



**MENDOCINO COUNTY EXECUTIVE OFFICE-FACILITIES & FLEET DIVISION
REQUEST FOR BIDS (RFB)**

BID No.: 13-20
JOB/PROJECT DESCRIPTION: DOT VIDEO SECURITY SYSTEM
 POINT ARENA YARD
ISSUE DATE: June 8, 2020
DUE DATE: June 29, 2020

PROJECT DESCRIPTION

Mendocino County is seeking bids from contractors to complete the Video Security System Installation at the Point Arena Department of Transportation Yard per attached plans and specifications. The work is located at 43401 Eureka Hill Road, Point Arena, CA. Sealed bids will be accepted at the Executive Office - Facilities and Fleet Division at 851 Low Gap Road, Ukiah, until 2:00 p.m.on Monday June 29, 2020.

REQUIRED LICENSING

CSLB License Code:	B, C-7 or C-10
License Description:	General Building, Low Voltage or Electrical
*CSLB License No.:	
*License Expiration Date:	
*State of California DIR Registration No.:	
+County of Mendocino Business License No.:	

+At the time of contract award, all contractors who are not exempt, and do not already have a Mendocino County Business License, shall apply for one which shall be obtained prior to contractor's work performance.

PAYMENT & PERFORMANCE BONDS

Payment and Performance Bonds are required for any Contracts in excess of \$25,000. Any proposal in excess of this amount shall include these bonds.

AWARD OR REJECTION OF BIDS

The contract shall be awarded to the lowest responsive and responsible bidder complying with the instructions set forth on this RFB form, provided the bid is deemed reasonable and in the best interest of the County of Mendocino.

TIME OF COMPLETION

Bidder agrees to commence work on or before a date to be specified and to fully complete the project within Sixty (60) calendar days.

PROJECT WALK-THROUGH

<input type="checkbox"/> Mandatory	<input checked="" type="checkbox"/> Non-Mandatory
Walk-Through Location:	43401 Eureka Hill Road, Point Arena, CA
Date and Time:	June 18, 2020 10:30 am

SCOPE OF WORK

Provide all work to install video security system including cameras and DVR and related equipment In accordance with the project plans and specifications attached hereto. Contractor is responsible for fulfilling the Mendocino County Building permit requirements for the completion of the work.

FOR MORE INFORMATION

For additional details and information, contact Doug Anderson, Facilities and Fleet Division, at (707) 234-6054. Visit us online at <https://www.mendocinocounty.org/government/executive-office/open-rfp-quotes-bids>



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BID

*Total Bid Price: _____ (\$ _____)

ADDENDUM ACKNOWLEDGMENT

*I have received the following addendum pertaining to the bid and they are included as part of my bid.
Addendum Numbers: _____

***FIELDS MUST BE COMPLETED BY CONTRACTOR**

THIS FORM MUST BE COMPLETED, SIGNED AND DATED FOR YOUR BID TO BE VALID

Print Name:	
Address:	
Company:	
E-Mail:	
Phone:	

SIGNATURE: _____

DATE: _____

ATTACHMENT A
GENERAL PROVISIONS

1. CONTRACT DOCUMENTS

The contract documents shall consist of the County's standard form contract as well as this Request for Bids, all documents listed in the above SCOPE of WORK section, all addenda issued prior to bid and information provided at any mandatory pre-bid walkthrough. As a public project, applicable provisions of the California Public Contract code shall apply, as does the California State Labor Code, the federal Davis Bacon Act and the Americans with Disabilities Act of 1990. Regardless of any information presented to the contrary, all work shall comply with the California Building Code, Mendocino County Building Code, Title 24 and any referenced code standards required in the jurisdiction where the work shall take place. A copy of the County's standard form contract will be furnished to bidders upon request.

2. BIDDING REQUIREMENTS

To be considered for award, the bid form must be completed in its entirety. Successful responses must include the contractor's license number and expiration date, valid DIR registration number, the bid price in words and numbers, acknowledgement of all addenda issued by the County for this project, the bidders signature, the date signed, the bidder's printed name, and the company name and address under which the contractor's license is issued. Any missing information or invalid license or registration information will be grounds for disqualification. All correspondence will be by US mail unless the contractor provides the email or phone information requested. The County of Mendocino reserves the right to reject any and all bids, to waive any informality in the bids, and to accept the responsive and responsible bid that appears to be in the best interest of the County of Mendocino.

3. SUBMISSION OF BIDS

Bids must be received by the due date and time at the location specified above. Post marks do not count. Bids and modifications or corrections

thereof received after the closing time specified above will not be considered. Quotations will not be accepted via email, telephone or facsimile unless specifically authorized within the contract documents.

4. PRODUCTS

Unless otherwise stated, the use of the name or a manufacturer, or of any special brand or make in describing any item contained in these plans and specifications does not restrict bidders to that manufacturer's specific article with the exception of carpet, tile, and paint (the County must adhere to a specific brand/style of carpet, tile, and paint which will be specified within the Scope of Work). The manufacturer, brand and products named are used simply to indicate the character or quality of the article desired. The equipment on which proposals are submitted must be acceptable as equal in character, quality, and utility to brand and/or make indicated herein. The selected contractor will be required to comply with all submittal requirements in the contract documents where it will be the contractor's burden to demonstrate that the submitted product is equal to that specified. The decision of the County will be final.

5. TAXES and FEES

All bids shall include required California State sales tax, freight and shipping costs to the project site, and all licensing, registration, permits and application fees required to complete the work. The County will secure planning and building approvals and is exempt from building permit fees. Encroachment permits and public works inspections and fees are the responsibility of the contractor.

All contractors must have a Mendocino County Business License (MCBL), as required by Mendocino County Code Chapter 6.04, to work on this contract. At the time of contract award, all contractors who are not exempt and do not already have a MCBL shall apply for one, which shall be obtained prior to performance of any work by that contractor.

The contractor/bidder is responsible for ensuring that all of its non-exempt subcontractors have a valid MCBL.

fifteen (15) calendar days after being notified in writing by County, Contractor authorizes County to proceed to have said defects repaired and made good at Contractor's expense. Contractor shall honor and pay the costs and charges therefore upon demand.

6. SAMPLES

Samples of items, when required, must be furnished free of expense to the County of Mendocino and if not destroyed by tests will, upon request, be returned at the bidder's expense. Samples of selected items may be retained for comparison.

7. ADDENDA/RFI

Addenda will be issued by the County, as required, to clarify the bidding documents and in response to bidder's questions. Addenda questions must be submitted at least 10 days prior to bid opening to be included in the addendum. Requests for Information may be forwarded to the County to provide written notice of discrepancies in the contract documents or conditions differing from those represented in the documents or observable at the time of bid.

8. CHANGES

The contractor shall secure written authorization before proceeding with any additional work, whether requested by the County or required to complete the contract. The cost for any changes to the contract price, whether requested by the County or the Contractor will be approved only after submitting the contractor's true costs for the work and related equipment costs and site expenses. The final change order price may include a fee for administrative overhead and profit not to exceed 15%.

8. CONTRACTOR GUARANTEE

Contractor hereby guarantees that the labor and material furnished for this project is in accordance with the drawings and specifications. Contractor agrees to repair or replace any or all of the work, together with any other adjacent work which may be displaced in so doing, that may prove to be defective in its workmanship or material within a period of ONE (1) YEAR from date of acceptance of the above named project by County without any expense whatsoever to County, ordinary wear and tear and unusual abuse or neglect excepted. In the event of Contractor's failure to comply with the above-mentioned conditions within

ATTACHMENT B
PUBLIC PROJECT PROVISIONS
(CONTRACT EXHIBIT E)

CONTRACTOR shall additionally comply with the following provisions in carrying out this AGREEMENT.

1. **COMPLIANCE WITH COUNTY POLICIES:** The CONTRACTOR shall comply with the various policies regarding the preservation of our natural resources which may impose specific requirements on the CONTRACTOR.
 - a. The Storm Water Management Program includes specific requirements for grading and construction projects within the County including the implementation of Best Management Practices (BMP) to prevent the discharge of construction waste, debris, sediment, or contamination from entering the storm drainage system or natural waterways. For more information, refer to the following web page of the County Department of Planning and Building Services:
<http://www.co.mendocino.ca.us/planning/stormwater.htm>
 - b. The CONTRACTOR shall be responsible for purchasing products that minimize environmental impacts, toxics, pollution, hazards to workers, and community safety to the greatest extent practicable. The CONTRACTOR shall also be responsible for the purchasing of products that include recycled content, are durable and long-lasting, conserve energy and water, use agricultural fibers and residues, reduce greenhouse gas emissions, use unbleached or chlorine free manufacturing processes, and are lead-free and mercury-free.
 - c. Waste Stream Reduction goals include programs to maximize the salvage and recycling of demolition and construction debris and document waste stream diversion. For more information refer to the Construction and Demolition Forms handout on the following web page of the County Department of Planning and Building Services:
<http://www.co.mendocino.ca.us/planning/Apps.htm>.
2. **MSDS SHEETS:** The CONTRACTOR must present to the COUNTY all Material Safety Data Sheets for all materials used in all phases of the project prior to beginning work. No materials, other than those that have MSDS sheets, shall be permitted on the COUNTY premises.
3. **PAYMENT OF PREVAILING WAGES:** Pursuant to the provisions of the Labor Code of the State of California, the Department of Industrial Relations has made a determination of the rate of per diem wages to be paid on the prevailing rate of pay for regular, holiday and overtime work in the locality in which the public work is to be performed, for each craft, classification, or type of workman needed to execute the contract. All County of Mendocino projects greater

than \$1,000 require that contractors adhere to Prevailing Wage requirements (California Labor Code, Sections 1770 through 1775). The rates can be found online here:
<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>.

4. **CERTIFIED PAYROLL RECORDS:** Pursuant to Labor Code Section 1776, the CONTRACTOR and any or all subcontractors shall keep accurate payroll records. A certified copy of all payroll records for work performed under this contract shall be furnished upon request to a representative of the awarding body. Pursuant to Senate Bill 854 (Stats. 2014, chapter 28), the CONTRACTOR and subcontractors are required to furnish certified payroll reports directly to the Department of Industrial Relations.
5. **EMPLOYMENT OF APPRENTICES:** The CONTRACTOR and subcontractor performing work in an apprentice-able craft or trade shall comply with Section 1777.5 relating to Apprentices on public works projects.
6. **LABOR CODE SECTION 1771.1(a).** The CONTRACTOR, on behalf of itself and all subcontractors performing work under this agreement, certifies that it is aware of the requirements of Labor Code Section 1771.1(a), which is restated below, and has provided proof of the CONTRACTOR and all subcontractors' current registration to perform public work pursuant to Labor Code Section 1725.5.

