0.000
32.50	32.50	6570.94	1.546	1.738	2-M2c	1.551	1.050	1.050	0.104	4.886	1.156
65.00	65.00	6571.67	2.219	2.471	2-M2c	2.227	1.502	1.502	0.157	5.871	1.525
97.50	97.50	6572.25	2.753	3.053	2-M2c	2.792	1.850	1.850	0.201	6.581	1.793
130.00	130.00	6572.76	3.220	3.562	2-M2c	3.319	2.146	2.146	0.239	7.156	2.011
162.50	162.50	6573.23	3.654	4.025	2-M2c	3.849	2.410	2.410	0.273	7.649	2.199
195.00	195.00	6573.66	4.068	4.459	2-M2c	4.438	2.654	2.654	0.304	8.082	2.364
227.50	227.50	6574.07	4.469	4.872	2-M2c	6.000	2.879	2.879	0.334	8.481	2.515
260.00	260.00	6574.47	4.864	5.271	2-M2c	6.000	3.085	3.085	0.362	8.877	2.652
292.50	292.50	6574.86	5.258	5.662	2-M2c	6.000	3.279	3.279	0.388	9.250	2.780
325.00	325.00	6575.25	5.657	6.049	7-M2c	6.000	3.466	3.466	0.414	9.603	2.900

****

Straight Culvert

Inlet Elevation (invert): 6569.20 ft, Outlet Elevation (invert): 6569.00 ft

Culvert Length: 95.00 ft, Culvert Slope: 0.0021

****

Crossing Discharge Data

Discharge Selection Method: Specify Minimum, Design, and Maximum Flow

Minimum Flow: 0 cfs

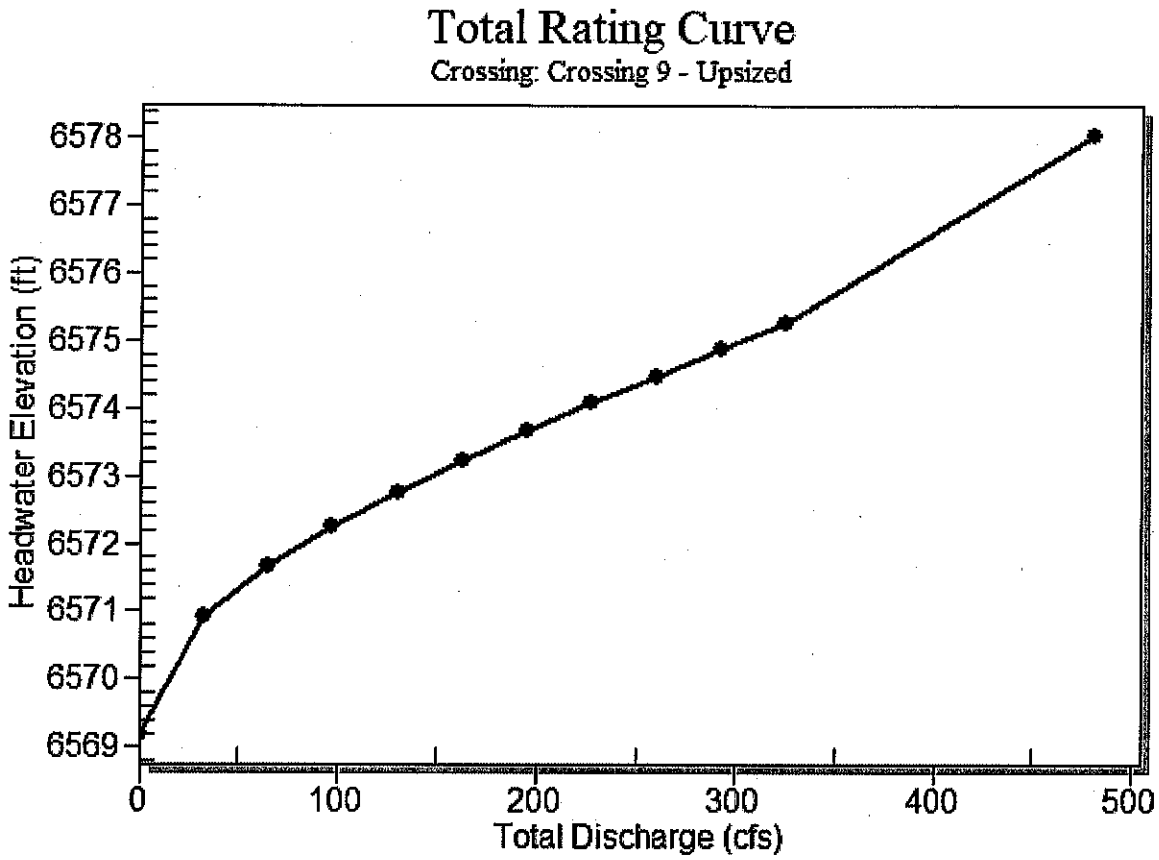
Design Flow: 325 cfs

Maximum Flow: 325 cfs

Table 8 - Summary of Culvert Flows at Crossing: Crossing 9 - Upsized

Headwater Elevation (ft)	Total Discharge (cfs)	Proposed-Upsized Discharge (cfs)	Roadway Discharge (cfs)	Iterations
6569.20	0.00	0.00	0.00	1
6570.94	32.50	32.50	0.00	1
6571.67	65.00	65.00	0.00	1
6572.25	97.50	97.50	0.00	1
6572.76	130.00	130.00	0.00	1
6573.23	162.50	162.50	0.00	1
6573.66	195.00	195.00	0.00	1
6574.07	227.50	227.50	0.00	1
6574.47	260.00	260.00	0.00	1
6574.86	292.50	292.50	0.00	1
6575.25	325.00	325.00	0.00	1
6577.20	480.35	480.35	0.00	Overtopping

Rating Curve Plot for Crossing: Crossing 9 - Upsized



APPENDIX D:

LOW FLOW CROSSING EXAMPLE STRUCTURE

CR

GENERA

1. N.M.S.H.T.D. STANDARD SPECIFICATIONS
2000 ED., SHALL APPLY TO THIS PROJEC
ALTERED IN THE SPECIAL PROVISIONS.

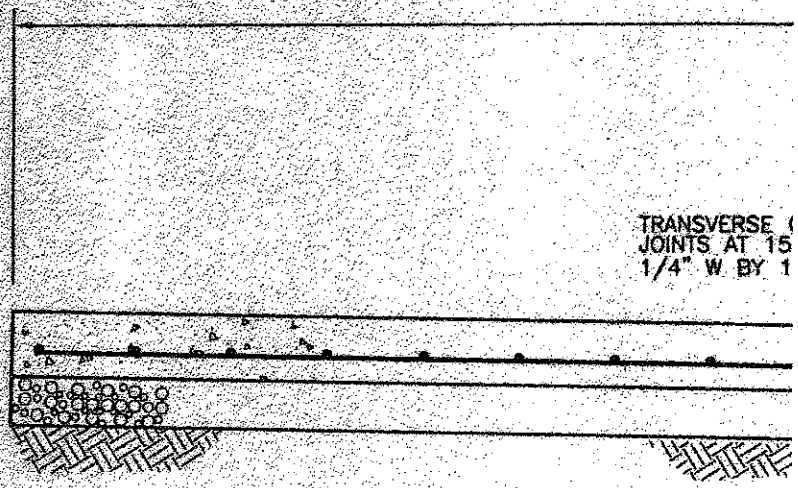
2. THE DESIGN "R" VALUE FOR THIS PRC
VALUE LESS THAN 45 SHALL NOT BE PL
2 FEET OF THE PREPARED, FINISHED SU

3. THE CONTRACTOR WILL NOT BE ALLOW
CONSTRUCTION ZONE DURING NON-WORK
BE RESPONSIBLE FOR LOCATING AN EQU
SHALL BE INCLUDED IN THE LUMP SUM

4. THE CONTRACTOR SHALL PREPARE AN
TO THE PROJECT MANAGER FOR REVIEW
DIVISION DIRECTOR (MR. DANIEL RYDBERG
PRIOR TO THE START OF CONSTRUCTION.
MANAGE THE APPROVED PLAN PER SECTI
THE STANDARD SPECIFICATIONS. ALL PRO
DEVICES FOR CONSTRUCTION SHALL APPL
WITH PREPARING THE TRAFFIC CONTROL
CONTROL PLAN SHALL BE INCLUDED IN T

5. THE CONTRACTOR SHALL TAKE PRECAU
VERTICAL CONTROL SURVEY MONUMENTS
CONSTRUCTION. THE CONTRACTOR SHALL
ADEQUATE SURVEY CONTROL TO PROPERL
THE DURATION OF THE PROJECT.

