

CLARK COUNTY
WATER RECLAMATION DISTRICT

INVITATION TO BID

BID NO. 839-09

CCTV CAMERA TRUCKS

FURNISH & DELIVER THE PROCUREMENT OF TWO (2) MODEL YEAR 2010 OR CURRENT PRODUCTION MODEL YEAR CCTV CAMERA TRUCKS WITH THE OPTION TO PROCURE ADDITIONAL VEHICLES FROM DATE OF AWARD THROUGH THE AVAILABILITY OF THE CURRENT PRODUCTION MODEL YEAR.

A Pre-bid Conference will be held at **1:00 p.m. (p.s.t.)** on **September 10, 2009** at 5857 East Flamingo Road, Conference Room “106/107”, Las Vegas, Nevada 89122. The purpose of the Pre-bid Conference is to review the bid document and respond to pertinent questions regarding the Invitation to Bid.

Bids will be received at the Security Desk located at the main entrance of the District’s Administration Building, 5857 East Flamingo Road, Conference Room “106/107”, Las Vegas, Nevada 89122 on, or before **September 24, 2009**. Bids submitted must be time-stamped upon receipt no later than **2:00 p.m. (p.s.t.)** on the bid opening date. Bids time-stamped at 2:00 p.m. or after will be returned unopened to the Bidder. Bids may not be withdrawn after the closing time.

Invitation to Bid packages are available on the District’s website, www.cleanwaterteam.com/bid or by contacting the CCWRD Purchasing and Contracts Department, Gail Karafa at 702-668-8090.

The District desires that Minority Business Enterprises (MBE) and Women Business Enterprises (WBE) have a maximum opportunity to participate in the performance of District projects. MBE and WBE firms are encouraged to bid on District projects.

PUBLISHED: September 4, 2009
Las Vegas Review-Journal

SPECIAL NOTE TO ALL RECIPIENTS OF THIS INVITATION

You have received this Invitation to Bid because you are listed on our mailing list for this item.

If you do not respond it may cause for your firm to be removed from the mailing list for this requirement.

GENERAL PROVISIONS

BID NO. 839-09

1. INTENT OF INVITATION

In accordance with the terms and conditions provided in this bid document, it is the intent of this formal Invitation to Bid to receive bids from qualified Bidders for the items specified in this document.

2. DEFINITIONS

The term “Owner” as used throughout this document will mean the Clark County Water Reclamation District, Las Vegas, Nevada.

The term “BOT” as used throughout this document will mean the Board of Trustees, which is the Governing Body of the Clark County Water Reclamation District.

The term “Purchasing” as used throughout this document will mean the Clark County Water Reclamation District, Purchasing and Contracts Department.

3. REQUEST FOR INFORMATION

Any requests for **procedural** clarification or additional information regarding the submission of this Invitation to Bid shall be directed to:

Gail Karafa
Purchasing and Contracts
Clark County Water Reclamation District
5857 East Flamingo Road
Las Vegas, Nevada 89122
Phone No. 702-668-8093
Fax No. 702-668-9090

4. CONTACT WITH OWNER DURING BIDDING PROCESS

Communication between a Bidder and a member of the BOT, or between a Bidder and a non-designated Owner contact, regarding this bid is prohibited from the time the bid is advertised until the time it is posted on an agenda for award of the contract. Questions pertaining to this Invitation to Bid shall be addressed to the designated contact(s) specified above. Failure of a Bidder, or any of its representatives, to comply with this paragraph may result in its bid being rejected and/or considered for award by the BOT.

5. FEDERAL, STATE, LOCAL LAWS

All Bidders will comply with all Federal, State and local laws relative to conducting business in Clark County. The laws of the State of Nevada will govern as to the interpretation, validity, and effect of this bid, its award, and any contract entered into.

6. TAXES

The Owner is a political subdivision of the State of Nevada and under the provisions of Nevada Revised Statute (NRS) 372.325 is exempt from the payment of Sales and Use Tax (Employee Identification Number 88-600-1074). A copy of the tax exempt letter is available by calling our Purchasing and Contracts Department at (702) 434-6611. The price(s) bid must be net, exclusive of these taxes.

7. COLLECTION AND PAYMENT OF SALES TAX

All Bidders are required to possess a sales tax permit and shall collect and pay the taxes defines in NRS Chapters 372 and 374 if they sell tangible personal property in the State of Nevada. Permit application requirements are defined in NRS Chapter(s) 372.123.372.125 and 274.130. Permit information can be obtained by contacting the Nevada State Department of Taxation at (702) 486-2300.

8. EMPLOYMENT OF UNAUTHORIZED ALIENS

In accordance with the Immigration Reform and Control Act of 1986, the successful Bidder agrees that it will not employ unauthorized aliens in the performance of this contract.

9. INCONSISTENCIES IN CONDITIONS

In the event there are inconsistencies between the General Provisions and other bid terms or conditions contained herein, the former will take precedence.

10. ORDER OF PRECEDENCE

In the event of any inconsistency or conflict between or among the provisions of this contract, such inconsistency or conflict shall be resolved by the following descending order of preference:

- Order-specific provisions which are typed or handwritten on the Purchase Order as additions to the pre-printed terms;
- Documents incorporated by reference on the face page(s) of the Purchase Order;
- These terms and conditions of Purchase, supplements, exhibits, tables and appendixes attached thereto;
- Scope of Services; and
- Specifications attached hereto or incorporated by reference.

In cases of ambiguity in the specifications/scope of services required herein, exhibits, appendixes or other documents included and incorporated under this contract, the successful Bidder must, before proceeding, consult the Owner, whose written interpretation shall be final.

11. INDEMNITY

The successful Bidder agrees, by entering into this contract, regardless of the coverage provided by any insurance policy, to pay all costs necessary to indemnify, defend, and hold Owner harmless from any and all claims, demands, actions, attorney's fees, costs, and expenses based upon or arising out of any acts, errors, omissions, fault or negligence of the successful Bidder or its principals, employees, subcontractors or other agents while performing services under this contract. The successful Bidder shall indemnify, defend, and hold harmless the Owner for any attorney's fees or other costs of defense, even if the allegations of the claim are groundless, false or fraudulent.

12. ADDENDA AND INTERPRETATIONS

If it becomes necessary to revise any part of this bid, a written addendum will be provided to all Bidders in written form from the Owner's designated contact (Purchasing and Contracts Department) as specified in this bid document. Owner is not bound by any oral representations, clarifications, or changes made in the written requirements and/or specifications by Owner's employees, unless such clarification or change is provided to Bidders in written addendum form.

13. PUBLIC RECORDS

The Owner is a Public Agency as defined by State Law, and as such, is subject to the Nevada Public Records Law (Chapter 239 of the Nevada Revised Statutes). Under the law, all of the Owner's records are public records (unless otherwise declared by law to be confidential) and are subject to inspection and copying by any person. However, in accordance with NRS 332.061 (2), a bid that requires negotiation or evaluation by the Owner may not be disclosed until the bid is recommended for award of a contract.

14. BIDS ARE NOT TO CONTAIN CONFIDENTIAL/PROPRIETARY INFORMATION

Bids must contain sufficient information to be evaluated without reference to any confidential or proprietary information. Bidders shall not include any information in their bid that they would not want to be released to the public. Any bid submitted that is marked "Confidential" or "Proprietary", or that contains materials so marked, may be returned to the Bidder and may not be considered for award.

15. DOCUMENT REVIEW

Bidder's may visit the Purchasing and Contracts Department, during normal business hours, to review any current bid documents. This information is available for review provided the contents of the document have not been deemed confidential or proprietary as defined in the "Confidential/Proprietary Information" clause in the General Provisions, Bids submitted in response to this invitation to bid may be reviewed after the formal bid opening has been completed. To review bid documents, an appointment **must** be made in advance to ensure that full consideration will be provided. Please call telephone number (702) 668-8090 and request the Purchasing and Contracts Department to schedule your appointment.

16. PREPARATION OF FORMS

All bids will be submitted on the Bid Form provided in this document. **All figures must be written in ink or typed.** Figures written in pencil or containing erasures are not acceptable and will be rejected. However, mistakes may be crossed out and corrections may be inserted adjacent thereto and initialed in ink by the person signing the proposal. If there are discrepancies between unit prices bid and the extended total, the unit price will prevail.

17. DURATION OF OFFER

All offers (bids) submitted in association with this Invitation to Bid shall be considered firm offers for a minimum of 90 calendar days after the date of bid opening in order to allow the Owner sufficient time to evaluate and obtain BOT approval for award.

18. ADDITIONAL BID

Bidders may submit more than one bid as long as all such bids comply with, or exceed, the bid terms, conditions and specifications.

19. SUBMISSION OF BIDS

All bids must be submitted in a sealed envelope plainly marked with the name and address of the Bidder and the bid number and title. Bidders are requested to submit 1 original and 1 copy of the Bid Form and 1 copy of all requested attachments unless otherwise specified. No responsibility will attach to the Owner, or any official or employee thereof, for the pre-opening of, post opening of, or the failure to open a bid not properly addressed and identified. Bids are time-stamped upon receipt. Bids time-stamped at 2:00 p.m. (p.s.t.) or after will be returned unopened to the Bidder. **FAXED BIDS ARE NOT ALLOWED AND WILL NOT BE CONSIDERED.** Bidders and other interested parties are invited to attend the bid opening.

Deliver mailing for bids to: **HAND DELIVERY, US MAIL, EXPRESS DELIVERY (FEDEX OR UPS).**

Clark County Water Reclamation District
Attn: Finance Department
5857 East Flamingo Road
Las Vegas, Nevada 89122
Bid No.: 839-09
Bid Name: Procurement of two (2) CCTV Camera Trucks
Bid Opening Date: September 24, 2009

Regardless of the method used for delivery, the Bidder shall be wholly responsible for the timely delivery of its bid.

20. COLLUSION AND ADVANCE DISCLOSURES

Pursuant to NRS 332.165 any evidences of agreement or collusion among Bidders and prospective Bidders acting to illegally restrain freedom of competition by agreement to bid a fixed price, or otherwise, shall render the bids of such Bidders void.

Advance disclosures of any information to any particular Bidder which gives that particular Bidder any advantage over any other interested Bidders, in advance of the 'bid opening, whether in response to advertising or an informal request for bids, made or permitted by a member of the governing body or an employee or representative thereof, shall operate to void all bids received in response to that particular request for bids.

21. CONFLICT OF INTEREST

The successful Bidder warrants that, to the best of its knowledge and belief, there are no agreements or affiliation that could give rise to an organizational conflict of interest.

The Bidder agrees that, if after the effective date of this contract, it discovers an organizational conflict of interest with respect to the successful Bidder or the successful Bidder's performance hereunder, it shall make an immediate and full disclosure in writing to Owner. Such disclosure shall include a description of the action that the successful Bidder has taken or proposes to take to avoid, eliminate, or neutralize the conflict. The contract may be terminated by Owner in the event such conflict would not be in the best interest of Owner.

The successful Bidder further agrees that if a conflict of interest is identified prior to the execution of this contract, it will adequately avoid, eliminate, or neutralize the conflict in a manner satisfactory to Owner.

In the event the successful Bidder was aware of an organizational conflict of interest any time prior to or after the execution of this contract and intentionally did not disclose the conflict to Owner, the contract may be terminated for detail, or Owner may invoke such other remedies as may be authorized by law.

22. WITHDRAWAL OF BID

Bidders may request withdrawal of a posted, sealed bid prior to the scheduled bid opening time, provided the request for withdrawal is submitted to the Purchasing Specialist in writing, or a bid release form has been properly filled out and submitted to the Purchasing and Contracts Department. Withdrawn bids must be re-submitted and time-stamped in accordance with this bid document in order to be accepted.

No bids may be withdrawn for a period of 90 calendar days after the date of bid opening. All responsive and responsible bids received are considered firm offers during this period. The Bidder's offer will expire after 90 calendar days unless the offer is further extended in writing by the Bidder.

If a Bidder intended for award requests that its bid be withdrawn, that Bidder may be deemed non-responsible if responding to future invitations to bid or may be required to forfeit its bid bond (if applicable).

23. LOWEST RESPONSIVE AND RESPONSIBLE BIDDER

All bids will be awarded to the lowest responsive and responsible Bidder. The determination of the lowest responsive and responsible Bidder may be judged on all or some of the following factors: price, conformity to specifications, facilities and equipment, availability of repair parts, experience, terms of payment, qualifications, past performance, performance or delivery dates, quality and utility of services, supplies, materials or equipment offered and the adaptability of those services, supplies materials or equipment to the required purpose of the contract, and other objective and accountable factors which are reasonable. The Owner has the option to accept additional promotional specials, discounts and/or trade-in allowances offered by the successful Bidder during the term of the contract but these offers will not be a part of the determination of award of this bid unless otherwise specified. Refer to Selection Criteria.

In accordance with NRS 332.065.3 the Owner may re-award this contract if the successful Bidder is found to be in breach of the contract. Re-awarding the contract by the Owner is not a waiver of any liability of the initial Bidder awarded the contract.

24. REJECTION OF BID

Owner reserves the right to reject any and all bids received by reason of this request.

25. DISQUALIFICATION OF BIDDERS

Bidders may be disqualified and their bids may be rejected for any of, but not limited to, the following causes:

- A. Failure to use the specified Bid Form furnished by the Owner.
- B. Lack of signature by an authorized representative.
- C. Failure to properly complete the Bid Form.
- D. Evidence of collusion among Bidders.

- E. Unauthorized alteration of the Bid form.
- F. **Failure to fill out the Disclosure of Ownership/Principals form if requested.**
- G. **Non-responsiveness/responsibilities**

Owner reserves the right to waive any minor informality or irregularity.

26. DISCLOSURE OF OWNERSHIP/PRINCIPALS

Any Bidder recommended for award of a contract by the Board of Trustees is required to provide the information on the attached “Disclosure of Ownership/Principals” form. Failure to fill out the subject form by the Bidder shall be cause of rejection of the bid.

27. TIE-BIDS

A tie-bid is defined as an instance where bids are received from 2 or more bidders who are the low Bidders, and their offers are identical. Bids must be identical in all evaluation areas; e.g., price, quality, delivery, terms, and ability to supply, etc. If any of these areas are not identical, it is not considered a tie-bid and Owner can justify awarding to the Bidder with the lowest responsive and responsible bid.

The procedure for tie-bids is to hold a public drawing and award the bid to the winner of the draw in accordance with the Method of Award clause in the General Conditions. When a drawing is necessary, the Bidders involved will be contacted with the time and place of the drawing. Attendance is not mandatory for the drawing. An impartial witness will be present at the drawing.

