

**CITY OF GREELEY  
INVITATION FOR BID**

**BESTWAY ELECTRICAL UPGRADE - BID**

**BID #F25-04-032**

**DUE MAY 22, 2025, BEFORE 12:00 P.M.**



Serving Our  
Community  
It's A Tradition

*The Office of Purchasing is a service division  
established to build effective partnerships through efficient and responsive  
procurement processes to obtain high quality  
goods and services for the best value.*



## Virtual Bid Opening Meeting

**Thursday, May 22, 2025, at 1:00 PM (MST)**

**F25-04-032 – BESTWAY ELECTRICAL UPGRADE - BID**

Microsoft Teams [Need help?](#)

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Meeting ID: 292 798 334 293

Passcode: aA2A9dW7

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## SECTION 00110

### BID #F25-04-032

#### INVITATION FOR BID

The City of Greeley, Colorado is requesting **sealed** bids for **BESTWAY ELECTRICAL UPGRADE -BID before May 22, 2025, at 12:00 p.m. (MST)** emailed to [purchasing@greeleygov.com](mailto:purchasing@greeleygov.com). No late or faxed bids will be accepted. It is the responsibility of the vendor to ensure the solicitation documents are delivered to the correct address as noted in the solicitation Documents. Solicitations delivered to other City of Greeley email addresses may be deemed as late and not accepted.

The City of Greeley disseminates all bids and requests for proposals through the Rocky Mountain E-Purchasing System site. Go to <https://www.bidnetdirect.com>, then "Bid Opportunities" and then select "The City of Greeley". **Bids submitted to the City of Greeley must include Sections 00120, 00130, 00140 and 00160.** Addenda must be acknowledged in Section 00120 of the bidding documents. Bidders failing to acknowledge any and all addenda may be considered non-responsive.

There is no DBE Goal established for this project.

Each bid shall be accompanied, by a certified check drawn on a bank which is insured by the Federal Deposit Insurance corporation or a bidder's bond executed by a surety company authorized to do business in Colorado, made payable to the City of Greeley, Colorado, in an amount not less than five percent (5%) of the proposal sum as security that the successful bidder will enter into a contract to construct this project in accordance with the plans and specifications, and give bonds in the sum as hereafter provided. Checks accompanying bids not accepted will be returned.

The successful responsive and responsible bidder will be required to furnish a satisfactory performance bond and payment bond in the amount of the contract sum.

No bid shall be withdrawn after the opening on the bids without the consent of the City of Greeley, Colorado, for a period of sixty (60) days after the scheduled time of the receiving the bids.

Bid acceptance and bid evaluation. Bids shall be evaluated based on the requirements set forth in the invitation for bids, which may include criteria to determine acceptability such as qualifications, past experience, inspection, testing, quality, workmanship, delivery and suitability for a particular purpose. Those criteria that will affect the bid price and be considered in evaluation for award shall be objectively measurable, such as discounts, transportation costs and total or life cycle costs. The invitation for bids shall set forth the evaluation criteria to be used. No criteria may be used in bid evaluation that are not set forth in the invitation for bids.

The City of Greeley retains the right to reject any and all bids and to waive any informality as deemed in the best interest of the city.

Questions pertaining to the project may be directed to [purchasing@greeleygov.com](mailto:purchasing@greeleygov.com) before May 8, 2025, by 1:00 PM (MST).

<b>Schedule of Events (subject to change)</b>	<b>All times are given in MST</b>
Bid Proposal Issued	4/25/2025
Pre-Bid Conference include date/time and location (optional)	5/1/2025 at 10:30 a.m. via Microsoft Teams Meeting
Inquiry Deadline	5/8/2025 – by 1:00 p.m. MST via email to <a href="mailto:purchasing@greeleygov.com">purchasing@greeleygov.com</a>
Final Addendum Issued	5/14/2025
Bid Due Date and Time	5/22/2025 – By 12:00 p.m. MST via email to <a href="mailto:purchasing@greeleygov.com">purchasing@greeleygov.com</a>
Interviews	N/A
Notice of Award (tentative)	5/28/2025
Notice to Proceed (tentative)	6/13/2025

Invitation for you to attend a Pre-Bid conference via Microsoft Teams, Thursday, May 1, 2025, at 10:30 AM (MST)

**Microsoft Teams** [Need help?](#)

[Join the meeting now](#)

Meeting ID: 220 600 129 330 1

Passcode: bS2xn983

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[+1 347-966-8471](tel:+13479668471), [166673923#](tel:+166673923) United States, New York City

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City of Greeley, Colorado  
Purchasing Division

## Section 00120

### BID PROPOSAL

#### **PROJECT: BESTWAY ELECTRICAL UPGRADE – BID – #F25-04-032**

The Undersigned, having become familiar with the local conditions affecting the cost of the work, plans, drawings, and specifications attached herewith, and with advertisement for bids, the form of bid and proposal, form of bond, all of which are issued and attached and on file in the office of the Project Manager, hereby bid and propose to furnish all the labor, materials, necessary tools, and equipment and all utility and transportation service necessary to perform and complete in a workmanlike manner all of the work required in connection with the construction of the items listed on the bidding schedule in accordance with the plans and specifications as prepared by the City of Greeley, Colorado, for the sums set forth in the Bidding Schedule.

The total bid shall be the basis for establishing the amount of the Performance and Payment Bond for this project. The total bid is based on the quantities shown in the bid proposal form and the dimensions shown on the plans.

The undersigned has carefully checked the Bidding Schedule quantities against the plans and specifications before preparing this proposal and accepts the said quantities as substantially correct, both as to classification and the amounts, and as correctly listing the complete work to be done in accordance with the plans and specifications.

The undersigned, agrees to complete and file a Performance and Payment Bond within seven (7) calendar days of Section 00210: Notice of Award and further agrees to complete the contract within the dates as described in the Specifications Section 00620 Special Provisions. Official notice to proceed will not be issued until adequate Performance and Payment Bonds and other required documents are on file with the City of Greeley.

NOTE: Bidders should not add any conditions or qualifying statements to this bid as otherwise the bid may be declared irregular as being non responsive to the Invitation for bids. The following numbered Addenda have been received and the bid, as submitted, reflects any changes resulting from those Addenda: \_\_\_\_\_

\_\_\_\_\_  
ATTEST

\_\_\_\_\_  
DATE

\_\_\_\_\_  
COMPANY NAME

\_\_\_\_\_  
BY

**SECTION 00130  
Electrical Upgrade  
135 North 35th Ave  
Greeley, Colorado**

**Electrical Upgrade**

**BASE BID**

Bid Item	Description / Base Bid	Quantity	Unit	Base bid	Total Cost
<b>Project</b>	Electrical upgrade	1	Entire project		

Total \_\_\_\_\_

**ALTERNATE BID**

Bid Item	Description / Bid Alternate	Quantity	Unit	Bid Alt cost	Total Cost

Bid Alt Total \_\_\_\_\_

**BASE BID TOTAL PROPOSAL** \_\_\_\_\_ **dollars**

Base bid Total Proposal (Written Out)

Company Name: \_\_\_\_\_

Submitted By: \_\_\_\_\_

Title: \_\_\_\_\_

## **COOPERATIVE PURCHASING STATEMENT**

The City of Greeley encourages and participates in cooperative purchasing endeavors undertaken by or on behalf of other governmental jurisdictions. To the extent, other governmental jurisdictions are legally able to participate in cooperative purchasing endeavors; the City of Greeley supports such cooperative activities. Further, it is a specific requirement of this proposal or Request for Proposal that pricing offered herein to the City of Greeley may be offered by the vendor to any other governmental jurisdiction purchasing the same products. The vendor(s) must deal directly with any governmental agency concerning the placement of purchase orders, contractual disputes, invoicing, and payment. The City of Greeley shall not be liable for any costs or damages incurred by any other entity.

## BID ACKNOWLEDGEMENT

The offeror hereby acknowledges receipt of addenda numbers \_\_\_\_\_ through \_\_\_\_\_.

Falsifying this information is cause to deem your proposal nonresponsive and therefore ineligible for consideration. In addition, falsification of this information is cause to cancel a contract awarded based on one or both of the above preferences.

By signing below, you agree to all terms & conditions in this Invitation for Bid.

\_\_\_\_\_  
Original Signature by  
Authorized Officer/Agent

\_\_\_\_\_  
Type or printed name of person signing

\_\_\_\_\_  
Company Name

\_\_\_\_\_  
Title

\_\_\_\_\_  
Phone Number

\_\_\_\_\_  
Vendor Mailing Address

\_\_\_\_\_  
Email Address

\_\_\_\_\_  
City, State, Zip

\_\_\_\_\_  
Proposal Valid Until (at least for 90 days)

\_\_\_\_\_  
Website Address

### **Project Manager:**

\_\_\_\_\_  
Name (Printed)

\_\_\_\_\_  
Phone Number

\_\_\_\_\_  
Vendor Mailing Address

\_\_\_\_\_  
Email Address

\_\_\_\_\_  
City, State, Zip

## SECTION 00140

### BID BOND

KNOW ALL MEN BY THESE PRESENT, that we, the undersigned \_\_\_\_\_ as Principal, and \_\_\_\_\_ as Surety, are hereby held and firmly bound unto the City of Greeley, Colorado, as Owner, in the penal sum of \_\_\_\_\_ for the Payment of which, well and truly to be made, we hereby jointly and severally bind ourselves, successors, and assigns.