A contractor or subcontractor shall not be qualified to bid on, be listed in a bid proposal, subject to the requirements of Section 4104 of the Public Contract Code, or engage in the performance of any contract for public work, as defined in this chapter, unless currently registered and qualified to perform public work pursuant to Section 1725.5. It is not a violation of this section for an unregistered contractor to submit a bid that is authorized by Section 7029.1 of the Business and Professions Code or by Section 10164 or 20103.5 of the Public Contract Code, provided the contractor is registered to perform public work pursuant to Section 1725.5 at the time the contract is awarded.

7. This project is subject to compliance monitoring and enforcement by the California Department of Industrial Relations.
8. **BONDING;** Civil Code Section 9550 states: A direct contractor that is awarded a public works contract involving an expenditure in excess of twenty-five thousand dollars (\$25,000) shall, before commencement of work, give a payment bond to and approved by the officer or public entity by whom the contract was awarded.

ATTACHMENT C
SAMPLE CONTRACT DOCUMENTATION
(INCLUDING EXHIBITS A THROUGH D)

COUNTY OF MENDOCINO
STANDARD SERVICES AGREEMENT

This Agreement is by and between the COUNTY OF MENDOCINO, hereinafter referred to as the "COUNTY", and _____, hereinafter referred to as the "CONTRACTOR".

WITNESSETH

WHEREAS, pursuant to Government Code Section 31000, COUNTY may retain independent contractors to perform special services to or for COUNTY or any department thereof; and,

WHEREAS, COUNTY desires to obtain CONTRACTOR for its [Services]; and,

WHEREAS, CONTRACTOR is willing to provide such services on the terms and conditions set forth in this AGREEMENT and is willing to provide same to COUNTY.

NOW, THEREFORE it is agreed that COUNTY does hereby retain CONTRACTOR to provide the services described in Exhibit "A", and CONTRACTOR accepts such engagement, on the General Terms and Conditions hereinafter specified in this Agreement, the Additional Provisions attached hereto, and the following described exhibits, all of which are incorporated into this Agreement by this reference:

- Exhibit A Definition of Services
- Exhibit B Payment Terms
- Exhibit C Insurance Requirements
- Exhibit D Mendocino County ePayables
- Exhibit E Information Public Project Provisions
- Exhibit F Project Plans & Specifications

The term of this Agreement shall be from the date this Agreement becomes fully executed by all parties (the "Effective Date"), and shall continue through _____, 20 .

The compensation payable to CONTRACTOR hereunder shall not exceed [Spelled out Contract Amount] (\$[Numerical Amount]) for the term of this Agreement.

IN WITNESS WHEREOF

DEPARTMENT FISCAL REVIEW:

DEPARTMENT HEAD _____ DATE _____

Budgeted: Yes No

Budget Unit: _____

Line Item: _____

Grant: Yes No

Grant No.: _____

CONTRACTOR/COMPANY NAME

By: _____

Date: _____

NAME AND ADDRESS OF CONTRACTOR:

INSURANCE REVIEW:

By: _____
Risk Management

Date: _____

By signing above, signatory warrants and represents that he/she executed this Agreement in his/her authorized capacity and that by his/her signature on this Agreement, he/she or the entity upon behalf of which he/she acted, executed this Agreement

EXECUTIVE OFFICE/FISCAL REVIEW:

By: _____
Deputy CEO

Date: _____

COUNTY COUNSEL REVIEW:

APPROVED AS TO FORM:

CHRISTIAN M. CURTIS,
County Counsel

By: _____
Deputy

Date: _____

Signatory Authority: \$0-25,000 Department; \$25,001- 50,000 Purchasing Agent; \$50,001+ Board of Supervisors
Exception to Bid Process Required/Completed _____
Mendocino County Business License: Valid
Exempt Pursuant to MCC Section: _____

GENERAL TERMS AND CONDITIONS

1. **INDEPENDENT CONTRACTOR:** No relationship of employer and employee is created by this Agreement; it being understood and agreed that CONTRACTOR is an Independent Contractor. CONTRACTOR is not the agent or employee of the COUNTY in any capacity whatsoever, and COUNTY shall not be liable for any acts or omissions by CONTRACTOR nor for any obligations or liabilities incurred by CONTRACTOR.

CONTRACTOR shall have no claim under this Agreement or otherwise, for seniority, vacation time, vacation pay, sick leave, personal time off, overtime, health insurance medical care, hospital care, retirement benefits, social security, disability, Workers' Compensation, or unemployment insurance benefits, civil service protection, or employee benefits of any kind.

CONTRACTOR shall be solely liable for and obligated to pay directly all applicable payroll taxes (including federal and state income taxes) or contributions for unemployment insurance or old age pensions or annuities which are imposed by any governmental entity in connection with the labor used or which are measured by wages, salaries or other remuneration paid to its officers, agents or employees and agrees to indemnify and hold County harmless from any and all liability which COUNTY may incur because of CONTRACTOR's failure to pay such amounts.

In carrying out the work contemplated herein, CONTRACTOR shall comply with all applicable federal and state workers' compensation and liability laws and regulations with respect to the officers, agents and/or employees conducting and participating in the work; and agrees that such officers, agents, and/or employees will be considered as Independent Contractors and shall not be treated or considered in any way as officers, agents and/or employees of COUNTY.

CONTRACTOR does, by this Agreement, agree to perform his/her said work and functions at all times in strict accordance with all applicable federal, state and County laws, including but not limited to prevailing wage laws, ordinances, regulations, titles, departmental procedures and currently approved methods and practices in his/her field and that the sole interest of COUNTY is to ensure that said service shall be performed and rendered in a competent, efficient, timely and satisfactory manner and in accordance with the standards required by the County agency concerned.

Notwithstanding the foregoing, if the COUNTY determines that pursuant to state and federal law CONTRACTOR is an employee for purposes of income tax withholding, COUNTY may upon two (2) week's written notice to CONTRACTOR, withhold from payments to CONTRACTOR hereunder federal and state income taxes and pay said sums to the federal and state governments.

2. **INDEMNIFICATION:** To the furthest extent permitted by law (including without limitation California Civil Code sections 2782 and 2782.8, if applicable), Contractor shall assume the defense of, indemnify, and hold harmless the COUNTY, its officers, agents, and employees, from and against any and all claims, demands, damages, costs, liabilities, and losses whatsoever alleged to be occurring or resulting in connection with the CONTRACTOR'S performance or its obligations under this AGREEMENT, unless arising out of the sole negligence or willful misconduct of COUNTY. "CONTRACTOR'S performance" includes CONTRACTOR'S action or inaction and the action or inaction of CONTRACTOR'S officers, employees, agents and subcontractors.
3. **INSURANCE AND BOND:** CONTRACTOR shall at all times during the term of the Agreement with the COUNTY maintain in force those insurance policies and bonds as designated in the attached Exhibit C, and will comply with all those requirements as stated therein.
4. **WORKERS' COMPENSATION:** CONTRACTOR shall provide Workers' Compensation insurance, as applicable, at CONTRACTOR's own cost and expense and further, neither the CONTRACTOR nor its carrier shall be entitled to recover from COUNTY any costs, settlements, or expenses of Workers' Compensation claims arising out of this Agreement.

CONTRACTOR affirms that s/he is aware of the provisions of Section 3700 of the California Labor Code which requires every employer to be insured against liability for the Workers' Compensation or to undertake self-insurance in accordance with the provisions of the Code and CONTRACTOR further assures that s/he will comply with such provisions before commencing the performance of work under this Agreement. CONTRACTOR shall furnish to COUNTY certificate(s) of insurance evidencing Worker's Compensation Insurance coverage to cover its employees, and CONTRACTOR shall require all subcontractors similarly to provide Workers' Compensation Insurance as required by the Labor Code of the State of California for all of subcontractors' employees.

5. **CONFORMITY WITH LAW AND SAFETY:**
 - a. In performing services under this Agreement, CONTRACTOR shall observe and comply with all applicable laws, ordinances, codes and regulations of governmental agencies, including federal, state, municipal, and local governing bodies, having jurisdiction over the scope of services, including all applicable provisions of the California Occupational Safety and Health Act. CONTRACTOR shall indemnify and hold COUNTY harmless from any and all liability, fines, penalties and consequences from any of CONTRACTOR's failures to comply with such laws, ordinances, codes and regulations.

- b. Accidents: If a death, serious personal injury or substantial property damage occurs in connection with CONTRACTOR's performance of this Agreement, CONTRACTOR shall immediately notify Mendocino County Risk Manager's Office by telephone. CONTRACTOR shall promptly submit to COUNTY a written report, in such form as may be required by COUNTY of all accidents which occur in connection with this Agreement. This report must include the following information: (1) name and address of the injured or deceased person(s); (2) name and address of CONTRACTOR's sub-contractor, if any; (3) name and address of CONTRACTOR's liability insurance carrier; and (4) a detailed description of the accident and whether any of COUNTY's equipment, tools, material, or staff were involved.
 - c. CONTRACTOR further agrees to take all reasonable steps to preserve all physical evidence and information which may be relevant to the circumstances surrounding a potential claim, while maintaining public safety, and to grant to the COUNTY the opportunity to review and inspect such evidence, including the scene of the accident.
6. PAYMENT: For services performed in accordance with this Agreement, payment shall be made to CONTRACTOR as provided in Exhibit "B" hereto as funding permits.

If COUNTY over pays CONTRACTOR for any reason, CONTRACTOR agrees to return the amount of such overpayment to COUNTY, or at COUNTY's option, permit COUNTY to offset the amount of such overpayment against future payments owed to CONTRACTOR under this Agreement or any other agreement.

In the event CONTRACTOR claims or receives payment from COUNTY for a service, reimbursement for which is later disallowed by COUNTY, State of California or the United States Government, the CONTRACTOR shall promptly refund the disallowance amount to COUNTY upon request, or at its option COUNTY may offset the amount disallowed from any payment due or that becomes due to CONTRACTOR under this Agreement or any other agreement.

All invoices, receipts, or other requests for payment under this contract must be submitted by CONTRACTOR to COUNTY in a timely manner and consistent with the terms specified in Exhibit B. In no event shall COUNTY be obligated to pay any request for payment for which a written request for payment and all required documentation was first received more than six (6) months after this Agreement has terminated, or beyond such other time limit as may be set forth in Exhibit B.