6. IT IS THE RESPONSIBILITY OF THE CO
WITH THE LOCATION OF ALL UTILITIES LO



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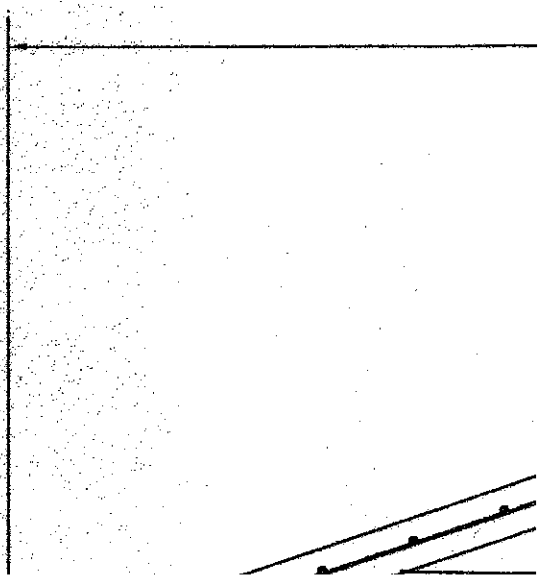
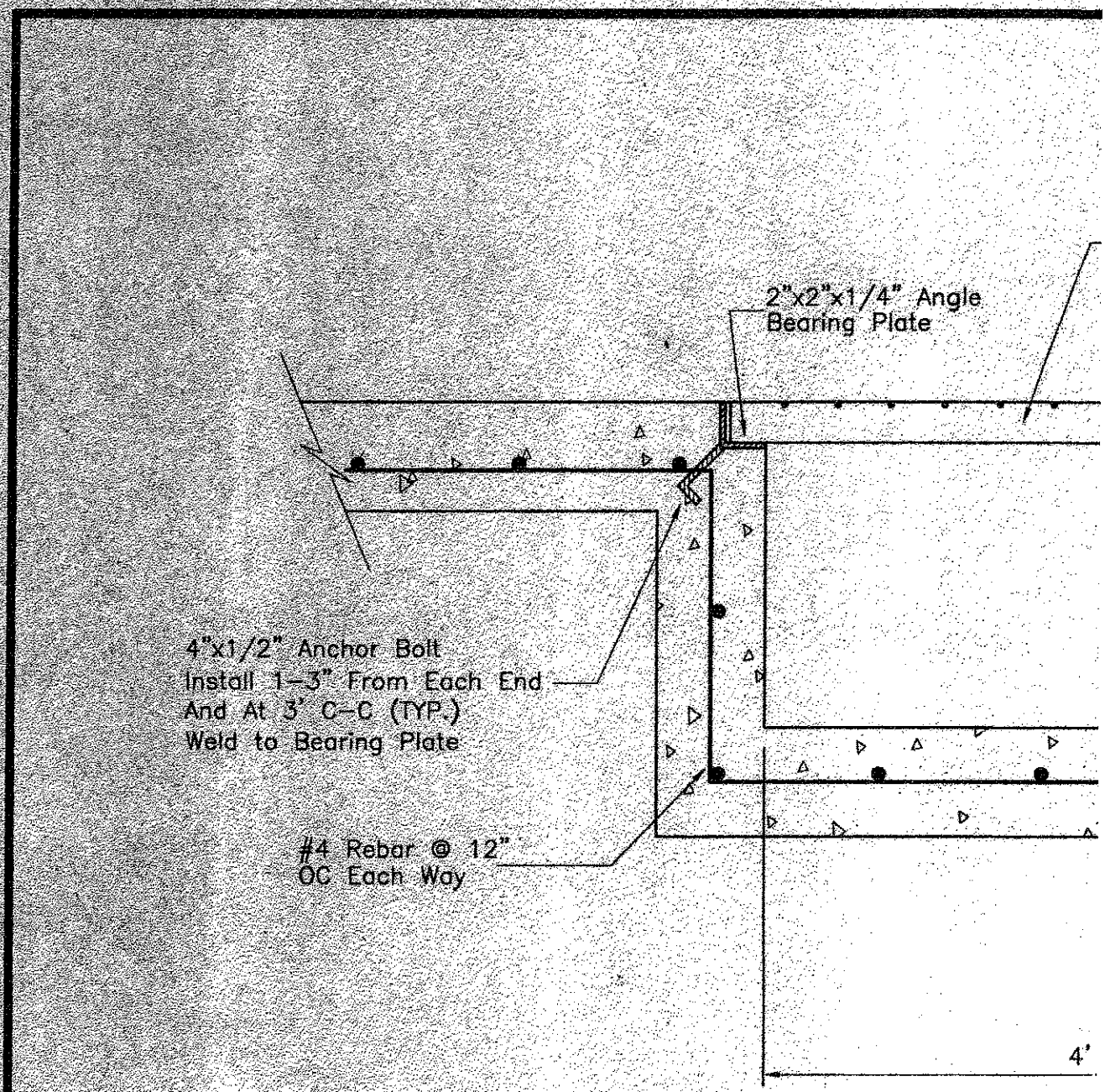
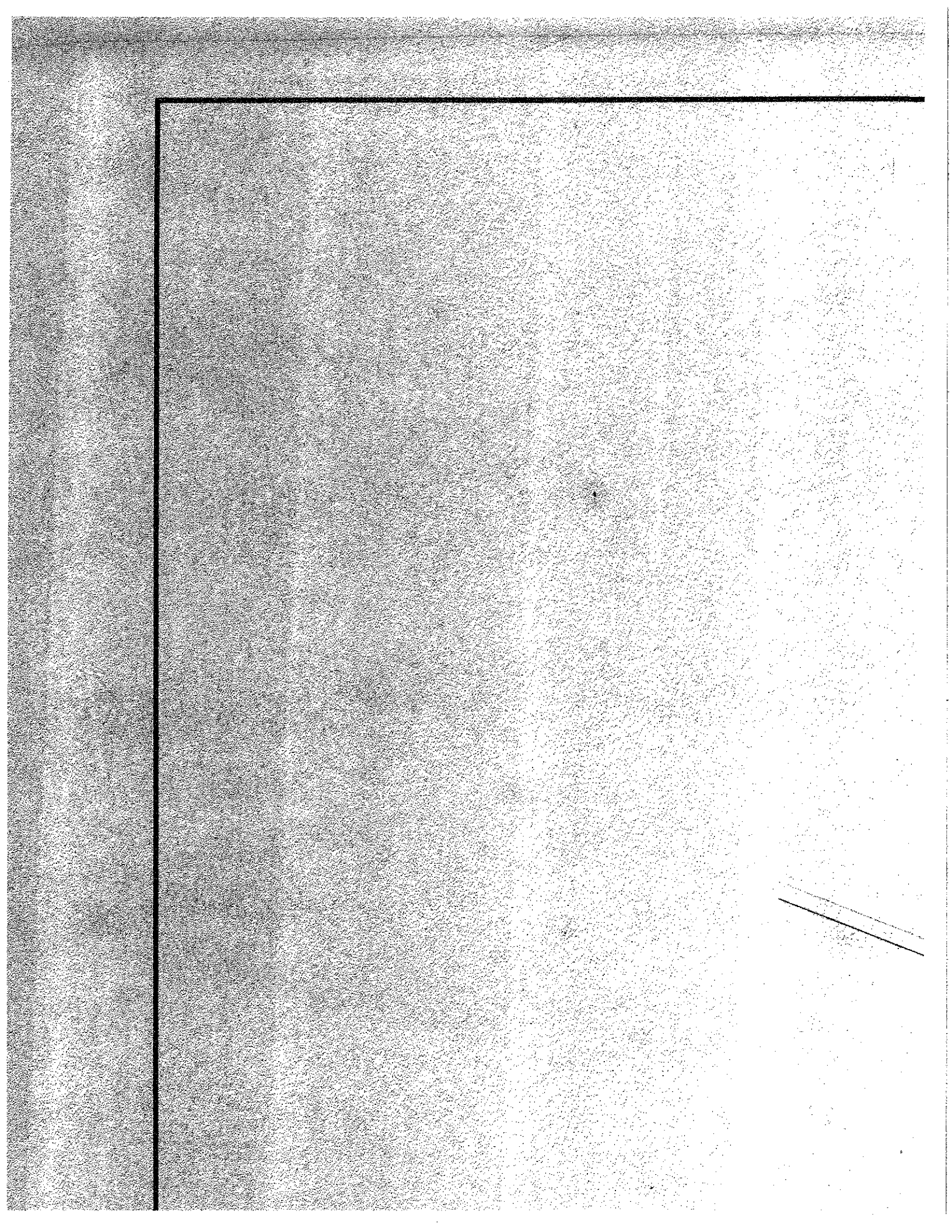
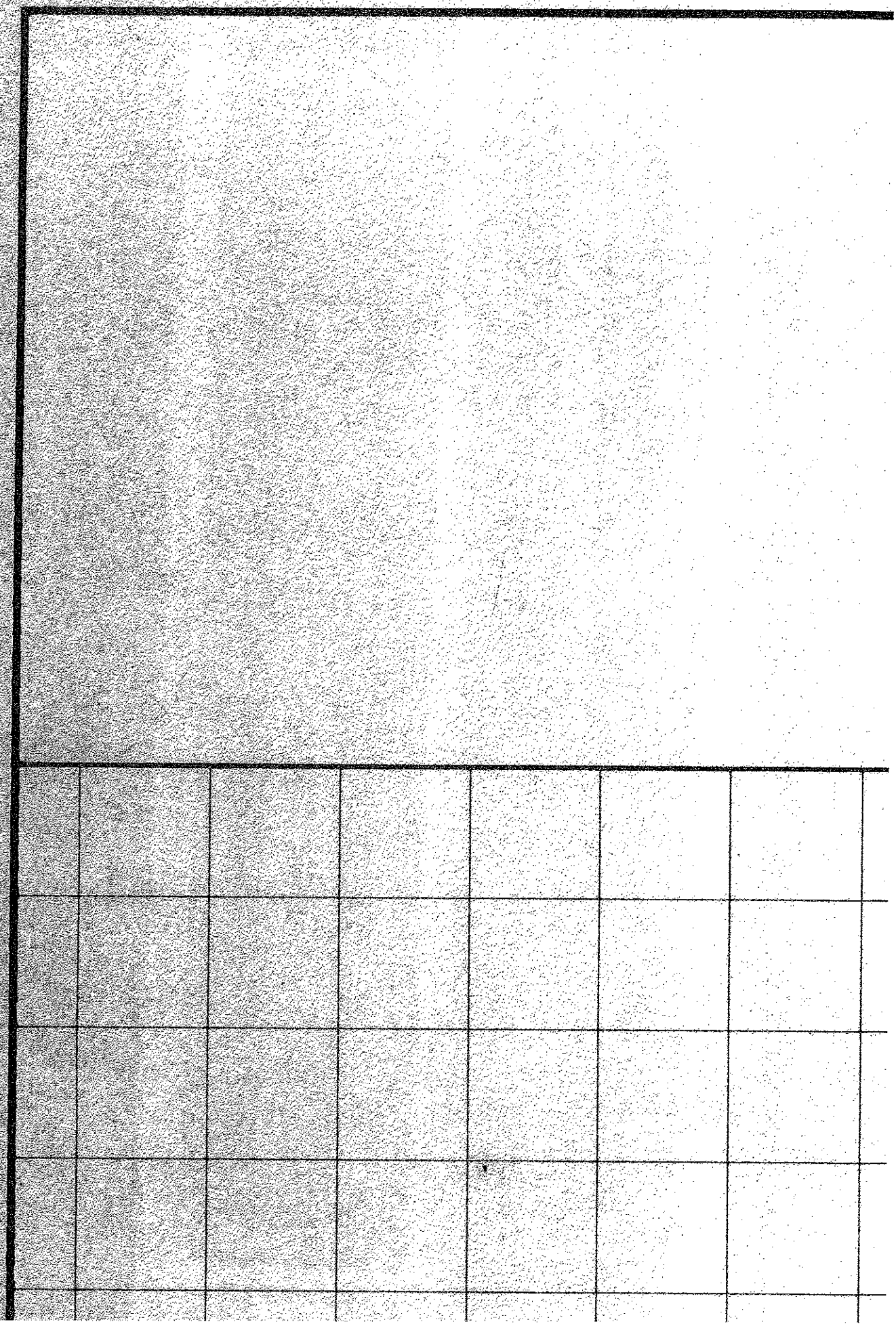




SECTION

SCALE: 1" = 1'



