



Purchasing Division

Invitation for Bid

IFB-4297-16-DH
2016 Sewer Interceptor Repair and Replacements

Responses Due:

November 15, 2016 prior to 3:30pm

Accepting Electronic Responses Only

Responses Only Submitted Through the Rocky Mountain E-Purchasing System (RMEPS)

<https://www.rockymountainbidsystem.com/default.asp>

(Purchasing Representative does not have access or control of the vendor side of RMEPS. If website or other problems arise during response submission, vendor **MUST** contact RMEPS to resolve issue prior to the response deadline. 800-835-4603)

Purchasing Representative:

Duane Hoff Jr., Senior Buyer

duaneh@gjcity.org

970-244-1545

This document has been developed specifically to solicit competitive responses for this solicitation, and may not be the same as previous City of Grand Junction/Mesa County solicitations. All vendors are urged to thoroughly review this solicitation prior to responding. Submittal by **FAX, EMAIL or HARD COPY IS NOT ACCEPTABLE** for this solicitation.

Invitation for Bids

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1. Instructions to Bidders

- 1.1. Purpose:** The City of Grand Junction is soliciting competitive bids from qualified and interested companies for all labor, equipment, and materials required for the 2016 Sewer Interceptor Repair and Replacement Project. The project generally consists of, but may not be limited to, 13,415 LF of 54" cured in place pipe, the installation and coating of 22 sanitary sewer manholes (approximately 159 VLF), the abandonment of 19 manholes including cellular concrete, approximately 454 sy of asphalt patching and bypass pumping necessary to complete said work. All dimensions and scope of work should be verified by Contractors prior to submission of bids.

IFB Questions:

Duane Hoff Jr., Senior Buyer
duaneh@gjcity.org

- 1.2. Mandatory Pre-Bid Meeting:** **Prospective bidders are required to attend a mandatory pre-bid meeting on November 1, 2016 at 10:00am.** Meeting location shall be in the City Hall Auditorium, located at 250 N. 5th Street, Grand Junction, CO. The purpose of this visit will be to inspect and to clarify the contents of this Invitation for Bids (IFB).
- 1.3. The Owner:** The Owner is the City of Grand Junction and/or Mesa County, Colorado and is referred to throughout this Solicitation. The term Owner means the Owner or his authorized representative.
- 1.4. Submission:** **Each bid shall be submitted in electronic format only, and only through the Rocky Mountain E-Purchasing website (<https://www.rockymountainbidssystem.com/default.asp>).** *This site offers both "free" and "paying" registration options that allow for full access of the Owner's documents and for electronic submission of proposals. (Note: "free" registration may take up to 24 hours to process. Please Plan accordingly.)* Please view our "Electronic Vendor Registration Guide" at <http://www.gjcity.org/BidOpenings.aspx> for details. (Purchasing Representative does not have access or control of the vendor side of RMEPS. If website or other problems arise during response submission, vendor **MUST** contact RMEPS to resolve issue prior to the response deadline. **800-835-4603**)
- 1.5. Modification and Withdrawal of Bids Before Opening.** Bids may be modified or withdrawn by an appropriate document stating such, duly executed and submitted to the place where Bids are to be submitted at any time prior to Bid Opening.
- 1.6. Printed Form for Price Bid:** All Price Bids must be made upon the Price Bid Schedule attached, and should give the amounts both in words and in figures, and must be signed and acknowledged by the bidder.

The Offeror shall specify a unit price in figures for each pay item for which a quantity is given and shall provide the products (in numbers) of the respective unit prices and quantities in the Extended Amount column. The total Bid price shall be equal to the sum of all extended amount prices. When an item in the Price Bid Schedule provides a choice

to be made by the Offeror, Offeror's choice shall be indicated in accordance with the specifications for that particular item and thereafter no further choice shall be permitted.

Where the unit of a pay item is lump sum, the lump sum amount shall be shown in the "extended amount" column and included in the summation of the total Bid.

All blank spaces in the Price Bid Schedule must be properly filled out.

Bids by corporations must be executed in the corporate name by the president or vice president or other corporate office accompanied by evidence of authority to sign. The corporate address and state of incorporation shall be shown below the signature.

Bids by partnerships must be executed in the partnership name and signed by a partner whose title must appear under the signature and the official address of the partnership must be shown below the signature.

All names must be typed or printed below the signature.

The Offeror's Bid shall contain an acknowledgement of receipt of all Addenda, the numbers of which shall be filled in on the Contractor's Bid Form.

The contact information to which communications regarding the Bid are to be directed must be shown.

- 1.7. **Exclusions:** No oral, telephonic, emailed, or facsimile bid will be considered
- 1.8. **Contract Documents:** The complete IFB and bidder's response compose the Contract Documents. Copies of bid documents can be obtained from the City Purchasing website, <http://www.gjcity.org/BidOpenings.aspx>.
- 1.9. **Additional Documents:** The July 2010 edition of the "City Standard Contract Documents for Capital Improvements Construction", Plans, Specifications and other Bid Documents are available for review or download on the Public Works & Planning/Engineering page at www.gjcity.org. Electronic copies may be obtained on a CD format at the Department of Public Works and Planning at City Hall.
- 1.10. **Definitions and Terms:** See Article I, Section 3 of the General Contract Conditions in the *Standard Contract Documents for Capital Improvements Construction*.
- 1.11. **Examination of Specifications:** Bidders shall thoroughly examine and be familiar with the project Statement of Work. The failure or omission of any Offeror to receive or examine any form, addendum, or other document shall in no way relieve any Offeror from any obligation with respect to his bid. The submission of a bid shall be taken as evidence of compliance with this section. Prior to submitting a bid, each Offeror shall, at a minimum:
 - a. Examine the *Contract Documents* thoroughly;

- b. Visit the site to familiarize themselves with local conditions that may in any manner affect cost, progress, or performance of the Work;
- c. Become familiar with federal, state, and local laws, ordinances, rules, and regulations that may in any manner affect cost, progress or performance of the Work;
- d. Study and carefully correlate Bidder's observations with the *Contract Documents*, and;
- e. Notify the Engineer of all conflicts, errors, ambiguities or discrepancies in or among the *Contract Documents*

On request, the Owner will provide each Offeror access to the site to conduct such investigations and tests as each Bidder deems necessary for submission of a Bid. It shall be the Offeror's responsibility to make or obtain any additional examinations, investigations, explorations, tests and studies and obtain any additional information and data which pertain to the physical conditions (including without limitation, surface, subsurface and underground utilities) at or contiguous to the site or otherwise which may affect cost, progress or performance of the work and which the Offeror deems necessary to determine its Bid for performing the work in accordance with the time, price and other terms and conditions of the Contract Documents. Location of any excavation or boring made by Offeror shall be subject to prior approval of Owner and applicable agencies. Offeror shall fill all holes, restore all pavements to match the existing structural section and shall clean up and restore the site to its former condition upon completion of such exploration. The Owner reserves the right to require the Offeror to execute an access agreement with the Owner prior to accessing the site.

The lands upon which the Work is to be performed, rights of way, and access thereto, and other lands designated for use by Contractor in performing the Work, are identified on the Drawings.

Information and data reflected in the *Contract Documents* with respect to underground utilities at or contiguous to the site are based upon information and data furnished to the Owner and the Engineer by the owners of such underground utilities or others, and the Owner does not assume responsibility for the accuracy or completeness thereof, unless it is expressly provided otherwise in the *Contract Documents*.

By submission of a Bid, the Offeror shall be conclusively presumed to represent that the Offeror has complied with every requirement of these Instructions to Bidders, that the *Contract Documents* are not ambiguous and are sufficient in scope and detail to indicate and convey understanding of all terms and conditions for performance of the Work.

- 1.12. Questions Regarding Statement of Work:** Any information relative to interpretation of Scope of Work or specifications shall be requested of the Purchasing Representative, in writing, in ample time prior to the response time.

- 1.13. Addenda & Interpretations:** If it becomes necessary to revise any part of this solicitation, a written addendum will be posted electronically on the City's website at <http://www.gjcity.org/BidOpenings.aspx>. The Owner is not bound by any oral representations, clarifications, or changes made in the written specifications by Owner, unless such clarification or change is provided in written addendum form from the City Purchasing Representative.
- 1.14. Taxes:** The Owner is exempt from State retail and Federal tax. The bid price must be net, exclusive of taxes.
- 1.15. Sales and Use Taxes:** The Contractor and all Subcontractors are required to obtain exemption certificates from the Colorado Department of Revenue for sales and use taxes in accordance with the provisions of the General Contract Conditions. Bids shall reflect this method of accounting for sales and use taxes on materials, fixtures and equipment.
- 1.16. Offers Binding 60 Days:** Unless additional time is required by the Owner, or otherwise specified, all formal offers submitted shall be binding for sixty (60) calendar days following opening date, unless the Bidder, upon request of the Purchasing Representative, agrees to an extension.
- 1.17. Collusion Clause:** Each bidder by submitting a bid certifies that it is not party to any collusive action or any action that may be in violation of the Sherman Antitrust Act. Any and all bids shall be rejected if there is evidence or reason for believing that collusion exists among bidders. The Owner may, or may not, accept future bids for the same services or commodities from participants in such collusion.
- 1.18. Disqualification of Bidders:** A Bid will not be accepted from, nor shall a Contract be awarded to, any person, firm, or corporation that is in arrears to the Owner, upon debt or contract, or that has defaulted, as surety or otherwise, upon any obligation to the Owner, or that is deemed irresponsible or unreliable.

Bidders may be required to submit satisfactory evidence that they are responsible, have a practical knowledge of the project bid upon and that they have the necessary financial and other resources to complete the proposed Work.

Either of the following reasons, without limitation, shall be considered sufficient to disqualify a Bidder and Bid:

- a. More than one Bid is submitted for the same Work from an individual, firm, or corporation under the same or different name; and
 - b. Evidence of collusion among Bidders. Any participant in such collusion shall not receive recognition as a Bidder for any future work of the Owner until such participant has been reinstated as a qualified bidder.
- 1.19. Public Disclosure Record:** If the bidder has knowledge of their employee(s) or sub-contractors having an immediate family relationship with a City/County employee or elected official, the bidder must provide the Purchasing Representative with the name(s) of these individuals. These individuals are required to file an acceptable "Public

Disclosure Record”, a statement of financial interest, before conducting business with the City/County.

2. General Contract Conditions for Construction Projects

- 2.1. The Contract:** This Invitation for Bid, submitted documents, and any negotiations, when properly accepted by the City/County, shall constitute a contract equally binding between the City/County and Contractor. The contract represents the entire and integrated agreement between the parties hereto and supersedes all prior negotiations, representations, or agreements, either written or oral. The contract may be amended or modified with Change Orders, Field Orders, or Addendums.
- 2.2. The Work:** The term Work includes all labor necessary to produce the construction required by the Contract Documents, and all materials and equipment incorporated or to be incorporated in such construction.
- 2.3. Execution, Correlation, Intent, and Interpretations:** The Contract Documents shall be signed in not less than triplicate by the Owner (City/County) and Contractor. City/County will provide the contract. By executing the contract, the Contractor represents that he/she has visited the site, familiarized himself with the local conditions under which the Work is to be performed, and correlated his observations with the requirements of the Contract Documents. The Contract Documents are complementary, and what is required by any one, shall be as binding as if required by all. The intention of the documents is to include all labor, materials, equipment and other items necessary for the proper execution and completion of the scope of work as defined in the technical specifications and drawings contained herein. All drawings, specifications and copies furnished by the City/County are, and shall remain, City/County property. They are not to be used on any other project, and with the exception of one contract set for each party to the contract, are to be returned to the owner on request at the completion of the work.
- 2.4. The Owner:** The Owner is the City of Grand Junction and/or Mesa County, Colorado and is referred to throughout the Contract Documents. The term Owner means the Owner or his authorized representative. The Owner shall, at all times, have access to the work wherever it is in preparation and progress. The Contractor shall provide facilities for such access. The Owner will make periodic visits to the site to familiarize himself generally with the progress and quality of work and to determine, in general, if the work is proceeding in accordance with the contract documents. Based on such observations and the Contractor’s Application for Payment, the Owner will determine the amounts owing to the Contractor and will issue Certificates for Payment in such amounts, as provided in the contract. The Owner will have authority to reject work which does not conform to the Contract documents. Whenever, in his reasonable opinion, he considers it necessary or advisable to insure the proper implementation of the intent of the Contract Documents, he will have authority to require the Contractor to stop the work or any portion, or to require special inspection or testing of the work, whether or not such work can be then be fabricated, installed, or completed. The Owner will not be responsible for the acts or omissions of the Contractor, and sub-Contractor, or any of their agents or employees, or any other persons performing any of the work.

- 2.5. Contractor:** The Contractor is the person or organization identified as such in the Agreement and is referred to throughout the Contract Documents. The term Contractor means the Contractor or his authorized representative. The Contractor shall carefully study and compare the General Contract Conditions of the Contract, Specification and Drawings, Scope of Work, Addenda and Modifications and shall at once report to the Owner any error, inconsistency or omission he may discover. Contractor shall not be liable to the Owner for any damage resulting from such errors, inconsistencies or omissions. The Contractor shall not commence work without clarifying Drawings, Specifications, or Interpretations.
- 2.6. Sub-Contractors:** A sub-contractor is a person or organization who has a direct contract with the Contractor to perform any of the work at the site. The term sub-contractor is referred to throughout the contract documents and means a sub-contractor or his authorized representative.
- 2.7. Award of Sub-Contractors & Other Contracts for Portions of the Work:** As soon as practicable after bids are received and prior to the award of the contract, the successful Contractor shall furnish to the Owner, in writing for acceptance, a list of the names of the sub-contractors or other persons or organizations proposed for such portions of the work as may be designated in the proposal requirements, or, if none is so designated, the names of the sub-contractors proposed for the principal portions of the work. Prior to the award of the contract, the Owner shall notify the successful Contractor in writing if, after due investigation, has reasonable objection to any person or organization on such list. If, prior to the award of the contract, the Owner has a reasonable and substantial objection to any person or organization on such list, and refuses in writing to accept such person or organization, the successful Contractor may, prior to the award, withdraw their proposal without forfeiture of proposal security. If the successful Contractor submits an acceptable substitute with an increase in the proposed price to cover the difference in cost occasioned by the substitution, the Owner may, at their discretion, accept the increased proposal or may disqualify the Contractor. If, after the award, the Owner refuses to accept any person or organization on such list, the Contractor shall submit an acceptable substitute and the contract sum shall be increased or decreased by the difference in cost occasioned by such substitution and an appropriate Change Order shall be issued. However, no increase in the contract sum shall be allowed for any such substitution unless the Contractor has acted promptly and responsively in submitting a name with respect thereto prior to the award.
- 2.8. Quantities of Work and Unit Price:** Materials or quantities stated as unit price items in the Bid are supplied only to give an indication of the general scope of the Work, and are as such, estimates only. The Owner does not expressly or by implication agree that the actual amount of Work or material will correspond therewith, and reserves the right after award to increase or decrease the quantity of any unit item of the Work without a change in the unit price except as set forth in Article VIII, Section 70 of the *General Contract Conditions*. The City also reserves the right to make changes in the Work (including the right to delete any bid item in its entirety or add additional bid items) as set forth in Article VIII, Sections 69 through 71 of the *General Contract Conditions*.
- 2.9. Substitutions:** The materials, products and equipment described in the *Solicitation Documents* shall be regarded as establishing a standard of required performance,

function, dimension, appearance, or quality to be met by any proposed substitution. No substitution will be considered prior to receipt of Bids unless the Offeror submits a written request for approval to the City Purchasing Division at least ten (10) days prior to the date for receipt of Bids. Such requests for approval shall include the name of the material or equipment for which substitution is sought and a complete description of the proposed substitution including drawings, performance and test data, and other information necessary for evaluation, including samples if requested. The Offeror shall set forth changes in other materials, equipment, or other portions of the Work including changes of the work of other contracts, which incorporation of the proposed substitution would require to be included. The Owner's decision of approval or disapproval of a proposed substitution shall be final. If the Owner approves a proposed substitution before receipt of Bids, such approval will be set forth in an Addendum. Offerors shall not rely upon approvals made in any other manner.

- 2.10. Supervision and Construction Procedures:** The Contractor shall supervise and direct the work, using his best skill and attention. He shall be solely responsible for all construction means, methods, techniques, sequences and procedures and for coordinating all portions of the work under the contract.
- 2.11. Warranty:** The Contractor warrants to the Owner that all materials and equipment furnished under this contract will be new unless otherwise specified, and that all work will be of good quality, free from faults and defects and in conformance with the Contract Documents. All work not so conforming to these standards may be considered defective. If required by Owner, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment. If within ten (10) days after written notice to the Contractor requesting such repairs or replacement, the Contractor should neglect to make or undertake with due diligence to the same, the City may make such repairs or replacements. All indirect and direct costs of such correction or removal or replacement shall be at the Contractor's expense. The Contractor will also bear the expenses of making good all work of others destroyed or damaged by the correction, removal or replacement of his defective work.
- 2.12. Permits, Fees, & Notices:** The Contractor shall secure and pay for all permits, governmental fees and licenses necessary for the proper execution and completion of the work. The Contractor shall give all notices and comply with all laws, ordinances, rules, regulations and orders of any public authority bearing on the performance of the work. If the Contractor observes that any of the Contract Documents are at variance in any respect, he shall promptly notify the Owner in writing, and any necessary changes shall be adjusted by approximate modification. If the Contractor performs any work knowing it to be contrary to such laws, ordinances, rules and regulations, and without such notice to the Owner, he shall assume full responsibility and shall bear all costs attributable.
- 2.13. Responsibility for Those Performing the Work:** The Contractor shall be responsible to the Owner for the acts and omissions of all his employees and all sub-contractors, their agents and employees, and all other persons performing any of the work under a contract with the Contractor.

- 2.14. Use of the Site:** The Contractor shall confine operations at the site to areas permitted by law, ordinances, permits and the Contract Documents, and shall not unreasonably encumber the site with any materials or equipment.
- 2.15. Cleanup:** The Contractor at all times shall keep the premises free from accumulation of waste materials or rubbish caused by his operations. At the completion of work he shall remove all his waste materials and rubbish from and about the project, as well as all his tools, construction equipment, machinery and surplus materials.
- 2.16. Insurance:** The Contractor shall secure and maintain such insurance policies as will provide the coverage and contain other provisions specified in the General Contract Conditions, or as modified in the Special Contract Conditions.

The Contractor shall file a copy of the policies or Certificates of Insurance acceptable to the City with the Engineer within ten (10) Calendar Days after issuance of the Notice of Award. These Certificates of Insurance shall contain a provision that coverage afforded under the policies shall not be canceled unless at least thirty (30) Calendar Days prior written notice has been given to the City.

- 2.17. Indemnification:** The Contractor shall defend, indemnify and save harmless the Owner, and all its officers, employees, insurers, and self-insurance pool, from and against all liability, suits, actions, or other claims of any character, name and description brought for or on account of any injuries or damages received or sustained by any person, persons, or property on account of any negligent act or fault of the Contractor, or of any Contractor's agent, employee, sub-contractor or supplier in the execution of, or performance under, any contract which may result from proposal award. Contractor shall pay any judgment with cost which may be obtained against the Owner growing out of such injury or damages.
- 2.18. Miscellaneous Conditions:** **Material Availability:** Contractors must accept responsibility for verification of material availability, production schedules, and other pertinent data prior to submission of bid. It is the responsibility of the bidder to notify the Owner immediately if materials specified are discontinued, replaced, or not available for an extended period of time. **OSHA Standards:** All bidders agree and warrant that services performed in response to this invitation shall conform to the standards declared by the US Department of Labor under the Occupational Safety and Health Act of 1970 (OSHA). In the event the services do not conform to OSHA standards, the Owner may require the services to be redone at no additional expense to the Owner.
- 2.19. Time:** Time is of the essence with respect to the time of completion of the Project and any other milestones or deadline which are part of the Contract. It will be necessary for each Bidder to satisfy the City of its ability to complete the Work within the Contract Time set forth in the Contract Documents. The Contract Time is the period of time allotted in the Contract Documents for completion of the work. The date of commencement of the work is the date established in a Notice to Proceed. If there is no Notice to Proceed, it shall be the date of the Contract or such other date as may be established therein, or as established as entered on the Bid Form. The Date of Substantial Completion of the work or designated portions thereof is the date certified by the Owner when construction is sufficiently complete, in accordance with the Contract Documents.

- 2.20. Progress & Completion:** The Contractor shall begin work on the date of commencement as defined in the Contract, and shall carry the work forward expeditiously with adequate forces and shall complete it within the contract time.
- 2.21. Payment & Completion:** The Contract Sum is stated in the Contract and is the total amount payable by the Owner to the Contractor for the performance of the work under the Contract Documents. Upon receipt of written notice that the work is ready for final inspection and acceptance and upon receipt of application for payment, the Owner's Project Manager will promptly make such inspection and, when he finds the work acceptable under the Contract Documents and the Contract fully performed, the Owner shall make payment in the manner provided in the Contract Documents.
- 2.22. Bid Bond:** Each Bid shall as a guaranty of good faith on the part of the Bidder be accompanied by a Bid Guaranty consisting of: a certified or cashier's check drawn on an approved national bank or trust company in the state of Colorado, and made payable without condition to the City; or a **Bid Bond** written by an approved corporate surety in favor of the City. The amount of the Bid Guaranty shall not be less than 5% of the total Bid amount. Once a Bid is accepted and a Contract is awarded, the apparent successful bidder has ten calendar days to enter into a contract in the form prescribed and to furnish the bonds with a legally responsible and approved surety. Failure to do so will result in forfeiture of the Bid Guaranty to the City as Liquidated Damages.

Each bidder shall guaranty its total bid price for a period of sixty (60) Calendar Days from the date of the bid opening.

- 2.23. Performance & Payment Bonds:** Contractor shall furnish a Performance and a Payment Bond, each in an amount at least equal to that specified for the contract amount as security for the faithful performance and payment of all Contractor's obligations under the Contract Documents. These bonds shall remain in effect for the duration of the Warranty Period (as specified in the Special Conditions). Contractor shall also furnish other bonds that may be required by the Special Conditions. All bonds shall be in the forms prescribed by the Contract Documents and be executed by such sureties as (1) are licensed to conduct business in the State of Colorado and (2) are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Audit Staff, Bureau of Accounts, U.S. Treasury Department. All bonds signed by an agent must be accompanied by a certified copy of the Authority Act. If the surety on any bond furnished by the Contractor is declared bankrupt, or becomes insolvent, or its rights to do business in Colorado are terminated, or it ceases to meet the requirements of clauses (1) and (2) of this section, Contractor shall within five (5) days thereafter substitute another bond and surety, both of which shall be acceptable to the City.
- 2.24. Retention:** The Owner will deduct money from the partial payments in amounts considered necessary to protect the interest of the Owner and will retain this money until after completion of the entire contract. The amount to be retained from partial payments will be five (5) percent of the value of the completed work, and not greater than five (5) percent of the amount of the Contract. When the retainage has reached five (5) percent of the

amount of the Contract no further retainage will be made and this amount will be retained until such time as final payment is made.

2.25. Liquidated Damages for Failure to Enter Into Contract: CITY ONLY Should the Successful Bidder fail or refuse to enter into the Contract within ten Calendar Days from the issuance of the Notice of Award, the City shall be entitled to collect the amount of such Bidder's Bid Guaranty as Liquidated Damages, not as a penalty but in consideration of the mutual release by the City and the Successful Bidder of all claims arising from the City's issuance of the Notice of Award and the Successful Bidder's failure to enter into the Contract and the costs to award the Contract to any other Bidder, to readvertise, or otherwise dispose of the Work as the City may determine best serves its interest.

2.26. Liquidated Damages for Failure to Meet Project Completion Schedule: CITY ONLY If the Contractor does not achieve Final Completion by the required date, whether by neglect, refusal or any other reason, the parties agree and stipulate that the Contractor shall pay liquidated damages to the City for each such day that final completion is late. As provided elsewhere, this provision does not apply for delays caused by the City. The date for Final Completion may be extended in writing by the Owner.

The Contractor agrees that as a part of the consideration for the City's awarding of this Contract liquidated damages in the daily amount of **\$750.00** is reasonable and necessary to pay for the actual damages resulting from such delay. The parties agree that the real costs and injury to the City for such delay include hard to quantify items such as: additional engineering, inspection and oversight by the City and its agents; additional contract administration; inability to apply the efforts of those employees to the other work of the City; perceived inefficiency of the City; citizens having to deal with the construction and the Work, rather than having the benefit of a completed Work, on time; inconvenience to the public; loss of reputation and community standing for the City during times when such things are very important and very difficult to maintain.

The Contractor must complete the Work and achieve final completion included under the Bid Schedule in the number of consecutive calendar days after the City gives is written Notice to Proceed. When the Contractor considers the entire Work ready for its intended use, Contractor shall certify in writing that the Work is substantially complete. In addition to the Work being substantially complete, Final Completion date is the date by which the Contractor shall have fully completed all clean-up, and all items that were identified by the City in the inspection for final completion. Unless otherwise stated in the Special Conditions, for purposes of this liquidated damages clause, the Work shall not be finished and the Contract time shall continue to accrue until the City gives its written Final Acceptance.

If the Contractor shall fail to pay said liquidated damages promptly upon demand thereof after having failed to achieve Final Completion on time, the City shall first look to any retainage or other funds from which to pay said liquidated damages; if retainage or other liquid funds are not available to pay said liquidated damages amounts, the Surety on the Contractor's Performance Bond and Payment Bond shall pay such liquidated damages. In addition, the City may withhold all, or any part of, such liquidated damages from any payment otherwise due the Contractor.

Liquidated damages as provided do not include any sums to reimburse the City for extra costs which the City may become obligated to pay on other contracts which were delayed or extended because of the Contractor's failure to complete the Work within the Contract Time. Should the City incur additional costs because of delays or extensions to other contracts resulting from the Contractor's failure of timely performance, the Contractor agrees to pay these costs that the City incurs because of the Contractor's delay, and these payments are separate from and in addition to any liquidated damages.

The Contractor agrees that the City may use its own forces or hire other parties to obtain Substantial or Final Completion of the work if the time of completion has elapsed and the Contractor is not diligently pursuing completion. In addition to the Liquidated Damages provided for, the Contractor agrees to reimburse the City for all expenses thus incurred.

- 2.27. Contingency/Force Account:** Contingency/Force Account work will be authorized by the Owner's Project Manager and is defined as minor expenses to cover miscellaneous or unforeseen expenses related to the project. The expenses are not included in the Drawings, Specifications, or Scope of Work and are necessary to accomplish the scope of this contract. Contingency/Force Account Authorization will be directed by the Owner through an approved form. Contingency/Force Account funds are the property of the Owner and any Contingency/Force Account funds, not required for project completion, shall remain the property of the Owner. Contractor is not entitled to any Contingency/Force Account funds, that are not authorized by Owner or Owner's Project Manager.
- 2.28. Protection of Persons & Property:** The Contractor shall comply with all applicable laws, ordinances, rules, regulations and orders of any public authority having jurisdiction for the safety of persons or property or to protect them from damage, injury or loss. Contractor shall erect and maintain, as required by existing safeguards for safety and protection, and all reasonable precautions, including posting danger signs or other warnings against hazards promulgating safety regulations and notifying owners and users of adjacent utilities. When or where any direct or indirect damage or injury is done to public or private property by or on account of any act, omission, neglect, or misconduct by the Contractor in the execution of the work, or in consequence of the non-execution thereof by the Contractor, he shall restore, at his own expense, such property to a condition similar or equal to that existing before such damage or injury was done, by repairing, rebuilding, or otherwise restoring as may be directed, or it shall make good such damage or injury in an acceptable manner.
- 2.29. Changes in the Work:** The Owner, without invalidating the contract, may order changes in the work within the general scope of the contract consisting of additions, deletions or other revisions, the contract sum and the contract time being adjusted accordingly. All such changes in the work shall be authorized by Change Order and shall be executed under the applicable conditions of the contract documents. A Change Order is a written order to the Contractor signed by the Owner issued after the execution of the contract, authorizing a change in the work or an adjustment in the contract sum or the contract time. The contract sum and the contract time may be changed only by Change Order.
- 2.30. Claims for Additional Cost or Time:** If the Contractor wishes to make a claim for an increase in the contract sum or an extension in the contract time, he shall give the Owner

written notice thereof within a reasonable time after the occurrence of the event giving rise to such claim. This notice shall be given by the Contractor before proceeding to execute the work, except in an emergency endangering life or property in which case the Contractor shall precede in accordance with the regulations on safety. No such claim shall be valid unless so made. Any change in the contract sum or contract time resulting from such claim shall be authorized by Change Order.

- 2.31. Minor Changes in the Work:** The Owner shall have authority to order minor changes in the work not involving an adjustment in the contract sum or an extension of the contract time and not inconsistent with the intent of the contract documents.
- 2.32. Field Orders:** The Owner may issue written Field Orders which interpret the Contract Documents in accordance with the specifications, or which order minor changes in the work in accordance with the agreement, without change in the contract sum or time. The Contractor shall carry out such Field Orders promptly.
- 2.33. Uncovering & Correction of Work:** The Contractor shall promptly correct all work rejected by the Owner as defective or as failing to conform to the contract documents whether observed before or after substantial completion and whether or not fabricated installed or completed. The Contractor shall bear all costs of correcting such rejected work, including the cost of the Owner's additional services thereby made necessary. If within one (1) year after the date of completion or within such longer period of time as may be prescribed by law or by the terms of any applicable special guarantee required by the contract documents, any of the work found to be defective or not in accordance with the contract documents, the Contractor shall correct it promptly after receipt of a written notice from the Owner to do so unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discover of condition. All such defective or non-conforming work under the above paragraphs shall be removed from the site where necessary and the work shall be corrected to comply with the contract documents without cost to the Owner. The Contractor shall bear the cost of making good all work of separate Contractors destroyed or damaged by such removal or correction. If the Owner prefers to accept defective or non-conforming work, he may do so instead of requiring its removal and correction, in which case a Change Order will be issued to reflect an appropriate reduction in the payment or contract sum, or, if the amount is determined after final payment, it shall be paid by the Contractor.
- 2.30. Amendment:** No oral statement of any person shall modify or otherwise change, or affect the terms, conditions or specifications stated in the resulting contract. All amendments to the contract shall be made in writing by the Owner.
- 2.31. Assignment:** The Contractor shall not sell, assign, transfer or convey any contract resulting from this IFB, in whole or in part, without the prior written approval from the Owner.
- 2.32. Compliance with Laws:** Bids must comply with all Federal, State, County and local laws governing or covering this type of service and the fulfillment of all ADA (Americans with Disabilities Act) requirements.

- 2.33. Confidentiality:** All information disclosed by the Owner to the Contractor for the purpose of the work to be done or information that comes to the attention of the Contractor during the course of performing such work is to be kept strictly confidential.
- 2.34. Conflict of Interest:** No public official and/or City/County employee shall have interest in any contract resulting from this IFB.
- 2.35. Contract Termination:** This contract shall remain in effect until any of the following occurs: (1) contract expires; (2) completion of services; (3) acceptance of services or, (4) for convenience terminated by either party with a written *Notice of Cancellation* stating therein the reasons for such cancellation and the effective date of cancellation.
- 2.36. Employment Discrimination:** During the performance of any services per agreement with the Owner, the Contractor, by submitting a Bid, agrees to the following conditions:
- 2.36.1.** The Contractor shall not discriminate against any employee or applicant for employment because of race, religion, color, sex, age, handicap, or national origin except when such condition is a legitimate occupational qualification reasonably necessary for the normal operations of the Contractor. The Contractor agrees to post in conspicuous places, visible to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause.
- 2.36.2.** The Contractor, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, shall state that such Contractor is an Equal Opportunity Employer.
- 2.36.3.** Notices, advertisements, and solicitations placed in accordance with federal law, rule, or regulation shall be deemed sufficient for the purpose of meeting the requirements of this section.
- 2.37. Affirmative Action:** In executing a Contract with the City, the Contractor agrees to comply with Affirmative Action and Equal Employment Opportunity regulations presented in the General Contract Conditions.
- 2.38. Immigration Reform and Control Act of 1986 and Immigration Compliance:** The Offeror certifies that it does not and will not during the performance of the contract employ illegal alien workers or otherwise violate the provisions of the Federal Immigration Reform and Control Act of 1986 and/or the immigration compliance requirements of State of Colorado C.R.S. § 8-17.5-101, *et.seq.* (House Bill 06-1343).
- 2.39. Ethics:** The Contractor shall not accept or offer gifts or anything of value nor enter into any business arrangement with any employee, official, or agent of the Owner.
- 2.40. Failure to Deliver:** In the event of failure of the Contractor to deliver services in accordance with the contract terms and conditions, the Owner, after due oral or written notice, may procure the services from other sources and hold the Contractor responsible for any costs resulting in additional purchase and administrative services. This remedy shall be in addition to any other remedies that the Owner may have.

- 2.41. Failure to Enforce:** Failure by the Owner at any time to enforce the provisions of the contract shall not be construed as a waiver of any such provisions. Such failure to enforce shall not affect the validity of the contract or any part thereof or the right of the Owner to enforce any provision at any time in accordance with its terms.
- 2.42. Force Majeure:** The Contractor shall not be held responsible for failure to perform the duties and responsibilities imposed by the contract due to legal strikes, fires, riots, rebellions, and acts of God beyond the control of the Contractor, unless otherwise specified in the contract.
- 2.43. Independent Contractor:** The Contractor shall be legally considered an Independent Contractor and neither the Contractor nor its employees shall, under any circumstances, be considered servants or agents of the Owner. The Owner shall be at no time legally responsible for any negligence or other wrongdoing by the Contractor, its servants, or agents. The Owner shall not withhold from the contract payments to the Contractor any federal or state unemployment taxes, federal or state income taxes, Social Security Tax or any other amounts for benefits to the Contractor. Further, the Owner shall not provide to the Contractor any insurance coverage or other benefits, including Workers' Compensation, normally provided by the Owner for its employees.
- 2.44. Nonconforming Terms and Conditions:** A bid that includes terms and conditions that do not conform to the terms and conditions of this Invitation for Bid is subject to rejection as non-responsive. The Owner reserves the right to permit the Contractor to withdraw nonconforming terms and conditions from its bid prior to a determination by the Owner of non-responsiveness based on the submission of nonconforming terms and conditions.

Items for non-responsiveness may include, but not be limited to:

- a. Submission of the Bid on forms other than those supplied by the City;
- b. Alteration, interlineation, erasure, or partial detachment of any part of the forms which are supplied herein;
- c. Inclusion of unauthorized additions conditional or alternate Bids or irregularities of any kind which may tend to make the Bid incomplete, indefinite, or ambiguous as to its meaning;
- d. Failure to acknowledge receipt of any or all issued Addenda;
- e. Failure to provide a unit price or a lump sum price, as appropriate, for each pay item listed except in the case of authorized alternative pay items;
- f. Failure to list the names of Subcontractors used in the Bid preparation as may be required in the Solicitation Documents;
- g. Submission of a Bid that, in the opinion of the Owner, is unbalanced so that each item does not reasonably carry its own proportion of cost or which contains inadequate or unreasonable prices for any item;

- h. Tying of the Bid with any other bid or contract; and
- i. Failure to calculate Bid prices as described herein.

2.45. Evaluation of Bids and Offers: The Owner reserves the right to:

- reject any and all Bids,
- waive any and all informalities,
- negotiate final terms with the Successful Bidder, and
- disregard any and all nonconforming, nonresponsive or conditional Bids.

Discrepancies between words and figures will be resolved in favor of words. Discrepancies between Unit Prices and Extended Prices will be resolved in favor of the Unit Prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum. The corrected extensions and totals will be shown in the tabulation of Bids.

The Owner may consider the qualifications and experience of Subcontractors and other persons and organizations (including those who are to furnish the principal items of material or equipment) proposed for those portions of the work as to which the identity of Subcontractors and other persons and organizations must be submitted. Operating costs, maintenance considerations performance data, and guarantees of materials and equipment may also be considered by the Owner.

The Owner will conduct such investigations as deemed necessary to assist in the evaluation of any Bid and to establish the responsibility, qualifications and financial ability of the Offeror, proposed Subcontractors and other persons and organizations to do the Work in accordance with the *Contract Documents* to the City's satisfaction within the Contract Time.

The Offeror shall furnish the Owner all information and data requested by the Owner to determine the ability of the Offeror to perform the Work. The Owner reserves the right to reject the Bid if the evidence submitted by, or investigation of such Offeror fails to satisfy the Owner that such Offeror is properly qualified to carry out the obligations of the Contract and to complete the Work contemplated therein.

By submitting a Bid, each Offeror authorizes the Owner to perform such investigation of the Offeror as the Owner deems necessary to establish the responsibility, qualifications and financial ability of the Offeror and, by its signature thereon, authorizes the Owner to obtain reference information concerning the Offeror and releases the party providing such information and the Owner from any and all liability to the Offeror as a result of such reference information so provided.

The Owner reserves the right to reject the Bid of any Offeror who does not pass any evaluation to the Owner's satisfaction.

If the Contract is to be awarded, it will be awarded to the Offeror who, by evaluation, the Owner determines will best meet the Owner's interests.

The Owner reserves the right to accept or reject the Work contained in any of the Price Bid Schedules or alternates, either in whole or in part.

2.46. Award of Contract: Unless otherwise indicated, a single award will be made for all the bid items in an individual bid schedule. In the event that the Work is contained in more than one Bid Schedule, the City may award Schedules individually or in combination. In the case of two Bid Schedules which are alternative to each other, only one of such alternative Schedules will be awarded. Within forty-five (45) Calendar Days of Bid Opening, the City will issue a Notice of Award to the Successful Bidder which will be accompanied by four (4) unsigned copies of the Contract and the Performance and Payment Bond forms. Within ten (10) Calendar Days thereafter, the Successful Bidder shall sign and deliver four (4) copies of the Contract, Performance Bond, Payment Bond and Certificates of Insurance to the City. Within ten (10) Calendar Days thereafter, the City will deliver two (2) fully executed counterparts of the Contract to the Contractor. No contract shall exist between the Successful Bidder and the City and the Successful Bidder shall have no rights at law or in equity until the Contract has been duly executed by the City.

The Successful Bidder's failure to sign and submit a Contract and other documents set forth in this Paragraph within the prescribed time shall be just cause of annulment of the award, and forfeiture of the Bid Guaranty. The award of Contract may then be made to the next qualified Bidder in the same manner as previously prescribed.

2.47. Ownership: All plans, prints, designs, concepts, etc., shall become the property of the Owner.

2.48. Oral Statements: No oral statement of any person shall modify or otherwise affect the terms, conditions, or specifications stated in this document and/or resulting agreement. All modifications to this request and any agreement must be made in writing by the Owner.

2.49. Patents/Copyrights: The Contractor agrees to protect the Owner from any claims involving infringements of patents and/or copyrights. In no event shall the Owner be liable to the Contractor for any/all suits arising on the grounds of patent(s)/copyright(s) infringement. Patent/copyright infringement shall null and void any agreement resulting from response to this IFB.

2.50. Remedies: The Contractor and Owner agree that both parties have all rights, duties, and remedies available as stated in the Uniform Commercial Code.

2.51. Venue: Any agreement as a result of responding to this IFB shall be deemed to have been made in, and shall be construed and interpreted in accordance with, the laws of the City of Grand Junction, Mesa County, Colorado.

2.52. Expenses: Expenses incurred in preparation, submission and presentation of this IFB are the responsibility of the company and cannot be charged to the Owner.

- 2.53. Sovereign Immunity:** The Owner specifically reserves its right to sovereign immunity pursuant to Colorado State Law as a defense to any action arising in conjunction to this agreement.
- 2.54. Non-Appropriation of Funds:** The contractual obligation of the Owner under this contract is contingent upon the availability of appropriated funds from this fiscal year budget as approved by the City Council or Board of County Commissioners from this fiscal year only. State of Colorado Statutes prohibit obligation of public funds beyond the fiscal year for which the budget was approved. Anticipated expenditures/obligations beyond the end of the current Owner's fiscal year budget shall be subject to budget approval. Any contract will be subject to and must contain a governmental non-appropriation of funds clause.
- 2.55. Cooperative Purchasing:** Purchases as a result of this solicitation are primarily for the City/County. Other governmental entities may be extended the opportunity to utilize the resultant contract award with the agreement of the successful provider and the participating agencies. All participating entities will be required to abide by the specifications, terms, conditions and pricings established in this Bid. The quantities furnished in this bid document are for only the City/County. It does not include quantities for any other jurisdiction. The City or County will be responsible only for the award for its jurisdiction. Other participating entities will place their own awards on their respective Purchase Orders through their purchasing office or use their purchasing card for purchase/payment as authorized or agreed upon between the provider and the individual entity. The City/County accepts no liability for payment of orders placed by other participating jurisdictions that choose to piggy-back on our solicitation. Orders placed by participating jurisdictions under the terms of this solicitation will indicate their specific delivery and invoicing instructions.
- 2.56. Keep Jobs in Colorado Act:** Contractor shall be responsible for ensuring compliance with Article 17 of Title 8, Colorado Revised Statutes requiring 80% Colorado labor to be employed on public works. Contractor shall, upon reasonable notice provided by the Owner, permit the Owner to inspect documentation of identification and residency required by C.R.S. §8-17-101(2)(a). If Contractor claims it is entitled to a waiver pursuant to C.R.S. §8-17-101(1), Contractor shall state that there is insufficient Colorado labor to perform the work such that compliance with Article 17 would create an undue burden that would substantially prevent a project from proceeding to completion, and shall include evidence demonstrating the insufficiency and undue burden in its response.

Unless expressly granted a waiver by the Owner pursuant to C.R.S. §8-17-101(1), Contractor shall be responsible for ensuring compliance with Article 17 of Title 8, Colorado Revised Statutes requiring 80% Colorado labor to be employed on public works. Contractor shall, upon reasonable notice provided by the Owner, permit the Owner to inspect documentation of identification and residency required by C.R.S. §8-17-101(2)(a).

2.56.1. "Public project" is defined as:

- (a) any construction, alteration, repair, demolition, or improvement of any land, building, structure, facility, road, highway, bridge, or other public

improvement suitable for and intended for use in the promotion of the public health, welfare, or safety and any maintenance programs for the upkeep of such projects

- (b) for which appropriate or expenditure of moneys may be reasonably expected to be \$500,000.00 or more in the aggregate for any fiscal year
- (c) except any project that receives federal moneys.

3. Statement of Work

3.1. GENERAL: The City of Grand Junction is soliciting competitive bids from qualified and interested companies for all labor, equipment, and materials required to perform sanitary sewer interceptor repair and replacement and all other work for the 2016 Sewer Interceptor Repair and Replacement Project. All dimensions and scope of work should be verified by Contractors prior to submission of bids.

NOTE: The descriptions of the pay items listed in the Price Bid Schedule for this Project may not agree with those listed in the Standard Specifications. Payment for all Work performed, as required in the Contract Documents, will be in accordance with the items and units listed in the Price Bid Schedule.

The performance of the Work for this Project shall conform to the General Contract conditions presented in the City of Grand Junction's Standard Contract Documents for Capital Improvements Construction, revised July 2010, except as specifically modified or supplemented herein or on the Construction Drawings.

3.2. PROJECT DESCRIPTION: The project generally consists of, but may not be limited to, 13,415 LF of 54" cured in place pipe, the installation and coating of 22 sanitary sewer manholes (approximately 159 VLF), the abandonment of 19 manholes including cellular concrete, approximately 454 sy of asphalt patching and bypass pumping necessary to complete said work.

3.3. SPECIAL CONDITIONS & PROVISIONS:

3.3.1 Mandatory Pre-Bid Meeting: Prospective bidders are required to attend a mandatory pre-bid meeting on November 1, 2016 at 10:00am. Meeting location shall be in the City Hall Auditorium, located at 250 N. 5th Street, Grand Junction, CO. The purpose of this visit will be to inspect and to clarify the contents of this Invitation for Bids (IFB).

3.3.2 QUESTIONS REGARDING SOLICIATION PROCESS/SCOPE OF WORK:

Duane Hoff Jr., Senior Buyer
City of Grand Junction
duaneh@gjcity.org

3.3.2 Project Manager: The Project Manager for the Project is Jerod Timothy, who can be reached at (970)244-1565. During Construction, all notices, letters, submittals, and

other communications directed to the City shall be addressed and mailed or delivered to:

City of Grand Junction
Department of Public Works and Planning
Attn: Jerod Timothy, Project Manager
250 North Fifth Street
Grand Junction, CO 81501

3.3.3 Affirmative Action: The Contractor is not required to submit a written Affirmative Action Program for the Project.

3.3.4 Pricing: Pricing shall be all inclusive to include but not be limited to: all labor, equipment, supplies, materials, freight (F.O.B. Destination – Freight Pre-paid and Allowed to each site), travel, mobilization costs, fuel, set-up and take down costs, and full-time inspection costs, and all other costs related to the successful completion of the project.

The Owner shall not pay nor be liable for any other additional costs including but not limited to: taxes, shipping charges, insurance, interest, penalties, termination payments, attorney fees, liquidated damages, etc.

3.3.5 Freight/Shipping: All freight/shipping shall be F.O.B. Destination – Freight Pre-Paid and Allowed to the project site(s), Grand Junction, CO.

Contractor must meet all federal, state, and local rules, regulations, and requirements for providing such services.

3.3.6 Contract: A binding contract shall consist of: (1) the IFB and any amendments thereto, (2) the bidder's response (bid) to the IFB, (3) clarification of the bid, if any, and (4) the City's Purchasing Department's acceptance of the bid by "Notice of Award" or by "Purchase Order". All Exhibits and Attachments included in the IFB shall be incorporated into the contract by reference.

A. The contract expresses the complete agreement of the parties and, performance shall be governed solely by the specifications and requirements contained therein.

B. Any change to the contract, whether by modification and/or supplementation, must be accomplished by a formal contract amendment signed and approved by and between the duly authorized representative of the bidder and the City Purchasing Division or by a modified Purchase Order prior to the effective date of such modification. The bidder expressly and explicitly understands and agrees that no other method and/or no other document, including acts and oral communications by or from any person, shall be used or construed as an amendment or modification to the contract.

3.3.7 Time of Completion: The scheduled time of Completion for the Project is 117 Calendar Days from the starting date specified in the Notice to Proceed.

Completion is achieved when site cleanup and all punch list items (resulting from the final inspection) have been completed. Completion shall have the meaning set forth in Article I, Section 3 (Definitions and Terms) of the General Contract Conditions.

3.3.8 Working Days and Hours: The working days and hours shall be as stated in the General Contract Conditions or as mutually agreed upon in the preconstruction meeting with the following exception:

- It is anticipated that work will consist of days, nights, weekdays and weekends. City Holidays will be observed.
- Installation of steel casing at G Road shall be performed between the hours of 7:00 pm and 5:00 am.

3.3.9 Licenses and Permits: Contractor is responsible for obtaining all necessary licenses and permits required for Construction, at Contractors expense. See Section 2.12. Contractor shall supply to Owner all copies of finalized permits.

3.3.10 Permits: The following permits are required for the Project and will be obtained by the City at no cost to the Contractor:

- **Union Pacific Railroad Pipeline Crossing & Encroachment Permit**
Upon award of Contract the Contractor will be required to obtain Railroad Protective Liability Insurance (RPLI). Any costs associated with the permit to follow including, but not limited to insurance and flagging will be at the cost of the Contractor. See Appendix E, Pipeline Crossing & Encroachment Agreement for further information.
- **Union Pacific Railroad Maintenance (Rights of Entry)**
Upon award of Contract the Contractor will be required to execute the Railroad Company's form **Contractor's Right of Entry Agreement, Exhibit B**. See Appendix F, Maintenance Agreement for further information.