28. PROTESTS – CLARK COUNTY WATER RECLAMATION DISTRICT

A Bidder who bids on a contract may file a notice of protest regarding the awarding of the contract with the Contracts Administrator within 5 business days after the bid opening date. The notice of protest must include a written statement setting forth with specificity the reasons the Bidder filing the notice believes the applicable provisions of law were violated. A Bidder filing a notice to protest may be required by the Owner, at the time the notice of protest is filed, to post a bond with a good and solvent surety authorized to do business in this state or submit other security, in a form approved by the Owner, to the Owner who shall hold the bond or other security until a determination is made on the protest. A bond posted or other security submitted with a notice of protest must be in an amount equal to the lesser of:

- Twenty-five percent of the total value of the bid submitted by the Bidder filing the notice of protest; or
- Two hundred fifty thousand dollars.

Owner will stay any award actions until after the Contracts Administrator has responded in writing to the protest. If the protestor is not satisfied with the response, protestor may then protest to the Owner BOT, who will render a final decision for the Owner. No bid protests will be heard by the BOT unless the bidder has followed the appeal process.

If the protest is upheld, the bond posted or other security submitted with the notice of protest will be returned to the Bidder who posted the bond or submitted the security. If the protest is rejected, a claim may be made against the bond or other security by the Owner in an amount equal to the expenses incurred by the Owner because of the unsuccessful protest. Any money remaining after the claim has been satisfied will be returned to the protestor who posted the bond or submitted the security.

Owner is not liable for any costs, expenses, attorney's fees, loss of income or other damages sustained by the protestor in a bid process.

29. USE BY OTHER GOVERNMENT ENTITIES

Nevada Revised Statutes 332.195 states that local governments and the State of Nevada may use the contracts of other local governments within Nevada, if approved by the successful Bidder. The local government that originally awarded the contract is not liable for the obligations of the local government which uses the contract.

30. DISCRIMINATION

The BOT is committed to promoting full and equal business opportunity for all persons doing business in Clark County. The successful Bidder acknowledges that the Owner has an obligation to ensure that public funds are not used to subsidize private discrimination. The successful Bidder recognized that if they or their subcontractors are found guilty by an appropriate authority of refusing to hire or do business with an individual or company due to reasons of race, color, gender, ethnicity, disability, national origin, age or any other protected status, the Owner may declare the successful Bidder in breach of the contract, terminate the contract, and designate the successful Bidder as non-responsible.

31. IMMUNITY FOR INCORRECT DATE GENERATION

The Owner, its officers and employees shall be immune for any breach of this contract caused by an incorrect date being produced, calculated or generated by a computer or other information system that is owned or operated by the Owner, its officers or employees, regardless of the cause of the error (reference NRS 41.0321)

32. AUDITS

The performance of this contract by the successful Bidder is subject to review by the Owner to insure contract compliance. The successful Bidder agrees to provide the Owner any and all information requested that relates to the performance of the contract. All requests for information will be in writing to the successful Bidder. Time is of the essence during the audit process. Failure to provide the information requested within the timeline provided in the written information request may be considered a material breach of contract and may be cause for suspension and/or termination of the contract.

33. ASSIGNMENT OF CONTRACTUAL RIGHTS

The successful Bidder will not assign, transfer, convey or otherwise dispose of the contract or its right, title, or interest in, or to the same, or any part thereof, without previous written consent of Owner and any sureties.

34. CONTRACTOR NON-COMPLIANCE WITH CONTRACT

Successful Bidder's non-compliance with any requirement, term or condition contained in this contract may result in Owner:

- Terminating this contract, in whole or part, for convenience or cause;
- Withholding payments;
- Initiating suspension or debarment action against the Contractor; and
- Initiating other action, as appropriate.

In addition, successful Bidder non-compliance with any statutory requirement included in this contract, may result in the successful Bidder and its employees and subcontractors being (under national, state and/or local laws, statutes or regulations) fined and/or imprisoned, or incurring other sanctions.

35. TERMINATION FOR CONVENIENCE

Notwithstanding anything herein to the contrary, in the event that Owner terminates the contract, in whole or in part, at any time, the corresponding portion of this contract may be terminated for convenience by Owner by written notice stating the extent and the effective date, and such termination shall not constitute default. In the event of partial termination, the successful Bidder is not excused from performance of the non-terminated balance of work under the contract. The effective date will be at least thirty (30) days from the receipt of notice unless, an earlier date is mutually agreed upon by the parties.

In the event of termination for convenience by Owner, the successful Bidder shall be reimbursed for actual, reasonable, substantiated and allowable costs, plus a reasonable profit for work performed to date of termination. Owner may take immediate possession of all work so performed upon written notice of termination to successful Bidder.

Successful Bidder's obligations, including but not limited to obligations under the warranty, proprietary rights, infringement, and indemnity against claims provisions of this contract, shall survive such termination.

In the event that the Owner elects to terminate the contract, the termination request will be submitted to the BOT (if the total amount is more than \$25,000) or the Purchasing and Contracts Department (if the award amount is \$25,000 or less) for approval.

36. TERMINATION FOR CAUSE

- a. Time is of the essence in performance of services under this contract. Owner may, by written notice of default to the successful Bidder, terminate this contract in whole or in part if the successful Bidder fails to:
 - i. Deliver the supplies or to perform the services within the time specified in this contract or any extension,
 - ii. Make progress, so as to endanger performance of this contract, or failure to provide adequate assurance of future performance,
 - iii. Perform any of the other provisions of this contract, or
 - iv. Meet its financial obligations to its employees, suppliers, and subcontractors.
- b. Owner's right to terminate this contract under subparagraphs (ii) and (iii) above, may be exercised if the successful Bidder does not initiate and diligently pursue all reasonable efforts to cure such failure within ten (10) days (or more if authorized in writing by Owner Contracts Administrator) after receipt of the notice from Owner specifying the failure.
- c. In the event of partial termination, successful Bidder is not excused from performance of the non-terminated balance of work under the contract.
- d. In the event of successful Bidder's default hereunder, Owner may exercise any or all rights accruing to it, both at law, including without limitation, those set forth in Article 2 of the Uniform Commercial Code, or in equity.

**GENERAL CONDITIONS
BID NO 839-09
CCTV CAMERA TRUCKS**

1. METHOD OF AWARD

Award will be made by the BOT to the lowest responsive and responsible Bidder in aggregate (Bidder must bid on all items) contingent upon the submission of all requested documents after award within the timeliness specified, unless an extension is approved by the Owner. In the event that the total award amount is \$25,000 or less, the Purchasing Department may approve the award.

2. NOTICE OF AWARD

Award of this bid will be by the issuance of a purchase order. The contract shall include this Bid Document, any associated Addendums, and the Bid Form as signed by the successful Bidder.

3. PRE-BID CONFERENCE

A pre-bid conference is being held for this bid. The intent of the pre-bid conference is to review the entire bid document and answer any questions that the Bidders may have.

4. INITIAL TERM

The initial term of this contract shall be from date of award through the availability of the current production model year.

5. CONTRACT EXTENSION

Owner reserves the option to temporarily extend this contract for up to 90 calendar days from its expiration date for any reason.

6. POINT OF CONTACT

Owner's Procurement Representative are the only designated point of contacts regarding changes/modifications in work scope, payment and price changes. Any technical inquiries are to be directed to the Owner's Technical Representative (s).

7. OPEN-END CONTRACT

It is understood that the successful Bidder shall consider this Bid as an open end contract for all items offered. In the event the Owner requires additional items or replacement items, it is understood that the successful Bidder agrees to furnish items as per the terms of this bid from the date of award through availability of the current production model year.

8. WORK ISSUED

Any work/order issued during the effective period of this contract and not completed within that period shall be completed by the successful Bidder within the time specified in the order. This contract shall govern the successful Bidder's and Owner's rights and obligations with respect to that work/order to the same extent as if the work/order was completed during the contract's effective period provided that the successful Bidder shall not be required to make any deliveries or perform any services under this contract after the end of the period of performance.

9. BIDDER'S REPRESENTATION

Each Bidder, by submitting a bid, represents that it has read and understands the bidding documents and that the bid is made in accordance therewith, and that it has obtained all information and responses relevant to the services requested herein and familiarized itself with the local conditions, laws and regulations under which the work is to be performed and have correlated this knowledge with the requirements of the bidding documents.

10. BID DOCUMENTS NECESSARY FOR SUBMITTAL

The Bid Form, all requested attachments, and the bid security (if required) shall be included in the envelope containing the bid. These documents, together, comprise a bid. Omission of, or failure to complete, any portion of the required documents at the obtained time of bid opening may be cause to reject the entire bid.

11. ADDITIONAL BID SUBMITTALS

Any additional agreements, terms, conditions, or exceptions to the bid requirements that are submitted with the Bidder's Bid form may be considered substantial deviations from the bid requirements and be cause for rejection.

12. DESCRIPTIVE LITERATURE

Bidder should submit with its bid the latest printed specifications and advertising literature on the product(s) offered on the Bid Form.

13. FISCAL FUNDING OUT

Owner's obligations under this Agreement are expressly subject to appropriation and/or approval of funds by its Board of Trustees. Further, in the event that funds are not appropriated in whole or in part; sufficient for performance of the Owner's obligations under a resulting contract, or appropriated funds may not be expended due to the Board of Trustees spending limitations, then this Agreement shall thereafter become null and void by operation of law, and the Owner shall thereafter have no liability for compensation or damages to the Proposer in excess of the Owner's authorized appropriation for the resulting Contract or the applicable spending limit, which ever is less. The Owner shall notify the Proposer as soon as

reasonably possible in the event of non-appropriation or in the event a spending limitation becomes applicable.

The funds appropriated for this contract are equal to or exceed the contract amount for the period in which this contract was awarded. For work to be completed in subsequent fiscal years, if any, the Owner will notify the Proposer of the appropriation of funds for such work after the adoption of the Owner's annual appropriation ordinance for those years.

The Proposer and the owner agree and acknowledge as a part of this RFP, that no change order or other form or order or directive may be issued by the Owner which requires additional compensable work to be performed, which work causes the aggregate amount payable under a resulting contract to exceed the amount appropriated for the work requested herein, unless the Proposer has been given a written assurance by the Owner that lawful appropriations to cover the cost of the additional work have been made or unless such work is covered under a remedy-granting provision in a resulting contract.

14. DELIVERY REQUIREMENT

A. NOTICE OF DELIVERY

Owner shall be given a five (5) calendar day(s) notice prior to delivery. Notify Gail Karafa at (702) 668-8090.

B. LOCATION AND HOURS

Deliveries shall be made to the 6000 E. Rochelle Avenue, Las Vegas, NV 89122, Monday through Friday (excluding Owner's holidays), between the hours of 8:00 am – 2:30 pm.

C. MAXIMUM DELIVERY TIME

Maximum delivery time is ninety (90) calendar day(s). Failure to offer a delivery time within the maximum number of days specified may be considered a substantial deviation and be cause for rejection. Time is of the essence and failure to meet the delivery time specified shall constitute a breach of contract.

D. FORCE MAJEURE

The successful Bidder shall be excused from performance hereunder during the time and to the extent that it is prevented from obtaining, delivering, or performing in the customary manner, by acts of God, fire, war, loss or shortage of transportation facilities, lockout or commandeering of raw materials, products, plants or facilities by the government. The successful Bidder shall provide Owner satisfactory evidence that non performance is due to cause other than fault or negligence on its part.

E. F.O.B. DESTINATION – FREIGHT PAID

The successful Bidder shall pay all freight charges. The successful Bidder shall file all claims and bears all responsibility for the products from the point of origin to the Owner's destination. All prices shall be F.O.B. the delivery points as required. All prices shall include delivery, as well as any necessary unloading.

F. PARTIAL SHIPMENTS

Partial shipments will not be permitted.

G. FAILURE TO DELIVER

In the event that the successful Bidder fails to deliver the product and/or service in accordance with the terms and conditions of the contract, the Owner shall have the option to either terminate the contract or temporarily procure the product and/or service are procured from another supplier, the successful Bidder shall pay to the Owner any difference between the bid price and the price paid to the other supplier.

H. TRAINING

Training, in the form of orientation, shall be provided to Owner's personnel by a qualified factory representative or the successful Bidder's personnel, in the proper operation techniques, including care and maintenance of the product. This training shall take place at 6000 E. Rochelle Avenue, Las Vegas, NV 89122 at the successful Bidder's expense.

I. DAMAGED OR DEFECTIVE PRODUCTS

The successful Bidder shall replace, at no cost to the Owner, damaged or defective products within fourteen (14) calendar days after notice. This shall include freight and any and all other associated costs. Failure to do so will cause such products to be procured from another supplier. If the product is procured from another supplier, the successful Bidder shall pay the Owner any difference between the bid price and the price paid to the other supplier.

J. SERVICE AND INSPECTION INSTRUCTIONS

Prior to delivery, the product shall be completely inspected and serviced by the delivering dealer and/or the manufacturer's pre-delivery service center. A copy of the manufacturer's standard pre-delivery service center. A copy of the manufacturer's standard pre-delivery service check list shall be completed for the product, signed by a representative of the organization performing the inspection/service and delivered with the product.

The product will be inspected at time of delivery, by an authorized representative of the Owner, for workmanship appearance, proper functioning of all equipment and systems, and conformance to all other requirements of this adjustments or replacement. Payment and/or the commencement of discount period (if applicable) will not be made until the corrective action is made, the product re-inspected and accepted. If the product is accepted at delivery and later rejected because of deficiencies, it shall be the dealer's responsibility to pick up the product, make the necessary corrections and redeliver the product for re-inspection and acceptance.

K. DEALER'S REPORT OF SALE

Dealer's Report of Sale shall be addressed to:
Clark County Water Reclamation District
Attn: Material's Control
6000 East Rochelle Avenue
Las Vegas, NV 89122

L. TITLE FEES

The successful Bidder shall pay all title fees.

M. MANUALS AND LISTS

Two (2) of all applicable shop manuals, repair manuals, and parts lists shall be submitted to Owner at the time of delivery. CD's are acceptable.

15. PURCHASE ORDERS

The Purchasing and Contracts Department will issue a purchase order(s) which will authorized the successful Bidder to deliver and invoice for the product(s) and/or service(s) offered.

16. INVOICING

Invoicing for bid items are to be sent to the location as identified in the purchase order(s). Invoices are to be sent within 90 calendar days of the delivery of the product or completion of the work. Invoices for payment not submitted within this time period will not be considered for payment. Payment of invoices will be made within 30 calendar days, unless otherwise specified, after receipt of an accurate invoice that has been reviewed and approved by the applicable department's authorized representative.