7. TAXES: Payment of all applicable federal, state, and local taxes shall be the sole responsibility of the CONTRACTOR.

8. **OWNERSHIP OF DOCUMENTS:** CONTRACTOR hereby assigns the COUNTY and its assignees all copyright and other use rights in any and all proposals, plans, specification, designs, drawings, sketches, renderings, models, reports and related documents (including computerized or electronic copies) respecting in any way the subject matter of this Agreement, whether prepared by the COUNTY, the CONTRACTOR, the CONTRACTOR's subcontractors or third parties at the request of the CONTRACTOR (collectively, "Documents and Materials"). This explicitly includes the electronic copies of all above stated documentation.

CONTRACTOR shall be permitted to retain copies, including reproducible copies and computerized copies, of said Documents and Materials. CONTRACTOR agrees to take such further steps as may be reasonably requested by COUNTY to implement the aforesaid assignment. If for any reason said assignment is not effective, CONTRACTOR hereby grants the COUNTY and any assignee of the COUNTY an express royalty – free license to retain and use said Documents and Materials. The COUNTY's rights under this paragraph shall apply regardless of the degree of completion of the Documents and Materials and whether or not CONTRACTOR's services as set forth in Exhibit "A" of this Agreement have been fully performed or paid for.

The COUNTY's rights under this Paragraph 8 shall not extend to any computer software used to create such Documents and Materials.

9. **CONFLICT OF INTEREST:** The CONTRACTOR covenants that it presently has no interest, and shall not have any interest, direct or indirect, which would conflict in any manner with the performance of services required under this Agreement.
10. **NOTICES:** All notices, requests, demands, or other communications under this Agreement shall be in writing. Notices shall be given for all purposes as follows:

Personal delivery: When personally delivered to the recipient, notices are effective on delivery.

First Class Mail: When mailed first class to the last address of the recipient known to the party giving notice, notice is effective three (3) mail delivery days after deposit in a United States Postal Service office or mailbox. **Certified Mail:** When mailed certified mail, return receipt requested, notice is effective on receipt, if delivery is confirmed by a return receipt.

Overnight Delivery: When delivered by overnight delivery (Federal Express/Airborne/United Parcel Service/DHL WorldWide Express) with charges prepaid or charged to the sender's account, notice is effective on delivery, if delivery is confirmed by the delivery service.

Facsimile transmission: When sent by facsimile to the facsimile number of the recipient known to the party giving notice, notice is effective on receipt, provided that, (a) a duplicate copy of the notice is promptly given by first-class or certified mail or by overnight delivery, or (b) the receiving party delivers a written confirmation of receipt. Any notice given facsimile shall be deemed received on the next business day if it is received after 5:00 p.m. (recipient's time) or on a non-business day.

Addresses for purpose of giving notice are as follows:

To COUNTY: COUNTY OF MENDOCINO

Ukiah, CA 95482

Attn:

To CONTRACTOR: [Name of Contractor]
[Number and Street]
[City, State, Zip Code]
ATTN:

Any correctly addressed notice that is refused, unclaimed, or undeliverable because of an act or omission of the party to be notified shall be deemed effective as of the first date that said notice was refused, unclaimed, or deemed undeliverable by the postal authorities, messenger, or overnight delivery service.

Any party may change its address or facsimile number by giving the other party notice of the change in any manner permitted by this Agreement.

11. USE OF COUNTY PROPERTY: CONTRACTOR shall not use County property (including equipment, instruments and supplies) or personnel for any purpose other than in the performance of his/her obligations under this Agreement.
12. EQUAL EMPLOYMENT OPPORTUNITY PRACTICES PROVISIONS: CONTRACTOR certifies that it will comply with all Federal, State, and local laws, rules and regulations pertaining to nondiscrimination in employment.
 - a. CONTRACTOR shall, in all solicitations or advertisements for applicants for employment placed as a result of this Agreement, state that it is an "Equal Opportunity Employer" or that all qualified applicants will receive consideration for employment without regard to their race, creed, color, pregnancy, disability, sex, sexual orientation, gender identity, ancestry, national origin, age, religion, Veteran's status, political affiliation, or any other factor prohibited by law.

- b. CONTRACTOR shall, if requested to so do by the COUNTY, certify that it has not, in the performance of this Agreement, engaged in any unlawful discrimination.
 - c. If requested to do so by the COUNTY, CONTRACTOR shall provide the COUNTY with access to copies of all of its records pertaining or relating to its employment practices, except to the extent such records or portions of such records are confidential or privileged under State or Federal law.
 - d. Nothing contained in this Agreement shall be construed in any manner so as to require or permit any act which is prohibited by law.
 - e. The CONTRACTOR shall include the provisions set forth in this paragraph in each of its subcontracts.
13. DRUG-FREE WORKPLACE: CONTRACTOR and CONTRACTOR's employees shall comply with the COUNTY's policy of maintaining a drug-free workplace. Neither CONTRACTOR nor CONTRACTOR's employees shall unlawfully manufacture, distribute, dispense, possess or use controlled substances, as defined in 21 U.S. Code § 812, including, but not limited to, marijuana, heroin, cocaine, and amphetamines, at any COUNTY facility or work site. If CONTRACTOR or any employee of CONTRACTOR is convicted or pleads *nolo contendere* to a criminal drug statute violation occurring at a County facility or work site, the CONTRACTOR, within five days thereafter, shall notify the head of the County department/agency for which the contract services are performed. Violation of this provision shall constitute a material breach of this Agreement.
14. ENERGY CONSERVATION: CONTRACTOR agrees to comply with the mandatory standards and policies relating to energy efficiency in the State of California Energy Conservation Plan, (Title 24, California Administrative Code).
15. COMPLIANCE WITH LICENSING REQUIREMENTS: CONTRACTOR shall comply with all necessary licensing requirements and shall obtain appropriate licenses. To the extent required by law, CONTRACTOR shall display licenses in a location that is reasonably conspicuous. Upon COUNTY's request, CONTRACTOR shall file copies of same with the County Executive Office.

CONTRACTOR represents and warrants to COUNTY that CONTRACTOR and its employees, agents, and any subcontractors have all licenses, permits, qualifications, and approvals of whatsoever nature that are legally required to practice their respective professions.

16. AUDITS; ACCESS TO RECORDS: The CONTRACTOR shall make available to the COUNTY, its authorized agents, officers, or employees, for examination any and all ledgers, books of accounts, invoices, vouchers, cancelled checks, and

other records or documents evidencing or relating to the expenditures and disbursements charged to the COUNTY, and shall furnish to the COUNTY, within sixty (60) days after examination, its authorized agents, officers or employees such other evidence or information as the COUNTY may require with regard to any such expenditure or disbursement charged by the CONTRACTOR.

The CONTRACTOR shall maintain full and adequate records in accordance with County requirements to show the actual costs incurred by the CONTRACTOR in the performance of this Agreement. If such books and records are not kept and maintained by CONTRACTOR within the County of Mendocino, California, CONTRACTOR shall, upon request of the COUNTY, make such books and records available to the COUNTY for inspection at a location within County or CONTRACTOR shall pay to the COUNTY the reasonable, and necessary costs incurred by the COUNTY in inspecting CONTRACTOR's books and records, including, but not limited to, travel, lodging and subsistence costs. CONTRACTOR shall provide such assistance as may be reasonably required in the course of such inspection. The COUNTY further reserves the right to examine and reexamine said books, records and data during the four (4) year period following termination of this Agreement or completion of all work hereunder, as evidenced in writing by the COUNTY, and the CONTRACTOR shall in no event dispose of, destroy, alter, or mutilate said books, records, accounts, and data in any manner whatsoever for four (4) years after the COUNTY makes the final or last payment or within four (4) years after any pending issues between the COUNTY and CONTRACTOR with respect to this Agreement are closed, whichever is later.

17. DOCUMENTS AND MATERIALS: CONTRACTOR shall maintain and make available to COUNTY for its inspection and use during the term of this Agreement, all Documents and Materials, as defined in Paragraph 8 of this Agreement. CONTRACTOR's obligations under the preceding sentence shall continue for four (4) years following termination or expiration of this Agreement or the completion of all work hereunder (as evidenced in writing by COUNTY), and CONTRACTOR shall in no event dispose of, destroy, alter or mutilate said Documents and Materials, for four (4) years following the COUNTY's last payment to CONTRACTOR under this Agreement.
18. TIME OF ESSENCE: Time is of the essence in respect to all provisions of this Agreement that specify a time for performance; provided, however, that the foregoing shall not be construed to limit or deprive a party of the benefits of any grace or use period allowed in this Agreement.
19. TERMINATION: The COUNTY has and reserves the right to suspend, terminate or abandon the execution of any work by the CONTRACTOR without cause at any time upon giving to the CONTRACTOR notice. Such notice shall be in writing and may be issued by any county officer authorized to execute or amend the contract, the County Chief Executive Officer, or any other person designated by the County Board of Supervisors. In the event that the COUNTY should

abandon, terminate or suspend the CONTRACTOR's work, the CONTRACTOR shall be entitled to payment for services provided hereunder prior to the effective date of said suspension, termination or abandonment. Said payment shall be computed in accordance with Exhibit B hereto, provided that the maximum amount payable to CONTRACTOR for its [Services] shall not exceed \$[Contract Amount] payment for services provided hereunder prior to the effective date of said suspension, termination or abandonment or lack of funding.

20. NON APPROPRIATION: If COUNTY should not appropriate or otherwise make available funds sufficient to purchase, lease, operate or maintain the products set forth in this Agreement, or other means of performing the same functions of such products, COUNTY may unilaterally terminate this Agreement only upon thirty (30) days written notice to CONTRACTOR. Upon termination, COUNTY shall remit payment for all products and services delivered to COUNTY and all expenses incurred by CONTRACTOR prior to CONTRACTOR'S receipt of the termination notice.
21. CHOICE OF LAW: This Agreement, and any dispute arising from the relationship between the parties to this Agreement, shall be governed by the laws of the State of California, excluding any laws that direct the application of another jurisdiction's laws.
22. VENUE: All lawsuits relating to this contract must be filed in Mendocino County Superior Court, Mendocino County, California.
23. WAIVER: No waiver of a breach, failure of any condition, or any right or remedy contained in or granted by the provisions of this Agreement shall be effective unless it is in writing and signed by the party waiving the breach, failure, right or remedy. No waiver of any breach, failure, right or remedy shall be deemed a waiver of any other breach, failure, right or remedy, whether or not similar, nor shall any waiver constitute a continuing waiver unless the writing so specifies.
24. ADVERTISING OR PUBLICITY: CONTRACTOR shall not use the name of County, its officers, directors, employees or agents, in advertising or publicity releases or otherwise without securing the prior written consent of COUNTY in each instance.
25. ENTIRE AGREEMENT: This Agreement, including all attachments, exhibits, and any other documents specifically incorporated into this Agreement, shall constitute the entire agreement between COUNTY and CONTRACTOR relating to the subject matter of this Agreement. As used herein, Agreement refers to and includes any documents incorporated herein by reference and any exhibits or attachments. This Agreement supersedes and merges all previous understandings, and all other agreements, written or oral, between the parties and sets forth the entire understanding of the parties regarding the subject matter thereof. This Agreement may not be modified except by a written document

signed by both parties. In the event of a conflict between the body of this Agreement and any of the Exhibits, the provisions in the body of this Agreement shall control.