The following permits are required for the Project and shall be obtained and paid for by the Contractor, with the costs included in the total bid price for the Project:

All process water that contains chemicals required for the CIPP work shall be treated prior to being discharged. A chemical makeup of the water and associated Material Safety Data Sheets shall be submitted to the City prior to starting the CIPP work. A **Request to Discharge Industrial Process Wastewater Permit** from the Industrial Pretreatment Division will be required. These Permits include effluent limitations, sampling, and reporting requirements needing approval prior to the discharge of process water. The Contractor shall supply the City with a detailed operational procedure for disposal of process water. The above mention Permits have been supplied in **Appendix C**.

3.3.11 City Furnished Materials: The City will furnish the following materials for the Project:

- Door-hangers

- Asphalt Millings – The Contractor shall be responsible for load and haul from City yard.

3.3.12 Project Newsletters: A newsletter for the Project will be prepared and distributed by the City. It will include general information about the Project including interruptions in utility services, street closures, parking restrictions, project schedule, and the names and telephone numbers of the contacts for the City and Contractor. The newsletter will be mailed approximately one week before the Contractor commences work.

The Contractor will be responsible for notifying all businesses and / or residents located adjacent to the work. Door hanger notifications shall be distributed at least two (2) working days prior to the day the work is scheduled to begin.

3.3.13 Project Sign: Project signs, if any, will be furnished and installed by the City.

3.3.14 Authorized Representatives of the City: Those authorized to represent the City shall include Purchasing Agent, Engineers, and Inspectors employed by the City, only.

3.3.15 Stockpiling Materials and Equipment: All stockpiling/storage shall be in accordance with General Contract Condition Section 51.

3.3.16 Traffic Control: The Contractor shall provide and maintain traffic control in accordance with the approved Traffic Control Plan and the Manual on Uniform Traffic Control Devices. A Traffic Control Plan shall be prepared by the Contractor and reviewed by the City two days prior to the pre-construction meeting.

The following guidelines and limitations shall apply to all traffic control:

1. The Contractor's operations shall cause no unnecessary inconvenience. The access rights of the public shall be considered at all times.
2. The CIPP Contractor will be responsible for all traffic control necessary to maintain one lane of traffic in each direction. If, in limited areas, it is necessary to have two-way traffic share one lane through the work zone, the Contractor shall request approval from the Engineer. If vehicles must cross bypass piping, a suitable road crossing device will be required.
3. Access to driveways, cross streets, and the Redlands Parkway Ramps shall be maintained at all times. If necessary, traffic control flagging will be required during setup/teardown of bypass pumping equipment, or while the work zone progresses past the driveway or cross street. If vehicles must cross bypass piping, a suitable road crossing device will be required.

A suitable road crossing device is one that accommodates two-way traffic of all vehicle types including passenger vehicles and semi-truck tractor trailer combinations at a traveling speed of 10 mph.

3.3.17 Clean-Up: The Contractor is responsible for cleaning up all loose materials that

have been deposited or swept into gutters, and onto sidewalks and driveways as a result of sidewalk operations. The costs for all clean-up work shall be considered incidental and will not be paid for separately.

3.3.18 Quality Control Testing: Supplier shall perform QA testing on cellular concrete. The City will perform all other necessary QA/QC in accordance with the CDOT Standard Specifications for Road and Bridge Construction, 2011. The Contractor shall perform QA/QC on CIPP per Section 10 of Appendix D, Cured-In-Place-Pipe (CIPP) Specification.

3.3.19 Schedule of Submittals: Contractor shall deliver these submittals at least two days prior to the pre-construction meeting:

1. Construction Schedule submitted at the pre-construction meeting and updated bi-weekly to reflect actual conditions.
2. Traffic Control Plan(s) necessary to conduct the Work submitted at the pre-construction meeting for approval by the City.
3. Product and material descriptive literature, including certification of conformance with the referenced specifications and shop drawings submitted prior to material delivery.
4. CIPP thickness design calculations.
5. Plan for bypass pumping of sewage as discussed under Appendix B, Bypass Pumping Specification.
6. Spill response plan as discussed under Appendix B, Bypass Pumping Specification.

3.3.20 Uranium Mill Tailings: It is anticipated that radioactive mill tailings will not be encountered on this Project.

3.3.21 Fugitive Petroleum or Other Contamination: It is anticipated that soil contamination from fugitive petroleum or other contaminants will not be encountered with the Project.

3.3.22 Excess Material: All excess materials shall be disposed in accordance with General Contract Condition Section 50.

3.3.23 Existing Utilities and Structures: Utilities were not potholed during design of this project with the exception of gas and phone at the G Road and River Road intersection. The location of existing utilities and structures shown on the Plans is approximate with the information gathered during design. It is the responsibility of the Contractor to pothole/locate and protect all structures and utilities in accordance with General Contract Condition Section 37.

3.3.24 Incidental Items: Any item of work not specifically identified or paid for directly, but which is necessary for the satisfactory completion of any paid items of work, will be considered as incidental to those items, and will be included in the cost of those items.

3.3.25 Survey: The Contractor shall give the City survey crew a minimum of 72 hours' notice for all requested survey.

3.3.26 Work to be Performed by the City (Prior to Construction): N/A

3.3.27 Existing Concrete Sidewalks, Pans, Fillets, Curbs and Gutters: The existing sidewalks, pans, fillets, curb and gutter and asphalt are in good serviceable condition. The Contractor will need to protect all concrete/asphalt adjacent to construction. If the concrete/asphalt is damaged during construction the Contractor will be responsible for its replacement at no cost to the City. The Contractor, the City Project Inspector, and/or the City Project Manager will walk and record any concrete that is deemed to be damaged before construction has started.

3.3.28 ACI Concrete and Flatwork Finisher and Technician: Hand finishing concrete will be permitted only when performed under the direct supervision of a craftsman holding the following certificate: ACI Concrete Flatwork Finisher and Technician (ACICFFT) or other Flatwork Finisher certification program approved by the City Engineering Manager.

3.3.29 Verification of Active Taps: It is the Contractors responsibility to verify all existing sewer taps to determine active vs inactive by smoke testing, use of dye, inserting a snake through a clean-out or roof vent and tracing to sewer main, etc. and only connect the active taps. There will be no separate measurement or payment for this work which will be considered incidental. Any damage to property or costs associated by failing to open active taps shall be the responsibility of the Contractor.

3.3.30 Staging Area: Staging shall take place at 2549 Riverside Parkway. The Contractor shall coordinate with the engineer to determine the location of equipment and materials to be stored at this site. Any rutting due to heavy equipment shall be addressed following the Project. If tracking becomes an issue the Contractor will be required to construct tracking pads. All costs associated for this work shall be considered incidental to the Project. All stockpiling of materials and equipment shall be in accordance with General Contract Condition Section 51.

3.3.31 Interruption of Utilities and Services: The Contractor shall notify all property owners affected by the interruption of utilities and other services caused by the Contractor's operations associated with this Project. Such notice shall be given at least 24 hours prior to the interruption. Notice shall be given for, but not limited to the interruption of domestic water, sanitary sewer, trash pickup, mail delivery and changes in access to the property. Notice can be given via the Project Newsletter. When an interruption will occur but was not stated in the Project Newsletter, the Contractor shall, at a minimum, provide written notice and deliver to the resident/occupant; when the resident/occupant is not home at delivery time, the notice shall be attached to the door. Such notices shall provide contact information for the Contractor, the City Inspector and the City Project Engineer.

3.3.32 Stormwater Requirements: In accordance with the City of Grand Junction Storm Water Ordinance, Section 16-141 through 16-144, there shall be no discharge or cause to be discharged to the storm drainage system any wastewater other than storm runoff. Specifically, the discharge of any contaminated storm water due to construction, process or CIPP Project wastewaters to the storm sewer is prohibited. Proper Best Management Practices shall be in place to protect the stormwater

system, including the containment of construction-related storm waters on the project to ensure that sewage or project construction-related stormwater runoff does not enter the storm drainage system.

3.3.33 Sanitary Sewer Service Locations: The location of sewer services shown on the construction drawings are based on TV video of the existing sanitary sewer main. Due to poor condition of the existing sewer main line, some services may not have been located. During close circuit television inspection, the contractor shall pay close attention to the existing main in an effort to identify services that may not have been located. **When multiple or newly identified services exist for a single property, the Contractor, in consultation with the Inspector and/or Engineer, shall determine which services are active and which are inactive by using dye, tracing the line with a snake and locator, or smoking the service.** The Contractor shall notify the property owner prior to placing dye or smoke in the service. When using smoke, the Grand Junction Fire Department shall also be notified prior to smoking the service.

3.3.34 Water Fill Station: The Contractor along with the Project Manager shall coordinate with the City Water Department for location and costs of water supply. As of October 2016 the price per 1000 gallons is \$6.60. The Contractor will be supplied a pin for refill stations and will be billed accordingly.

3.3.35 Drying Beds for Waste: The Contractor along with the Project Manager shall coordinate with the Persigo Plant for location of drying bed to be utilized during the cleaning of the sanitary sewer lines.

3.3.36 Bypass Pumping: Bypass pumping has been identified as a lump sum quantity. For all bypass pumping, the Contractor shall be responsible for estimating flows and providing sufficient pumping capacity to handle all flows (See Appendix B). The Contractor is advised that flows vary widely throughout the day and throughout the week. Bypass pumping plans, including spill-containment plans, are required for all bypass pumping that is included in the Bid Schedule or used at the Contractor's discretion. All bypass operations along with work associated with this project shall remain within River Road right of way unless identified below.

Bypass pumping operations that encroach UPRR right of way shall conform to UPRR Crossing/Encroachment Permits obtained by the City. These areas are as follows:

- MH G2-212-048 (+/- STA 9+00) Manhole located north of main track to be utilized to bypass 12" sewer line. Utilize existing 24" cmp (+/- STA 2+70) to convey bypass underneath track.
- MH G2-212-035 (STA 9+10) Manhole Replacement, Coating and CIPP.
- MH G2-212-038(STA 11+52) Manhole Replacement, Coating and CIPP.
- Rail Head Spur Crossing (STA 57+00–59+00) Manhole Abandonment and Bypass operations. Refer to Plan Sheets 9 and 20.

3.3.37 Work to be performed within Union Pacific Railroad Right of Way: The Contractor shall contact Matt Johnson, Manager of Track Maintenance (402) 216-2305 following Notice to Award. All work within UPRR right of way and adjacent to crossings shall be coordinated with Mr. Johnson.

- 3.3.38 Process Wastewater:** See Special Provisions, SP-2 for specifications.
- 3.3.39 PreVideo:** The City did video the sanitary sewer line in January/February of 2016 and will supply to the Contractor upon request.
- 3.3.40 Cleaning of Host Pipe:** Per the prevideo performed by the City it was evident that the pipe contains a considerable amount of material in areas. The cleaning of the host lines shall be considered incidental to CIPP installation and will not be paid for separately. All material generated from the cleaning of the host pipe shall be delivered to Persigo and placed in designated drying bed.
- 3.3.41 Railhead Lift Station:** The lift station is located at 2189 River Road approximately 140' east of manhole G2-212-041. The 6" force main discharges at manhole G2-212-041. The Contractor shall submit a bypass plan specific to the lift station for approval. Coordination with City of Grand Junction staff prior to implementation will be necessary.

3.4. SCOPE OF WORK:

STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION:

The *City of Grand Junction Standard Specifications for Road and Bridge Construction* are hereby modified or supplemented for this Project by the following modifications to *The Standard Specifications for Road and Bridge Construction*, State Department of Highways, Division of Highways, State of Colorado:

SP- 1 SECTION 202 – REMOVAL OF STRUCTURES AND OBSTRUCTIONS

Section 202 of the Standard Specifications is hereby revised for this project as follows:

Subsection 202.07, Pavements, Sidewalks and Curbs, shall include the following:

Abandon Manhole

When directed the Contractor shall abandon manhole in place. The work shall include, removal of asphalt, ring and cover, grade rings and cone section as necessary to gain 24" of clear from the top of concrete to finish grade of asphalt pavement. The Contractor shall salvage the ring and cover and deliver to the City Shops. See Detail MH-3, Plan Sheet 21.

The Contractor shall fill the manhole following the lining process with cellular concrete. See SP – 8, Section 206, Excavation and Backfill for Structures for specifications.

Subsection 202.12, Basis of Payment, shall include the following:

<u>Pav Item</u>	<u>Pav Unit</u>
Abandon Manhole	Each

SP- 2 SECTION 250 – ENVIORMENTAL, HEALTH AND SAFETY MANAGEMENT

Section 250 of the Standard Specifications is hereby revised for this project as follows:

Subsection 250.01, Description, shall include the following:

Process Wastewater

All process wastewater generated from CIPP installation shall be captured, filtered, sampled and tested prior to being discharged back into the sanitary sewer system. A representative from the Persigo Industrial Pretreatment Division shall be present to observe sampling. The level of Styrene must be below 750 µg/l prior to discharge to the sanitary sewer system. All test results shall be reviewed and approved by a Persigo Industrial Pretreatment representative prior to discharge back into the system.

A chemical makeup of the water and associated Material Safety Data Sheets shall be submitted to the City prior to starting the CIPP work. A **Request to Discharge Industrial Process Wastewater Application** from the Industrial Pretreatment Division will be required. There will be effluent limitations, sampling, and reporting requirements needing approval prior to the discharge of process water. The Contractor shall supply the City with a detailed operational procedure for treatment and release of process water. The above mentioned Permit has been supplied in **Appendix C**.

Contact Stephen Stortz at (970) 256-4164 for further information.

Subsection 250.09, Method of Measurement, shall include the following:

Treatment of wastewater shall be considered incidental to the installation of the CIPP and will not be measured or paid for separately.

SP- 3 SECTION 630 – TRAFFIC CONTROL

Section 630 of the Standard Specifications is hereby revised for this project as follows:

Subsection 630.09, Traffic Control Plan, shall include the following:

Shoofly Construction. During the lining and manhole installation process it will be necessary to construct a shoofly to give the Contractor as well as vehicles adequate room to navigate around the construction area safely. The shoofly shall be surfaced with City supplied millings (8" minimum) and shall be placed at a minimum of 85% compaction. The Contractor shall be responsible for load, haul, placement, maintenance and removal of shoofly. Material shall be returned to the City stockpile once work is complete. The Contractor shall coordinate with the Project Engineer as to where to place the material.

Subsection 630.14, Method of Measurement, shall include the following:

Shoofly construction shall be paid by each.

Subsection 630.15, Basis of Payment, shall include the following:

Pay Item
Shoofly (City Supplied Asphalt Millings)
(8" Minimum)

Pay Unit
Each

STANDARD SPECIFICATIONS FOR CONSTRUCTION OF WATER LINES, SANITARY SEWERS, STORM DRAINS, UNDERDRAINS AND IRRIGATION SYSTEMS

The City of Grand Junction *Standard Specifications for Construction of Water Lines, Sanitary Sewers, Storm Drains, Underdrains and Irrigation Systems* are hereby modified for this Project as follows:

Add the following:

SP-4 SECTION 108.2 – CONDUIT

Section 108.2 of the Standard Specifications is hereby revised for this project as follows:

Section 108.2, Conduit shall include the following:

Steel Casing Pipe

The Contractor shall install steel casing conduit to facilitate bypass operations. Upon completion of bypass operations the conduits shall be removed. Refer to Plan Sheet 18 for details.

The contract unit price for Steel Casing Pipe shall include asphalt removal, excavation, bedding, pipe installation, backfill and compaction, and maintenance of the crossing. Cost shall also include City supplied asphalt millings as temporary road surface during bypass operations and removal of steel casing following CIPP installation.

Work shall be completed between the hours of 7:00 pm and 5:00 am.

The Contractor shall contact Matt Johnson, Manager of Track Maintenance (402) 216-2305 following Notice to Award. All work within/adjacent to UPRR right of way shall be coordinated with Mr. Johnson.

Subsection 108.2, Basis of Payment, shall include the following:

Pay Item
Steel Casing Pipe

Pay Unit
Lump Sum

SP-5 SECTION 108.3 – SEWER TAPS, WATER VALVES, FITTINGS AND HYDRANTS

Section 108.3 of the Standard Specifications is hereby revised for this project as follows:

Section 108.3, Sewer Taps, Water Valves, Fittings and Hydrants shall include the following:

Sanitary Sewer Clean-Out

Clean-out shall be installed in accordance with the Uniform Plumbing Code. When the clean-outs are located within the right-of-way they shall be terminated in a cast iron ring and cover suitable for traffic loads as shown on the *City Standard Detail SS-07*.

The contract unit price for Sanitary Sewer Clean-out shall include 2-way clean-out, pipe, threaded cap, cast iron ring and cover (Castings Inc. CO8030-C1 or equivalent), concrete collar and all fittings required to align and connect clean-out.

The Contractor shall verify size and type of existing sanitary service line. Subsection 108.3, Basis of Payment, shall include the following:

<u>Pay Item</u>	<u>Pay Unit</u>
Sanitary Sewer Clean-out	Each

SP-6 SECTION 108.5 – MANHOLES

Section 108.5 of the Standard Specifications is hereby revised for this project as follows:

Subsection 108.5, Manholes, shall include the following:

New Manhole

Connect new manhole to existing 54” concrete pipe by setting the barrel section upon poured in place base per detail MH – 1, Plan Sheet 21. The existing 54” concrete pipe shall be exposed to allow base to be poured over a minimum of 8” of Type A bedding. The top of the existing pipe shall be cut and removed to provide access and maintenance. Height of manhole is measured from rim to crown of pipe. Payment is to include ring and cover, eccentric cone, grade rings, pipe connections, ram neck, poured in place base and all other appurtenances.

Manhole Replacement at Existing Location

Refer to Detail MH-2, Manhole Replacement at Existing Location, Plan Sheet 21. The Contractor shall remove existing cone and barrel section, clean and inspect the condition of the box structure groove. If the structure is sound and agreed upon by the Project Engineer the Contractor shall place barrel section per Detail MH-2. If the box structure has significant deterioration at the connection, the contractor shall set the barrel section upon reinforced concrete skids. Fillet area shall be filled with concrete.

Subsection 108.5, Basis of Payment, shall include the following:

<u>Pay Item</u>	<u>Pay Unit</u>
Sanitary Sewer Manhole (60” I.D.)	VLF
Sanitary Sewer Manhole (48” I.D.)(Remove and Replace)	VLF

SP-7 SECTION 102.11/102.14/108.2 – MANHOLES FOR SANITARY SEWERS AND STORM DRAINS

Sections 102.11/102.14/108.2 of the Standard Specifications is hereby revised for this project as follows:

Manhole and Structure Coating

The interior surface of all manholes shall be coated in accordance with section 102.11 of the City’s Standard Specifications for Construction of Underground Utilities unless otherwise approved by the Project Engineer.

Removal of deteriorated concrete in manhole as needed using mechanical abrasion, sandblasting, hydroblasting, acid etch or chiphammering. Includes removal of corroded steps (Grind stub to below surface, seal w/ grout prior to coating) when present. Clean and remove debris; saturate surface with acrylic fortifier; add Xypex C-500 to grout (Grout mix as per UU 102.11 Specs.) at 3% per weight of cementitious material. After cure of grout application, apply coating engineer approved product to manhole walls, bench and exposed box structure. Coating shall be suitable for application in manholes conditions experienced in the field. Brush or spray application at Contractor's choice, providing approved by manufacturer (Cure as per Mfg. Specifications). Reconditioning shall occur after CIPP lining of the pipe to ensure all pipe to manhole interface is sealed. Any bypass pumping shall be incidental. Holiday Testing as per 102.11 required.

Performance Specification for Manhole Rehabilitation - If reinforcing wire is exposed at box structure, manhole coating shall include a structural substrate to provide 1” clear cover of reinforcing wire prior to finish coating.

Approved vendors/applicators:

- Spectra Shield – Dan Sundvick (303) 378-1101 dsundvick@spectrashield.com
- Elite Protective Coatings – Jon Goza (970) 683-8153 eliteprotectivecoatings@gmail.com
- Spiegel Industrial – Benjamin Spiegel (970) 871-6767 bspiegel@spiegelpainting.com

108.2 Method Measurement

Add the following paragraph:

Coating of manhole will be paid by vertical lineal foot. Depth of manhole was measured from center of manhole at rim to the top of 54” pipe. Work shall also include coating of bench and upper exposed section of box structure at tee manholes. Work shall take place following lining processes to ensure the interface of the CIPP is coated properly. See Plan Sheet 21 for details in regards to Manhole Coating.

108.5 Basis of Payment

Add the following items to the table:

Pay Item	Pay Unit
-----------------	-----------------

Manhole Coating (48" Manhole) to include manhole bench, upper exposed section of box structure to CIPP interface. VLF

Manhole Coating (60" Manhole) to include manhole bench, upper exposed section of box structure to CIPP interface. VLF

SP-8 SECTION 206 – EXCAVATION AND BACKFILL FOR STRUCTURES

Section 206 of the Standard Specifications is hereby revised for this project as follows:

Subsection 206.03, Structure Excavation and Structure Backfill, shall include the following:

Cellular Concrete

Manholes to be abandoned in place shall be done so using Lightweight Cellular Concrete. Use of a 35 pcf mix design with a 80/20 blend of portland and fly ash that will yield 59 psi in 24 hours, 130psi in 7 days and 177.5 psi in 28 days that will have an R Value of 31.57 in a 2' x 2' trench.

Cellular concrete shall terminate no less than 17" below finish grade of asphalt to allow for 5" of HMA over a minimum of 12" of class 6 aggregate base course.

Subsection 206.06, Method of Measurement, shall include the following:

Cellular concrete measurement of quantity placed:

<u>Pay Item</u>	<u>Pay Unit</u>
Structural Backfill (Cellular Concrete)	CY

3.5. IFB TENTATIVE TIME SCHEDULE:

Invitation For Bids available	October 19, 2016
Mandatory Pre-Bid Meeting	November 1, 2016
Inquiry deadline, no questions after this date	November 8, 2016
Addendum Posted	November 9, 2016
Submittal deadline for proposals	November 15, 2016
City Council or Board of Commissioners Approval	December 7, 2016
Notice of Award & Contract execution	December 8, 2016
Bonding & Insurance Cert due	December 20, 2016
Preconstruction meeting	December 20, 2016
Work begins	January 9, 2017
Final Completion	May 5, 2017
Holidays:	February 20, 2017

4. Contractor's Bid Form

Bid Date: _____

Project: IFB-4297-16-DH "2016 Sewer Interceptor Repair and Replacements"

Bidding Company: _____

Name of Authorized Agent: _____

Email _____

Telephone _____ **Address** _____

City _____ **State** _____ **Zip** _____

The undersigned Bidder, in compliance with the Invitation for Bids, having examined the Instruction to Bidders, General Contract Conditions, Statement of Work, Specifications, and any and all Addenda thereto, having investigated the location of, and conditions affecting the proposed work, hereby proposes to furnish all labor, materials and supplies, and to perform all work for the Project in accordance with Contract Documents, within the time set forth and at the prices stated below. These prices are to cover all expenses incurred in performing the work required under the Contract Documents, of which this Contractor's Bid Form is a part.

The undersigned Contractor does hereby declare and stipulate that this offer is made in good faith without collusion or connection to any person(s) providing an offer for the same work, and that it is made in pursuance of, and subject to, all terms and conditions of the Instructions to Bidders, the Specifications, and all other Solicitation Documents, all of which have been examined by the undersigned.

The Contractor also agrees that if awarded the Contract, to provide insurance certificates within ten (10) working days of the date of Notification of Award. Submittal of this offer will be taken by the Owner as a binding covenant that the Contractor will be prepared to complete the project in its entirety.

The Owner reserves the right to make the award on the basis of the offer deemed most favorable, to waive any formalities or technicalities and to reject any or all offers. It is further agreed that this offer may not be withdrawn for a period of sixty (60) calendar days after closing time. Submission of clarifications and revised offers automatically establish a new thirty day (30) period.

RECEIPT OF ADDENDA: the undersigned Contractor acknowledges receipt of Addenda to the Solicitation, Specifications, and other Contract Documents.

State number of Addenda received: _____.

It is the responsibility of the Bidder to ensure all Addenda have been received and acknowledged.

By signing below, the Undersigned agree to comply with all terms and conditions contained herein.

Company: _____

Authorized Signature: _____

Title: _____

Bid Schedule: 2016 Sanitary Sewer Interceptor Repair and Replacement

Contractor: _____

Item No.	CDOT, City Ref.	Description	Quantity	Units	Unit Price	Total Price
1	108.3	Sanitary Sewer Cleanout. To include Two Way Cleanout, Ring and Cover (Castings Inc. CO8030-CI or equivalent), Concrete Collar, pipe and threaded plug. See Deatil SS-07 Standard Contract Documents.	6.	EA	\$ _____	\$ _____
2	108.5	Sanitary Sewer Manhole (48" I.D.) (Remove and Replace). To include Ring and Cover and all other Appurtenances (7 Total). See Sp-6.	34.4	VLF	\$ _____	\$ _____
3	108.5	Sanitary Sewer Manhole (60" I.D.) to include Pour In Place Base, Ring and Cover and all other Appurtenances (14 Total). See Sp-6.	124.	VLF	\$ _____	\$ _____
4	202	Abandon Manhole. See SP-1 for Details.	19.	EA	\$ _____	\$ _____
5	206	Structural Back Fill (Cellular Concrete) See SP-8 for Specifications.	150.	CY	\$ _____	\$ _____
6	304/401	Hot Mix Asphalt (Patching) (5" Thick)(12" "T" Top) (Grading SX, Binder Grade PG 64-22) to include 12" of Class 6 Aggregate Base Course.	510.	SY	\$ _____	\$ _____
7	620	Erosion Control (Complete in Place)	1.	Lump	\$ _____	\$ _____
8	626	Portable Sanitary Facility	1.	Lump	\$ _____	\$ _____
9	630	Mobilization	1.	Lump	\$ _____	\$ _____
10	630	Traffic Control (Complete In Place) to Include Flagging	1.	Lump	\$ _____	\$ _____
11	630	Traffic Control Plan	1.	Lump	\$ _____	\$ _____
12	SP	Bypass Pumping per City Specifications. See Appendix B in Bid Documents.	1.	Lump	\$ _____	\$ _____
13	SP	Weekly Newsletter- See Bid Documents SC 3.3.12	1.	Lump	\$ _____	\$ _____
14	SP	54 Inch CIPP (Complete in Place) See Appendix C in Bid Documents.	13,415.	LF	\$ _____	\$ _____
15	SP	Coat Manhole (48' I.D.) See SP - 7 for Specifications.	100.	VLF	\$ _____	\$ _____
16	SP	Coat Manhole (60' I.D.) See SP - 7 for Specifications.	134.	VLF	\$ _____	\$ _____
17	SP	Coat Manhole (72' I.D.) See SP - 7 for Specifications.	7.	VLF	\$ _____	\$ _____
18	SP	Coat Vault Structure See SP - 7 for Specifications.	400.	SQ. FT.	\$ _____	\$ _____
19	SP	Steel Casing Pipe. See SP-4 for Details.	1.	Lump	\$ _____	\$ _____

Bid Schedule: 2016 Sanitary Sewer Interceptor Repair and Replacement

Contractor: _____

Item No.	CDOT, City Ref.	Description	Quantity	Units	Unit Price	Total Price
20	SP	Shoofly (City Supplied Millings)(8" Minimum) See SP - 2 for Specifications.	36.	EA	\$ _____	\$ _____
MCR		Minor Contract Revisions	---	---	---	\$ <u>150,000.00</u>
Bid Amount:						\$ _____

Bid Amount: _____ **dollars**

The undersigned Bidder proposes to subcontract the following portion of Work:

<u>Name & address of Sub-Contractor</u>	<u>Description of work to be performed</u>	<u>% of Contract</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

The undersigned Bidder acknowledges the right of the City to reject any and all Bids submitted and to waive informalities and irregularities therein in the City's sole discretion.

By submission of the Bid, each Bidder certifies, and in the case of a joint Bid each party thereto certifies as to his own organization, that this Bid has been arrived at independently, without collusion, consultation, communication, or agreement as to any matter relating to this Bid with any other Bidder or with any competitor.

APPENDIX A
PROJECT SUBMITTAL FORM

PROJECT SUBMITTAL FORM

PROJECT: **2016 Sewer Interceptor Repair and Replacements**

CONTRACTOR: _____

PROJECT MANAGER: Jerod Timothy

Description	Date Received	Resubmittal Requested	Resubmittal Received	Date Accepted
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STREET CONSTRUCTION

Pavement mix design				
Base course gradation, Proctor curve				
Cellular Concrete mix design				

SEWER CONSTRUCTION

CIPP – 42” and 54”				
Manhole Coating				
Manhole				
Ring and Cover				
Clean-out Appurtenances				
Bedding Gradation				
Backfill gradation, Proctor curve, plasticity index (PI)				
Steel Casing Pipe				

EROSION CONTROL / STORMWATER MANAGEMENT

Best Management Plan				
Process Water Treatment Plan (Wet Out Installation)				

Description	Date Received	Resubmittal Requested	Resubmittal Received	Date Accepted
Contractor's Right of Entry Agreement (Copy)				
PERMITS, PLANS, OTHER				
Traffic Control Plan				
PWWTP Discharge Permits-Appendix E				
Bypass Pumping Plan				

APPENDIX B
BYPASS PUMPING

BYPASS PUMPING SPECIFICATION

PART 1 – GENERAL

1.1 DESCRIPTION

A. The work covered under this section of the Specifications includes furnishing all plans, labor, equipment, permits, and materials necessary to implement a temporary pumping system for the purpose of diverting existing sewer flow around a work area for the duration of the project.

B. Contractor shall be required to field verify bypass pumping flow and sizing requirements prior to submission of shop drawings. Bypass pumping plan shall be submitted to Project Manager for approval prior to implementation. An estimate of bypass pumping flows is included at the end of this specification.

C. The bypass system shall provide provisions for maintaining vehicular and pedestrian access, avoiding damage to public and private property, preventing leakage from hoses and minimizing noise from pumps. Sound attenuation is not necessary.

D. It shall be the responsibility of the Contractor to provide protection for the entire bypass system including but not limited to piping, piping connections, pumps and ancillary equipment. Materials utilized for bypass pumping shall be appropriate for use for the intended operation and service. Protection for the bypass piping shall be performed through positive protection means. The Contractor shall be responsible for any damage caused by the Contractor's failure to provide adequate protection to the bypass system.

E. The Contractor shall conduct field surveys prior to any bypass operations to determine if there are any storm drains, waterways, or other similar areas that could be negatively affected in the event of a spill. Any potential hazards will be described in a narrative and on a bypass map. This narrative and map will be included with the bypass plan that will be submitted to the Engineer for review. The Contractor shall prepare an emergency response plan to be followed in the event of a spill or release of sanitary sewage during the WORK. This plan shall be developed to minimize the impacts of the spill or release and include containment, cleanup and rinsate collection. The Contractor shall indicate the availability of the required materials and equipment for emergency response.

1.2 SUBMITTALS

A. For the flow bypassing method(s) utilized during pipe inspection, rehabilitation or reconstruction, the Contractor shall submit the following information specific for each bypass setup 10 days prior to construction:

1. A detailed plan and description outlining all provisions and precautions to be taken by the Contractor regarding the handling of existing pipeline flows. This plan should include schedules, locations, capacities of equipment, materials, sizing and selection data, location of nearby waterways, reinstatement procedures, manufacturer catalog cut sheets and calculations, and all other incidental items necessary and/or required to insure the proper protection of these facilities, including protection of the access and bypass pumping locations from

damage due to discharge flows. Drawings indicating the location of the equipment, piping layouts and pumping and discharge manholes shall be included.

2. Copy of all permits required to perform the work.
3. Certification of workmen trained for welding and installing HDPE pipe.
4. Record of measurement or verification of sanitary sewer flow rates.
5. Emergency spill or release plan including site specific requirements.

1.3 DESIGN REQUIREMENTS

A. Bypass pumping systems shall have sufficient capacity to pump **50% more than the maximum measured flow**. It shall be the Contractor's responsibility to verify the estimated flows by measuring flows prior to the work and designing the pumping system accordingly.

The Contractor shall provide all pipeline plugs, pumps of adequate size to handle peak flow, and temporary discharge piping to ensure that the total flow of the sewer can be safely diverted around the WORK. Bypass pumping systems shall be manned at all times while operating.

B. The Contractor shall have adequate standby equipment available and ready for immediate operation and use in the event of emergency or breakdown. Pumps will be selected per the results of the flow calculations and per site requirements. All bypass systems shall have a fully-operational back-up pump available in the event that a primary pump fails. This information shall be specified in the bypass plans.

C. The bypass pumping system shall be capable of bypassing the flow around the work area and of returning any amount of flow up to full available flow into City's sanitary sewer system as necessary for satisfactory performances of the work.

D. The bypass system shall adhere to all local, state and federal codes and regulations as required by the regulatory agencies having jurisdiction.

E. The Contractor shall maintain sewer flows around the work area in a manner that will protect and not cause surcharging of sewers, drains, damage or flooding to public and private property.

F. The Contractor shall protect water resources, wetlands and other natural resources during the WORK.

1.4 RESPONSIBILITY FOR OVERFLOWS OR SPILLS

A. It shall be the responsibility of the Contractor to schedule and perform the WORK in a manner that does not cause or contribute to incidence of overflows, releases or spills of sewage from the sanitary sewer system or the bypass operation.

B. The Contractor shall develop a site-specific spill response plan in the event that a spill involving sewage should occur. This plan shall include the following:

1. Emergency contact information for the spill response team.
2. Plan for immediately containing the leak or spill.
3. Plan for immediately addressing the source of the leak or spill.
4. Plan for immediately preventing public exposure to the leak or spill, including procedures

- for diverting pedestrian and automobile traffic away from the impacted area.
5. Contact information for vactor truck services.
 6. Contact information for a laboratory certified to test water samples for the presence of fecal coliform.
 7. Procedures for collecting water quality samples to assess the magnitude and range of impact of any leak or spill.
 8. Procedures for washing down all affected areas with chlorinated potable water, including a requirement that all wastewater generated from this process be collected and disposed of in accordance with the applicable law.
 9. Procedures for removing and replacing affected soils.
 10. Plans for conducting an investigation to determine the causes of the leak or spill and a review of the results of the implementation of the spill response plan.

A copy of the spill response plan shall be provided to the Engineer for review and comment prior to the commencement of any work. The Contractor shall submit to the Engineer a list of contact information for all supervisory personnel working on the project, including a list of emergency contact numbers available for 24-hour assistance. The Contractor shall also coordinate with the Engineer and City to develop a list of individuals and agencies that must be contacted immediately in the event of a spill. Included on the list shall be the Colorado Department of Public Health and Environment Release and incident Reporting line: 1-877-518-5608. In the event of a spill, the Contractor shall report the spill to CDPHE and conform to all requirements of CDPHE Policy No. WQE-10.

C. In the event that the Contractor's work activities contribute to overflows, releases or spills, the Contractor shall immediately take the appropriate action to contain and stop the overflow, and notify the City of Grand Junction Wastewater Services at 970-256-4180 from 7:30 am to 4:30 pm, at 970-256-8333 after hours and holidays; if that line is busy, call non-emergency police dispatch at 970-242-6707; and as a last resort call police dispatch at 911. Clean up shall include rinsate collection and disinfection of the area affected by the spill to the satisfaction of the Engineer. Site-specific materials shall be used to retain and divert solids and divert flow from environmentally sensitive areas. Storm drains shall be covered to ensure that sewage does not reach the storm water system. Emergency response spill kits and other site-specific spill containment material shall be available on site at all times. An incident report including but not limited to cause of the release or spill, actions taken to mitigate the event and cleanup activities performed shall be submitted to the Engineer by the Contractor within 24 hours of completion of the cleanup activities.

PART 2 – MATERIALS

2.1 MATERIALS

A. Discharge piping will be selected according to flow calculations and system operating calculations. Suction piping will be selected according to pump size, flow calculations, and manhole depth based on manufacturer's specifications and recommendations.

B. Flexible hoses and associated couplings and connectors shall be abrasion resistant, suitable for the intended service, and shall be rated for the external and internal loads anticipated including test pressures. External loading design shall incorporate all anticipated traffic loadings, including traffic

impact loading.

1. At a minimum, hose subject to traffic loading shall be composed of a system, such as traffic ramps or covers, but not limited to, capable of withstanding H-20 loading criteria. System shall be installed and maintained to meet H-20 loading requirements while in use or as directed by the Engineer.

C. Valves and fittings will be selected according to flow calculations, the pump sizes previously determined, and system operating pressures.

D. Plugs will be selected and installed according to the size of the line to be plugged, pipe and manhole configurations, and on a site-specific basis. All bypass systems will have additional plugs in the event one plug fails. All plugs will be inspected prior to every use for defects which may lead to failure.

2.2 DELIVERY, STORAGE, AND HANDLING

A. Transportation, handling, and storage of the piping, fittings, pumps and ancillary equipment and materials shall be as recommended by manufacturer.

B. If new materials or equipment become damaged before or during installation, it shall be repaired by the Contractor as recommended by the manufacturer or replaced as required by the Engineer at the Contractor's expense, prior to initiating the WORK.

C. The Contractor shall deliver, store and handle other materials as required to prevent damage. Damaged materials shall be replaced by the Contractor at no additional cost to the City.

D. The Contractor shall inspect all materials and equipment for proper operation prior to initiating the WORK. Any equipment or materials identified by the Engineer which is indicated unsuitable for use by the Contractor for use on this project shall be replaced by the Contractor at no additional cost to the City.

PART 3 – EXECUTION

3.1 PREPARATION

A. The Contractor is responsible for locating any existing utilities in the area that the Contractor selects to locate bypass pipelines. The Contractor shall locate bypass pipelines to minimize any disturbance to existing utilities and shall obtain approval of the pipeline locations from the City. The Contractor is responsible for all costs associated with relocating utilities and obtaining permits.

B. The Contractor shall protect existing facilities from damage during pumping activities.

3.2 INSTALLATION

A. General

1. Plugging or blocking of flows in the line segments to be bypassed shall incorporate a

primary and secondary plugging device. When plugging is no longer required for performance of the work, it is to be removed in a manner that permits flows to slowly return to normal without surge, surcharge or other major disturbance.

2. The bypass piping shall be located off streets and sidewalks as required. Where bypass piping crosses, or is installed in driveways, sidewalks and/or other public or private ways, the Contractor shall provide and maintain facilities to permit normal pedestrian and vehicular traffic reasonable access to concourses in accordance with the Contractor's approved traffic control plan from the jurisdictional or governing authority.

3. Upon completion of the bypass pumping operations, the Contractor shall remove all piping and complete restoration, restoring all property to preconstruction condition including but not limited to pavement. The Contractor is responsible for obtaining any permits and/or permission for placement of the temporary pipeline within public and private properties.

4. Contractor shall not divert flow to new sewer or manhole prior to completion of the work as identified in the Contract Documents and as approved by the Engineer.

B. Piping

1. The pipe shall be assembled and joined at the site using couplings or flanges to provide a leak proof joint in strict accordance with the manufacturer's instructions and ASTM D 2657. Threaded or solvent cement joints and connections are not permitted.

2. All equipment and procedures used shall be used in strict compliance with the manufacturer's instructions and recommendations.

3. All joints shall be subject to acceptance by the Engineer prior to insertion.

4. Any section of the pipe having other defects of manufacturing or handling as determined by the Engineer shall be discarded and not used.

C. Cleanup and system removal

1. The Contractor shall restore bypass pump areas to pre bypass condition including any cleanup measures necessary due to fuel, coolant, oil, and sewage leaks. The Contractor shall document any cleanup measures that were necessary. The Contractor's bypass plan and methods shall ensure that all sewage in the bypass pipes, pumps, and fittings has been emptied into the sanitary sewer and flushed with potable water or scrubbed with a "pig" device before system removal.

PART 4 – MEASUREMENT AND PAYMENT

1. MEASUREMENT

A. Measurement shall be by the lump sum to include all locations.

2. PAYMENT

A. Payment shall be by the lump sum and shall include payment for all design costs of bypass pumping system, pumping equipment, pipes, labor, valves, spill prevention plan and equipment, labor, mobilization, fuel, potable water for hydrostatic testing of bypass lines, road crossing devices, costs to restore area to existing condition and all other items necessary

to conduct bypass pumping.

Flow Data (Persigo):

2015 DAILY AVERAGE INFLUENT FLOW			
Month	AVG. MGD	MAX. MGD	MIN. MGD
January	7.9	8.6	7.0
February	7.9	8.1	7.5
March	7.6	8.2	6.7
April	8.2	10.5	7.4
May	8.8	10.2	8.2
June	8.8	10.8	7.3
July	9.1	11.2	8.3
August	9.1	10.1	8.0
September	8.8	9.4	8.4
October	8.9	10.7	8.2
November	8.3	9.9	7.4
December	7.8	8.2	6.5

APPENDIX C

REQUEST TO DISCHARGE INDUSTRIAL PROCESS WASTEWATER



**REQUEST TO DISCHARGE
INDUSTRIAL PROCESS
WASTEWATER**

This form shall be used by a non-permitted industrial, commercial or institutional facility proposing to discharge directly to the City/County Sewer System. The application must be received and approved by the Grand Junction Industrial Pretreatment Program at least 24 hours prior to the proposed discharge date.

FACILITY INFORMATION

NAME:

ADDRESS:

CONTACT (name and title):

PHONE: _____ FAX: _____ E-MAIL:

WASTEWATER INFORMATION

DESCRIBE TYPE OF WASTEWATER:

DESCRIBE SPECIFIC LOCATION OF DISCHARGE:

VOLUME OF WASTEWATER TO BE DISCHARGED IS _____ GALLONS

DISCHARGE RATE OF WASTEWATER: _____ GALLONS PER MINUTE

REQUEST TO DISCHARGE ON: (dates) _____ BETWEEN THE HOURS OF _____ and _____

**IMPORTANT! ATTACH MATERIAL SAFETY DATA SHEET and/or LAB ANALYSIS RESULTS
FOR ALL PARAMETERS REQUESTED TO BE DISCHARGED**

CERTIFICATION STATEMENT

I certify under penalty of law that I have personally examined and am familiar with the information herein and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. I certify that, to the best of my knowledge and belief, no dumping of concentrated Toxic Organics or other Toxic Materials into the wastewater has occurred.

Printed Name: _____ Title: _____

Signature: _____ Date: _____

Send/fax application to: Industrial Pretreatment Program Phone: (970) 256-4180
Persigo Wastewater Treatment Plant Fax: (970) 245-8620
2145 River Road
Grand Junction, CO 81505

Application Review Fee: \$50.00 + \$2.33/1000 gallons discharged + BOD/TSS surcharge if applicable
Make check payable to City of Grand Junction

RECEIPT INFORMATION FOR CITY OF GRAND JUNCTION, WWTP OFFICE USE ONLY;

Permit Application Fee:

Payable to the City of Grand Junction \$50.00 + Discharge Charges \$_____ = \$_____ Total Fee

Account Number 902-615-260-4340_15

Check Paid by: _____ **Check Number:** _____

Received By (signature): _____ **Date Fee Received:** _____

TREASURER RECEIPT NUMBER: _____ **Date Of Treasurer Receipt:** _____

APPENDIX D

Cured-In-Place Pipe (CIPP) Specification

CURED -IN-PLACE PIPE (CIPP) SPECIFICATION

1. INTENT

1.1 It is the intent of this specification to provide for the reconstruction of pipelines and conduits by the installation of a resin-impregnated flexible tube, which is formed to the original conduit by use of a hydrostatic head. The resin is cured using hot water under hydrostatic pressure within the tube. The Cured-In-Place Pipe (CIPP) will be continuous and tight fitting. The CIPP must be designed for a “Fully Deteriorated Condition” with a safety factor of 2.0. The following requirements apply generally to the CIPP portion of the work with additional specifications as provided below:

- The subcontractor performing the CIPP work must be prequalified to work for the City of Grand Junction.
- The Subcontractor performing the CIPP work must be identified on the Bid Form and shall not be changed after bid opening without specific written approval from the Project Engineer.
- The Subcontractor shall verify host pipe diameter prior to design and fabrication of liner.
- Prior to installation of the CIPP, a design report shall be submitted to the Project Engineer, showing all assumptions, design calculations, test data and other pertinent information. **The design report must be stamped by the Licensed Professional Engineer that prepared it.** The design report is incidental to the lump sum pay item for installation of the CIPP.

2. REFERENCED DOCUMENTS

2.1 This specification references and incorporates ASTM F1216 (Rehabilitation of pipelines by the inversion and curing of a resin-impregnated tube), ASTM F1743 (Standard Practice for Rehabilitation of Existing Pipelines and Conduits by the pull in and inflate curing of a resin-impregnated tube), and ASTM D790 (Test methods for flexural properties of non-reinforced plastics) which are made a part hereof by such reference and shall be the latest edition and revision thereof. In case of conflicting requirements between this specification and these referenced documents, this specification will govern.

3. PRODUCT, MANUFACTURER/INSTALLER QUALIFICATION REQUIREMENTS

3.1 Since sewer products are intended to have a 50 year design life, and in order to minimize the Owner’s risk, only proven products with substantial successful long term track records will be approved. All trenchless rehabilitation products and installers must be pre-approved prior to the formal opening of proposals.

Products and Installing Companies seeking approval must supply information verifying that they meet all of the following criteria to be deemed Commercially Acceptable:

3.1.1 For a Product (materials, process, and workmanship) to be considered Commercially Proven, a minimum of 1,000,000 linear feet or 4,000 manhole-to-manhole line sections of successful wastewater/storm water collection system installations in the U.S. must be documented to the satisfaction of the Owner to assure commercial viability. In addition, at least 50,000 linear feet of the product shall have been in successful service within the State for a minimum of five years.

- 3.1.2 For an Installer to be considered as Commercially Proven, the Installer must satisfy all insurance, financial, and bonding requirements of the City, and must have had at least 3 (three) years active experience in the commercial installation of the product bid. In addition, the Installer must have successfully installed at least 3,000 feet of the product bid in wastewater, stormwater, or irrigation water systems. Acceptable documentation of these minimum installations must be included with the bid package as described in the Instructions to Bidders.

Subcontractors that propose to perform CIPP work must be prequalified specifically for CIPP work by the City of Grand Junction. Contact the Project Engineer for information regarding prequalified CIPP subcontractors or to make arrangements for prequalification. Note that the prequalification process can be time consuming. Subcontractors interested in prequalifying should begin the process as soon as possible.