THE CONDITION of this obligation is such that whereas the Principal has submitted to the City of Greeley, Colorado, the accompanying bid and hereby made a part hereof to enter into a Contract Agreement for the construction of City of Greeley Project,

#### **BESTWAY ELECTRICAL UPGRADE - BID - #F25-04-032**

WHEREAS, the Owner, as condition for receiving said bid, requires that the Principal to deposit with the Owner as Bid Guaranty equal to five percent (5%) of the amount of said bid.

NOW, THEREFORE,

(a) If said bid shall be rejected; or in the alternate,  
(b) If said bid shall be accepted and the Principal shall execute and deliver a Contract Agreement (properly completed in accordance with said bid) and shall furnish a Performance and Payment Bond upon the forms prescribed by the Owner for the faithful performance of said Agreement; and shall in all other respects perform the agreement created by the acceptance of said bid; then this obligation shall be void, otherwise the same shall remain in force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its bond shall be in no way impaired or affected by any extension of the time within which the Owner may accept such bid; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set forth above.

PRINCIPAL

SURETY

Name: \_\_\_\_\_

Address: \_\_\_\_\_

By: \_\_\_\_\_

Title: \_\_\_\_\_ Attorney \_\_\_\_\_

In-Fact:

(Seal)

(Seal)

NOTE: Surety Companies executing bonds must be authorized to transact business in the State of Colorado and be accepted to the Owner.

**SECTION 00160**  
NOTICE OF PRE-BID CONFERENCE

**PROJECT: BESTWAY ELECTRICAL UPGRADE - BID – #F25-04-032**

A pre-bid conference will be held:

On 5/1/2025, at 10:30 a.m., via Microsoft Teams Meeting. All bidders are encouraged to attend.

Join Teams Meeting

**Microsoft Teams [Need help?](#)  
[Join the meeting now](#)  
Meeting ID: 220 600 129 330 1  
Passcode: bS2xn983**

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**Dial in by phone  
[+1 347-966-8471,,166673923#](#) United States, New York City  
[Find a local number](#)  
Phone conference ID: 166 673 923#  
For organizers: [Meeting options](#) | [Reset dial-in PIN](#)**

City of Greeley staff will be present to answer questions.

Each bidder shall submit the following declaration of attendance, along with the other bid documents.

\*\*\*\*\*

I have attended the pre-bid conference \_\_\_\_\_

I have not attended the pre-bid conference \_\_\_\_\_

---

Name of Contracting Organization

---

Authorized Signature Date

**SECTION 00210**

NOTICE OF AWARD

DATE:

TO:

Re: **BESTWAY ELECTRICAL UPGRADE - BID – #F25-04-032**

Dear Contractor:

The City of Greeley, Colorado (hereinafter called "the Owner") has considered the bids submitted for referenced work in response to its Invitation for Bids. You are hereby notified that your bid has been accepted for items and prices stated in the Bid Schedule in the amount of \$\_\_\_\_\_. You are required to execute the Contract Agreement, provide the necessary insurance certificates, the Performance and Payment Bonds within ten (10) days from the date of this Notice. If you fail to execute said Contract Agreement and furnish the necessary insurance certificates and bonds within the time allotted from this date, the Owner will be entitled to consider your rights arising out of the Owner's acceptance of your bid as abandoned and to demand payment of bid guaranty as damages. The Owner will be entitled to such other rights as may be granted by law. You are required to return an acknowledged copy of this Notice of Award and enclosures to Purchasing.

CITY OF GREELEY, COLORADO

By: Paul Trombino III, P.E.\*

Title: Managing Director, City of Greeley

ACKNOWLEDGMENT: Receipt of the foregoing Notice of Award accompanied with a Performance and Payment Bond form and a signed copy of the Contract Document is hereby acknowledged this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

Bidder: \_\_\_\_\_

By: \_\_\_\_\_

## SECTION 00310

### CONTRACT

THIS AGREEMENT made and entered into this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, by and between the City of Greeley, Colorado, and under the laws of the state of Colorado, party of the first part, termed in the Contract Documents as the "Owner" and \_\_\_\_\_ party of the second part, termed in the Contract Documents as "Contractor."

WITNESSETH: In consideration of monetary compensation to be paid by the Owner to the Contractor at the time and in the manner hereinafter provided, the said Contractor has agreed, and does hereby agree, to furnish all labor, tools, equipment and material and to pay for all such items and to construct in every detail, to wit:

#### PROJECT **BESTWAY ELECTRICAL UPGRADE - BID - #F25-04-032**

at the price bid on the Proposal Form of \$ \_\_\_\_\_ all to the satisfaction and under the general supervision of the Project Manager for the City of Greeley, Colorado.

The Contract Documents consist of this Agreement, the Conditions of the Contract (General, Supplementary and other Conditions), the Drawings, the Specifications, all Addenda issued prior to and all Modifications issued after execution of this Agreement. These form the Contract, and all are as fully a part of the Contract as if attached to this Agreement or repeated herein.

The Project Manager named herein shall interpret and construe the Contract Documents, reconciling any apparent or alleged conflicts and inconsistencies therein; and all of the work and all details thereof shall be subject to the approval and determination of the Project Manager as to whether or not the work is in accordance with Contract Documents. Said City Project Manager shall be the final arbiter and shall determine any and all questions that may arise concerning the Contract Documents, the performance of the work, the workmanship, quality of materials and the acceptability of the completed project. The decision of the Project Manager on all questions shall be final, conclusive and binding.

AND FOR SAID CONSIDERATION IT IS FURTHER PARTICULARLY AGREED BETWEEN THE PARTIES TO THIS AGREEMENT.

1. That construction and installation of the above enumerated work for the Owner shall be completed and ready for use in accordance with the time of completion described in the Bid form of this Contract. That the above enumerated work shall begin within ten (10) days of the official "Notice to Proceed". (Contract shall become void if work is not started at specified time.)

2. That said work and materials for the project covered by the Contract Documents shall be completely installed and delivered to the Owner, within the time above stated, clear and free from any and all liens, claims, and demands of any kind.
3. The full compensation to be paid the Contractor by the Owner pursuant to the terms of this Contract shall be payable as provided in the Contract Documents.
4. This Contract consists of the following component parts, all of which are as fully a part of the Contract as herein set out verbatim, or if not attached, as if hereto attached:

- Section 00110: Invitation for Bid
- Section 00120: Bid Proposal
- Section 00130: Bid Schedule
- Section 00140: Bid Bond
- Section 00160: Pre-bid meeting
- Section 00210: Notice of Award
- Section 00310: Contract
- Section 00320: Performance Bond
- Section 00330: Payment Bond
- Section 00340: Certificate of Insurance
- Section 00350: Lien Waiver Release
- Section 00360: Debarment/Suspension Certification Statement
- Section 00410: Notice to Proceed
- Section 00420: Project Manager Notification
- Section 00430: Certificate of Substantial Completion
- Section 00440: Final Completion
- Section 00510: General Conditions of the Contract
- Section 00520: Subcontractors List
- Section 00620: Special Provisions

Addenda Number \_\_\_\_\_ Inclusive

Any modifications, including change orders, duly delivered after execution of this Agreement.

**IN WITNESS WHEREOF**, the parties have caused this instrument to be executed as of the day and year first above written.

EXECUTED:

CONTRACTOR:

The City of Greeley

Approved as to Substance

Signed:

Signed:

Name: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

Date: \_\_\_\_\_

ENDORSED:

The City of Greeley

Approved as to Legal Form

Signed:

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

ENDORSED:

The City of Greeley

Certification of Contract Funds Availability

Signed:

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

**SECTION 00320**  
**PERFORMANCE BOND**

Bond No. \_\_\_\_\_

KNOWN ALL MEN BY THESE PRESENTS: that

(Firm) \_\_\_\_\_  
(Address) \_\_\_\_\_

(an Individual), (a Partnership), (a Corporation), hereinafter referred to as "the Principal", and

(Firm) \_\_\_\_\_  
(Address) \_\_\_\_\_

hereinafter referred to as "the Surety", are held and firmly bound unto the CITY OF GREELEY, 1000 10<sup>th</sup> Street, Greeley, Colorado 80631, a Municipal Corporation, hereinafter referred to as "the Owner" in the penal sum of \_\_\_\_\_ in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, successors and assigns, jointly and severally, firmly by these present.

THE CONDITIONS OF THIS OBLIGATION are such that whereas the Principal entered into a certain Contract Agreement with the Owner, dated the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_, a copy of which is hereto attached and made a part hereof for the performance of City of Greeley Project,

**BESTWAY ELECTRICAL UPGRADE - BID – #F25-04-032**

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions and agreements of said Contract Agreement during the original term thereof, and any extensions thereof which may be granted by the Owner, with or without Notice to the Surety and during the life of the guaranty period, and if he shall satisfy all claims and demands incurred under such Contract Agreement, and shall fully indemnify and save harmless the Owner from all cost and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the Owner all outlay and expense which the Owner may incur in making good any default, and then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract Agreement or to the work to be performed thereunder or the specifications accompanying the same shall in any way affect its obligation on this bond; and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract Agreement or to the work or to the specifications.

IN WITNESS WHEREOF, this instrument is executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

PROVIDED, FURTHER, that no final settlement between the Owner and Contractor shall abridge the right of any beneficiary hereunder, whose claims may be unsatisfied.

IN PRESENCE OF:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(Corporate Seal)

PRINCIPAL

By: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

(Address)

IN PRESENCE OF:

\_\_\_\_\_  
\_\_\_\_\_

OTHER PARTNERS

By: \_\_\_\_\_

By: \_\_\_\_\_

By: \_\_\_\_\_

IN PRESENCE OF:

\_\_\_\_\_  
\_\_\_\_\_

(Attorney-in-Fact)

SURETY

By: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

(SURETY SEAL)

(Address)

NOTE: Date of Bond must not be prior to date of Contract Agreement. If Contractor is Partnership, all partners should execute bond.