26. HEADINGS: Herein are for convenience of reference only and shall in no way affect interpretation of this Agreement.
27. MODIFICATION OF AGREEMENT: This Agreement may be supplemented, amended or modified only by the mutual agreement of the parties. No supplement, amendment or modification of this Agreement shall be binding unless it is in writing and signed by authorized representatives of both parties.
28. ASSURANCE OF PERFORMANCE: If at any time the COUNTY has good objective cause to believe CONTRACTOR may not be adequately performing its obligations under this Agreement or that CONTRACTOR may fail to complete the Services as required by this Agreement, COUNTY may request from CONTRACTOR prompt written assurances of performance and a written plan acceptable to COUNTY, to correct the observed deficiencies in CONTRACTOR's performance. CONTRACTOR shall provide such written assurances and written plan within thirty (30) calendar days of its receipt of COUNTY's request and shall thereafter diligently commence and fully perform such written plan. CONTRACTOR acknowledges and agrees that any failure to provide such written assurances and written plan within the required time is a material breach under this Agreement.
29. SUBCONTRACTING/ASSIGNMENT: CONTRACTOR shall not subcontract, assign or delegate any portion of this Agreement or any duties or obligations hereunder without the COUNTY's prior written approval.
 - a. Neither party shall, on the basis of this Agreement, contract on behalf of or in the name of the other party. Any agreement that violates this Section shall confer no rights on any party and shall be null and void.
 - b. Only the department head or his or her designee shall have the authority to approve subcontractor(s).
 - c. CONTRACTOR shall remain fully responsible for compliance by its subcontractors with all the terms of this Agreement, regardless of the terms of any agreement between CONTRACTOR and its subcontractors.
30. SURVIVAL: The obligations of this Agreement, which by their nature would continue beyond the termination on expiration of the Agreement, including without limitation, the obligations regarding Indemnification (Paragraph 2), Ownership of Documents (Paragraph 8), and Conflict of Interest (Paragraph 9), shall survive termination or expiration for two (2) years.

31. SEVERABILITY: If a court of competent jurisdiction holds any provision of this Agreement to be illegal, unenforceable, or invalid in whole or in part for any reason, the validity and enforceability of the remaining provisions, or portions of them, will not be affected, unless an essential purpose of this Agreement would be defeated by the loss of the illegal, unenforceable, or invalid provision.
32. INTELLECTUAL PROPERTY WARRANTY: CONTRACTOR warrants and represents that it has secured all rights and licenses necessary for any and all materials, services, processes, software, or hardware ("CONTRACTOR PRODUCTS") to be provided by CONTRACTOR in the performance of this AGREEMENT, including but not limited to any copyright, trademark, patent, trade secret, or right of publicity rights. CONTRACTOR hereby grants to COUNTY, or represents that it has secured from third parties, an irrevocable license (or sublicense) to reproduce, distribute, perform, display, prepare derivative works, make, use, sell, import, use in commerce, or otherwise utilize CONTRACTOR PRODUCTS to the extent reasonably necessary to use the CONTRACTOR PRODUCTS in the manner contemplated by this agreement.

CONTRACTOR further warrants and represents that it knows of no allegations, claims, or threatened claims that the CONTRACTOR PRODUCTS provided to COUNTY under this Agreement infringe any patent, copyright, trademark or other proprietary right. In the event that any third party asserts a claim of infringement against the COUNTY relating to a CONTRACTOR PRODUCT, CONTRACTOR shall indemnify and defend the COUNTY pursuant to Paragraph 2 of this AGREEMENT.

In the case of any such claim of infringement, CONTRACTOR shall either, at its option, (1) procure for COUNTY the right to continue using the CONTRACTOR Products; or (2) replace or modify the CONTRACTOR Products so that that they become non-infringing, but equivalent in functionality and performance.

33. ELECTRONIC COPIES:

The parties agree that an electronic copy, including facsimile copy, email, or scanned copy of the executed Agreement, shall be deemed, and shall have the same legal force and effect as, an original document.

34. COOPERATION WITH COUNTY

Contractor shall cooperate with County and County staff in the performance of all work hereunder.

35. PERFORMANCE STANDARD

Contractor shall perform all work hereunder in a manner consistent with the level of competency and standard of care normally observed by a person practicing in

Contractor's profession. County has relied upon the professional ability and training of Contractor as a material inducement to enter into this Agreement. Contractor hereby agrees to provide all services under this Agreement in accordance with generally accepted professional practices and standards of care, as well as the requirements of applicable Federal, State, and local laws, it being understood that acceptance of Contractor's work by County shall not operate as a waiver or release. If County determines that any of Contractor's work is not in accordance with such level of competency and standard of care, County, in its sole discretion, shall have the right to do any or all of the following: (a) require Contractor to meet with County to review the quality of the work and resolve matters of concern; (b) require Contractor to repeat the work at no additional charge until it is satisfactory; (c) terminate this Agreement pursuant to the provisions of paragraph 19 (Termination) or (d) pursue any and all other remedies at law or in equity.

36. ATTORNEYS' FEES

In any action to enforce or interpret the terms of this agreement, including but not limited to any action for declaratory relief, each party shall be solely responsible for and bear its own attorneys' fees, regardless of which party prevails.

[END OF GENERAL TERMS AND CONDITIONS]

EXHIBIT A

DEFINITION OF SERVICES

CONTRACTOR shall provide the following services:

[END OF DEFINITION OF SERVICES]

EXHIBIT B

PAYMENT TERMS

COUNTY will pay CONTRACTOR for the services described in this Agreement the amount of (\$BLANK.00). The contract payments shall be made upon receipt of an approved invoice. The COUNTY will approve progress invoices for projects lasting more than 28 calendar days for work completed prior to the invoice date based on the percentage completion of an approved schedule of values. Final invoices will be approved after all work has been completed and all required certified payroll reports, lien releases, manuals, training, as-build drawings and warranties have been received by the COUNTY.

[END OF PAYMENT TERMS]

EXHIBIT C

INSURANCE REQUIREMENTS

Insurance coverage in a minimum amount set forth herein shall not be construed to relieve CONTRACTOR for liability in excess of such coverage, nor shall it preclude COUNTY from taking such other action as is available to it under any other provisions of this Agreement or otherwise in law. Insurance requirements shall be in addition to, and not in lieu of, Contractor's indemnity obligations under Paragraph 2 of this Agreement.

CONTRACTOR shall obtain and maintain insurance coverage as follows:

- a. Combined single limit bodily injury liability and property damage liability - \$1,000,000 each occurrence.
- b. Vehicle / Bodily Injury combined single limit vehicle bodily injury and property damage liability - \$500,000 each occurrence.

CONTRACTOR shall furnish to COUNTY certificates of insurance evidencing the minimum levels described above.

[END OF INSURANCE REQUIREMENTS]

EXHIBIT D

MENDOCINO COUNTY EPAYABLES INFORMATION

The County of Mendocino is currently making credit card payments to all of our vendors and suppliers who qualify. To qualify, vendors need to currently accept credit card payments. To achieve this more efficient form of payment, the County has partnered with Bank of America and their ePayables credit card program. This electronic initiative will yield many benefits to its participants:

- Expedited receipt of cash – electronic credit card payments provide cash flow benefits by eliminating mail and paper check float
- Elimination of check processing costs
- Remittance data transmitted with payment for more efficient back-end reconciliation
- No collection costs associated with lost or misplaced checks
- Reduced exposure to check fraud
- More efficient handling of exception items
- Fits with existing accounting software – requires no purchase of software, no modifications to existing accounts receivable system and no change to bank accounts.
- Going green with paperless electronic credit card payments help conserve the environment by eliminating printing and mailing of paper checks.

For information regarding the payment process, please email Auditorap@mendocinocounty.org.

Additional information regarding the Bank of America Program is also available at:

http://corp.bankofamerica.com/business/ci/landing/epayables-vendors?cm_mmc=sb-general--vanity--sg01vn000r_epayablesvendors--na

DOT VIDEO SECURITY SYSTEM POINT ARENA YARD

COUNTY OF MENDOCINO

43401 EUREKA HILL ROAD
POINT ARENA, CA 95468

OWNER:

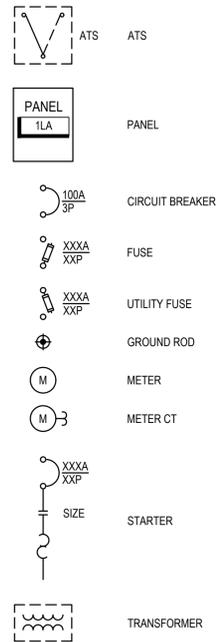
DOUG ANDERSON
COUNTY OF MENDOCINO
841 LOW GAP ROAD
UKIAH, CA 95462
(707) 234-6054
andersond@co.mendocino.ca.us

ELECTRICAL ENGINEER:

COURTNEY CHUENYANE, P.E.
BROKAW DESIGN
P.O. BOX 3103
ROHNERT PARK, CA 94928
(707) 799-6822
courtney.chuenyane@brokawdesign.com