All invoices should include the following information:

Company Name;

Complete Address (including street, city, state, and zip code);

Telephone Number;

Contact Person;

Clark County Water Reclamation District **Purchase Order Number**;

Company's Tax Identification Number;

Bid Number and Bid Name;

Itemized description, pricing and total amount due (excluding Sales and Use Tax);

Percentage Discounts/Payment Terms (if offered); and

Company's Invoice Number.

The successful Bidder is responsible to insure that all invoices submitted for payment are completed with the above information and in strict accordance with the price(s) offered on the Bid Form. Owner reserves the right to return invoices "**unpaid**" with insufficient information. If overcharges are found, the Owner may declare the successful Bidder in breach of the contract, terminate the contract, and designate the successful Bidder as non-responsible if responding to future invitations to bid.

Submit two (2) copies of invoices to the District, one to Accounts Payable and one to the District's Project Manager for approval.

17. PARTIAL PAYMENT

Partial payments are not allowed. Partial payments requests will be accepted only at the sole discretion of the Owner.

18. WARRANTY

The successful Bidder shall warrant all workmanship, materials, and equipment they have furnished for a period of 1 year after the final acceptance of the equipment and/or materials. If during the guarantee period, any defect or faulty materials are found, successful Bidder shall immediately, upon notification by the Owner, proceed at its own expense to replace and repair same together with any damage to all finished, fixtures, equipment, and furnishings that may be damaged as a result of this defective equipment or workmanship within ___ calendar days after notification. Successful Bidder further warrants that the performance of work and services.

19. PRICING

Successful Bidder represents and warrants to Owner that prices offered fairly reflect market cost savings resulting from this Agreement and that such prices or discounts are reasonably available to all other purchasers of services of like grade, quality, and quantity.

20. ESCALATION

Fixed Price:

During the life of this contract, there may be a general published price change. In the event of a decrease, Owner shall receive the benefit of this change. In the event of an increase, Owner may allow, upon presentation of suitable proof and thirty (30) calendar days advance written notification, an increase over bid price. Increases will apply only to products and/or services affected by an increase in a raw material, labor, or another like cost factor. No increase shall be allowed earlier than three hundred sixty-five (365) calendar days from the date of contract award, including thirty (30) calendar days advance written notification, or at a later date as designated by the successful Bidder. Price increases shall not be retroactive. All written escalation requests should be sent to all of the Owner's designated contacts as specified in this bid document. Only one (1) written escalation request(s) will be accepted from the successful Bidder on an annual basis.

21. OPERATIONAL SYSTEMS

The successful Bidder shall furnish a completely operational system whether or not all items necessary to make the system operational are specified.

22. PRODUCTS

New Product:

The successful Bidder shall guarantee that the product provided to Owner shall be new, and of the latest and most improved model of current production, and shall be of first quality as to workmanship and materials used in said units.

A new product is defined as a product that is made up completely of unused, genuine, original parts. The product shall not have been operated for any purpose other than routine operational testing. A demonstrator product does not meet this definition and is not acceptable.

23. REPLACEMENT PARTS

All major component replacement parts shall be readily available from suppliers within seven (7) calendar days.

24. BRAND NAMES "OR EQUAL"

Whenever, in this Invitation to Bid, any particular materials, process, and/or equipment are indicated or specified by patent, proprietary or brand name, or by name of manufacturer such wording will be deemed to be used for the purpose of facilitating description of the material, process, and/or equipment desired and will be deemed to be followed by the words, "or equal." Proof satisfactory to Owner must be provided by the successful Bidder to show that the alternative product is, in fact, equal to the product required in the specifications.

25. SUBSTITUTIONS

Specifications are intended to show kind and quality required and are not intended to be restrictive. **Additional bids that are equal to, or exceed the requirements stated in this document are invited.** Bidders desiring to submit more than one bid for items other than those specified shall observe the following procedure:

1. Submit with the bid complete manufacturer's brochures of the actual items being offered, including pictures and/or dimensional drawings.
2. Proof, satisfactory to Owner, must be provided by Bidder to show that the product is equal to, or exceeds the bid specifications in design and performance.
3. Equivalent items may be subject to performance testing.

26. INSPECTION

All materials and workmanship shall be subject to inspection and test at all reasonable times and places by Owner before during and after performance and delivery. Owner may require successful Bidder to repair, replace or reimburse the purchase price of rejected materials or Owner may accept any materials and upon discovery of nonconformance, inspection, transportation, repackaging, and/or re-inspection by Owner shall be at successful Bidder's expense.

Inspection and test are made on the premises of successful Bidder or successful Bidder's subcontractors, successful Bidder shall furnish without additional charge all reasonable facilities, information and assistance necessary for the safe and convenient inspection and tests required by the inspectors in the performance of their duty.

The performance by the successful Bidder and quality of work delivered, including services rendered and any documentation or written material complied shall be subject to inspection, review and acceptance by Owner Procurement Representative or his duly authorized representatives.

Owner's failure to inspect does not relieve successful Bidder of any responsibility to perform according to the terms of the contract.

27. OUT OF STATE SUPPLIERS

Out of state suppliers shall accept collect calls or provide a toll free telephone number for the placement of orders.

28. TERMS OF PAYMENT

Terms of payment, as listed on the Bid Form, shall be defined as the amount of discount offered by the Bidder to the Owner if payment is made within a specified time frame.

Examples:

Terms of Payment: 2%, 14 Calendar Days.

A 2% payment discount will be deducted from the purchase price if the invoice is paid within 14 calendar days of receipt of invoice or delivery of an acceptable product and/or service, whichever is later.

Terms of Payment: 0%, 30 Calendar Days.

No payment discount is offered and payment is due within 30 calendar days of receipt of invoice or delivery of an acceptable product and/or service, whichever is later.

No prompt payment discount will be considered by the Owner in the bid evaluation process unless the discount period offered by the Bidder is 14 calendar days or more.

BID NO. 839-09
TECHNICAL SPECIFICATIONS FOR
REMOTE PIPELINE TELEVISION / INSPECTION EQUIPMENT

INTENT

It is the intent of this specification to provide for the procurement of two (2) complete color television inspection system, ready for operation. The system shall be capable of televising the inspection of 4" through 90" pipes and sewer lines with the simple addition of one or more crawlers which shall be available for purchase at the time of this bid. The system shall include a color television camera having multi-conductor transmission cable, color monitor, and transportation and storage cases as defined in herein. The system shall inspect underground sewer and water piping and related connections from a single access point.

The following specification is based upon a "Supervision FW140" model television inspection system manufactured and distributed by ENVIROSIGHT, INC. The Clark County Water Reclamation District (CCWRD) has evaluated different types of television inspection systems and has determined that this product is best suited for The Clark County Water Reclamation District needs in safety, quality, and standards of performance. This specification is not to be interpreted as restrictive, but rather as a measure of the safety, quality and performance against which all television inspection systems bid will be compared.

In comparing proposals, consideration will not be confined to price only. The successful bidder will be one whose product is judged to best serve the interests of The Clark County Water Reclamation District when price, product, safety, quality and delivery are considered. The Clark County Water Reclamation District reserves the right to reject any or all bids or any part thereof, and to waive any minor technicalities. A contract will be awarded to the bidder submitting the lowest responsible bid meeting the requirements of this specification.

EQUIVALENT PRODUCT

Bids will be accepted for consideration on any make or model that is equal or superior to the television inspection system specified. Decisions of equivalency will be at the sole interpretation of the Clark County Water Reclamation District. A blanket statement that equipment proposed will meet all requirements will not be sufficient to establish equivalence. Original manufacturer's brochures of the proposed unit are to be submitted with the proposal. All modifications made to the standard production unit described in the manufacturer's brochures must be certified by the manufacturer to have been in prior successful use (including the name of users) and submitted with the bid, or the bid will be deemed "non-responsive" and rejected without further review. Bidder must be prepared to demonstrate a unit similar to the one proposed, if requested.

INTERPRETATIONS

In order to be fair to all bidders, no oral interpretations will be given to any bidder as to the meaning of the specification documents or any part thereof. Every request for such a consideration shall be made in writing to the Clark County Water Reclamation District. Based upon such inquiry, the Clark County Water Reclamation District may choose to issue an Addendum in accordance with state statutes.

GENERAL

The specification herein states the minimum requirements of the Clark County Water Reclamation District. All bids must be regular in every respect. Unauthorized conditions, limitations, or provisions shall be cause for rejection. The Clark County Water Reclamation District will consider as "irregular" or "non-responsive" and reject any bid not prepared and submitted in accordance with the bid document and specification, or any bid lacking sufficient technical literature to enable the Clark County Water Reclamation District to make a reasonable determination of compliance to the specification.

It shall be the bidder's responsibility to carefully examine each item of the specification. Failure to offer a completed bid or failure to respond to each section of the technical specification (COMPLY: YES NO) will cause the proposal to be rejected without review as "non-responsive". All variances, exceptions and/or deviations shall be fully described in the appropriate section. Deceit in responding to the specification will be cause for automatic rejection.

SYSTEM EQUIPMENT LIST:

- 1 - Motorized Pipe Crawler for 6" through 24" diameter pipelines
- 1 - Pan & Tilt Color Zoom Camera
- 1 - Control unit with Desk Pendant Controller
- 1 - Text Generator
- 1 - Automatic Cable Reel with 1,150' of cable and remote pendant
- 1 - Upper Manhole Cable Roller
- 1 - Lower Manhole Cable Roller
- 1 - Accessories and full wheel sets for varying pipe conditions

1.0) CONTROL UNIT

- 1. The system controls must be contained in damage resistant housing.
- 2. The CCU shall include circuit protection for individual electronic components in case of power interruption, surges, component malfunction or inadvertent mis-operation of the system.

The Camera Control Unit and Pendant Shall contain:

- 3. 4" monochrome LCD to view system status
- 4. Power on/off switch
- 5. (2) soft key control area via LCD
- 6. Connectors for external video signal
- 7. Forward/Reverse, Left/Right tractor control joystick
- 8. Variable tractor speed control
- 9. Camera controls for focus
- 10. Adjustable lighting controls
- 11. AC power receptacle
- 12. Control cable receptacle
- 13. Adequate circuit breakers and fuse protection
- 14. Hour meter
- 15. Camera "home" control
- 16. RS232 Connector for Inspection Software Link
- 17. On/off of digital zoom function

		Comply	
		<u>Yes</u>	<u>No</u>
	1.	<input type="checkbox"/>	<input type="checkbox"/>
	2.	<input type="checkbox"/>	<input type="checkbox"/>
	The Camera Control Unit and Pendant Shall contain:	<input type="checkbox"/>	<input type="checkbox"/>
	3.	<input type="checkbox"/>	<input type="checkbox"/>
	4.	<input type="checkbox"/>	<input type="checkbox"/>
	5.	<input type="checkbox"/>	<input type="checkbox"/>
	6.	<input type="checkbox"/>	<input type="checkbox"/>
	7.	<input type="checkbox"/>	<input type="checkbox"/>
	8.	<input type="checkbox"/>	<input type="checkbox"/>
	9.	<input type="checkbox"/>	<input type="checkbox"/>
	10.	<input type="checkbox"/>	<input type="checkbox"/>
	11.	<input type="checkbox"/>	<input type="checkbox"/>
	12.	<input type="checkbox"/>	<input type="checkbox"/>
	13.	<input type="checkbox"/>	<input type="checkbox"/>
	14.	<input type="checkbox"/>	<input type="checkbox"/>
	15.	<input type="checkbox"/>	<input type="checkbox"/>
	16.	<input type="checkbox"/>	<input type="checkbox"/>
	17.	<input type="checkbox"/>	<input type="checkbox"/>

18. On/off of auto shutter speed control	<input type="checkbox"/>	<input type="checkbox"/>
19. On/off of SAT system pendant controls	<input type="checkbox"/>	<input type="checkbox"/>
20. On/off of rear viewing camera	<input type="checkbox"/>	<input type="checkbox"/>
21. Control of remote camera lift	<input type="checkbox"/>	<input type="checkbox"/>
22. Auto lateral left camera positioning button	<input type="checkbox"/>	<input type="checkbox"/>
23. Auto lateral right camera positioning button / SAT pan and tilt camera button	<input type="checkbox"/>	<input type="checkbox"/>
24. Auto circumferential joint camera positioning button / SAT insertion button	<input type="checkbox"/>	<input type="checkbox"/>
25. Control pendant joysticks must twist to allow crawler steering, camera zoom, and SAT system camera insertion.	<input type="checkbox"/>	<input type="checkbox"/>
26. 4" color video LCD	<input type="checkbox"/>	<input type="checkbox"/>
27. The proposed system shall have all electronic controls for the CCU mounted on modular slide out cards for easy repair/replacement.	<input type="checkbox"/>	<input type="checkbox"/>
28. The CCU shall operate larger, medium, smaller crawlers and SAT System crawler with no need for additional control unit or cable upgrades.	<input type="checkbox"/>	<input type="checkbox"/>
29. Control unit must run off of a CAN-BUS control protocol to allow for future upgrades to all components.	<input type="checkbox"/>	<input type="checkbox"/>

2.0) PAN & TILT COLOR ZOOM CAMERA

	<u>Yes</u>	<u>Comply No</u>
1. Camera shall be offered with ATEX Zone 2 explosion proof rating	<input type="checkbox"/>	<input type="checkbox"/>
2. Camera must have NRTL approval for IP68 (IEC60529) or NEMA 6P (NEMA250) enclosure type ratings to offer protection for the operator and equipment in wet and damp environment.	<input type="checkbox"/>	<input type="checkbox"/>
3. When connected to any crawler there can not be external wires, connectors, clamps or tie-downs.	<input type="checkbox"/>	<input type="checkbox"/>
4. The camera will pan a full 360 degrees and tilt (+/- 135°) allowing for full view of laterals and joints. Camera will have the ability to view behind crawlers to inspect upstream lateral rubber seal on gravity flow PVC pipes.	<input type="checkbox"/>	<input type="checkbox"/>
5. Camera must have 10X optical 4X digital zoom capability for viewing up laterals and magnifying observations.	<input type="checkbox"/>	<input type="checkbox"/>
6. Camera construction shall include all solid-state circuitry designed to withstand shocks and vibrations while being pushed, pulled or propelled through the pipe.	<input type="checkbox"/>	<input type="checkbox"/>
7. All camera electronics shall be of modular construction for ease of exchange and repair, and shall be designed to facilitate future upgrades.	<input type="checkbox"/>	<input type="checkbox"/>
8. The front of the camera housing shall have a windshield made of impact resistant, distortion-free material.	<input type="checkbox"/>	<input type="checkbox"/>
9. The housing shall be fully sealed and waterproof (IP68) to withstand external pressure up to 10 bar without damage or leaking.	<input type="checkbox"/>	<input type="checkbox"/>
10. The camera power supply shall be provided from a solid-state power source and the camera input shall be 12 volts DC.	<input type="checkbox"/>	<input type="checkbox"/>
11. The lighting for the camera shall be supplied through an isolated power supply and shall regulate the light voltage up to a nominal 36 volts DC.	<input type="checkbox"/>	<input type="checkbox"/>
12. Pan/Tilt Motor power shall be 12V/3Watt	<input type="checkbox"/>	<input type="checkbox"/>