IMPORTANT: Surety Company must be authorized to transact business in the State of Colorado and be acceptable to the Owner.

**SECTION 00330**

**PAYMENT BOND**

Bond No. \_\_\_\_\_

KNOWN ALL MEN BY THESE PRESENT: that

(Firm) \_\_\_\_\_

(Address) \_\_\_\_\_

(an Individual), (a Partnership), (a Corporation), hereinafter referred to as "the Principal", and

(Firm) \_\_\_\_\_

(Address) \_\_\_\_\_

hereinafter referred to as "the Surety", are held and firmly bound unto the CITY OF GREELEY, 1000 10<sup>th</sup> Street, Greeley, Colorado 80631, a Municipal Corporation, hereinafter referred to as "the Owner", in the penal sum of

\_\_\_\_\_ in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITIONS OF THIS OBLIGATION are such that whereas the Principal entered into a certain Contract Agreement with the Owner, dated the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_, a copy of which is hereto attached and made a part hereof for the performance of

**BESTWAY ELECTRICAL UPGRADE - BID - #F25-04-032**

NOW, THEREFORE, if the Principal shall make payment to all persons, firms, subcontractors and corporations furnishing materials for or performing labor in the prosecution of the work provided for in such Contract Agreement, and any equipment and tools, consumed, rented or used in connection with the construction of such work and all insurance premiums on said work, and for all labor, performed in such work whether by subcontractor or otherwise, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract Agreement or to the work to be performed thereunder or the specifications accompanying the same shall in any way affect its obligation on this bond; and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract Agreement or to the work or to the specifications.

IN WITNESS WHEREOF, this instrument is executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

PROVIDED, FURTHER, that no final settlement between the Owner and Contractor shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN PRESENCE OF:

PRINCIPAL

\_\_\_\_\_

By: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

(Corporate Seal)

(Address)

IN PRESENCE OF:

OTHER PARTNERS

\_\_\_\_\_

By: \_\_\_\_\_

\_\_\_\_\_

By: \_\_\_\_\_

By: \_\_\_\_\_

IN PRESENCE OF:

SURETY

\_\_\_\_\_

By: \_\_\_\_\_

(Attorney-in-Fact)

\_\_\_\_\_

\_\_\_\_\_

(SURETY SEAL)

(Address)

NOTE: Date of bond must not be prior to date of Contract Agreement. If Contractor is Partnership, all partners should execute Bond.

IMPORTANT: Surety Company must be authorized to transact business in the State of Colorado and be acceptable to the Owner.



**SECTION 00350**  
**LIEN WAIVER RELEASE**

TO: City of Greeley, Colorado (hereinafter referred to as "the OWNER".)

FROM: (hereinafter referred to as "the CONTRACTOR")

PROJECT: **BESTWAY ELECTRICAL UPGRADE - BID - #F25-04-032**

1. The CONTRACTOR does hereby release all Mechanic's Liens Rights, Miller Act Claim (40 USCA 270), Stop Notice, Equitable Liens and Labor and Material Bond Rights resulting from labor and/or materials, subcontract work, equipment or other work, rents, services or supplies heretofore furnished in and for the construction, design, improvement, alteration, additions to or repair of the above described project.

2. This release is given for and in consideration of the sum of \$ \_\_\_\_\_ and other good and valuable consideration. If no dollar consideration is herein recited, it is acknowledged that other adequate consideration has been received by the CONTRACTOR for this release.

3. In further consideration of the payment made or to be made as above set forth, and to induce the OWNER to make said payment, the CONTRACTOR agrees to defend and hold harmless the OWNER, employees, agents and assigns from any claim or claims hereinafter made by the CONTRACTOR and/or its material suppliers, subcontractors or employees, servants, agents or assigns of such persons against the project. The CONTRACTOR agrees to indemnify or reimburse all persons so relying upon this release for any and all sums, including attorney's fees and costs, which may be incurred as the result of any such claims.

4. It is acknowledged that the designation of the above project constitutes an adequate description of the property and improvements for which the CONTRACTOR has received consideration for this release.

5. It is further warranted and represented that all such claims against the CONTRACTOR or the CONTRACTOR's subcontractors and/or material suppliers have been paid or that arrangements, satisfactory to the OWNER and CONTRACTOR, have been made for such payments.

6. It is acknowledged that this release is for the benefit of and may be relied upon by the OWNER, the CONTRACTOR, and construction lender and the principal and surety on any labor and material bond for the project.



**SECTION 00360**

**BESTWAY ELECTRICAL UPGRADE - BID – #F25-04-032**

Debarment/Suspension Certification Statement

The proposer certifies that neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from participation in this transaction by any Federal, State, County, Municipal or any other department or agency thereof. The proposer certifies that it will provide immediate written notice to the City if at any time the proposer learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstance.

UEI # (Optional) \_\_\_\_\_

Name of Organization \_\_\_\_\_

Address \_\_\_\_\_

Authorized Signature \_\_\_\_\_

Title \_\_\_\_\_

Date \_\_\_\_\_

**SECTION 00410**  
NOTICE TO PROCEED

Month , 20

TO: NAME

PROJECT: **BESTWAY ELECTRICAL UPGRADE - BID – #F25-04-032**

To Whom It May Concern:

You are hereby notified to commence work on the above-referenced project in accordance with the Contract Agreement dated Month , 20 .

You are to complete this project by Month , 20

CITY OF GREELEY, COLORADO

By: \_\_\_\_\_

Title: \_\_\_\_\_

\_\_\_\_\_  
Signature

**SECTION 00420**  
PROJECT MANAGER NOTIFICATION

\_\_\_\_\_, 20\_\_\_\_

TO:

PROJECT: **BESTWAY ELECTRICAL UPGRADE - BID - #F25-04-032**

The Owner hereby designates Roch Labossiere as its Project Manager and authorizes this individual, under the authority of the Director of Public Works & Transportation Department to make all necessary and proper decisions with reference to the project. Contract interpretations, change orders and other requests for clarification or instruction shall be directed to the Project Manager. The Director of Public Works shall be authorized to bind the Owner with respect to any decision made in accordance with the contract document.

CITY OF GREELEY, COLORADO

By: \_\_\_\_\_

Title: \_\_\_\_\_

**SECTION 00430**  
CERTIFICATE OF SUBSTANTIAL COMPLETION

TO: **CONTRACTOR**

PROJECT: **BESTWAY ELECTRICAL UPGRADE - BID – #F25-04-032**

Project or designated portion shall include:

The work performed under this contract has been reviewed and found to be substantially complete. The Date of Substantial Completion of the Project or portion thereof designated above is hereby established as "Month, \_\_, 2024".

The date of commencement of applicable warranties required by the Contract Documents is stipulated in Section 00440 - Certificate of Final Acceptance.

DEFINITION OF DATE OF SUBSTANTIAL COMPLETION

The Date of Substantial Completion of the Work or designated portion thereof is the date certified by the Project Manager when construction is sufficiently complete, in accordance with the Contract Documents, so the Owner can occupy or utilize the Work or designated portion thereof for the use for which it is intended, as expressed in the Contract Documents.

A list of items to be completed or corrected, prepared by the Contractor and verified and amended by the Project Manager is attached hereto. The failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents. The date of commencement of warranties for items on the attached list is as stipulated in Section 00440 – Certificate of Final Acceptance.

The Owner shall operate and maintain the Work or portion of the Work described above from the Date of Substantial Completion and be responsible for all costs associated with the completed work excluding cost related to warrantee work.

The Contractor will complete or correct the Work on the Punch List of items attached hereto within the specified scheduled completion dates.

\_\_\_\_\_  
Contractor

\_\_\_\_\_  
Owner

(Note--Owner's and Contractor's legal and insurance counsel should review and determine insurance requirements and coverage; Contractor shall secure consent of surety company, if any.)



**SECTION 00510**  
CITY OF GREELEY  
GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION  
(Enter Reference)

Please click the link below to access Section 00510

[SECTION 00510 General Conditions.pdf](#)

## SECTION 00520

### SUBCONTRACTORS/MATERIALS SUPPLIERS AND RELATED DATA

Firm Name: \_\_\_\_\_ City Contractors License # \_\_\_\_\_

Primary Contractor \_\_\_\_\_

PROJECT: \_\_\_\_\_ Address: \_\_\_\_\_

(For each Subcontractor and/or Materials Suppliers to be utilized, please provide the following information  
(use additional sheets as necessary)

Phone Number: \_\_\_\_\_ Fax Number: \_\_\_\_\_

Proposed work and percentage of total work be assigned \_\_\_\_\_  
Percentage: \_\_\_\_\_ %

Firm Name: \_\_\_\_\_ City Contractors License # \_\_\_\_\_

Address: \_\_\_\_\_ Phone

Number: \_\_\_\_\_ Fax Number: \_\_\_\_\_

Proposed work and percentage of total work be assigned \_\_\_\_\_  
Percentage: \_\_\_\_\_ %

Firm Name: \_\_\_\_\_ City Contractors License # \_\_\_\_\_

Address: \_\_\_\_\_ Phone

Number: \_\_\_\_\_ Fax Number: \_\_\_\_\_

Proposed work and percentage of total work be assigned \_\_\_\_\_  
Percentage: \_\_\_\_\_ %

Firm Name: \_\_\_\_\_ City Contractors License # \_\_\_\_\_

Address: \_\_\_\_\_ Phone

Number: \_\_\_\_\_ Fax Number: \_\_\_\_\_

Proposed work and percentage of total work be assigned \_\_\_\_\_  
Percentage: \_\_\_\_\_ %

Firm Name: \_\_\_\_\_ City Contractors License # \_\_\_\_\_

Address: \_\_\_\_\_ Phone

Number: \_\_\_\_\_ Fax Number: \_\_\_\_\_

Proposed work and percentage of total work be assigned \_\_\_\_\_  
Percentage: \_\_\_\_\_ %

If the Primary Contractor adds any Subcontractors or Materials Suppliers during the duration of the project, the Primary Contractor will supply the City with an updated form before the Subcontractor or Materials Supplier will be allowed to work on the project.