DIAGRAMS



ABBREVIATIONS

A	AMPERES
AC	ALTERNATING CURRENT
AF	AMP FRAME
AFD	ADJUSTABLE FREQUENCY DRIVE
A.F.F.	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHJ	AUTHORITY HAVING JURISDICTION
AHU	AIR HANDLING UNIT
AIC	AMPS INTERRUPTING CAPACITY
AL	ALUMINUM
ANN	ANNUNCIATOR
APPROX	APPROXIMATE
ARF	ABOVE RAISED FLOOR
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BAT	BATTERY
BFG	BELOW FINISH GRADE
CATV	CABLE TELEVISION
CL	CENTERLINE
C, CND	CONDUIT
CB	CIRCUIT BREAKER
CCTV	CLOSED CIRCUIT TELEVISION
CKT	CIRCUIT
CO	CONDUIT ONLY
COMM	COMMUNICATIONS
CONST	CONSTRUCTION
CONT	CONTINUED
CP	CONTROL PANEL
CPT	CONTROL POWER TRANSFORMER
CT	CURRENT TRANSFORMER
CU	COPPER
DC	DIRECT CURRENT
DWG	DRAWING
(E)	EXISTING
EA	EACH
EF	EXHAUST FAN
EGU	ENGINE GENERATOR UNIT
EM	EMERGENCY LIGHT W/BATTERY BACKUP
EMT	ELECTRICAL METALLIC CONDUIT
ENT	ELECTRICAL NON-METALLIC CONDUIT
EP	EXPLOSION PROOF
EQ	EQUAL
EQUIV	EQUIVALENT
EW/C	ELECTRIC WATER COOLER
(F)	FUTURE
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FC	FAN COIL
FDR	FEEDER
FLUOR	FLUORESCENT
FU	FUSE
G, GND	GROUND
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFI	GROUND FAULT INTERRUPTER
GFR	GROUND FAULT RELAY
HID	HIGH INTENSITY DISCHARGE
HO	CONTROL SWITCH, "HAND - OFF"
HOA	CONTROL SWITCH, "HAND - OFF - AUTO"
HOR	CONTROL SWITCH, "HAND - OFF - REMOTE"
HP	HORSE POWER
HPS	HIGH PRESSURE SODIUM
HV	HIGH VOLTAGE
HVAC	HEATING, VENTILATION & AIR-COND.
IC	INTERRUPTING CAPACITY
IG	ISOLATED GROUND
IMC	INTERMEDIATE METAL CONDUIT
JB	JUNCTION BOX
KV	KILO VOLT
KVA	KILO VOLT-AMP
KW	KILO WATT
KWH	KILO WATT-HOUR
LPS	LOW PRESSURE SODIUM
LTS	LIGHTING
LV	LOW VOLTAGE
MAX	MAXIMUM
MC	METAL-CLAD
MCC	MOTOR CONTROL CENTER
MCP	MOTOR CIRCUIT PROTECTOR
MFR, MFR	MANUFACTURER
MH	METAL HALIDE
MIN	MINIMUM
MLO	MAIN LUGS ONLY
MDP	MAIN DISTRIBUTION BOARD
MSB	MAIN SWITCHBOARD
MTD	MOUNTED
MTS	MANUAL TRANSFER SWITCH
MV	MEDIUM VOLTAGE
(N)	NEW
N, NEUT	NEUTRAL
N/A	NOT APPLICABLE
NC	NORMALLY CLOSED
NC	NOT IN CONTRACT
NL	NIGHT LIGHT
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OC	ON CENTER
PNL	PANEL
PT	POTENTIAL TRANSFORMER
PVC	POLYVINYL CHLORIDE
PB	PULL BOX, ELECTRICAL
R	RADIUS
RECEPT	RECEPTACLE, OUTLET
REQD	REQUIRED
RGS, RSG	RIGID GALVANIZED STEEL CONDUIT
RTU	REMOTE TERMINAL UNIT
SD	STORM DRAIN
SP	SPACE, SPARE
SS	STAINLESS STEEL
STD	STANDARDS, APPLICABLE
SW	SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
T	THERMOSTAT
TP	TAMPER PROOF
TV	TELEVISION
TVSS	TRANSIENT VOLT. SURGE SUPPRESSOR
TYP	TYPICAL
UF	UNDER FLOOR
UG	UNDER GROUND
U.O.N.	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTIBLE POWER SUPPLY
V	VOLT
VA	VOLT-AMP
VFD	VARIABLE FREQUENCY DRIVE
W	WITH
W/O	WITHOUT
WH	WATER HEATER
WHM	WATT-HOUR METER
WP	WEATHER PROOF
XFMR	TRANSFORMER

ELECTRICAL SHEET INDEX

- E-001 ELECTRICAL LEGEND AND ABBREVIATIONS
- E-002 ELECTRICAL SPECIFICATION
- E-101 ELECTRICAL SITE PLAN

EQUIPMENT

	DISCONNECT, NON-FUSED
	DISCONNECT, WITH FUSE
	STARTER, NON-FUSED
	STARTER, WITH FUSE
	DIVISION 15 FAN
	STARTER, WITH CIRCUIT BREAKER
	PANELBOARD FLUSH
	PANELBOARD SURFACE
	ENCLOSURE FLUSH
	ENCLOSURE SURFACE
	DISTRIBUTION BOARD
	METER SECTION
	MOTOR
	MTTB
	SITE PULL BOX / VAULT
	TRANSFORMER

CIRCUITING

	ELECTRICAL CIRCUIT - CONCEALED
	ELECTRICAL CIRCUIT - EXPOSED
	ELECTRICAL CIRCUIT - UNDER FLOOR, GROUND OR SLAB
	ELECTRICAL CIRCUIT - HOME RUN
	ELECTRICAL CIRCUIT - STUB OUT
	ELECTRICAL CIRCUIT - STUB DOWN
	ELECTRICAL CIRCUIT - STUB UP
	ELECTRICAL CIRCUIT - COMPLETE CONNECTION OF EQUIPMENT OR DEVICE

MISCELLANEOUS

	DEMO KEYED NOTE TAG
	ELECTRICAL EQUIPMENT TAG
	KEYED NOTE TAG
	LIGHT FIXTURE TAG
	MECHANICAL EQUIPMENT TAG
	REVISION DELTA
	EQUIPMENT MANUFACTURER'S IDENTIFICATION NUMBER



PROJECT

County of Mendocino
Point Arena Yard Camera

43401 Eureka Hill Road
Point Arena, CA 95468

DRAWING ISSUE

ISSUE:	DATE
PERMIT SET	12/19/2019

SHEET STATISTICS

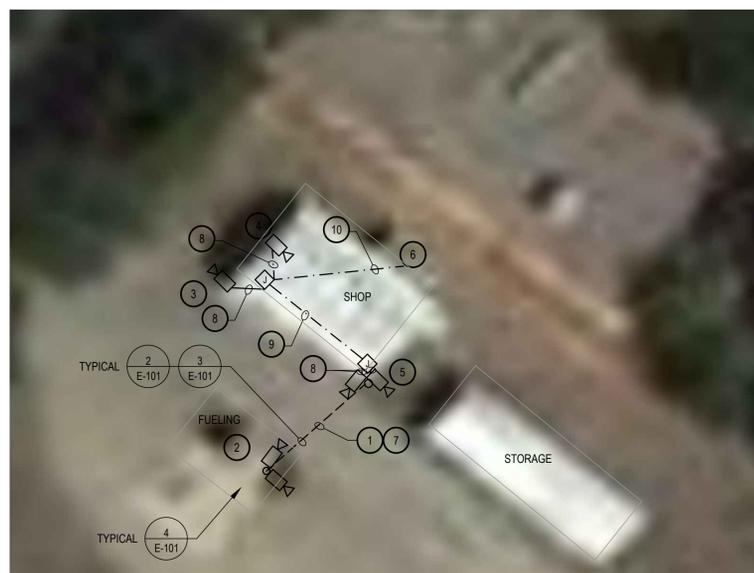
DRAWN BY:	MB
DESIGN BY:	MB
CHECKED BY:	CAC
DATE:	09-04-19

SHEET TITLE

ELECTRICAL
LEGEND AND
ABBREVIATIONS

SHEET NUMBER

E-001



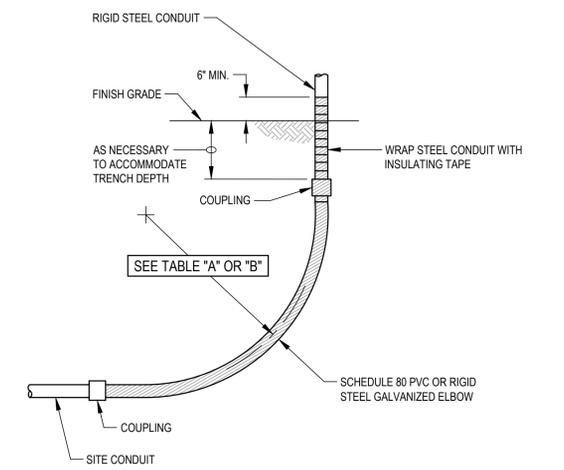
KEYED NOTES - SITE (X)

1. PRE-EXISTING 3/4" CONDUIT NOT IN USE.
2. ATTACH MAST TO THE SOUTH SIDE OF FUEL SHED AND EXTEND 6' ABOVE HIGHEST PORTION OF ROOF LINE. MOUNT 2 CAMERAS ON MAST.
3. (1) CAMERA ON EXTERIOR OF BUILDING. NORTH WALL.
4. (1) CAMERA ON EXTERIOR OF BUILDING. NORTH WALL.
5. (2) CAMERAS ON EXTERIOR OF BUILDING. SOUTH WEST CORNER.
6. DVR AND EQUIPMENT RACK MOUNTED ON EAST WALL OF TOOL SHED.
7. (1) 3/4" CONDUIT WITH (2) CAT-6 CABLES.
8. (1) 3/4" CONDUIT WITH (1) CAT-6 CABLES.
9. (1) 1" CONDUIT WITH (4) CAT-6 CABLES.
10. (1) 1 1/2" CONDUIT WITH (8) CAT-6 CABLES TO DVR EQUIPMENT.

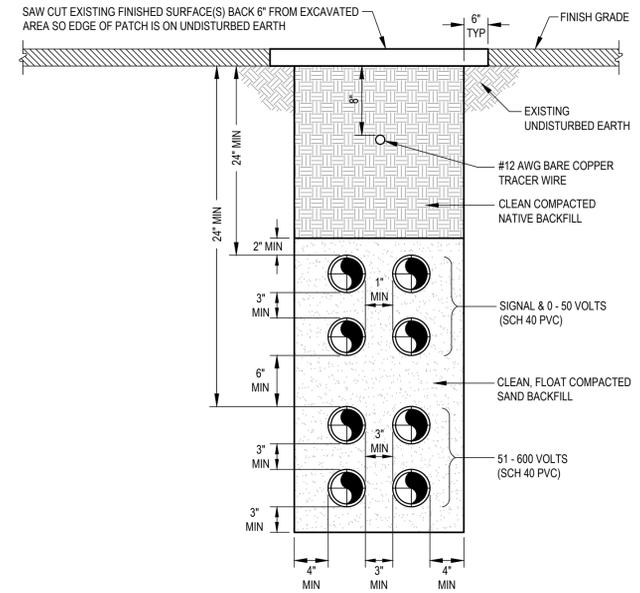
1 ELECTRICAL SITE PLAN
SCALE: 1"=20'-0"

TABLE "A" - PVC		
CONDUIT SIZE	MINIMUM ELBOW RADIUS REQUIREMENTS	
	RUNS 0-100 FEET	RUNS GREATER THAN 101 FEET
1/2"	18"	24"
3/4"	18"	24"
1"	24"	36"
1 1/4"	24"	36"
1 1/2"	24"	36"
2"	24"	36"
2 1/2"	24"	36"
3"	36"	48"
4"	36"	48"
5"	36"	48"
6"	36"	48"