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|--|--------------------------|--------------------------|
| 13. Camera shall attach to the front of the crawler by turning a slotted locking mechanism on the top of the camera which drives 4 stainless bearings into the rotate shaft of the crawler and have the ability to maintain a 10 bar waterproof seal. | <input type="checkbox"/> | <input type="checkbox"/> |
| 14. Camera illumination must be provided with a minimum of 28 field-replaceable LED's that have a 50 degree lighting angle and provide 45000mcd/piece to light pipes up to 60" diameter | <input type="checkbox"/> | <input type="checkbox"/> |
| 15. Camera shall have a valve for purge and pressurization of camera-body. Pressurization prevents the ingress of water during an accident and provides a dry air internal environment to prevent fogging of inner lens during changing external temperatures. | <input type="checkbox"/> | <input type="checkbox"/> |
| 16. Camera must not weigh more than 3.75 lb. / 1.7kg | <input type="checkbox"/> | <input type="checkbox"/> |
| 17. Camera must have a maximum size of (85mm x 80mm x 80mm) in order to fit into a diameter of 3.5" / 88mm. | <input type="checkbox"/> | <input type="checkbox"/> |
| 18. Side stainless plates must be a minimum or 13mm for increased durability when inserting the camera in a manhole | <input type="checkbox"/> | <input type="checkbox"/> |
| 19. Rotation axle must be made of a minimum of 15mm stainless steel | <input type="checkbox"/> | <input type="checkbox"/> |
| 20. Pan and tilt must have integrated clutch for pan and tilt motor | <input type="checkbox"/> | <input type="checkbox"/> |

3.0) LIGHTWEIGHT TRANSMISSION CABLE

- | | Comply | |
|--|--------------------------|--------------------------|
| | <u>Yes</u> | <u>No</u> |
| 1. 1150' of 6 wire continuous length multi-conductor cable shall be provided. | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. The cable must be Kevlar reinforced and have minimum break strength of 1000 lbs. | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. The cable shall be no greater than .19 inches in diameter. | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Cable shall not weigh more than 10 lbs for every 330 feet of cable to allow for portability, long tractor runs and easy handling | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. A connector strain relief fixture must be internal to the cable and cable connector. | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. Cable and connectors must be waterproof up to 10 bar or atm | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. Cable must have tough outer jacket to resist tears and scrapes | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. Outer jacket must be smooth to reduce friction | <input type="checkbox"/> | <input type="checkbox"/> |
| 9. Crawler connect end must have a steel armored jacket to prevent cable damage while going around pipe bends and during entry. | <input type="checkbox"/> | <input type="checkbox"/> |
| 10. Crawler connect end must have solid stainless steel screw on connector that locks with two turns and engages a locking spring loaded pin on the rear of the crawler to secure the cable and provide strain relief. Connections that require any tools or screws will be deemed unacceptable. | <input type="checkbox"/> | <input type="checkbox"/> |
| 11. Crawler connect end must have connector that has electrical keyway for proper alignment of cable to camera or crawler connector without damaging electrical pins | <input type="checkbox"/> | <input type="checkbox"/> |
| 12. Cable must be able to be directly re-terminated and then sealed and strain-relieved with a 2-ton quick-dry epoxy. Procedure shall not take more than ½ hour to complete. Scotch cast style units that require cure times beyond an hour will be deemed unacceptable. | <input type="checkbox"/> | <input type="checkbox"/> |
| 13. Cable must be able to be used with fully automatic cable reel, manual cable reel and cable reel with auto-assist motors for easy management. | <input type="checkbox"/> | <input type="checkbox"/> |
| 14. The cable must be able to connect to the following directly without any modification: | | |
| • 4" minimum ID Pipe capable crawler | <input type="checkbox"/> | <input type="checkbox"/> |
| • 6" minimum ID Pipe capable crawler | <input type="checkbox"/> | <input type="checkbox"/> |

- 10" Minimum ID Pipe capable crawler
- 6" minimum ID Pipe capable SAT crawler

4.0) MOTORIZED CABLE DRUM

1. A cable drum shall be provided to contain the cable for camera and tractor operation.
2. The hub of the cable drum shall be equipped with a continuous contact slip-ring assembly to allow the cable to be dispensed and retrieved while the camera and tractors are operational.
3. The slip ring contacts shall be of an alloy of gold and rhodium and must be housed in an environmentally sealed housing.
4. Cable feed out and retrieval must happen automatically via a motorized system with sensors that correspond with the movement of the crawler.
5. Cable reels that require operator control while the crawler is in use will be deemed unacceptable.
6. The cable drum must have an emergency stop switch.
7. The cable drum must be able to operate in both automatic and manual modes.
8. The cable drum must have speed and torque controls to adjust for different pipe conditions and user preferences
9. The cable reel shall not weigh more than 165 lbs. With 1,150' of cable 200 lbs. With cable guide pulley system
10. Cable drum must come with stationary mounting plate where cable drum remains secure, but can easily be removed for maintenance, shipping or portable use without the use of any tools or loose hardware.
11. Cable reel must have remote pendant to allow operator to have access to camera, crawler and cable reel controls while setting up the system away from the control unit.

5.0) MEDIUM 6" – 24" PIPE DIAMETER STEERABLE MOTORIZED CRAWLER

- | | | Comply |
|--|--------------------------|--------------------------|
| | <u>Yes</u> | <u>No</u> |
| 1. Crawler shall be offered with ATEX Zone 2 explosion proof rating | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Camera must have NRTL approval for IP68 (IEC60529) or NEMA 6P (NEMA250) enclosure type ratings to offer protection for the operator and equipment in wet and damp environment. | <input type="checkbox"/> | <input type="checkbox"/> |
| 1. 3. The system shall include a gear driven; all wheel drive tractor to carry the camera for rapid remote inspection of pipes that range from 6" to 24" for travel and camera centering and over 60" for viewing and lighting capability. | <input type="checkbox"/> | <input type="checkbox"/> |

4. The tractor shall provide sufficient traction, under suitable conditions, to tow 1650 feet of transmission cable. Such traction shall be provided by six gear driven wheels with tapered tires. Tractors propelled by chains, belts or continuous tracks will not be acceptable.
5. The tractor shall have proportional left/right steering, forward, reverse, capability via a joystick and other controls via the operator pendants attached to the CCU and the cable reel.
6. The tractor shall have a maximum size of 12.4" (314mm) long by 4.7" (119mm) High by 4.3" (109mm) wide to allow for proper clearance in 6" and lined pipes.
7. A minimum of 2-50 watt DC motors shall power the tractor.
8. The crawler shall have an integral remotely operated lift that can raise the camera a minimum of 5" from its lowest position.
9. The lift mechanism shall have an integrated rear viewing color camera to assist with avoiding debris and cable management.
10. Rear and forward view cameras can be toggled between one another via the operators' pendant.
11. Raising and lowering of the camera lift mechanism shall be generated by a combination of pressurized struts and motors to ensure reliable and precise control in a small size.
12. Camera shall attach to the front of the crawler by turning a slotted locking mechanism on the top of the camera which drives 4 stainless bearings into the rotate shaft of the crawler and have the ability to maintain a 10 bar waterproof seal.
13. Camera and crawler rotate shaft shall have a keyway to allow for proper alignment of electrical pins without bending or breaking them.
14. Cable shall attach to rear of crawler with 2 turns of the outer stainless housing on the end of the cable.
15. A spring loaded pin on the crawler body shall lock into the end of cable housing to secure cable connection and provide a pulling strength that is beyond the 1000 lb rated break strength of the cable.
16. To allow for performance in soft sediment and debris and ease of use the tractor shall weigh a minimum of 31 lbs.
17. Crawler shall have a maximum speed of 75 feet per minute
18. The tractor shall be no longer than 12.4" (314mm) in order to easily navigate through 90-degree inverts without rolling.
19. In order to prevent leaking and bending due to torque and stress generated by a small steer able crawler, the tractor chassis shall be a single piece of machined stainless steel with only a top plate to access the control boards, a bottom plate to access the motors and two side cover plates to access the gears. Bronze or brass bodies or soft metals will not be acceptable for body chassis.
20. All wheels to have tapered edges to conform to pipe sidewall.
21. The tractor shall have machined key fitting on all 6 axles to facilitate easy use and ensure an exact fit with all wheels.

- | | | |
|---|--------------------------|--------------------------|
| 22. Machined axle key must be able to be replaced in the field without having to replace the axle. Crawlers without keyways or keyway fittings that can be replaced in the field without removal of the axle will be deemed unacceptable. | <input type="checkbox"/> | <input type="checkbox"/> |
| 23. Crawler shall be controlled via PipeBus software technology to allow for precision control, diagnostic monitoring and future upgradeability. | <input type="checkbox"/> | <input type="checkbox"/> |
| 24. The tractor shall include 3 wheel sizes and spacers suitable to accommodate pipe inspection in 6" through 24" pipes. | <input type="checkbox"/> | <input type="checkbox"/> |
| 25. Spacers and wheels sizes shall attach with a keyway and single screw. No plates or spacer-bars will be accepted. | <input type="checkbox"/> | <input type="checkbox"/> |
| 26. Tractor shall work with the following standard and optional wheel sets: | | |
| • Set of 4 common 36mm diameter by 20mm wide spacers (Standard) | <input type="checkbox"/> | <input type="checkbox"/> |
| • (6) 3.33" (86mm) diameter rubber wheels (Standard) | <input type="checkbox"/> | <input type="checkbox"/> |
| • (4) 4.33" (110mm) diameter grooved rubber wheels (Standard) | <input type="checkbox"/> | <input type="checkbox"/> |
| • (4) 4.33" (110mm) diameter soft composite grease wheels with traction grit impregnation (Standard) | <input type="checkbox"/> | <input type="checkbox"/> |
| • (4) 5.31" (135mm) diameter grooved rubber wheels (Standard) | <input type="checkbox"/> | <input type="checkbox"/> |
| • (6) 3.33" (86mm) diameter soft composite grease wheels with traction grit impregnation (Optional) | <input type="checkbox"/> | <input type="checkbox"/> |
| • (6) 3.33" (86mm) diameter pointed carbide wheels (Optional) | <input type="checkbox"/> | <input type="checkbox"/> |
| • (4) 4.33" (110mm) diameter pointed carbide wheels (Standard) | <input type="checkbox"/> | <input type="checkbox"/> |
| • (4) 5.31" (135mm) diameter soft composite grease wheels with traction grit impregnation (Optional) | <input type="checkbox"/> | <input type="checkbox"/> |
| • (4) 5.31" (135mm) diameter pointed carbide wheels (Optional) | <input type="checkbox"/> | <input type="checkbox"/> |
| • (4) 5.31" (135mm) diameter by 2.6" wide sediment rubber wheels (Optional) | <input type="checkbox"/> | <input type="checkbox"/> |
| 27. The tractor must have a single waterproof connection port for additional upwardly angled large pipe lighting located behind the center area of the crawler. | <input type="checkbox"/> | <input type="checkbox"/> |
| 28. The tractor shall have the ability to add triple LED low profile (1.7" dia.) auxiliary lighting that is remotely controlled via a controller on the operator pendant. | <input type="checkbox"/> | <input type="checkbox"/> |
| 29. Crawler must fit in 8" diameter pipe with auxiliary lighting attached | <input type="checkbox"/> | <input type="checkbox"/> |
| 30. The tractor shall have a tilting rear cable connector that points vertically when deploying the system into a manhole but can tilt into a horizontal position during operation in order to protect cable and connector during deployment. | <input type="checkbox"/> | <input type="checkbox"/> |
| 31. Strain relief must be provided internal to the cable and then maintained by the strength of the locking mechanism of the stainless steel connector. | <input type="checkbox"/> | <input type="checkbox"/> |
| 32. Crawler and cable stainless connectors must have a lifetime warranty | <input type="checkbox"/> | <input type="checkbox"/> |
| 33. The tractor shall allow for a 512hz and 33Khz integral sonde to facilitate locating crawler location with a receiver. | <input type="checkbox"/> | <input type="checkbox"/> |
| 34. The tractor shall have a standard inclinometer for tracking and electronically outputting pipe rise and fall (grade) and integrate data with database inspection software. | <input type="checkbox"/> | <input type="checkbox"/> |
| 35. Crawler shall have an additional roll sensor to avoid flipping the crawler. Sensor shall sound an audible or visible onscreen alarm when crawler center of gravity is pitched in a way that it will soon roll over. | <input type="checkbox"/> | <input type="checkbox"/> |

AUXILIARY LIGHTING

- | | | |
|--|--------------------------|--------------------------|
| | <input type="checkbox"/> | <input type="checkbox"/> |
| 36. (3) – 2 watt super bright LED focused lamps must be able to mount on the crawler for large pipe inspections. | <input type="checkbox"/> | <input type="checkbox"/> |
| 37. The lights must have an instant contact slide on connector to the top rear of the tractor, with no exposed wiring of any kind. | <input type="checkbox"/> | <input type="checkbox"/> |
| 38. The auxiliary lighting, with camera securely in place, shall be waterproof and be able to withstand external pressure up to 140 psi. | <input type="checkbox"/> | <input type="checkbox"/> |

CABLE PROTECTION	Comply	
	<u>Yes</u>	<u>No</u>
39. An upper and lower cable guide/protector fashioned using Delran (or similar material) rollers constructed in lightweight aluminum frames are to be included with the system to minimize potential damage to the cable during the inspection and limit operator strain in executing setup operations. The lower roller assembly must not utilize interlocking poles to be installed.	<input type="checkbox"/>	<input type="checkbox"/>