- 3.1.3 Both the rehabilitation manufacturing and installation processes shall operate under a quality management system which is third-party certified to ISO 9000 or other internationally recognized organization standards. Proof of certification shall be required for approval of the CIPP sub-contractor.
- 3.1.4 The owner authorizes the use of proven materials that serve to enhance the pipe performance specified herein. Proven materials have passed independent laboratory testing, not excluding long-term (10,000 hour) structural behavior testing, and have been successfully installed to repair failing host pipes in the U. S. for at least 4 years. In addition to the aforementioned, the owner may require that the contractor demonstrate that the enhancements proposed exceed the specifications herein, prior to the installation of the enhanced material systems. This section in no way shall be interpreted as authorization to deviate from the minimum standard practices set forth herein.
- 3.1.5 **The CIPP subcontractor shall provide resumes of experience for the site supervisor (superintendent) to the City, demonstrating a minimum of 2 years of CIPP installation experience using the methods stipulated for this project.**

4. MATERIALS

- 4.1 Tube - The sewn Tube shall consist of one or more layers of absorbent non-woven felt fabric and meet the requirements of ASTM F1216, Section 5. The tube shall be constructed to withstand installation pressures, have sufficient strength to bridge missing pipe, and stretch to fit irregular pipe sections.
- 4.1.1 The wet out Tube shall have a uniform thickness that when compressed at installation pressures will meet or exceed the Design thickness.
- 4.1.2 The Tube shall be sewn to a size that when installed will tightly fit the internal circumference and length of the original pipe. Allowance should be made for circumferential stretching during inversion. Overlapped layers of felt in longitudinal seams that cause lumps in the final product shall not be utilized.

- 4.1.3 The outside layer of the Tube (before wet out) shall be coated with an impermeable, flexible membrane that will contain the resin and facilitate monitoring of resin saturation during the resin impregnation (wet out) procedure.
- 4.1.4 The Tube shall be homogeneous across the entire wall thickness containing no intermediate or encapsulated elastomeric layers. No material shall be included in the Tube that may cause delamination in the cured CIPP. No dry or unsaturated layers shall be evident.
- 4.1.5 The wall color of the interior pipe surface of CIPP after installation shall be a light reflective color so that a clear detailed examination with closed circuit television inspection equipment may be made.
- 4.1.6 Seams in the Tube shall be stronger than the non-seamed felt.
- 4.1.7 The outside of the Tube shall be marked for distance at regular intervals along its entire length, not to exceed 5 ft. Such markings shall include the Manufacturers name or identifying symbol. The tubes must be manufactured in the USA.
- 4.2 Resin - The resin system shall be a corrosion resistant polyester, vinyl ester, or epoxy and catalyst system that when properly cured within the tube composite meets the requirements of ASTM F1216, ASTM F1743, the physical properties herein, and those which are to be utilized in the Design of the CIPP for this project. The resin shall produce CIPP which will comply with the structural and chemical resistance requirements of this specification.
- 5. STRUCTURAL REQUIREMENTS
 - 5.1 The CIPP shall be designed as per ASTM F1216, Appendix X.1. The CIPP design shall assume no bonding to the original pipe wall. The CIPP shall be designed for a fully deteriorated host pipe condition.
 - 5.2 The Contractor must have performed long-term testing for flexural creep of the CIPP pipe material installed by his Company. Such testing results are to be used to determine the Long-term, time dependent flexural modulus to be utilized in the product design. This is a performance test of the materials (Tube and Resin) and general workmanship of the installation and curing. A percentage of the instantaneous flexural modulus value (as measured by ASTM D-790 testing) will be used in design calculations for external buckling. The percentage, or the long-term creep retention value utilized, will be verified by this testing. Values in excess of 50% will not be applied unless substantiated by qualified third party test data. The materials utilized for the contracted project shall be of a quality equal to or better than the materials used in the long-term test with respect to the initial flexural modulus used in Design.
 - 5.3 The layers of the cured CIPP shall be uniformly bonded. It shall not be possible to separate any two layers with a probe or point of a knife blade so that the layers separate cleanly or the probe or knife blade moves freely between the layers. If separation of the layers occur during testing of field samples, new samples will be cut from the work. Any reoccurrence may cause rejection of the work.

5.4 The cured pipe material (CIPP) shall conform to the structural properties, as listed below.

MINIMUM PHYSICAL PROPERTIES

<u>Property</u>	<u>Test Method</u>	<u>Cured Composite min. per ASTM F1216</u>	<u>Cured Composite (400,000 psi Resin)</u>
Modulus of Elasticity	ASTM D-790 (short term)	250,000 psi	400,000 psi
Flexural Stress	ASTM D-790	4,500 psi	4,500 psi

The required structural CIPP wall thickness shall be based as a minimum, on the physical properties in the table above and in accordance with the Design Equations in the appendix of ASTM F 1216. All calculations shall be submitted to the Project Engineer prior to ordering of the pipe. The submittal shall show ALL information used in the calculations, including original equations, parameters, variables, definitions, values assigned, and intermediate results as well as final results. The purpose of this submittal is to allow the Project Engineer to examine all aspects of the design calculations. Submittal of governing equations and final results shall not be sufficient. Delays in proper submittal of a complete design package will not constitute a valid reason for schedule extension.

5.6 Any layers of the tube that are not saturated with resin prior to insertion into the existing pipe shall not be included in the structural CIPP wall thickness computation.

6. TESTING REQUIREMENTS

6.1 Chemical Resistance - The CIPP shall meet the chemical resistance requirements of ASTM F1216, Appendix X2. CIPP samples for testing shall be of tube and resin system similar to that proposed for actual construction. It is required that CIPP samples with and without plastic coating meet these chemical testing requirements.

6.2 Hydraulic Capacity - Overall, the hydraulic profile shall be maintained as large as possible. The CIPP shall have a minimum of the full flow capacity of the original pipe before rehabilitation. Calculated capacities may be derived using a commonly accepted roughness coefficient for the existing pipe material taking into consideration its age and condition.

6.3 CIPP Field Samples – The Contractor shall submit test results from field installations in the USA of the same resin system and tube materials as proposed for the actual installation. These test results must verify that the CIPP physical properties specified in Section 5.5 have been achieved in previous field applications. Samples for this project shall be made and tested as described in Section 10.1.

6.4 Installed CIPP Testing – The Contractor shall provide samples for testing to the City from the actual installed CIPP. Samples shall be provided at a minimum for one location per 1000 feet of installed CIPP. The sample shall be cut from a section of cured CIPP that has been pulled through a like diameter pipe which has been held in place by a suitable heat sink, such as sandbags. All curing, cutting, and identification of samples shall be witnessed by the City.

7. INSTALLATION RESPONSIBILITIES FOR INCIDENTAL ITEMS

- 7.1 The Contractor/subcontractor shall be responsible for reopening connections to all laterals shown on the drawings. This work shall be incidental to the CIPP pay item.
- 7.2 Cleaning of Host Line - The Contractor, when required, shall remove all internal debris out of the line that will interfere with the installation of CIPP. All debris removed from the sewer line shall be taken to the Persigo Wash Wastewater Treatment Plant located at 2145 River Road. Any hazardous waste material encountered during this project will be considered as a changed condition. The cleaning of the host lines shall be considered incidental to CIPP installation and will not be paid for separately.
- 7.3 Inspection of Pipelines - Inspection of pipelines shall be performed by experienced personnel trained in locating breaks, obstacles and service connections by close circuit television. The interior of the pipeline shall be carefully inspected to determine the location of any conditions which may prevent proper installation of CIPP into the pipelines, and it shall be noted so that these conditions can be corrected. A video tape and suitable log shall be kept for later reference by the Owner.
- 7.4 Line Obstructions - It shall be the responsibility of the Contractor to clear the line of obstructions such as solids, roots, projecting service pipes, mineral deposits, and other obstructions that will prevent the insertion of CIPP. If pre-installation inspection reveals an obstruction such as a protruding service connection, dropped joint, or a collapse that will prevent the inversion process, that was not evident on the pre-bid video and it cannot be removed by conventional sewer cleaning equipment, then the Contractor shall make a point repair excavation to uncover and remove or repair the obstruction. Such excavation shall be approved in writing by the Owner's representative prior to the commencement of the work and shall be considered as a separate pay item.

8. INSTALLATION

- 8.1 Installation of the CIPP shall conform with Traffic Control specifications and Special Conditions stipulated elsewhere in the Contract Documents. CIPP installation shall be in accordance with ASTM F1743 with the following modifications:
- 8.1.1 Resin Impregnation - The quantity of resin used for tube impregnation shall be sufficient to fill the volume of air voids in the tube with additional allowances for polymerization shrinkage and the loss of resin through cracks and irregularities in the original pipe wall. A vacuum impregnation process shall be used. To insure thorough resin saturation throughout the length of the felt tube, the point of vacuum shall be no further than 25 feet from the point of initial resin introduction.

After vacuum in the tube is established, a vacuum point shall be no further than 75 feet from the leading edge of the resin. The leading edge of the resin slug shall be as near to perpendicular as possible. A roller system shall be used to uniformly distribute the resin throughout the tube. If the Installer uses an alternate method of resin impregnation, the method must produce the same results. Any alternate resin impregnation method must be proven.

- 8.1.2 Tube Insertion – The wet out tube shall be positioned in the pipeline using the pull-through or inversion method.
- 8.1.3 Temperature gauges shall be placed inside the tube at the invert level of each end to monitor the temperatures during the cure cycle.
- 8.1.4 Curing shall be accomplished by utilizing steam pressure in accordance with the manufacturer’s recommended cure schedule.
- 8.1.5 Cooling shall be performed using chilled air.
- 8.1.6 Reinstatement of Services– Sanitary Service connections (taps) at the main be reopened without excavation, utilizing a remotely controlled cutting device, monitored by a video TV camera. The Contractor shall certify that he has a minimum of two complete working units plus spare key components on site before each inversion. No additional payment will be made for excavations for the purpose of reopening connections (unless noted otherwise on the Construction Drawings) and the Contractor will be responsible for all costs and liability associated with such excavation and restoration work. Any damage to the CIPP or service lateral resulting from removing the coupon of CIPP material at the service tap shall be repaired at the Contractor’s expense by open-cut excavation and installation of repair coupling and service tap as directed by the Engineer.

10. INSPECTION

- 10.1 CIPP samples shall be prepared and physical properties tested in accordance with ASTM, F1216 Section 8, using either method proposed. The flexural properties must meet or exceed the values listed in Table 1 of the applicable ASTM.
- 10.2 Wall thickness of samples shall be determined as described in ASTM F1216. The minimum wall thickness at any point shall not be less than 87½% of the design thickness as specified in this appendix.
- 10.3 Visual inspection of the CIPP shall be in accordance with ASTM F1216 and F1743. The Contractor shall provide a TV-log of the installation after all work is complete and prior to placing the sewer back in service.

11. CLEAN-UP

- 11.1 Upon acceptance of the installation work and testing, the Contractor shall restore the project area affected by the operations to a condition at least equal to that existing prior to the work.

12. PAYMENT

- 12.1 Payment for the CIPP installation shall be per lineal foot of CIPP installed, measured from end of pipe to end of pipe and shall include all aspects of the work described herein and on the Construction Drawings. This shall include the capture and treatment of all process water.

Payment for trenchless connection of services shall be made separately.

Add the following to **104.2.b Installation/Opening of Sewer Service Lines**:

Verification of Active Taps

It is the Contractors responsibility to verify all existing sewer taps to determine active vs inactive by smoke testing, use of dye, inserting a snake through a clean-out or roof vent and tracing to sewer main, etc. and only connect the active taps. There will be no separate measurement or payment for this work which will be considered incidental. Any damage to property or costs associated by failing to open active taps shall be the responsibility of the Contractor.

SECTION 105 – PIPELINE TESTING

Delete Section 105.2. The City of Grand Junction will not require the new sanitary sewer main to be pressure or leakage tested. However, the remainder of Section 105 shall apply to this Project.

2016 Sewer Interceptor Repair and Replacement

Minimum Design Thickness Calculation Parameters	
Flexural Modulus (psi)	400,000
Flexural Strength (psi)	4,500
Soil Density (lbs/cf)	120
Soil Modulus (psi)	1,100

MH No.	Location	Length (LF)	Pipe Diameter (RCP) (inches)	Invert Elevation (ft)	MH Finish Grade Elevation (ft)	Soil Cover Over Top Pipe (ft)	Estimated GW Elevation (ft)	Ground Water Over Pipe Invert (ft)	Quality (%)	H2O Live Load	Soil Type	Pipe Condition	Factor of Safety
G2-212-014	0+00.00	27.72	54	4515.0	4529.90	10.4	4519.0	4.0	2	Yes	clay FD	FD	2.0
NOT ON GS	0+27.72	60.87	54	4515.2	4524.30	4.6	4519.2	4.0	2	Yes	clay FD	FD	2.0
G2-212-015	0+88.59	678.47	54	4515.8	4525.70	5.4	4519.8	4.0	2	Yes	clay FD	FD	2.0
G2-212-032	7+67.06	143.54	54	4516.2	4527.10	6.4	4520.2	4.0	2	Yes	clay FD	FD	2.0
G2-212-035	9+10.60	241.75	54	4516.4	4526.30	5.4	4520.4	4.0	2	Yes	clay FD	FD	2.0
G2-212-038	11+52.35	84.01	54	4516.7	4526.50	5.3	4520.7	4.0	2	Yes	clay FD	FD	2.0
G2-212-041	12+36.36	750.00	54	4516.7	4528.00	6.8	4520.7	4.0	2	Yes	clay FD	FD	2.0
MH A-1	19+86.36	750.00	54	4517.2	4528.40	6.7	4521.2	4.0	2	Yes	clay FD	FD	2.0
MH A-2	27+36.36	750.00	54	4517.9	4528.70	6.3	4521.9	4.0	2	Yes	clay FD	FD	2.0
MH A-3	34+86.36	750.00	54	4519.0	4530.20	6.7	4523.0	4.0	2	Yes	clay FD	FD	2.0
MH A-4	42+36.36	750.00	54	4519.4	4532.60	8.7	4523.4	4.0	2	Yes	clay FD	FD	2.0
MH A-5	49+86.36	750.00	54	4520.3	4537.10	12.4	4524.3	4.0	2	Yes	clay FD (RR X-ing)	FD	2.0
MH A-6	57+36.36	750.00	54	4521.5	4534.50	8.5	4525.5	4.0	2	Yes	clay FD	FD	2.0
MH A-7	64+86.36	750.00	54	4522.2	4535.70	9.1	4526.2	4.0	2	Yes	clay FD	FD	2.0
MH A-8	72+36.36	750.00	54	4522.7	4536.90	9.7	4526.7	4.0	2	Yes	clay FD	FD	2.0
MH A-9	79+86.36	750.00	54	4523.3	4538.40	10.6	4527.3	4.0	2	Yes	clay FD	FD	2.0
MH A-10	87+36.36	750.00	54	4524.1	4538.20	9.6	4528.1	4.0	2	Yes	clay FD	FD	2.0
MH A-11	94+86.36	601.43	54	4524.5	4537.90	8.9	4528.5	4.0	2	Yes	clay FD	FD	2.0
F2-231-010	100+87.79	750.00	54	4525.4	4538.50	8.6	4529.4	4.0	2	Yes	clay FD	FD	2.0
MH A-12	108+37.79	750.00	54	4526.0	4539.80	9.3	4530.0	4.0	2	Yes	clay FD	FD	2.0
MH A-13	115+87.79	657.99	54	4527.4	4541.30	9.4	4531.4	4.0	2	Yes	clay FD	FD	2.0
MH A-14	122+45.78	432.65	54	4527.6	4542.50	10.4	4531.6	4.0	2	Yes	clay FD	FD	2.0
F1-232-066	126+78.43	733.19	54	4528.0	4542.80	10.3	4532.0	4.0	2	Yes	clay FD	FD	2.0
F1-232-033	134+11.62		54	4528.7	4542.30	9.1	4532.7	4.0	2	Yes	clay FD	FD	2.0
Total Length		54 inch			13384 LF								

- Notes:
- Calculate design thickness for fully deteriorated condition.
 - Railroad spur crosses sanitary line at sta 52+80.

APPENDIX E

UPRR Pipeline Crossing & Encroachment Agreement

PIPELINE CROSSING & ENCROACHMENT AGREEMENT

Mile Post: 454.14, Green River Subdivision/Branch
Location: Grand Junction, Mesa County, Colorado

THIS AGREEMENT (“Agreement”) is made and entered into as of September 27, 2016, (“Effective Date”) by and between **UNION PACIFIC RAILROAD COMPANY**, a Delaware corporation, (“Licensor”) and **CITY OF GRAND JUNCTION**, to be addressed at 250 North 5th Street, Grand Junction, Colorado 81501 (“Licensee”).

IT IS MUTUALLY AGREED BY AND BETWEEN THE PARTIES HERETO AS FOLLOWS:

Article 1. LICENSOR GRANTS RIGHT.

In consideration of the license fee to be paid by the Licensee and in further consideration of the covenants and agreements herein contained to be by the Licensee kept, observed and performed, the Licensor hereby grants to the Licensee the right to construct and thereafter, during the term hereof, to maintain and operate

A temporary 8.625 pipeline for transporting and conveying sanitary water only

across Licensor's track(s) and property (the “Pipeline”) in the location shown and in conformity with the dimensions and specifications indicated on the print dated September 27, 2016 and marked **Exhibit A**, attached hereto and hereby made a part hereof. Under no circumstances shall Licensee modify the use of the Pipeline for a purpose other than transporting and conveying sanitary water, and the Pipeline shall not be used to convey any other substance, any fiber optic cable, or for any other use, whether such use is currently technologically possible, or whether such use may come into existence during the life of this Agreement.

For the purposes of Exhibit A, Licensee acknowledges that if it or its contractor provides to Railroad digital imagery depicting the Pipeline crossing, Licensee authorizes Railroad to use the Digital Imagery in preparing the print attached as an exhibit hereto. Licensee represents and warrants that through a license or otherwise, it has the right to use the Digital Imagery and to permit Railroad to use the Digital Imagery in said manner.

Article 2. LICENSE FEE.

Upon execution of this Agreement, the Licensee shall pay to the Licensor a one-time License Fee of **Two Thousand Five Hundred Dollars (\$2,500.00)**.

Article 3. CONSTRUCTION, MAINTENANCE AND OPERATION.

The grant of right herein made to the Licensee is subject to each and all of the terms, provisions, conditions, limitations and covenants set forth herein and in **Exhibit B**, attached hereto and hereby made a part hereof.

Article 4. DEFINITION OF LICENSEE.

For purposes of this Agreement, all references in this Agreement to the Licensee shall include the Licensee's contractors, subcontractors, officers, agents and employees, and others acting under its or their authority. If a contractor is hired by the Licensee for any work performed on the Pipeline (including initial construction and subsequent relocation or maintenance and repair work), then the Licensee shall provide a copy of this Agreement to its contractor and require its contractor to comply with all the terms and provisions hereof relating to the work to be performed. Any contractor or subcontractor shall be deemed an agent of Licensee for the purpose of this Agreement, and Licensee shall require such contractor or subcontractor to release, defend and indemnify Licensor to the same extent and under the same terms and conditions as Licensee is required to release, defend and indemnify Licensor herein.

Article 5. INSURANCE.

A. During the life of the License, Licensee shall fully comply with the insurance requirements described in **Exhibit C**.

B. Failure to maintain insurance as required shall entitle, but not require, Licensor to terminate this License immediately.

C. If the Licensee is subject to statute(s) limiting its insurance liability and/or limiting its ability to obtain insurance in compliance with **Exhibit C** of this license, those statutes shall apply.

D. Licensee hereby acknowledges that is has reviewed the requirements of **Exhibit C**, including without limitation the requirement for Railroad Protective Liability Insurance during construction, maintenance, installation, repair or removal of the pipeline which is the subject of this Agreement.

Article 6. TERM.

This Agreement shall take effect as of the Effective Date first herein written and shall continue in full force and effect until terminated as herein provided.

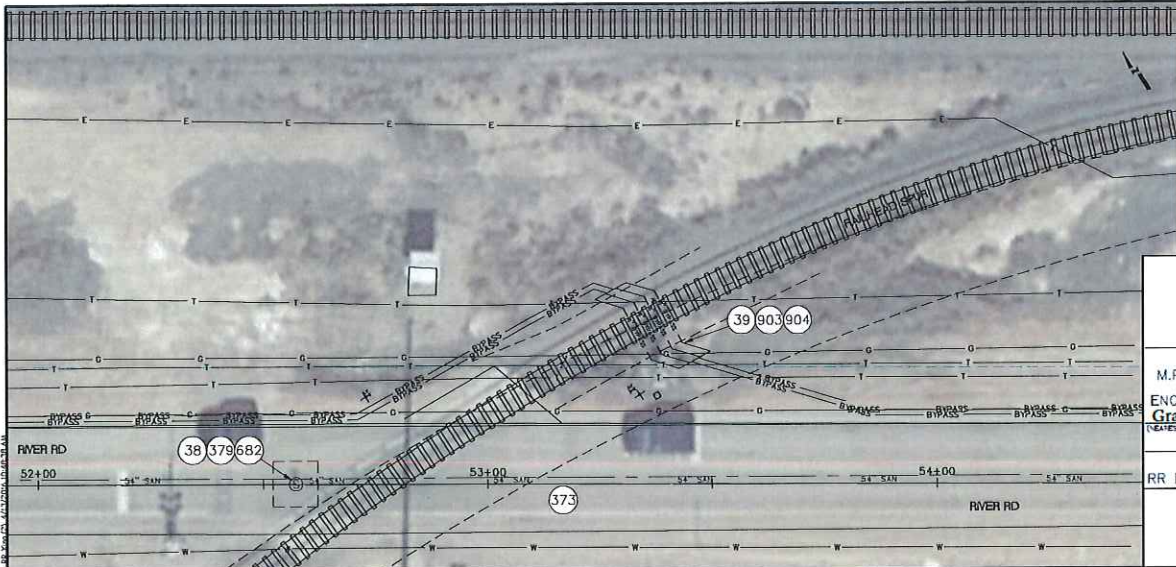
IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed as of the date first herein written.

UNION PACIFIC RAILROAD COMPANY

CITY OF GRAND JUNCTION

By: _____
Kylan Crawford
Senior Manager

By: Greg Caton
Name Printed: Greg Caton
Title: City Manager



- PROJECT NO. F001514
CONSTRUCTION NOTES
- 01 ABANDON MANHOLE. CONTRACTOR SHALL SALVAGE RING AND COVER AND DRIVE TO CITY SHOP. BACKFILL WITH CRUSHED CONCRETE. SEE SP-1 AND SP-2 FOR ADDITIONAL INFORMATION.
 - 02 - REMOVE BYPASS PIPE FOLLOWING BYPASS OPERATIONS.
 - 03 103 8/103 - CHECK IN PLACE RFE (CSP) (SEE AS SHOWN) DESIGN, SUBMITTED, AND STAMPED BY P.E. INSTALLED BY CONTRACTOR OR SUBCONTRACTOR MEETING SPECIFICATIONS DEFINED IN CONTRACT DOCUMENTS. SEE SPECIAL PROVISIONS. DESIGN SHALL BE FOR EXISTING PIPE IN FULLY DEGRADED CONDITION. CONTRACTOR SHALL VERIFY DIA. OF RFE PRIOR TO DESIGN AND FABRICATION OF RING.
 - 04 1" TOP REQUIRED AT ASPHALT PATCH. (SEE CITY STANDARD DETAIL CU-05).
 - 05 M103 - HOT BITUMINOUS PAVEMENT (PATENT) (5" THICK) (CONFORMS TO RINDER GRADE PG 64-22) (MIN 2 1/2" LIFTS).
 - 06 SEE UJ/1031 - BYPASS PUMPING OPERATIONS AT RIVER ROAD AND THE RAILROAD SPUR. BYPASS CONFIGURATION SHALL ALLOW CONTINUOUS TRAFFIC/UPRR SERVICE. CONTRACTOR SHALL VERIFY FLOW RATES.
 - 07 CONTRACTOR SHALL HAND TRIM/CHISEL AGGREGATE BETWEEN RAILROAD TIES FOR PLACEMENT OF BYPASS PIPE.

EXHIBIT "A"
(FOR RAILROAD USE ONLY)

UNION PACIFIC RAILROAD CO.
Green River
(SUBDIVISION)

M.P. **454.14** E.S.

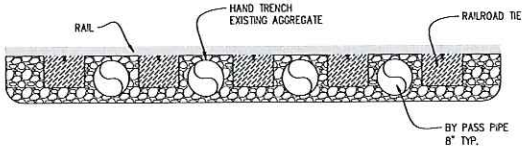
ENCASED **Grand Junction** CROSSING AT **Mesa** **Colorado**
(NEAREST CITY) (CITY/TOWN) (STATE)

City of Grand Junction
(APPLICANT)

RR FILE NO. **2985-95** DATE **9/27/16**

WARNING
IN ALL OCCASIONS, U.P. COMMUNICATIONS DEPARTMENT MUST BE CONTACTED IN ADVANCE OF ANY WORK TO DETERMINE EXISTENCE AND LOCATION OF FIBER OPTIC CABLES.
PHONE 1-800-336-9193

• ALL WORK PERFORMED WITHIN UPRR RIGHT OF WAY SHALL BE IN ACCORDANCE WITH THE UPRR UTILITY ENCROACHMENT PERMIT



REVISION	DESCRIPTION	DATE	DESIGNED BY	DATE	SCALE
REVISION Δ			TRIC	2016	PLAN & PROFILE
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PUBLIC WORKS
AND UTILITIES
ENGINEERING DIVISION

2016 SEWER INTERCEPTOR REPAIR & REPLACEMENTS
RAILHEAD SPUR BYPASS CROSSING

EXHIBIT B

Section 1. LIMITATION AND SUBORDINATION OF RIGHTS GRANTED.

- A. The foregoing grant of right is subject and subordinate to the prior and continuing right and obligation of the Licensor to use and maintain its entire property including the right and power of the Licensor to construct, maintain, repair, renew, use, operate, change, modify or relocate railroad tracks, signal, communication, fiber optics, or other wirelines, pipelines and other facilities upon, along or across any or all parts of its property, all or any of which may be freely done at any time or times by the Licensor without liability to the Licensee or to any other party for compensation or damages.
- B. The foregoing grant is also subject to all outstanding superior rights (including those in favor of licensees and lessees of the Licensor's property, and others) and the right of the Licensor to renew and extend the same, and is made without covenant of title or for quiet enjoyment.

Section 2. CONSTRUCTION, MAINTENANCE AND OPERATION.

- A. The Pipeline shall be designed, constructed, operated, maintained, repaired, renewed, modified and/or reconstructed by the Licensee in strict conformity with (i) Licensor's current standards and specifications ("UP Specifications"), except for variances approved in advance in writing by the Licensor's Assistant Vice President Engineering – Design, or his authorized representative; (ii) such other additional safety standards as the Licensor, in its sole discretion, elects to require, including, without limitation, American Railway Engineering and Maintenance-of-Way Association ("AREMA") standards and guidelines (collectively, "UP Additional Requirements"), and (iii) all applicable laws, rules and regulations ("Laws"). If there is any conflict between the requirements of any Law and the UP Specifications or the UP Additional Requirements, the most restrictive will apply.
- B. All work performed on property of the Licensor in connection with the design, construction, maintenance, repair, renewal, modification or reconstruction of the Pipeline shall be done to the satisfaction of the Licensor.
- C. Prior to the commencement of any work in connection with the design, construction, maintenance, repair, renewal, modification, relocation, reconstruction or removal of the Pipeline from Licensor's property, the Licensee shall submit to the Licensor plans setting out the method and manner of handling the work, including the shoring and cribbing, if any, required to protect the Licensor's operations, and shall not proceed with the work until such plans have been approved by the Licensor's Assistant Vice President Engineering Design, or his authorized representative, and then the work shall be done to the satisfaction of the Licensor's Assistant Vice President Engineering Design or his authorized representative. The Licensor shall have the right, if it so elects, to provide such support as it may deem necessary for the safety of its track or tracks during the time of construction, maintenance, repair, renewal, modification, relocation, reconstruction or removal of the Pipeline, and, in the event the Licensor provides such support, the Licensee shall pay to the Licensor, within fifteen (15) days after bills shall have been rendered therefore, all expenses incurred by the Licensor in connection therewith, which expenses shall

include all assignable costs.

- D. The Licensee shall keep and maintain the soil over the Pipeline thoroughly compacted and the grade even with the adjacent surface of the ground.
- E. In the prosecution of any work covered by this Agreement, Licensee shall secure any and all necessary permits and shall comply with all applicable federal, state and local laws, regulations and enactments affecting the work including, without limitation, all applicable Federal Railroad Administration regulations.

Section 3. NOTICE OF COMMENCEMENT OF WORK / LICENSOR REPRESENTATIVE / SUPERVISION / FLAGGING / SAFETY.

- A. If an emergency should arise requiring immediate attention, the Licensee shall provide as much notice as practicable to Licensor before commencing any work. In all other situations, the Licensee shall notify the Licensor at least ten (10) days (or such other time as the Licensor may allow) in advance of the commencement of any work upon property of the Licensor in connection with the construction, maintenance, repair, renewal, modification, reconstruction, relocation or removal of the Pipeline. All such work shall be prosecuted diligently to completion. The Licensee will coordinate its initial, and any subsequent work with the following employee of Licensor or his or her duly authorized representative (hereinafter "Licensor Representative" or "Railroad Representative"):

MICHAEL K. JOHNSON
MGR TRACK MNTCE
58 NORTH 300 WEST
NEPHI, UT 84648
801 232-6727
mkjohnso@up.com

KEITH A. KRUEGER
MGR SIGNAL MNTCE
2790 D ROAD
GRAND JCT, CO 81501
Work Phone: 970-248-4237
Cell Phone: 402 619-8044
kakruege01@up.com

- B. Licensee, at its own expense, shall adequately police and supervise all work to be performed. The responsibility of Licensee for safe conduct and adequate policing and supervision of work shall not be lessened or otherwise affected by Licensor's approval of plans and specifications involving the work, or by Licensor's collaboration in performance of any work, or by the presence at the work site of a Licensor Representative, or by compliance by Licensee with any requests or recommendations made by the Licensor Representative.
- C. At the request of Licensor, Licensee shall remove from Licensor's property any employee who fails to conform to the instructions of the Licensor Representative in connection with the work on Licensor's property. Licensee shall indemnify Licensor against any claims arising from the removal of any such employee from Licensor's property.
- D. Licensee shall notify the Licensor Representative at least ten (10) working days in advance of proposed performance of any work in which any person or equipment will be within twenty-five (25) feet of any track, or will be near enough to any track that any equipment extension (such as, but not limited to, a crane boom) will reach to within twenty-five (25) feet of any track. No work of any kind shall be performed, and no person, equipment, machinery, tool(s), material(s), vehicle(s), or thing(s) shall be located, operated, placed, or stored within twenty-five (25) feet of any of Licensor's track(s) at any time, for any reason, unless and until a railroad flagman is provided to watch for trains. Upon receipt of such ten (10) day notice, the Licensor Representative will determine and inform Licensee whether a flagman need be present and

whether any special protective or safety measures need to be implemented. If flagging or other special protective or safety measures are performed by Licensor, Licensor will bill Licensee for such expenses incurred by Licensor, unless Licensor and a federal, state or local governmental entity have agreed that Licensor is to bill such expenses to the federal, state or local governmental entity. If Licensor will be sending the bills to Licensee, Licensee shall pay such bills within thirty (30) days of receipt of billing. If Licensor performs any flagging, or other special protective or safety measures are performed by Licensor, Licensee agrees that Licensee is not relieved of any of responsibilities or liabilities set forth in this Agreement.

- E. The rate of pay per hour for each flagman will be the prevailing hourly rate in effect for an eight-hour day for the class of flagmen used during regularly assigned hours and overtime in accordance with Labor Agreements and Schedules in effect at the time the work is performed. In addition to the cost of such labor, a composite charge for vacation, holiday, health and welfare, supplemental sickness, Railroad Retirement and unemployment compensation, supplemental pension, Employees Liability and Property Damage and Administration will be included, computed on actual payroll. The composite charge will be the prevailing composite charge in effect at the time the work is performed. One and one-half times the current hourly rate is paid for overtime, Saturdays and Sundays, and two and one-half times current hourly rate for holidays. Wage rates are subject to change, at any time, by law or by agreement between Licensor and its employees, and may be retroactive as a result of negotiations or a ruling of an authorized governmental agency. Additional charges on labor are also subject to change. If the wage rate or additional charges are changed, Licensee (or the governmental entity, as applicable) shall pay on the basis of the new rates and charges.
- F. Reimbursement to Licensor will be required covering the full eight-hour day during which any flagman is furnished, unless the flagman can be assigned to other railroad work during a portion of such day, in which event reimbursement will not be required for the portion of the day during which the flagman is engaged in other railroad work. Reimbursement will also be required for any day not actually worked by the flagman following the flagman's assignment to work on the project for which Licensor is required to pay the flagman and which could not reasonably be avoided by Licensor by assignment of such flagman to other work, even though Licensee may not be working during such time. When it becomes necessary for Licensor to bulletin and assign an employee to a flagging position in compliance with union collective bargaining agreements, Licensee must provide Licensor a minimum of five (5) days notice prior to the cessation of the need for a flagman. If five (5) days notice of cessation is not given, Licensee will still be required to pay flagging charges for the five (5) day notice period required by union agreement to be given to the employee, even though flagging is not required for that period. An additional ten (10) days notice must then be given to Licensor if flagging services are needed again after such five day cessation notice has been given to Licensor.
- G. Safety of personnel, property, rail operations and the public is of paramount importance in the prosecution of the work performed by Licensee or its contractor. Licensee shall be responsible for initiating, maintaining and supervising all safety, operations and programs in connection with the work. Licensee and its contractor shall at a minimum comply with Licensor's safety standards listed in **Exhibit D**, hereto attached, to ensure uniformity with the safety standards followed by Licensor's own forces. As a part of Licensee's safety responsibilities, Licensee shall notify Licensor if it determines that any of Licensor's safety standards are contrary to good safety practices. Licensee and its contractor shall furnish copies of **Exhibit D** to each of its employees before they enter the job site.

- H. Without limitation of the provisions of paragraph G above, Licensee shall keep the job site free from safety and health hazards and ensure that their employees are competent and adequately trained in all safety and health aspects of the job.
- I. Licensee shall have proper first aid supplies available on the job site so that prompt first aid services may be provided to any person injured on the job site. Prompt notification shall be given to Licensor of any U.S. Occupational Safety and Health Administration reportable injuries. Licensee shall have a non-delegable duty to control its employees while they are on the job site or any other property of Licensor, and to be certain they do not use, be under the influence of, or have in their possession any alcoholic beverage, drug or other substance that may inhibit the safe performance of any work.
- J. If and when requested by Licensor, Licensee shall deliver to Licensor a copy of its safety plan for conducting the work (the "Safety Plan"). Licensor shall have the right, but not the obligation, to require Licensee to correct any deficiencies in the Safety Plan. The terms of this Agreement shall control if there are any inconsistencies between this Agreement and the Safety Plan.

Section 4. LICENSEE TO BEAR ENTIRE EXPENSE.

The Licensee shall bear the entire cost and expense incurred in connection with the design, construction, maintenance, repair and renewal and any and all modification, revision, relocation, removal or reconstruction of the Pipeline, including any and all expense which may be incurred by the Licensor in connection therewith for supervision, inspection, flagging, or otherwise.

Section 5. REINFORCEMENT, RELOCATION OR REMOVAL OF PIPELINE.

- A. The license herein granted is subject to the needs and requirements of the Licensor in the safe and efficient operation of its railroad and in the improvement and use of its property. The Licensee shall, at the sole expense of the Licensee, reinforce or otherwise modify the Pipeline, or move all or any portion of the Pipeline to such new location, or remove the Pipeline from the Licensor's property, as the Licensor may designate, whenever, in the furtherance of its needs and requirements, the Licensor, at its sole election, finds such action necessary or desirable.
- B. All the terms, conditions and stipulations herein expressed with reference to the Pipeline on property of the Licensor in the location hereinbefore described shall, so far as the Pipeline remains on the property, apply to the Pipeline as modified, changed or relocated within the contemplation of this section.

Section 6. NO INTERFERENCE WITH LICENSOR'S OPERATION.

- A. The Pipeline and all parts thereof within and outside of the limits of the property of the Licensor shall be designed, constructed and, at all times, maintained, repaired, renewed and operated in such manner as to cause no interference whatsoever with the constant, continuous and uninterrupted use of the tracks, property and facilities of the Licensor and nothing shall be done or suffered to be done by the Licensee at any time that would in any manner impair the safety thereof.
- B. Explosives or other highly flammable substances shall not be stored on Licensor's property without the prior written approval of Licensor.

- C. No additional vehicular crossings (including temporary haul roads) or pedestrian crossings over Licensor's trackage shall be installed or used by Licensee or its contractors without the prior written permission of Licensor.
- D. When not in use, any machinery and materials of Licensee or its contractors shall be kept at least fifty (50) feet from the centerline of Licensor's nearest track.
- E. Operations of Licensor and work performed by Licensor's personnel may cause delays in the work to be performed by Licensee. Licensee accepts this risk and agrees that Licensor shall have no liability to Licensee or any other person or entity for any such delays. Licensee shall coordinate its activities with those of Licensor and third parties so as to avoid interference with railroad operations. The safe operation of Licensor's train movements and other activities by Licensor take precedence over any work to be performed by Licensee.

Section 7. PROTECTION OF FIBER OPTIC CABLE SYSTEMS.

- A. Fiber optic cable systems may be buried on the Licensor's property. Protection of the fiber optic cable systems is of extreme importance since any break could disrupt service to users resulting in business interruption and loss of revenue and profits. Licensee shall telephone the Licensor during normal business hours (7:00 a.m. to 9:00 p.m. Central Time, Monday through Friday, except for holidays) at 1-800-336-9193 (also a 24-hour, 7-day number for emergency calls) to determine if fiber optic cable is buried anywhere on the Licensor's premises to be used by the Licensee. If it is, Licensee will telephone the telecommunications company(ies) involved, arrange for a cable locator, make arrangements for relocation or other protection of the fiber optic cable, all at Licensee's expense, and will commence no work on the Licensor's property until all such protection or relocation has been accomplished. Licensee shall indemnify and hold the Licensor harmless from and against all costs, liability and expense whatsoever (including, without limitation, attorneys' fees, court costs and expenses) arising out of or caused in any way by Licensee's failure to comply with the provisions of this paragraph.
- B. IN ADDITION TO OTHER INDEMNITY PROVISIONS IN THIS AGREEMENT, THE LICENSEE SHALL, AND SHALL CAUSE ITS CONTRACTOR TO, RELEASE, INDEMNIFY, DEFEND AND HOLD THE LICENSOR HARMLESS FROM AND AGAINST ALL COSTS, LIABILITY AND EXPENSE WHATSOEVER (INCLUDING, WITHOUT LIMITATION, ATTORNEYS' FEES, COURT COSTS AND EXPENSES) CAUSED BY THE NEGLIGENCE OF THE LICENSEE, ITS CONTRACTORS, AGENTS AND/OR EMPLOYEES, RESULTING IN (1) ANY DAMAGE TO OR DESTRUCTION OF ANY TELECOMMUNICATIONS SYSTEM ON LICENSOR'S PROPERTY, AND/OR (2) ANY INJURY TO OR DEATH OF ANY PERSON EMPLOYED BY OR ON BEHALF OF ANY TELECOMMUNICATIONS COMPANY, AND/OR ITS CONTRACTOR, AGENTS AND/OR EMPLOYEES, ON LICENSOR'S PROPERTY, EXCEPT IF SUCH COSTS, LIABILITY OR EXPENSES ARE CAUSED SOLELY BY THE DIRECT ACTIVE NEGLIGENCE OF THE LICENSOR. LICENSEE FURTHER AGREES THAT IT SHALL NOT HAVE OR SEEK RECOURSE AGAINST LICENSOR FOR ANY CLAIM OR CAUSE OF ACTION FOR ALLEGED LOSS OF PROFITS OR REVENUE OR LOSS OF SERVICE OR OTHER CONSEQUENTIAL DAMAGE TO A TELECOMMUNICATION COMPANY USING LICENSOR'S PROPERTY OR A CUSTOMER OR USER OF SERVICES OF THE FIBER OPTIC CABLE ON LICENSOR'S PROPERTY.**

Section 8. CLAIMS AND LIENS FOR LABOR AND MATERIAL; TAXES.

- A. The Licensee shall fully pay for all materials joined or affixed to and labor performed upon property of the Licensor in connection with the construction, maintenance, repair, renewal, modification or reconstruction of the Pipeline, and shall not permit or suffer any mechanic's or materialman's lien of any kind or nature to be enforced against the property for any work done or materials furnished thereon at the instance or request or on behalf of the Licensee. The Licensee shall indemnify and hold harmless the Licensor against and from any and all liens, claims, demands, costs and expenses of whatsoever nature in any way connected with or growing out of such work done, labor performed, or materials furnished.
- B. The Licensee shall promptly pay or discharge all taxes, charges and assessments levied upon, in respect to, or on account of the Pipeline, to prevent the same from becoming a charge or lien upon property of the Licensor, and so that the taxes, charges and assessments levied upon or in respect to such property shall not be increased because of the location, construction or maintenance of the Pipeline or any improvement, appliance or fixture connected therewith placed upon such property, or on account of the Licensee's interest therein. Where such tax, charge or assessment may not be separately made or assessed to the Licensee but shall be included in the assessment of the property of the Licensor, then the Licensee shall pay to the Licensor an equitable proportion of such taxes determined by the value of the Licensee's property upon property of the Licensor as compared with the entire value of such property.

Section 9. RESTORATION OF LICENSOR'S PROPERTY.

In the event the Licensee in any manner moves or disturbs any of the property of the Licensor in connection with the construction, maintenance, repair, renewal, modification, reconstruction, relocation or removal of the Pipeline, then in that event the Licensee shall, as soon as possible and at Licensee's sole expense, restore such property to the same condition as the same were before such property was moved or disturbed, and the Licensee shall indemnify and hold harmless the Licensor, its officers, agents and employees, against and from any and all liability, loss, damages, claims, demands, costs and expenses of whatsoever nature, including court costs and attorneys' fees, which may result from injury to or death of persons whomsoever, or damage to or loss or destruction of property whatsoever, when such injury, death, damage, loss or destruction grows out of or arises from the moving or disturbance of any other property of the Licensor.

Section 10. INDEMNITY.

- A. As used in this Section, "Licensor" includes other railroad companies using the Licensor's property at or near the location of the Licensee's installation and their officers, agents, and employees; "Loss" includes loss, damage, claims, demands, actions, causes of action, penalties, costs, and expenses of whatsoever nature, including court costs and attorneys' fees, which may result from: (a) injury to or death of persons whomsoever (including the Licensor's officers, agents, and employees, the Licensee's officers, agents, and employees, as well as any other person); and/or (b) damage to or loss or destruction of property whatsoever (including Licensee's property, damage to the roadbed, tracks, equipment, or other property of the Licensor, or property in its care or custody).
- B. AS A MAJOR INDUCEMENT AND IN CONSIDERATION OF THE LICENSE AND PERMISSION HEREIN GRANTED, TO THE FULLEST EXTENT PERMITTED BY LAW, THE LICENSEE SHALL, AND SHALL CAUSE ITS CONTRACTOR TO, RELEASE, INDEMNIFY, DEFEND AND HOLD HARMLESS THE LICENSOR FROM**

ANY LOSS OF ANY KIND, NATURE OR DESCRIPTION ARISING OUT OF, RESULTING FROM OR RELATED TO (IN WHOLE OR IN PART):

1. THE PROSECUTION OF ANY WORK CONTEMPLATED BY THIS AGREEMENT INCLUDING THE INSTALLATION, CONSTRUCTION, MAINTENANCE, REPAIR, RENEWAL, MODIFICATION, RECONSTRUCTION, RELOCATION, OR REMOVAL OF THE PIPELINE OR ANY PART THEREOF;

2. ANY RIGHTS OR INTERESTS GRANTED PURSUANT TO THIS LICENSE;

3. THE PRESENCE, OPERATION, OR USE OF THE PIPELINE OR CONTENTS ESCAPING THEREFROM;

4. THE ENVIRONMENTAL STATUS OF THE PROPERTY CAUSED BY OR CONTRIBUTED TO BY LICENSEE;

5. ANY ACT OR OMISSION OF LICENSEE OR LICENSEE'S OFFICERS, AGENTS, INVITEES, EMPLOYEES, OR CONTRACTORS OR ANYONE DIRECTLY OR INDIRECTLY EMPLOYED BY ANY OF THEM, OR ANYONE THEY CONTROL OR EXERCISE CONTROL OVER; OR

6. LICENSEE'S BREACH OF THIS AGREEMENT,

EXCEPT WHERE THE LOSS IS CAUSED BY THE SOLE DIRECT AND ACTIVE NEGLIGENCE OF THE LICENSOR, AS DETERMINED IN A FINAL JUDGMENT BY A COURT OF COMPETENT JURISDICTION, IT BEING THE INTENTION OF THE PARTIES THAT THE ABOVE INDEMNITY WILL OTHERWISE APPLY TO LOSSES CAUSED BY OR ARISING FROM, IN WHOLE OR IN PART, LICENSOR'S NEGLIGENCE.

C. Upon written notice from Licensor, Licensee agrees to assume the defense of any lawsuit of proceeding brought against any indemnitee by any entity, relating to any matter covered by this License for which Licensee has an obligation to assume liability for and/or save and hold harmless any indemnitee. Licensee shall pay all costs incident to such defense, including, but not limited to, reasonable attorney's fees, investigators' fees, litigation and appeal expenses, settlement payments and amounts paid in satisfaction of judgments.

Section 11. REMOVAL OF PIPELINE UPON TERMINATION OF AGREEMENT.

Prior to the termination of this Agreement howsoever, the Licensee shall, at Licensee's sole expense, remove the Pipeline from those portions of the property not occupied by the roadbed and track or tracks of the Licensor and shall restore, to the satisfaction of the Licensor, such portions of such property to as good a condition as they were in at the time of the construction of the Pipeline. If the Licensee fails to do the foregoing, the Licensor may, but is not obligated, to perform such work of removal and restoration at the cost and expense of the Licensee. In the event of the removal by the Licensor of the property of the Licensee and of the restoration of the roadbed and property as herein provided, the Licensor shall in no manner be liable to the Licensee for any damage sustained by the Licensee for or on account thereof, and such removal and restoration shall in no manner prejudice or impair any right of action for damages, or otherwise, that the Licensor may have against the Licensee.

Section 12. WAIVER OF BREACH.

The waiver by the Licensor of the breach of any condition, covenant or agreement herein contained to be kept, observed and performed by the Licensee shall in no way impair the right of the Licensor to avail itself of any remedy for any subsequent breach thereof.

Section 13. TERMINATION.

- A. If the Licensee does not use the right herein granted or the Pipeline for one (1) year, or if the Licensee continues in default in the performance of any covenant or agreement herein contained for a period of thirty (30) days after written notice from the Licensor to the Licensee specifying such default, the Licensor may, at its option, forthwith immediately terminate this Agreement by written notice.
- B. In addition to the provisions of subparagraph (a) above, this Agreement may be terminated by written notice given by either party hereto to the other on any date in such notice stated, not less, however, than thirty (30) days subsequent to the date upon which such notice shall be given.
- C. Notice of default and notice of termination may be served personally upon the Licensee or by mailing to the last known address of the Licensee. Termination of this Agreement for any reason shall not affect any of the rights or obligations of the parties hereto which may have accrued, or liabilities, accrued or otherwise, which may have arisen prior thereto.

Section 14. AGREEMENT NOT TO BE ASSIGNED.

The Licensee shall not assign this Agreement, in whole or in part, or any rights herein granted, without the written consent of the Licensor, and it is agreed that any transfer or assignment or attempted transfer or assignment of this Agreement or any of the rights herein granted, whether voluntary, by operation of law, or otherwise, without such consent in writing, shall be absolutely void and, at the option of the Licensor, shall terminate this Agreement.