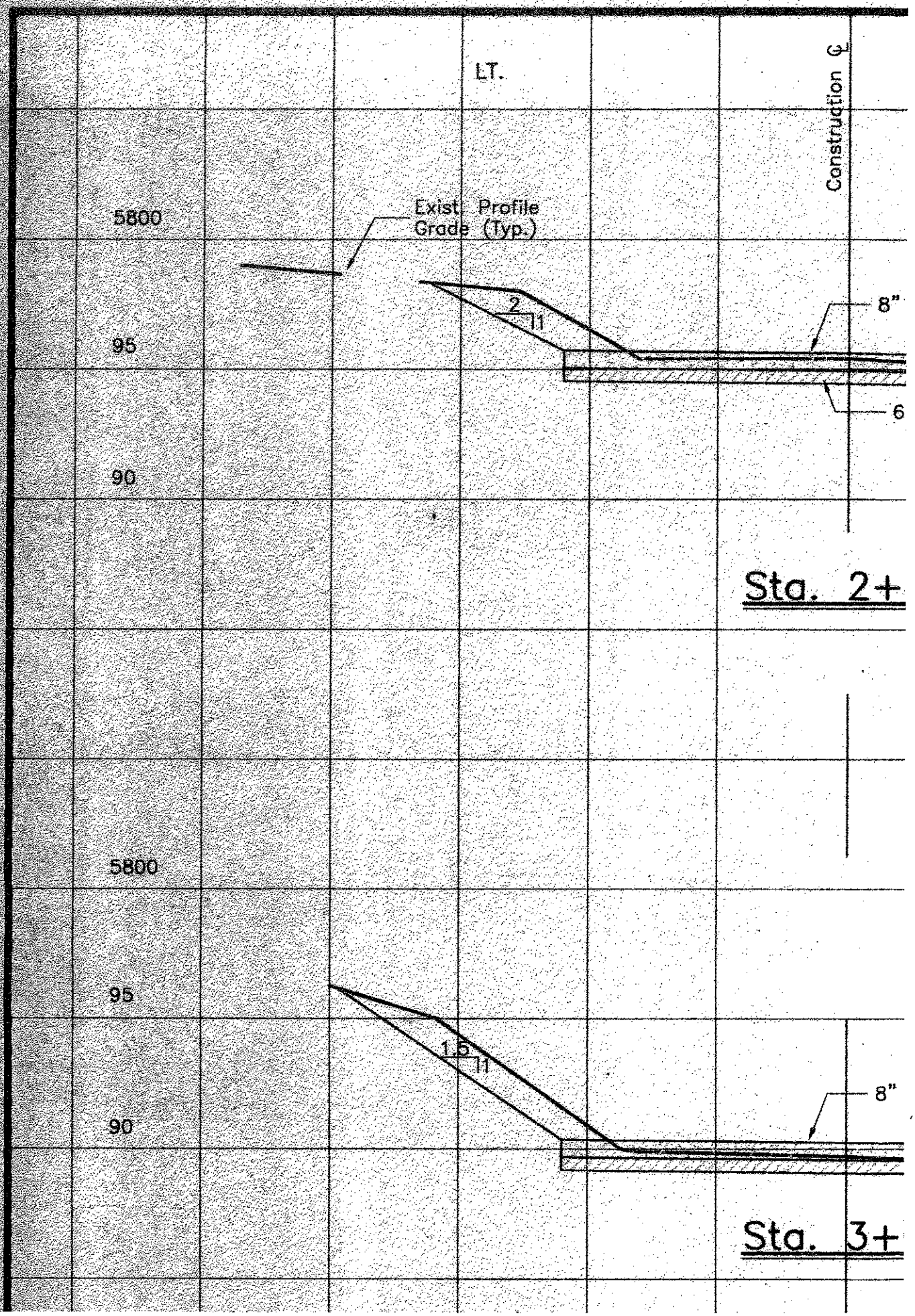


SCALE: 1"= 40'

LEGEND

●	NEW SIGN LOCATION
○	EXIST SIGN LOCATION
———	NEW STRIPE

NOTE:
RESETTING EXISTING TRAFFIC CONTROL SIGNS IS INCIDENTAL TO THE WORK. NO SEPARATE PAYMENT FOR THIS ITEM


LT.
Construction ℄
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Exist. Profile
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2
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Sta. 3+

APPENDIX E:
COST ESTIMATES

Edgewood Drainage Crossing Report **20180158**

Crossing Recommendation: **DS-PR-01-B**

Item	Units	Quantity	[1]Unit Price	Total Cost
18" Culvert Pipe	L.F.	0	$118.14	$0
18" Culvert Pipe End Section	Each	0	$500.00	$0
24" Culvert Pipe	L.F.	0	$80.25	$0
24" Culvert Pipe End Section	Each	0	$760.91	$0
30" Culvert Pipe	L.F.	0	$92.47	$0
30" Culvert Pipe End Section	Each	0	$838.75	$0
36" Culvert Pipe	L.F.	112	$124.82	$13,980
36" Culvert Pipe End Section	Each	4	$1,020.00	$4,080
42" Culvert Pipe	L.F.	0	$145.00	$0
48" Culvert Pipe	L.F.	0	$130.48	$0
48" Culvert Pipe End Section	Each	0	$1,416.67	$0
54" Culvert Pipe	L.F.	0	$168.44	$0
60" Culvert Pipe	L.F.	0	$214.44	$0
66" Culvert Pipe	L.F.	0	$290.00	$0
[2]72" Culvert Pipe	L.F.	0	$349.93	$0
Structural Concrete, CL. A (including grates)	C.Y.	0	$660.81	$0
Riprap Class A	C.Y.	7	$214.15	$1,586
Borrow	C.Y.	1715	$10.82	$18,555
Blading and Reshaping	Mile	0.1	$33,000.00	$4,875
[3]Base Course (6")	S.Y.	693	$15.00	$10,400
[3]Minor Roadway Pavement (3")	S.Y.	0	$24.00	$0
[3]Subgrade Prep	S.Y.	0	$2.00	$0
Removal of Surfacing	S.Y.	0	$7.21	$0
Single Face W-Beam Guardrail	L.F.	520	$27.59	$14,347
			Sub-total:	$67,823
			30% Contingency	$20,347
			[4] ***Total:***	***$88,170***

Notes:

[1]Unit Prices based on NMDOT 2017 Average Unit Bid Prices.

[2]72" Storm Drain Culvert Pipe is using a power regression equation and utilizing values from 48", 54", 60", and 66" culvert pipe unit costs.

[3]In discussion with Jeanette Walther of the BHI Traffic and Transportation group, a cost unit bid price of $24/S.Y. for minor pavement (3" thickness) is recommended. A base course (6" thickness) is recommended at $15/S.Y. A subgrade prep cost of $2/S.Y. is recommended.

[4]This estimate of construction cost is only an opinion. BHI cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from this opinion.

Edgewood Drainage Crossing Report **20180158**

Crossing Recommendation: **DS-PR-02-A**

Item	Units	Quantity	[1]Unit Price	Total Cost
18" Culvert Pipe	L.F.	0	$118.14	$0
18" Culvert Pipe End Section	Each	0	$500.00	$0
24" Culvert Pipe	L.F.	0	$80.25	$0
24" Culvert Pipe End Section	Each	0	$760.91	$0
30" Culvert Pipe	L.F.	0	$92.47	$0
30" Culvert Pipe End Section	Each	0	$838.75	$0
36" Culvert Pipe	L.F.	0	$124.82	$0
36" Culvert Pipe End Section	Each	0	$1,020.00	$0
42" Culvert Pipe	L.F.	0	$145.00	$0
48" Culvert Pipe	L.F.	0	$130.48	$0
48" Culvert Pipe End Section	Each	0	$1,416.67	$0
54" Culvert Pipe	L.F.	0	$168.44	$0
60" Culvert Pipe	L.F.	0	$214.44	$0
66" Culvert Pipe	L.F.	0	$290.00	$0
[2]72" Culvert Pipe	L.F.	0	$349.93	$0
Structural Concrete, CL. A (including grates)	C.Y.	74	$660.81	$49,065
Riprap Class A	C.Y.	11	$214.15	$2,379
Borrow	C.Y.	548	$10.82	$5,925
Blading and Reshaping	Mile	0.15	$33,000.00	$4,800
[3]Base Course (6")	S.Y.	853	$15.00	$12,800
[3]Minor Roadway Pavement (3")	S.Y.	313	$24.00	$7,520
[3]Subgrade Prep	S.Y.	313	$2.00	$627
Removal of Surfacing	S.Y.	313	$7.21	$2,259
Single Face W-Beam Guardrail	L.F.	512	$27.59	$14,126
			Sub-total:	$99,502
			30% Contingency	$29,851
			[4] ***Total:***	***$129,352***

Notes:

[1]Unit Prices based on NMDOT 2017 Average Unit Bid Prices.

[2]72" Storm Drain Culvert Pipe is using a power regression equation and utilizing values from 48", 54", 60", and 66" culvert pipe unit costs.

[3]In discussion with Jeanette Walther of the BHI Traffic and Transportation group, a cost unit bid price of $24/S.Y. for minor pavement (3" thickness) is recommended. A base course (6" thickness) is recommended at $15/S.Y. A subgrade prep cost of $2/S.Y. is recommended.

[4]This estimate of construction cost is only an opinion. BHI cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from this opinion.

Edgewood Drainage Crossing Report **20180158**

Crossing Recommendation: **DS-PR-03-C**

Item	Units	Quantity	[1]Unit Price	Total Cost
18" Culvert Pipe	L.F.	0	$118.14	$0
18" Culvert Pipe End Section	Each	0	$500.00	$0
24" Culvert Pipe	L.F.	0	$80.25	$0
24" Culvert Pipe End Section	Each	0	$760.91	$0
30" Culvert Pipe	L.F.	0	$92.47	$0
30" Culvert Pipe End Section	Each	0	$838.75	$0
36" Culvert Pipe	L.F.	0	$124.82	$0
36" Culvert Pipe End Section	Each	0	$1,020.00	$0
42" Culvert Pipe	L.F.	0	$145.00	$0
48" Culvert Pipe	L.F.	0	$130.48	$0
48" Culvert Pipe End Section	Each	0	$1,416.67	$0
54" Culvert Pipe	L.F.	0	$168.44	$0
60" Culvert Pipe	L.F.	0	$214.44	$0
66" Culvert Pipe	L.F.	0	$290.00	$0
[2]72" Culvert Pipe	L.F.	148	$349.93	$51,790
Structural Concrete, CL. A (including grates)	C.Y.	0	$660.81	$0
Riprap Class A	C.Y.	18	$214.15	$3,807
Borrow	C.Y.	3478	$10.82	$37,631
Blading and Reshaping	Mile	0.16	$33,000.00	$5,438
[3]Base Course (6")	S.Y.	773	$15.00	$11,600
[3]Minor Roadway Pavement (3")	S.Y.	0	$24.00	$0
[3]Subgrade Prep	S.Y.	0	$2.00	$0
Removal of Surfacing	S.Y.	0	$7.21	$0
Single Face W-Beam Guardrail	L.F.	580	$27.59	$16,002
			Sub-total:	$126,268
			30% Contingency	$37,880
			[4] ***Total:***	***$164,148***

Notes:

[1]Unit Prices based on NMDOT 2017 Average Unit Bid Prices.

[2]72" Storm Drain Culvert Pipe is using a power regression equation and utilizing values from 48", 54", 60", and 66" culvert pipe unit costs.

[3]In discussion with Jeanette Walther of the BHI Traffic and Transportation group, a cost unit bid price of $24/S.Y. for minor pavement (3" thickness) is recommended. A base course (6" thickness) is recommended at $15/S.Y. A subgrade prep cost of $2/S.Y. is recommended.

[4]This estimate of construction cost is only an opinion. BHI cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from this opinion.