6.0) VEHICLE CHASSIS	Comply	
	<u>Yes</u>	<u>No</u>
1. Freightliner 2010 MT45 Front Engine Walk-In Van Chassis with Morgan Olson Step Style Van Body, includes: Cummins ISB 6.7-240 240hp Diesel Engine, 158" wheelbase, dual rear axle, 18,000 GVWR, Allison 1000 HS automatic transmission, sedan style doors, roll up windows, cloth seats, passenger seat included, Dark Pewter interior finishes, A/C, power steering and brakes, cruise control, Summit White paint, camper style upgraded mirrors, AM/FM stereo, all destination and dealer preparation charges included.	<input type="checkbox"/>	<input type="checkbox"/>
2. Olson Body shall have a fiberglass front hood assembly upgrade for a more rounded front end. This assembly will include the Freightliner standard chrome grill and industrial grey bumper.	<input type="checkbox"/>	<input type="checkbox"/>
Body and Build Out Includes:		
3. 14' Long X 93" wide X 85" high body, rear barn doors with bracket/latch to hold doors open at 90 degrees, dividing wall between control room and working area with pass thru door, bulkhead wall with pass thru doorway between cab and control room, constructed of aluminum hard grade panels.	<input type="checkbox"/>	<input type="checkbox"/>
4. The successful bidder will meet with District personnel, at District offices, at Bidders sole expense, to design the layout of all features of the vehicle and body build out, to create a fully customized layout, designed to meet the specific needs and desires of the District, and thereafter provide a fully scaled layout diagram of the proposed build out for approval and sign off prior to construction of the vehicle or any of its components.	<input type="checkbox"/>	<input type="checkbox"/>
5. All walls and ceiling to be fully insulated	<input type="checkbox"/>	<input type="checkbox"/>
6. Mud Flaps and grab 2 grab handles ate rear doorway	<input type="checkbox"/>	<input type="checkbox"/>
7. Rear full width fully enclosed step bumper, constructed of diamond plate steel with 10" deep step at a height half the distance from the tailboard to the street.	<input type="checkbox"/>	<input type="checkbox"/>
8. Rear fold down step mounted in the middle of step bumper with three steps that fold up for storage/travel.	<input type="checkbox"/>	<input type="checkbox"/>

9. Heavy Duty Lonsel industrial grade flooring, including a grip treads type flooring in the working area and smooth matched color flooring in the control room area.	<input type="checkbox"/>	<input type="checkbox"/>
10. Outside drivers side full locking and reinforced generator access door to support a slide out compartment for the generator as outlined below.	<input type="checkbox"/>	<input type="checkbox"/>
11. Onan Diesel 7.5 KW “commercial quiet” generator installed in a fire proofed, sound and heat insulated galvanized steel compartment, accessible thru the access door listed above, mounted on a steel support frame and steel ball bearing heavy duty glides rated at no less than 400#’s fully extended. The generator shall be installed so that service personnel may easily slide the generator out of the body without the need to disconnect fuel or electrical lines for servicing the generator. A remote start stop switch with hour meter, temperature gages and diagnostic code display shall be installed at a prescribed location in proximity to the operator’s desk.	<input type="checkbox"/>	<input type="checkbox"/>
12. The dividing wall will have a 24” wide by 6’4” high pass thru door with a travel latch so the door may remain open during operation or transit.	<input type="checkbox"/>	<input type="checkbox"/>
13. A window, with a full half slider and tinted impact resistant glass shall be located on the dividing wall.	<input type="checkbox"/>	<input type="checkbox"/>
14. Backup rear vision camera with “On / on in reverse” color monitor to facilitate placement of the vehicle over in street manholes without the need to leave the vehicle first. The camera shall have an anodized outer body for protection against the elements.	<input type="checkbox"/>	<input type="checkbox"/>
15. Two matching construction tool boxes shall be provided in the working area of the vehicle, boxes shall be finished in Bright Blue powder coated steel, utilizing stainless steel ball bearing slides with a minimum drawer rating of 400lbs. per drawer. Each drawer shall have a “one finger” travel latch feature allowing the drawers to be locked in closed or open position without the use of a key. Both tool boxes shall have keyed lock also so that equipment and tools can be stored and securely locked. One box/storage drawer shall be located under the reel for secure storage of the crawler and one shall be located on the passenger side of the vehicle for storage of associated tools.	<input type="checkbox"/>	<input type="checkbox"/>
16. The tool box shall be constructed and located so as to create workbench surface, which shall be finished hardwood surfaces, sealed from the elements and oil finished for durability.	<input type="checkbox"/>	<input type="checkbox"/>
17. A sink complete with fresh and gray water holding tanks shall be provide. The gray tank shall be minimum 10 gallons with a 3”slide gate dump valve for approved disposal of gray waste. The fresh water tank shall be a minimum of 20 gallons.	<input type="checkbox"/>	<input type="checkbox"/>
18. An industrial grade steel self retracting safety rewind (controlled speed rewind) model with an industrial grade rubber 25’ minimum hose, complete with nozzle and minimum 40 PSI 12VDC 3.5GPM on demand pump shall be provided with all pump, hose, tanks, reels and associated fittings concealed from view and protected from the elements. The nozzle shall be accessible at the rear of the vehicle for easy operator access without the need to unlock or open panels.	<input type="checkbox"/>	<input type="checkbox"/>
19. The water pump shall have a lighted on/off switch provided at the rear of the vehicle in proximity to the operator when standing on the street at the rear of the vehicle. The water tank shall have a spigot style drain.	<input type="checkbox"/>	<input type="checkbox"/>

20. 2 - 150 watt minimum 120VAC Floods with a switch located on the rear wall in proximity to the operator when standing on the street at the rear of the vehicle, on a dedicated breaker switch shall be provided.	<input type="checkbox"/>	<input type="checkbox"/>
21. A 120 VAC 120PSI 4 gal compressor shall be provided with an industrial grade steel self retracting safety rewind (controlled speed rewind) model with an industrial grade rubber 25' minimum hose, rated at no less than 150 PSI, complete with quick connect chuck, with all compressor, hose, reel, and associated fittings concealed from view and protected from the elements. The quick connect chuck shall be accessible at the rear of the vehicle for easy operator access without the need to unlock or open panels.	<input type="checkbox"/>	<input type="checkbox"/>
22. The working area shall contain a custom fabricated coat closet, from floor to ceiling. Bottom half shall have two large cubbies the width of the closet stacked, and three smaller cubbies parallel above larger cubbies. The top portion will create the coat closet with two out swinging doors.	<input type="checkbox"/>	<input type="checkbox"/>
23. The operator area shall contain a custom fabricated desk with a Formica top, matching cabinetry to include an electronics cabinet, a fold down desktop work surface on the passenger side of the truck	<input type="checkbox"/>	<input type="checkbox"/>
24. Bench seat/cooler, under the seat shall be an insulated stainless steel lined cooler fully sealed with drain on outside of box with professionally constructed vinyl covered seat as a lid.	<input type="checkbox"/>	<input type="checkbox"/>
25. Roof mounted air conditioner with 15,000 BTU cooling capacity and 5,500 BTU heat, overhead distribution panel, and digital thermostat control.	<input type="checkbox"/>	<input type="checkbox"/>
26. Two separate GFI circuits for outlets in the rear area of the vehicle, and one additional 110V duplex outlet in the rear area, plus 4 user available 110V duplexes strategically located in the operator's area of the body. These outlets are in addition to the required power outlets necessary to support all installed components.	<input type="checkbox"/>	<input type="checkbox"/>
27. Four "Whelen" Super LED Amber Light Heads mounted at the rear of the box two high and two low, controlled by in dash mounted lighted switch and powered by deep cycle battery supply installed in the body of the vehicle. (Light heads and other warning lights powered by the chassis battery are unacceptable).	<input type="checkbox"/>	<input type="checkbox"/>
28. "Whelen" Amber Corner Marker Strobes installed inside chassis turn signal lights and two Amber Linier LED Light heads shall be installed on the side of the body for maximum visibility controlled by in dash mounted lighted switch and powered by deep cycle battery supply installed in the body of the vehicle. (Strobes and other warning lights powered by the chassis battery are unacceptable).	<input type="checkbox"/>	<input type="checkbox"/>
29. Two "Whelen" Super LED Amber Traffic Advisors one located at the rear roofline, and one located at the front roofline controlled by two in dash control panels and having an integral LED lighted display to designate minimum left-right, right-left, center out, and rapid fire warning modes.	<input type="checkbox"/>	<input type="checkbox"/>
30. Two "Whelen" amber roof mounted strobes, one at the rear roof line of the body and a second at the front roofline, controlled by a single lighted in dash switch and powered via the auxiliary 12V system incorporated in the body.	<input type="checkbox"/>	<input type="checkbox"/>
31. Audible backup alarm with automatic self adjusting feature, to adjust volume to exceed ambient noise levels to a minimum of 112 db.	<input type="checkbox"/>	<input type="checkbox"/>

32. A deep cycle minimum 27M series auxiliary battery shall be located in a readily serviceable location under the body skirting on the curb side and shall be fuse (not fusible link) protected.	<input type="checkbox"/>	<input type="checkbox"/>
33. Automatic transfer switch rated at minimum 45 amps	<input type="checkbox"/>	<input type="checkbox"/>
34. A 25' shore power cord rated at minimum 30 amps with an 110V park adaptor shall be supplied and accessible both by a locking outside hatch and a service compartment located inside the body. Said locking hatch shall be keyed alike with the water fill locking hatch also located on the outside of the body.	<input type="checkbox"/>	<input type="checkbox"/>
35. One quality ergonomic operator's chair shall be provided.	<input type="checkbox"/>	<input type="checkbox"/>
36. A minimum of 5 overhead fluorescent 110V lamps shall be provided in with separate circuits and switches located in the rear working area and the operator's area, appropriately located.	<input type="checkbox"/>	<input type="checkbox"/>
37. BC Rated 10lb minimum; Fire extinguisher shall be located in the working area of the body.	<input type="checkbox"/>	<input type="checkbox"/>
38. A full width retractable awning is to be located at the rear roof sill of the vehicle, operated by a removable lightweight hand crank which shall be stowed in proximity to the awning for easy retrieval. The awning shall be constructed of high quality lightweight materials and the fabric shall be a reflective UVA/B screen to offer the operators the maximum protection from harsh weather conditions. The awning in extended position should cover the entire width of the vehicle and extend no less than 50".	<input type="checkbox"/>	<input type="checkbox"/>
39. A microphone, with suitable amplifier for recording voice over video shall be mounted in the operator area.	<input type="checkbox"/>	<input type="checkbox"/>
40. The body electrical system shall include a battery isolator which will allow charging of the chassis battery while in generator mode and charging of the auxiliary battery while the chassis is running.	<input type="checkbox"/>	<input type="checkbox"/>
41. The body shall have full skirting under the floor deck no lower than chassis's cab to create a seamless visual profile of the vehicle and to protect under floor mounted components from the elements and from view.	<input type="checkbox"/>	<input type="checkbox"/>
42. An eye level cabinet shall be supplied on the curb side of the working area, over the workbench with fluorescent light mounted under to light up workbench.	<input type="checkbox"/>	<input type="checkbox"/>
VIDEO MONITORS AND COMPONENTS	<input type="checkbox"/>	<input type="checkbox"/>
43. A small camera shall be installed behind cable reel so that operator can monitor proper payout and retrieval of cable. The monitor shall be mounted in operator area above desk.	<input type="checkbox"/>	<input type="checkbox"/>
44. 20" LCD flat screen TV monitor in the control room, and 15" LCD flat screen TV monitor in the working area, both to be swivel wall mounted with locking fully adjustable mounts.	<input type="checkbox"/>	<input type="checkbox"/>
45. 20" flat screen LCD computer monitor shall support the Inspection Software PC.	<input type="checkbox"/>	<input type="checkbox"/>
46. Printer, HP 900 series or equal, color inkjet printer.	<input type="checkbox"/>	<input type="checkbox"/>

7.0) MANUALS & TRAINING	Comply	
	<u>Yes</u>	<u>No</u>
1. 2 operations manuals for the camera system shall be provided.	<input type="checkbox"/>	<input type="checkbox"/>
2. Up to two full days (or equivalent in partial days) of training shall be provided at no additional charge.	<input type="checkbox"/>	<input type="checkbox"/>

Supervision Options:

8.0) LARGE 10" – 60" PIPE DIAMETER STEERABLE MOTORIZED CRAWLER

	<u>Yes</u>	<u>No</u>
1. The system shall include a gear driven; all wheel drive tractor to carry the camera for rapid remote inspection of pipes that range from 10" to 48" for travel and camera centering and over 5 feet for viewing and lighting capability.	<input type="checkbox"/>	<input type="checkbox"/>
2. All drive wheels must overlap each other in 12 inch or larger pipe to maintain a constant foot print for crawling over debris and offsets. Camera systems having to remove the center drive wheel for larger pipe diameter inspections will be deemed unacceptable.	<input type="checkbox"/>	<input type="checkbox"/>
3. Crawler must have NRTL approval for IP68 (IEC60529) or NEMA 6P (NEMA250) enclosure type ratings to offer protection for the operator and equipment in wet and damp environment.	<input type="checkbox"/>	<input type="checkbox"/>
4. Crawler shall be offered with ATEX Zone 2 explosion proof rating	<input type="checkbox"/>	<input type="checkbox"/>
5. The tractor shall provide sufficient traction, under suitable conditions, to tow 1650 feet of transmission cable. Such traction shall be provided by six gear driven wheels with tapered tires. Tractors propelled by chains, belts or continuous tracks will not be acceptable.	<input type="checkbox"/>	<input type="checkbox"/>
6. The tractor shall have proportional left/right steering, forward, reverse, along with a clutch release mechanism capability via a joystick and other controls via the operator pendants attached to the CCU and the cable reel.	<input type="checkbox"/>	<input type="checkbox"/>
7. The tractor shall be no longer than 25" without pan and tilt camera and 30" with the pan-tilt-zoom camera in order to easily navigate through 90-degree inverts without rolling.	<input type="checkbox"/>	<input type="checkbox"/>
8. Tractor shall have a minimum weight of 40 lbs. with camera	<input type="checkbox"/>	<input type="checkbox"/>
9. The tractor shall be powered by dual 75 Watt DC motors.	<input type="checkbox"/>	<input type="checkbox"/>
10. The crawler shall have an integral remotely operated lift that can raise the camera a minimum of 10" from its lowest position.	<input type="checkbox"/>	<input type="checkbox"/>
11. The crawler shall have a rear viewing black and white camera to assist with avoiding debris and cable management. Rear and forward view cameras shall have no external wiring and can be toggled between one another via the operator's pendant.	<input type="checkbox"/>	<input type="checkbox"/>