Section 15. SUCCESSORS AND ASSIGNS.

Subject to the provisions of Section 14 hereof, this Agreement shall be binding upon and inure to the benefit of the parties hereto, their heirs, executors, administrators, successors and assigns.

Section 16. SEVERABILITY.

Any provision of this Agreement which is determined by a court of competent jurisdiction to be invalid or unenforceable shall be invalid or unenforceable only to the extent of such determination, which shall not invalidate or otherwise render ineffective any other provision of this Agreement.

Approved: Insurance Group
Created: 9/23/05
Last Modified: 03/29/10
Form Approved, AVP-Law

EXHIBIT C
Union Pacific Railroad Company
Contract Insurance Requirements

Licensee shall, at its sole cost and expense, procure and maintain during the life of this Agreement (except as otherwise provided in this Agreement) the following insurance coverage:

A. Commercial General Liability insurance. Commercial general liability (CGL) with a limit of not less than \$2,000,000 each occurrence and an aggregate limit of not less than \$4,000,000. CGL insurance must be written on ISO occurrence form CG 00 01 12 04 (or a substitute form providing equivalent coverage).

The policy must also contain the following endorsement, WHICH MUST BE STATED ON THE CERTIFICATE OF INSURANCE: "Contractual Liability Railroads" ISO form CG 24 17 10 01 (or a substitute form providing equivalent coverage) showing "Union Pacific Railroad Company Property" as the Designated Job Site.

B. Business Automobile Coverage insurance. Business auto coverage written on ISO form CA 00 01 10 01 (or a substitute form providing equivalent liability coverage) with a limit of not less \$2,000,000 for each accident, and coverage must include liability arising out of any auto (including owned, hired, and non-owned autos).

The policy must contain the following endorsements, WHICH MUST BE STATED ON THE CERTIFICATE OF INSURANCE: "Coverage For Certain Operations In Connection With Railroads" ISO form CA 20 70 10 01 (or a substitute form providing equivalent coverage) showing "Union Pacific Property" as the Designated Job Site.

C. Workers Compensation and Employers Liability insurance. Coverage must include but not be limited to:

Licensee's statutory liability under the workers' compensation laws of the state(s) affected by this Agreement.

Employers' Liability (Part B) with limits of at least \$500,000 each accident, \$500,000 disease policy limit \$500,000 each employee.

If Licensee is self-insured, evidence of state approval and excess workers compensation coverage must be provided. Coverage must include liability arising out of the U. S. Longshoremen's and Harbor Workers' Act, the Jones Act, and the Outer Continental Shelf Land Act, if applicable.

D. Railroad Protective Liability insurance. Licensee must maintain "Railroad Protective Liability" insurance written on ISO occurrence form CG 00 35 12 04 (or a substitute form providing equivalent coverage) on behalf of Railroad only as named insured, with a limit of not less than \$2,000,000 per occurrence and an aggregate of \$6,000,000.

The definition of "JOB LOCATION" and "WORK" on the declaration page of the policy shall refer to this Agreement and shall describe all WORK or OPERATIONS performed under this agreement

E. Umbrella or Excess insurance. If Licensee utilizes umbrella or excess policies, and these policies must "follow form" and afford no less coverage than the primary policy.

Other Requirements

F. All policy(ies) required above (except worker's compensation and employers liability) must include Railroad as "Additional Insured" using ISO Additional Insured Endorsements CG 20 26, and CA 20 48 (or substitute forms providing equivalent coverage). The coverage provided to Railroad as additional insured shall, to the extent provided under ISO Additional Insured Endorsement CG 20 26, and CA 20 48 provide coverage for Railroad's negligence whether sole or partial, active or passive, and shall not be limited by Licensee's liability under the indemnity provisions of this Agreement.

G. Punitive damages exclusion, if any, must be deleted (and the deletion indicated on the certificate of insurance), unless (a) insurance coverage may not lawfully be obtained for any punitive damages that may arise under this agreement, or (b) all punitive damages are prohibited by all states in which this agreement will be performed.

H. Licensee waives all rights of recovery, and its insurers also waive all rights of subrogation of damages against Railroad and its agents, officers, directors and employees for damages covered by the workers compensation and employers liability or commercial umbrella or excess liability obtained by Licensee required in this agreement, where permitted by law This waiver must be stated on the certificate of insurance.

I. All insurance policies must be written by a reputable insurance company acceptable to Railroad or with a current Best's Insurance Guide Rating of A- and Class VII or better, and authorized to do business in the state(s) in which the work is to be performed.

J. The fact that insurance is obtained by Licensee or by Railroad on behalf of Licensee will not be deemed to release or diminish the liability of Licensee, including, without limitation, liability under the indemnity provisions of this Agreement. Damages recoverable by Railroad from Licensee or any third party will not be limited by the amount of the required insurance coverage.

EXHIBIT D
SAFETY STANDARDS

MINIMUM SAFETY REQUIREMENTS

The term "employees" as used herein refer to all employees of Licensee or its contractors, subcontractors, or agents, as well as any subcontractor or agent of any Licensee.

I. Clothing

- A. All employees of Licensee will be suitably dressed to perform their duties safely and in a manner that will not interfere with their vision, hearing, or free use of their hands or feet.

Specifically, Licensee's employees must wear:

- (i) Waist-length shirts with sleeves.
- (ii) Trousers that cover the entire leg. If flare-legged trousers are worn, the trouser bottoms must be tied to prevent catching.
- (iii) Footwear that covers their ankles and has a defined heel. Employees working on bridges are required to wear safety-toed footwear that conforms to the American National Standards Institute (ANSI) and FRA footwear requirements.

- B. Employees shall not wear boots (other than work boots), sandals, canvas-type shoes, or other shoes that have thin soles or heels that are higher than normal.

- C. Employees must not wear loose or ragged clothing, neckties, finger rings, or other loose jewelry while operating or working on machinery.

II. Personal Protective Equipment

Licensee shall require its employee to wear personal protective equipment as specified by Railroad rules, regulations, or recommended or requested by the Railroad Representative.

- (i) Hard hat that meets the American National Standard (ANSI) Z89.1 – latest revision. Hard hats should be affixed with Licensee's company logo or name.
- (ii) Eye protection that meets American National Standard (ANSI) for occupational and educational eye and face protection, Z87.1 – latest revision. Additional eye protection must be provided to meet specific job situations such as welding, grinding, etc.
- (iii) Hearing protection, which affords enough attenuation to give protection from noise levels that will be occurring on the job site. Hearing protection, in the form of plugs or muffs, must be worn when employees are within:
 - 100 feet of a locomotive or roadway/work equipment
 - 15 feet of power operated tools
 - 150 feet of jet blowers or pile drivers

- 150 feet of retarders in use (when within 10 feet, employees must wear dual ear protection – plugs and muffs)
- (iv) Other types of personal protective equipment, such as respirators, fall protection equipment, and face shields, must be worn as recommended or requested by the Railroad Representative.

III. On Track Safety

Licensee and its contractor are responsible for compliance with the Federal Railroad Administration's Roadway Worker Protection regulations – 49CFR214, Subpart C and Railroad's On-Track Safety rules. Under 49CFR214, Subpart C, railroad contractors are responsible for the training of their employees on such regulations. In addition to the instructions contained in Roadway Worker Protection regulations, all employees must:

- (i) Maintain a minimum distance of at least twenty-five (25) feet to any track unless the Railroad Representative is present to authorize movements.
- (ii) Wear an orange, reflectorized work wear approved by the Railroad Representative.
- (iii) Participate in a job briefing that will specify the type of On-Track Safety for the type of work being performed. Licensee must take special note of limits of track authority, which tracks may or may not be fouled, and clearing the track. Licensee will also receive special instructions relating to the work zone around machines and minimum distances between machines while working or traveling.

IV. Equipment

- A. It is the responsibility of Licensee to ensure that all equipment is in a safe condition to operate. If, in the opinion of the Railroad Representative, any of Licensee's equipment is unsafe for use, Licensee shall remove such equipment from Railroad's property. In addition, Licensee must ensure that the operators of all equipment are properly trained and competent in the safe operation of the equipment. In addition, operators must be:
 - Familiar and comply with Railroad's rules on lockout/tagout of equipment.
 - Trained in and comply with the applicable operating rules if operating any hy-rail equipment on-track.
 - Trained in and comply with the applicable air brake rules if operating any equipment that moves rail cars or any other rail bound equipment.
- B. All self-propelled equipment must be equipped with a first-aid kit, fire extinguisher, and audible back-up warning device.
- C. Unless otherwise authorized by the Railroad Representative, all equipment must be parked a minimum of twenty-five (25) feet from any track. Before leaving any equipment unattended, the operator must stop the engine and properly secure the equipment against movement.
- D. Cranes must be equipped with three orange cones that will be used to mark the working area of the crane and the minimum clearances to overhead powerlines.

V. General Safety Requirements

- A. Licensee shall ensure that all waste is properly disposed of in accordance with applicable federal and state regulations.
- B. Licensee shall ensure that all employees participate in and comply with a job briefing conducted by the Railroad Representative, if applicable. During this briefing, the Railroad Representative will specify safe work procedures, (including On-Track Safety) and the potential hazards of the job. If any employee has any questions or concerns about the work, the employee must voice them during the job briefing. Additional job briefings will be conducted during the work as conditions, work procedures, or personnel change.
- C. All track work performed by Licensee meets the minimum safety requirements established by the Federal Railroad Administration's Track Safety Standards 49CFR213.
- D. All employees comply with the following safety procedures when working around any railroad track:
 - (i) Always be on the alert for moving equipment. Employees must always expect movement on any track, at any time, in either direction.
 - (ii) Do not step or walk on the top of the rail, frog, switches, guard rails, or other track components.
 - (iii) In passing around the ends of standing cars, engines, roadway machines or work equipment, leave at least 20 feet between yourself and the end of the equipment. Do not go between pieces of equipment if the opening is less than one car length (50 feet).
 - (iv) Avoid walking or standing on a track unless so authorized by the employee in charge.
 - (v) Before stepping over or crossing tracks, look in both directions first.
 - (vi) Do not sit on, lie under, or cross between cars except as required in the performance of your duties and only when track and equipment have been protected against movement.
- E. All employees must comply with all federal and state regulations concerning workplace safety.

APPENDIX F

UPRR Maintenance Consent Letter/Contractor's Right of Entry

741950



REMS FileNet Cover Sheet

AUDIT NUMBER	282472
FOLDER NUMBER	0299102
CITY	GRAND JUNCTION
STATE	CO
PARTY NAME	CITY OF GRAND JUNCTION
PRIMARY PURPOSE	Encroachment - Pipeline
EFF. DATE	9/27/2016
MP START	454.88
MP END	454.93
PRIMARY CIRC7	KP898
DESCRIPTION	Maintenance Consent Letter (09-27-2016)
BOX NUMBER	0
BATCH	00



MAINTENANCE CONSENT LETTER

September 27, 2016
Folder: 02991-02

JEROD TIMOTHY
CITY OF GRAND JUNCTION
250 NORTH 5TH STREET
GRAND JUNCTION CO 81501

Dear Mr.

Please refer to your maintenance application of 5/11/2016, requesting approval from Union Pacific Railroad Company, (hereinafter the "Railroad Company") of CITY OF GRAND JUNCTION, (hereinafter the "Utility") intention to rehabilitating a 54 inch sewage pipeline via cured in place pipe, replacing two manhole barrels and cone sections and a temporary bypass pipeline through a 24 inch CMP during the maintenance activities, covered by Audit Number 282472 between Mile Posts 454.88 and 454.93, on the Green River Subdivision at or near GRAND JUNCTION, Mesa County, Colorado. Attached hereto is a Railroad Location Prints marked **EXHIBIT A**, each attached hereto and hereby made a part hereof, which illustrate the location and specifications of the subject project.

This letter will serve as notification that the Railroad Company approves of your intentions above stated intentions.

It is understood and acknowledged that the Utility shall reimburse the Railroad Company for all expenses incurred by the Railroad Company for employment of flagmen, inspectors and other employees required to protect the right of way and property of the Railroad Company from damage arising out of and/or from the work on the utility line. The Utility shall reimburse the Railroad Company for such expenses within thirty (30) days after presentation of bill for such expenses.

This consent for maintenance will expire one (1) year from the date hereof. If the work is not completed by the date herein you must contact the Railroad Company and request an extension of this Maintenance Consent Letter.

If a contractor is to do any of the work performed on or about the Railroad Company's property, then Utility shall require its contractor to execute the Railroad Company's form Contractor's Right of Entry Agreement, **EXHIBIT B**. Utility acknowledges receipt of a copy of Contractor's Right of Entry Agreement and understanding its term, provisions and requirements, and will inform its contractor of the need to execute the Agreement. Under no circumstances will Utility's contractor be allowed on or about the Railroad Company's property without first executing the Contractor's Right of Entry Agreement.

In order to protect the operations of the Railroad Company as well as for safety reasons, it is imperative that the Utility notify our Managers of Track Maintenance and Signal Maintenance at the following offices:

MICHAEL K. JOHNSON
MGR TRACK MNTCE
58 NORTH 300 WEST
NEPHI, UT 84648
801 232-6727
mkjohnso@up.com

KEITH A. KRUEGER
MGR SIGNAL MNTCE
2790 D ROAD
GRAND JCT, CO 81501
Work Phone: 970-248-4237
Cell Phone: 402 619-8044
kakruege01@up.com

no less than ten (10) days in advance of any construction on, along, or across the Railroad Company's right of way and/or tracks.

The Railroad Company has authorized the installation of fiber optics cable facilities on its property in certain areas. Prior to using the Railroad Company's property covered herein, you must contact the Railroad Company at **1-800-336-9193** to determine if a fiber optic cable is buried on the subject property. When you or your representative enters the Railroad Company's property, a copy of this letter must be available at the site to be shown on request to any Railroad Company employee or official.

If you have any questions or concerns pertaining to this permit, feel free to contact Norma Reynolds at (402) 544-8553. or njreynolds@up.com

Sincerely,



Kylan Crawford
Senior Manager – Real Estate

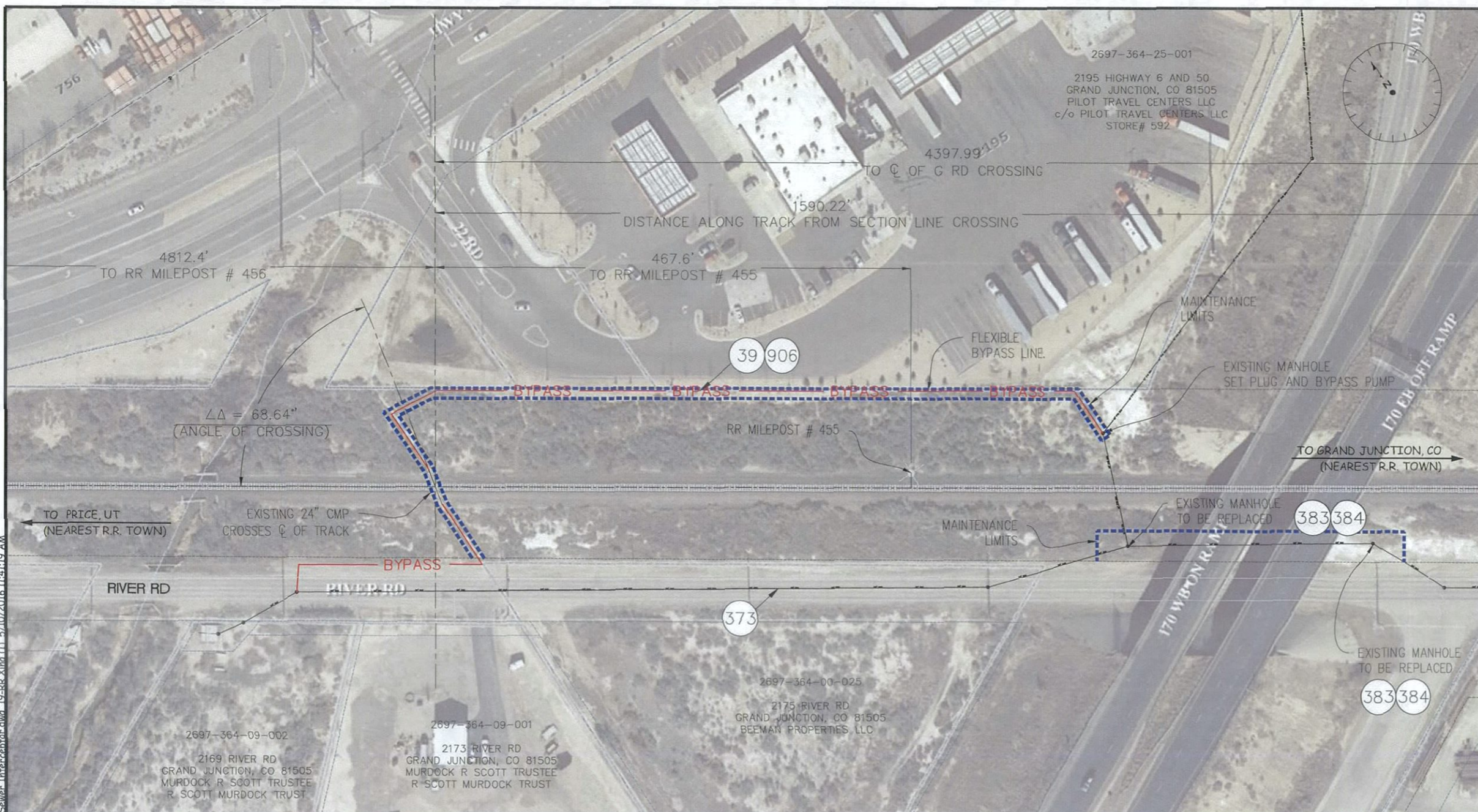
- 39 202 - REMOVE BYPASS PIPE FOLLOWING BYPASS OPERATIONS.
- 373 102.9/108.2 - CURED IN PLACE PIPE (CIPP) (SIZE AS SHOWN); DESIGNED, SUBMITTED, AND STAMPED BY P.E.; INSTALLED BY CONTRACTOR OR SUBCONTRACTOR MEETING SPECIFICATIONS DEFINED IN CONTRACT DOCUMENTS. SEE SPECIAL PROVISIONS. DESIGN SHALL BE FOR EXISTING PIPE IN FULLY DETERIORATED CONDITION. CONTRACTOR SHALL VERIFY DIA. OF PIPE PRIOR TO DESIGN AND FABRICATION OF LINER.
- 383 102.11/108.5 - SANITARY SEWER MANHOLE (48" I.D.). INCLUDES CONNECTION OF ADJACENT SEWER LINE AND ADJUSTING TO FINAL GRADE. (SEE DETAIL MH-2 ON PLAN SHEET 21).
- 384 102.11/108.5 MANHOLE COATING PER 102.11. SEE SP-6 FOR ADDITIONAL INFORMATION
- 906 269A UU/108.2 - BYPASS PUMPING OPERATIONS AT RIVER ROAD. BYPASS CONFIGURATION SHALL ALLOW CONTINUOUS TRAFFIC/UPRR USAGE. CONTRACTOR SHALL VERIFY FLOW RATES.

EXHIBIT "A"
Page 1 of 2
UNION PACIFIC RAILROAD
COMPANY

GREEN RIVER SUBDIVISION
RAILROAD MILE POST 454.88 to
454.93
Grand Junctions, MESA COUNTY,
COLORADO.

Folder No. 2991-02
 Date: SEPTEMBER 27, 2016

WARNING
IN ALL OCCASIONS, U.P.
COMMUNICATIONS
DEPARTMENT MUST BE
CONTACTED IN ADVANCE OF
ANY WORK TO DETERMINE
EXISTENCE AND LOCATION OF
FIBER OPTIC CABLE.
PHONE: 1-(800) 336-9193



- ALL WORK PERFORMED WITHIN UPRR RIGHT OF WAY SHALL BE IN ACCORDANCE WITH THE UPRR MAINTENANCE AGREEMENT

N:\landm\11\2016 Sewer Interceptor Repair and Replacement Project\DWG\21016 Sewer Interceptor.dwg 19-RR-Xiao (1) 5/10/2016 11:41:19 AM

REVISION	DESCRIPTION	DATE	DRAWN BY	HMC	DATE	2016	DESIGNED BY	JKT	DATE	2016



PUBLIC WORKS
AND UTILITIES
ENGINEERING DIVISION

2016 SEWER INTERCEPTOR REPAIR & REPLACEMENTS
 STA 0+88 TO STA 12+36
 BYPASS PLAN

UNION PACIFIC RAILROAD
COMPANY
Green River SUBDIVISION
RAILROAD MILE POST 454.88 to
454.93

GRAND JUNCTION, Mesa, CO

Folder No. 02991-02

Date: September 27, 2016

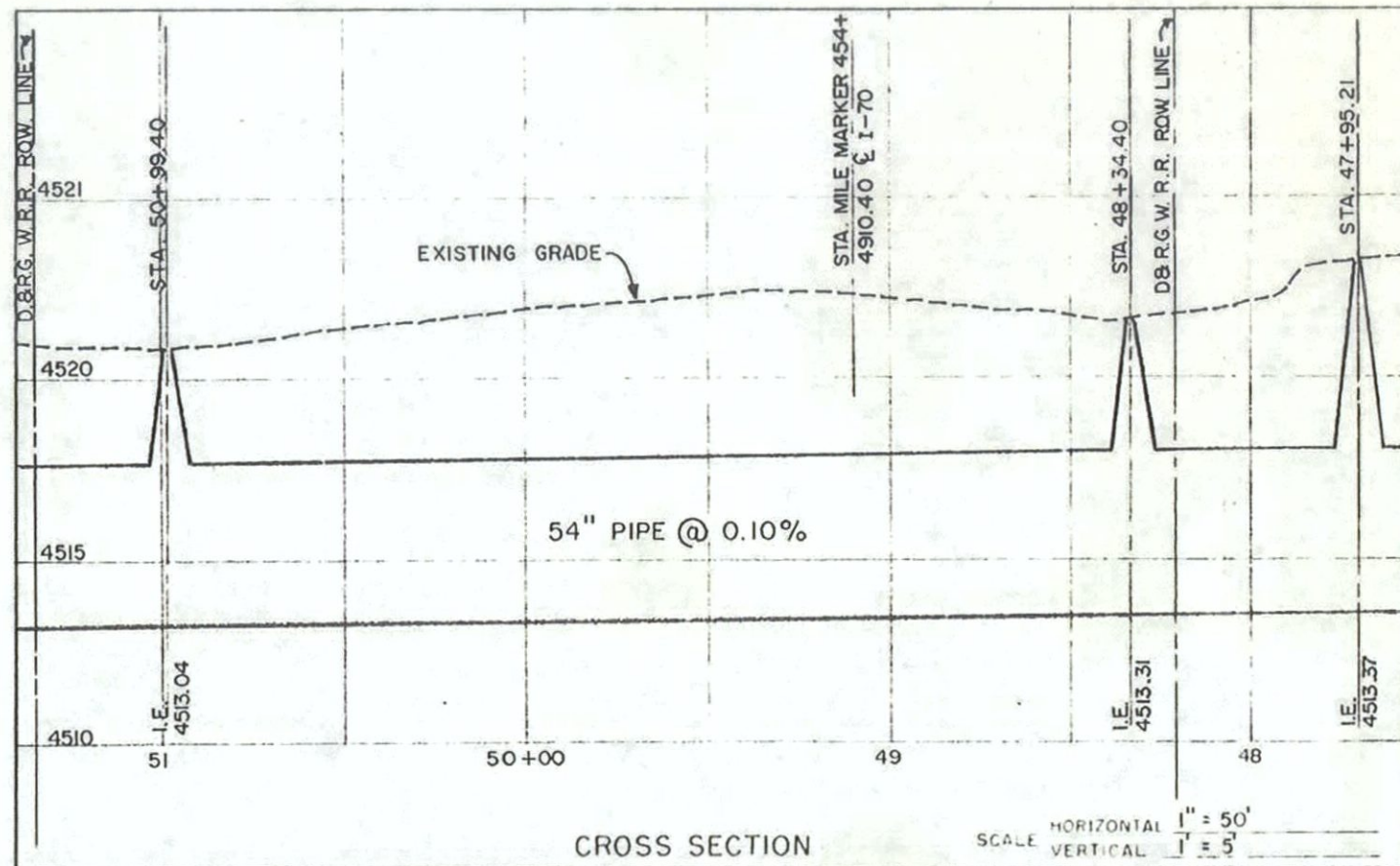
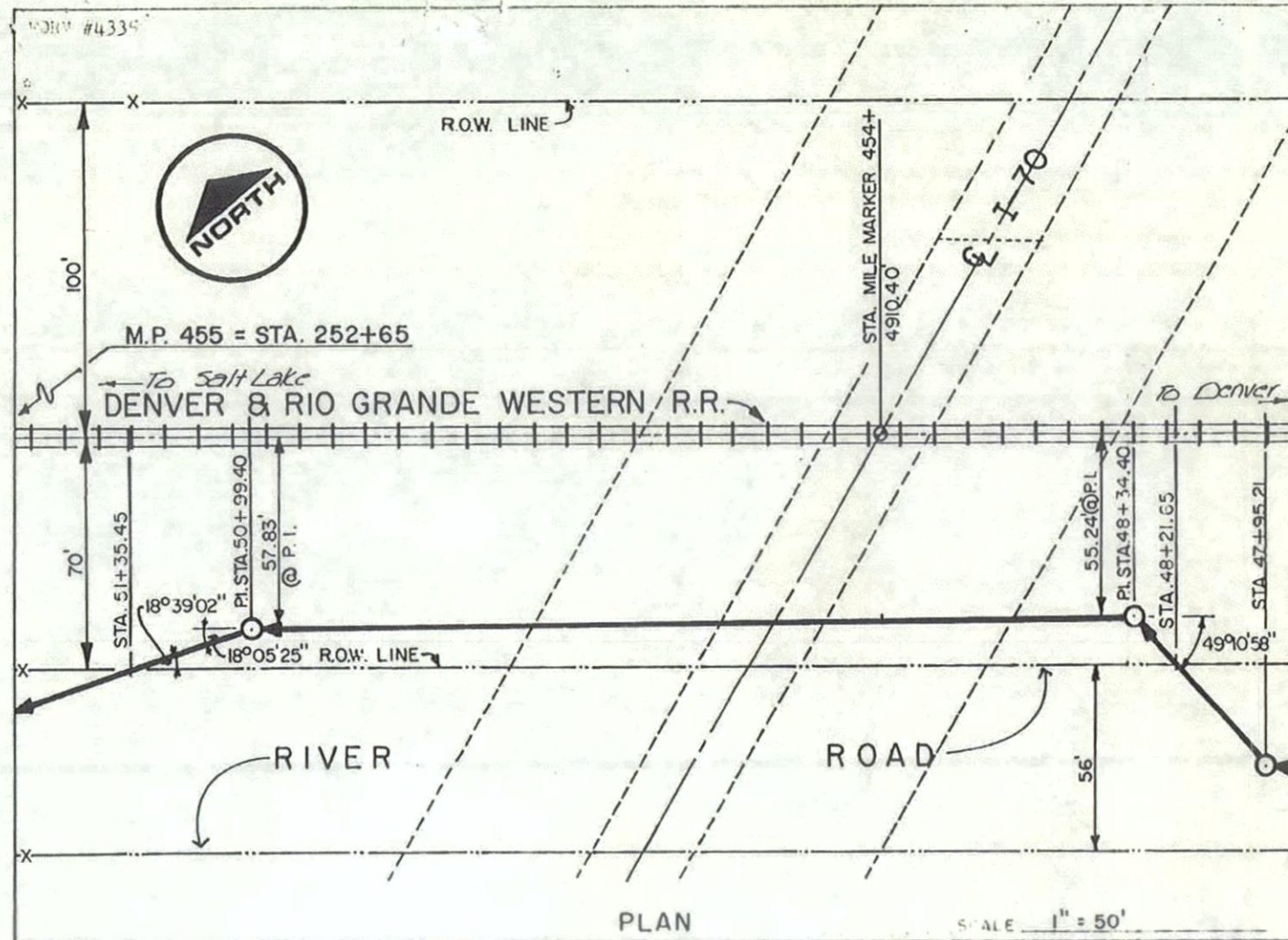
PIPELINE CROSSING SPECIFICATIONS

	CARRIER PIPE	CASING PIPE
CONTENTS TO BE HANDLED	Sewage	
LENGTH OF CASING		N/A
INSIDE DIAMETER	54 in.	
OUTSIDE DIAMETER (INCL. COATING)	66.5 in.	
OUTSIDE DIAMETER OF JOINT, CARRIER PIPE	69.5 in.	
PIPE MATERIAL	Reinforced Conc.	
SPECIFICATION AND GRADE	ASTM Spec. desig. C655 'C'	
WALL THICKNESS	6.250 in.	
ACTUAL WORKING PRESSURE	Atmospheric	
TYPE OF JOINT	R-4 bell & spigot	
COATING MATERIAL	N/A	
METHOD OF INSTALLATION	Trench excavation	
VENTS: NUMBER	N/A	
SIZE		
IN. DISTANCE OUT FROM CENTERLINE		
OF TRACK		
PROTECTION REQUIRED		
PROTECTION AT ENDS OF CASING	<input type="checkbox"/> BOTH ENDS	<input type="checkbox"/> ONE END
TYPE		N/A
BURY: BASE OF RAILS TO TOP OF CASING	N/A	FT. IN.
BURY: NOT BENEATH TRACKS	2	11
BURY: ROADWAY DITCHES	N/A	FT. IN.
TYPE, SIZE AND SPACING OF INSULATORS OR SUPPORTS	N/A	
CATHODIC PROTECTION	March 1978 or	N/A
APPROXIMATE DATE WORK WILL BE DONE	July 1979	(48 HOURS NOTICE REQUIRED)

PLANS FOR PROPOSED INSTALLATION SHALL BE SUBMITTED TO DIVISION SUPERINTENDENT AND MUST MEET THE APPROVAL OF THE CHIEF ENGINEER BEFORE CONSTRUCTION IS BEGUN. PLANS SHALL BE DRAWN TO SCALE SHOWING RELATION OF PROPOSED PIPE LINE TO RAILWAY TRACKS, ANGLE OF CROSSING, MILEPOST LOCATION OR RAILWAY SURVEY STATION, RIGHT OF WAY LINES AND GENERAL LAYOUT OF TRACKS AND RAILWAY FACILITIES. PLANS SHOULD INCLUDE ALL APPURTENANT FEATURES OF THE PIPE LINE, SUCH AS VALVES, MANHOLES, VENTS, CASING, etc., LOCATED ON RAILROAD PROPERTY.

CROSS SECTION SKETCH SHOULD SHOW PIPE LINE AND APPURTENANT FEATURES AS RELATED TO THE TRACKS AND SURROUNDING GROUND.

THE EXECUTION OF THE WORK ON RAILROAD RIGHT OF WAY SHALL BE SUBJECT TO THE INSPECTION AND DIRECTION OF THE CHIEF ENGINEER OR HIS AUTHORIZED REPRESENTATIVE.



APPLICATION
IS HEREBY MADE FOR THE ABOVE DESCRIBED CROSSING ENCROACHMENT
City of Grand Junction /
INDIVIDUAL OR FIRM NAME Mesa County
P. O. Box 968
ADDRESS Grand Junction, CO 81501
INCORPORATED IN STATE OF Colorado
BY [Signature] (TITLE)

LOCATION
AT OR NEAR Raey
STATE OF Colorado
OVER AND UPON THE PROPERTY OF D & R G W R. R. CO.
AT MILE POST 454 + 4,880 FEET
 MAIN LINE BRANCH
SEC. 36 TWP. 1-N RANGE 2-W
COUNTY OF Mesa
DATE 3-8-78

APPROVED
DENVER & RIO GRANDE WESTERN RAILROAD CO.
DIVISION ENGINEER [Signature] DATE 3-5-78
SUPERINTENDENT [Signature] DATE
STRUCTURAL ENGINEER [Signature] DATE
CHIEF DRAFTSMAN [Signature] DATE
CHIEF ENGINEER [Signature] DATE

ASSIGNED 278671
CONTRACT NO. [Blank] DATE
PERMIT NO. [Blank] DATE
DWG. NO. D-6118

EXHIBIT B
TO
MAINTENANCE CONSENT LETTER

PL X&E ROE 940201
Form Approved, AVP-Law
08/25/2006

Folder No. 02991-02

CONTRACTOR'S RIGHT OF ENTRY AGREEMENT

THIS AGREEMENT is made and entered into as of the ___ day of _____, 2016 by and between UNION PACIFIC RAILROAD COMPANY, a Delaware corporation, ("Railroad") and _____, to be addressed at _____.

RECITALS:

The Contractor has been hired by **CITY OF GRAND JUNCTION** for the purpose of maintenance by rehabilitating a 54 inch sewage pipeline via cured in place pipe, replacing two manhole barrels and cone sections and a temporary bypass pipeline through a 24 inch CMP during the maintenance activities (the "work"), with all or a portion of such work to be performed on property of Railroad between Mile Post 454.88 and 454.93, on the Green River Subdivision at or near GRAND JUNCTION, Mesa County, Colorado. pursuant to a Maintenance Consent Letter between Railroad and CITY OF GRAND JUNCTION dated as such location is also shown on the prints marked **Exhibit A** attached hereto and hereby made a part hereof.

Railroad is willing to permit Contractor to perform the work described above at the location describe above subject to the terms and conditions contained in this Agreement.

AGREEMENT:

NOW, THEREFORE, it is mutually agreed by and between the Railroad and Contractor, as follows:

Article I. DEFINITION OF CONTRACTOR.

For purposes of this Agreement, all references in this Agreement to the Contractor shall include Contractor's contractors, subcontractors, officers, agents and employees, and others acting under its or their authority.

Article II. RIGHT GRANTED; PURPOSE.

Railroad hereby grants to Contractor the right, during the term hereinafter stated and upon and subject to each and all of the terms, provisions and conditions herein contained, to enter upon and have ingress to and egress from the property described in the Recitals for the purpose of performing any work described in the Recitals above. The right herein granted to Contractor is limited to those portions of Railroad's property specifically described herein, or as designated by the Railroad Representative named in Article IV, and is strictly limited to the scope of work identified to the Railroad, as determined by the Railroad in its sole discretion, and for no other purpose.

Article III. TERMS AND CONDITIONS CONTAINED IN EXHIBITS B, C AND D.

The terms and conditions contained in **Exhibit B, C and D**, attached hereto, are hereby made a part of this Agreement.

Article IV. ALL EXPENSES TO BE BORNE BY CONTRACTOR; RAILROAD REPRESENTATIVE.

A. Contractor shall bear any and all costs and expenses associated with any work performed by Contractor, or any costs or expenses incurred by Railroad relating to this Agreement.

B. Contractor shall coordinate all of its work with the following Railroad representative or his or her duly authorized representative (the "Railroad Representative"):

MICHAEL K. JOHNSON
MGR TRACK MNTCE
58 NORTH 300 WEST
NEPHI, UT 84648
801 232-6727
mkjohnso@up.com

KEITH A. KRUEGER
MGR SIGNAL MNTCE
2790 D ROAD
GRAND JCT, CO 81501
Work Phone: 970-248-4237
Cell Phone: 402 619-8044
kakruege01@up.com

C. Contractor, at its own expense, shall adequately police and supervise all work to be performed by Contractor and shall ensure that such work is performed in a safe manner as set forth in Section 7 of **Exhibit B**. The responsibility of Contractor for safe conduct and adequate policing and supervision of Contractor's work shall not be lessened or otherwise affected by Railroad's approval of plans and specifications involving the work, or by Railroad's collaboration in performance of any work, or by the presence at the work site of a Railroad Representative, or by compliance by Contractor with any requests or recommendations made by Railroad Representative.

Article V. TERM; TERMINATION.

A. The grant of right herein made to Contractor shall commence on the date of this Agreement, and continue for one (1) year, unless sooner terminated as herein provided, or at such time as Contractor has completed its work on Railroad's property, whichever is earlier. Contractor agrees to notify the Railroad Representative in writing when it has completed its work on Railroad's property.

B. This Agreement may be terminated by either party on ten (10) days written notice to the other party.

Article VI. CERTIFICATE OF INSURANCE.

A. Before commencing any work, Contractor will provide Railroad with the insurance binders, policies, certificates and/or endorsements set forth in **Exhibit C** of this Agreement.

B. All insurance correspondence, binders, policies, certificates and/or endorsements shall be sent to:

Folder No: 02991-02
Union Pacific Railroad Company
1400 Douglas Street STOP 1690
Omaha, Nebraska 68179-1690

Article VII. CHOICE OF FORUM.

Litigation arising out of or connected with this Agreement may be instituted and maintained in the courts of the States of only, and the parties consent to jurisdiction over their person and over the subject matter of any such litigation, in those courts, and consent to service of process issued by such courts.

Article VIII. DISMISSAL OF CONTRACTOR'S EMPLOYEE.

At the request of Railroad, Contractor shall remove from Railroad's property any employee of Contractor who fails to conform to the instructions of the Railroad Representative in connection with the work on Railroad's property, and any right of Contractor shall be suspended until such removal has occurred. Contractor shall indemnify Railroad against any claims arising from the removal of any such employee from Railroad's property.

Article IX. ADMINISTRATIVE FEE.

Upon the execution and delivery of this Agreement, Contractor shall pay to Railroad One Thousand Dollars (\$1,000.00) as reimbursement for clerical, administrative and handling expenses in connection with the processing of this Agreement.

Article X. CROSSINGS.

No additional vehicular crossings (including temporary haul roads) or pedestrian crossings over Railroad's trackage shall be installed or used by Contractor without the prior written permission of Railroad.

Article XI. EXPLOSIVES.

Explosives or other highly flammable substances shall not be stored on Railroad's property without the prior written approval of Railroad.

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed in duplicate as of the date first herein written.

UNION PACIFIC RAILROAD COMPANY

By: _____
Kylan Crawford
Senior Manager – Real Estate

(Contractor Name)

By _____

Name: _____

Title: _____

Telephone: _____

Email: _____

- 39 202 - REMOVE BYPASS PIPE FOLLOWING BYPASS OPERATIONS.
- 373 102.9/108.2 - CURED IN PLACE PIPE (CIPP) (SIZE AS SHOWN); DESIGNED, SUBMITTED, AND STAMPED BY P.E.; INSTALLED BY CONTRACTOR OR SUBCONTRACTOR MEETING SPECIFICATIONS DEFINED IN CONTRACT DOCUMENTS. SEE SPECIAL PROVISIONS. DESIGN SHALL BE FOR EXISTING PIPE IN FULLY DETERIORATED CONDITION. CONTRACTOR SHALL VERIFY DIA. OF PIPE PRIOR TO DESIGN AND FABRICATION OF LINER.
- 383 102.11/108.5 - SANITARY SEWER MANHOLE (48" I.D.), INCLUDES CONNECTION OF ADJACENT SEWER LINE AND ADJUSTING TO FINAL GRADE. (SEE DETAIL MH-2 ON PLAN SHEET 21).
- 384 102.11/108.5 MANHOLE COATING PER 102.11. SEE SP-6 FOR ADDITIONAL INFORMATION
- 906 269A UU/108.2 - BYPASS PUMPING OPERATIONS AT RIVER ROAD. BYPASS CONFIGURATION SHALL ALLOW CONTINUOUS TRAFFIC/UPRR USAGE. CONTRACTOR SHALL VERIFY FLOW RATES.

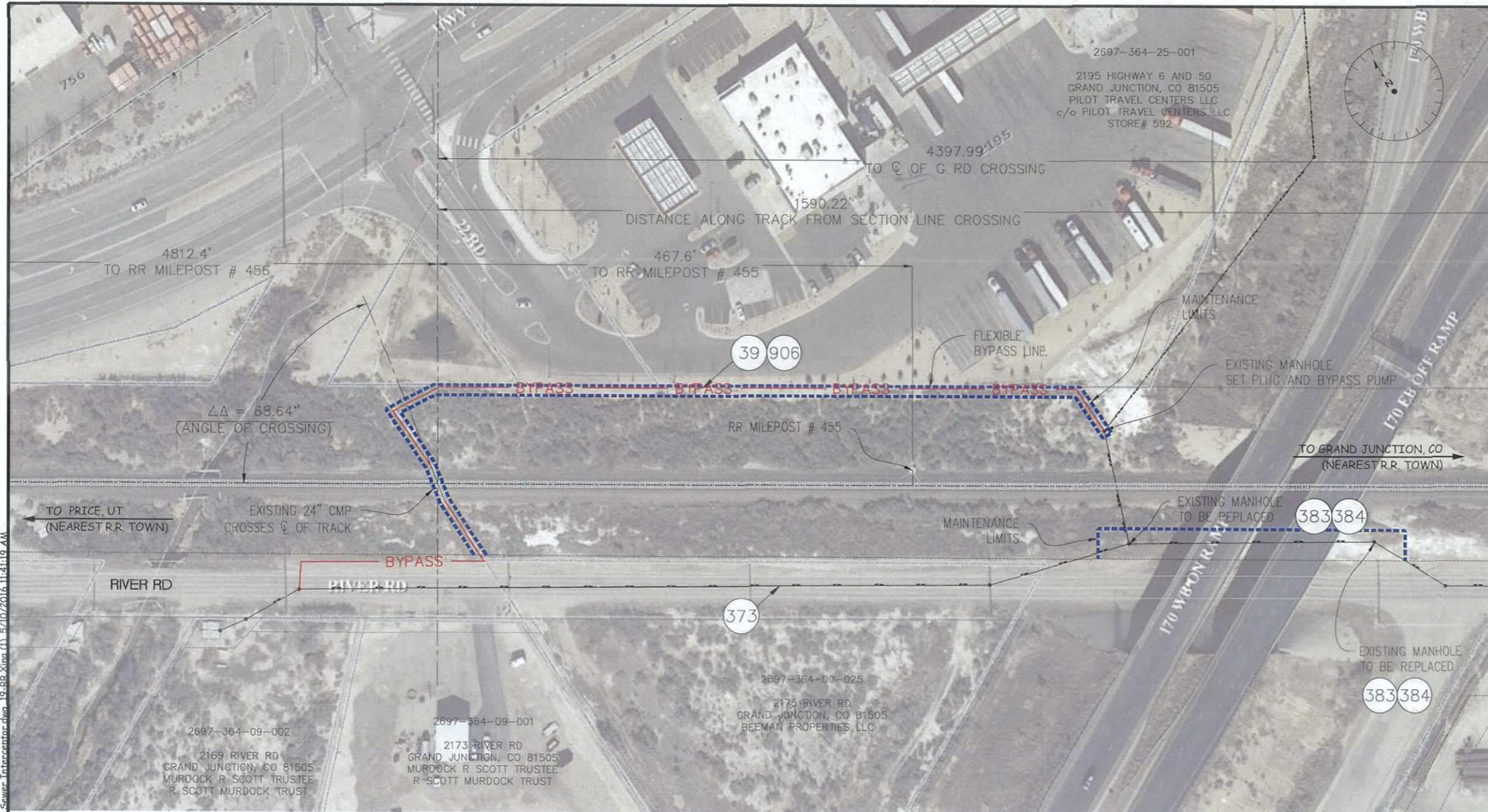
EXHIBIT "A"
Page 1 of 2
UNION PACIFIC RAILROAD
COMPANY

GREEN RIVER SUBDIVISION
RAILROAD MILE POST 454.88 to
454.93
Grand Junctions, MESA COUNTY,
COLORADO.