Edgewood Drainage Crossing Report **20180158**

Crossing Recommendation: **DS-PR-04-B**

Item	Units	Quantity	[1]Unit Price	Total Cost
18" Culvert Pipe	L.F.	0	$118.14	$0
18" Culvert Pipe End Section	Each	0	$500.00	$0
24" Culvert Pipe	L.F.	0	$80.25	$0
24" Culvert Pipe End Section	Each	0	$760.91	$0
30" Culvert Pipe	L.F.	0	$92.47	$0
30" Culvert Pipe End Section	Each	0	$838.75	$0
36" Culvert Pipe	L.F.	372	$124.82	$46,433
36" Culvert Pipe End Section	Each	12	$1,020.00	$12,240
42" Culvert Pipe	L.F.	0	$145.00	$0
48" Culvert Pipe	L.F.	0	$130.48	$0
48" Culvert Pipe End Section	Each	0	$1,416.67	$0
54" Culvert Pipe	L.F.	0	$168.44	$0
60" Culvert Pipe	L.F.	0	$214.44	$0
66" Culvert Pipe	L.F.	0	$290.00	$0
[2]72" Culvert Pipe	L.F.	0	$349.93	$0
Structural Concrete, CL. A (including grates)	C.Y.	0	$660.81	$0
Riprap Class A	C.Y.	22	$214.15	$4,759
Borrow	C.Y.	1704	$10.82	$18,435
Blading and Reshaping	Mile	0.15	$33,000.00	$5,063
[3]Base Course (6")	S.Y.	900	$15.00	$13,500
[3]Minor Roadway Pavement (3")	S.Y.	900	$24.00	$21,600
[3]Subgrade Prep	S.Y.	900	$2.00	$1,800
Removal of Surfacing	S.Y.	900	$7.21	$6,489
Single Face W-Beam Guardrail	L.F.	540	$27.59	$14,899
			Sub-total:	$145,217
			30% Contingency	$43,565
			[4] ***Total:***	***$188,782***

Notes:

[1]Unit Prices based on NMDOT 2017 Average Unit Bid Prices.

[2]72" Storm Drain Culvert Pipe is using a power regression equation and utilizing values from 48", 54", 60", and 66" culvert pipe unit costs.

[3]In discussion with Jeanette Walther of the BHI Traffic and Transportation group, a cost unit bid price of $24/S.Y. for minor pavement (3" thickness) is recommended. A base course (6" thickness) is recommended at $15/S.Y. A subgrade prep cost of $2/S.Y. is recommended.

[4]This estimate of construction cost is only an opinion. BHI cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from this opinion.

Edgewood Drainage Crossing Report **20180158**

Crossing Recommendation: **DS-PR-05-C**

Item	Units	Quantity	[1]Unit Price	Total Cost
18" Culvert Pipe	L.F.	0	$118.14	$0
18" Culvert Pipe End Section	Each	0	$500.00	$0
24" Culvert Pipe	L.F.	0	$80.25	$0
24" Culvert Pipe End Section	Each	0	$760.91	$0
30" Culvert Pipe	L.F.	0	$92.47	$0
30" Culvert Pipe End Section	Each	0	$838.75	$0
36" Culvert Pipe	L.F.	0	$124.82	$0
36" Culvert Pipe End Section	Each	0	$1,020.00	$0
42" Culvert Pipe	L.F.	0	$145.00	$0
48" Culvert Pipe	L.F.	0	$130.48	$0
48" Culvert Pipe End Section	Each	0	$1,416.67	$0
54" Culvert Pipe	L.F.	0	$168.44	$0
60" Culvert Pipe	L.F.	0	$214.44	$0
66" Culvert Pipe	L.F.	0	$290.00	$0
[2]72" Culvert Pipe	L.F.	320	$349.93	$111,978
Structural Concrete, CL. A (including grates)	C.Y.	0	$660.81	$0
Riprap Class A	C.Y.	36	$214.15	$7,614
Borrow	C.Y.	5337	$10.82	$57,749
Blading and Reshaping	Mile	0.23	$33,000.00	$7,500
[3]Base Course (6")	S.Y.	1333	$15.00	$20,000
[3]Minor Roadway Pavement (3")	S.Y.	0	$24.00	$0
[3]Subgrade Prep	S.Y.	0	$2.00	$0
Removal of Surfacing	S.Y.	0	$7.21	$0
Single Face W-Beam Guardrail	L.F.	800	$27.59	$22,072
			Sub-total:	$226,913
			30% Contingency	$68,074
			[4] ***Total:***	***$294,986***

Notes:

[1]Unit Prices based on NMDOT 2017 Average Unit Bid Prices.

[2]72" Storm Drain Culvert Pipe is using a power regression equation and utilizing values from 48", 54", 60", and 66" culvert pipe unit costs.

[3]In discussion with Jeanette Walther of the BHI Traffic and Transportation group, a cost unit bid price of $24/S.Y. for minor pavement (3" thickness) is recommended. A base course (6" thickness) is recommended at $15/S.Y. A subgrade prep cost of $2/S.Y. is recommended.

[4]This estimate of construction cost is only an opinion. BHI cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from this opinion.

Edgewood Drainage Crossing Report **20180158**

Crossing Recommendation: **DS-PR-06-A**

Item	Units	Quantity	[1]Unit Price	Total Cost
18" Culvert Pipe	L.F.	0	$118.14	$0
18" Culvert Pipe End Section	Each	0	$500.00	$0
24" Culvert Pipe	L.F.	0	$80.25	$0
24" Culvert Pipe End Section	Each	0	$760.91	$0
30" Culvert Pipe	L.F.	0	$92.47	$0
30" Culvert Pipe End Section	Each	0	$838.75	$0
36" Culvert Pipe	L.F.	0	$124.82	$0
36" Culvert Pipe End Section	Each	0	$1,020.00	$0
42" Culvert Pipe	L.F.	0	$145.00	$0
48" Culvert Pipe	L.F.	0	$130.48	$0
48" Culvert Pipe End Section	Each	0	$1,416.67	$0
54" Culvert Pipe	L.F.	0	$168.44	$0
60" Culvert Pipe	L.F.	0	$214.44	$0
66" Culvert Pipe	L.F.	0	$290.00	$0
[2]72" Culvert Pipe	L.F.	0	$349.93	$0
Structural Concrete, CL. A (including grates)	C.Y.	51	$660.81	$33,900
Riprap Class A	C.Y.	18	$214.15	$3,807
Borrow	C.Y.	598	$10.82	$6,468
Blading and Reshaping	Mile	0.20	$33,000.00	$6,563
[3]Base Course (6")	S.Y.	1167	$15.00	$17,500
[3]Minor Roadway Pavement (3")	S.Y.	1167	$24.00	$28,000
[3]Subgrade Prep	S.Y.	1167	$2.00	$2,333
Removal of Surfacing	S.Y.	1167	$7.21	$8,412
Single Face W-Beam Guardrail	L.F.	700	$27.59	$19,313
			Sub-total:	$126,296
			30% Contingency	$37,889
			[4] ***Total:***	***$164,184***

Notes:

[1]Unit Prices based on NMDOT 2017 Average Unit Bid Prices.

[2]72" Storm Drain Culvert Pipe is using a power regression equation and utilizing values from 48", 54", 60", and 66" culvert pipe unit costs.

[3]In discussion with Jeanette Walther of the BHI Traffic and Transportation group, a cost unit bid price of $24/S.Y. for minor pavement (3" thickness) is recommended. A base course (6" thickness) is recommended at $15/S.Y. A subgrade prep cost of $2/S.Y. is recommended.

[4]This estimate of construction cost is only an opinion. BHI cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from this opinion.

Edgewood Drainage Crossing Report **20180158**

Crossing Recommendation: **DS-PR-07-C**

Item	Units	Quantity	[1]Unit Price	Total Cost
18" Culvert Pipe	L.F.	0	$118.14	$0
18" Culvert Pipe End Section	Each	0	$500.00	$0
24" Culvert Pipe	L.F.	0	$80.25	$0
24" Culvert Pipe End Section	Each	0	$760.91	$0
30" Culvert Pipe	L.F.	0	$92.47	$0
30" Culvert Pipe End Section	Each	0	$838.75	$0
36" Culvert Pipe	L.F.	0	$124.82	$0
36" Culvert Pipe End Section	Each	0	$1,020.00	$0
42" Culvert Pipe	L.F.	0	$145.00	$0
48" Culvert Pipe	L.F.	0	$130.48	$0
48" Culvert Pipe End Section	Each	0	$1,416.67	$0
54" Culvert Pipe	L.F.	0	$168.44	$0
60" Culvert Pipe	L.F.	0	$214.44	$0
66" Culvert Pipe	L.F.	0	$290.00	$0
[2]72" Culvert Pipe	L.F.	240	$349.93	$83,983
Structural Concrete, CL. A (including grates)	C.Y.	0	$660.81	$0
Riprap Class A	C.Y.	27	$214.15	$5,711
Borrow	C.Y.	21425	$10.82	$231,815
Blading and Reshaping	Mile	0.93	$33,000.00	$30,563
[3]Base Course (6")	S.Y.	5433	$15.00	$81,500
[3]Minor Roadway Pavement (3")	S.Y.	0	$24.00	$0
[3]Subgrade Prep	S.Y.	0	$2.00	$0
Removal of Surfacing	S.Y.	0	$7.21	$0
Single Face W-Beam Guardrail	L.F.	3260	$27.59	$89,943
			Sub-total:	$523,514
			30% Contingency	$157,054
			[4] ***Total:***	***$680,569***

Notes:

[1]Unit Prices based on NMDOT 2017 Average Unit Bid Prices.

[2]72" Storm Drain Culvert Pipe is using a power regression equation and utilizing values from 48", 54", 60", and 66" culvert pipe unit costs.

[3]In discussion with Jeanette Walther of the BHI Traffic and Transportation group, a cost unit bid price of $24/S.Y. for minor pavement (3" thickness) is recommended. A base course (6" thickness) is recommended at $15/S.Y. A subgrade prep cost of $2/S.Y. is recommended.

[4]This estimate of construction cost is only an opinion. BHI cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from this opinion.

Edgewood Drainage Crossing Report **20180158**

Crossing Recommendation: **DS-PR-08-B**

Item	Units	Quantity	[1]Unit Price	Total Cost
18" Culvert Pipe	L.F.	0	$118.14	$0
18" Culvert Pipe End Section	Each	0	$500.00	$0
24" Culvert Pipe	L.F.	0	$80.25	$0
24" Culvert Pipe End Section	Each	0	$760.91	$0
30" Culvert Pipe	L.F.	0	$92.47	$0
30" Culvert Pipe End Section	Each	0	$838.75	$0
36" Culvert Pipe	L.F.	248	$124.82	$30,955
36" Culvert Pipe End Section	Each	8	$1,020.00	$8,160
42" Culvert Pipe	L.F.	0	$145.00	$0
48" Culvert Pipe	L.F.	0	$130.48	$0
48" Culvert Pipe End Section	Each	0	$1,416.67	$0
54" Culvert Pipe	L.F.	0	$168.44	$0
60" Culvert Pipe	L.F.	0	$214.44	$0
66" Culvert Pipe	L.F.	0	$290.00	$0
[2]72" Culvert Pipe	L.F.	0	$349.93	$0
Structural Concrete, CL. A (including grates)	C.Y.	0	$660.81	$0
Riprap Class A	C.Y.	15	$214.15	$3,173
Borrow	C.Y.	2168	$10.82	$23,457
Blading and Reshaping	Mile	0.21	$33,000.00	$6,938
[3]Base Course (6")	S.Y.	1233	$15.00	$18,500
[3]Minor Roadway Pavement (3")	S.Y.	0	$24.00	$0
[3]Subgrade Prep	S.Y.	0	$2.00	$0
Removal of Surfacing	S.Y.	0	$7.21	$0
Single Face W-Beam Guardrail	L.F.	740	$27.59	$20,417
			Sub-total:	$111,599
			30% Contingency	$33,480
			[4] ***Total:***	***$145,078***

Notes:

[1]Unit Prices based on NMDOT 2017 Average Unit Bid Prices.