DR 160 (9/87)  
DEPARTMENT OF REVENUE  
1375 SHERMAN STREET  
DENVER, COLORADO 80281

## State of Colorado

THIS LICENSE IS NOT TRANSFERABLE

### CERTIFICATE OF EXEMPTION FOR SALES AND USE TAX ONLY

GREELEY CITY OF  
1000 10TH ST.  
GREELEY CO 80631-3982



ACCOUNT NUMBER	LIABILITY INFORMATION	ISSUE DATE
	98-03320	
1000 10TH ST		GREELEY CO

  
Executive Director  
Department of Revenue

DR 160 (9/87)  
DEPARTMENT OF REVENUE  
1375 SHERMAN STREET  
DENVER, COLORADO 80281

## State of Colorado

### CERTIFICATE OF EXEMPTION FOR SALES AND USE TAX ONLY

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ACCOUNT NUMBER	LIABILITY INFORMATION	ISSUE DATE
	98-03320	
1000 10TH ST		GREELEY CO

  
Executive Director  
Department of Revenue

## SECTION 00620

### SPECIAL PROVISIONS Electrical upgrade Project Greeley, Colorado

**DESCRIPTION OF THE PROJECT:** Follow all safety regulations, install electrical upgrade per the drawings, supply and install Panel boxes, block heaters, pole lights, outlets, electrical connection to a brine tank. field verify all measurements.

#### **LOCATION OF WORK:**

All work is located at one location: **135 North 35<sup>th</sup> Ave, Greeley colo 80631**

#### **SPECIFICATIONS:**

This project subject to the following drawings and specifications: See attached Drawing for a detailed scope of work. Drawings prepared by ALM2S architectural firm, 970-223-1820

- 1. Construction scheduled time frame Electrical upgrade project July 21<sup>nd</sup> thru Sept 12<sup>th</sup> 2025** 53 calendar days
2. Work hours are 7:00 AM to 5:00 pm, unless coordinated with Facilities Division.
3. No Restroom facilities will be available
4. All work must be complete by September 12<sup>th</sup> 2025
5. Parking will be available at facility.
- 6. Electrical shutdowns for this project during construction period must be coordinated with Facilities Division. Terry Griebe @ 970/539-6232 for issues during project.**
7. Per-bid meeting and walk-through is highly recommended to bid this project.
8. Construction work area shall be cleaned up at the end each workday.
9. Final cleaning will be done by a professional cleaning service that specialize in construction cleaning.
10. The parking lot will be shared by City staff and contractors
11. The contractor is responsible for a Dumpster, it can be placed in the parking lot.
12. The contractor is responsible for protecting any surface, flooring, walls ,ceiling, doors, windows etc... any damaged done will be fixed at no cost to the owner.

#### **PERMITS:**

The Contractor must be licensed with City of Greeley. Contractor will obtain necessary permits for work in public facilities. City will waive permit fees.

**CONTRACT TIME, LIQUIDATED DAMAGES, DELAYS:**

Work shall be completed within (53) days, calendar days of the Notice to Proceed. The Notice to Proceed will be issued after a meeting with the selected contractor, and that contractor has an opportunity to schedule this work.

Liquidated damages will be withheld from the final payment to the Contractor for each day that the project's substantial completion is delayed beyond the contract completion date (60 calendar days plus any additional time allowed by the City per change orders).

Liquidated damage amount will be \$500.00 per calendar day.

Liquidated damages are based on additional costs to the City of Greeley for delay of project completion and are not a "late penalty".

Additional time will be allowed for formal seasonal "bad weather" days. The Contractor shall provide documentation of weather history as described below when submitting requests for additional time for severe weather. An actual adverse weather day must prevent work for 50 percent or more of the CONTRACTOR'S workday, delay work critical to the timely completion of the project, and must be documented by the CONTRACTOR. The OWNER'S representative observing the construction shall determine on a daily basis whether or not work can proceed or if work is delayed due to adverse weather or the effects thereof. The CONTRACTOR shall notify the OWNER'S representative in writing of any disagreement as to whether or not work can proceed on a given date, within two (2) calendar days of that date. The OWNER'S representative will use the above written notification in determining the number of working days for which work was delayed during each month.

While extensions of time shall be granted for "unusually severe" weather or climate conditions, no monetary compensations shall be made by the OWNER for any costs to the CONTRACTOR arising out of such delays. The CONTRACTOR shall comply with the portions of these contract documents relating to his project schedule and amendments thereto which result from "unusual severe" weather condition.

**Work Hours:**

The Contractor is limited to working between 7.00 am to 5:00 pm or per-determined after hours. The work must be coordinated with Terry Griebe@ 970/539-6232 Project Manager or Chris Freeland @ 970/617-6954 Facilities Architect.

**MEASUREMENT AND PAYMENTS:**

This contract is a Lump sum price for construction, etc. No additional payment for work not described in these documents will be allowed, whether a bid item exists or not. The Contractor shall include the costs of all incidentals of construction, labor, equipment, and materials in the appropriate bid item.

**FINAL CLEAN UP:**

At the completion of the contract and prior to submittal of final pay request, the Contractor shall clean up all construction material and debris. The Contractor shall notify the City when final cleanup is ready for inspection. A professional cleaning service will be used for the final deep cleaning.

**POST CONSTRUCTION INSPECTION AND WARRANTY:**

Please see General conditions 501 article 11

**END OF SECTION 00620**

## **Electrical Upgrade Project**

**135 North 35th<sup>th</sup> ave**

**Greeley Colo 80631**

**BID For**

**FIXED PRICING**

The City of Greeley is accepting bids for 2025 construction project of the electrical upgrade for streets, this project is located at 135 N 35th ave, Greeley Colo. A set of plans will be attached, the architectural firm is ALM2S, the electrical Engineer is APS Inc Electrical engineers,

The vendor must provide the information requested set forth herein. Please fill out completely. Failure to complete bid form will result in a "NO BID"

**SCOPE:** This is a short narrative that highlights the scope of work only, it is the responsibility of the contractor to study the plans and fully understand the scope of work the duration of the project is estimated to be 53 calendar days, starting July 21, 2025, and ending Sept 12, 2025. Attached document are Section 230923 engineers' scope of work. The drawing of the site is included. The electrical drawing set, Bid Format, Special Provisions.

**Repair and patching:** Any patching and painting that is the result of the project will be done by approved vendor or their sub, this is considered part of the project.

**Construction Damage:** Any damage done during the construction period will be the responsibility of the contractor to fix at no cost to the owner.

**Bathroom Facilities:** The contractor will rent a porta potty for the construction crews to use.

**Construction debris and rented equipment:** It is the responsibility of the contractor to remove and dispose of construction debris legally off site. The contractor will be responsible for all rented equipment, this includes the dumpster.

**Safety:** this site will remain open during construction; be aware of truck traffic It is important the construction areas be kept free of debris and excess tools.

**Permit:** It is the contractor's responsibility to pull a permit, the fee will be waived.

**Material storage:** Material can be stored on site, as long as the area is kept clean and free of debris.

**Sites clean Up:** Site cleanup will be done daily.

**Samgov.com**

Potential Vendors are required to register on the SAM website. Prior to issuance of any Purchase Order or contract above \$25,000.00. Provide documentation to the City of Greeley

**Bid Format:** Attached to the Bid document is the bid format, this needs to be filled out and signed. This will be for the entire project

**Contacts:** Questions regarding this bid document will be submitted to purchasing.

**Questions:** The cut off period for questions is stated in the schedule of solicitation.

**Daily on-site support:** Jimmy Trujillo HVAC Tech 970539-6231

**Primary contact** Terry Griebe Project manager 970-539-6232

**Secondary contact** Chris Freeland Facilities Project Architect 970-617-6954

**Warranty:** The contractor will issue a minimum 2-year workmanship warranty to the owner, any equipment should carry a standard manufactures warranty.

**Completion:** The contractor is to do a final cleanup of the site, remove any equipment and /or the dumpster from the site.

**Substantial completion:** Prior to “Final Completion Form” being issued the owner and the contractor will walk the site and develop a punch list, once the punch list items are completed the Final Completion form will be issued to the contractor and the warranty period begins on that date.