Folder No. 2991-02
 Date: SEPTEMBER 27, 2016

WARNING
IN ALL OCCASIONS, U.P.
COMMUNICATIONS
DEPARTMENT MUST BE
CONTACTED IN ADVANCE OF
ANY WORK TO DETERMINE
EXISTENCE AND LOCATION OF
FIBER OPTIC CABLE.
PHONE: 1-(800) 336-9193

- ALL WORK PERFORMED WITHIN UPRR RIGHT OF WAY SHALL BE IN ACCORDANCE WITH THE UPRR MAINTENANCE AGREEMENT



N:\landmark\2016 Sewer Interceptor Repair and Replacement Project\DWG\2016 Sewer Interceptor Repair and Replacement.dwg 19-RR-Xino (1) 5/10/2016 11:41:19 AM

REVISION	DESCRIPTION	DATE	DRAWN BY	HMC	DATE	2016	DESIGNED BY	JKT	DATE	2016	SCALES:
REVISION			CHECKED BY		DATE		APPROVED BY		DATE		PLAN & PROFILE
REVISION											HORIZONTAL 1"=20'
REVISION											VERTICAL 1"=10'



PUBLIC WORKS
AND UTILITIES
ENGINEERING DIVISION

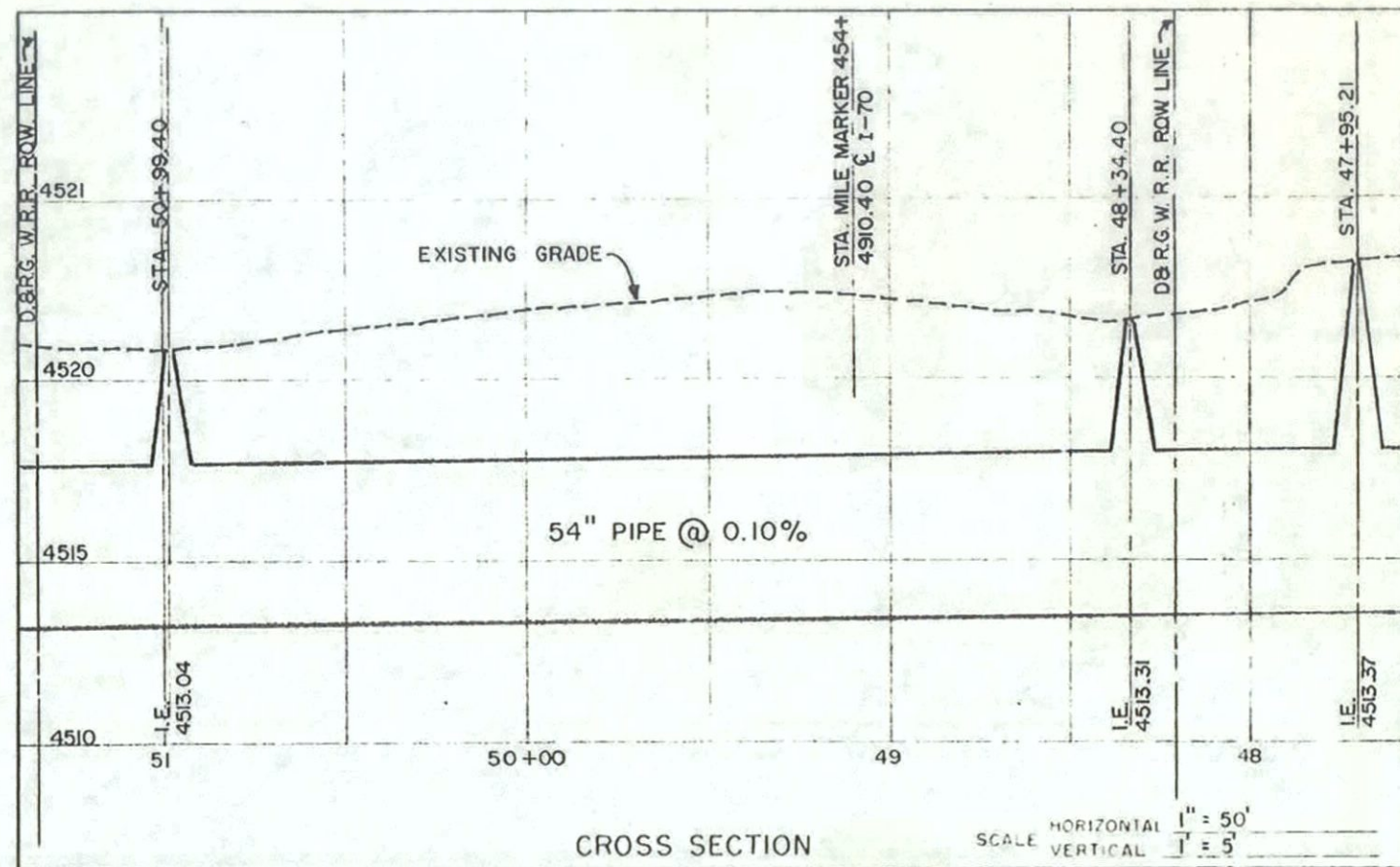
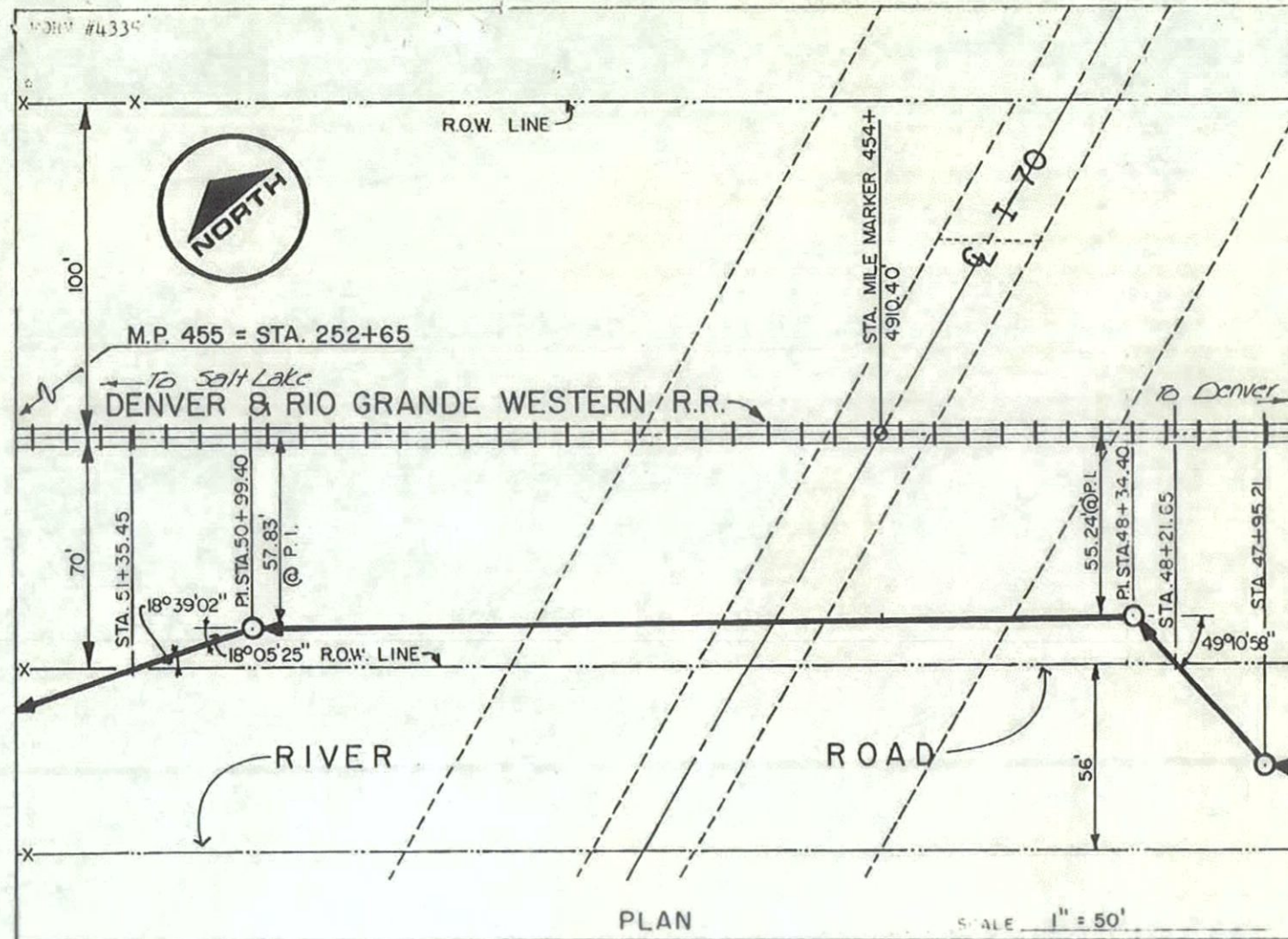
2016 SEWER INTERCEPTOR REPAIR & REPLACEMENTS
 STA 0+88 TO STA 12+36
 BYPASS PLAN

UNION PACIFIC RAILROAD
COMPANY
Green River SUBDIVISION
RAILROAD MILE POST 454.88 to
454.93

GRAND JUNCTION, Mesa, CO

Folder No. 02991-02

Date: September 27, 2016



PIPELINE CROSSING SPECIFICATIONS

	CARRIER PIPE	CASING PIPE
CONTENTS TO BE HANDLED	Sewage	
LENGTH OF CASING		N/A
INSIDE DIAMETER	54 in.	
OUTSIDE DIAMETER (INCL. COATING)	66.5 in.	
OUTSIDE DIAMETER OF JOINT, CARRIER PIPE	69.5 in.	
PIPE MATERIAL	Reinforced Conc.	
SPECIFICATION AND GRADE	ASTM Spec. desig. C655 'C'	
WALL THICKNESS	6.250 in.	
ACTUAL WORKING PRESSURE	Atmospheric	
TYPE OF JOINT	R-4 bell & spigot	
COATING MATERIAL	N/A	
METHOD OF INSTALLATION	Trench excavation	
VENTS: NUMBER	N/A	
SIZE		
IN. DISTANCE OUT FROM CENTERLINE OF TRACK		
PROTECTION REQUIRED		
PROTECTION AT ENDS OF CASING	<input type="checkbox"/> BOTH ENDS	<input type="checkbox"/> ONE END TYPE N/A
BURY: BASE OF RAILS TO TOP OF CASING	N/A	FT. IN.
BURY: NOT BENEATH TRACKS	2	FT. 11 IN.
BURY: ROADWAY DITCHES	N/A	FT. IN.
TYPE, SIZE AND SPACING OF INSULATORS OR SUPPORTS	N/A	
CATHODIC PROTECTION	March 1978 or	N/A
APPROXIMATE DATE WORK WILL BE DONE	July 1979	(48 HOURS NOTICE REQUIRED)

PLANS FOR PROPOSED INSTALLATION SHALL BE SUBMITTED TO DIVISION SUPERINTENDENT AND MUST MEET THE APPROVAL OF THE CHIEF ENGINEER BEFORE CONSTRUCTION IS BEGUN. PLANS SHALL BE DRAWN TO SCALE SHOWING RELATION OF PROPOSED PIPE LINE TO RAILWAY TRACKS, ANGLE OF CROSSING, MILEPOST LOCATION OR RAILWAY SURVEY STATION, RIGHT OF WAY LINES AND GENERAL LAYOUT OF TRACKS AND RAILWAY FACILITIES. PLANS SHOULD INCLUDE ALL APPURTENANT FEATURES OF THE PIPE LINE, SUCH AS VALVES, MANHOLES, VENTS, CASING, etc., LOCATED ON RAILROAD PROPERTY.

CROSS SECTION SKETCH SHOULD SHOW PIPE LINE AND APPURTENANT FEATURES AS RELATED TO THE TRACKS AND SURROUNDING GROUND.

THE EXECUTION OF THE WORK ON RAILROAD RIGHT OF WAY SHALL BE SUBJECT TO THE INSPECTION AND DIRECTION OF THE CHIEF ENGINEER OR HIS AUTHORIZED REPRESENTATIVE.

APPLICATION

IS HEREBY MADE FOR THE ABOVE DESCRIBED CROSSING ENCROACHMENT City of Grand Junction /

INDIVIDUAL OR FIRM NAME Mesa County
P. O. Box 968
ADDRESS Grand Junction, CO 81501

INCORPORATED IN STATE OF Colorado

BY *[Signature]* (TITLE)

APPROVED

DENVER & RIO GRANDE WESTERN RAILROAD CO.

[Signature] DATE *[Date]*

SUPERINTENDENT DATE

STRUCTURAL ENGINEER DATE

[Signature] DATE 3-5-78

CHIEF DRAFTSMAN DATE

CHIEF ENGINEER DATE

LOCATION

AT OR NEAR Racey
STATE OF Colorado
OVER AND UPON THE PROPERTY OF D & R G W R R CO.

AT MILE POST 454 + 4,880 FEET

MAIN LINE BRANCH

SEC. 36 TWP. 1-N RANGE 2-W

COUNTY OF Mesa

DATE 3-8-78

ASSIGNED 278671
CONTRACT NO. DATE
PERMIT NO. DATE

DWG. NO. D-611a

EXHIBIT B
To
CONTRACTOR'S RIGHT OF ENTRY AGREEMENT

Section 1. NOTICE OF COMMENCEMENT OF WORK - FLAGGING.

A. Contractor agrees to notify the Railroad Representative at least ten (10) working days in advance of Contractor commencing its work and at least ten (10) working days in advance of proposed performance of any work by Contractor in which any person or equipment will be within twenty-five (25) feet of any track, or will be near enough to any track that any equipment extension (such as, but not limited to, a crane boom) will reach to within twenty-five (25) feet of any track. No work of any kind shall be performed, and no person, equipment, machinery, tool(s), material(s), vehicle(s), or thing(s) shall be located, operated, placed, or stored within twenty-five (25) feet of any of Railroad's track(s) at any time, for any reason, unless and until a Railroad flagman is provided to watch for trains. Upon receipt of such ten (10)-day notice, the Railroad Representative will determine and inform Contractor whether a flagman need be present and whether Contractor needs to implement any special protective or safety measures. If flagging or other special protective or safety measures are performed by Railroad, Railroad will bill Contractor for such expenses incurred by Railroad, unless Railroad and a federal, state or local governmental entity have agreed that Railroad is to bill such expenses to the federal, state or local governmental entity. If Railroad will be sending the bills to Contractor, Contractor shall pay such bills within thirty (30) days of Contractor's receipt of billing. If Railroad performs any flagging, or other special protective or safety measures are performed by Railroad, Contractor agrees that Contractor is not relieved of any of its responsibilities or liabilities set forth in this Agreement.

B. The rate of pay per hour for each flagman will be the prevailing hourly rate in effect for an eight-hour day for the class of flagmen used during regularly assigned hours and overtime in accordance with Labor Agreements and Schedules in effect at the time the work is performed. In addition to the cost of such labor, a composite charge for vacation, holiday, health and welfare, supplemental sickness, Railroad Retirement and unemployment compensation, supplemental pension, Employees Liability and Property Damage and Administration will be included, computed on actual payroll. The composite charge will be the prevailing composite charge in effect at the time the work is performed. One and one-half times the current hourly rate is paid for overtime, Saturdays and Sundays, and two and one-half times current hourly rate for holidays. Wage rates are subject to change, at any time, by law or by agreement between Railroad and its employees, and may be retroactive as a result of negotiations or a ruling of an authorized governmental agency. Additional charges on labor are also subject to change. If the wage rate or additional charges are changed, Contractor (or the governmental entity, as applicable) shall pay on the basis of the new rates and charges.

C. Reimbursement to Railroad will be required covering the full eight-hour day during which any flagman is furnished, unless the flagman can be assigned to other Railroad work during a portion of such day, in which event reimbursement will not be required for the portion of the day during which the flagman is engaged in other Railroad work. Reimbursement will also be required for any day not actually worked by the flagman following the flagman's assignment to work on the project for which Railroad is required to pay the flagman and which could not reasonably be avoided by Railroad by assignment of such flagman to other work, even though Contractor may not be working during such time. When it becomes necessary for Railroad to bulletin and assign an employee to a flagging position in

compliance with union collective bargaining agreements, Contractor must provide Railroad a minimum of five (5) days notice prior to the cessation of the need for a flagman. If five (5) days notice of cessation is not given, Contractor will still be required to pay flagging charges for the five (5) day notice period required by union agreement to be given to the employee, even though flagging is not required for that period. An additional ten (10) days notice must then be given to Railroad if flagging services are needed again after such five day cessation notice has been given to Railroad.

Section 2. LIMITATION AND SUBORDINATION OF RIGHTS GRANTED

A. The foregoing grant of right is subject and subordinate to the prior and continuing right and obligation of the Railroad to use and maintain its entire property including the right and power of Railroad to construct, maintain, repair, renew, use, operate, change, modify or relocate railroad tracks, roadways, signal, communication, fiber optics, or other wirelines, pipelines and other facilities upon, along or across any or all parts of its property, all or any of which may be freely done at any time or times by Railroad without liability to Contractor or to any other party for compensation or damages.

B. The foregoing grant is also subject to all outstanding superior rights (including those in favor of licensees and lessees of Railroad's property, and others) and the right of Railroad to renew and extend the same, and is made without covenant of title or for quiet enjoyment.

Section 3. NO INTERFERENCE WITH OPERATIONS OF RAILROAD AND ITS TENANTS.

A. Contractor shall conduct its operations so as not to interfere with the continuous and uninterrupted use and operation of the railroad tracks and property of Railroad, including without limitation, the operations of Railroad's lessees, licensees or others, unless specifically authorized in advance by the Railroad Representative. Nothing shall be done or permitted to be done by Contractor at any time that would in any manner impair the safety of such operations. When not in use, Contractor's machinery and materials shall be kept at least fifty (50) feet from the centerline of Railroad's nearest track, and there shall be no vehicular crossings of Railroads tracks except at existing open public crossings.

B. Operations of Railroad and work performed by Railroad personnel and delays in the work to be performed by Contractor caused by such railroad operations and work are expected by Contractor, and Contractor agrees that Railroad shall have no liability to Contractor, or any other person or entity for any such delays. The Contractor shall coordinate its activities with those of Railroad and third parties so as to avoid interference with railroad operations. The safe operation of Railroad train movements and other activities by Railroad takes precedence over any work to be performed by Contractor.

Section 4. LIENS.

Contractor shall pay in full all persons who perform labor or provide materials for the work to be performed by Contractor. Contractor shall not create, permit or suffer any mechanic's or materialmen's liens of any kind or nature to be created or enforced against any property of Railroad for any such work performed. Contractor shall indemnify and hold harmless Railroad from and against any and all liens, claims, demands, costs or expenses of whatsoever nature in any way connected with or growing out of such work done, labor performed, or materials furnished. If Contractor fails to promptly cause any lien to be released of record, Railroad may, at its election, discharge the lien or claim of lien at Contractor's expense.

Section 5. PROTECTION OF FIBER OPTIC CABLE SYSTEMS.

A. Fiber optic cable systems may be buried on Railroad's property. Protection of the fiber optic cable systems is of extreme importance since any break could disrupt service to users resulting in business interruption and loss of revenue and profits. Contractor shall telephone Railroad during normal business hours (7:00 a.m. to 9:00 p.m. Central Time, Monday through Friday, except holidays) at 1-800-336-9193 (also a 24-hour, 7-day number for emergency calls) to determine if fiber optic cable is buried anywhere on Railroad's property to be used by Contractor. If it is, Contractor will telephone the telecommunications company(ies) involved, make arrangements for a cable locator and, if applicable, for relocation or other protection of the fiber optic cable. Contractor shall not commence any work until all such protection or relocation (if applicable) has been accomplished.

B. In addition to other indemnity provisions in this Agreement, Contractor shall indemnify, defend and hold Railroad harmless from and against all costs, liability and expense whatsoever (including, without limitation, attorneys' fees, court costs and expenses) arising out of any act or omission of Contractor, its agents and/or employees, that causes or contributes to (1) any damage to or destruction of any telecommunications system on Railroad's property, and/or (2) any injury to or death of any person employed by or on behalf of any telecommunications company, and/or its contractor, agents and/or employees, on Railroad's property. Contractor shall not have or seek recourse against Railroad for any claim or cause of action for alleged loss of profits or revenue or loss of service or other consequential damage to a telecommunication company using Railroad's property or a customer or user of services of the fiber optic cable on Railroad's property.

Section 6. PERMITS - COMPLIANCE WITH LAWS.

In the prosecution of the work covered by this Agreement, Contractor shall secure any and all necessary permits and shall comply with all applicable federal, state and local laws, regulations and enactments affecting the work including, without limitation, all applicable Federal Railroad Administration regulations.

Section 7. SAFETY.

A. Safety of personnel, property, rail operations and the public is of paramount importance in the prosecution of the work performed by Contractor. Contractor shall be responsible for initiating, maintaining and supervising all safety, operations and programs in connection with the work. Contractor shall at a minimum comply with Railroad's safety standards listed in **Exhibit D**, hereto attached, to ensure uniformity with the safety standards followed by Railroad's own forces. As a part of Contractor's safety responsibilities, Contractor shall notify Railroad if Contractor determines that any of Railroad's safety standards are contrary to good safety practices. Contractor shall furnish copies of **Exhibit D** to each of its employees before they enter the job site.

B. Without limitation of the provisions of paragraph A above, Contractor shall keep the job site free from safety and health hazards and ensure that its employees are competent and adequately trained in all safety and health aspects of the job.

C. Contractor shall have proper first aid supplies available on the job site so that prompt first aid services may be provided to any person injured on the job site. Contractor shall promptly notify Railroad of any U.S. Occupational Safety and Health Administration reportable injuries. Contractor shall have a nondelegable duty to control its employees while they are on the job site or any other property of Railroad, and to be certain they do not use, be under the influence of, or have in their possession any alcoholic beverage, drug or other substance that may inhibit the safe performance of any work.

D. If and when requested by Railroad, Contractor shall deliver to Railroad a copy of Contractor's safety plan for conducting the work (the "Safety Plan"). Railroad shall have the right, but not the obligation, to require Contractor to correct any deficiencies in the Safety Plan. The terms of this Agreement shall control if there are any inconsistencies between this Agreement and the Safety Plan.

Section 8. INDEMNITY.

A. To the extent not prohibited by applicable statute, Contractor shall indemnify, defend and hold harmless Railroad, its affiliates, and its and their officers, agents and employees ("Indemnified Parties") from and against any and all loss, damage, injury, liability, claim, demand, cost or expense (including, without limitation, attorney's, consultant's and expert's fees, and court costs), fine or penalty (collectively, "Loss") incurred by any person (including, without limitation, any Indemnified Party, Contractor, or any employee of Contractor or of any Indemnified Party) arising out of or in any manner connected with (i) any work performed by Contractor, or (ii) any act or omission of Contractor, its officers, agents or employees, or (iii) any breach of this agreement by Contractor.

B. The right to indemnity under this Section 8 shall accrue upon occurrence of the event giving rise to the Loss, and shall apply regardless of any negligence or strict liability of any Indemnified Party, except where the Loss is caused by the sole active negligence of an Indemnified Party as established by the final judgment of a court of competent jurisdiction. The sole active negligence of any Indemnified Party shall not bar the recovery of any other Indemnified Party.

C. Contractor expressly and specifically assumes potential liability under this Section 8 for claims or actions brought by Contractor's own employees. Contractor waives any immunity it may have under worker's compensation or industrial insurance acts to indemnify Railroad under this Section 8. Contractor acknowledges that this waiver was mutually negotiated by the parties hereto.

D. No court or jury findings in any employee's suit pursuant to any worker's compensation act or the Federal Employers' Liability Act against a party to this Agreement may be relied upon or used by Contractor in any attempt to assert liability against Railroad.

E. The provisions of this Section 8 shall survive the completion of any work performed by Contractor or the termination or expiration of this Agreement. In no event shall this Section 8 or any other provision of this Agreement be deemed to limit any liability Contractor may have to any Indemnified Party by statute or under common law.

Section 9. RESTORATION OF PROPERTY.

In the event Railroad authorizes Contractor to take down any fence of Railroad or in any manner move or disturb any of the other property of Railroad in connection with the work to be performed by Contractor, then in that event Contractor shall, as soon as possible and at Contractor's sole expense, restore such fence and other property to the same condition as the same were in before such fence was taken down or such other property was moved or disturbed. Contractor shall remove all of Contractor's tools, equipment, rubbish and other materials from Railroad's property promptly upon completion of the work, restoring Railroad's property to the same state and condition as when Contractor entered thereon.

Section 10. WAIVER OF DEFAULT.

Waiver by Railroad of any breach or default of any condition, covenant or agreement herein contained to be kept, observed and performed by Contractor shall in no way impair the right of Railroad to avail itself of any remedy for any subsequent breach or default.

Section 11. MODIFICATION - ENTIRE AGREEMENT.

No modification of this Agreement shall be effective unless made in writing and signed by Contractor and Railroad. This Agreement and the exhibits attached hereto and made a part hereof constitute the entire understanding between Contractor and Railroad and cancel and supersede any prior negotiations, understandings or agreements, whether written or oral, with respect to the work to be performed by Contractor.

Section 12. ASSIGNMENT - SUBCONTRACTING.

Contractor shall not assign or subcontract this Agreement, or any interest therein, without the written consent of the Railroad. Contractor shall be responsible for the acts and omissions of all subcontractors, and shall require all subcontractors to maintain the insurance coverage required to be maintained by Contractor as provided in this Agreement, and to indemnify Contractor and Railroad to the same extent as Railroad is indemnified by Contractor under this Agreement.

EXHIBIT C
TO
CONTRACTOR'S RIGHT OF ENTRY AGREEMENT

Union Pacific Railroad Company

**Insurance Provisions For
Contractor's Right of Entry Agreement**

Contractor shall, at its sole cost and expense, procure and maintain during the course of the Project and until all Project work on Railroad's property has been completed and the Contractor has removed all equipment and materials from the Railroad's property and has cleaned and restored Railroad's property to Railroad's satisfaction, the insurance coverage listed below.

Before commencing any work, the Contractor will provide the Railroad with a Certificate issued by its insurance carrier providing the insurance coverage required pursuant to the Exhibit C of this Agreement in a policy which contains the following type of endorsement:

"Union Pacific Railroad Company is named as additional insured with respect to all liabilities arising out of Insured's, as Licensee, performance of any work on the property of the Railroad."

- A. **Commercial General Liability** insurance. Commercial general liability (CGL) with a limit of not less than \$2,000,000 each occurrence and an aggregate limit of not less than \$4,000,000. CGL insurance must be written on ISO occurrence form CG 00 01 12 04 (or a substitute form providing equivalent coverage).

The policy must also contain the following endorsement, which must be stated on the certificate of insurance:

- Contractual Liability Railroads ISO form CG 24 17 10 01 (or a substitute form providing equivalent coverage) showing "Union Pacific Railroad Company Property" as the Designated Job Site.
- B. **Business Automobile Coverage** insurance. Business auto coverage written on ISO form CA 00 01 (or a substitute form providing equivalent liability coverage) with a combined single limit of not less \$2,000,000 for each accident.

The policy must contain the following endorsements, which must be stated on the certificate of insurance:

- Coverage For Certain Operations In Connection With Railroads ISO form CA 20 70 10 01 (or substitute form providing equivalent coverage) showing "Union Pacific Property" as the Designated Job Site.

- Motor Carrier Act Endorsement – Hazardous materials clean up (MCS-90) if required by law.

C. Workers Compensation and Employers Liability insurance. Coverage must include but not be limited to:

- Contractor's statutory liability under the workers' compensation laws of the state(s) affected by this Agreement.
- Employers' Liability (Part B) with limits of at least \$500,000 each accident, \$500,000 disease policy limit \$500,000 each employee.

If Contractor is self-insured, evidence of state approval and excel workers compensation coverage must be provided. Coverage must include liability arising out of the U.S. Longshoremen's and Harbor Workers' Act, the Jones Act, and the Outer Continental Shelf Land Act, if applicable.

The policy must contain the following endorsement, which must be stated on the certificate of insurance:

- Alternate Employer endorsement ISO form WC 00 03 01 A (or a substitute form providing equivalent coverage) showing Railroad in the schedule as the alternate employer (or a substitute form providing equivalent coverage).

D. Railroad Protective Liability insurance. Contractor must maintain Railroad Protective Liability insurance written on ISO occurrence form CG 00 35 12 04 (or a substitute form providing equivalent coverage) on behalf of Railroad as named insured, with a limit of not less than \$2,000,000 per occurrence and an aggregate of \$6,000,000. A binder stating the policy is in place must be submitted to Railroad before the work may be commenced and until the original policy is forwarded to Railroad.

E. Umbrella or Excess insurance. If Contractor utilizes umbrella or excess policies, these policies must "follow form" and afford no less coverage than the primary policy.

F. Pollution Liability insurance. Pollution Liability coverage must be included when the scope of the work as defined in the Agreement includes installation, temporary storage, or disposal of any "hazardous" material that is injurious in or upon land, the atmosphere, or any watercourses; or may cause bodily injury at any time.

Pollution liability coverage must be written on ISO form Pollution Liability Coverage Form Designated Sites CG 00 39 12 04 (or a substitute form providing equivalent liability coverage), with limits of at least \$5,000,000 per occurrence and an aggregate limit of \$10,000,000.

If the scope of work as defined in this Agreement includes the disposal of any hazardous or non-hazardous materials from the job site, Contractor must furnish to Railroad evidence of pollution legal liability insurance maintained by the disposal site operator for losses arising from the insured facility accepting the materials, with coverage in minimum amounts of \$1,000,000 per loss, and an annual aggregate of \$2,000,000.

Other Requirements

G. All policy(ies) required above (except worker's compensation and employers liability) must include Railroad as "Additional Insured" using ISO Additional Insured Endorsements CG 20 26, and CA 20 48 (or substitute forms providing equivalent coverage). The coverage provided to

Railroad as additional insured shall, to the extent provided under ISO Additional Insured Endorsement CG 20 26, and CA 20 48 provide coverage for Railroad's negligence whether sole or partial, active or passive, and shall not be limited by Contractor's liability under the indemnity provisions of this Agreement.

- H.** Punitive damages exclusion, if any, must be deleted (and the deletion indicated on the certificate of insurance), unless the law governing this Agreement prohibits all punitive damages that might arise under this Agreement.
- I.** Contractor waives all rights of recovery, and its insurers also waive all rights of subrogation of damages against Railroad and its agents, officers, directors and employees. This waiver must be stated on the certificate of insurance.
- J.** Prior to commencing the work, Contractor shall furnish Railroad with a certificate(s) of insurance, executed by a duly authorized representative of each insurer, showing compliance with the insurance requirements in this Agreement.
- K.** All insurance policies must be written by a reputable insurance company acceptable to Railroad or with a current Best's Insurance Guide Rating of A- and Class VII or better, and authorized to do business in the state(s) in which the work is to be performed.
- L.** The fact that insurance is obtained by Contractor or by Railroad on behalf of Contractor will not be deemed to release or diminish the liability of Contractor, including, without limitation, liability under the indemnity provisions of this Agreement. Damages recoverable by Railroad from Contractor or any third party will not be limited by the amount of the required insurance coverage.

EXHIBIT D
SAFETY STANDARDS

MINIMUM SAFETY REQUIREMENTS

The term "employees" as used herein refer to all employees of Licensee or its contractors, subcontractors, or agents, as well as any subcontractor or agent of any Licensee.

I. Clothing

- A. All employees of Licensee will be suitably dressed to perform their duties safely and in a manner that will not interfere with their vision, hearing, or free use of their hands or feet.

Specifically, Licensee's employees must wear:

- (i) Waist-length shirts with sleeves.
 - (ii) Trousers that cover the entire leg. If flare-legged trousers are worn, the trouser bottoms must be tied to prevent catching.
 - (iii) Footwear that covers their ankles and has a defined heel. Employees working on bridges are required to wear safety-toed footwear that conforms to the American National Standards Institute (ANSI) and FRA footwear requirements.
- B. Employees shall not wear boots (other than work boots), sandals, canvas-type shoes, or other shoes that have thin soles or heels that are higher than normal.
- C. Employees must not wear loose or ragged clothing, neckties, finger rings, or other loose jewelry while operating or working on machinery.

II. Personal Protective Equipment

Licensee shall require its employee to wear personal protective equipment as specified by Railroad rules, regulations, or recommended or requested by the Railroad Representative.

- (i) Hard hat that meets the American National Standard (ANSI) Z89.1 – latest revision. Hard hats should be affixed with Licensee's company logo or name.
- (ii) Eye protection that meets American National Standard (ANSI) for occupational and educational eye and face protection, Z87.1 – latest revision. Additional eye protection must be provided to meet specific job situations such as welding, grinding, etc.
- (iii) Hearing protection, which affords enough attenuation to give protection from noise levels that will be occurring on the job site. Hearing protection, in the form of plugs or muffs, must be worn when employees are within:
 - 100 feet of a locomotive or roadway/work equipment
 - 15 feet of power operated tools
 - 150 feet of jet blowers or pile drivers

- 150 feet of retarders in use (when within 10 feet, employees must wear dual ear protection – plugs and muffs)
- (iv) Other types of personal protective equipment, such as respirators, fall protection equipment, and face shields, must be worn as recommended or requested by the Railroad Representative.

III. On Track Safety

Licensee and its contractor are responsible for compliance with the Federal Railroad Administration's Roadway Worker Protection regulations – 49CFR214, Subpart C and Railroad's On-Track Safety rules. Under 49CFR214, Subpart C, railroad contractors are responsible for the training of their employees on such regulations. In addition to the instructions contained in Roadway Worker Protection regulations, all employees must:

- (i) Maintain a minimum distance of at least twenty-five (25) feet to any track unless the Railroad Representative is present to authorize movements.
- (ii) Wear an orange, reflectorized work wear approved by the Railroad Representative.
- (iii) Participate in a job briefing that will specify the type of On-Track Safety for the type of work being performed. Licensee must take special note of limits of track authority, which tracks may or may not be fouled, and clearing the track. Licensee will also receive special instructions relating to the work zone around machines and minimum distances between machines while working or traveling.

IV. Equipment

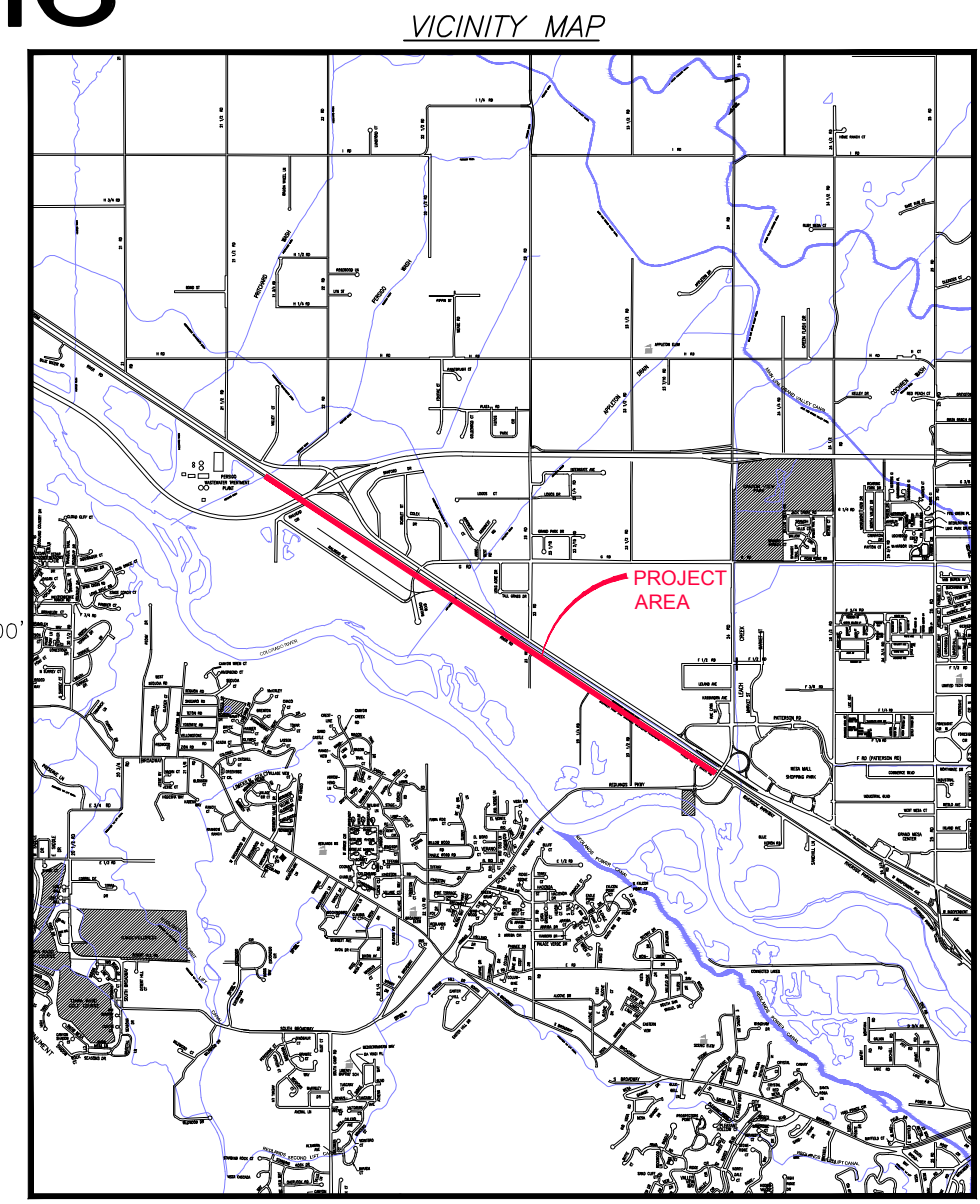
- A. It is the responsibility of Licensee to ensure that all equipment is in a safe condition to operate. If, in the opinion of the Railroad Representative, any of Licensee's equipment is unsafe for use, Licensee shall remove such equipment from Railroad's property. In addition, Licensee must ensure that the operators of all equipment are properly trained and competent in the safe operation of the equipment. In addition, operators must be:
- Familiar and comply with Railroad's rules on lockout/tagout of equipment.
 - Trained in and comply with the applicable operating rules if operating any hy-rail equipment on-track.
 - Trained in and comply with the applicable air brake rules if operating any equipment that moves rail cars or any other rail bound equipment.
- B. All self-propelled equipment must be equipped with a first-aid kit, fire extinguisher, and audible back-up warning device.
- C. Unless otherwise authorized by the Railroad Representative, all equipment must be parked a minimum of twenty-five (25) feet from any track. Before leaving any equipment unattended, the operator must stop the engine and properly secure the equipment against movement.
- D. Cranes must be equipped with three orange cones that will be used to mark the working area of the crane and the minimum clearances to overhead powerlines.

V. General Safety Requirements

- A. Licensee shall ensure that all waste is properly disposed of in accordance with applicable federal and state regulations.
- B. Licensee shall ensure that all employees participate in and comply with a job briefing conducted by the Railroad Representative, if applicable. During this briefing, the Railroad Representative will specify safe work procedures, (including On-Track Safety) and the potential hazards of the job. If any employee has any questions or concerns about the work, the employee must voice them during the job briefing. Additional job briefings will be conducted during the work as conditions, work procedures, or personnel change.
- C. All track work performed by Licensee meets the minimum safety requirements established by the Federal Railroad Administration's Track Safety Standards 49CFR213.
- D. All employees comply with the following safety procedures when working around any railroad track:
 - (i) Always be on the alert for moving equipment. Employees must always expect movement on any track, at any time, in either direction.
 - (ii) Do not step or walk on the top of the rail, frog, switches, guard rails, or other track components.
 - (iii) In passing around the ends of standing cars, engines, roadway machines or work equipment, leave at least 20 feet between yourself and the end of the equipment. Do not go between pieces of equipment if the opening is less than one car length (50 feet).
 - (iv) Avoid walking or standing on a track unless so authorized by the employee in charge.
 - (v) Before stepping over or crossing tracks, look in both directions first.
 - (vi) Do not sit on, lie under, or cross between cars except as required in the performance of your duties and only when track and equipment have been protected against movement.
- E. All employees must comply with all federal and state regulations concerning workplace safety.

2016 SEWER INTERCEPTOR REPAIR AND REPLACEMENT PROJECT OCTOBER, 2016

- 1 ——— Cover Sheet
- 2 ——— Standard Abbreviations, Legend, and Symbols
- 3 ——— Summary of Approximate Quantities
- 4 ——— Plan & Profile Sta 0+00 - 10+00
- 5 ——— Plan & Profile Sta 10+00 - 20+00
- 6 ——— Plan & Profile Sta 20+00 - 30+00
- 7 ——— Plan & Profile Sta 30+00 - 40+00
- 8 ——— Plan & Profile Sta 40+00 - 50+00
- 9 ——— Plan & Profile Sta 50+00 - 60+00
- 10 ——— Plan & Profile Sta 60+00 - 70+00
- 11 ——— Plan & Profile Sta 70+00 - 80+00
- 12 ——— Plan & Profile Sta 80+00 - 90+00
- 13 ——— Plan & Profile Sta 90+00 - 100+00
- 14 ——— Plan & Profile Sta 100+00 - 110+00
- 15 ——— Plan & Profile Sta 110+00 - 120+00
- 16 ——— Plan & Profile Sta 120+00 - 130+00
- 17 ——— Plan & Profile Sta 130+00 - 140+00
- 18 ——— G Road Crossing Plan
- 19 ——— Bypass Plan Sta 0+88 - 12+36
- 20 ——— Bypass Plan Railhead Spur
- 21 ——— Detail Sheet
- 22-23 ——— Vault & Manhole Rehabilitation Plan & Profile



UTILITIES AND AGENCIES								
AGENCY	NAME	POSITION	ROLE	MAILING ADDRESS	STREET ADDRESS	CITY, STATE	VOICE-WK	FAX
GRAND JUNCTION, CITY OF	JEROD TIMOTHY	PROJECT ENGINEER	PROJECT ENGINEER	250 N. 5th STREET	250 N. 5th STREET	GRAND JCT., CO 81501	(970) 244-1565	(970) 256-4022
GRAND JUNCTION, CITY OF	BRET GUILLORY	UTILITY ENGINEER	SANITARY SEWER	250 N. 5th STREET	250 N. 5th STREET	GRAND JCT., CO 81501	(970) 244-1590	(970) 256-4022
GRAND VALLEY IRRIGATION CO.	PHIL BERTRAND		IRRIGATION	688 26 ROAD	688 26 ROAD	GRAND JCT., CO 81506	(970) 242-2762	
CHARTER	CHUCK WEIDMAN	MANAGER	CABLE TV	2502 FORESIGHT CIRCLE	2502 FORESIGHT CIRCLE	GRAND JCT., CO 81504	(970) 245-8750	(970) 245-6803
U.S. WEST/QWEST	CHRIS JOHNSON	ENGINEER	TELEPHONE	2524 Blichmann AVE	2524 Blichmann AVE	GRAND JCT., CO 81504	(970) 244-4311	(970) 240-4349
UTE WATER	JUSTIN BATES	MAINTENANCE SUPERVISOR	WATER	PO BOX 460		GRAND JCT., CO 81502	(970) 256-2889	(970) 242-9189
XCEL	DAN STEINKIRCHNER	UNIT MANAGER	GAS, ELECTRIC	2538 Blichmann AVE	2538 Blichmann AVE	GRAND JCT., CO 81506	(970) 244-2656	(970) 244-2661
UPRR	MATT JOHNSON	TRACK MAINTENANCE MANAGER	RAILROAD			GRAND JCT., CO 81501	(402) 216-2305	



Know what's below.
Call before you dig.

Public Works & Utilities Engineering Division

DRAWING STATUS:	
○	PROGRESS
●	FINAL CONSTRUCTION DRAWINGS
○	ASBUILT
DESIGNED BY:	
JEROD TIMOTHY, PROJECT ENGINEER	2016
REVIEWED BY:	
BRET GUILLORY, UTILITY ENGINEER	2016
AUTHORIZED FOR CONSTRUCTION	
TRENTON C. PRALL, CITY ENGINEER	2016
ACCEPTED AS CONSTRUCTED	
JEROD TIMOTHY, PROJECT ENGINEER	2016

NOTE: NOTIFY AFFECTED UTILITY VENDOR 48 HOURS PRIOR TO EXCAVATIONS THAT WILL EXPOSE UTILITY LINES. THE COVER SHEET WILL HAVE A LISTING OF UTILITY VENDORS AND TELEPHONE NUMBERS.