[2]72" Storm Drain Culvert Pipe is using a power regression equation and utilizing values from 48", 54", 60", and 66" culvert pipe unit costs.

[3]In discussion with Jeanette Walther of the BHI Traffic and Transportation group, a cost unit bid price of $24/S.Y. for minor pavement (3" thickness) is recommended. A base course (6" thickness) is recommended at $15/S.Y. A subgrade prep cost of $2/S.Y. is recommended.

[4]This estimate of construction cost is only an opinion. BHI cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from this opinion.

Edgewood Drainage Crossing Report **20180158**

Crossing Recommendation: **DS-PR-09-B**

Item	Units	Quantity	[1]Unit Price	Total Cost
18" Culvert Pipe	L.F.	0	$118.14	$0
18" Culvert Pipe End Section	Each	0	$500.00	$0
24" Culvert Pipe	L.F.	0	$80.25	$0
24" Culvert Pipe End Section	Each	0	$760.91	$0
30" Culvert Pipe	L.F.	0	$92.47	$0
30" Culvert Pipe End Section	Each	0	$838.75	$0
36" Culvert Pipe	L.F.	539	$124.82	$67,278
36" Culvert Pipe End Section	Each	14	$1,020.00	$14,280
42" Culvert Pipe	L.F.	0	$145.00	$0
48" Culvert Pipe	L.F.	0	$130.48	$0
48" Culvert Pipe End Section	Each	0	$1,416.67	$0
54" Culvert Pipe	L.F.	0	$168.44	$0
60" Culvert Pipe	L.F.	0	$214.44	$0
66" Culvert Pipe	L.F.	0	$290.00	$0
[2]72" Culvert Pipe	L.F.	0	$349.93	$0
Structural Concrete, CL. A (including grates)	C.Y.	0	$660.81	$0
Riprap Class A	C.Y.	26	$214.15	$5,552
Borrow	C.Y.	8797	$10.82	$95,186
Blading and Reshaping	Mile	0.97	$33,000.00	$31,988
[3]Base Course (6")	S.Y.	4549	$15.00	$68,240
[3]Minor Roadway Pavement (3")	S.Y.	4549	$24.00	$109,184
[3]Subgrade Prep	S.Y.	4549	$2.00	$9,099
Removal of Surfacing	S.Y.	4549	$7.21	$32,801
Single Face W-Beam Guardrail	L.F.	3412	$27.59	$94,137
			Sub-total:	$527,744
			30% Contingency	$158,323
			[4] ***Total:***	***$686,068***

Notes:

[1]Unit Prices based on NMDOT 2017 Average Unit Bid Prices.

[2]72" Storm Drain Culvert Pipe is using a power regression equation and utilizing values from 48", 54", 60", and 66" culvert pipe unit costs.

[3]In discussion with Jeanette Walther of the BHI Traffic and Transportation group, a cost unit bid price of $24/S.Y. for minor pavement (3" thickness) is recommended. A base course (6" thickness) is recommended at $15/S.Y. A subgrade prep cost of $2/S.Y. is recommended.

[4]This estimate of construction cost is only an opinion. BHI cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from this opinion.

g Report - Conceptual Cost Estimate 20180158

ıction Cost with Contingency	[2]Soft Costs	Total Cost with Soft Costs	[3]NM Gross Receipts Tax	[4]Final Cost
$89,000	$32,000	$121,000	$10,000	***$131,000***
$130,000	$46,000	$176,000	$15,000	***$191,000***
$165,000	$58,000	$223,000	$19,000	***$242,000***
$189,000	$67,000	$256,000	$21,000	***$277,000***
$295,000	$104,000	$399,000	$33,000	***$432,000***
$165,000	$58,000	$223,000	$19,000	***$242,000***
$681,000	$239,000	$920,000	$76,000	***$996,000***
$146,000	$52,000	$198,000	$17,000	***$215,000***
$687,000	$241,000	$928,000	$76,000	***$1,004,000***

ırest $1,000.

o include items that are not related to the physical construction of the project. Soft costs can include items such as the design fee, geotechnical investigation, ation, construction inspection, permitting, and surveying.

ciepts Tax of 8.1875% for Edgewood (Santa Fe) (http://www.tax.newmexico.gov/gross-receipts-tax-historic-rates.aspx)

an option. BHI cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from this opinion.

T O W N O F E D G E W O O D

YEAR TO DATE TREASURERS REPORT

AS OF: FEBRUARY 28TH, 2018

	UNAUDITED BEGINNING CASH BALANCE	APPROVED BUDGET REVENUES	APPROVED BUDGET EXPENDITURE	YEAR TO DATE REVENUES	YEAR TO DATE EXPENDITURES	REVENUES NOT YET RECEIVED	EXPENDITURES NOT YET EXPENDED	YEAR TO DATE ENDING CASH BALANCE	BUDGETED ENDING CASH BALANCE
100-OPERATING FUND	361,325.21	3,567,525.00	3,966,533.00	2,554,291.05	2,123,669.81	0.00	28,834.49	820,780.94	(37,682.79)
201-CORRECTION FUND	86,068.63	9,748.00	6,000.00	10,963.00	680.00	0.00	0.00	96,351.63	89,816.63
210-LODGERS TAX	0.00	0.00	0.00	7,090.46	0.00	0.00	0.00	7,090.46	0.00
211-LAW ENFORCEMENT FUND	11,874.07	24,800.00	24,800.00	24,800.00	19,969.39	0.00	0.00	16,704.68	11,874.07
213-LIBRARY FUND	0.00	0.00	0.00	0.00	60,711.02	0.00	(3,636.46)	(64,347.48)	0.00
216-MUNICIPAL STREET FUND	0.00	561,191.92	561,193.00	360,442.24	393,355.68	0.00	(3,354.42)	(36,267.86)	(1.08)
217-RECREATION FUND	0.00	0.00	0.00	33,727.00	19,885.39	0.00	(168.82)	13,672.79	0.00
299-POLICE SP REVENUE FUND	7,649.17	0.00	0.00	1,724.88	379,958.61	0.00	(14,450.45)	(385,035.01)	7,649.17
225-ANIMAL SHELTER FUND	13,011.19	0.00	0.00	959.30	1,739.95	0.00	0.00	12,230.54	13,011.19
224-CAPITAL REPLACEMENT FUND	20,000.00	20,000.00	0.00	20,000.00	0.00	0.00	0.00	40,000.00	40,000.00
226-VETERANS MEMORIAL FUND	250.00	0.00	0.00	0.00	0.00	0.00	0.00	250.00	250.00
227-BUY A BRICK/PLAYGROUND	5,600.00	0.00	0.00	0.00	0.00	0.00	0.00	5,600.00	5,600.00
228-REVITALIZATION RT 66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
229-TERMINAL LEAVE FUND	8,431.86	20,000.00	0.00	20,000.00	0.00	0.00	0.00	28,431.86	28,431.86
311-CAPITAL IMPROVEMENTS FUND	1,271,708.50	250,251.00	0.00	178,360.86	0.00	0.00	0.00	1,450,069.36	1,521,959.50
313-WIND TURBINE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
399-CAPITAL PROJECTS FUND	(849,902.58)	1,480,000.00	1,391,300.00	642,900.30	905,105.34	0.00	0.00	(1,112,107.62)	(761,202.58)
401-GO BOND DEBT SERVICE	251,864.15	245,128.00	245,128.00	368,487.34	244,386.39	0.00	0.00	375,965.10	251,864.15
403-RIP LOAN PAYMENTS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
503-WASTEWATER FUND	0.00	397,889.00	432,888.00	175,913.59	249,686.46	0.00	1,138.55	(72,634.32)	(34,999.00)
700-CELL TOWER ESCROW FUND	37,450.75	0.00	16,943.31	8,500.00	2,440.18	0.00	0.00	43,510.57	20,507.44
701-RELIANT LAND SERVICES	500.00	0.00	0.00	0.00	0.00	0.00	0.00	500.00	500.00
SUBTOTAL	1,225,830.95	6,576,532.92	6,644,785.31	4,408,160.02	4,401,588.22	0.00	8,362.89	1,240,765.64	1,157,578.56
101-NM STATE LGIP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
106-WELLS FARGO CD FUND	250,705.79	0.00	0.00	8.24	0.00	0.00	0.00	250,714.03	250,705.79
107-BANK OF THE WEST CD FUND	5,764.66	0.00	0.00	32.15	0.00	0.00	0.00	5,796.81	5,764.66
600-IMPACT FEE ESCROW FUND	18,303.13	16,000.00	16,000.00	34,078.93	32,957.78	0.00	0.00	19,424.28	18,303.13
SUBTOTAL	274,773.58	16,000.00	16,000.00	34,119.32	32,957.78	0.00	0.00	275,935.12	274,773.58
GRAND TOTAL ALL FUNDS	1,500,604.53	6,592,532.92	6,660,785.31	4,442,279.34	4,434,546.00	0.00	8,362.89	1,516,700.76	1,432,352.14

DEPARTMENT	FUND	VENDOR NAME	DESCRIPTION	AMOUNT
NON-DEPARTMENTAL	OPERATING FUND	AFLAC	ACCIDENT PREMIUMS	103.02
			ACCIDENT PREMIUMS	103.02
			CANCER PREIMUMS	19.40
			CANCER PREIMUMS	19.40
			DISABILITY PREMIUMS	43.48
			DISABILITY PREMIUMS	43.48
			HOSPITAL INDEMNITY	19.38
			HOSPITAL INDEMNITY	19.38
			AFLAC SICK INDEMNITY	18.78
			AFLAC SICK INDEMNITY	18.78
		New Mexico Taxation & Revenue	STATE W/H	936.84
			STATE W/H	958.14
			STATE W/H	1,142.10
		PERA	RETIREMENT CONTRIBUTIONS	2,319.08
			RETIREMENT CONTRIBUTIONS	2,312.44
			RETIREMENT CONTRIBUTIONS	2,366.45
			RET CONTRIBUTIONS POLICE	1,783.08
			RET CONTRIBUTIONS POLICE	1,902.87
			RET CONTRIBUTIONS POLICE	1,902.87
		United States Treasury	FED W/H	2,576.90
			FED W/H	2,646.97
			FED W/H	2,847.70
			FED W/H	390.58
			FICA W/H	2,660.55
			FICA W/H	2,857.72
			FICA W/H	2,757.06
			FICA W/H	155.86
			MEDICARE W/H	622.23
			MEDICARE W/H	668.37
			MEDICARE W/H	644.80
			MEDICARE W/H	36.45
		Nationwide Retirement Solutions	RETIREMENT	395.00
			RETIREMENT	395.00
			RETIREMENT	395.00
		Presbyterian Health Plan	Health Premiums	1,597.78
			Health Premiums	1,683.54
		Delta Dental of New Mexico	Insurance Contributions	129.83
			Insurance Contributions	129.83
		NM Retiree Health Care Authority	NRHC CONTRIBUTIONS	227.24
			NRHC CONTRIBUTIONS	230.28
			NRHC CONTRIBUTIONS	221.23
			NRHC CONTRIBUTIONS	209.27
			NRHC CONTRIBUTIONS	221.51
			NRHC CONTRIBUTIONS	220.84
		VISION SERVICE PLAN - (IC)	Insurance Contributions	20.45
			Insurance Contributions	20.45
		THE HARTFORD	Life Premiums	43.06
			Life Premiums	43.06
			TOTAL:	41,080.55
Legislative	OPERATING FUND	United States Treasury	FICA W/H	155.43
			MEDICARE W/H	36.35
		Presbyterian Health Plan	Health Premiums	343.02
		THE HARTFORD	Basic Life	5.36
		Linda Holle	mileage reimbursement	186.18