**Pricing:**

- The pricing shall include all costs associated with demo and construction of the Baseboard heat and controls.
- THE CONTRACT TERM IS for demo and construction of the new system including a 2-year workmanship warranty plus any manufactures warranty.
- SERVICE PROVIDED: THE CONTRACT TERM IS for demo and construction of the new system and controls including a 2-year workmanship warranty
- Attached is a bid format, list cost of complete job

# STREETS SITE ELECTRICAL

## CITY OF GREELEY

135 N 35th Ave, Greeley Colorado

## CONSTRUCTION DOCUMENTS 09/10/24



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### Abbreviations

ACT	Acoustical Ceiling Tile
AFF	Above Finished Floor
B.O.	Bottom Of
CJ	Control Joint
CMU	Concrete Masonry Unit
Cont.	Continuous
DW	Dishwasher
EA.	Each
EQ	Equal
Ext.	Exterior
FE	Fire Extinguisher
Gyp.	Gypsum Wallboard
Horiz.	Horizontal
Int.	Interior
NTS	Not to Scale
O.C.	On Center
Ref.	Refrigerator
R.O.	Rough Opening
T.O.	Top Of
Typ.	Typical
UNO	Unless Noted Otherwise
Vert.	Vertical

### Architectural Symbols

Property Line	---	Wall Elevation	
Existing Contour	---10---	Detail	
New Contour	---10---	Building Section	
Easement / Setback	---	Wall Section	
Sanitary Sewer	SS	Grid Line	
Water Line	W		
Gas Line	G		
Storm Drain	SD		
Datum	⊕		
Spot Elevation	⊙		
Drawing Title			
Drawing Number			
Sheet Number			
Scale			
Room Name			
Room Number			
Window Type			
Door Number			
System Note			
System Note: Wall with Suffix			

Suffix:  
 C = Extend Wall & Gyp. Bd. 6" above clg.  
 D = Extend Wall & Gyp. Bd. up to underside of Structural Deck  
 G = Gypsum Board on one side only  
 I = Acoustic or Thermal Insulation  
 M = Moisture Resistant / Paper-less Fiberglass Mat Wall Board

### Vicinity Map



N  
**Vicinity Map**  
 SCALE: 1 : 1

### Materials

### Drawing Index

General	
<b>G0.1</b>	SPECIFICATIONS
Electrical	
<b>E0</b>	LEGEND, SPECIFICATIONS, DRAWING INDEX
<b>E0.1</b>	SITE PLAN
<b>E1.1</b>	FLOOR PLAN
<b>E3.1</b>	ONE-LINE DIAGRAMS AND SCHEDULES

Shaun J. Moscrip, AIA  
 123 N College Ave  
 Suite 204  
 Fort Collins, Colorado 80524  
 (970) 223-1820

**Owner Representative:**  
 Terry Griebel  
 Project Manager  
 City of Greeley  
 1300 Ast Bldg B  
 Greeley, Colorado  
 970 350-9293

**Civil Engineer**  
 NA

**Landscape Architect**  
 NA

**Structural Engineer**  
 NA

**Mechanical Engineer**  
 NA

**Electrical Engineer**  
 Randy Bremmer  
 APS, Inc  
 970 206 0269

# ELECTRICAL LEGEND

## OUTLETS

- ⊕ DUPLEX RECEPTACLE (120 V)
- ⊕ DUPLEX RECEPT. ON EMERG. SYSTEM
- ⊕ DEDICATED DUPLEX RECEPT. (120V)
- ⊕ WEATHERPROOF RECEPTACLE
- ⊕ GROUND FAULT RECEPTACLE
- ⊕ ISOLATED GROUND RECEPTACLE
- ⊕ DRINKING FOUNTAIN
- ⊕ RECEPT. FURNISHED WITH KITCHEN EQUIP. SAFETY-TYPE DUPLEX OUTLET
- ⊕ SWITCHED RECEPTACLE
- ⊕ HALF SWITCHED RECEPTACLE
- ⊕ DOUBLE DUPLEX RECEPTACLE
- ⊕ FLUSH FLOOR RECEPTACLE, DUPLEX
- ⊕ SPECIAL EQUIPMENT RECEPTACLE
- ⊕ LOCKING RECEPTACLE
- ⊕ RECEPT. FURNISHED WITH KITCHEN EQUIP.
- ⊕ TELEPHONE OUTLET (W/WALL)
- ⊕ COM/DATA OUTLET
- ⊕ FLUSH FLOOR COM/DATA OUTLET
- ⊕ TELEPOWER POLE (T=Telephone, P=Power, C=computer)
- ⊕ JUNCTION BOX
- ⊕ JUNCTION BOX (FLOOR)
- ⊕ JUNCTION BOX (CEILING)
- ⊕ JUNCTION BOX FURNISHED WITH KITCHEN EQUIPMENT
- ⊕ WALL JUNCTION BOX
- ⊕ PULL (JUNCTION) BOX
- ⊕ UNDERFLOOR JUNCTION BOX
- ⊕ TELEVISION OUTLET

## FIRE ALARM—REFER TO FIRE ALARM SYSTEMS

- ⊕ FIRE ALARM CONTROL PANEL (EST-3)
- ⊕ FIRE SYSTEM INDICATOR (3-LED/5MM)
- ⊕ FIRE ALARM TRANSDUCER OR TRANSMITTER
- ⊕ FIRE ALARM GRAPHIC PLAQUE
- ⊕ ELEVATOR STATUS/RECALL
- ⊕ FIRE PUMP STATUS INDICATOR
- ⊕ FIRE ALARM COMMUNICATOR
- ⊕ EMERGENCY GENERATOR STATUS
- ⊕ CONTROL PANEL FOR HVAC, EXHAUST STAIRWELL PRESSURIZATION EQUIPMENT
- ⊕ PULL STATION (SIGA-278)
- ⊕ XXX= DENOTES DETECTORS ADDRESS
- ⊕ FIRE SERVICE OR EMERGENCY TELEPHONE JACK (R5001-423)
- ⊕ HEAT DETECTOR (THERMAL)
- ⊕ R/T=RATE OF RISE AND FIXED TEMPERATURE
- ⊕ XXX= DENOTES DETECTORS ADDRESS
- ⊕ SMOKE DETECTOR (SIGA-49HS)
- ⊕ P/A=COMBINATION PHOTOELECTRIC/IONIZATION
- ⊕ XXX= DENOTES DETECTORS ADDRESS
- ⊕ SOUNDER BASE (SIGA-484)
- ⊕ SMOKE DETECTOR W/ RELAY BASE (SIGA-RB4)
- ⊕ SMOKE DETECTOR SWITCH
- ⊕ XXX= DENOTES DETECTORS ADDRESS
- ⊕ FLOW DETECTOR SWITCH
- ⊕ XXX= DENOTES DETECTORS ADDRESS
- ⊕ VALVE WITH TAMPER DETECTOR SWITCH
- ⊕ XXX= DENOTES DETECTORS ADDRESS
- ⊕ SPEAKER ONLY (INTEGRITY SERIES)
- ⊕ STROBE ONLY DEVICE (INTEGRITY SERIES)
- ⊕ XXX= CANDELA RATING OF STROBE DEVICE
- ⊕ COMBO SPEAKER STROBE (INTEGRITY SERIES) XX= CANDELA RATING OF STROBE DEVICE
- ⊕ DOOR HOLDER
- ⊕ SMOKE DAMPER
- ⊕ COMBINATION FIRE/SMOKE DAMPER
- ⊕ FAN (ARROW INDICATED DIRECTION OF FLOW)
- ⊕ FIRE DEPARTMENT ACCESS POINT
- ⊕ FIRE DEPARTMENT KEY BOX
- ⊕ ROOF ACCESS
- ⊕ FIRE ALARM ANNUNCIATOR PANEL
- ⊕ FIRE ALARM RESET PANEL
- ⊕ FIRE ALARM COMMUNICATION PANEL
- ⊕ SMOKE CONTROL AND PRESSURIZATION PANEL
- ⊕ SPRINKLER SYSTEM WATER FLOW BELL
- ⊕ SMOKE VENT
- ⊕ ELECTRIC SHUT OFF
- ⊕ DOMESTIC WATER SHUT OFF
- ⊕ GAS SHUT OFF
- ⊕ AIR CONDITIONING EQUIPMENT ROOM
- ⊕ ELEVATOR EQUIPMENT ROOM
- ⊕ EMERGENCY GENERATOR ROOM
- ⊕ FIRE PUMP ROOM
- ⊕ TELEPHONE EQUIPMENT ROOM
- ⊕ BOILER ROOM
- ⊕ ELECTRICAL/TRANSFORMER ROOM

## SWITCHES

- ⊕ EXISTING SINGLE-POLE SWITCH
- ⊕ EXISTING THREE-WAY SWITCH
- ⊕ SINGLE-POLE SWITCH
- ⊕ DOUBLE-POLE SWITCH
- ⊕ THREE-WAY SWITCH
- ⊕ FOUR-WAY SWITCH
- ⊕ SWITCH WITH PILOT LIGHT
- ⊕ COMB. SWITCH/DUPLEX RECEPTACLE
- ⊕ LOW-VOLTAGE SWITCH
- ⊕ LOCKING SWITCH
- ⊕ DIMMER SWITCH
- ⊕ KEY SWITCH
- ⊕ WEATHERPROOF SWITCH
- ⊕ TIME SWITCH
- ⊕ OCCUPANCY SENSOR
- ⊕ LIGHT SENSOR

## FIXTURES

- ⊕ SURFACE FLUOR. FIXTURE W/BOX
- ⊕ RECESSED FLUORESCENT FIXTURE
- ⊕ FLUORESCENT STRIP FIXTURE
- ⊕ WALL/UNDER CABINET FIXTURE
- ⊕ NIGHT LIGHT (ON 24 hours)
- ⊕ FIXTURE ON EMERGENCY CIRCUIT
- ⊕ RECESSED DOWNLIGHT
- ⊕ KEYLESS LAMP/LED
- ⊕ EXIT FIXTURE (arrows indicate directional arrows)
- ⊕ INCANDESCENT CEILING MOUNTED TRACK LIGHT
- ⊕ TRACK LIGHT FIXTURE
- ⊕ POLE MTD. FIXTURE
- ⊕ POLE TOP MTD. FIXTURE
- ⊕ WALL MTD. FIXTURE
- ⊕ H.L.D. CEILING FIXTURE
- ⊕ EMERGENCY EGRESS LIGHT (number of heads shown)