TABLE "B" - RSG		
CONDUIT SIZE	MINIMUM ELBOW RADIUS REQUIREMENTS	
	RUNS 0-100 FEET	RUNS GREATER THAN 101 FEET
1/2"	4"	4"
3/4"	4 1/2"	4 1/2"
1"	5 3/4"	5 3/4"
1 1/4"	7 1/4"	7 1/4"
1 1/2"	8 1/4"	8 1/4"
2"	9 1/2"	9 1/2"
2 1/2"	10 1/2"	11 7/16"
3"	13"	13 3/4"
4"	16"	18 1/4"
5"	24"	-
6"	30"	-

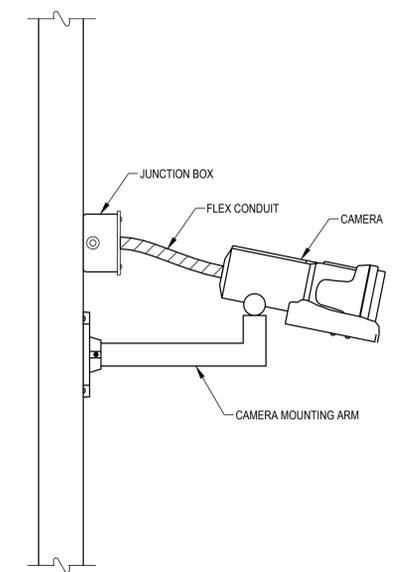


2 CONDUIT SWEEP REQUIREMENTS
NOT TO SCALE

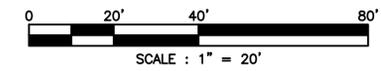


- DETAIL NOTES**
- A. THE CONFIGURATION INDICATED IS DIAGRAMMATIC TO ILLUSTRATE THE REQUIRED MINIMUM SEPARATIONS FOR TRENCH UTILITIES.
 - B. THE CONTRACTOR SHALL PROVIDE ALL REQUIRED CONDUITS PURSUANT TO THE PLANS AND DIAGRAMS.

3 TYPICAL TRENCH REQUIREMENTS
NOT TO SCALE



4 EXTERIOR CAMERA MOUNTING
NOT TO SCALE



PROJECT

County of Mendocino
Point Arena Yard Camera

43401 Eureka Hill Road
Point Arena, CA 95468

DRAWING ISSUE

ISSUE: _____ DATE: _____
PERMIT SET _____ 12/19/2019

SHEET STATISTICS

DRAWN BY: MB
DESIGN BY: MB
CHECKED BY: CAC
DATE: 09-04-19

SHEET TITLE

ELECTRICAL
SITE PLAN

SHEET NUMBER

E-101

D:\Brokaw Design\BD - Client\County of Mendocino\Point Arena\Ft Bragg DOT Yard CCTV\Drawings\Elec Point Arena.dwg Friday, 11/02/19 11:51 am

SECTION 280513 - CONDUCTORS AND CABLES FOR ELECTRONIC SAFETY AND SECURITY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. UTP cabling.
 - 2. Identification products.

1.3 DEFINITIONS

- A. EMI: Electromagnetic interference.
- B. IDC: Insulation displacement connector.
- C. Low Voltage: As defined in NFPA 70 for circuits and equipment operating at less than 50 V or for remote-control and signaling power-limited circuits.
- D. Open Cabling: Passing telecommunications cabling through open space (e.g., between the studs of a wall cavity).
- E. RCDD: Registered Communications Distribution Designer.

1.4 ADMINISTRATIVE REQUIREMENTS

- A. Coordinate layout and installation of electronic safety and security cabling with Owner's telecommunications and LAN equipment and service suppliers.
- B. Coordinate telecommunications outlet/connector locations with location of power receptacles at each work area.

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Installation data for UTP and optical-fiber cables as specified in TIA 569-C-1.
 - 2. For coaxial cable, include the following installation data for each type used:

- a. Nominal OD.
- b. Minimum bending radius.
- c. Maximum pulling tension.

B. Shop Drawings:

1. Cabling administration drawings and printouts.
2. Wiring diagrams to show typical wiring schematics, including the following:
 - a. Single line diagram.

1.6 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For qualified layout technician, installation supervisor, and field inspector.
- B. Source quality-control reports.
- C. Field quality-control reports.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Test cables upon receipt at Project site.
 1. Test each pair of UTP cable for open and short circuits.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

2.2 UTP CABLE

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 1. Belden CDT Networking Division/NORDX.
 2. Superior Essex Inc.
 3. West Penn Wire.
- B. Description: 100-ohm, four-pair UTP, covered with a blue thermoplastic jacket.
 1. Comply with ICEA S-90-661 for mechanical properties.
 2. Comply with TIA-568-C.1 for performance specifications.
 3. Comply with TIA-568-C.2, **Category 6.**
 4. Listed and labeled by an NRTL acceptable to authorities having jurisdiction as complying with UL 444 and NFPA 70 for the following types:
 - a. Communications, General Purpose: Type CM or Type CMG.

PART 3 - EXECUTION

3.1 INSTALLATION OF HANGERS AND SUPPORTS

- A. Comply with requirements in Section 260529 "Hangers and Supports for Electrical Systems" for installation of supports for cables.

3.2 WIRING METHOD

- A. Install wiring in metal pathways and wireways.
 - 1. Minimum conduit size shall be ½ inch. Control and data-transmission wiring shall not share conduits with other building wiring systems.
 - 2. Comply with requirements in Section 280528 "Pathways for Electronic Safety and Security."
 - 3. Comply with requirements in Section 260536 "Cable Trays for Electrical Systems."
- B. Install cable, concealed in accessible ceilings, walls, and floors when possible.
- C. Wiring on Racks and within Enclosures:
 - 1. Bundle, lace, and train conductors to terminal points with no excess and without exceeding manufacturer's limitations on bending radii, but not less than radii specified in BICSI ITSIM's "Cabling Termination Practices" chapter. Cable ties shall not be excessively tightened such that the transmission characteristics of the cable are altered.
 - 2. Install lacing bars and distribution spools.
 - 3. Separate power-limited and non-power-limited conductors as recommended in writing by manufacturer.
 - 4. Install conductors parallel with or at right angles to sides and back of enclosure.
 - 5. Connect conductors associated with intrusion system that are terminated, spliced, or interrupted in any enclosure onto terminal blocks.
 - 6. Mark each terminal according to system's wiring diagrams.
 - 7. Make all connections with approved crimp-on terminal spade lugs, pressure-type terminal blocks, or plug connectors.

3.3 INSTALLATION OF CONDUCTORS AND CABLES

- A. Comply with NECA 1 and NFPA 70.
- B. Conductors: Size according to system manufacturer's written instructions unless otherwise indicated.
- C. Do not install conductors and cables that are wet, moisture damaged, or mold damaged.
- D. Install UTP, optical-fiber, and coaxial cables and connecting materials after spaces are complete and dry, and HVAC system is operating and maintaining ambient temperature and humidity conditions at occupancy levels during the remainder of the construction period.

E. General Requirements for Cabling:

1. Comply with TIA-568-C.1.
2. Comply with BICSI ITSIM, Ch. 6, "Cable Termination Practices."
3. Terminate all conductors; no cable shall contain unterminated elements. Make terminations only at indicated outlets, terminals, and cross-connect and patch panels. Leave a minimum of 6 inches (150 mm) of slack at outlet terminations and coil loosely into box after termination on outlet fitting.
4. Cables may not be spliced. Secure and support cables at intervals not exceeding 30 inches (760 mm) and not more than 6 inches (150 mm) from cabinets, boxes, fittings, outlets, racks, frames, and terminals.
5. Maintain minimum cable bending radius during installation and termination of cables.
6. Do not install bruised, kinked, scored, deformed, or abraded cable. Do not splice cable between termination, tap, or junction points. Remove and discard cable if damaged during installation and replace it with new cable.
7. Cold-Weather Installation: Bring cable to room temperature before dereeling. Heat lamps shall not be used for heating.
8. Pulling Cable: Comply with BICSI ITSIM, Ch. 4, "Pulling Cable." Monitor cable pull tensions. Do not exceed manufacturer's rated cable-pulling tension.
9. Riser Cable: Riser cable support intervals shall be in accordance with manufacturer's recommendations.
10. Comply with Section 280544 "Sleeves and Sleeve Seals for Electronic Safety and Security Pathways and Cabling."

F. UTP Cable Installation: Install using techniques, practices, and methods that are consistent with **Category 6** rating of components and that ensure **Category 6** performance of completed and linked signal paths, end to end.

1. Comply with TIA-568-C.2.
2. Install 110-style IDC termination hardware unless otherwise indicated.
3. Do not untwist UTP cables more than 1/2 inch (12 mm) from point of termination to maintain cable geometry.

G. Open-Cable Installation:

1. Install cabling with horizontal and vertical cable guides in telecommunication spaces with terminating hardware and interconnection equipment.
2. Suspend copper cable not in a wireway or pathway a minimum of 8 inches (200 mm) above ceilings by cable supports not more than [**60 inches (1525 mm)**] <Insert dimension> apart. Cable supports shall be fastened to structural members or floor slabs in accordance with Section 260529 "Hangers and Supports for Electrical Systems."
3. Cable shall not be run in contact with pipes, ducts, or other potentially damaging items. Cables shall not be run through structural members or use structural members, pipes, ducts, or equipment as a support.

H. Separation from EMI Sources:

1. Comply with BICSI TDMM and TIA-569-C recommendations for separating unshielded copper voice and data communication cable from potential EMI sources, including electrical power lines and equipment.

2. Separation between open communication cables or cables in nonmetallic pathways and unshielded power conductors and electrical equipment shall be as follows:
 - a. Electrical Equipment Rating Less Than 2 kVA: A minimum of 5 inches (127 mm).
 - b. Electrical Equipment Rating between 2 and 5 kVA: A minimum of 12 inches (300 mm).
 - c. Electrical Equipment Rating More Than 5 kVA: A minimum of 24 inches (600 mm).
3. Separation between communication cables in grounded metallic pathways and unshielded power lines or electrical equipment shall be as follows:
 - a. Electrical Equipment Rating Less Than 2 kVA: A minimum of 2-1/2 inches (64 mm).
 - b. Electrical Equipment Rating between 2 and 5 kVA: A minimum of 6 inches (150 mm).
 - c. Electrical Equipment Rating More Than 5 kVA: A minimum of 12 inches (300 mm).
4. Separation between cables in grounded metallic pathways and power lines and electrical equipment located in grounded metallic conduits or enclosures shall be as follows:
 - a. Electrical Equipment Rating Less Than 2 kVA: No requirement.
 - b. Electrical Equipment Rating between 2 and 5 kVA: A minimum of 3 inches (75 mm).
 - c. Electrical Equipment Rating More Than 5 kVA: A minimum of 6 inches (150 mm).
5. Separation between Cables and Electrical Motors and Transformers, 5 kVA or hp and Larger: A minimum of 48 inches (1200 mm).
6. Separation between Cables and Fluorescent Fixtures: A minimum of 5 inches (127 mm).