N:\landino\2016 Sewer Interceptor Repair and Replacement Project\DWG\2016 Sewer Interceptor.dwg 1/10/19/2016 9:28:12 AM

REVISION	DESCRIPTION	DATE
REVISION △	_____	_____
REVISION △	_____	_____
REVISION △	_____	_____
REVISION △	_____	_____

2016 SEWER INTERCEPTOR REPAIR & REPLACEMENT, OCTOBER, 2016, PLAN SET NO. _____

ABBREVIATIONS

AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY & TRANSPORTATION OFFICIALS
ABC	AGGREGATE BASE COURSE
AC	ASBESTOS CEMENT
AP	ANGLE POINT
ASB	ANCHORED STRAW BALES
ASB	ALUMINIZED STEEL PIPE
ASTM	AMERICAN SOCIETY FOR TESTING MATERIALS
AWWA	AMERICAN WATER WORKS ASSOCIATION
BC	BACK OF CURB
BF	BUTTERFLY VALVE
BOW	BACK OF WALK
BCR	BEGIN CURB RETURN
BOT	BOTTOM
BSWMP	BETTER STORM WATER MANAGEMENT PRACTICES CHORD
CA	CORRUGATED ALUMINUM PIPE
CDOT	COLORADO DEPARTMENT OF TRANSPORTATION
CI	CAST IRON
C, G, & SW	CURB, GUTTER & SIDEWALK
CL	CENTER LINE
CL	CLEAR
CMP	CORRUGATED METAL PIPE
CO	CLEAN OUT
COMB	COMBINATION (AS IN STORM SEWER AND SANITARY SEWER)
CONC	CONCRETE
CSM	CITY SURVEY MONUMENT
CSP	CORRUGATED STEEL PIPE
CU	COPPER
DI	DUCTILE IRON
DWY	DUCTILE IRON
E	ELECTRIC
ECR	END CURB RETURN
EG	EDGE OF GUTTER
EL	ELEVATION
EP	EDGE OF PAVEMENT
EX	EXISTING
FB	FULL BODY
FC	FACE OF CURB
FG	FINISHED GRADE
F	FLOW LINE
FL	FLANGE
FM	FORCE MAIN
FO	FIBER OPTICS
FS	FAR SIDE
FTG	FOOTING
G	GAS
GB	GRADE BREAK
GM	GAS METER
GV	GATE VALVE
HBP	HOT BITUMINOUS PAVEMENT
HDPE	HIGH DENSITY POLYETHYLENE
INV	INVERT
IRR	IRRIGATION
L	LENGTH OF ARC
LC	LONG CHORD
LF	LINEAR FEET
LL	LONG ARC
LS	SHORT ARC
LT	LEFT
MB	MAILBOX
MCSM	MESA COUNTY SURVEY MONUMENT
MH	MANHOLE
MJ	MECHANICAL JOINT
MW	MILL WRAP
N/A	NOT APPLICABLE
NIC	NOT IN CONTRACT
NOP	NO ONE PERSON
NRCP	NON-REINFORCED CONCRETE PIPE
NS	NEAR SIDE
NTS	NOT TO SCALE
OHP	OVERHEAD POWER
OHT	OVERHEAD TELEPHONE
OC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
PE	POLYETHYLENE
PERF	PERFORATED
PI	POINT OF INTERSECTION
PIP	PLASTIC IRRIGATION PIPE
POC	POINT ON CURVE
POT	POINT ON TANGENT
PR	PROPOSED
PRC	POINT OF REVERSE CURVATURE
PT	POINT OF TANGENCY
PVC	POLYVINYL CHLORIDE
R	RADIUS
RCP	REINFORCED CONCRETE PIPE
REQ'D	REQUIRED
RG	RESTRAINED GLANDS
RL	LONG RADIUS
ROW	RIGHT OF WAY
RP	RADIUS POINT
RR	RAIL ROAD
RS	SHORT RADIUS
RT	RIGHT
S	SLOPE
SAN	SANITARY
SC	SHORT CHORD
SCD	STANDARD CONTRACT DOCUMENTS
SCH	SCHEDULE
SF	SILT FENCE
SL	SECTION LINE
SSRB	STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION
SSUU	STANDARD SPECIFICATIONS FOR CONSTRUCTION OF UNDERGROUND UTILITIES
STA	STATION
STL	STEEL
STM	STORM
T	TELEPHONE
TAN	LENGTH OF TANGENT
TC	TOP OF CURB
TH	TEST HOLE
TV	TELEVISION
(TYP)	TYPICAL
UU	UNDERGROUND UTILITIES
VC	VERTICAL CURVE
VCP	VITRIFIED CLAY PIPE
VPC	VERTICAL POINT OF CURVATURE
VPCC	VERTICAL POINT OF COMPOUND CURVATURE
VPRC	VERTICAL POINT OF REVERSE CURVATURE
VPI	VERTICAL POINT OF INTERSECTION
VPT	VERTICAL POINT OF TANGENCY
W	WATER
Δ	DELTA ANGLE

LEGEND

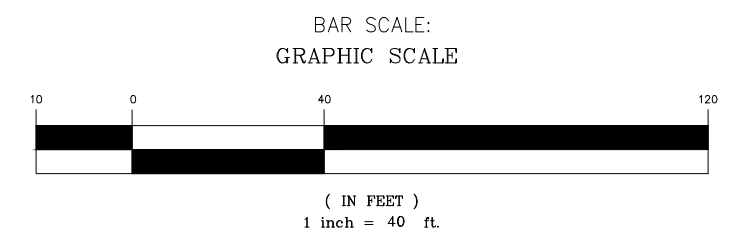
BSWMP	BSWMP
DRAINAGE BASIN BOUNDARY	---
BSWMP	BSWMP
ANCHORED STRAW BALES	ASB ASB ASB
BSWMP	BSWMP
SILT FENCE	SF SF SF
BUILDING	[Hatched Box]
CONCRETE CURB AND GUTTER	[Line with 2' CURB AND GUTTER label]
CONCRETE CURB, GUTTER, & SIDEWALK	[Line with 7' C, G, & SW label]
CONCRETE DITCH	[Line with CONCRETE label]
CONCRETE SIDEWALK	[Line with 4' SW label]
CULVERT	[Line with 18" RCP label]
EARTH DITCH	EARTH
EDGE OF GRAVEL	---
EDGE OF PAVEMENT	---
FENCE (BARBED WIRE)	---x---
FENCE (CHAIN LINK)	---x---
FENCE (IRON)	---x---
FENCE (PLASTIC)	---x---
FENCE (TEMPORARY CONSTRUCTION)	---x---
FENCE (WOOD)	---x---
FENCE (WOVEN WIRE)	---x---
GUARD RAIL	---gr---
HATCHING: INDICATES ASPHALT REMOVAL	[Dotted Hatching]
HATCHING: INDICATES CONCRETE REMOVAL	[Diagonal Hatching]
HATCHING: INDICATES STAGING AREA	[Cross-hatched Area]
LINE (CENTER OF IMPROVEMENTS)	CENTERLINE
LINE (CITY LIMITS)	CITY LIMITS
LINE (CONTROL)	CONTROL LINE
LINE (EASEMENT)	---
LINE (MONUMENT/SECTION LINE)	MONUMENT/SECTION LINE
LINE (PROPERTY)	---
LINE (RIGHT OF WAY)	---
MATCH LINE	MATCH LINE SEE SHEET NO ?
PIPE (IRRIGATION)	4" IRR
PIPE (SIPHON)	4" SIPHON

PROPOSED CONCRETE CURB AND GUTTER	[Line with 2' CURB AND GUTTER label]
PROPOSED CONCRETE CURB, GUTTER, & SIDEWALK	[Line with 7' C, G, & SW label]
PROPOSED CONCRETE SIDEWALK	[Line with 4' SW label]
PROPOSED "WET" UTILITIES (CONSTRUCTION NOTE WILL INDICATE TYPE, SIZE, AND MATERIAL OF NEW MAIN)	8" PVC SANITARY SEWER
ALL PROPOSED FEATURES NOT SHOWN IN LEGEND WILL BE SHOWN THE SAME AS THEIR EXISTING COUNTERPART, BUT INDICATED BY BOLDER LINETYPE	
RAIL ROAD	[Railroad Symbol]
RETAINING WALL	[Line with 1' RETAINING WALL label]
STRIPING (CONTINUOUS WHITE)	WHITE
STRIPING (DASHED WHITE)	WHITE
STRIPING (CONTINUOUS YELLOW)	YELLOW
STRIPING (DASHED YELLOW)	YELLOW
TOP OF SLOPE	[Line with 4570 label]
TOE OF SLOPE	[Line with 4570 label]
CONTOUR LINES (SHOWN BETWEEN TOP & TOE)	[Contour Lines]
TRAFFIC DETECTOR LOOP	[Dashed Box]
UTILITY LINE (ABANDON) (THIS CASE A WATER LINE)	(ABANDON)
UTILITY LINE (CABLE TV)	TV
UTILITY LINE (ELECTRIC)	E
UTILITY LINE (FIBER OPTIC)	FO OPT-FO
UTILITY LINE (GAS)	G 1 1/4" MW G
UTILITY LINE (HIGH VOLTAGE OVERHEAD POWER)	HVHOP
UTILITY LINE (OVERHEAD POWER)	OHP
UTILITY LINE (OVERHEAD TELEPHONE)	OHT
UTILITY LINE (SANITARY SEWER)	8" SAN
UTILITY LINE (SANITARY SEWER FORCE MAIN)	8" FM
UTILITY LINE (SANITARY SEWER SERVICE)	SS
UTILITY LINE (STORM SEWER)	8" STM
UTILITY LINE (STORM SEWER, PERFORATED)	8" PERF
UTILITY LINE (STORM/SANITARY SEWER SEWER COMBINATION)	18" COMB
UTILITY LINE (TELEPHONE)	T
UTILITY LINE (WATER)	W 8" W

SYMBOLS

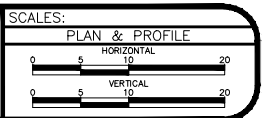
BENCH MARK	[Symbol]
CATCH BASIN	[Symbol]
CLEAN OUT	[Symbol]
CURB STOP	[Symbol]
FIRE HYDRANT	[Symbol]
GUY WIRE ANCHOR	[Symbol]
HEADGATE	[Symbol]
IRRIGATION PUMP	[Symbol]
MAILBOX	[Symbol]
MANHOLE (ELECTRIC)	[Symbol]
MANHOLE (GAS)	[Symbol]
MANHOLE (SANITARY/STORM)	[Symbol]
MANHOLE (TELEPHONE)	[Symbol]
MANHOLE (TV)	[Symbol]
MANHOLE (WATER)	[Symbol]
METER (GAS)	[Symbol]
METER (WATER)	[Symbol]
PEDESTAL (TELEPHONE)	[Symbol]
PEDESTAL (TV)	[Symbol]
PROPERTY PIN	[Symbol]
PULL BOX	[Symbol]
REDUCER FITTING	[Symbol]
SIGN OR POST (SIGN TYPE NOTED)	[Symbol]
SPRINKLER HEAD	[Symbol]
STREET LIGHT	[Symbol]
SURVEY MONUMENT (CITY)	[Symbol]
SURVEY MONUMENT (TYPE NOTED)	[Symbol]
TEST HOLE	[Symbol]
TRAFFIC PAINT MARKING	[Symbol]
TRAFFIC SIGNAL POLE AND MAST ARM	[Symbol]
UTILITY POLE	[Symbol]
VALVE (GAS)	[Symbol]
VALVE (IRRIGATION)	[Symbol]
VALVE (WATER)	[Symbol]
VEGETATION (HEDGE OR BUSH)	[Symbol]
VEGETATION (TREE STUMP)	[Symbol]
VEGETATION (TREE) (CALIPER SIZE NOTED)	[Symbol]
WATER HYDRANT	[Symbol]
WEIR	[Symbol]
YARD LIGHT	[Symbol]

NORTH ARROW:



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REVISION Δ	DESCRIPTION	DATE	DRAWN BY JCS	DATE 4-02
REVISION Δ			DESIGNED BY	DATE
REVISION Δ			CHECKED BY	DATE
REVISION Δ			APPROVED BY	DATE



PUBLIC WORKS AND UTILITIES ENGINEERING DIVISION

CITY OF GRAND JUNCTION STANDARD ABBREVIATIONS, LEGEND, AND SYMBOLS

Bid Schedule: 2016 Sanitary Sewer Interceptor Repair and Replacement

Contractor: _____

Item No.	CDOT, City Ref.	Description	Quantity	Units	Unit Price	Total Price
1	108.3	Sanitary Sewer Cleanout. To include Two Way Cleanout, Ring and Cover (Castings Inc. CO8030-CI or equivalent), Concrete Collar, pipe and threaded plug. See Deatil SS-07 Standard Contract Documents.	6.	EA	\$ _____	\$ _____
2	108.5	Sanitary Sewer Manhole (48" I.D.) (Remove and Replace). To include Ring and Cover and all other Appurtenances (7 Total). See Sp-6.	34.4	VLF	\$ _____	\$ _____
3	108.5	Sanitary Sewer Manhole (60" I.D.) to include Pour In Place Base, Ring and Cover and all other Appurtenances (14 Total). See Sp-6.	124.	VLF	\$ _____	\$ _____
4	202	Abandon Manhole. See SP-1 for Details.	19.	EA	\$ _____	\$ _____
5	206	Structural Back Fill (Cellular Concrete) See SP-8 for Specifications.	150.	CY	\$ _____	\$ _____
6	304/401	Hot Mix Asphalt (Patching) (5" Thick)(12" "T" Top) (Grading SX, Binder Grade PG 64-22) to include 12" of Class 6 Aggregate Base Course.	510.	SY	\$ _____	\$ _____
7	620	Erosion Control (Complete in Place)	1.	Lump	\$ _____	\$ _____
8	626	Portable Sanitary Facility	1.	Lump	\$ _____	\$ _____
9	630	Mobilization	1.	Lump	\$ _____	\$ _____
10	630	Traffic Control (Complete In Place) to Include Flagging	1.	Lump	\$ _____	\$ _____

11	630	Traffic Control Plan	1.	Lump	\$ _____	\$ _____
12	SP	Bypass Pumping per City Specifications. See Appendix B in Bid Documents.	1.	Lump	\$ _____	\$ _____
13	SP	Weekly Newsletter- See Bid Documents SC 3.3.12	1.	Lump	\$ _____	\$ _____
14	SP	54 Inch CIPP (Complete in Place) See Appendix C in Bid Documents.	13,415.	LF	\$ _____	\$ _____
15	SP	Coat Manhole (48' I.D.) See SP - 7 for Specifications.	100.	VLF	\$ _____	\$ _____
16	SP	Coat Manhole (60' I.D.) See SP - 7 for Specifications.	134.	VLF	\$ _____	\$ _____
17	SP	Coat Manhole (72' I.D.) See SP - 7 for Specifications.	7.	VLF	\$ _____	\$ _____
18	SP	Coat Vault Structure See SP - 7 for Specifications.	400.	SQ. FT.	\$ _____	\$ _____
19	SP	Steel Casing Pipe. See SP-4 for Details.	1.	Lump	\$ _____	\$ _____
20	SP	Shoofly (City Supplied Millings)(8" Minimum) See SP - 2 for Specifications.	36.	EA	\$ _____	\$ _____
MCR		Minor Contract Revisions	---	---	\$ _____	\$ 150,000.00

Bid Amount: \$ _____

Bid Amount: _____ dollars

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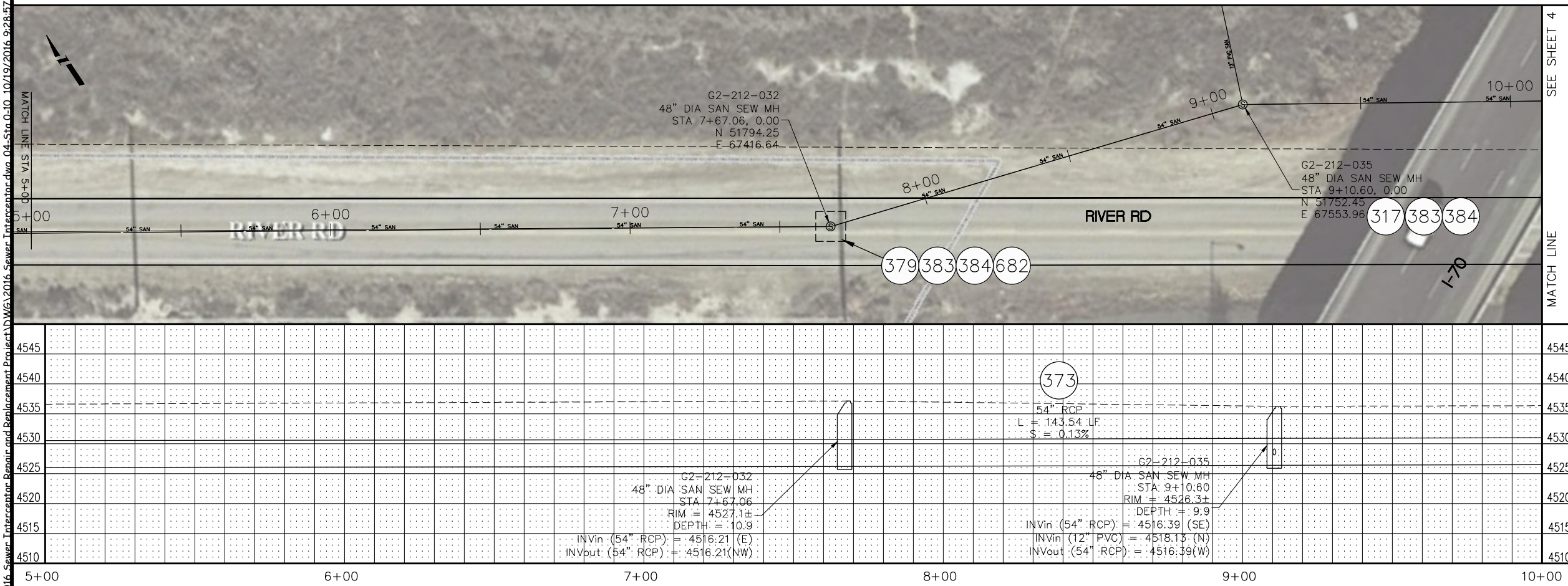
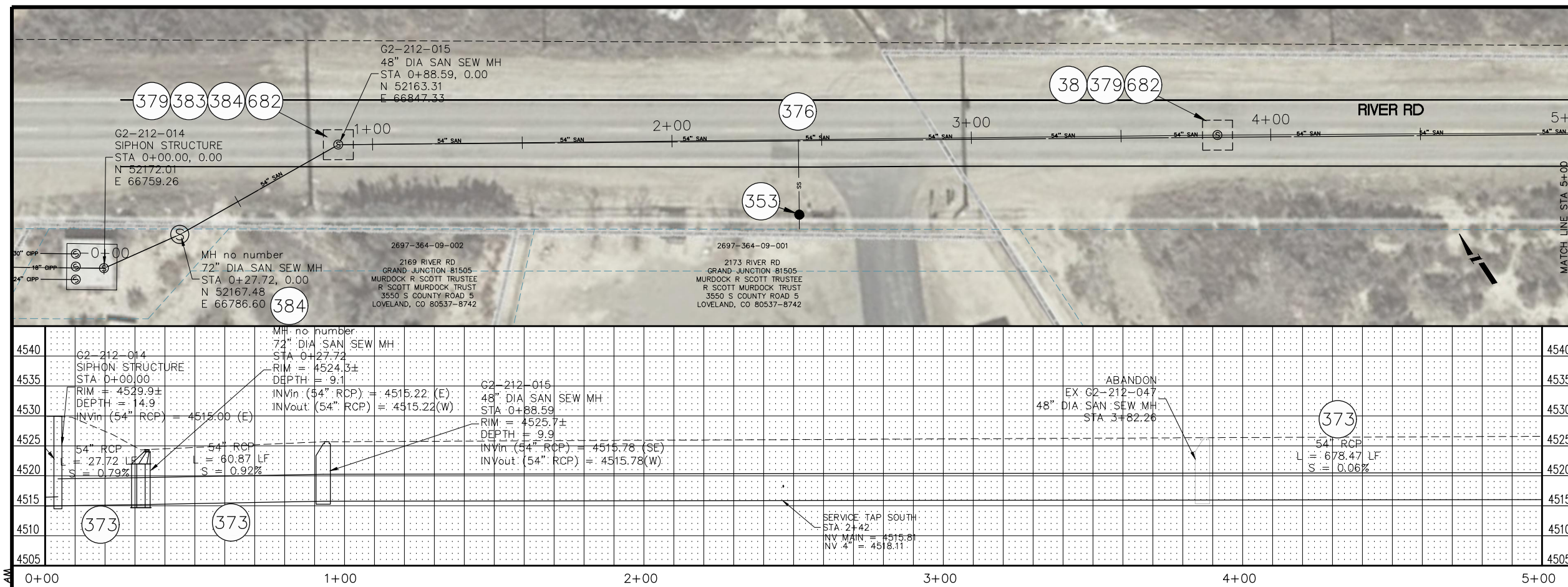
REVISION Δ _____	DESCRIPTION _____	DATE _____	DRAWN BY JCS	DATE 4-02	SCALES: PLAN & PROFILE
REVISION Δ _____	DESIGNED BY _____	DATE _____	CHECKED BY _____	DATE _____	0 5 10 20 HORIZONTAL
REVISION Δ _____	APPROVED BY _____	DATE _____			0 5 10 20 VERTICAL



PUBLIC WORKS AND UTILITIES ENGINEERING DIVISION

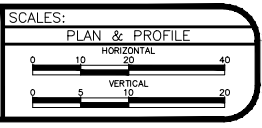
CONSTRUCTION NOTES

- (38) ABANDON MANHOLE. CONTRACTOR SHALL SALVAGE RING AND COVER AND DELIVER TO CITY SHOPS. BACKFILL WITH CELLULAR CONCRETE. SEE SP-1 FOR ADDITIONAL INFORMATION. (SEE DETAIL MH-3 ON PLAN SHEET 21)
- (317) 104.20 - INSTALL CONCRETE COLLAR W/ #4 REBAR HOOP AS PER STD. DETAIL SS-02. INCIDENTAL TO MANHOLE PAY ITEM.
- (353) 104.20 - INSTALL 2-WAY SANITARY SEWER SERVICE CLEANOUT (STD. DETAIL SS-07). INCLUDES CLEANOUT RING AND COVER AND CONCRETE COLLAR IN UNPAVED AREAS (SEE STD. DETAIL SS-07).
- (373) 102.9/108.2 - CURED IN PLACE PIPE (CIPP) (SIZE AS SHOWN); DESIGNED, SUBMITTED, AND STAMPED BY P.E.; INSTALLED BY CONTRACTOR OR SUBCONTRACTOR MEETING SPECIFICATIONS DEFINED IN CONTRACT DOCUMENTS. SEE SPECIAL PROVISIONS. DESIGN SHALL BE FOR EXISTING PIPE IN FULLY DETERIORATED CONDITION. CONTRACTOR SHALL VERIFY DIA. OF PIPE PRIOR TO DESIGN AND FABRICATION OF LINER.
- (376) REMOVE CIPP COUPON AT SERVICE LOCATION (INCIDENTAL TO CIPP)
- (379) "T" TOP REQUIRED AT ASPHALT PATCH. (SEE CITY STANDARD DETAIL GU-03).
- (383) 102.11/108.5 - SANITARY SEWER MANHOLE (48" I.D.). INCLUDES CONNECTION OF ADJACENT SEWER LINE AND ADJUSTING TO FINAL GRADE. (SEE DETAIL MH-2 ON PLAN SHEET 21).
- (384) 102.11/108.5 MANHOLE COATING PER 102.11. SEE SP-6 FOR ADDITIONAL INFORMATION
- (682) 401.08 - HOT BITUMINOUS PAVEMENT (PATCHING) (5" THICK) (GRADING SX, BINDER GRADE PG 64-22) (TWO 2 1/2" LIFTS) TO INCLUDE 12" OF CLASS 6 AGGREGATE BASE COURSE.



REVISION	DESCRIPTION	DATE
REVISION		
REVISION		
REVISION		
REVISION		

DRAWN BY	HMC	DATE	2016
DESIGNED BY	JKT	DATE	2016
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APPROVED BY		DATE	

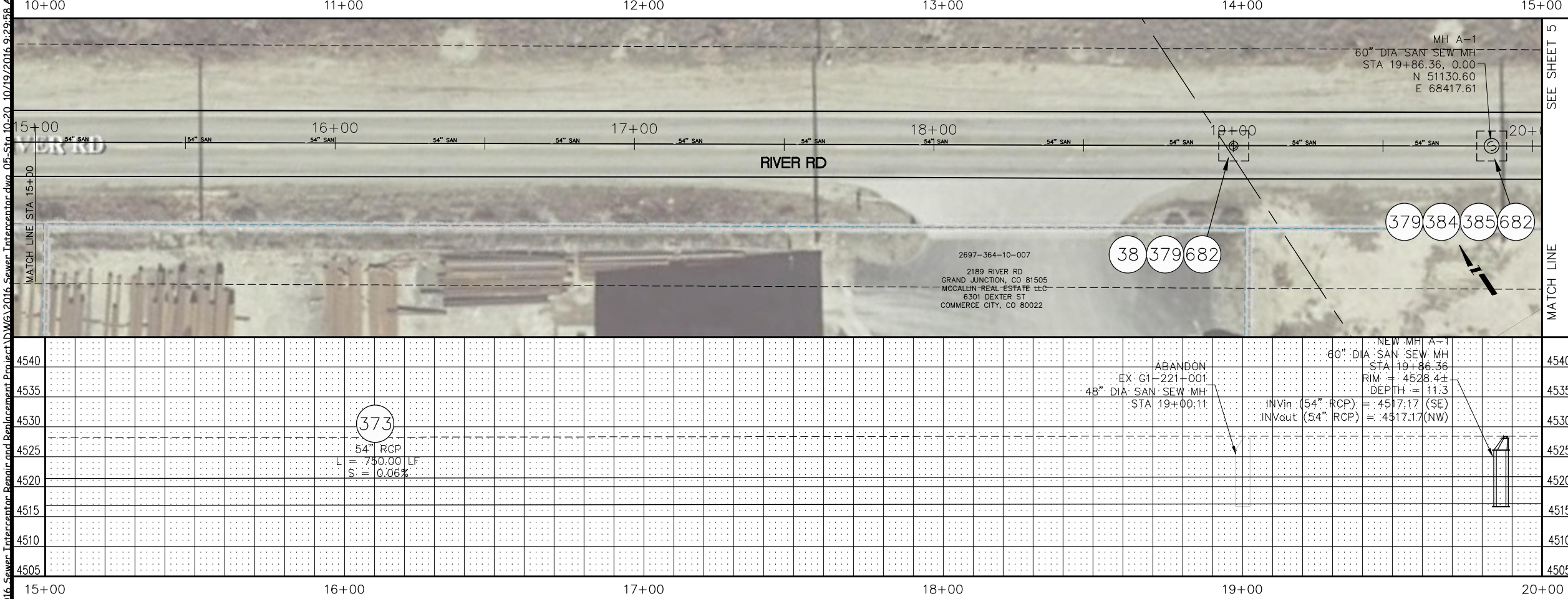
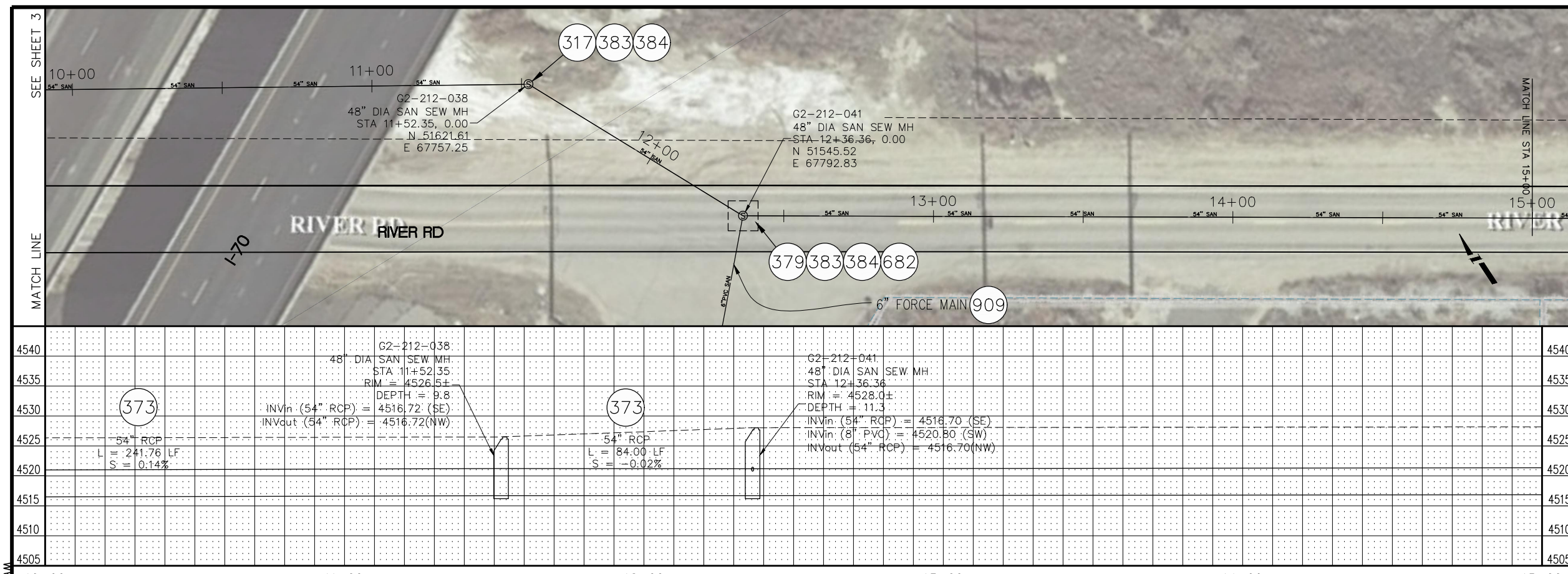


PUBLIC WORKS AND UTILITIES ENGINEERING DIVISION

2016 SEWER INTERCEPTOR REPAIR & REPLACEMENTS
 PLAN AND PROFILE
 STA 0+00 TO STA 10+00

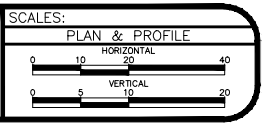
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- 383 102.11/108.5 - SANITARY SEWER MANHOLE (48" I.D.). INCLUDES CONNECTION OF ADJACENT SEWER LINE AND ADJUSTING TO FINAL GRADE. (SEE DETAIL MH-2 ON PLAN SHEET 21).
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- 385 102.11/108.5 - SANITARY SEWER MANHOLE (60" I.D.). INCLUDES CONNECTION OF ADJACENT SEWER LINE AND ADJUSTING TO FINAL GRADE. (SEE DETAIL MH-1 ON PLAN SHEET 21).
- 682 401.08 - HOT BITUMINOUS PAVEMENT (PATCHING) (5" THICK) (GRADING SX, BINDER GRADE PG 64-22) (TWO 2 1/2" LIFTS) TO INCLUDE 12" OF CLASS 6 AGGREGATE BASE COURSE.
- 909 RAILHEAD LIFT STATION. SEE STANDARD CONTRACT DOCUMENTS SECTION 3.3.41 FOR INFORMATION.



REVISION	DESCRIPTION	DATE

DRAWN BY	HMC	DATE	2016
DESIGNED BY	JKT	DATE	2016
CHECKED BY		DATE	
APPROVED BY		DATE	

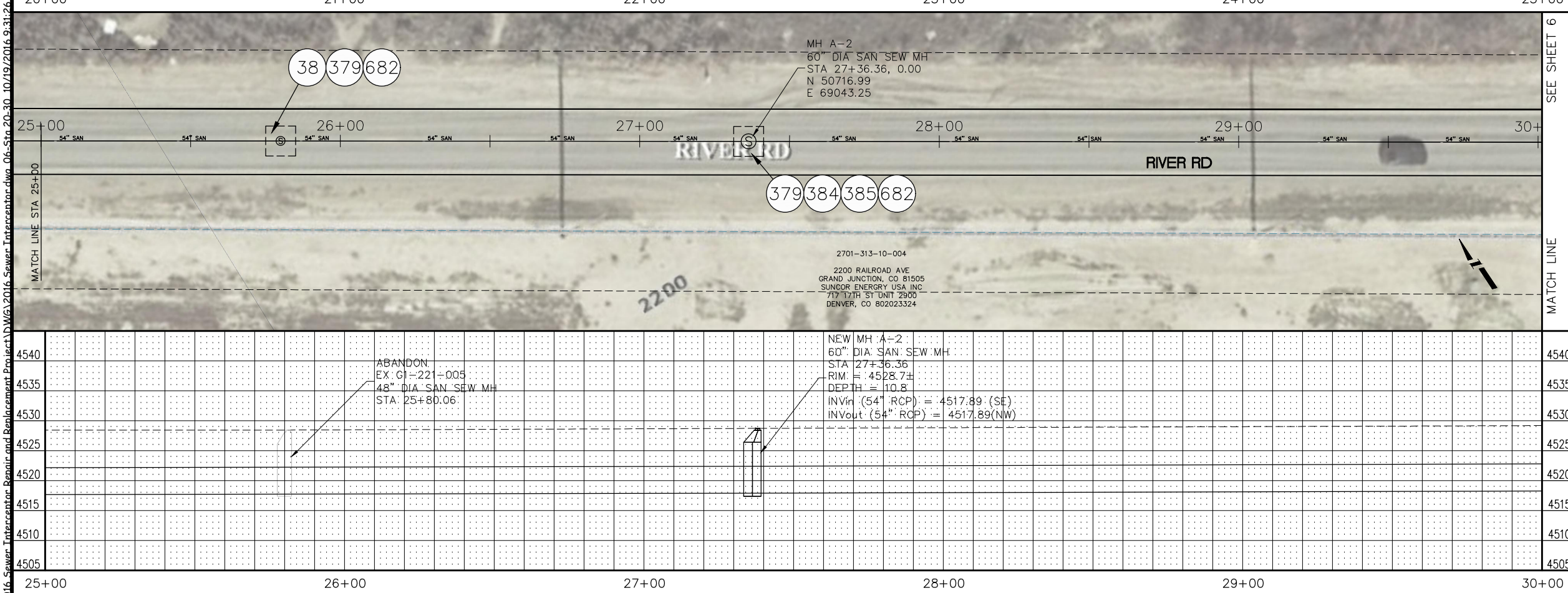
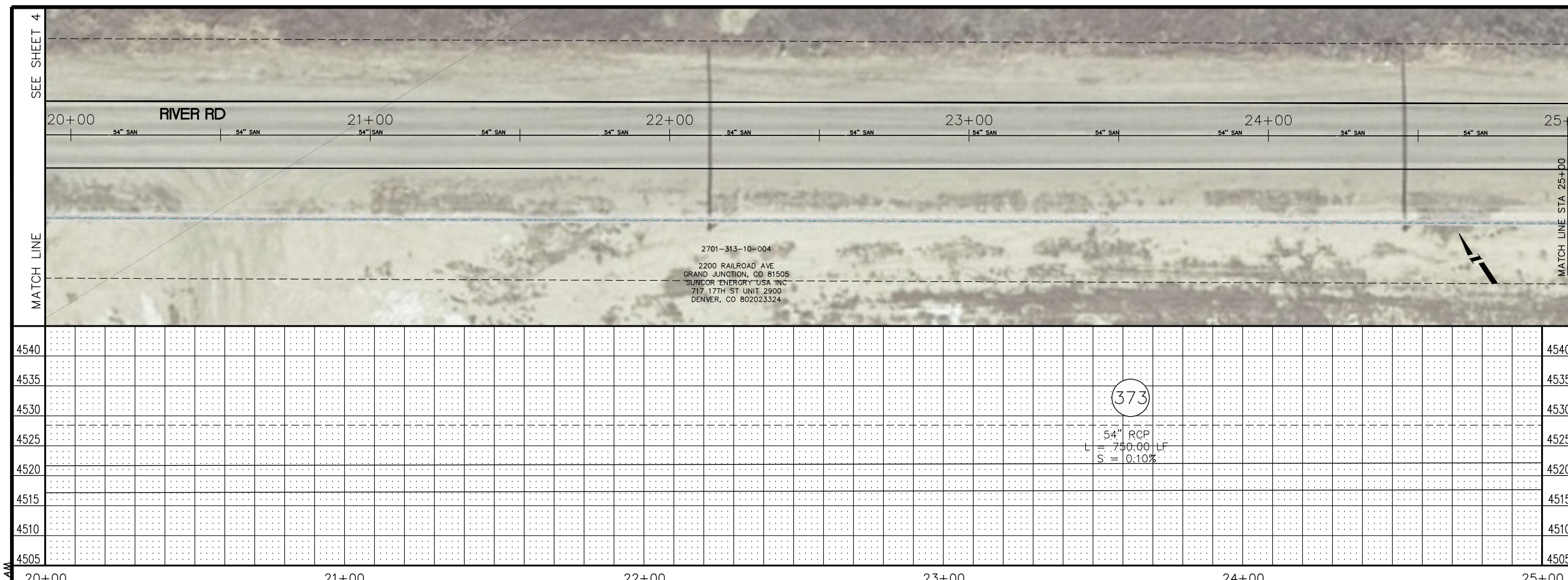


PUBLIC WORKS AND UTILITIES ENGINEERING DIVISION

2016 SEWER INTERCEPTOR REPAIR & REPLACEMENTS
 PLAN AND PROFILE
 STA 10+00 TO STA 20+00

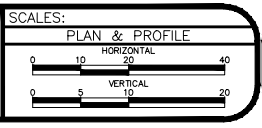
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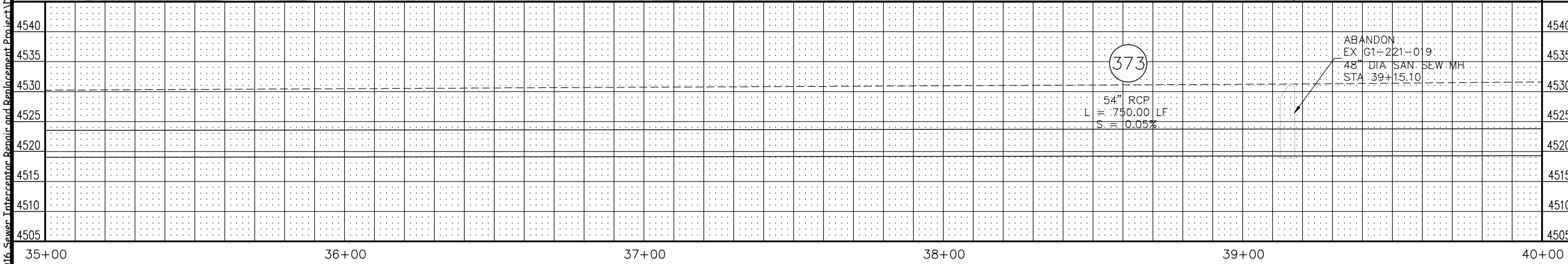
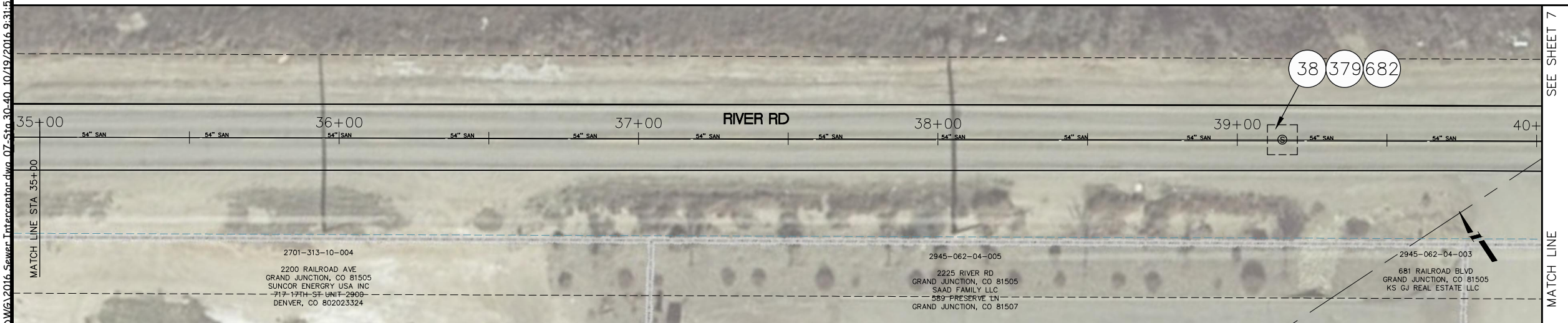
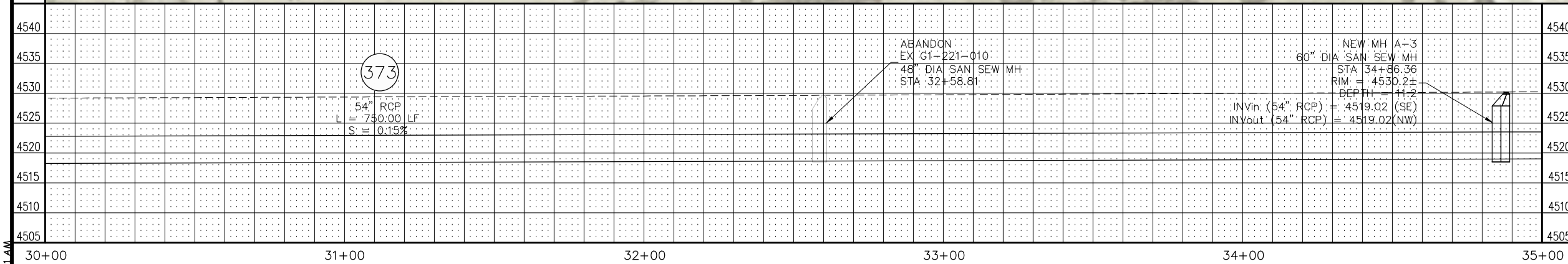
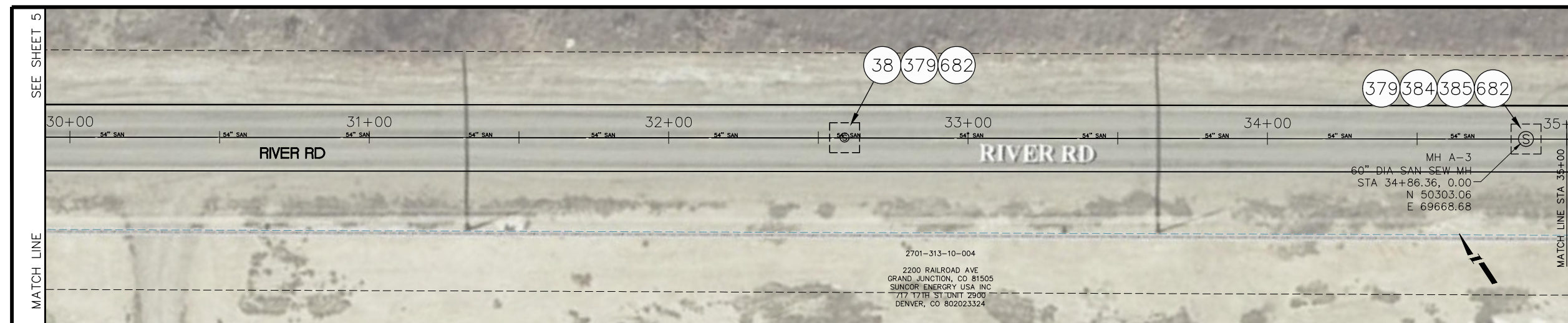


PUBLIC WORKS
 AND UTILITIES
 ENGINEERING DIVISION

2016 SEWER INTERCEPTOR REPAIR & REPLACEMENTS
 PLAN AND PROFILE
 STA 20+00 TO STA 30+00

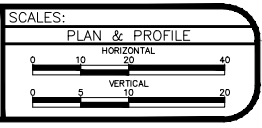
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REVISION	DESCRIPTION	DATE

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DESIGNED BY	JKT	DATE	2016
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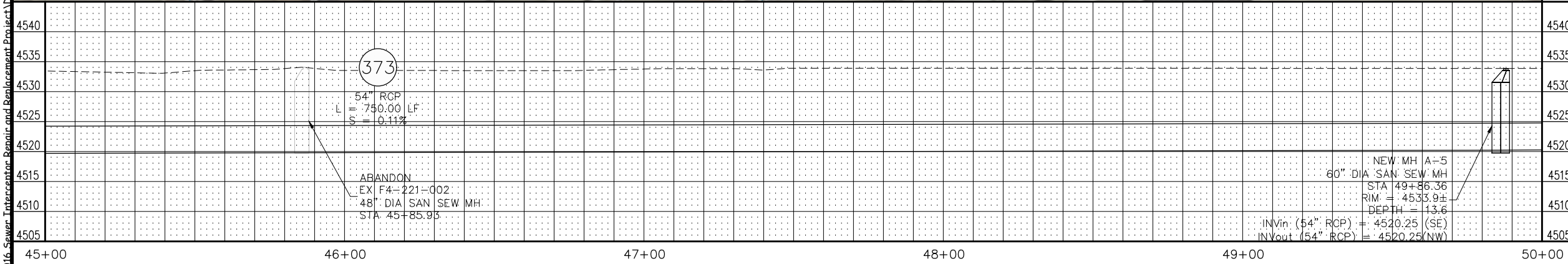
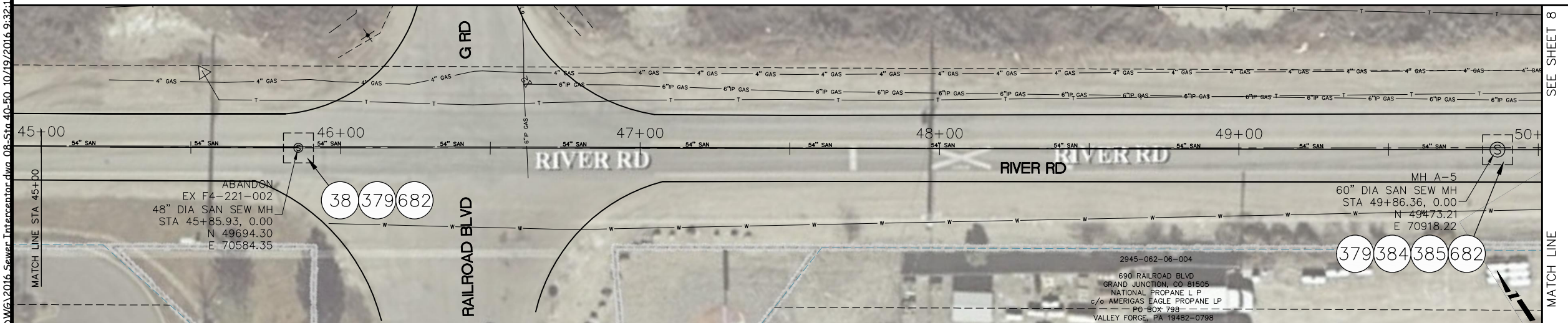
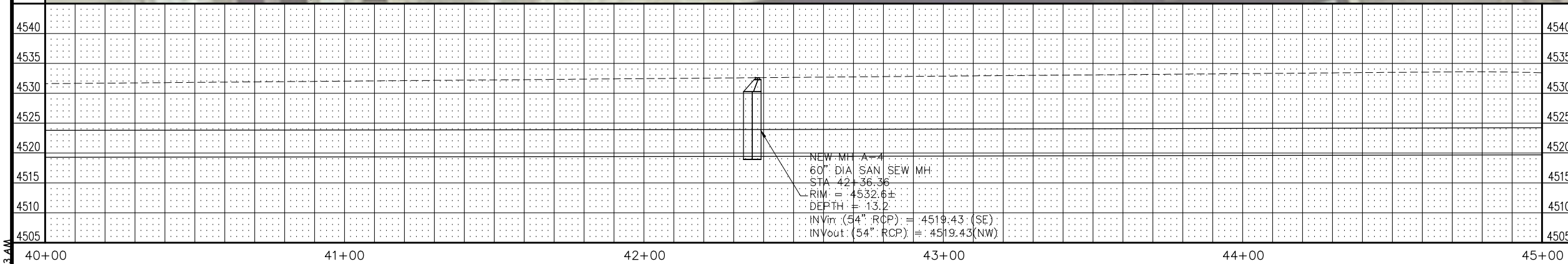
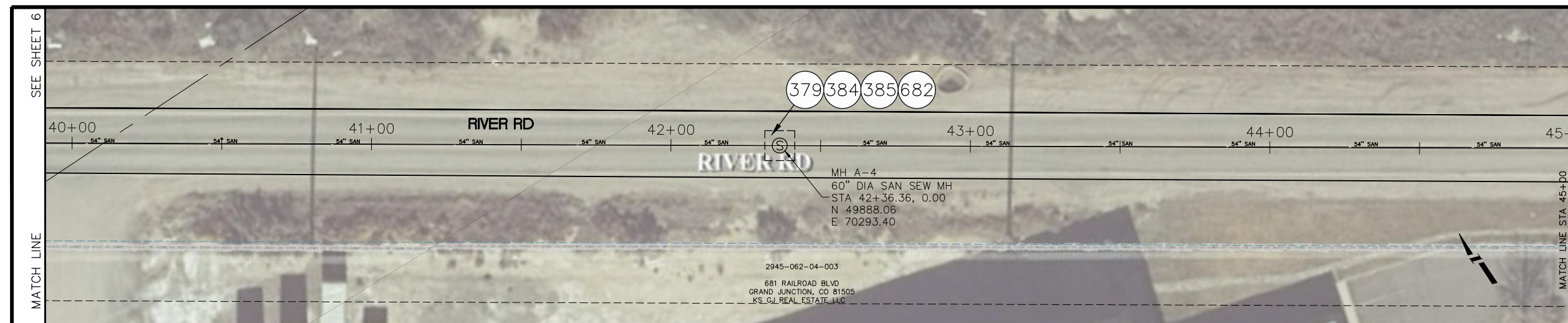


**PUBLIC WORKS
AND UTILITIES
ENGINEERING DIVISION**

**2016 SEWER INTERCEPTOR REPAIR & REPLACEMENTS
PLAN AND PROFILE
STA 30+00 TO STA 40+00**

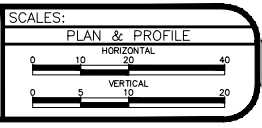
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- 579 "T" TOP REQUIRED AT ASPHALT PATCH. (SEE CITY STANDARD DETAIL GU-03).
- 584 102.11/108.5 MANHOLE COATING PER 102.11. SEE SP-6 FOR ADDITIONAL INFORMATION
- 585 102.11/108.5 - SANITARY SEWER MANHOLE (60" I.D.). INCLUDES CONNECTION OF ADJACENT SEWER LINE AND ADJUSTING TO FINAL GRADE. (SEE DETAIL MH-1 ON PLAN SHEET 21).
- 682 401.08 - HOT BITUMINOUS PAVEMENT (PATCHING) (5" THICK) (GRADING SX, BINDER GRADE PG 64-22) (TWO 2 1/2" LIFTS) TO INCLUDE 12" OF CLASS 6 AGGREGATE BASE COURSE.