## NURSE CALL SYSTEM

- ⊕ NURSE CALL BEDSIDE STATION WITH RECESSED DOWNLIGHT
- ⊕ NURSE CALL BEDSIDE STATION WITH PULL CORD
- ⊕ NURSE CALL DUTY STATION
- ⊕ NURSE CALL CODE BLUE STATION
- ⊕ NURSE CALL DOME LIGHT SINGLE WHITE (Z INDICATES ZONE LTD)
- ⊕ NURSE CALL DOME LIGHT SINGLE RED (EMERGENCY)
- ⊕ NURSE CALL DOME LIGHT SINGLE RED (EMERGENCY) WITH BUZZER
- ⊕ NURSE CALL DOME LIGHT DOUBLE RED AND WHITE
- ⊕ NURSE CALL DOME LIGHT DOUBLE RED, WHITE AND BLUE CODE

## DESIGNATIONS

- ⊕ REVISION NOTE
- ⊕ REFERENCING NOTE
- ⊕ FEEDER NUMBER
- ⊕ KITCHEN EQUIPMENT FLAG NOTE
- ⊕ MEDICAL EQUIPMENT FLAG NOTE
- ⊕ UNLESS OTHERWISE NOTED
- ⊕ COMPUTER DESIGNATED OUTLET
- ⊕ DEVICE DESIGNATED WEATHER PROOF
- ⊕ WP DEVICE ABOVE COUNTER
- ⊕ FLR DEVICE IN FLOOR
- ⊕ AFF ABOVE FINISHED FLOOR

## MECHANICAL

- ⊕ MOTOR AND CONNECTION, HP SHOWN
- ⊕ CEILING EXHAUST FAN
- ⊕ HP WALL TYPE EXHAUST FAN, HP SHOWN
- ⊕ PIPE HEAT TRACING
- ⊕ ELECTRIC UNIT HEATER
- ⊕ ELECTRIC BASEBOARD HEATER
- ⊕ ELECTRIC CABINET HEATER
- ⊕ WATER HEATER
- ⊕ PADDLE FAN

## SERVICE AND EQUIPMENT

- ⊕ DISTRIBUTION TYPE PANELBOARD
- ⊕ TRANSFORMER, PAD MOUNTED
- ⊕ TRANSFORMER, DRY (KVA shown)
- ⊕ DISCONNECT SWITCH (fuse size shown)
- ⊕ MAGNETIC STARTER (BY DIV. 15 U.O.N.)
- ⊕ COMB. STARTER (BY DIV. 15 U.O.N.)
- ⊕ PANELBOARD, SURFACE MOUNTED
- ⊕ PANELBOARD, FLUSH MOUNTED
- ⊕ UTILITY METER, AS REQUIRED
- ⊕ CURRENT TRANSFORMERS (with potential transformers where required)
- ⊕ GENERATOR, KW SHOWN
- ⊕ TELEPHONE TERMINAL BOARD
- ⊕ TELEPHONE TERMINAL CABINET (surface unless otherwise noted)
- ⊕ GROUND CONNECTION PER N.E.C.
- ⊕ WIREWAY
- ⊕ TRANSFER SWITCH
- ⊕ CIRCUIT BREAKER
- ⊕ FUSAT, SWITCHED PLUG-FUSE BOX

## CIRCUITRY AND RACEWAY

- ⊕ CIRCUIT UP
- ⊕ CIRCUIT DOWN
- ⊕ HOME RUN (with circuit numbers)
- ⊕ END OF RUN, CAP AND STAKE
- ⊕ "RUN CONTINUES" INDICATION
- ⊕ WIREMOLD #500 Unless noted
- ⊕ PLUMBED #500#12 Unless noted
- ⊕ HOME RUN (THRU CONTROL DEVICE)

## CONTROL

- ⊕ THERMOSTAT (line voltage U.O.N. furnished by DIV. 15 U.O.N.)
- ⊕ HUMIDISTAT (line voltage U.O.N. furnished by DIV. 15 U.O.N.)
- ⊕ PHOTOCELL (voltage as required)
- ⊕ TIME CLOCK (24 hour U.O.N.)
- ⊕ PUSHBUTTON STATION (number of buttons indicated)
- ⊕ LIGHTING CONTACTOR
- ⊕ IRRIGATION CONTROLLER (120 volt 50va connection by /6)

## SOUND and SIGNAL

- ⊕ SPEAKER
- ⊕ VOLUME CONTROL
- ⊕ BUZZER
- ⊕ CHIME
- ⊕ MICROPHONE OUTLET
- ⊕ INTERCOM OUTLET

**GENERAL NOTES:**

- WHERE ADEQUATE RADIO COVERAGE (AS DEFINED BY THE FIRE CODE OFFICIAL) CANNOT BE ESTABLISHED WITHIN THIS BUILDING THEN A NEW PUBLIC SAFETY RADIO AMPLIFICATION SYSTEM SHALL BE INSTALLED. DESIGN-BUILD "RADIO AMPLIFICATION" SYSTEM IS REQUIRED TO COVER THE ENTIRE BUILDING BOTH NEW & EXISTING. IF REQUIRED AFTER TESTING THE AMPLIFIER SHALL BE LOCATED ADJACENT TO THE NEW FIRE ALARM CONTROL PANEL. NOTE THAT FIRE ALARM CONTROL PANEL TO BE PROVIDED WITH SPARE CONTACTS TO ALLOW FOR CONNECTION OF SYSTEM TO FIRE ALARM UNIT.
- ALL CONDUIT PENETRATIONS AND ALL RATED ASSEMBLIES MUST BE PROTECTED BY FIRE-STOPPING SYSTEM. RESPONSIBLE CONTRACTOR/SUB-CONTRACTOR INSTALLING THE FIRE-STOPPING SYSTEM MUST SUBMIT TO ARCHITECT AND BUILDING OFFICIAL AS A DEFERRED SUBMITTAL LIST OF ALL MATERIALS & U.L. ASSEMBLY AND ALL ASSEMBLIES MUST BE CONFORMED TO EXACTLY.

# DRAWING ELECTRICAL SPECIFICATION

**CODES AND REGULATIONS:**  
COMPLY WITH ALL APPLICABLE STATE AND LOCAL CODES, REGULATIONS AND ORDINANCES.

**EXAMINATION OF PREMISES:**  
EXAMINE THE PREMISES PRIOR TO BIDDING AND BECOME FULLY FAMILIAR WITH EXISTING CONDITIONS.

**PERMITS:**  
SECURE AND PAY FOR ALL PERMITS, FEES, TAXES, LICENSES AND INSPECTIONS IN CONNECTION WITH THE ELECTRICAL WORK.

**DRAWINGS AND SPECIFICATIONS:**  
CONTRACTOR SHALL BE RESPONSIBLE FOR EXACT FITTING OF ALL MATERIALS, EQUIPMENT, ETC. IN BUILDING. ALL DIMENSIONS SHALL BE VERIFIED ON THE JOB. INSTRUCTIONS SUCH AS "PROVIDE BY ARCHITECT" SHALL MEAN CONTRACTOR SHALL BE RESPONSIBLE FOR THE FURNISHING AND INSTALLING OF... COMPLETE IN EVERY RESPECT.

**QUARANTEE:**  
GUARANTEE ALL MATERIALS, LABOR, WORKMANSHIP AND THE SUCCESSFUL OPERATION OF ALL EQUIPMENT INSTALLED UNDER THIS CONTRACT FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE.

**SUBSTITUTIONS:**  
IT IS THE INTENT OF THE SPECIFICATIONS TO ESTABLISH QUALITY STANDARDS OF MATERIALS AND EQUIPMENT INSTALLED. SPECIFIC ITEMS ARE IDENTIFIED BY MANUFACTURER, TRADE NAME OR CATALOG DESIGNATION. SHOULD CONTRACTOR PROPOSE TO FURNISH MATERIALS AND EQUIPMENT OTHER THAN THOSE SPECIFIED AS PERMITTED BY THE "OR APPROVED EQUAL" CLAUSES, HE SHALL SUBMIT A WRITTEN REQUEST DUPLICATE, AT LEAST FIVE CALENDAR DAYS PRIOR TO BIDDING DATE FOR ANY OR ALL SUBSTITUTIONS TO ARCHITECT ALONG WITH A STAMPED SELF-ADDRESSED RETURN ENVELOPE. SUCH A REQUEST SHALL BE ACCOMPANIED WITH COMPLETE DESCRIPTIVE AND TECHNICAL DATA AND ALL OTHER INFORMATION DEEMED NECESSARY BY ARCHITECT FOR EVALUATION. SUBSTITUTIONS SUBMITTED FOR APPROVAL SHALL LIST ITEMS AS SPECIFIED WITH THE ALTERNATE SUBSTITUTION. WHERE SUBSTITUTIONS ALTER THE DESIGN, CONDUIT, WIRING OR SPACE REQUIREMENTS INDICATED ON THE DRAWINGS, CONTRACTOR SHALL INCLUDE ITEMS OF COST FOR THE REVISED DESIGN AND CONSTRUCTION.

**SHOP DRAWINGS (SIX SETS OR ONE ELECTRONIC PDF SET):**

- FURNISH SHOP DRAWINGS TO ARCHITECT FOR THE FOLLOWING:
  - LIGHTING EQUIPMENT.
  - DISTRIBUTION EQUIPMENT.
  - WIRING DEVICES.
  - AC OR NM CABLE WHERE APPROPRIATE.