DEPARTMENT	FUND	VENDOR NAME	DESCRIPTION	AMOUNT
		**PAYROLL EXPENSES	2/01/2018 - 2/28/2018	2,600.00
			TOTAL:	3,326.34
Finance/Administration	OPERATING FUND	Central NM Electric Coop	electric bill	278.31
			maintenance electric	83.52
		EMW Gas Association	gas bill	162.91
		New Mexico One Call, Inc.	quarterly membership fee	181.21
		New Mexico Self Insurer's Fund	deductible claim payment	415.02
		PERA	RETIREMENT CONTRIBUTIONS	764.23
			RETIREMENT CONTRIBUTIONS	714.55
			RETIREMENT CONTRIBUTIONS	755.19
		Southwest Copy Systems, Inc.	copier maintenance	113.27
		State of N.M. Commissioner of Public L	BL 1580 lease	11,650.00
		THE INDEPENDENT	public hearing	38.77
			municipal election ads	822.24
			Election ad	216.74
		United States Treasury	FICA W/H	493.78
			FICA W/H	470.39
			FICA W/H	494.78
			MEDICARE W/H	115.48
			MEDICARE W/H	110.01
			MEDICARE W/H	115.71
		Verizon Wireless Service, LLC	cell phone service	192.89
		WASTE MANAGEMENT OF NEW MEXICO	waste disposal service	184.66
		Wells Fargo Card Service Payment Remit	email hosting/office 365	799.84
		WINDMILL WATER, INC.	bottled water	47.71
			bottled water	14.93
		WALMART COMMUNITY/GEMB	supplies	3.10
			water softener	66.72
			supplies	13.57
		Town of Edgewood	petty cash supplement	100.00
		SAM'S CLUB/SYNCHRONY BANK	supplies	44.46
		Robles, Rael & Anaya	attorney fees	1,743.10
		Bohannan Huston	engineering services	7,772.27
			computer maintenance	876.71
			computer maintenance	876.71
		New Mexico Waste Services, Inc.	recycle bins	328.75
		Presbyterian Health Plan	Health Premiums	480.44
			Health Premiums	480.44
		Delta Dental of New Mexico	Insurance Contributions	46.98
			Insurance Contributions	46.98
		NM Retiree Health Care Authority	NRHC CONTRIBUTIONS	160.06
			NRHC CONTRIBUTIONS	160.05
			NRHC CONTRIBUTIONS	153.90
		EPCOR WATER	water service	111.40
		VISION SERVICE PLAN - (IC)	Insurance Contributions	13.17
			Insurance Contributions	13.17
		THE HARTFORD	Basic Life	59.20
		Icon Enterprises Inc.	web site	690.00
		Plateau	telephone bill	848.81
		The Maids International, Inc.	Janitorial services	978.25
		Rebecca A. Sanchez	mileage reimbursement	32.32
			reimbursement supplies	24.88
		EBWPC	support payment	2,000.00
		Amy Creel	refund for business licens	25.00

DEPARTMENT	FUND	VENDOR NAME	DESCRIPTION	AMOUNT
		**PAYROLL EXPENSES	2/01/2018 - 2/28/2018	15,809.68
			TOTAL:	53,196.26
Judicial	OPERATING FUND	Administrative Office of the Courts	monthly report fee	216.00
		Judicial Education Center Institute of	monthly report fee	108.00
		Leadership New Mexico	membership dues	100.00
		PERA	RETIREMENT CONTRIBUTIONS	128.97
			RETIREMENT CONTRIBUTIONS	159.56
			RETIREMENT CONTRIBUTIONS	160.44
		United States Treasury	FICA W/H	86.78
			FICA W/H	165.22
			FICA W/H	103.79
			MEDICARE W/H	20.30
			MEDICARE W/H	38.64
			MEDICARE W/H	24.27
		Robles, Rael & Anaya	attorney fees	16.13
			attorney fees	74.18
		Bohannan Huston	computer maintenance	101.46
			computer maintenance	101.46
		Delta Dental of New Mexico	Insurance Contributions	23.62
			Insurance Contributions	23.62
		NM Retiree Health Care Authority	NRHC CONTRIBUTIONS	27.01
			NRHC CONTRIBUTIONS	33.10
			NRHC CONTRIBUTIONS	21.15
		THE HARTFORD	Basic Life	21.10
		Rhinehart & Associates, P.C.	attorney fees	537.50
		East Mountain Veterinary Service	veterinary services	137.92
		**PAYROLL EXPENSES	2/01/2018 - 2/28/2018	4,350.76
			TOTAL:	6,780.98
Animal Control	OPERATING FUND	Central NM Electric Coop	electric bill	432.93
		EMW Gas Association	gas bill	192.39
		PERA	RETIREMENT CONTRIBUTIONS	237.37
			RETIREMENT CONTRIBUTIONS	237.37
			RETIREMENT CONTRIBUTIONS	237.37
		United States Treasury	FICA W/H	157.12
			FICA W/H	163.60
			FICA W/H	159.16
			MEDICARE W/H	36.75
			MEDICARE W/H	38.26
			MEDICARE W/H	37.23
		Verizon Wireless Service, LLC	cell phone service	118.51
		WINDMILL WATER, INC.	bottled water	14.93
			bottled water	14.93
		WALMART COMMUNITY/GEMB	supplies	86.40
			supplies	49.11
		SAM'S CLUB/SYNCHRONY BANK	supplies	44.96
		Robles, Rael & Anaya	attorney fees	214.46
		Bohannan Huston	computer maintenance	101.46
			computer maintenance	101.46
		Western Trails Veterinary Hospital, PC	veterinary services	545.58
		Presbyterian Health Plan	Health Premiums	316.64
			Health Premiums	316.64
		Delta Dental of New Mexico	Insurance Contributions	35.30
			Insurance Contributions	35.30
		NM Retiree Health Care Authority	NRHC CONTRIBUTIONS	49.71

DEPARTMENT	FUND	VENDOR NAME	DESCRIPTION	AMOUNT
			NRHC CONTRIBUTIONS	49.71
			NRHC CONTRIBUTIONS	49.71
		EPCOR WATER	water service	74.73
		WEX BANK	fuel	201.57
		VISION SERVICE PLAN - (IC)	Insurance Contributions	5.28
			Insurance Contributions	5.28
		THE HARTFORD	Basic Life	28.04
		The Maids International, Inc.	Janitorial services	1,090.05
		**PAYROLL EXPENSES	2/01/2018 - 2/28/2018	5,389.39
			TOTAL:	10,868.70
Police	OPERATING FUND	Central NM Electric Coop	electric bill	944.70
		EMW Gas Association	gas bill	1,145.82
		Office Depot	supplies	198.77
		PERA	RETIREMENT CONTRIBUTIONS	128.89
			RETIREMENT CONTRIBUTIONS	128.90
			RETIREMENT CONTRIBUTIONS	128.89
			RET CONTRIBUTIONS POLICE	4,361.43
			RET CONTRIBUTIONS POLICE	4,654.45
			RET CONTRIBUTIONS POLICE	4,654.45
		Southwest Copy Systems, Inc.	copier maintenance	63.52
		United States Treasury	FICA W/H	1,339.54
			FICA W/H	1,280.90
			FICA W/H	1,385.21
			FICA W/H	155.86
			MEDICARE W/H	313.28
			MEDICARE W/H	299.58
			MEDICARE W/H	323.96
			MEDICARE W/H	36.45
		Verizon Wireless Service, LLC	cell phone service	116.55
			PD laptop	42.86
		WINDMILL WATER, INC.	bottled water	7.47
		WALMART COMMUNITY/GEMB	christmas with kids	423.84
		Robles, Rael & Anaya	attorney fees	53.21
		Rich Ford Sales	Unit Repair	8.90
		GALLS, LLC- DBA Neves Uniforms	Jacket James Walker	129.99
		Bohannan Huston	computer maintenance	780.20
			computer maintenance	780.20
		Presbyterian Health Plan	Health Premiums	3,464.64
			Health Premiums	3,464.64
		Delta Dental of New Mexico	Insurance Contributions	258.40
			Insurance Contributions	258.40
		NM Retiree Health Care Authority	NRHC CONTRIBUTIONS	27.00
			NRHC CONTRIBUTIONS	26.99
			NRHC CONTRIBUTIONS	26.99
			NRHC CONTRIBUTIONS	418.57
			NRHC CONTRIBUTIONS	443.03
			NRHC CONTRIBUTIONS	441.69
		EPCOR WATER	water service	139.71
			water service	92.01
		Tractor Supply Credit Plan	flag pole maintenance	18.45
		WEX BANK	fuel	2,545.42
		VISION SERVICE PLAN - (IC)	Insurance Contributions	42.12
			Insurance Contributions	42.12
		THE HARTFORD	Basic Life	157.50
		Technicon Training	FTO course, Garcia	350.00

DEPARTMENT	FUND	VENDOR NAME	DESCRIPTION	AMOUNT
		Plateau	telephone bill	262.34
		The Maids International, Inc.	Janitorial services	1,691.04
		RAKS Building Supply Inc	flag pole maintenance	6.67
		CODE 3 SERVICE, LLC	Strip PD Unit 2	376.25
		Sirchie Acquisition Company LLC	Safety Equipment	823.84
		**PAYROLL EXPENSES	2/01/2018 - 2/28/2018	47,358.29
			TOTAL:	86,623.93
Parks & Recreation	OPERATING FUND	Central NM Electric Coop	rec fiels/complex	28.63
		United States Treasury	FICA W/H	58.83
			FICA W/H	58.83
			FICA W/H	58.83
			MEDICARE W/H	13.76
			MEDICARE W/H	13.76
			MEDICARE W/H	13.76
		Verizon Wireless Service, LLC	cell phone service	63.43
		Bohannan Huston	computer maintenance	101.46
			computer maintenance	101.46
		Chili Hills	sign electric bill	72.75
		NM Retiree Health Care Authority	NRHC CONTRIBUTIONS	18.98
			NRHC CONTRIBUTIONS	18.98
			NRHC CONTRIBUTIONS	18.98
		Central New Mexico Pumping, Inc.	handicap toilet rental	146.05
		EPCOR WATER	water consumption 1200	329.28
		Tractor Supply Credit Plan	supplies	24.99
		THE HARTFORD	Basic Life	11.03
		**PAYROLL EXPENSES	2/01/2018 - 2/28/2018	1,897.72
			TOTAL:	3,051.51
Maintenance	OPERATING FUND	PERA	RETIREMENT CONTRIBUTIONS	262.44
			RETIREMENT CONTRIBUTIONS	262.44
			RETIREMENT CONTRIBUTIONS	262.44
		United States Treasury	FICA W/H	157.13
			FICA W/H	157.99
			FICA W/H	157.99
			MEDICARE W/H	36.75
			MEDICARE W/H	36.95
			MEDICARE W/H	36.95
		Verizon Wireless Service, LLC	cell phone service	92.14
		Wells Fargo Card Service Payment Remit	pallet jack	335.00
		WALMART COMMUNITY/GEMB	veh maintenance	10.00
			tires GMC	377.00
			supplies	9.97
		Presbyterian Health Plan	Health Premiums	787.00
			Health Premiums	787.00
		Delta Dental of New Mexico	Insurance Contributions	58.76
			Insurance Contributions	58.76
		NM Retiree Health Care Authority	NRHC CONTRIBUTIONS	54.96
			NRHC CONTRIBUTIONS	54.96
			NRHC CONTRIBUTIONS	54.96
		Auto Zone, Inc.	vehicle maintenance	19.99
		BAKER UTILITY SUPPLY	water truck maintenance	9.31
		Tractor Supply Credit Plan	supplies	21.99
			hook ratchet	74.95
		VISION SERVICE PLAN - (IC)	Insurance Contributions	9.65
			Insurance Contributions	9.65