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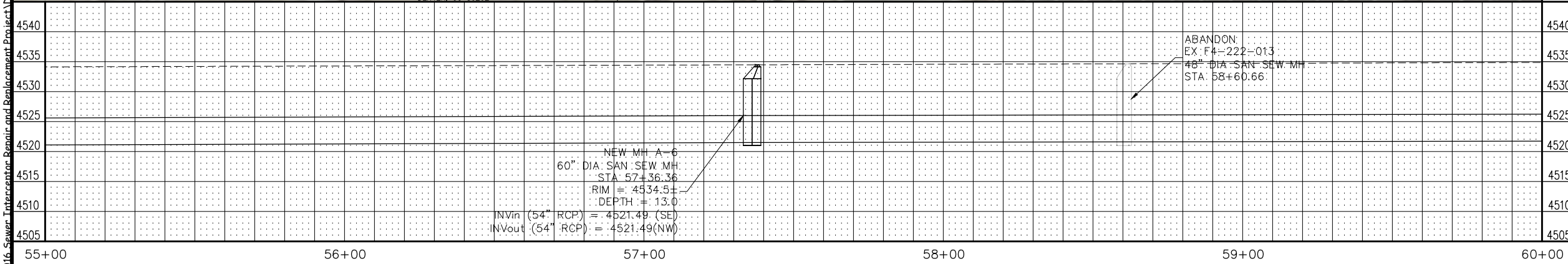
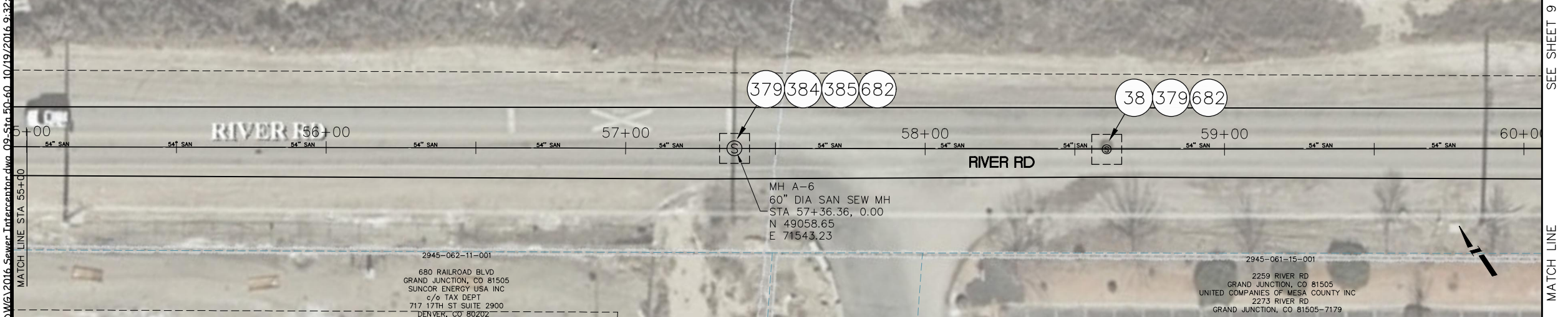
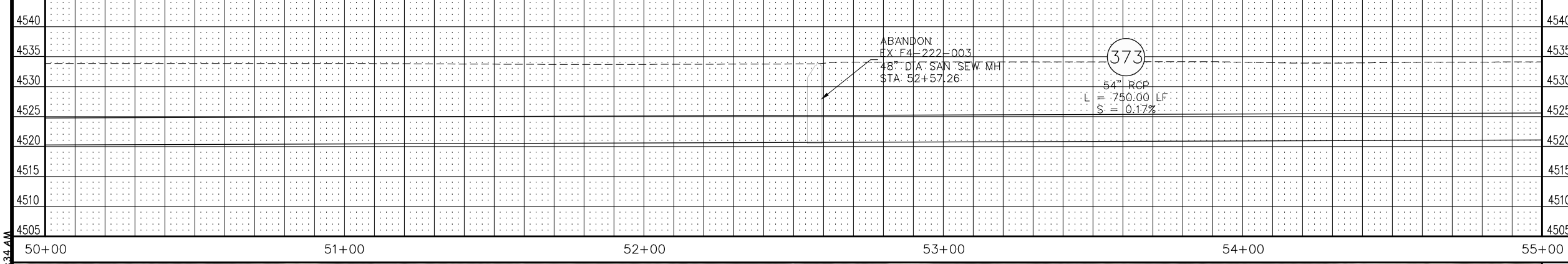
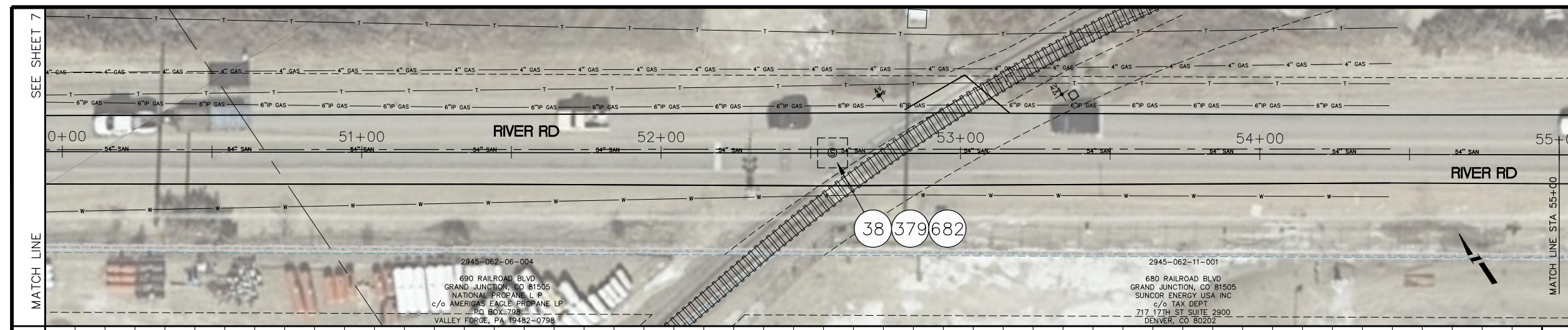


PUBLIC WORKS AND UTILITIES ENGINEERING DIVISION

2016 SEWER INTERCEPTOR REPAIR & REPLACEMENTS
 PLAN AND PROFILE
 STA 40+00 TO STA 50+00

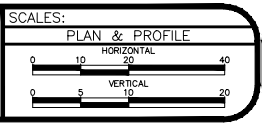
CONSTRUCTION NOTES

- 38 ABANDON MANHOLE. CONTRACTOR SHALL SALVAGE RING AND COVER AND DELIVER TO CITY SHOPS. BACKFILL WITH CELLULAR CONCRETE. SEE SP-1 FOR ADDITIONAL INFORMATION. (SEE DETAIL MH-3 ON PLAN SHEET 21)
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- 384 102.11/108.5 MANHOLE COATING PER 102.11. SEE SP-6 FOR ADDITIONAL INFORMATION
- 385 102.11/108.5 - SANITARY SEWER MANHOLE (60" I.D.). INCLUDES CONNECTION OF ADJACENT SEWER LINE AND ADJUSTING TO FINAL GRADE. (SEE DETAIL MH-1 ON PLAN SHEET 21).
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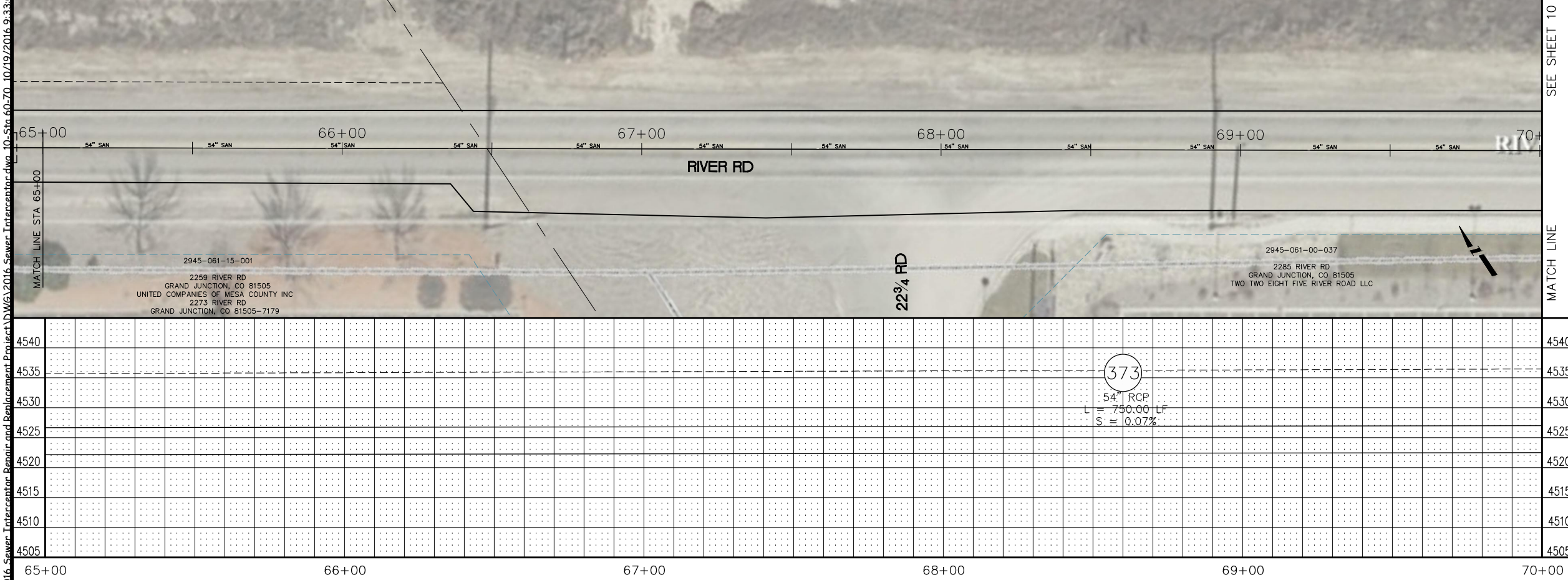
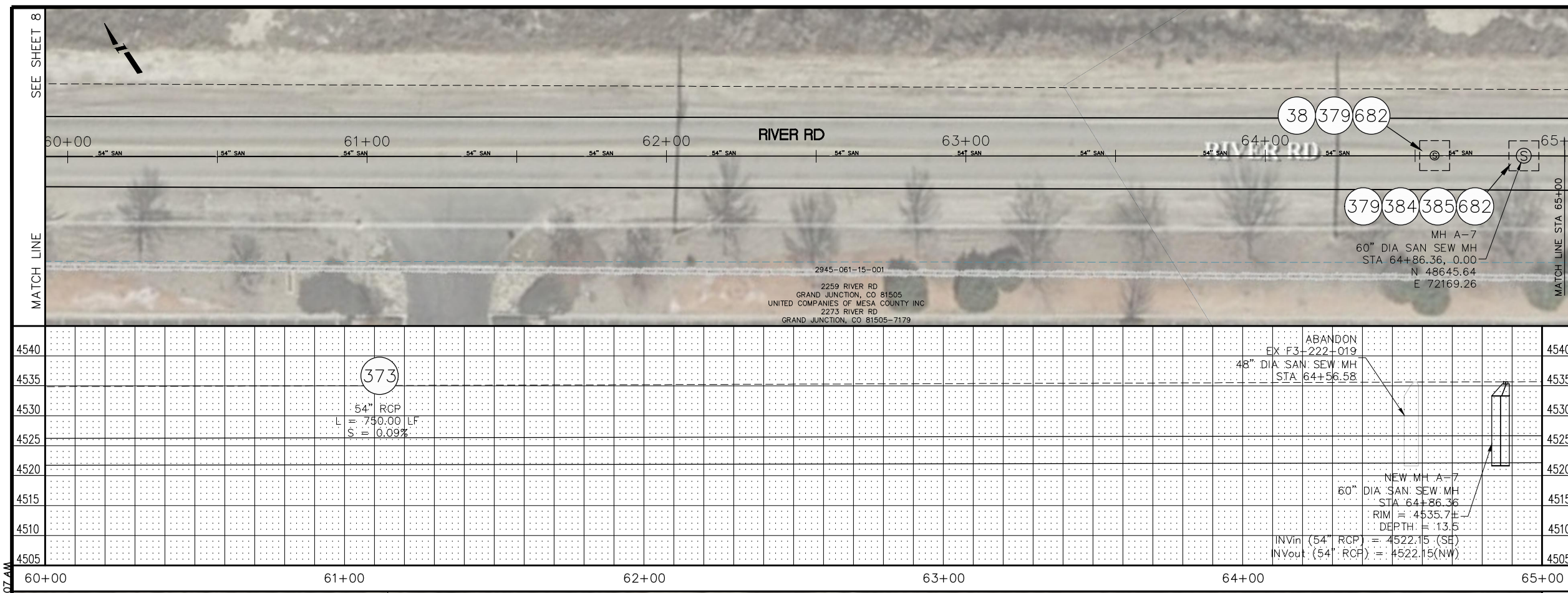


**PUBLIC WORKS
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ENGINEERING DIVISION**

**2016 SEWER INTERCEPTOR REPAIR & REPLACEMENTS
PLAN AND PROFILE
STA 50+00 TO STA 60+00**

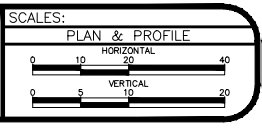
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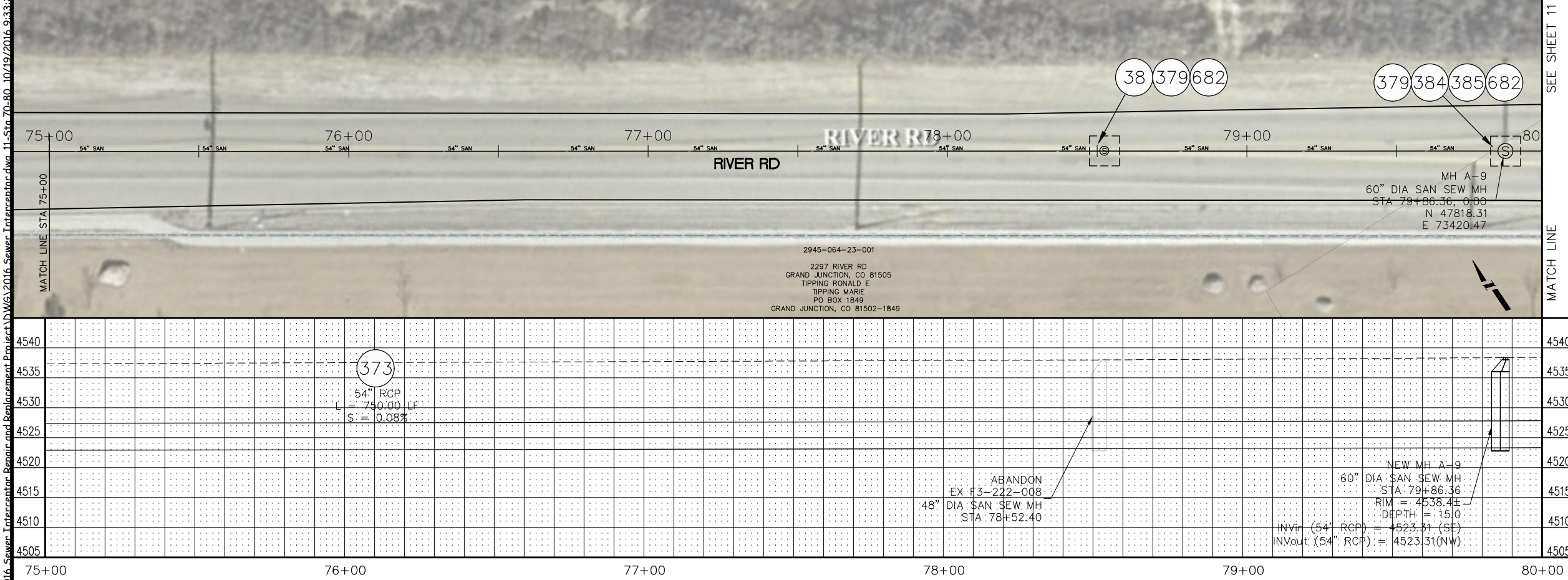
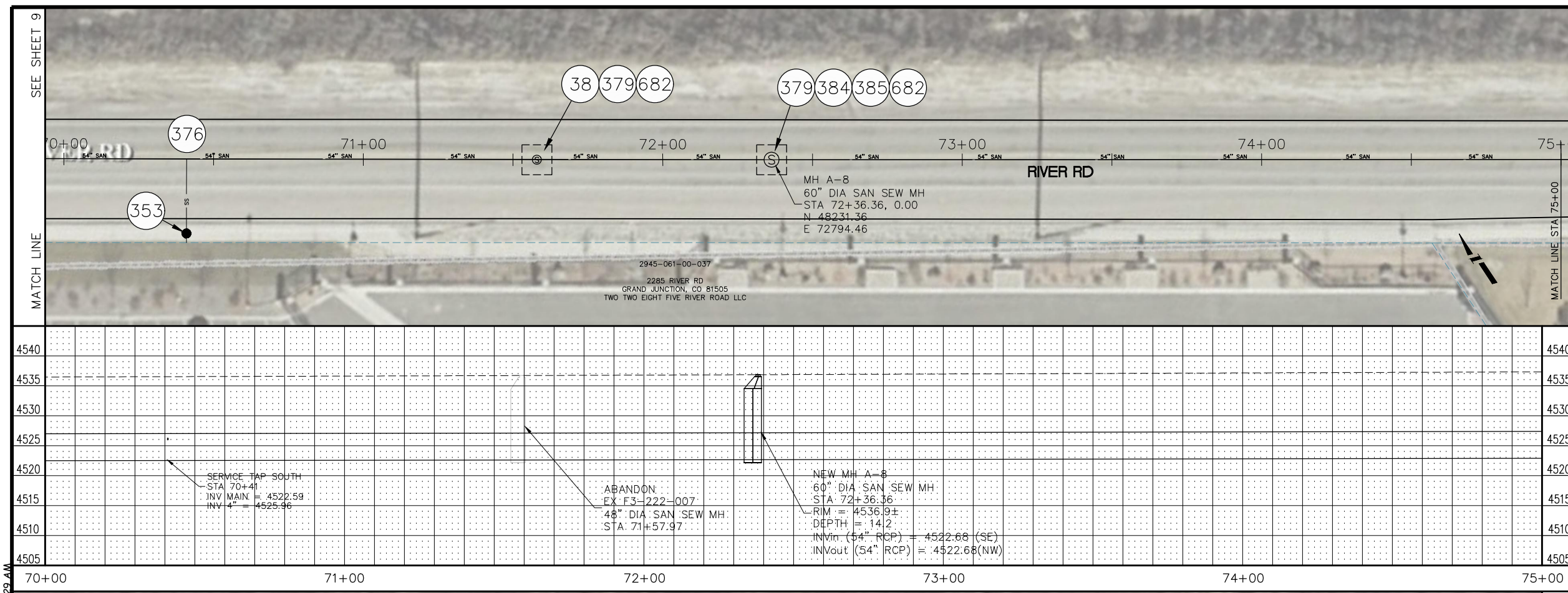


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2016 SEWER INTERCEPTOR REPAIR & REPLACEMENTS
PLAN AND PROFILE
STA 60+00 TO STA 70+00

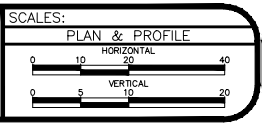
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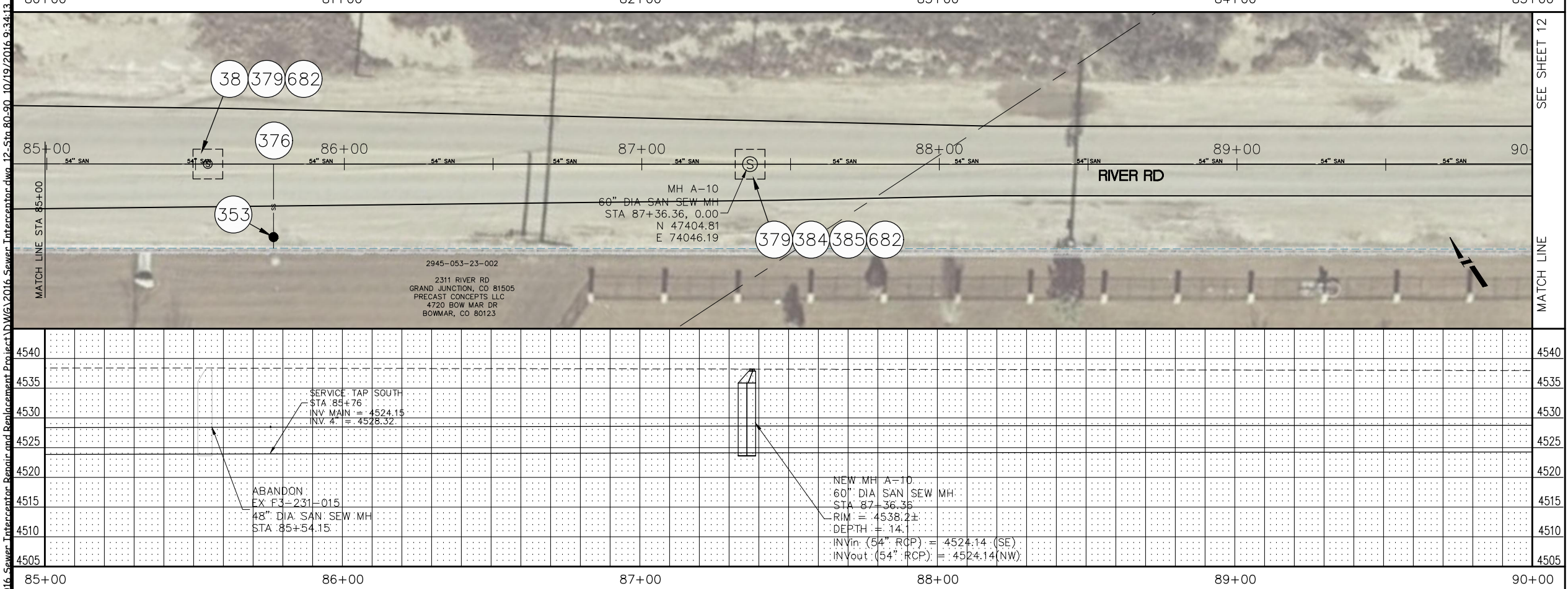
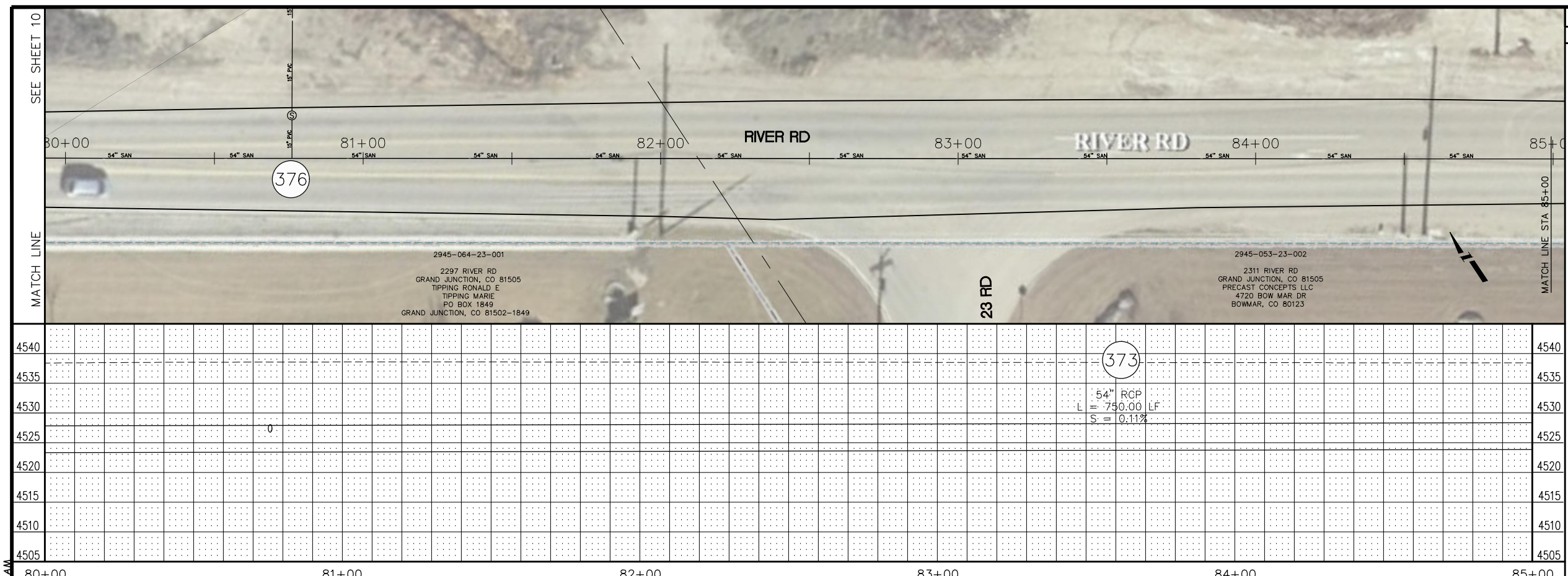


PUBLIC WORKS
 AND UTILITIES
 ENGINEERING DIVISION

2016 SEWER INTERCEPTOR REPAIR & REPLACEMENTS
 PLAN AND PROFILE
 STA 70+00 TO STA 80+00

CONSTRUCTION NOTES

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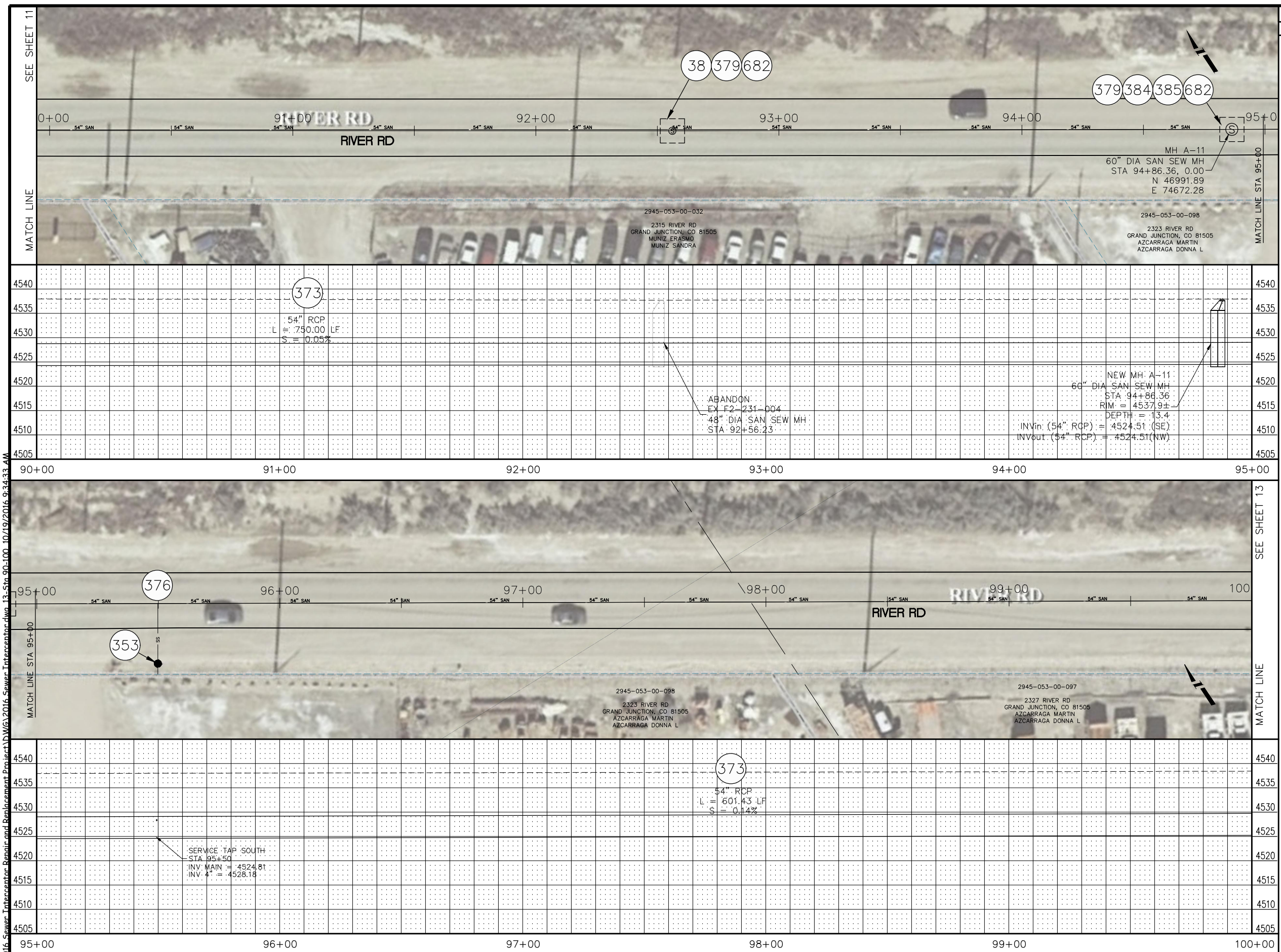
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PUBLIC WORKS
 AND UTILITIES
 ENGINEERING DIVISION

2016 SEWER INTERCEPTOR REPAIR & REPLACEMENTS
 PLAN AND PROFILE
 STA 80+00 TO STA 90+00

CONSTRUCTION NOTES

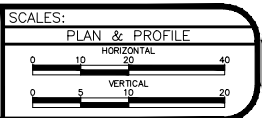
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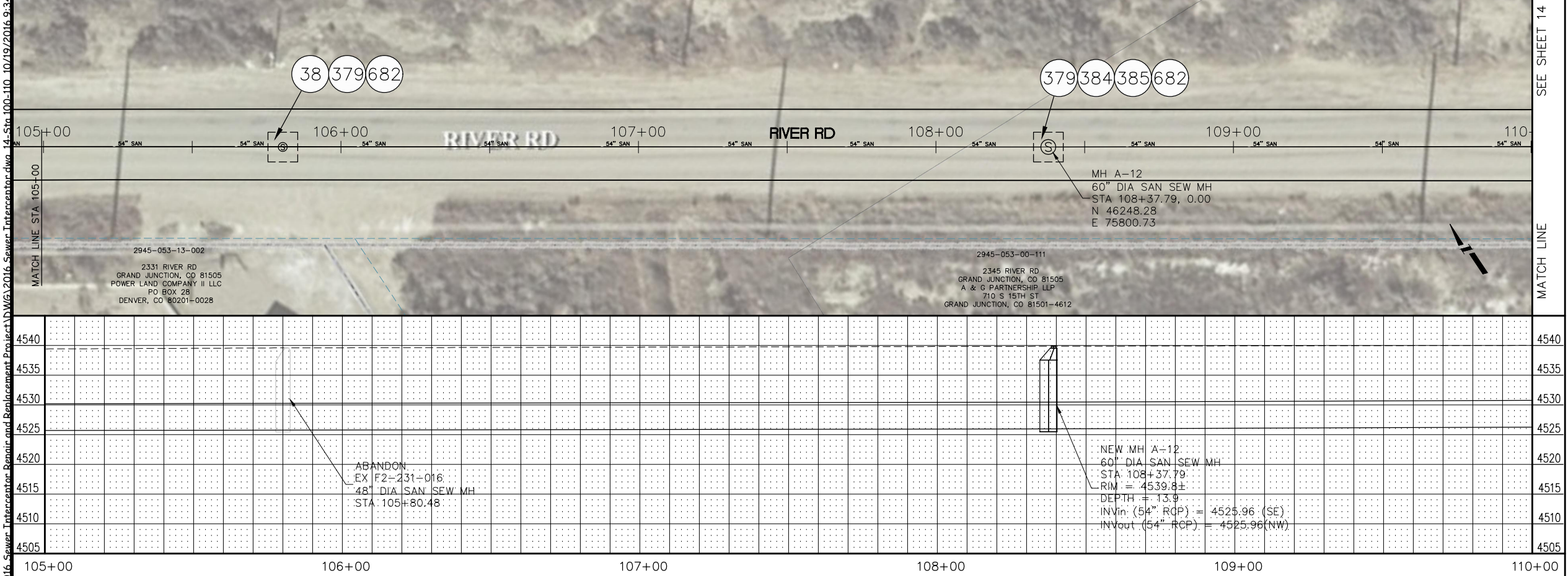
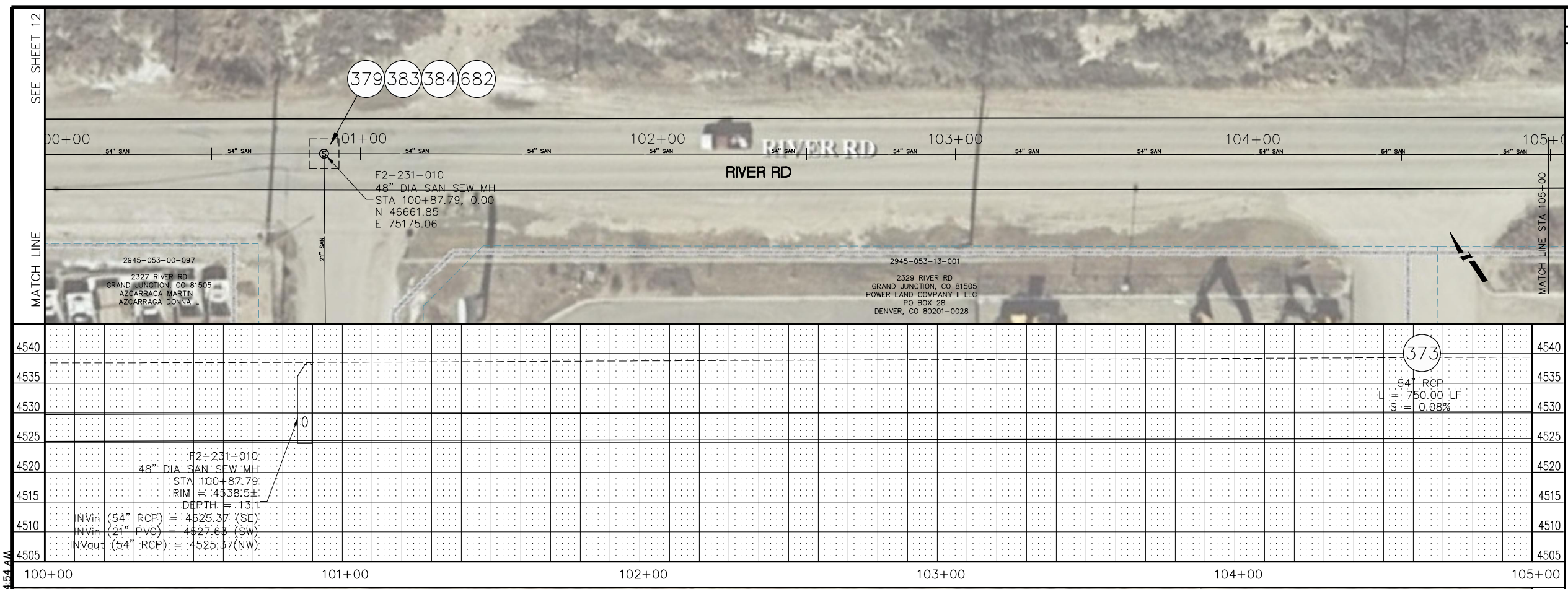


PUBLIC WORKS
 AND UTILITIES
 ENGINEERING DIVISION

2016 SEWER INTERCEPTOR REPAIR & REPLACEMENTS
 PLAN AND PROFILE
 STA 90+00 TO STA 100+00

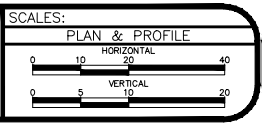
CONSTRUCTION NOTES

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- (573) 102.9/108.2 - CURED IN PLACE PIPE (CIPP) (SIZE AS SHOWN); DESIGNED, SUBMITTED, AND STAMPED BY P.E.; INSTALLED BY CONTRACTOR OR SUBCONTRACTOR MEETING SPECIFICATIONS DEFINED IN CONTRACT DOCUMENTS. SEE SPECIAL PROVISIONS. DESIGN SHALL BE FOR EXISTING PIPE IN FULLY DETERIORATED CONDITION. CONTRACTOR SHALL VERIFY DIA. OF PIPE PRIOR TO DESIGN AND FABRICATION OF LINER.
- (576) REMOVE CIPP COUPON AT SERVICE LOCATION (INCIDENTAL TO CIPP)
- (579) "T" TOP REQUIRED AT ASPHALT PATCH. (SEE CITY STANDARD DETAIL GU-03).
- (583) 102.11/108.5 - SANITARY SEWER MANHOLE (48" I.D.). INCLUDES CONNECTION OF ADJACENT SEWER LINE AND ADJUSTING TO FINAL GRADE. (SEE DETAIL MH-2 ON PLAN SHEET 21).
- (584) 102.11/108.5 MANHOLE COATING PER 102.11. SEE SP-6 FOR ADDITIONAL INFORMATION
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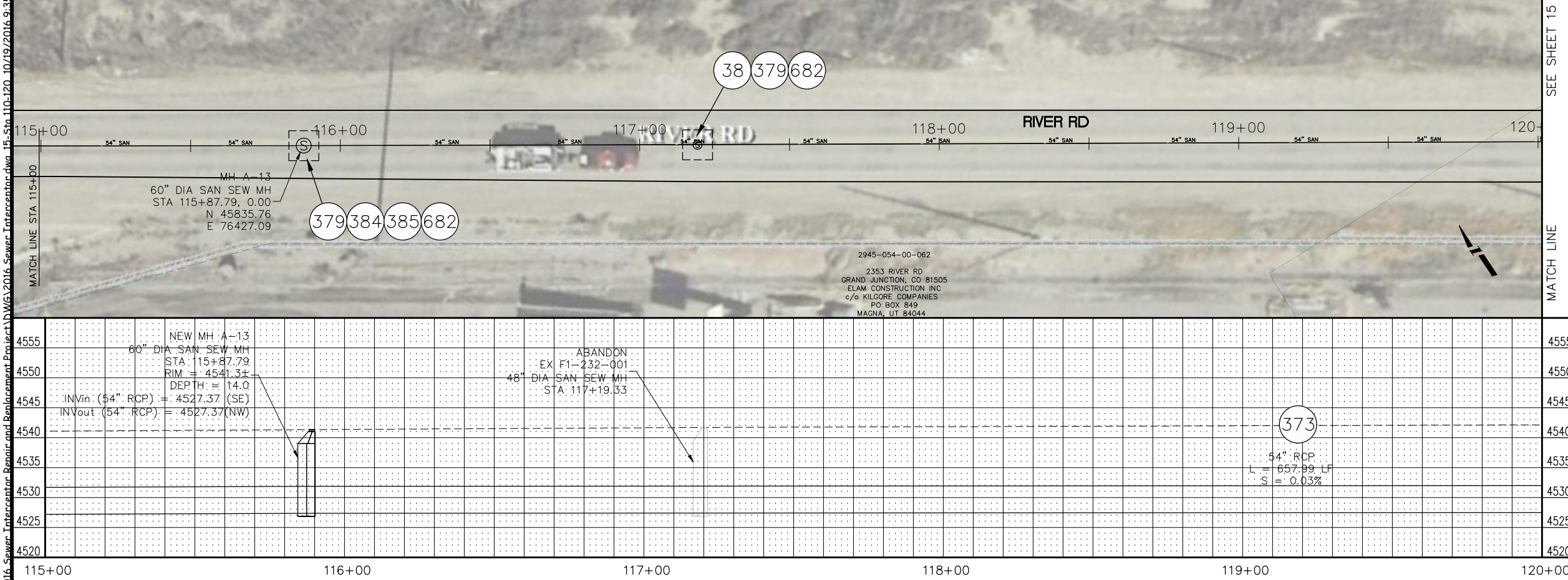
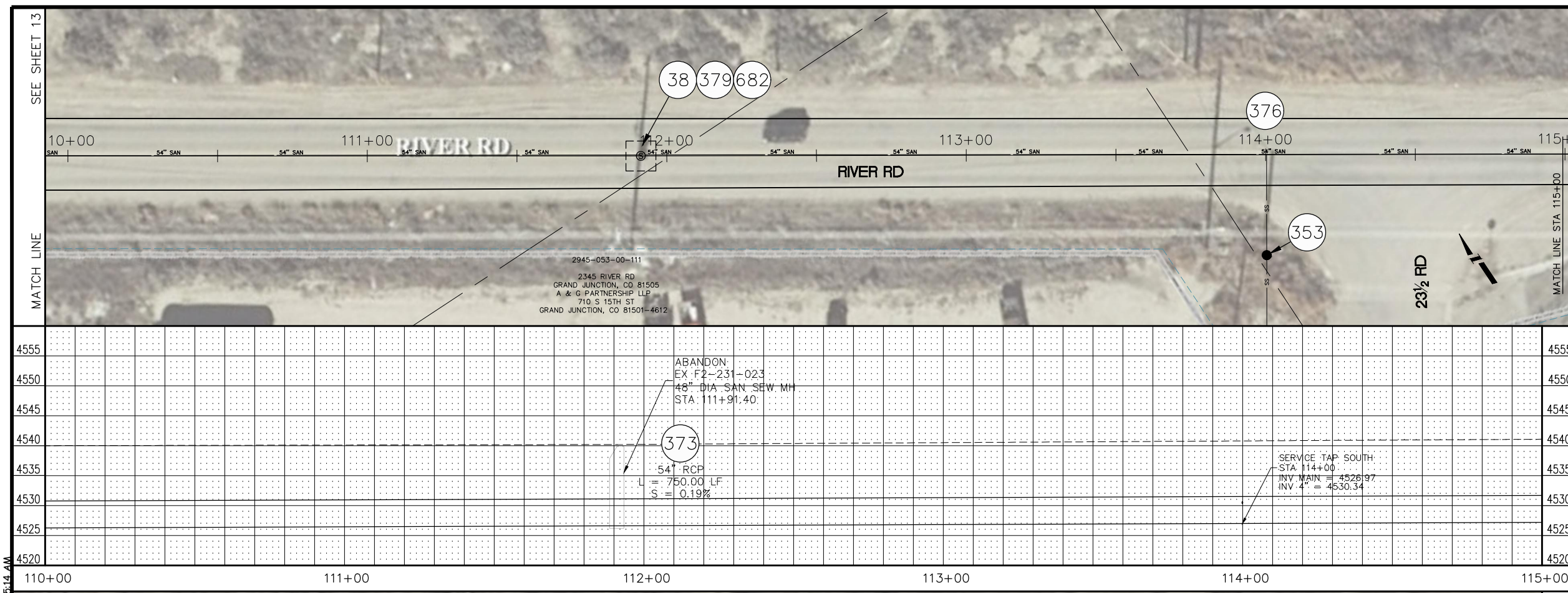


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2016 SEWER INTERCEPTOR REPAIR & REPLACEMENTS
 PLAN AND PROFILE
 STA 100+00 TO STA 110+00

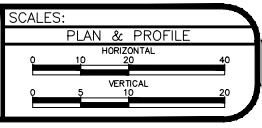
CONSTRUCTION NOTES

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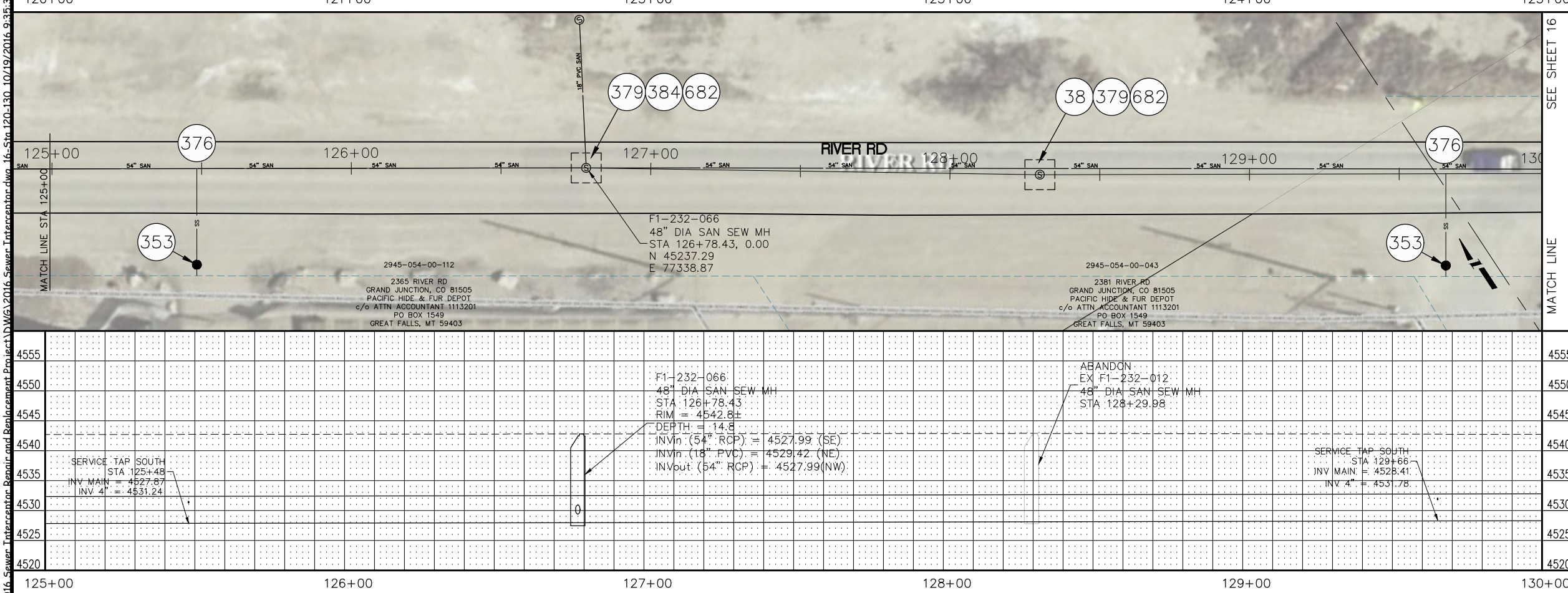
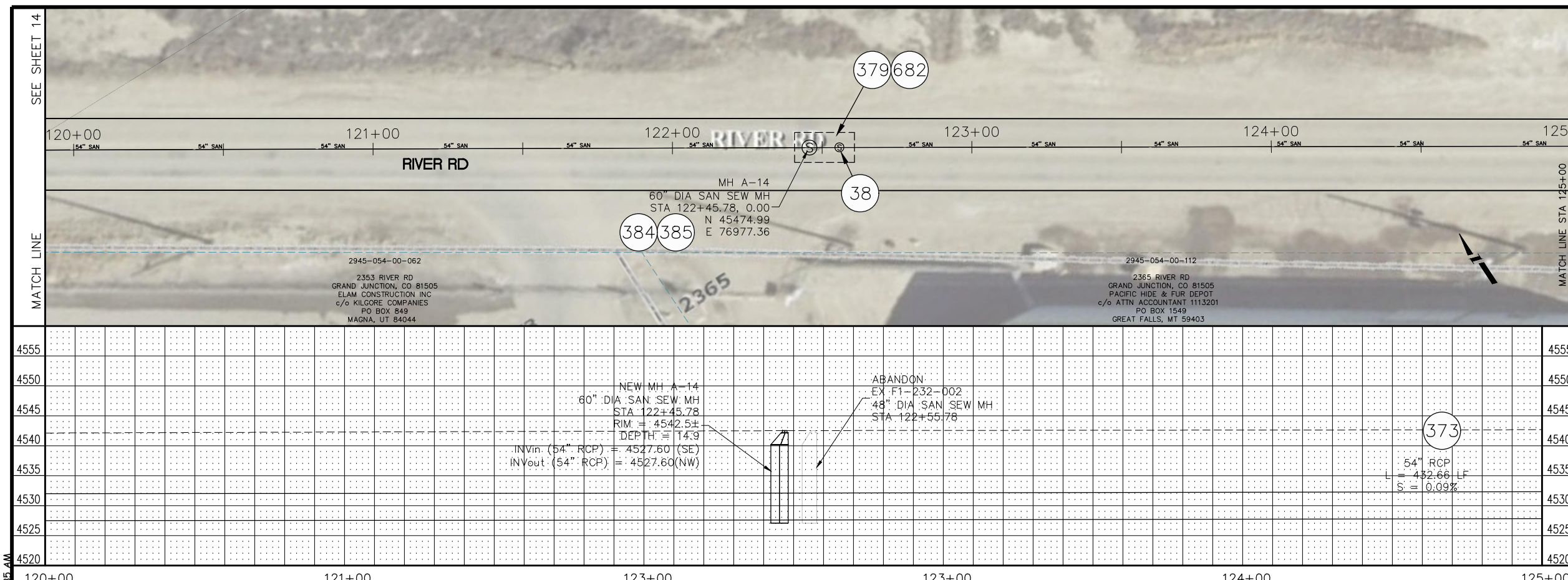


PUBLIC WORKS
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2016 SEWER INTERCEPTOR REPAIR & REPLACEMENTS
PLAN AND PROFILE
STA 110+00 TO STA 120+00