**COORDINATION:**  
COORDINATE ALL ELECTRICAL INSTALLATIONS AND ROUGH-IN AS REQUIRED.

**DELIVERY AND STORAGE OF MATERIALS COORDINATION:**  
MAKE PROVISIONS FOR DELIVERY AND SAFE STORAGE OF ALL MATERIALS AND MAKE THE REQUIRED ARRANGEMENTS WITH OTHER CONTRACTORS ON THE JOB FOR THE INTRODUCTION INTO THE BUILDING OF EQUIPMENT LARGE TO BE INTRODUCED THROUGH FINISHED OPENINGS. WHERE MATERIALS ARE INDICATED TO BE FURNISHED BY OTHERS TO CONTRACTOR FOR INSTALLATION, THESE MATERIALS SHALL BE CHECKED AND THEIR DELIVERY PROPERLY RECEIVED. ASSUME FULL RESPONSIBILITY FOR THE STORAGE AND SAFE KEEPING OF SAID MATERIALS FROM TIME OF DELIVERY UNTIL FINAL ACCEPTANCE.

**ACCEPTANCE DEMONSTRATION:**  
UPON COMPLETION OF THE WORK, AT A TIME TO BE DESIGNATED BY ARCHITECT, CONTRACTOR SHALL DEMONSTRATE TO OWNER THE OPERATION OF THE ENTIRE ELECTRICAL INSTALLATION, INCLUDING ANY AND ALL SPECIAL SYSTEMS PROVIDED UNDER THIS CONTRACT.

**REMOVE ALL MATERIALS, SCRAP, ETC., RELATIVE TO THE ELECTRICAL INSTALLATION AND LEAVE THE PREMISES IN A CLEAN, ORDERLY CONDITION. ANY COSTS TO OWNER FOR CLEAN UP OF THE SITE WILL BE CHARGED AGAINST CONTRACTOR. CLEAN ALL ELECTRICAL EQUIPMENT AND MATERIALS OF ALL FOREIGN MATTER. CLEAN ALL LIGHT FIXTURES USING ONLY METHODS AND MATERIALS AS RECOMMENDED BY MANUFACTURER.**

**TEMPORARY WIRING:**  
REMOVE ALL TEMPORARY WIRING, OUTLETS, ETC., COMPLETE.

**DELIVER "AS-BUILT" DRAWINGS TO OWNER.**

**BE RESPONSIBLE FOR ALL TRENCHING AND BACKFILL FOR ELECTRICAL WORK. BACKFILLING SHALL BE DONE IN ACCORDANCE WITH ARCHITECTURAL SPECIFICATIONS. BE RESPONSIBLE FOR ALL NEW AND EXISTING BURIED UTILITIES.**

**COORDINATE ALL ELECTRICAL SERVICE OUTAGES WITH OWNER AND GENERAL CONTRACTOR. PLAN ALL WORK SO THAT THE OPERATION OF OUTAGE IS KEPT TO AN ABSOLUTE MINIMUM. PROVIDE TEMPORARY WIRING AS NECESSARY AND AS REQUIRED IN ORDER TO MAINTAIN CONTINUOUS SERVICE FOR OWNER'S OPERATION WHERE OUTAGE MUST BE ACCOMPLISHED DURING A TIME WHEN POWER IS DEEMED NECESSARY BY OWNER, OR WHEN OUTAGE IS TO BE OF AN EXTENDED DURATION, MAXIMUM 6 HOURS. ALL OUTAGE TIME AND SCHEDULING OF SAME SHALL BE AS APPROVED BY OWNER AND SHALL CONFORM TO OWNER'S SCHEDULES.**

**THE COMPLETE SYSTEM SHALL BE LOAD BALANCED TO WITHIN 10-15 PERCENT PER PHASE.**

**PHASE ROTATION:**  
ELECTRICAL CONTRACTOR SHALL ASSURE AND BE RESPONSIBLE FOR PROPER PHASE ROTATION OF ALL MOTORS, COMPRESSORS, AND OTHER THREE PHASE EQUIPMENT PRIOR TO ENERGIZING EQUIPMENT. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE AND COORDINATE PROPER PHASE ROTATION CONNECTIONS MADE BY THE SERVING UTILITY COMPANY PRIOR TO ENERGIZING MAIN SERVICE EQUIPMENT.

- CONDUITS, MINIMUM SIZE 1/2", SHALL BE PROVIDED FOR ALL WIRING RUNS AS INDICATED AND SPECIFIED. ALL SIZES SHALL BE PER NEC. USE PVC SCHEDULE 40 FOR ALL UNDERGROUND FEEDERS AND FOR ALL RUNS IN OR UNDER THE GROUND FLOOR SLAB. USE ORC WHERE REQUIRED BY CODE, UTILITY COMPANY, OR FOR MECHANICAL PROTECTION AND AS SHOWN. USE EMT FOR ALL OTHER RUNS. FINAL CONNECTIONS TO MOTORS AND OTHER VIBRATING OR ROTATING EQUIPMENT SHALL BE MADE IN FLEXIBLE CONDUIT.
- WHERE RACEWAYS CONTAINING UNGROUNDED CONDUCTORS 4 AWG AND LARGER ENTER A CABINET, BOX ENCLOSURE, OR RACEWAY, THE CONDUCTORS SHALL BE PROTECTED BY A SUBSTANTIAL FITTING PROVIDING A SMOOTHLY ROUNDED INSULATING SURFACE.
- CABLES AND RACEWAYS SHALL NOT BE SUPPORTED BY CEILING GRIDS.
- WHERE PORTIONS OF A CABLE RACEWAY OR SLEEVE ARE KNOWN TO BE SUBJECTED TO DIFFERENT TEMPERATURES AS IN COLD STORAGE AREAS OF BUILDINGS OR WHERE PASSING FROM THE INTERIOR TO THE EXTERIOR OF THE BUILDING, THE RACEWAY OR SLEEVE SHALL BE SEALED WITH AN APPROVED MATERIAL.

**JUNCTION BOXES:**  
JUNCTION BOXES SHALL BE GALVANIZED STEEL OR CAST WATERPROOF TYPE. PROVIDE BOXES OF PROPER SIZE, CONFIGURATION AND TYPE AS IS SUITABLE FOR THE TERMINATION OR DEVICE TO BE INSTALLED.

**CONDUCTORS:**

- ALL CONDUCTORS SHALL BE COPPER #12 AWG MINIMUM UNLESS SPECIFICALLY NOTED OTHERWISE.
- CONDUCTORS #10 AWG COPPER AND SMALLER SHALL BE SOLID AND #8 AWG COPPER AND LARGER SHALL BE STRANDED TYPE OF WIRE.
- TYPE THHN/THWN, 600-VOLT INSULATED.

**IDENTIFICATION**

- GROUND (NEUTRAL) CONDUCTORS #6 AWG OR SMALLER MUST BE IDENTIFIED BY A CONTINUOUS WHITE OR GRAY OUTER FINISH. NEUTRAL CONDUCTORS LARGER THAN #6 AWG MUST BE IDENTIFIED BY DISTINCTIVE WHITE MARKING SUCH AS WHITE ELECTRICAL TAPE.
- EQUIPMENT GROUNDING CONDUCTORS #6 AWG OR SMALLER MUST BE IDENTIFIED BY A CONTINUOUS GREEN OUTER FINISH. GROUNDING CONDUCTORS LARGER THAN #6 AWG MUST BE IDENTIFIED BY DISTINCTIVE GREEN MARKING SUCH AS GREEN ELECTRICAL TAPE.
- UNGROUND (PHASE) CONDUCTOR SHALL BE IDENTIFIED AS FOLLOWS:

PHASE A	240/120 V
PHASE B	BLACK
PHASE C	RED
NEUTRAL	WHITE

- DO NOT EVER MIX CONDUCTORS FROM SEPARATE PANELS IN THE SAME RACEWAY OR ENCLOSURE.
- ALWAYS INSTALL THE UNGROUNDED (NEUTRAL) CONDUCTOR FROM THE UTILITY TRANSFORMER TO THE MAIN DISCONNECT. THIS WILL MAINTAIN AN EFFECTIVE GROUND-FAULT CURRENT PATH (EFP).

## NM (NONMETALLIC-SHEATHED) CABLE:

- USES PERMITTED
- 1. ONE AND TWO-FAMILY DWELLINGS.
- 2. MULTIFAMILY DWELLINGS PERMITTED TO BE OF TYPES III, IV, AND V CONSTRUCTION EXCEPT AS PROHIBITED BY THE NEC.
- 3. OTHER STRUCTURES PERMITTED TO BE OF TYPES III, IV, AND V CONSTRUCTION EXCEPT AS PROHIBITED BY THE NEC. CABLES SHALL BE CONCEALED WITHIN WALLS, FLOORS, OR CEILINGS THAT PROVIDE A THERMAL BARRIER OF MATERIAL THAT HAS AT LEAST A 15-MINUTE FINISH RATING AS IDENTIFIED IN LISTING A818.
- 4. CABLE TRAYS, WHERE THE CABLES ARE IDENTIFIED FOR THE USE.