DEPARTMENT	FUND	VENDOR NAME	DESCRIPTION	AMOUNT
		THE HARTFORD	Basic Life	29.93
		Plant World Inc.	root stimulator	17.93
		Double H Auto, Inc	vehicle maintenance	429.90
		MICHAEL LYON	vehicle maintenance	628.32
		RAKS Building Supply Inc	misc items	280.88
		CODE 3 SERVICE, LLC	Strip PD Unit 3	350.00
		**PAYROLL EXPENSES	2/01/2018 - 2/28/2018	5,496.16
			TOTAL:	11,430.25
Planning & Zoning	OPERATING FUND	PERA	RETIREMENT CONTRIBUTIONS	267.40
			RETIREMENT CONTRIBUTIONS	280.54
			RETIREMENT CONTRIBUTIONS	287.45
		United States Treasury	FICA W/H	188.62
			FICA W/H	226.21
			FICA W/H	220.31
			MEDICARE W/H	44.11
			MEDICARE W/H	52.92
			MEDICARE W/H	51.53
		Verizon Wireless Service, LLC	cell phone service	124.04
		Wells Fargo Card Service Payment Remit	NM Flood Plain Tawyna Mich	306.00
			supplies	43.95
		Robles, Rael & Anaya	attorney fees	1,241.63
		Bohannan Huston	Engineering services	5,817.88
			computer maintenance	50.73
			computer maintenance	50.73
		Presbyterian Health Plan	Health Premiums	623.20
			Health Premiums	623.20
		Delta Dental of New Mexico	Insurance Contributions	35.14
			Insurance Contributions	35.14
		NM Retiree Health Care Authority	NRHC CONTRIBUTIONS	56.00
			NRHC CONTRIBUTIONS	56.00
			NRHC CONTRIBUTIONS	56.00
		VISION SERVICE PLAN - (IC)	Insurance Contributions	1.76
			Insurance Contributions	1.76
		THE HARTFORD	Basic Life	31.19
		CODE 3 SERVICE, LLC	Old Chief Vehicle	765.75
		**PAYROLL EXPENSES	2/01/2018 - 2/28/2018	7,540.73
			TOTAL:	19,079.92
Library	OPERATING FUND	PERA	RETIREMENT CONTRIBUTIONS	290.25
			RETIREMENT CONTRIBUTIONS	290.25
			RETIREMENT CONTRIBUTIONS	290.25
		United States Treasury	FICA W/H	178.75
			FICA W/H	179.15
			FICA W/H	176.99
			MEDICARE W/H	41.80
			MEDICARE W/H	41.90
			MEDICARE W/H	41.39
		WALMART COMMUNITY/GEMB	heater	43.82
			supplies	227.53
			supplies	127.86
		Bohannan Huston	computer maintenance	775.25
			computer maintenance	775.25
		New Mexico Waste Services, Inc.	trash disposal service	157.70
		Presbyterian Health Plan	Health Premiums	719.18
			Health Premiums	719.18

DEPARTMENT	FUND	VENDOR NAME	DESCRIPTION	AMOUNT
		Delta Dental of New Mexico	Insurance Contributions	61.09
			Insurance Contributions	61.09
		NM Retiree Health Care Authority	NRHC CONTRIBUTIONS	60.79
			NRHC CONTRIBUTIONS	60.79
			NRHC CONTRIBUTIONS	60.79
		INGRAM LIBRARY SERVICES	Adult and Youth Bks.	2,222.15
			Adult and Youth Bks.	120.66
			Adult and Youth Bks.	32.24
		VISION SERVICE PLAN - (IC)	Insurance Contributions	9.90
			Insurance Contributions	9.90
		THE HARTFORD	Basic Life	31.19
		Plateau	telephone bill	81.09
		The Maids International, Inc.	Janitorial services	2,012.40
		High Desert Pipes & Drums	performance summer reading	200.00
		**PAYROLL EXPENSES	2/01/2018 - 2/28/2018	6,113.38
			TOTAL:	16,213.96
Community Center	OPERATING FUND	Central NM Electric Coop	electric bill	162.64
		EMW Gas Association	gas bill	74.50
		WASTE MANAGEMENT OF NEW MEXICO	waste disposal service	185.64
		WALMART COMMUNITY/GEMB	supplies	20.99
		AAA Pumping Service, Inc.	handicap toilet rental	134.50
			handicap toilet rental	134.50
		EPCOR WATER	water service	32.87
		Plateau	internet service	43.22
			TOTAL:	788.86
SFC Fire JPA	OPERATING FUND	County of Santa Fe	GRT SFC fire protection	27,749.99
			TOTAL:	27,749.99
NON-DEPARTMENTAL	MUNICIPAL STREET F	New Mexico Taxation & Revenue	STATE W/H	94.64
			STATE W/H	84.37
			STATE W/H	84.37
		PERA	RETIREMENT CONTRIBUTIONS	674.67
			RETIREMENT CONTRIBUTIONS	674.67
			RETIREMENT CONTRIBUTIONS	674.67
		United States Treasury	FED W/H	263.61
			FED W/H	237.69
			FED W/H	240.28
			FICA W/H	389.56
			FICA W/H	375.02
			FICA W/H	376.62
			MEDICARE W/H	91.11
			MEDICARE W/H	87.71
			MEDICARE W/H	88.08
		Presbyterian Health Plan	Health Premiums	277.28
			Health Premiums	277.28
		Delta Dental of New Mexico	Insurance Contributions	20.60
			Insurance Contributions	20.60
		NM Retiree Health Care Authority	NRHC CONTRIBUTIONS	63.35
			NRHC CONTRIBUTIONS	63.35
			NRHC CONTRIBUTIONS	63.35
		VISION SERVICE PLAN - (IC)	Insurance Contributions	2.41
			Insurance Contributions	2.41
		THE HARTFORD	Life Premiums	94.09
			Life Premiums	94.09

DEPARTMENT	FUND	VENDOR NAME	DESCRIPTION	AMOUNT
			TOTAL:	5,415.88
MUNICIPAL STREETS	MUNICIPAL STREET F	Central NM Electric Coop	traffic lights	1,263.02
			electric bill	21.75
		EMW Gas Association	gas bill	177.37
		Honstein Oil Company	fuel	1,213.70
		J-H Supply Company	signs	198.16
			signs	179.20
		Moriarty Concrete Products	1820 Tons Base	19,387.63
		PERA	RETIREMENT CONTRIBUTIONS	604.99
			RETIREMENT CONTRIBUTIONS	604.99
			RETIREMENT CONTRIBUTIONS	604.99
		CENTURYLINK	street lights	57.07
		United States Treasury	FICA W/H	389.56
			FICA W/H	375.02
			FICA W/H	376.62
			MEDICARE W/H	91.11
			MEDICARE W/H	87.71
			MEDICARE W/H	88.08
		Verizon Wireless Service, LLC	cell phone service	155.43
		WALMART COMMUNITY/GEMB	snow brush chisle	6.78
			shovels	97.23
		Bohannan Huston	computer maintenance	50.73
			computer maintenance	50.73
		Presbyterian Health Plan	Health Premiums	1,109.12
			Health Premiums	1,109.12
		Delta Dental of New Mexico	Insurance Contributions	82.38
			Insurance Contributions	82.38
		NM Retiree Health Care Authority	NRHC CONTRIBUTIONS	126.70
			NRHC CONTRIBUTIONS	126.70
			NRHC CONTRIBUTIONS	126.70
		EPCOR WATER	water service	330.10
			water service	111.57
		Tractor Supply Credit Plan	supplies	17.85
			coveralls	119.97
		WEX BANK	fuel	704.60
		VISION SERVICE PLAN - (IC)	Insurance Contributions	9.65
			Insurance Contributions	9.65
		THE HARTFORD	Basic Life	63.00
		K & S Industries LLC	80W LED Bulb	150.38
		RAKS Building Supply Inc	misc items	15.25
		**PAYROLL EXPENSES	2/01/2018 - 2/28/2018	12,695.80
			TOTAL:	43,072.79
Animal Shelter	ANIMAL SHELTER FUN	White Light Computing Inc	Ark Software	1,215.00
			TOTAL:	1,215.00
PUBLIC SAFETY	POLICE SP REVENUE	Rich Ford Sales	Oil Change PO	75.10
			TOTAL:	75.10
POLICE	CAPITAL PROJECTS F	Cooperative Educational Services	Station Remodel	101,000.00
			TOTAL:	101,000.00
MUNICIPAL STREETS	CAPITAL PROJECTS F	Bohannan Huston	Drainage Master Plan	13,975.00
		HORROCKS ENGINEERS	Church Street reconstructi	8,902.02
			TOTAL:	22,877.02

DEPARTMENT	FUND	VENDOR NAME	DESCRIPTION	AMOUNT
WASTEWATER SYSTEM	CAPITAL PROJECTS F	SMITH ENGINEERING COMPANY	TOE WW Collection System	23,029.67
			TOTAL:	23,029.67
NON-DEPARTMENTAL	WASTEWATER FUND	New Mexico Taxation & Revenue	STATE W/H	6.97
		PERA	RETIREMENT CONTRIBUTIONS	76.15
			RETIREMENT CONTRIBUTIONS	110.76
			RETIREMENT CONTRIBUTIONS	110.76
		United States Treasury	FED W/H	27.33
			FED W/H	59.92
			FED W/H	62.26
			FICA W/H	40.83
			FICA W/H	60.98
			FICA W/H	62.19
			MEDICARE W/H	9.55
			MEDICARE W/H	14.26
			MEDICARE W/H	14.54
		Delta Dental of New Mexico	Insurance Contributions	6.49
		NM Retiree Health Care Authority	NRHC CONTRIBUTIONS	7.15
		VISION SERVICE PLAN - (IC)	Insurance Contributions	0.44
			TOTAL:	670.58
Ww Collection Line	WASTEWATER FUND	Central NM Electric Coop	electric bill	3,757.88
			lift station	217.09
		Mail & Copy Business Center, Inc.	UPS Ground	74.79
		New Mexico Taxation & Revenue	gross receipts tax	150.71
		PERA	RETIREMENT CONTRIBUTIONS	68.28
			RETIREMENT CONTRIBUTIONS	99.32
			RETIREMENT CONTRIBUTIONS	99.32
		CENTURYLINK	telephone bill	128.31
			lift station	57.07
			telephone bill	135.31
		Southwest Cyberport	internet service	23.11
		United States Treasury	FICA W/H	40.83
			FICA W/H	60.98
			FICA W/H	62.19
			MEDICARE W/H	9.55
			MEDICARE W/H	14.26
			MEDICARE W/H	14.54
		Verizon Wireless Service, LLC	cell phone	38.48
			cell phone service	72.46
		WALMART COMMUNITY/GEMB	ladder	262.88
		SKM, Inc.	computer support	234.98
		Delta Dental of New Mexico	Insurance Contributions	25.95
		NM Retiree Health Care Authority	NRHC CONTRIBUTIONS	14.30
		NMED/CPB	loan #RIP 2008-09 payment	28,177.59
		Tractor Supply Credit Plan	safety vest	14.99
		VISION SERVICE PLAN - (IC)	Insurance Contributions	1.76
		THE HARTFORD	Basic Life	11.92
		EPCOR Water	DPC chemicals	3,645.80
			power generator service	344.14
			WWTP EOM	16,494.58
			EOM WWTP	15,853.17
		James Solomon	hook	8.99
		Occupational Health Centers of the SW,	Michael Garcia	65.58
		New Mexico Locking Systems	keys for WWTP	51.39
			locks for WWTP	38.65