3.4 FIRESTOPPING

- A. Comply with requirements in Section 078413 "Penetration Firestopping."
- B. Comply with TIA-569-C, "Firestopping" Annex A.
- C. Comply with BICSI TDMM, "Firestopping Systems" Article.

3.5 GROUNDING

- A. For communication wiring, comply with J-STD-607-A and with BICSI TDMM's "Grounding, Bonding, and Electrical Protection" chapter.
- B. For low-voltage wiring and cabling, comply with requirements in Section 280526 "Grounding and Bonding for Electronic Safety and Security."

3.6 IDENTIFICATION

- A. Identify system components, wiring, and cabling complying with TIA-606-B. Comply with requirements for identification specified in Section 260553 "Identification for Electrical Systems."

3.7 FIELD QUALITY CONTROL

- A. Testing Agency: **Engage** a qualified testing agency to perform tests and inspections.
- B. Manufacturer's Field Service: Engage a factory-authorized service representative to test and inspect components, assemblies, and equipment installations, including connections.
- C. Perform the following tests and inspections:
 - 1. Visually inspect UTP jacket materials for NRTL certification markings. Inspect cabling terminations to confirm color coding for pin assignments, and inspect cabling connections to confirm compliance with TIA-568-C.1.
 - 2. Visually inspect cable placement, cable termination, grounding and bonding, equipment and patch cords, and labeling of all components.
 - 3. Test UTP cabling for DC loop resistance, shorts, opens, intermittent faults, and polarity between conductors. Test operation of shorting bars in connection blocks. Test cables after termination but not cross connection.
 - a. Test instruments shall comply with or exceed applicable requirements in TIA-568-C.2. Perform tests with a tester that complies with performance requirements in "Test Instruments (Normative)" Annex, complying with measurement accuracy specified in "Measurement Accuracy (Informative)" Annex. Use only test cords and adapters that are qualified by test equipment manufacturer for channel or link test configuration.
- D. End-to-end cabling will be considered defective if it does not pass tests and inspections.
- E. Prepare test and inspection reports.

END OF SECTION 280513

SECTION 280528 - PATHWAYS FOR ELECTRONIC SAFETY AND SECURITY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

- 1. Metal conduits, tubing, and fittings.
- 2. Nonmetallic conduits, tubing, and fittings.
- 3. Boxes, enclosures, and cabinets.

- B. Related Requirements:

- 1. Section 270528 "Pathways for Communications Systems" for conduits, surface pathways, innerduct, boxes, and faceplate adapters serving communications systems.

1.3 DEFINITIONS

- A. ARC: Aluminum rigid conduit.
- B. GRC: Galvanized rigid steel conduit.
- C. IMC: Intermediate metal conduit.

1.4 ACTION SUBMITTALS

- A. Product Data: For surface pathways, wireways and fittings, floor boxes, hinged-cover enclosures, and cabinets.

PART 2 - PRODUCTS

2.1 METAL CONDUITS, TUBING, AND FITTINGS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Republic Conduit.
 - 2. Thomas & Betts Corporation, A Member of the ABB Group.
 - 3. Western Tube and Conduit Corporation.

- B. General Requirements for Metal Conduits and Fittings:
 - 1. Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
 - 2. Comply with TIA-569-B.
- C. EMT: Comply with ANSI C80.3 and UL 797.
- D. Fittings for Metal Conduit: Comply with NEMA FB 1 and UL 514B.
 - 1. Conduit Fittings for Hazardous (Classified) Locations: Comply with UL 886 and NFPA 70.
 - 2. Fittings for EMT:
 - a. Material: **Steel**
 - b. Type: **Setscrew**.
 - 3. Expansion Fittings: PVC or steel to match conduit type, complying with UL 467, rated for environmental conditions where installed, and including flexible external bonding jumper.

2.2 BOXES, ENCLOSURES, AND CABINETS

- A. General Requirements for Boxes, Enclosures, and Cabinets:
 - 1. Comply with TIA-569-B.
 - 2. Boxes, enclosures and cabinets installed in wet locations shall be listed for use in wet locations.
- B. Sheet-Metal Outlet and Device Boxes: Comply with NEMA OS 1 and UL 514A.
- C. Cast-Metal Outlet and Device Boxes: Comply with NEMA FB 1, **ferrous alloy** Type FD, with gasketed cover.
- D. Box extensions used to accommodate new building finishes shall be of same material as recessed box.
- E. Small Sheet Metal Pull and Junction Boxes: NEMA OS 1.

PART 3 - EXECUTION

3.1 PATHWAY APPLICATION

- A. Outdoors: Apply pathway products as specified below unless otherwise indicated:
 - 1. Exposed Conduit: EMT.
 - 2. Concealed Conduit, Aboveground: **EMT**.
 - 3. Underground Conduit: RNC, **Type EPC-40-PVC direct buried**.
 - 4. Boxes and Enclosures, Aboveground: NEMA 250, **Type 3R**.

- B. Indoors: Apply pathway products as specified below unless otherwise indicated:
 - 1. Exposed, Not Subject to Physical Damage: **EMT**.
 - 2. Exposed, Not Subject to Severe Physical Damage: **EMT**.
 - 3. Concealed in Ceilings and Interior Walls and Partitions: **EMT**.
 - 4. Boxes and Enclosures: NEMA 250, Type 1.
- C. Minimum Pathway Size: **1/2-inch (16-mm)**
- D. Pathway Fittings: Compatible with pathways and suitable for use and location.
 - 1. EMT: Use **setscrew metal** fittings. Comply with NEMA FB 2.10.
 - 2. Flexible Conduit: Use only fittings listed for use with flexible conduit. Comply with NEMA FB 2.20.
- E. Do not install aluminum conduits, boxes, or fittings.

3.2 INSTALLATION

- A. Comply with NECA 1, NECA 101, and TIA-569-B for installation requirements except where requirements on Drawings or in this article are stricter. Comply with NECA 102 for aluminum pathways. Comply with NFPA 70 limitations for types of pathways allowed in specific occupancies and number of floors.
- B. Keep pathways at least **6 inches (150 mm)** away from parallel runs of flues and steam or hot-water pipes. Install horizontal pathway runs above water and steam piping.
- C. Complete pathway installation before starting conductor installation.
- D. Comply with requirements in Section 260529 "Hangers and Supports for Electrical Systems" for hangers and supports.
- E. Arrange stub-ups so curved portions of bends are not visible above finished slab.
- F. Install no more than the equivalent of three 90-degree bends in any conduit run except for communications wiring conduits for which only two 90-degree bends are allowed. Support within **12 inches (300 mm)** of changes in direction.
- G. Conceal conduit and EMT within finished walls, ceilings, and floors unless otherwise indicated. Install conduits parallel or perpendicular to building lines.
- H. Support conduit within **12 inches (300 mm)** of enclosures to which attached.
- I. Pathways Embedded in Slabs:
 - 1. Run conduit larger than **1-inch (27-mm)** trade size, parallel or at right angles to main reinforcement. Where at right angles to reinforcement, place conduit close to slab support. Secure pathways to reinforcement at maximum **10-foot (3-m)** intervals.
 - 2. Arrange pathways to cross building expansion joints at right angles with expansion fittings.

- J. Stub-ups to Above Recessed Ceilings:
 - 1. Use EMT for pathways.
 - 2. Use a conduit bushing or insulated fitting to terminate stub-ups not terminated in hubs or in an enclosure.
 - K. Terminate threaded conduits into threaded hubs or with locknuts on inside and outside of boxes or cabinets. Install insulated bushings on conduits terminated with locknuts.
 - L. Install pathways square to the enclosure and terminate at enclosures with locknuts. Install locknuts hand tight plus 1/4 turn more.
 - M. Do not rely on locknuts to penetrate nonconductive coatings on enclosures. Remove coatings in the locknut area prior to conduit assembly to assure a continuous ground path.
 - N. Cut conduit perpendicular to the length. For conduits of **2-inch (53-mm)** trade size and larger, use roll cutter or a guide to ensure cut is straight and perpendicular to the length.
 - O. Install pull wires in empty pathways. Use polypropylene or monofilament plastic line with not less than **200-lb (90-kg)** tensile strength. Leave at least **12 inches (300 mm)** of slack at each end of pull wire. Cap underground pathways designated as spare above grade alongside pathways in use.
 - P. Install devices to seal pathway interiors at accessible locations. Locate seals so no fittings or boxes are between the seal and the following changes of environments. Seal the interior of all pathways at the following points:
 - 1. Where conduits pass from warm to cold locations, such as boundaries of refrigerated spaces.
 - 2. Where an underground service pathway enters a building or structure.
 - 3. Where otherwise required by NFPA 70.
 - Q. Comply with manufacturer's written instructions for solvent welding PVC conduit and fittings.
 - R. Support boxes of three gangs or more from more than one side by spanning two framing members or mounting on brackets specifically designed for the purpose.
 - S. Fasten junction and pull boxes to or support from building structure. Do not support boxes by conduits.
 - T. Set metal floor boxes level and flush with finished floor surface.
- 3.3 FIRESTOPPING
- A. Install firestopping at penetrations of fire-rated floor and wall assemblies. Comply with requirements in Section 078413 "Penetration Firestopping."

3.4 PROTECTION

- A. Protect coatings, finishes, and cabinets from damage and deterioration.
 - 1. Repair damage to galvanized finishes with zinc-rich paint recommended by manufacturer.
 - 2. Repair damage to PVC coatings or paint finishes with matching touchup coating recommended by manufacturer.

END OF SECTION 280528

SECTION 282319

IP VIDEO RECORDING SYSTEM

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Provide a complete IP video recording system, including engineering, components, installation and commissioning.

1.2 RELATED SECTIONS

- A. Section 280513 – Conductors and Cables for Electronic Safety and Security, for cabling between system servers, panels, and remote devices.
- B. Section 280528 – Pathways for Electronic Safety and Security, for conduit and raceway requirements.