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| 12. Camera shall attach to the front of the crawler by turning a slotted locking mechanism on the top of the camera which drives 4 stainless bearings into the rotate shaft of the crawler and have the ability to maintain a 10 bar waterproof seal. | <input type="checkbox"/> | <input type="checkbox"/> |
| 13. Camera and crawler rotate shaft shall have a keyway to allow for proper alignment. | <input type="checkbox"/> | <input type="checkbox"/> |
| 14. Cable shall attach to rear of crawler with 2 turns of the outer stainless housing on the end of the cable. | <input type="checkbox"/> | <input type="checkbox"/> |
| 15. A spring loaded pin on the crawler body shall lock into the end of cable housing to secure cable connection and provide a pulling strength that is beyond the 1000 lb rated break strength of the cable. | <input type="checkbox"/> | <input type="checkbox"/> |
| 16. In order to prevent leaking and bending due to torque and stress generated by a small steerable crawler, the tractor chassis shall be a single piece of machined aluminum with only a top plate to access the control boards, a bottom plate to access the motors and two side cover plates to access the gears. Bronze or brass bodies or soft metals will not be acceptable for body chassis. | <input type="checkbox"/> | <input type="checkbox"/> |
| 17. All wheels to have tapered edges to conform to pipe sidewall | <input type="checkbox"/> | <input type="checkbox"/> |
| 18. The tractor shall have machined key fitting on all 6 axles to facilitate easy use and ensure an exact fit with all wheels. Machined axle key must be able to be replaced in the field without having to replace the axle. Crawlers without keyways or keyway fittings that can be replaced in the field without removal of the axle will be deemed unacceptable. | <input type="checkbox"/> | <input type="checkbox"/> |
| 19. Crawler shall be controlled via PipeBus software technology to allow for precision control, diagnostic monitoring and future upgradeability. Single conductor or multi conductor systems with more than 6 wires within the cable will be deemed unacceptable. | <input type="checkbox"/> | <input type="checkbox"/> |
| 20. The tractor shall include 3 wheel sizes and spacers suitable to accommodate pipe inspection in 10" through 60" pipes. Spacers and wheels sizes shall attach with a keyway and single screw. No plates or spacer-bars will be accepted. | <input type="checkbox"/> | <input type="checkbox"/> |
| 21. The tractor shall have dual large pipe HID or LED lighting that can be manually moved to view in an upward or downward angle to cover a variety of inspection requirements. Lighting will illuminate target areas of interest up to 10 feet away. | <input type="checkbox"/> | <input type="checkbox"/> |
| 22. The tractor shall have a tilting rear cable connector that points vertically when deploying the system into a manhole but can tilt into a horizontal position during operation in order to protect cable and connector during deployment. | <input type="checkbox"/> | <input type="checkbox"/> |
| 23. Strain relief must be provided internal to the cable and then maintained by the strength of the locking mechanism of the stainless steel connector. | <input type="checkbox"/> | <input type="checkbox"/> |
| 24. Crawler and cable stainless connectors must have a lifetime warranty | <input type="checkbox"/> | <input type="checkbox"/> |
| 25. The tractor shall allow for one of the following sondes to be added (512, 33 or 640 Hz integral sonde) to facilitate locating crawler location with a receiver. | <input type="checkbox"/> | <input type="checkbox"/> |
| 26. The tractor shall have a standard inclinometer for tracking and electronically outputting pipe rise and fall (grade) and integrate data with database inspection software. | <input type="checkbox"/> | <input type="checkbox"/> |

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| 27. Crawler shall have an additional roll sensor to avoid flipping the crawler. Sensor shall sound an audible or visible onscreen alarm when crawler center of gravity is pitched in a way that it will soon roll over. | <input type="checkbox"/> | <input type="checkbox"/> |
| 28. The tractor shall come with an internal temperature and pressure sensor that is able to read at the control unit | <input type="checkbox"/> | <input type="checkbox"/> |

9.0) Supervision add-on SAT / Lateral Launch System	Comply
	<u>Yes</u> <u>No</u>
System Equipment List: 1 - Pan and Tilt Camera 1 - Lateral Launch Crawler with launching positioning unit and mechanical SAT drivers 1 - Front view launching camera 1 - Rear view driving camera 1 – Motorized Cable Drum 400’ Tag-line with 100’ Launching Cable	

Pan and Tilt SAT Camera

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| 1. The camera shall pan and tilt and be capable of viewing both the mainline and laterals for complete inspection. It shall have a variable focus for pipe size adjustments and be able to be towed in the mainline via the crawler and pushed up the lateral via a pinch roller mechanism from the mainline through the lateral connection. | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Camera shall be offered with ATEX Zone 2 explosion proof rating | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Camera must have NRTL approval for IP68 (IEC60529) or NEMA 6P (NEMA250) enclosure type ratings to offer protection for the operator and equipment in wet and damp environment. | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. When connected to crawler there cannot be external wires, connectors, clamps or tie-downs. | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. The camera will pan a full 360 degrees and tilt (+/- 90°) allowing for full view of laterals and joints. Camera will have the ability to capture maximum detail from pipe walls. | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. Camera shall be constructed from Aluminum for a light weight durable design. | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. Camera construction shall include all solid-state circuitry designed to withstand shocks and vibrations while being pushed, pulled or propelled through the pipe. | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. All camera electronics shall be of modular construction for ease of exchange and repair, and shall be designed to facilitate future upgrades. | <input type="checkbox"/> | <input type="checkbox"/> |
| 9. The front of the camera housing shall have a windshield made of impact resistant, distortion-free material. | <input type="checkbox"/> | <input type="checkbox"/> |
| 10. The housing shall be fully sealed and waterproof (IP68) to withstand external pressure up to 10 bar without damage or leaking. | <input type="checkbox"/> | <input type="checkbox"/> |
| 11. The camera power supply shall be provided from a solid-state power source and the camera input shall be 12 volts DC. | <input type="checkbox"/> | <input type="checkbox"/> |

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| 12. The lighting for the camera shall be supplied through an isolated power supply and shall regulate the light voltage up to a nominal 36 volts DC. | <input type="checkbox"/> | <input type="checkbox"/> |
| 13. Pan/Tilt Motor power shall be 12V/3Watt | <input type="checkbox"/> | <input type="checkbox"/> |
| 14. A variable transmitter 512hz and 640hz shall be located inside the camera head, operator shall be able to switch between the two signals via the control pendant. | <input type="checkbox"/> | <input type="checkbox"/> |
| 15. Camera illumination must be provided with a minimum of 28 field-replaceable LED's that have a 50 degree lighting angle and provide 45000mcd/piece to light pipes up to 60" diameter | <input type="checkbox"/> | <input type="checkbox"/> |
| 16. Camera shall have a valve for purge and pressurization of camera-body. The internal pressure of the camera shall be displayed on the CCU diagnostics screen and will alarm when pressure is low. Cameras that are not pressurized or do not have the ability to monitor the internal pressure of camera will be deemed unacceptable. | <input type="checkbox"/> | <input type="checkbox"/> |
| 17. The pan and tilt camera shall have a motorized self leveling feature in order to maintain an upright picture image during inspection, this feature can be overridden in order to pan and tilt as needed, then back engaged when camera is in the home position. | <input type="checkbox"/> | <input type="checkbox"/> |
| 18. Camera must not weigh more than 49oz | <input type="checkbox"/> | <input type="checkbox"/> |
| 19. Camera must have a maximum size of 2.95 inches in order to fit into pipe diameter of 4 inches. | <input type="checkbox"/> | <input type="checkbox"/> |
| 20. Rotation axle must be made of a minimum of 15mm stainless steel | <input type="checkbox"/> | <input type="checkbox"/> |
| 21. Pan and tilt must have integrated clutch for pan and tilt motor | <input type="checkbox"/> | <input type="checkbox"/> |
| 22. Camera must be color. | <input type="checkbox"/> | <input type="checkbox"/> |

6" to 24" Wheeled Steerable Lateral launch crawler

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| 23. Launcher crawler shall be offered with ATEX Zone 2 explosion proof rating | <input type="checkbox"/> | <input type="checkbox"/> |
| 24. Launcher crawler must have NRTL approval for IP68 (IEC60529) or NEMA 6P (NEMA250) enclosure type ratings to offer protection for the operator and equipment in wet and damp environment. | <input type="checkbox"/> | <input type="checkbox"/> |
| 25. Crawler shall be a gear driven; six all wheel drive tractor to carry the camera and launching cable for rapid remote inspection of mainline pipes that range from 6" to 24", and be able to launch the camera into lateral lines up to 100' from the crawler. Tractors propelled by chains, belts or continuous tracks will be deemed unacceptable. | <input type="checkbox"/> | <input type="checkbox"/> |
| 26. The tractor shall provide sufficient traction, under suitable conditions, to tow up to 1100 feet of mainline transmission cable, 100' of launching cable and up to 1000' of lateral camera transmission cable. | <input type="checkbox"/> | <input type="checkbox"/> |
| 27. The tractor shall have proportional left/right steering, forward, reverse, capability via a joystick and other controls via the operator pendants attached to the CCU and the cable reel. | <input type="checkbox"/> | <input type="checkbox"/> |
| 28. The tractor shall have a maximum size of 12.4" (314mm) long by 4.7" (119mm) High by 4.3" (109mm) wide to allow for proper clearance in 6" and lined pipes. | <input type="checkbox"/> | <input type="checkbox"/> |

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| 29. A minimum of two 50 watt DC motors shall power the tractor. | <input type="checkbox"/> | <input type="checkbox"/> |
| 30. Crawler shall include a camera positioning docking tube that will raise, lower and rotate left/right to position camera head in center of mainline or above flow, and position camera for launching into lateral. | <input type="checkbox"/> | <input type="checkbox"/> |
| 31. Camera shall mount to the front of the crawler in the lateral positioning docking tube. | <input type="checkbox"/> | <input type="checkbox"/> |
| 32. Cable shall attach to rear of crawler with 2 turns of the outer stainless housing on the end of the cable. | <input type="checkbox"/> | <input type="checkbox"/> |
| 33. A spring loaded pin on the crawler body shall lock into the end of cable housing to secure cable connection and provide a pulling strength that is beyond the 1000 lb rated break strength of the cable. | <input type="checkbox"/> | <input type="checkbox"/> |
| 34. Crawler shall have a maximum speed of 75 feet per minute | <input type="checkbox"/> | <input type="checkbox"/> |
| 35. The tractor shall be no longer than 12.4" (314mm) in order to easily navigate through 90-degree inverts without rolling. | <input type="checkbox"/> | <input type="checkbox"/> |
| 36. The tractor chassis shall be a single piece of machined stainless steel with only a top plate to access the control boards, a bottom plate to access the motors and two side cover plates to access the gears. Bronze or brass bodies or soft metals will not be acceptable for body chassis. | <input type="checkbox"/> | <input type="checkbox"/> |
| 37. The tractor shall have a machined key way on all 6 axles, wheels shall be mounted by only one bolt to facilitate fast easy wheel changes and ensure an exact fit with all wheels. No plates or spacer-bars will be accepted. | <input type="checkbox"/> | <input type="checkbox"/> |
| 38. Machined axle key must be able to be replaced in the field without having to replace the axle. Crawlers without keyways or keyway fittings that can be replaced in the field without removal of the axle will be deemed unacceptable. | <input type="checkbox"/> | <input type="checkbox"/> |
| 39. Crawler shall be controlled via PipeBus software technology to allow for precision control, diagnostic monitoring and future upgradeability. | <input type="checkbox"/> | <input type="checkbox"/> |
| 40. Tractor shall work with the following standard and optional wheel sets: | <input type="checkbox"/> | <input type="checkbox"/> |
| a. Set of 4 common 36mm dia by 20mm wide spacers (standard) | <input type="checkbox"/> | <input type="checkbox"/> |
| b. (6) 3.33" (86mm) dia rubber wheels(standard) | <input type="checkbox"/> | <input type="checkbox"/> |
| c. (4) 4.33" (110mm) dia grooved rubber wheels(standard) | <input type="checkbox"/> | <input type="checkbox"/> |
| d. (4) 4.33" (110mm) dia soft composite grease wheels with traction grit impregnation(optional) | <input type="checkbox"/> | <input type="checkbox"/> |
| e. (4) 5.31" (135mm) dia grooved rubber wheels(standard) | <input type="checkbox"/> | <input type="checkbox"/> |
| f. (6) 3.33" (86mm) dia soft composite grease wheels with traction grit impregnation(optional) | <input type="checkbox"/> | <input type="checkbox"/> |
| g. (6) 3.33" (86mm) dia pointed carbide wheels(optional) | <input type="checkbox"/> | <input type="checkbox"/> |
| h. (4) 4.33" (110mm) dia pointed carbide wheels(optional) | <input type="checkbox"/> | <input type="checkbox"/> |
| i. (4) 5.31" (135mm) dia soft composite grease wheels with traction grit impregnation(optional) | <input type="checkbox"/> | <input type="checkbox"/> |

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| j. (4) 5.31" (135mm) dia pointed carbide wheels(optional) | <input type="checkbox"/> | <input type="checkbox"/> |
| k. (4) 5.31" (135mm) dia by 2.6" wide sediment rubber wheels(optional) | <input type="checkbox"/> | <input type="checkbox"/> |
| 41. The tractor must have auxiliary light connection port on top of the crawler. | <input type="checkbox"/> | <input type="checkbox"/> |
| 42. The tractor shall have the ability to add triple super bright Solarc LED low profile (1.7" dia.) auxiliary light that is remotely controlled via a controller on the operator pendant. | <input type="checkbox"/> | <input type="checkbox"/> |
| 43. Crawler must fit in 6" diameter pipe with dual auxiliary lighting attached | <input type="checkbox"/> | <input type="checkbox"/> |
| 44. The tractor shall have a tilting rear cable connector that points vertically when deploying the system into a manhole but can tilt into a horizontal position during operation in order to protect cable and connector during deployment. | <input type="checkbox"/> | <input type="checkbox"/> |
| 45. Strain relief provided must be internal to the cable connector so that there is no external strain relief cables to get caught up in the pipe. Crawlers with external strain relief cables will be deemed unacceptable. | <input type="checkbox"/> | <input type="checkbox"/> |
| 46. Crawler and cable stainless connectors must have a lifetime warranty. | <input type="checkbox"/> | <input type="checkbox"/> |
| 47. The tractor shall have a standard inclinometer. | <input type="checkbox"/> | <input type="checkbox"/> |
| 48. Crawler shall have an additional roll sensor to avoid flipping the crawler. Sensor shall sound an audible or visible alarm when crawler center of gravity exceeds 20 degrees in the pipe. | <input type="checkbox"/> | <input type="checkbox"/> |
| 49. Launcher crawler shall be maximum of 44lbs | <input type="checkbox"/> | <input type="checkbox"/> |
| 50. Launcher crawler must have a motorized tilt and lift armature to allow for the positioning of the camera into lateral inverts up to the 12 o'clock position. | <input type="checkbox"/> | <input type="checkbox"/> |
| 51. Launcher crawler must have two free-wheels with a swivel tilt to allow for easy insertion into manhole inverts. | <input type="checkbox"/> | <input type="checkbox"/> |
| 52. Safety lowering pegs shall be integrated into the body to attach a forked lowering hook for safe lowering operations. Transporters that utilize attached straps, wire or cable as a method of lowering or lifting the transport unit have been deemed unsafe and shall not be accepted. | <input type="checkbox"/> | <input type="checkbox"/> |
| 53. The housing shall be fully sealed and waterproof (IP68) to withstand external pressure up to 10 bar without damage or leaking. | <input type="checkbox"/> | <input type="checkbox"/> |