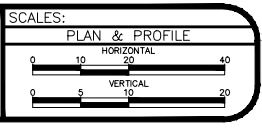
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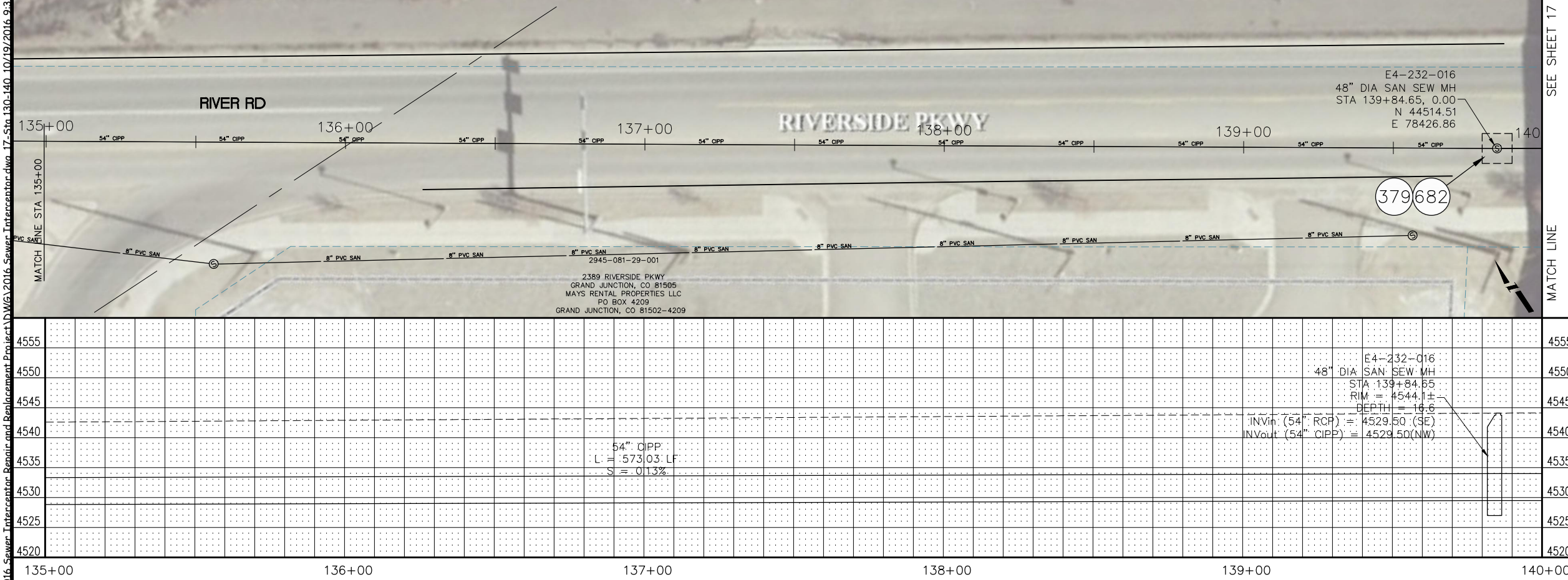
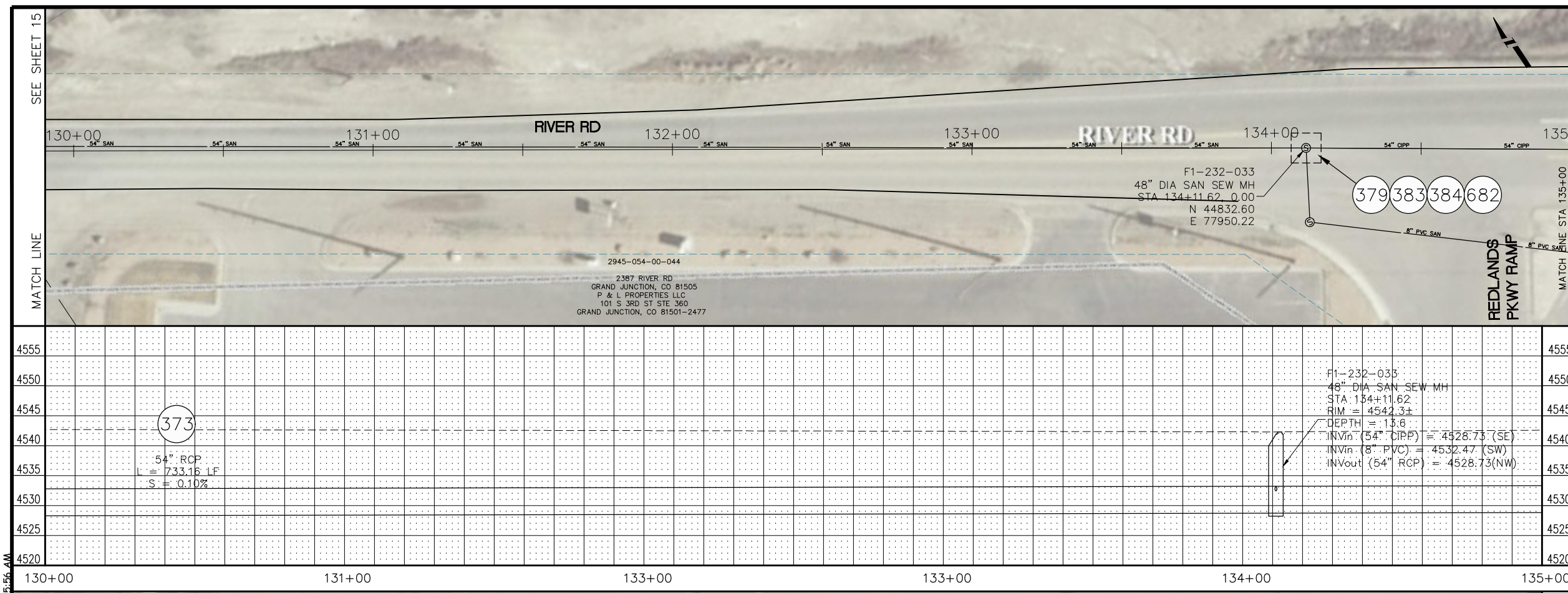


PUBLIC WORKS AND UTILITIES ENGINEERING DIVISION

**2016 SEWER INTERCEPTOR REPAIR & REPLACEMENTS
PLAN AND PROFILE
STA 120+00 TO STA 130+00**

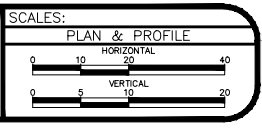
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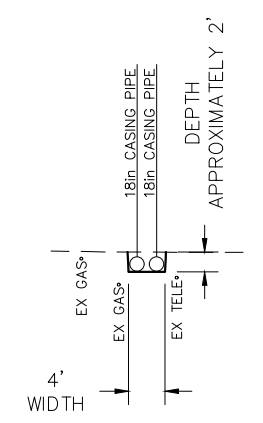
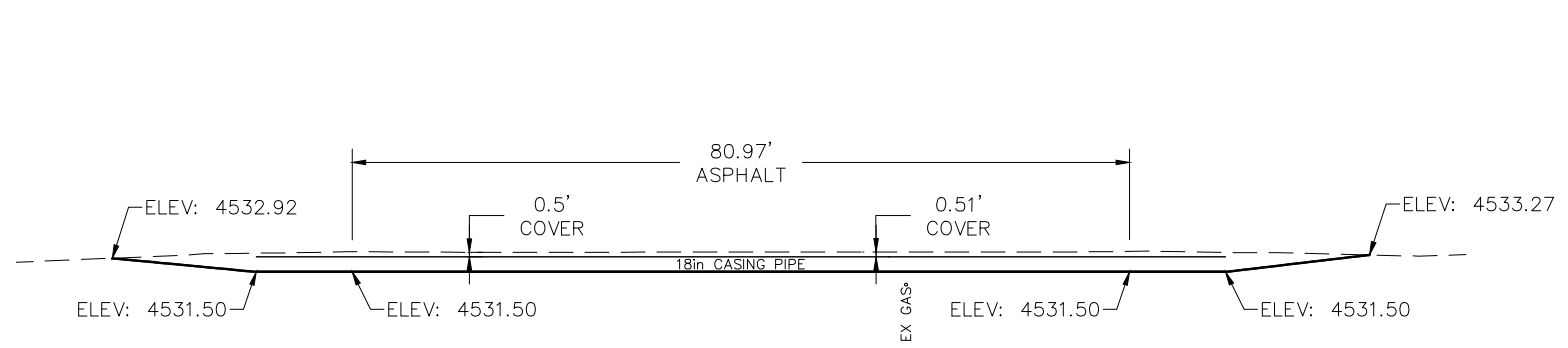
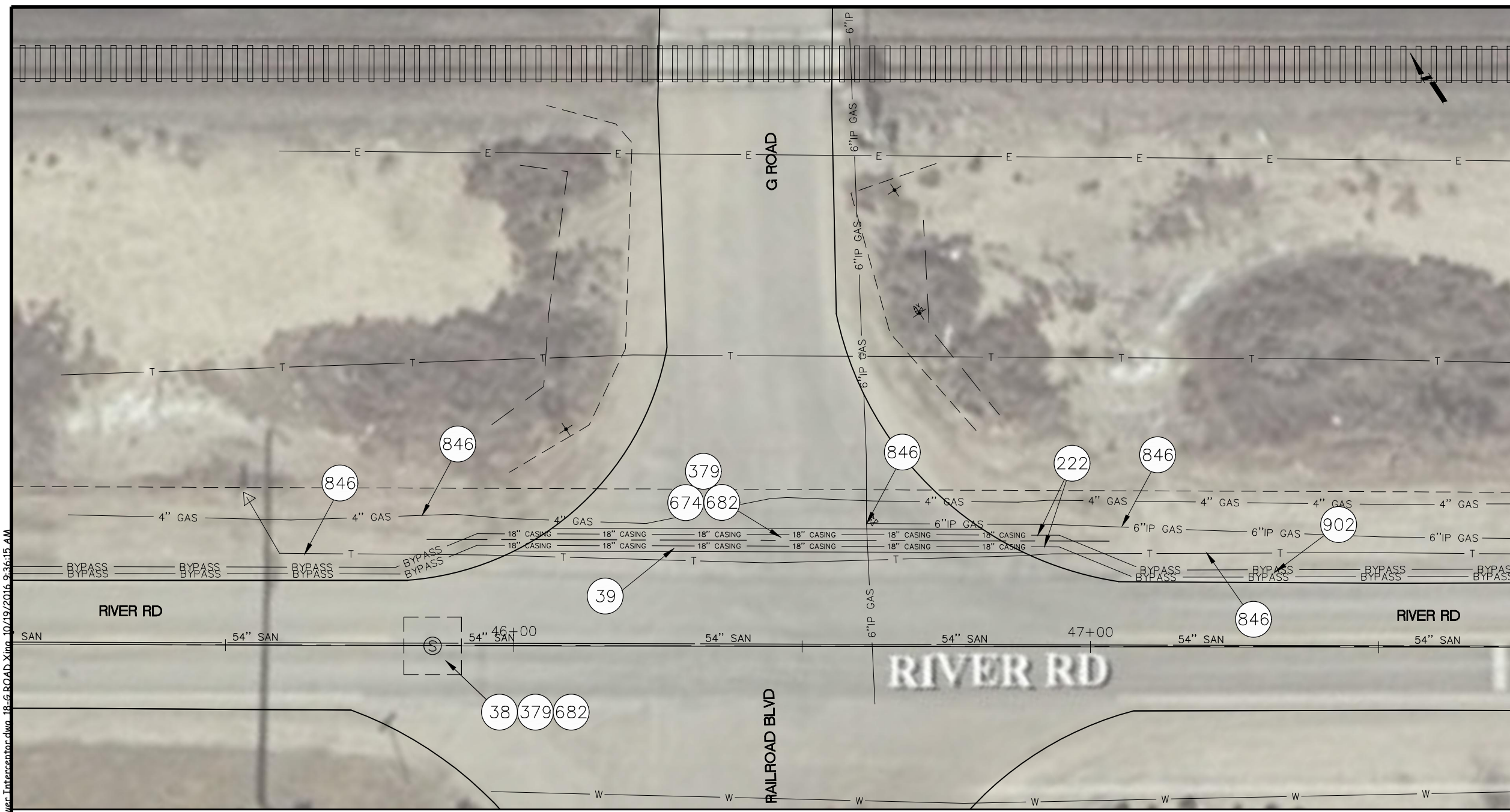


PUBLIC WORKS
AND UTILITIES
ENGINEERING DIVISION

2016 SEWER INTERCEPTOR REPAIR & REPLACEMENTS
PLAN AND PROFILE
STA 130+00 TO STA 140+00

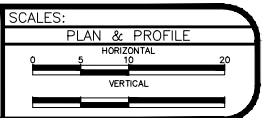
CONSTRUCTION NOTES

- (38) ABANDON MANHOLE. CONTRACTOR SHALL SALVAGE RING AND COVER AND DELIVER TO CITY SHOPS. BACKFILL WITH CELLULAR CONCRETE. SEE SP-1 FOR ADDITIONAL INFORMATION. (SEE DETAIL MH-3 ON PLAN SHEET 21)
- (39) 202 - REMOVE CASING PIPE FOLLOWING BYPASS OPERATIONS.
- (222) 102.10/108.2 - 18" CASING PIPE (STEEL). HOST PIPE FOR TEMPORARY BYPASS OPERATIONS. INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL.
- (579) "T" TOP REQUIRED AT ASPHALT PATCH. (SEE CITY STANDARD DETAIL GU-03).
- (674) 304 - AGGREGATE BASE COURSE (CLASS 3) (THICKNESS VARIES) PAID BY THE TON.
- (682) 401.08 - HOT BITUMINOUS PAVEMENT (PATCHING) (5" THICK) (GRADING SX, BINDER GRADE PG 64-22) (TWO 2 1/2" LIFTS) TO INCLUDE 12" OF CLASS 6 AGGREGATE BASE COURSE.
- (846) POTHOLE EXISTING UTILITY AHEAD OF CONSTRUCTION. COORDINATE ANY NEEDED DESIGN CHANGES WITH PROJECT ENGINEER SO AS TO AVOID UTILITY CONFLICTS.
- (902) 269A UU/108.2 - BYPASS PUMPING OPERATIONS AT RIVER ROAD AND G ROAD. BYPASS CONFIGURATION SHALL ALLOW CONTINUOUS TRAFFIC USAGE. CONTRACTOR SHALL VERIFY FLOW RATES.



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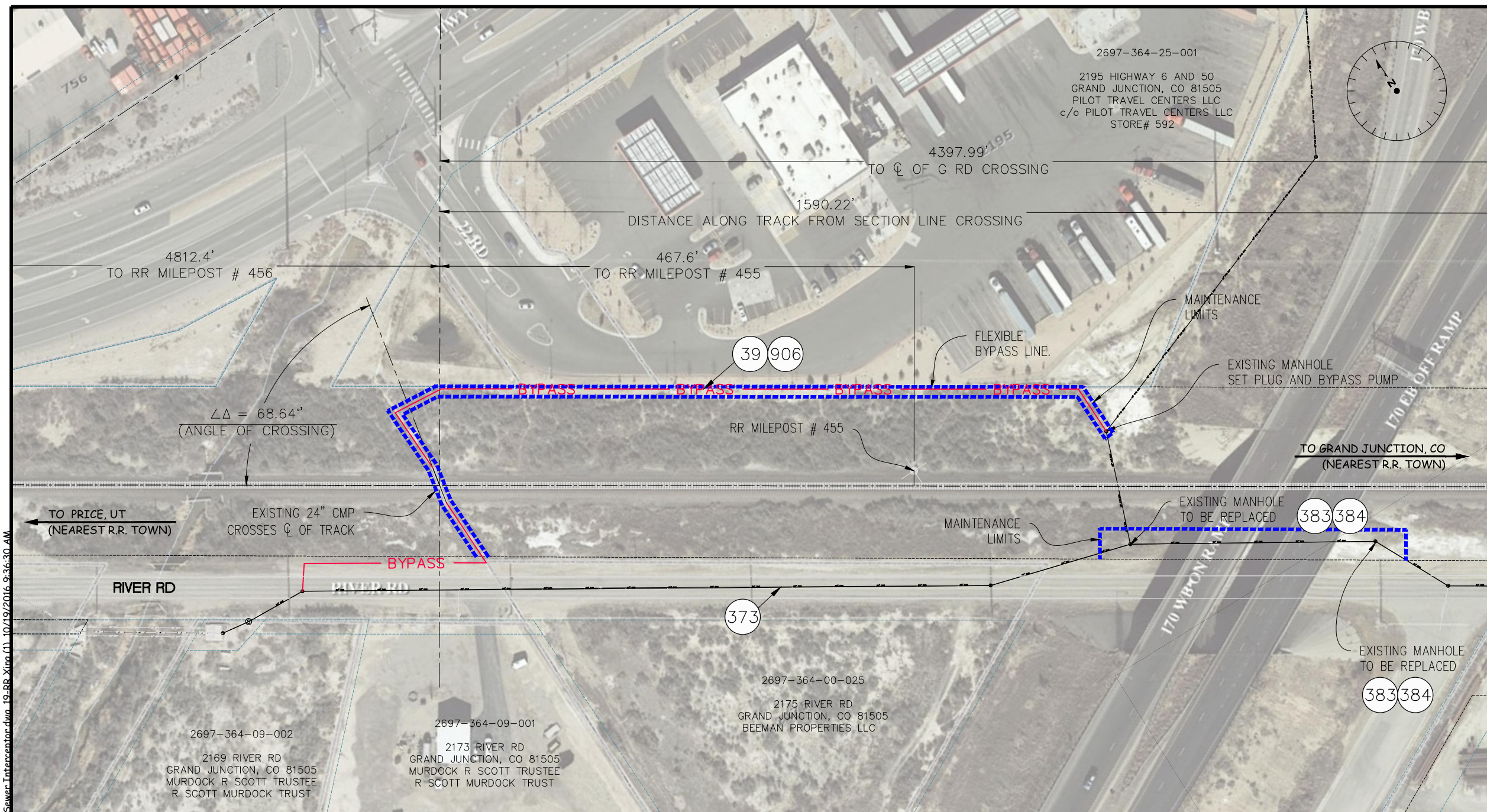
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DESIGNED BY	JKT	DATE	2016
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APPROVED BY		DATE	



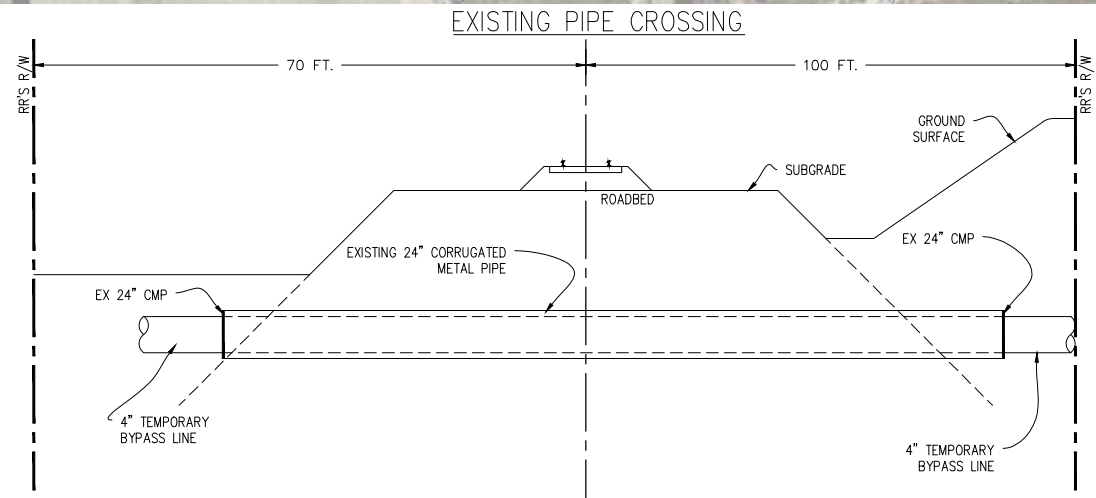
**PUBLIC WORKS
AND UTILITIES
ENGINEERING DIVISION**

**2016 SEWER INTERCEPTOR REPAIR & REPLACEMENTS
G ROAD BYPASS CROSSING**

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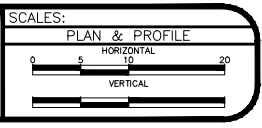
- 39 202 - REMOVE BYPASS PIPE FOLLOWING BYPASS OPERATIONS.
- 373 102.9/108.2 - CURED IN PLACE PIPE (CIPP) (SIZE AS SHOWN); DESIGNED, SUBMITTED, AND STAMPED BY P.E.; INSTALLED BY CONTRACTOR OR SUBCONTRACTOR MEETING SPECIFICATIONS DEFINED IN CONTRACT DOCUMENTS. SEE SPECIAL PROVISIONS. DESIGN SHALL BE FOR EXISTING PIPE IN FULLY DETERIORATED CONDITION. CONTRACTOR SHALL VERIFY DIA. OF PIPE PRIOR TO DESIGN AND FABRICATION OF LINER.
- 383 102.11/108.5 - SANITARY SEWER MANHOLE (48" I.D.). INCLUDES CONNECTION OF ADJACENT SEWER LINE AND ADJUSTING TO FINAL GRADE. (SEE DETAIL MH-2 ON PLAN SHEET 21).
- 384 102.11/108.5 MANHOLE COATING PER 102.11. SEE SP-6 FOR ADDITIONAL INFORMATION
- 906 269A UU/108.2 - BYPASS PUMPING OPERATIONS AT RIVER ROAD. BYPASS CONFIGURATION SHALL ALLOW CONTINUOUS TRAFFIC/UPRR USAGE. CONTRACTOR SHALL VERIFY FLOW RATES.



• ALL WORK PERFORMED WITHIN UPRR RIGHT OF WAY SHALL BE IN ACCORDANCE WITH THE UPRR MAINTENANCE AGREEMENT

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DRAWN BY HMC DATE 2016
 DESIGNED BY JKT DATE 2016
 CHECKED BY DATE
 APPROVED BY DATE



PUBLIC WORKS AND UTILITIES
 ENGINEERING DIVISION

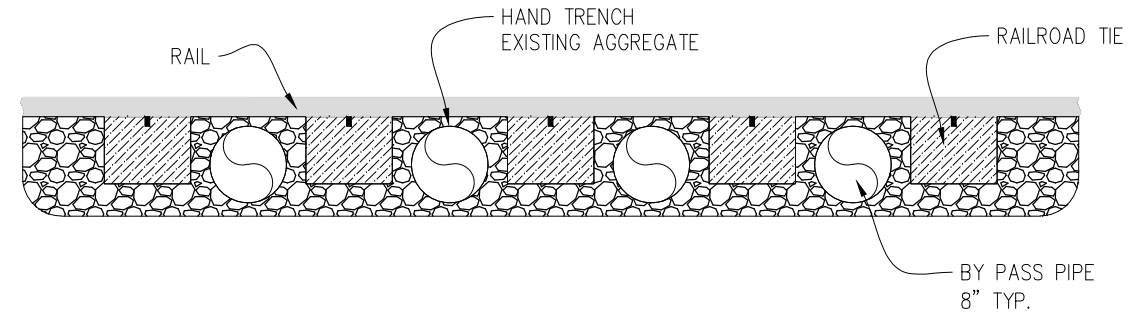
2016 SEWER INTERCEPTOR REPAIR & REPLACEMENTS
 STA 0+88 TO STA 12+36
 BYPASS PLAN

CONSTRUCTION NOTES

- 38 ABANDON MANHOLE. CONTRACTOR SHALL SALVAGE RING AND COVER AND DELIVER TO CITY SHOPS. BACKFILL WITH CELLULAR CONCRETE. SEE SP-1 FOR ADDITIONAL INFORMATION. (SEE DETAIL MH-3 ON PLAN SHEET 21)
- 39 202 - REMOVE BYPASS PIPE FOLLOWING BYPASS OPERATIONS.
- 573 102.9/108.2 - CURED IN PLACE PIPE (CIPP) (SIZE AS SHOWN); DESIGNED, SUBMITTED, AND STAMPED BY P.E.; INSTALLED BY CONTRACTOR OR SUBCONTRACTOR MEETING SPECIFICATIONS DEFINED IN CONTRACT DOCUMENTS. SEE SPECIAL PROVISIONS. DESIGN SHALL BE FOR EXISTING PIPE IN FULLY DETERIORATED CONDITION. CONTRACTOR SHALL VERIFY DIA. OF PIPE PRIOR TO DESIGN AND FABRICATION OF LINER.
- 379 "T" TOP REQUIRED AT ASPHALT PATCH. (SEE CITY STANDARD DETAIL GU-03).
- 682 401.08 - HOT BITUMINOUS PAVEMENT (PATCHING) (5" THICK) (GRADING SX, BINDER GRADE PG 64-22) (TWO 2 1/2" LIFTS).
- 903 269A UU/108.2 - BYPASS PUMPING OPERATIONS AT RIVER ROAD AND THE RAILHEAD SPUR. BYPASS CONFIGURATION SHALL ALLOW CONTINUOUS TRAFFIC/UPRR USAGE. CONTRACTOR SHALL VERIFY FLOW RATES.
- 904 CONTRACTOR SHALL HAND TRENCH AGGREGATE BETWEEN RAILROAD TIES FOR PLACEMENT OF BYPASS PIPE.



• ALL WORK PERFORMED WITHIN UPRR RIGHT OF WAY SHALL BE IN ACCORDANCE WITH THE UPRR UTILITY ENCROACHMENT PERMIT



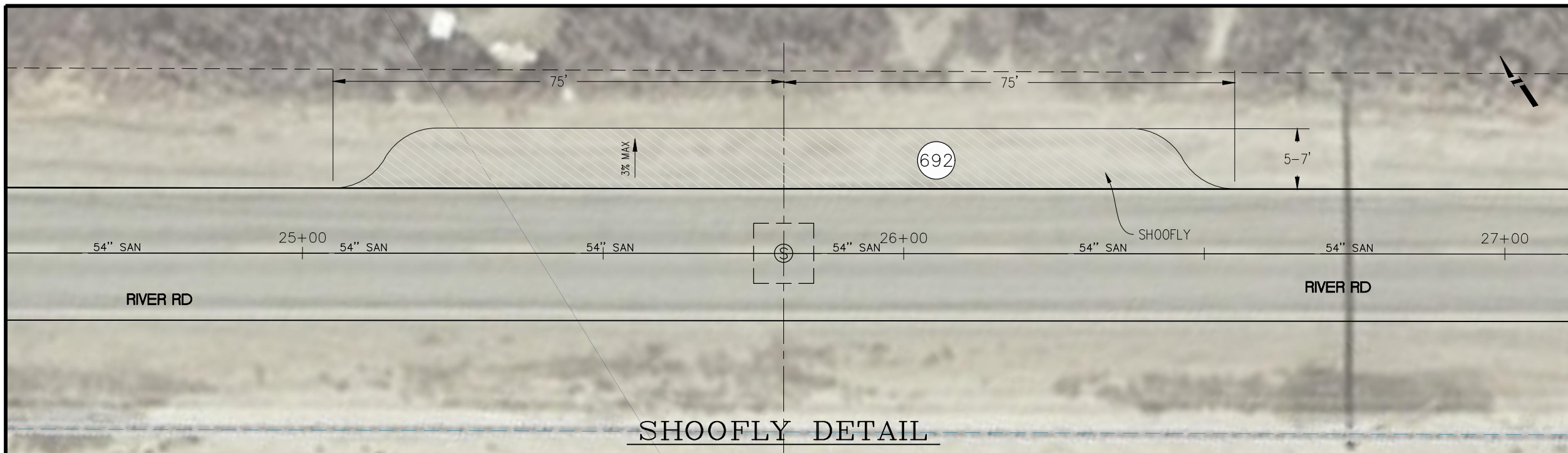
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REVISION			CHECKED BY		DATE		HORIZONTAL 1" = 20'
REVISION			APPROVED BY		DATE		VERTICAL 1" = 10'



PUBLIC WORKS AND UTILITIES ENGINEERING DIVISION

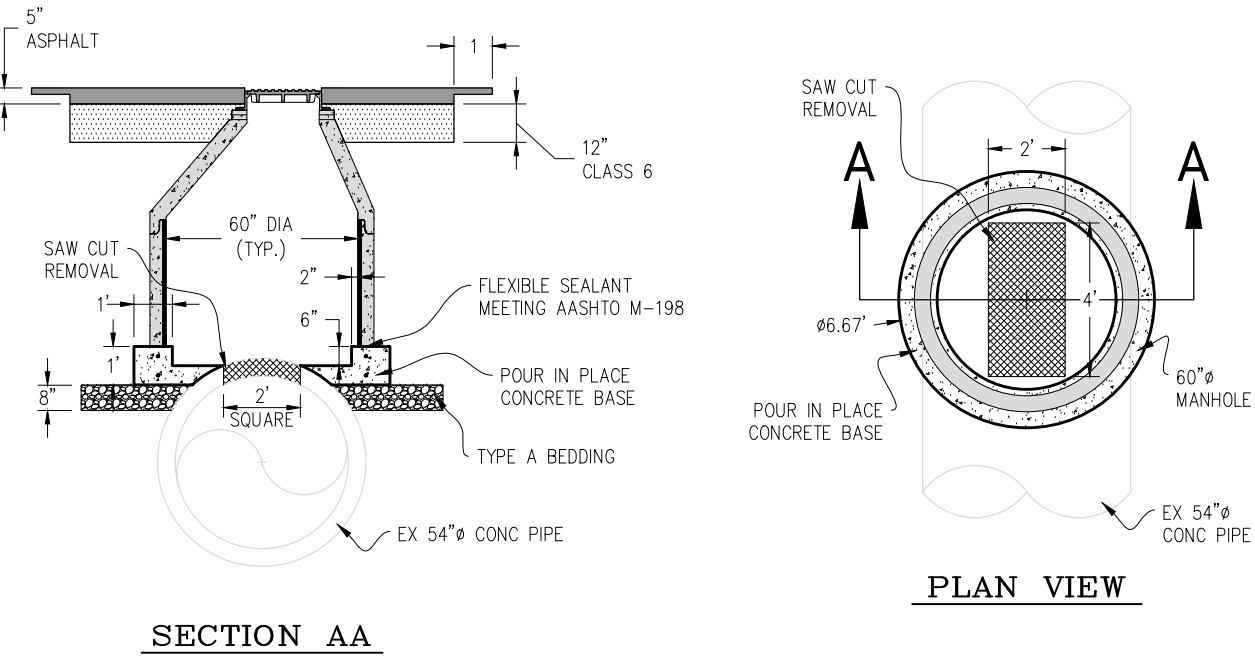
2016 SEWER INTERCEPTOR REPAIR & REPLACEMENTS RAILHEAD SPUR BYPASS CROSSING

692 ASPHALT MILLINGS. SEE SP-2 FOR DETAILS (12" THICK)
(CITY SUPPLIED)

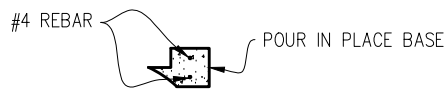


SHOOFLY DETAIL

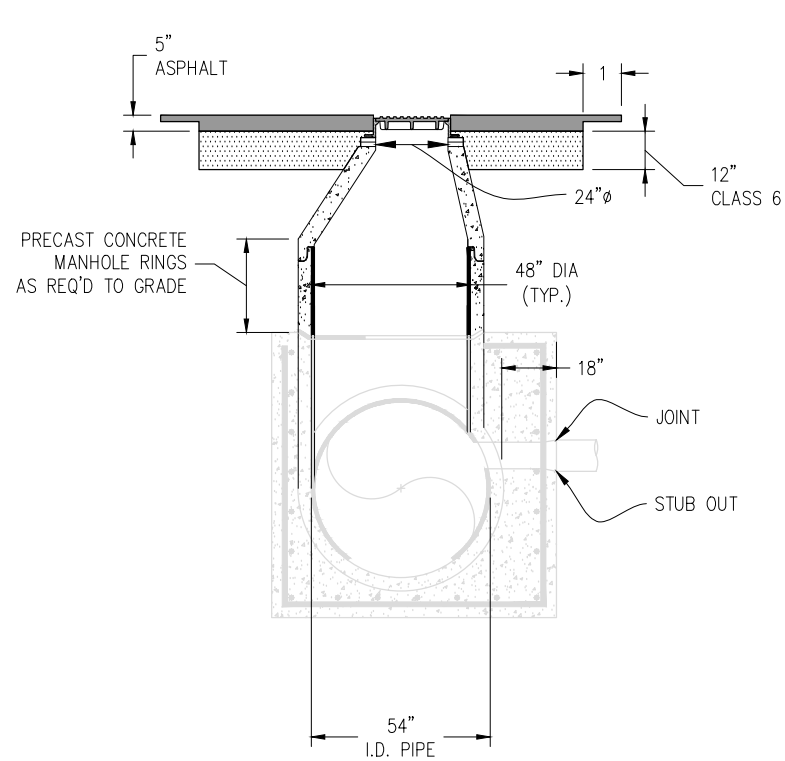
NEW MANHOLE
MH-1



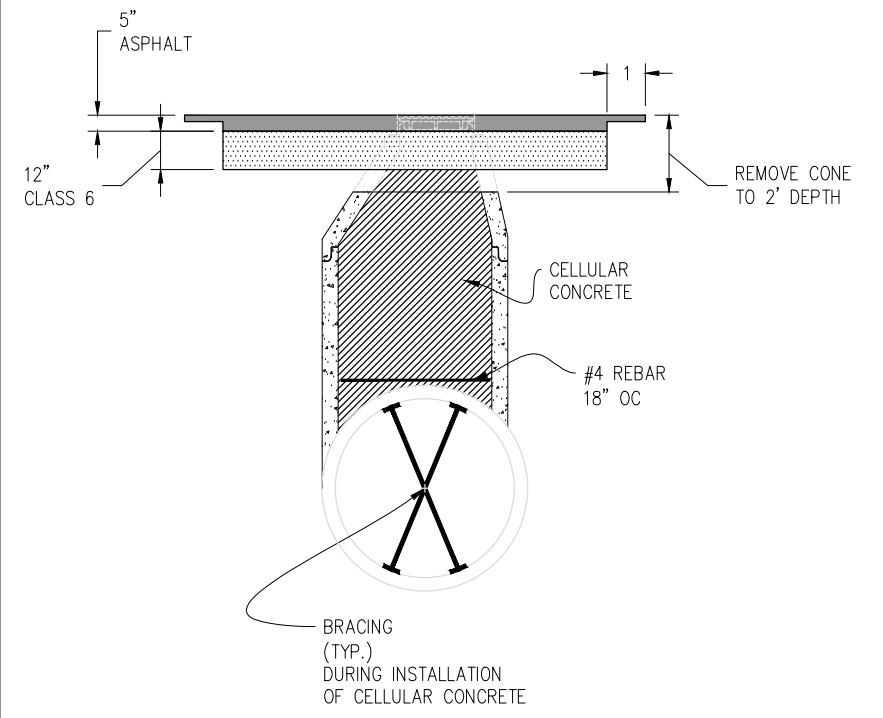
REBAR DETAIL



MANHOLE REPLACEMENT
AT EXISTING MANHOLE LOCATION
MH-2



ABANDONED
MANHOLE DETAIL
MH-3



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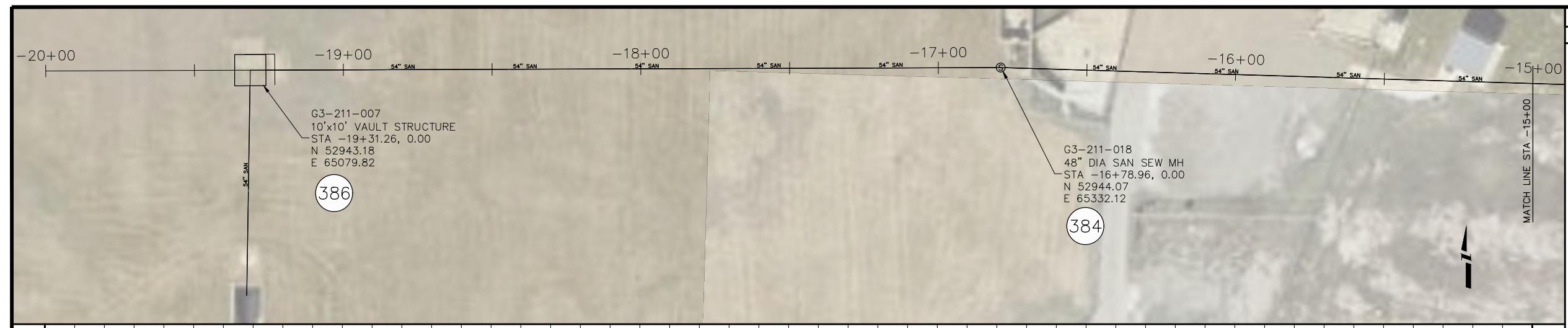
REVISION	DESCRIPTION	DATE	DRAWN BY	HMC	DATE	2016	SCALES:
REVISION			DESIGNED BY	JKT	DATE	2016	PLAN & PROFILE
REVISION			CHECKED BY		DATE		HORIZONTAL 1" = 20'
REVISION			APPROVED BY		DATE		VERTICAL 1" = 4'



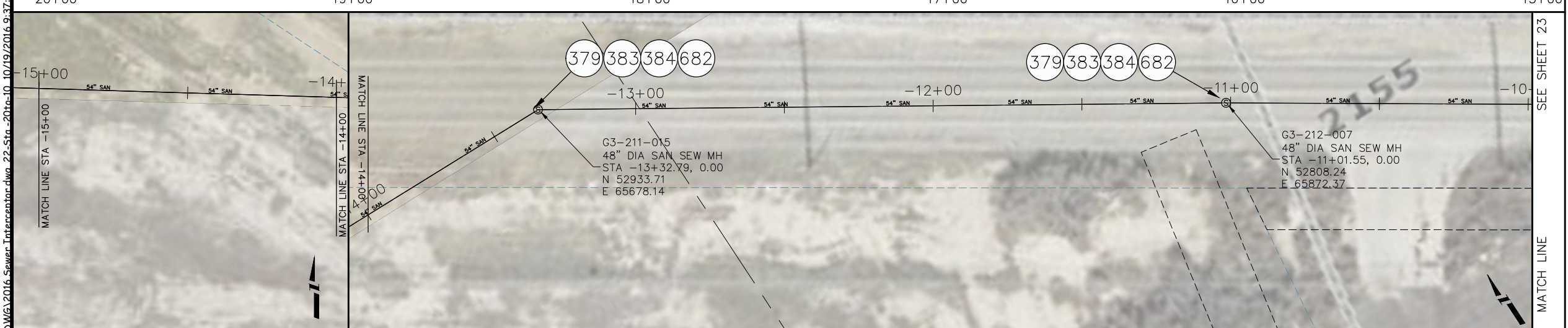
PUBLIC WORKS
AND UTILITIES
ENGINEERING DIVISION

CONSTRUCTION NOTES

- 379 "T" TOP REQUIRED AT ASPHALT PATCH. (SEE CITY STANDARD DETAIL GU-03).
- 383 102.11/108.5 - SANITARY SEWER MANHOLE (48" I.D.). INCLUDES CONNECTION OF ADJACENT SEWER LINE AND ADJUSTING TO FINAL GRADE. (SEE DETAIL MH-2 ON PLAN SHEET 21).
- 386 102.11/108.5 CONCRETE VAULT COATING PER 102.11.
- 682 401.08 - HOT BITUMINOUS PAVEMENT (PATCHING) (5" THICK) (GRADING SX, BINDER GRADE PG 64-22) (TWO 2 1/2" LIFTS) TO INCLUDE 12" OF CLASS 6 AGGREGATE BASE COURSE.



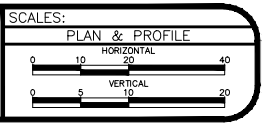
4535	G3-211-007 SAN SEW STRUCTURE STA -19+31.26 RIM = 4519.6± DEPTH = 9.1 INVIn (54" CIPP) = 4510.47 (E) INVout (54" CIPP) = 4510.47 (S)	G3-211-018 48" DIA SAN SEW MH STA -16+78.96 RIM = 4520.6± DEPTH = 9.5 INVIn (54" CIPP) = 4511.10 (E) INVout (54" CIPP) = 4511.10 (W)	4535
4530			4530
4525			4525
4520	54" CIPP L = 252.30 LF S = 0.25%		4520
4515			4515
4510			4510
4505			4505
4500			4500



4545	G3-211-015 48" DIA SAN SEW MH STA -13+32.79 RIM = 4522.5± DEPTH = 10.5 INVIn (54" CIPP) = 4511.97 (SE) INVout (54" CIPP) = 4511.97 (W)	G3-212-007 48" DIA SAN SEW MH STA -11+01.55 RIM = 4522.9± DEPTH = 10.8 INVIn (54" CIPP) = 4512.05 (SE) INVout (54" CIPP) = 4512.05 (NW)	4545
4540			4540
4535			4535
4530	54" CIPP L = 346.17 LF S = 0.25%	54" CIPP L = 231.23 LF S = 0.03%	4530
4525			4525
4520			4520
4515			4515
4510			4510

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DESIGNED BY	JKT	DATE	2016
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APPROVED BY		DATE	



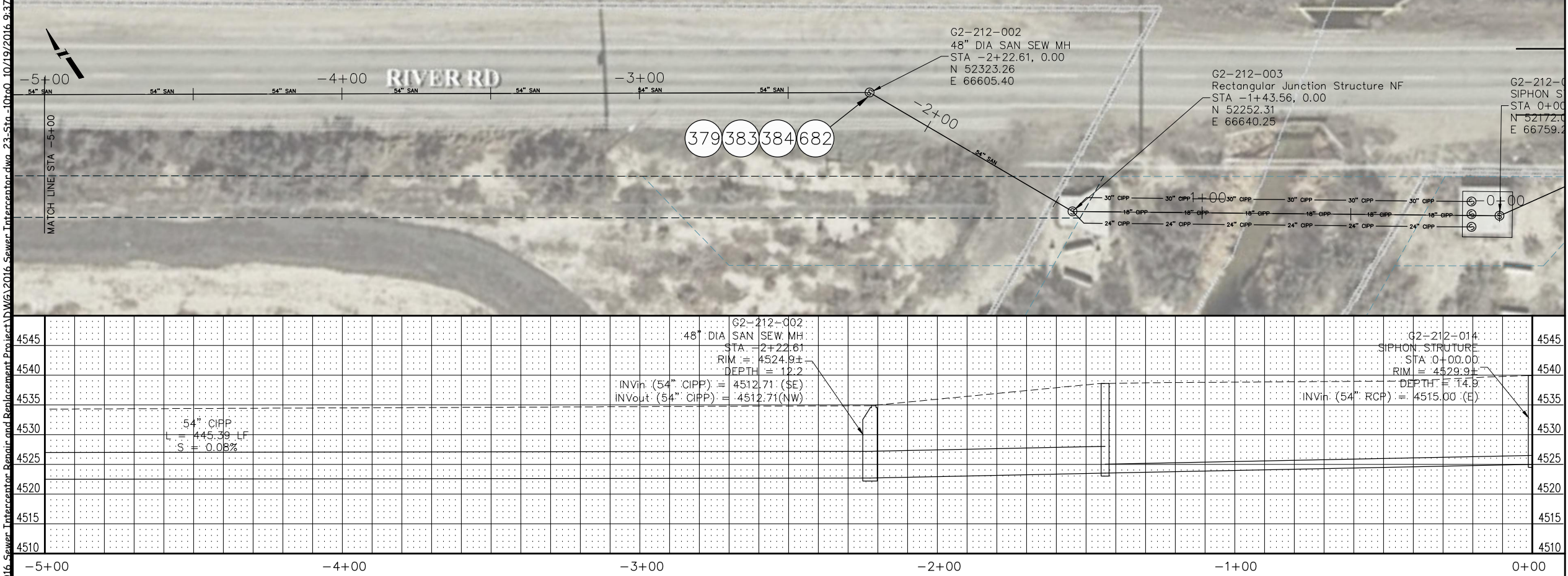
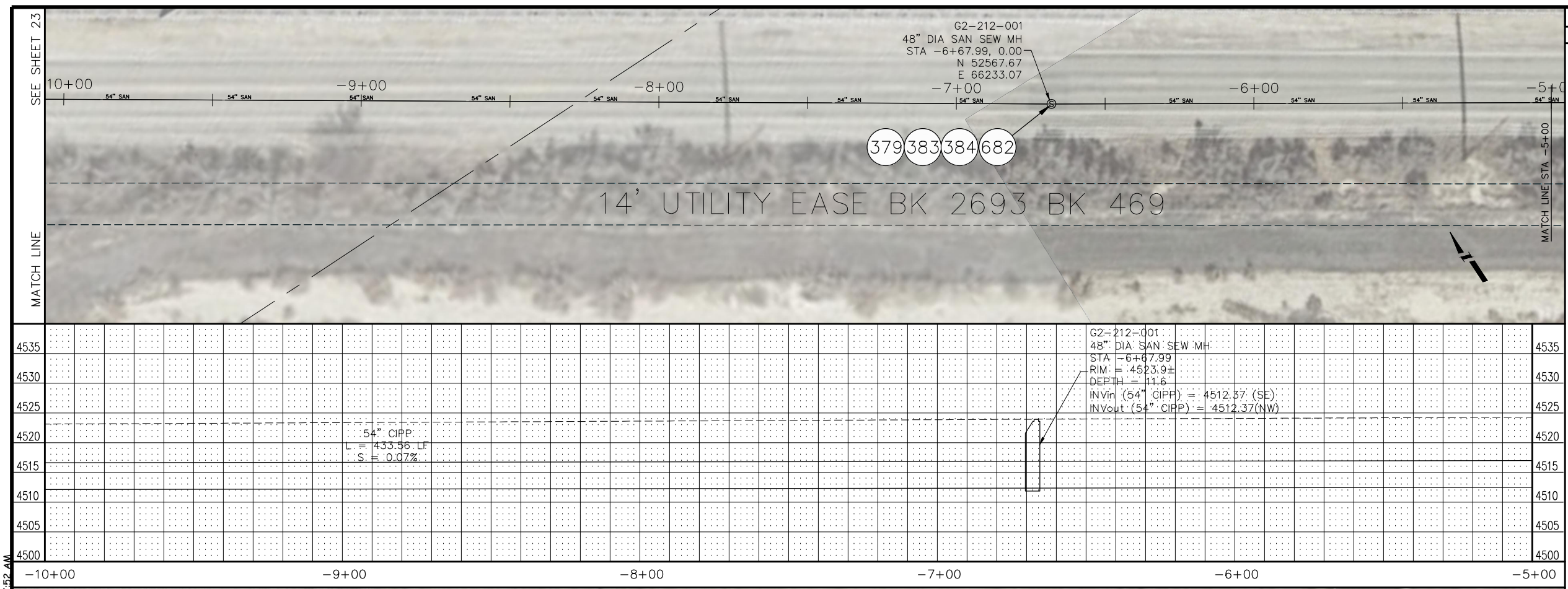
**PUBLIC WORKS
AND UTILITIES
ENGINEERING DIVISION**

**2016 SEWER INTERCEPTOR REPAIR & REPLACEMENTS
VAULT & MANHOLE REHAB ONLY PLAN AND PROFILE
STA -20+00 TO STA -10+00**

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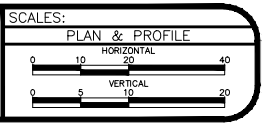
CONSTRUCTION NOTES

- 379 "T" TOP REQUIRED AT ASPHALT PATCH. (SEE CITY STANDARD DETAIL GU-03).
- 383 102.11/108.5 - SANITARY SEWER MANHOLE (48" I.D.). INCLUDES CONNECTION OF ADJACENT SEWER LINE AND ADJUSTING TO FINAL GRADE. (SEE DETAIL MH-2 ON PLAN SHEET 21).
- 384 102.11/108.5 MANHOLE COATING PER 102.11. SEE SP-6 FOR ADDITIONAL INFORMATION
- 682 401.08 - HOT BITUMINOUS PAVEMENT (PATCHING) (5" THICK) (GRADING SX, BINDER GRADE PG 64-22) (TWO 2 1/2" LIFTS) TO INCLUDE 12" OF CLASS 6 AGGREGATE BASE COURSE.



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DRAWN BY HMC DATE 2016
 DESIGNED BY JKT DATE 2016
 CHECKED BY DATE
 APPROVED BY DATE



PUBLIC WORKS
AND UTILITIES
ENGINEERING DIVISION

2016 SEWER INTERCEPTOR REPAIR & REPLACEMENTS
VAULT & MANHOLE REHAB ONLY PLAN AND PROFILE
STA -10+00 TO STA 0+00