1.3 REFERENCES

- A. Reference Standards: Provide systems which meet or exceed the requirements of the following publications and organizations as applicable to the Work of this Section:
 1. Consultative Committee for International Radio (CCIR)
 2. Electronic Industry Association (EIA)
 3. Federal Communications Commission (FCC)
 4. Joint Photographic Experts Group (JPEG)
 5. National Television Systems Committee (NTSC)
 6. Phase Alternating by Line (PAL)
 7. Underwriters Laboratories Inc. (UL)
 8. Institute for Electrical and Electronics Engineers (IEEE)
 9. Physical Security Interoperability Alliance (PSIA)
 10. Open Network Video Interface Forum (ONVIF)

1.4 DEFINITIONS

- A. HD (High-definition) – refers to video having resolution substantially higher than traditional television systems. HD has one or two million pixels per frame.
- B. CIF (Common Intermediate Format) – refers to a standard video format, which is categorized based on the resolution.

1.5 SYSTEM DESCRIPTION

- A. The Network Video Recorder (NVR) supports simultaneous recording, search, and system management for 16 IP surveillance cameras. Multiple NVR's may be deployed for system expansion and multiple instances of client software run on the same workstation PC for simultaneous viewing of multiple units.
- B. See drawings for equipment manufacturer and model numbers.

1.6 SUBMITTALS

- A. **Manufacturer's Product Data:** Submit manufacturer's data sheets indicating systems and components proposed for use, including instruction manuals.
- B. **Shop Drawings:** Submit complete shop drawings including connection diagrams for interfacing equipment, list of connected equipment, and locations for major equipment components.
- C. **Record Drawings:** During construction maintain record drawings indicating location of equipment and wiring. Submit an electronic version of record drawings not later than Substantial Completion of the project.
- D. **Operation and Maintenance Data:** Submit manufacturer's operation and maintenance data, customized to the system installed. Include system and operator manuals.
- E. **Field Tests:** Submit results of field testing of every device including date, testing personnel, retesting date if applicable, and confirmation that every device passed field testing.
- F. **Maintenance Service Agreement:** Submit a sample copy of the manufacturer's maintenance service agreement, including cost and services for a one year period for Owner's review. Maintenance shall include, but not be limited to; labor and materials to repair the system provide test and adjustments, and regular inspections.

1.7 QUALITY ASSURANCE

- A. **Manufacturer:** Minimum ten years experience in manufacturing and maintaining IP video recording systems. Manufacturer shall provide toll-free technical assistance and support available 24/7.
- B. **Installer:** Minimum two years experience installing similar systems, and acceptable to the manufacturer of the IP video recording system.
- C. **Environmental Conditions:** The NVR shall be designed to function in the following environmental conditions:
 - 1. Operating Temperature: 32°F to 113°F
 - 2. Emissions: FCC part 15

3. Safety: UL 60950-1:2007; CSA C22.2 No. 60950-1:2007.

D. Power Requirements: NVR shall have the following electrical specifications:

1. Input Voltage: 12V DC 5A via external power supply
2. Operating Voltage: 100-240VAC 1.6A 50-60Hz
3. Power Consumption: 10W (w/o HDD)

1.8 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials in manufacturer's labeled packages. Store and handle in accordance with manufacturer's requirements, in a facility with environmental conditions within recommended limits.

1.9 WARRANTY

A. Manufacturer's Warranty: The warranty period shall be twelve (12) months from the delivery date of the system under normal use and service.

PART 2 PRODUCTS

2.1 MANUFACTURER

A. IP Video Recording System (NVR) Manufacturer: [Wirepath](#) Surveillance 300-Series 16-Channel NVR

2.2 SYSTEM COMPONENTS

- A. NVR Server: The NVR Server shall contain the recording engine, database of all network-connected cameras, Trinity Framework, and adapters. Server shall be provided as a combined hardware and software device.
- B. Workstation Software (NVR Client) – The NVR Client software shall contain the recording engine, Trinity Framework, and adapters, and shall render video and act as a main human/machine interface.

2.3 OPERATIONAL REQUIREMENTS

- A. NVR shall provide a user-friendly graphical user interface (GUI) to configure the cameras, create schedules for recording, perform video surveillance and recording operations, and view various reports.
- B. NVR shall be configured to store and to view images captured by 16 cameras.
- C. NVR shall have following major capabilities:

1. Live viewing of up to 16 IP cameras on a single workstation with up to two (2) monitors set up at CIF resolution. For 4CIF and HD resolution, the number of live streams needs to be benchmarked based on client hardware configuration deployed.
 2. Powerful investigation and video archive search tools.
 3. Post recording motion detection and “advanced” search.
 4. Preview Search permitting search for videos and events based on user-selected date and time
 5. Simultaneous use of multiple video compressions including MPEG-4 and H.264.
 6. Internationalization - supports the following languages: French, German, Russian, Italian, Spanish, and English.
 7. E-mail on alarm.
 8. Instant clip creation from snapshot.
 9. Dynamic IP Camera Discovery Wizard – Automatically discover all compatible cameras connected to NVR.
 10. Capable of managing motion detection-based recording and advanced search capabilities of the recording devices.
 11. Multi-level user access rights for viewing and manages access to the recorder functions.
 12. Capable of managing continuous, scheduled, manual, event-based, and alarm-based recording features.
- D. Mode for User Login: NVR shall have the option of two modes of user logins:
1. Windows Authentication: Uses Windows logged-in user name.
 2. User DB Authentication: Uses preconfigured user name and password.
- E. Configurations for cameras connected to NVR
1. Camera Configuration: The user shall be able to configure the following parameters for each camera connected to NVR.
 - a. Camera Name
 - b. IP Address
 - c. Camera Type
 - d. Fixed/PTZ
 - e. Continuous Recording: All cameras added shall be defaulted to "24/7" recording with the option to select other recording modes.
 - f. Event Based Recording: Shall be “None” by default, with the option to select motion-based recording.
 - g. Username: Shall display the default user name “Admin” for the camera.
 - h. Password: Shall enable setting the password for a camera.
 - i. Camera Advanced Settings: Shall enable configuration of Video Format, Compression Format, Resolution, Compression, Video Frame Rate, GOP, Record Quality Settings, Clip Deletion Settings, and Launching Web View for Advanced Setup, Video Preview.
 2. The following video recording options shall be supported:

- a. Scheduled based recording: The system shall support the ability to schedule recordings for each individual camera for times in the future. By default, NVR shall be pre-loaded with the following four schedules: 24x7, Weekday, Daytime, and Nighttime, which cannot be edited. A maximum of 50 schedules can be created in NVR.
 - b. User based recording: The user shall be able to configure user activated settings for recording moments of interest while viewing live video from a camera. After configuring the user activated settings, the operator can start recording of video when needed. The video is recorded for the time period specified in the System settings for user activated recording. The User based Recording Time Duration shall be selectable from a list of values ranging between 30 seconds and 5 minutes.
 - c. Event based recording: Event based recording shall be possible on Video Motion Detection and alarms triggered.
- F. Viewer: The NVR Viewer shall have the following minimum capabilities:
- a. Main video viewing screen capable of showing 1, 4, 9, 16, and other customized split salvos of live or recorded video. Standard presets shall be customizable to the user preferences.
 - b. Capable of saving current salvo as a View and allowing the user to drag this view at any later point in time.
 - c. Capable of configuring and running scan sequences.
 - d. Capable of adjusting the contrast, brightness, and saturation settings for each camera independently.
 - e. Capable of exporting user selected image or video clips. A digital signature shall be attached to every exported clip.
 - f. Capability to playback the video clips exported. Each video channel that is being recorded by the recording system shall be overlaid with text and a time stamp that is customizable by the user.
 - g. Allow the user to initiate recording through GUI or controller.
 - h. Capability of complete alarm management for the alarms coming from NVR.
 - i. Facility of surrounding camera view.
 - j. Option to perform various operations through context menu on a particular video (live/recorded/sequence). These operations include: Full screen, point and drag, maintain aspect ratio, toggle text, digital PTZ, add bookmark, start recording, stop recording, mark in, mark out, save image, save image as, show surrounding cameras.
 - k. Ability to manage timeline control of the recording device, which provides camera recording statistics. Timeline control shall have following features: Mark input (with looping facility), bookmark, snapshot, time slider, time jump, play controls.
 - l. Preference configuration including: frame rate of unselected panels, rendered type, preview pane, text display format.
- G. Search: The Search facility shall include search for recorded video and events based on date and time.
- H. Reports: The Report facility shall include event history report and audit log report.

2.4 NVR INTEGRATIONS

- A. NVR shall be compatible with the following interoperability standards:
 - 1. Physical Security Interoperability Alliance (PSIA)
 - 2. Open Network Video Interface Forum (ONVIF)
- B. NVR shall be compatible with the following IP cameras
 - 1. Snapav 750 Series IP Bullet Camera #WPS-750-BUL-IP or approved equal.

2.5 SYSTEM HARDWARE

2.6 MANUFACTURER SUPPORT

- A. Manufacturer shall provide customer service, pre-sales applications assistance, after-sales technical assistance, access to technical online support, and online training using Web conferencing.
- B. Manufacturer shall provide 24/7 technical assistance and support via a toll-free telephone number at no extra charge

PART 3 EXECUTION

3.1 EXAMINATION

- A. Examine site conditions prior to installation. Notify Architect and Owner in writing if unsuitable conditions are encountered. Do not start installation until site conditions are acceptable.

3.2 INSTALLATION

- A. Test all components before shipping to the project location
- B. NVR system shall be installed, programmed, and tested in accordance with manufacturer's installation instructions.
 - 1. Coordinate interfaces with Owner's representative where appropriate.
 - 2. Provide backboxes, racks, connectors, supports, conduit, cable, and wire for a complete and reliable installation. Obtain Owner's approval for exact location of all boxes, conduit, and wiring runs prior to installation.

3. Install conduit, cable, and wire parallel and square with building lines, including raised floors areas. Do not exceed forty percent fill in conduits. Gather wires and tie to create an orderly installation.
4. Coordinate with other trades to provide proper sequencing of installation.

3.3 FIELD COMMISSIONING AND CERTIFICATION

- A. Field Commissioning: Testing the IP Video Recording system as recommended by manufacturer, including the following:
 1. Conduct complete inspection and testing of equipment, including verification of operation with connected equipment.
 2. Test devices and demonstrate operational features for Owner's representative and authorities having jurisdiction as applicable.
 3. Correct deficiencies until satisfactory results are obtained.
 4. Submit written copies of test results.

3.4 TRAINING

- A. Conduct on-site system administrator and security/surveillance operator training, with the number of sessions and length of sessions as recommended by the NVR system manufacturer. Training shall include administration, provisioning, configuration, operation, and diagnostics.

END OF SECTION