SAT Cable Drive Mechanism

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| 54. The driving mechanism shall be located on top of the crawler in order to keep the drivers and positioning cameras out of debris and high flow in the pipe. Lateral drives internal to the crawler body or located on the bottom of the crawler shall not be accepted. | <input type="checkbox"/> | <input type="checkbox"/> |
| 55. The driving mechanism shall be four stainless steel pinch rollers with a single Allan head screw tension adjustment. All driving components shall be protected via a locking hinged door. Systems that require the use of tools, screws or any other assembly style devices to load and unload the cable shall not be accepted. | <input type="checkbox"/> | <input type="checkbox"/> |

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| 56. Lateral cable drivers must not be exposed in order to protect from offsets, debris and obstructions found in normal working conditions. Cable drivers not enclosed in a protective housing shall not be accepted. | <input type="checkbox"/> | <input type="checkbox"/> |
| 57. SAT-Drive attachment shall be cable of launching a minimum of 100' of lateral push cable into the lateral line via the SAT system from the mainline. | <input type="checkbox"/> | <input type="checkbox"/> |
| 58. Drive attachment shall have an auto cruse control feature for a hands free launch. The auto cruse control feature shall also allow the operator to set his launching speed. | <input type="checkbox"/> | <input type="checkbox"/> |
| 59. A rear view camera shall be integrated into the SAT-drive attachment to allow for rear-viewing during the SAT system retrieval process and to allow for avoiding obstacles and effective steering during the retrieve. | <input type="checkbox"/> | <input type="checkbox"/> |
| 60. Rear and forward view cameras shall be displayed on the operator pendant and can be toggled between one another. | <input type="checkbox"/> | <input type="checkbox"/> |
| 61. The housing shall be fully sealed and waterproof (IP68) to withstand external pressure up to 10 bar without damage or leaking. | <input type="checkbox"/> | <input type="checkbox"/> |

SAT Motorized Cable Drum

- | | | |
|---|--------------------------|--------------------------|
| 62. The cable drum provided shall contain both the push cable for the SAT camera and the tag line cable connecting to the SAT cable drum. SAT systems that do not allow both cables to roll up into the drum, or systems that require the operators to attach a launch cable outside of the cable drum have been deemed unsafe and shall not be accepted. | <input type="checkbox"/> | <input type="checkbox"/> |
| 63. The SAT cable drum shall be synchronized with the mainline cable drum | <input type="checkbox"/> | <input type="checkbox"/> |
| 64. The hub of the cable drum shall be equipped with a continuous contact slip-ring assembly to allow the cable to be dispensed and retrieved while the camera and tractor are operational. | <input type="checkbox"/> | <input type="checkbox"/> |
| 65. The slip ring contacts shall be of an alloy of gold and rhodium and must be housed in an environmentally sealed housing. | <input type="checkbox"/> | <input type="checkbox"/> |
| 66. Cable feed out and retrieval must happen automatically via a motorized system with sensors that correspond with the movement of the mainline cable drum. Cable reels that require the crawler to pull the cable off the reel or operator control while the crawler is in use will be deemed unacceptable. | <input type="checkbox"/> | <input type="checkbox"/> |
| 67. The cable drum must have an emergency stop switch. | <input type="checkbox"/> | <input type="checkbox"/> |
| 68. The cable drum must be able to operate in both automatic and manual modes. | <input type="checkbox"/> | <input type="checkbox"/> |
| 69. The cable drum must have speed and torque controls to adjust for different pipe conditions and user preferences. | <input type="checkbox"/> | <input type="checkbox"/> |
| 70. The cable reel shall not weigh more than 44 pounds with cable. | <input type="checkbox"/> | <input type="checkbox"/> |
| 71. The maximum reel dimensions shall be no more than 29.5in X 11.8in X 26.5in (LxWxH) | <input type="checkbox"/> | <input type="checkbox"/> |

72. Cable drum must come with stationary mounting plate where cable drum remains secure, but can easily be removed for maintenance, shipping or portable use without the use of any tools or loose hardware.

Footage Counter

73. The system shall include a footage counter attached to the counter arm assembly, which extends from the cable drum.
74. The footage counter assembly shall be constructed of machined aluminum parts and shall include the necessary guide wheels to maintain cable tension.
75. The footage counter shall measure passage of the cable from the wheel graduated in 0.1-foot steps up to 1650 feet.
76. The footage counter shall function electronically and transmit footage data for monitor display and video recording.

SAT Cable		
77. 100' of push cable shall be provided with water-tight connectors	<input type="checkbox"/>	<input type="checkbox"/>
78. 400' of 6 wire continuous length multi-conductor tag line cable shall be provided.	<input type="checkbox"/>	<input type="checkbox"/>

79. The cable must be Kevlar reinforced and have minimum break strength of 1000 lbs.
80. Tag line cable shall be no greater than .19 inches in diameter.
81. A connector strain relief fixture must be internal to the cable and cable connector.
82. Cable and connectors must be waterproof up to 10 bar
83. Cable must have tough outer jacket to resist tears and scrapes
84. Outer jacket must be smooth to reduce friction
85. Tag line and push cable shall be linked by a stainless steel cable coupler
86. Push cable camera connect end must have connector that has electrical keyway for proper alignment of cable to camera connector without damaging electrical pins

Monitor

- 10" monitor or greater shall be provided to allow operator to view front view and rear view crawler cameras.

10.0) QuickView Remote Confined Space and Video Pipeline Inspection Equipment.

Comply
Yes No

- The purpose of these specifications is to secure for the purchaser the necessary equipment and accessories needed to effectively inspect and record defects found in sanitary/storm sewer pipelines, manholes, catch basins, bridges, vessels, tanks and any other confined or hard to reach spaces space areas.

1. General Requirements

- a. The proposed system must be a self-contained camera system. Camera systems that require a generator or shore/house power will be deemed unacceptable.
- b. Warranty: The system furnished in accordance with these specifications shall be covered for a period of 3 (three) years.
- c. Warranty: The portable viewing device and the battery pack with charger shall be covered by a 1 (one) year warranty.
- d. Optional zero cost maintenance plans or extended warranty shall be available.
- e. The proposed system must be able to be operated by one person thus requiring no entry into confined space areas. Systems that require confined space entries will be deemed unacceptable.
- f. System must have NRTL certification (listed and labeled) for the OSHA Federal Regulation for safe use of electrical equipment. NRTL certification number must be found on equipment or submitted via a copy of the listing report.
- g. No tools required for the setting up or accessorizing the system. Only 3 cables required – power, camera and video.

2. Camera Head: Module & Housing

- a. The camera will produce a color video image and provide a minimum of 460 HTV Lines of video resolution.
- b. The image sensor shall be a Color Hyper-Had CCD with expanded sensitivity to view down a minimum diameter of 6" pipe lines and have a minimum viewing range of 75' to 150' with bright pipe sidewall detail.
- c. Camera construction shall include all solid-state circuitry designed to withstand shocks and vibrations
- d. The camera shall have a zoom feature of 36:1 optical and a digital zoom of 12 times for a total of 432:1 magnification. Systems with more or less zoom will be deemed unacceptable.
- e. With standard package, camera shall have a minimum lux rating no greater than 0.7.
- f. The camera head shall have a function where the user can allow the shutter speed to go below 1/60th of a second and react automatically to changing dark environments for viewing in large or far dark areas. Cameras without this feature will be deemed unacceptable.
- g. Camera shall have ability for auto and manual focus. Maximum time for auto focus to resolve a subject is 1/2 second.
- h. System illumination shall be provided by HID (High Intensity Discharge) lighting with a maximum reflector angle of 6 degree for far viewing and maximum of 13.5 degree for close viewing. (5450cp at 13 degree beam, 17300cp at 6 degree beam) Lamps operate at a minimum color temperature of 4,300 Kelvin and up to 5500 Kelvin to provide for bright and contrast lighting at far distances. Halogen or filament lamps will be deemed unacceptable.
- i. Lamps shall have capability to add single or dual cool-touch polymer light diffuser which allows for the light pattern of narrow beam lamps to be greater than the field of view of the camera at its widest standard angle as well as when using the wide angle adapter. This assures an even light pattern without triggering the camera to close iris or reduce

- gain. No tools required.
- j. Selectable single- or dual-lamp illumination.
 - k. For safety – lamps shall be able to be touched without burning even after operating at full power for an hour.
 - l. The complete camera housing shall be made of clear anodized aluminum designed for damp and underwater environments with an operating temperature range of 0° to 120° F.
 - m. Distance between center points of camera and lighting shall be no greater than 62 mm or 2 4/10” in order to guarantee acceptable video images in small pipes and at longer distances in larger pipes.
 - n. Distances between center points of dual narrow beam lamps shall be no greater than 40 mm or 1 6/10” in order to guarantee adequate performance in small diameter pipes or have concentrated illumination at farther distances.
 - o. Camera shall be rated at 4.5 bar / 150’ of water to ensure durability.
 - p. Camera shall have Schrader air valve for purge and pressurization of electronic components to prevent fogging of lens when there is a change in temperature.
 - q. Camera shall have an opening other than the Schrader valve to allow for the introduction of dry air at the same time moist air is being purged out of the system. Purge release port is released via single machined allen head screw opening.
 - r. Rounded front and rear camera housings shall be able to be removed without tools for easy maintenance and camera module upgrade.
 - s. Front light housings shall be able to be removed without tools for easy lamp beam selection and field maintenance.
 - t. Camera shall have ability to easily tilt while pole is extended via a 3” aluminum tilt-bar secured to the rear camera housing cap.
 - u. All camera and lighting wires shall be housed within the camera housing. Cameras that have ANY wires other than the main cable that come out of the camera head or lights will be deemed unacceptable.
 - v. System shall have quick-connect camera head feature where camera head attaches electrically to the cable via a single waterproof connector and mechanically to the pole via a single stainless spring loaded pin that engages the camera head collar from the pole hardware. No tools required.
 - w. Camera head shall have a single keyway for proper alignment within pole collar to insure proper camera placement and targeting results.
 - x. Camera shall be supported and be able to tilt via two side arms that have 1/3” diameter solid stainless steel journals.
 - y. Camera head with lighting shall have ability to fit into a 5.5” diameter opening, providing access in 6” risers and having viewing capability in 6” pipe lines.
 - z. Camera shall be able to straight tilt a maximum of 234 degrees in order to provide right side up video images in underground and overhead applications. Systems that do not provide this capability will be deemed unacceptable.
 - aa. Camera shall have tilt locking screw for times when camera tilt must be in a fixed position.
 - bb. Camera window shall be made of scratch resistant sapphire crystal.

3. Controller (Control Box, Menu System, Portable Vest and Battery)	<input type="checkbox"/>	<input type="checkbox"/>
a. The size of the control box shall be no greater than 5 1/8" x 2" x 6".	<input type="checkbox"/>	<input type="checkbox"/>
b. Control box shall mount within a pocket that is on the right front side of the included safety, power and control vest.	<input type="checkbox"/>	<input type="checkbox"/>
c. The control unit shall contain controls on the top of the box for zoom, manual/auto focus, on/off switch for single or double lamps and onscreen menu-items. Main 12V power switch located at rear of box.	<input type="checkbox"/>	<input type="checkbox"/>
d. Control Box shall have input and output connectors on its bottom and side. BNC Video out, military spec locking connector with keyway for main control cable to be located at bottom for ergonomic cable management and 3-pin XLR secured connector for 12V DC power input to be at rear of box for close and direct access to battery or optional 12V power cable.	<input type="checkbox"/>	<input type="checkbox"/>
e. Control box switches/controls shall be backlit rocker style and joystick.	<input type="checkbox"/>	<input type="checkbox"/>
f. Control Box shall have splash proof switches and connectors.	<input type="checkbox"/>	<input type="checkbox"/>
g. System control box shall have a single joystick to control zoom, focus and auto focus. Backward and forward will control telephoto and macro zoom while left and right will control far and near manual focus. Depressing the joystick in the center will engage auto focus.	<input type="checkbox"/>	<input type="checkbox"/>
h. Control box shall have led indicator for manual vs. auto focus.	<input type="checkbox"/>	<input type="checkbox"/>
i. Joystick shall also used to address on-screen menu items.	<input type="checkbox"/>	<input type="checkbox"/>
j. Toggle onscreen menu items shall be as follows:	<input type="checkbox"/>	<input type="checkbox"/>
i. Distance measurement (included in base package)	<input type="checkbox"/>	<input type="checkbox"/>
1. Distance reference measurement display on/off	<input type="checkbox"/>	<input type="checkbox"/>
2. Metric/English standard distance units toggle	<input type="checkbox"/>	<input type="checkbox"/>
3. Shadow Brite feature toggle	<input type="checkbox"/>	<input type="checkbox"/>
4. Calibration setting	<input type="checkbox"/>	<input type="checkbox"/>
k. Control box shall have camera control software chip that can be upgraded in the field.	<input type="checkbox"/>	<input type="checkbox"/>
l. Safety operator vest shall fit all sizes via adjustable front snaps and be made of ANSI rated yellow for daytime safety and have reflective tape for night time visibility and safety.	<input type="checkbox"/>	<input type="checkbox"/>
m. Safety operator vest shall have zipper back pouch to enclose all available battery sizes. Pouch will be located lower center of the back for safe use.	<input type="checkbox"/>	<input type="checkbox"/>
n. Safety operator vest shall have two clips in front to properly adhere and position the viewing device sun shade pouch.	<input type="checkbox"/>	<input type="checkbox"/>
o. Safety operator vest shall have control box pouch located at waist level on the right hand side. Pouch will have necessary opening for all input, outputs and control access.	<input type="checkbox"/>	<input type="checkbox"/>
p. Safety vest shall have integral Velcro cable straps for neat and orderly management of excess camera cable.	<input type="checkbox"/>	<input type="checkbox"/>
q. An automatic battery charger shall be included.	<input type="checkbox"/>	<input type="checkbox"/>
r. The safety operator vest shall contain a minimum 95-watt hour rechargeable battery pack.	<input type="checkbox"/>	<input type="checkbox"/>
s. Battery shall have 10" pigtail with 3-pin XLR locking connector to attach to control unit.	<input type="checkbox"/>	<input type="checkbox"/>
t. Battery life shall be 3 hours with continuous use with maximum illumination. While intermittent use is greater than 5 hours.	<input type="checkbox"/>	<input type="checkbox"/>