DEPARTMENT	FUND	VENDOR NAME	DESCRIPTION	AMOUNT
		RAKS Building Supply Inc	locks	84.54
		Black Duck	uniforms for Michael Garci	276.00
		Mike Butler	WWTP supplies	243.03
		**PAYROLL EXPENSES	2/01/2018 - 2/28/2018	2,099.50
			TOTAL:	73,074.22
NON-DEPARTMENTAL	IMPACT FEE ESCROW	County of Santa Fe	Impact fee for Jan 18	1,977.44
		Town of Edgewood	reimburse GF	4,076.67
			TOTAL:	6,054.11

FUND TOTALS		
100	OPERATING FUND	280,191.25
216	MUNICIPAL STREET FUND	48,488.67
225	ANIMAL SHELTER FUND	1,215.00
299	POLICE SP REVENUE FUND	75.10
399	CAPITAL PROJECTS FUND	146,906.69
503	WASTEWATER FUND	73,744.80
600	IMPACT FEE ESCROW FUND	6,054.11
	GRAND TOTAL:	556,675.62

SELECTION CRITERIA

SELECTION OPTIONS

VENDOR SET: 01-TOWN OF EDGEWOOD
VENDOR: All
CLASSIFICATION: All
BANK CODE: All
ITEM DATE: 0/00/0000 THRU 99/99/9999
ITEM AMOUNT: 99,999,999.00CR THRU 99,999,999.00
GL POST DATE: 0/00/0000 THRU 99/99/9999
CHECK DATE: 2/01/2018 THRU 2/28/2018

PAYROLL SELECTION

PAYROLL EXPENSES: YES
CHECK DATE: 2/01/2018 THRU 2/28/2018

PRINT OPTIONS

PRINT DATE: None
SEQUENCE: By Department
DESCRIPTION: Distribution
GL ACCTS: NO
REPORT TITLE: C O U N C I L R E P O R T
SIGNATURE LINES: 0

PACKET OPTIONS

INCLUDE REFUNDS: YES
INCLUDE OPEN ITEM:NO

Town of Edgewood

GRT Distribution for Fiscal Year 2017

Date	Construction Total	Retail Trade Total	**645-Total Muni Infra-Structure	**650-Total Municipal GRT	** 690-Total Muni Share - State GRT	**630-Total Municipal Environmental	Food & Medical Distributions:	Total Distributed:
07/15/16	20,945.41	129,368.84	18,717.29	129,441.86	141,266.09	-	87,300.21	290,306.68
08/23/16	33,069.88	139,012.45	21,716.71	144,646.92	156,722.33	-	87,547.75	324,082.07
09/16/16	13,498.73	124,383.83	17,621.63	123,950.59	135,991.15	-	86,432.95	278,405.23
10/17/16	31,400.17	122,841.57	21,120.22	141,573.79	153,317.81	-	93,998.79	317,053.78
11/17/16	28,923.38	125,229.62	18,602.83	128,893.74	140,810.07	-	82,284.54	289,291.76
12/16/16	21,987.36	125,000.68	18,337.80	127,551.16	139,391.06	-	81,062.85	285,425.08
01/17/17	27,429.24	134,535.57	20,320.17	137,580.68	149,422.06	-	85,172.80	308,338.60
02/16/17	10,010.52	181,092.20	27,442.93	173,349.98	186,157.19	152.99	128,398.38	388,253.43
03/14/17	9,746.88	113,528.83	15,715.05	114,198.70	126,119.02	6,067.59	85,229.16	262,236.58
04/14/17	11,665.74	111,917.71	15,605.23	113,656.74	125,574.25	6,056.62	82,914.59	261,029.20
05/17/17	6,099.87	223,049.81	20,298.62	137,369.06	149,237.04	7,209.77	88,751.48	314,255.54
06/16/17	25,482.15	52,157.84	19,437.19	133,034.44	145,041.79	7,356.54	91,743.27	305,576.41
Totals	**240,259.33**	**1,582,118.95**	**234,935.67**	**1,605,247.66**	**1,749,049.86**	**26,843.51**	**1,080,836.77**	**3,624,254.36**
Averages	**20,021.61**	**131,843.25**	**19,577.97**	**133,770.64**	**145,754.16**	**6,710.88**	**90,069.73**	**302,021.20**

GRT Distribution for Fiscal Year 2018

Date	Construction Total	Retail Trade Total	**645-Total Muni Infra-Structure	**650-Total Municipal GRT	** 690-Total Muni Share - State GRT	**630-Total Municipal Environmental	Food & Medical Distributions:	Total Distributed:
07/17/17	44,268.95	146,146.84	22,297.50	147,487.76	159,405.05	7,794.46	92,490.67	338,063.42
08/16/17	10,463.14	150,285.63	21,366.66	142,787.53	154,747.77	7,594.69	91,730.69	327,528.70
09/15/17	20,870.29	133,956.92	20,748.19	139,632.59	151,499.29	7,462.82	92,905.18	320,339.84
10/16/17	22,664.83	137,905.35	22,095.26	146,440.98	158,276.67	7,677.69	95,665.97	335,536.42
11/15/17	18,511.58	145,591.44	20,680.78	139,286.71	151,228.79	7,382.55	93,140.59	319,573.54
12/18/17	20,461.65	131,858.79	19,499.14	133,298.57	145,229.77	7,158.34	92,243.91	306,033.65
01/17/18	22,227.55	162,694.79	20,574.46	138,749.97	150,585.10	7,428.33	91,171.78	318,393.00
02/15/18	40,017.11	191,533.62	31,098.88	191,776.43	203,250.84	10,069.50	139,369.94	437,643.54
03/20/18	48,043.96	124,675.09	21,564.96	143,770.57	155,626.20	7,627.58	100,239.26	329,742.27
04/xx/2018								
05/xx/2018								
06/xx/18								
Totals	**247,529.06**	**1,324,648.47**	**199,925.83**	**1,323,231.11**	**1,429,849.48**	**70,195.96**	**888,957.99**	**3,032,854.38**
Averages	**27,503.23**	**147,183.16**	**22,213.98**	**147,025.68**	**158,872.16**	**7,799.55**	**98,773.11**	**336,983.82**
Projections	**330,038.75**	**1,766,197.96**	**266,567.77**	**1,764,308.15**	**1,906,465.97**	**93,594.61**	**1,185,277.32**	**4,043,805.84**

TOWN OF EDGEWOOD
RESOLUTION NO. 2018-07
A BUDGET RESOLUTION AUTHORIZING BUDGET ADJUSTMENTS

WHEREAS, the Town of Edgewood meeting in Regular Session on the 18th day of April, 2018 at the Edgewood Community Center at 6:30 pm., as per law.

WHEREAS, the need for a budget adjustment has developed due to YTD actuals,

NOW, THEREFORE BE IT RESOLVED; that the budget be amended as follows:

General Fund:

	Current Budget	Decrease	Increase	Adjusted Budget
Expenditures	$3,945,650.00	-	$28,480.61	3,974,130.61
Net Effect: Increase/(Decrease)		$28,480.61		

Municipal Street Fund:

	Current Budget	Decrease	Increase	Adjusted Budget
Expenditure	$561,192.00	-	$50,000.00	$611,192.00
Net Effect: Increase/(Decrease)		$50,000.00		

Cell Tower Escrow Fund:

	Current Budget	Decrease	Increase	Adjusted Budget
Revenue	$0.00	-	$8,500.00	$8,500.00
Net Effect: Increase/(Decrease)		$8,500.00		

Cell Tower Escrow Fund:

	Current Budget	Decrease	Increase	Adjusted Budget
Expenditures	$0.00	-	$9,500.00	$9,500.00
Net Effect: Increase/(Decrease)		$9,500.00		

PASSED, APPROVED AND ADOPTED this 18th day of April, 2018.

John Bassett, Mayor

ATTEST:

Juan Torres, Clerk-Treasurer

TOWN OF EDGEWOOD
ORDINANCE NO. 2018-08
AN EMERGENCY ORDINANCE DECLARING HAZARDOUS FIRE CONDITIONS AND IMPOSING RESTRICTIONS ON OPEN FIRES, SMOKING AND OTHER IGNITION SOURCES

WHEREAS, the Town of Edgewood has ordained that because the current dry conditions and fire hazards represent an immediate danger to the public health, safety and welfare of the county, the following prohibitions are hereby **ADOPTED:**

1. Consistent with its authority to provide for the safety and to preserve the health of the residents of this Town, and pursuant to NMSA 1978, Sections 3-37-1 and 59A-52-18, the following are prohibited for a period of ninety (90) days within the Town of Edgewood:
    - Campfires
    - Open fires of any kind
    - Open burning of vegetation or rubbish
    - Smoking within a Town park, campground or any wildland area except within an enclosed vehicle or building
    - Littering on public roadways/areas with ignited smoking materials
    - Use of off-road vehicles and motor bikes within town parks, campgrounds and wild land areas
    - The issuance of licenses or permits for open burning except as noted below.
2. The Fire Chief or Fire Marshal of Santa Fe County shall have the authority to grant exemptions from the Emergency Ordinance for an applicant seeking a burn permit. The exemption shall be granted by issuing the burn permit only after the Fire Chief or Fire Marshal has determined that adequate fire protection is available and all reasonable measures have been taken to mitigate the risk posed by the proposed burn.
3. Pursuant to NMSA 1978, Section 3-37-3, any individual, firm, partnership or other entity found violating this emergency ordinance shall be deemed guilty of a petty misdemeanor and may be punished by imprisonment for up to ninety days or a fine not to exceed five hundred dollars, or both.
4. If any article, section or provision of this Ordinance is deemed invalid or void, the remaining portions shall not be effected and shall be enforced accordingly.
5. The Governing Body of the Town of Edgewood hereby declares an emergency relating to fire conditions within the Town, which is an immediate danger to the public health, safety and welfare of the Town and its residents, and the ordinance shall take effect immediately upon adoption by the Governing Body. This Ordinance shall remain in effect for ninety days.

PASSED, APPROVED AND ADOPTED this 18th day of April, 2018.

_____
John Bassett, Mayor

ATTEST:

_____
Juan Torres, Clerk-Treasurer