- u. Control box shall have colored (green, orange, red) LED indicator to let operator know condition of battery charge.
- 4. System Hardware
 - a. A telescoping pole adjustable from 6' to 18' shall be included to permit placement of the camera into a variety of areas. Pole diameter must be large enough to internally house the camera connector and cable.
 - b. Pole end shall have standoff where cable exits in order to protect cable from continuous small diameter bending and banging of the end of the pole.
 - c. A 40' video/camera control cable shall be integrated inside the pole. Cable is externally armored with crush resistant steel to prevent damage or tangling of cable. Cables without this armor will be deemed unacceptable.
 - d. A sunscreen viewing device pouch shall be provided to house viewing device and instructions. This pouch must clip directly to the safety vest for hands free and SAFE operation of the pole and control box.
 - e. Maintenance tool bag shall be supplied with necessary maintenance tools and supplies.
 - f. System shall have ability to add optional 6' extension to standard pole
 - g. System shall have ability to work with optional carbon fiber 16', 24' and 30' poles.
 - h. Due to the need to correctly position the camera for maximum results, carbon fiber poles shall be of the following specification to reduce operator fatigue and enhance ability to deliver the camera without bending or damaging the pole.
 - i. 16FT extended - 12 lbs, 4 section, retracted height 60", maximum pole dia. 1 7/8"
 - ii. 24FT extended - 13 lbs, 4 section, retracted height 81", maximum pole dia. 1 7/8"
 - iii. 30FT extended - 15 lbs, 5 section, retracted height 85", maximum pole dia. 1 7/8"
 - i. Carbon fiber poles shall have solid aluminum clasps with multi position lever to quickly and securely lock pole into preferred length.
 - j. All carbon fiber poles shall have option of either 6' of 18' extension for deeper inspection capability
 - k. Camera head positioning shall be calibrated and have adjustable pole mounted targeting and stabilization fixture capability via a 3' aluminum rod to assist viewing dropped lines, centering camera in different diameter lines and to assist with stabilizing and dampening image from manhole or basin bottom.
 - l. Fixture shall be calibrated with markings that correspond to centering camera in 6-60" lines.
 - m. Fixture shall have spring loaded foot to allow for a minimum of 3" of travel to properly center the camera to maximize viewing results. Systems without targeting, centering and stabilization fixture will be deemed unacceptable.
 - n. Targeting system shall have ability to add different spring tensions that correspond with different camera and lighting configurations.
 - o. Targeting system shall have option to be fitted with 5' carbon fiber rod for use when inspection line drops in manholes
 - p. Shall be able to attach a sump stabilizer to stabilize rod according to calibrated centering lines for environments that are filled with soft sediment.
 - q. System shall have provisions for portable hard side shipping/transport and storage case with wheels and extending handle for ease of transport. This shall hold all components except for the pole in a single organized case.

- | | | | |
|----|---|--------------------------|--------------------------|
| r. | Portable case shall not weigh more than 36 pounds when loaded with all equipment and viewing device. | <input type="checkbox"/> | <input type="checkbox"/> |
| s. | Portable case shall have custom foam cutouts for safety operator vest, control box, camera head, battery charger, battery, tool kit, viewing device and accessories and have a removable cable tray to store the armored cable. | <input type="checkbox"/> | <input type="checkbox"/> |
| t. | System shall have option for wide angle camera lens adapter which can double the camera's field of view for wide angle applications. This adapter must maintain waterproof and pressurization integrity and be added without tools. | <input type="checkbox"/> | <input type="checkbox"/> |
| u. | System shall have options for direct connection to 12V car power supply and an 110V AC to 12V DC adapter. | <input type="checkbox"/> | <input type="checkbox"/> |
| v. | System shall have easy Quick Start operation and set-up card for quick and straight forward use. | <input type="checkbox"/> | <input type="checkbox"/> |
| w. | System shall have option for heavy duty pole, camera head and stand-off shipping case that measures 8 inch dia. x 96 inch in Length. Weight 20lbs. | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. | Measurement Upgrade | <input type="checkbox"/> | <input type="checkbox"/> |
| a. | Optional measurement shall be based on patented lens based focal plane measurement method. | <input type="checkbox"/> | <input type="checkbox"/> |
| b. | Measurement methodology creates general range information to the area where the camera is focused. | <input type="checkbox"/> | <input type="checkbox"/> |
| c. | System can take distance information and create screen size reference to conduct reference based measurement for objects found within the camera's field of view or the viewing screen or digital image. | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. | | | |
| d. | System shall have the ability to be upgraded to measure and display depth of manhole to a distance of 30ft and the manhole width to a maximum of 3ft. | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. | | | |
| e. | System shall have the ability to be upgraded to measure manhole inflow and outflow pipe diameters from 4" to 12" diameters. | <input type="checkbox"/> | <input type="checkbox"/> |
| f. | Any system requiring extra hardware or accessories to provide measurements shall be deemed unacceptable | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. | Video Image Viewing, Recording & Storing | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. | | | |
| a. | A Digital Video recorder (DV) device shall be provided for viewing live video and storing still images. | <input type="checkbox"/> | <input type="checkbox"/> |
| b. | The DV recorder shall have a minimum 7" viewing area. | <input type="checkbox"/> | <input type="checkbox"/> |
| c. | The DV recorder shall transfer digital images via memory stick, fire wire or USB. | <input type="checkbox"/> | <input type="checkbox"/> |
| d. | The DV recorder shall the ability to capture still images on a memory stick with no less than 1 GB of storage. | <input type="checkbox"/> | <input type="checkbox"/> |
| e. | The DV recorder shall be powered via a battery and receive video from the control box via a ruggedized BNC to RCA cable. | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. | | | |
| f. | The DV recorder shall have the ability to take digital stills while live video is being recorded. | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. | | | |
| g. | Still images must have a pixel count of 1.2million. | <input type="checkbox"/> | <input type="checkbox"/> |
| h. | Video storage system shall be integrated into a custom foam lined case that protects it and holds all accessories. Must be able to operate while in the case. | <input type="checkbox"/> | <input type="checkbox"/> |
| i. | USB computer transfer import device for memory stick shall be included. | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. | Wide-Angle Lens | <input type="checkbox"/> | <input type="checkbox"/> |
| a. | Camera window cap shall be easily removed without tools and replaced with a wide-angle lens cap which doubles the horizontal field of view to | <input type="checkbox"/> | <input type="checkbox"/> |

90 degrees. (Lens shall afford full view of targets 22", 42", and 62" high at distances of 1', 2' and 3', respectively.) The waterproof integrity of the system shall not be compromised and the wide-angle lens shall remain protected within an aluminum front housing with sapphire crystal window.

- 8. Video Image Viewing, Recording & Storing
 - a. A Digital Video recorder (DV) device shall be provided for viewing live video and storing still images.
 - b. The DV recorder shall have a minimum 7" viewing area.
 - c. The DV recorder shall transfer digital images via memory stick, fire wire or USB.
 - d. The DV recorder shall the ability to capture still images on a memory stick with no less than 1 GB of storage.
 - e. The DV recorder shall be powered via a battery and receive video from the control box via a ruggedized BNC to RCA cable.
 - f. The DV recorder shall have the ability to take digital stills while live video is being recorded.
 - g. Still images must have a pixel count of 1.2million.
 - h. Video storage system shall be integrated into a custom foam lined case that protects it and holds all accessories. Must be able to operate while in the case.
 - i. USB computer transfer import device for memory stick shall be included.
- 9. Wide-Angle Lens
 - a. Camera window cap shall be easily removed without tools and replaced with a wide-angle lens cap which doubles the horizontal field of view to 90 degrees. (Lens shall afford full view of targets 22", 42", and 62" high at distances of 1', 2' and 3', respectively.) The waterproof integrity of the system shall not be compromised and the wide-angle lens shall remain protected within an aluminum front housing with sapphire crystal window.

10. Wireless video

a. System shall have the option of wireless video transfer to stationary Vehicle or monitoring area	
b. Use of extra battery source for signal transmittal shall be deemed Unacceptable	
c. Operator shall be able to view images on viewing device while video is being transmitted.	
d. Transmitting device shall be mounted on rear of operators vest and measure no more than 8" x 6" x 2"	
e. Ability to transmit at least 500ft in line of sight, with a 8 channel selection capability for use in high interference areas.	
11. Slip ring attachment	
a. System shall have the ability to have a 'inline' slip ring fitted to aid inspection when camera head is rotated frequently.	
b. Attachment can be fitted in the field by the operator with no tools required.	

c. Slip ring attachment shall have the ability to be used with any style of extension pole.	
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CLARK COUNTY WATER RECLAMATION DISTRICT

BID FORM

BID NO. 839-09
CCTV CAMERA TRUCKS

NAME OF BIDDER

This bid is submitted in response to the Owner's Invitation to Bid and is in accordance with all conditions and specifications in this document.

Item No.	Description	Quantity	Unit of Measure	Unit Price	Extended Total
1.	<p>MODEL YEAR 2010 OR CURRENT PRODUCTION MODEL YEAR CCTV CAMERA TRUCKS</p> <p>MANUFACTURER OF CHASSIS</p> <p>MODEL: _____</p> <p>ENGINE MODEL: _____</p>	2	EACH	\$ _____	\$ _____

DELIVERY:

_____ calendar days (Maximum)

TERMS OF PAYMENT:

_____% , _____ calendar days.

ATTACHMENTS TO BID FORM

1. A copy of the product's printed specifications advertising literature or catalogs as specified are attached.
2. A copy of the product's standard warranty is attached.
3. Copies of the Technical Specification pages showing conformance to or variations from the specifications are attached.

The Bidder is responsible to ascertain the number of Addenda issued and hereby acknowledges receipt of the following Addendum:

Addendum No. _____, dated _____ Addendum No. _____, dated _____
Addendum No. _____, dated _____ Addendum No. _____, dated _____

DEVIATIONS TO BID

The Bidder will list, on a separate sheet of paper, any deviations to the conditions of this bid. This sheet will be labeled, "Deviations to Bid Conditions" and will be attached to the Bid Form. If no exceptions are stated, it will be understood that all terms and conditions will be complied with. ANY DEVIATIONS MAY BE CONSIDERED SUBSTANTIAL AND BE CAUSE FOR REJECTION.

SIGNATURE OF BIDDER

LEGAL NAME OF FIRM

NAME OF BIDDER (PRINT OR TYPE)

ADDRESS OF FIRM

PHONE NUMBER OF BIDDER

CITY STATE, ZIP

FAX NUMBER OF BIDDER

DATE

FOR INFORMATIONAL PURPOSES ONLY:

The above referenced firm is a MBE WBE PBE SBE NBE LBE as defined below.

STATE OF NEVADA BUSINESSES

MINORITY OWNED BUSINESS ENTERPRISE (MBE):

An independent and continuing Nevada business for profit which performs a commercially useful function and is at least 51% owned and controlled by one or more minority persons of Black American, Hispanic American, Asian-Pacific American or Native American ethnicity.

WOMEN OWNED BUSINESS ENTERPRISE (WBE):

An independent and continuing Nevada business for profit which performs a commercially useful function and is at least 51% owned and controlled by one or more women.

PHYSICALLY-CHALLENGED BUSINESS ENTERPRISE (PBE):

An independent and continuing Nevada business for profit which performs a commercially useful function and is at least 51% owned and controlled by one or more disabled individuals pursuant to the federal Americans with Disabilities Act.

SMALL BUSINESS ENTERPRISE (SBE):

An independent and continuing Nevada business for profit which performs a commercially useful function, is not owned and controlled by individuals designated as minority, women, or physically-challenged, and where gross annual sales does not exceed \$2,000,000.

NEVADA BUSINESS ENTERPRISE (NBE):

Any Nevada business which has the resources necessary to sufficiently perform identified County projects, and is owned or controlled by individuals that are not designated as socially or economically disadvantaged.

BUSINESSES IN OTHER STATES

LARGE BUSINESS ENTERPRISE (LBE):

An independent and continuing business for profit which performs a commercially useful function and is not located in Nevada.

**BID NO. 839-09
CCTV CAMERA TRUCKS**

AFFIDAVIT

I, _____, on behalf of my company, _____, being
(Name of Sole Proprietor) (Legal Name of Company)
duly sworn, depose and declare:

- 4. I am a Sole Proprietor;
- 5. I will not use the services of any employees in the performance of this contract, identified as Bid No. 839-09 CCTV Camera Trucks
- 6. I have elected to not be included in the terms, conditions, and provisions of NRS Chapters 616A-616D, inclusive;
- 7. I am otherwise in compliance with the terms, conditions, and provisions of NRS Chapters 616A-616D, inclusive.

I release Clark County Water Reclamation District from all liability associated with claims made against me and my company, in the performance of this contract, that relate to compliance with NRS Chapters 616A-616D, inclusive.

Signed this _____ day of _____, _____.

Signature

State of Nevada)
)ss.
County of Clark)

Signed and sworn to (or affirmed) before me on this _____ day of _____, _____,
by _____ (name of person making statement).

Notary Signature

STAMP AND SEAL

DISCLOSURE OF OWNERSHIP/PRINCIPALS

Type of Business:

Individual Partnership Limited Liability Company Corporation Trust Other

Business Name:

(Include d.b.a., if applicable)

Business Address:

Business Telephone:

Disclosure of Ownership and Principals:

All non-publicly traded corporate business entities must list the names of individuals holding more than five percent (5%) ownership or financial interest in the business entity appearing before the Board. "Business entities" include all business associations organized under or governed by Title 7 of the Nevada Revised Statutes, including but not limited to private corporations, close corporations, foreign corporations, limited liability companies, partnerships, limited partnerships, and professional corporations. Corporate entities shall list all Corporate Officers and Board of Directors in lieu of disclosing the names of individuals with ownership or financial interest. The disclosure requirement, as applied to land-use transactions, extends to the applicant and the landowner(s).

Full Name

Title

I certify under penalty of perjury, that all of the information provided herein is current, complete, and accurate. I also understand that the Board will not take action on land-use approvals, contract approvals, land sales, leases or exchanges without the completed disclosure form.

Signature / Capacity

Print Name

Date