- Uses Not Permitted
- AS OPEN RUNS IN DROPPED OR SUSPENDED CEILINGS.
  - AS SERVICE-ENTRANCE CABLE.
  - COMMERCIAL GARAGES.
  - PLACES OF ASSEMBLY, GYMS, THEATERS, MOTION PICTURE STUDIOS, ETC.
  - BATTERY STORAGE ROOMS
  - IN HOISTWAYS OR ON ELEVATORS OR ESCALATORS.
  - EMBEDDED IN POURED CONCRETE.
  - HAZARDOUS OR CORROSIVE LOCATIONS
  - WET LOCATIONS
  - HEALTH CARE FACILITIES
  - AS OTHERWISE PROHIBITED BY THE NEC

## AC (ARMORED) CABLE & MC (METAL-CLAD) CABLE:

**CONSTRUCTION**

- THE OUTER METAL ARMOR SHEATH SHALL BE IDENTIFIED AS AN ACCEPTABLE GROUNDING RETURN PATH.
- A INSULATED, COPPER, GROUNDING CONDUCTOR PROPERLY SIZED PER NEC TABLE 250.122 SHALL BE INCLUDED WITH IN THE FACTORY FABRICATED ASSEMBLY.
- EACH ASSEMBLY HAS NO MORE THAN THREE CURRENT-CARRYING CONDUCTORS (NOT INCLUDING THE NEUTRAL)

**USES PERMITTED (WHERE NOT SUBJECT TO PHYSICAL DAMAGE)**

- IN BOTH EXPOSED AND CONCEALED WORK.
- IN DRY LOCATIONS.
- AIR VOIDS OF MASONRY BLOCK WHERE NOT SUBJECT TO DAMPNESS.
- CABLE TRAYS, WHERE THE CABLES ARE IDENTIFIED FOR THE USE.
- HEALTH CARE FACILITIES
- PLACES OF ASSEMBLY

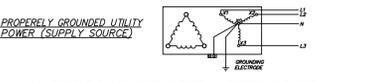
**USES NOT PERMITTED**

- WET OR DAMP LOCATIONS
- AS SERVICE-ENTRANCE CABLE.
- COMMERCIAL GARAGES.
- MOTION PICTURE STUDIOS
- BATTERY STORAGE ROOMS
- IN HOISTWAYS OR ON ELEVATORS OR ESCALATORS.
- EMBEDDED IN POURED CONCRETE.
- HAZARDOUS OR CORROSIVE LOCATIONS
- AS OTHERWISE PROHIBITED BY THE NEC

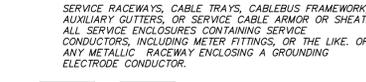
**GROUNDING SYSTEM:**

- GROUND THE ENTIRE ELECTRICAL DISTRIBUTION SYSTEM, INCLUDING ALL RACEWAYS, OUTLETS, FIXTURE, EQUIPMENT, ETC., IN FULL ACCORD WITH NEC TO MAINTAIN AN EFFECTIVE GROUND-FAULT CURRENT PATH.

- VERIFY THE LOCAL UTILITY PROPERLY GROUNDS THE SUPPLY SOURCE SO THE SYSTEMS PHASE TO GROUND VOLTAGE IS STABILIZED. (COORDINATE WITH LOCAL UTILITY)



- BOND THE GROUNDED (NEUTRAL) SYSTEM AND THE EQUIPMENT GROUNDING SYSTEM AT THE MAIN SERVICE VIA A MAIN BONDING JUMPER.
- LOCATE AND INSTALL THE APPROPRIATE GROUNDING ELECTRODES ON THE PREMISES AS NOTED IN NEC 250.50 AND PROVIDE A GROUNDING ELECTRODE CONDUCTOR FROM THE ELECTRODE TO THE GROUNDED (NEUTRAL) CONNECTION AT THE MAIN SERVICE.
- THE FOLLOWING NON-CURRENT CARRYING METAL PARTS OF THE SERVICE EQUIPMENT SHALL BE EFFECTIVELY BONDED TOGETHER:
  - SERVICE RACEWAYS, CABLE TRAYS, CABLEBUS FRAMEWORK, AUXILIARY GUTTERS, OR SERVICE CABLE ARMOR OR SHEATH. ALL SERVICE ENCLOSURES CONTAINING SERVICE CONDUCTORS, INCLUDING METER FITTINGS, OR THE LIKE, OR ANY METALLIC RACEWAY ENCLOSING A GROUNDING ELECTRODE CONDUCTOR.



- WHERE CIRCUIT CONDUCTORS ARE SPLICED WITHIN A BOX, OR TERMINATED ON EQUIPMENT WITHIN OR SUPPORTED BY A BOX, ANY SEPARATE EQUIPMENT GROUNDING CONDUCTORS ASSOCIATED WITH THOSE CIRCUIT CONDUCTORS SHALL BE SPLICED OR JOINED TO THE BOX WITH DEVICE SUITABLE FOR THE USE.
- PROVIDE SEPARATE GROUNDING CONDUCTOR IN ALL RACEWAYS (NO EXCEPTIONS).
- NONCONDUCTIVE COATINGS (SUCH AS PAINT) ON EQUIPMENT TO BE GROUNDED SHALL BE REMOVED FROM GROUNDING CONTACT SURFACES TO ENSURE GOOD ELECTRICAL CONTINUITY.
- ANY SPECIAL SYSTEM (CATV, TELE, DATA, SOUND, ETC) REQUIRED TO BE GROUNDED SHALL BE BONDED TO THE ELECTRICAL EQUIPMENT GROUNDING SYSTEM AT THE MAIN SERVICE, WITH A MIN. #6 AWG CU CONDUCTOR.

**ELECTRICAL SERVICE:**  
NEW ELECTRICAL SERVICE ENTRANCE SHALL BE AS INDICATED. CONSULT LOCAL UTILITY COMPANY AND VERIFY THE CHARACTERISTICS AND POINT OF SERVICE ATTACHMENT. TERMINATE THE SECONDARY ELECTRICAL SERVICE AT POINT AND IN MANNER AS DIRECTED BY THE UTILITY COMPANY. PROVIDE ALL DETAILS AS NECESSARY. CONFIRM PAYMENT FOR ALL UTILITY COMPANY CHARGES.

## DISTRIBUTION EQUIPMENT:

**PANELBOARDS**

- FACTORY ASSEMBLED CIRCUIT BREAKER TYPE. (SQUARE D' NOOD OR NF AS REQUIRED WITH HINGED TRIP FRONT OR APPROVED EQUAL)
- PROVIDE TYPE WRITTEN CIRCUIT BOARD DIRECTORY CLEARLY IDENTIFYING EACH CIRCUIT AS TO USE AND LOCATION.
- ALL CIRCUIT BREAKERS SHALL HAVE MIN.10,000 OR 14,000 AIC RATING.
- PANELBOARDS BUS SHALL BE TIN-PLATED ALUMINUM, PROVIDE COMPLETE WITH COPPER GROUND BUS AND BOLT-ON CIRCUIT BREAKERS.
- PROVIDE ENGRAVED SCREW-ON NAMEPLATE ON PANEL TRIM INDICATING PANEL DESIGNATION, VOLTAGE, PHASE, AMPRAGE, LINE SIDE SOURCE, AND LOAD SIDE SERVED.
- PROVIDE FIELD MARKINGS TO WARN QUALIFIED PERSONS OF POTENTIAL ELECTRIC ARC FLASH HAZARDS. (NEC-110.16)
- NEMA 1 OR 3R AS INDICATED OR REQUIRED BY CODE.
- CIRCUIT BREAKERS UTILIZED TO SWITCH 120V OR 277V FLUORESCENT AND OR HID LIGHTING CIRCUITS MUST BE LISTED AND MARKED "HD"
- CIRCUIT BREAKERS UTILIZED IN A 3-PHASE, CORNER-GROUNDED DELTA SYSTEM MUST BE IDENTIFIED FOR USE WITH IN THAT SYSTEM.
- EACH GROUNDED (NEUTRAL) CONDUCTOR SHALL TERMINATE WITHIN THE PANELBOARD. IN AN INDIVIDUAL TERMINAL THAT IS NOT ALSO USED FOR ANOTHER CONDUCTOR.

## DISCONNECTS

- SWITCHES SHALL BE "HEAVY DUTY" RATED.
- EXTERNALLY OPERATED.
- HORSE POWER RATED.
- NEMA 1 OR 3R AS INDICATED OR REQUIRED BY CODE.
- PROVIDE ENGRAVED SCREW-ON NAMEPLATE ON DISCONNECT COVER INDICATING DESIGNATION, VOLTAGE, PHASE, AMPRAGE, LINE SIDE SOURCE, AND LOAD SIDE SERVED.
- DISCONNECTING MEANS MUST BE LOCATED WITH-IN SIGHT FROM & READILY ACCESSIBLE FROM AIR CONDITIONING OR REFRIGERATION EQUIPMENT. THE DISCONNECTING MEANS CANNOT BE LOCATED ON PANELS THAT ARE DESIGNED TO ALLOW ACCESS TO THE AIR-CONDITIONING OR REFRIGERATION EQUIPMENT.

## FUSES

- CLASS, TYPE AND SIZE AS LISTED ON DRAWINGS.
- MANUFACTURED BY BUSSMAN OR APPROVED EQUAL

## BRANCH CIRCUITS:

- GENERAL
- WHEN MORE THAN (1) BRANCH CKT SUPPLIES MORE THAN (1) RECEPTACLE ON THE SAME YOKE, SIMULTANEOUSLY ACTIVATED CIRCUIT BREAKERS SHALL FEED THE CKTS.
  - WHEN INSTALLING A 120V RESIDENTIAL SMOKE DETECTION SYSTEM INSTALL THE KITCHEN LUMINAIRE ON THAT CIRCUIT, IN ADDITION AFCI PROTECT THAT CIRCUIT.
  - 15 AND 20 AMP, SINGLE PHASE, 125V RECEPTACLES INSTALLED IN BATHROOMS, OUTSIDE, ROOFTOPS, OR KITCHENS SHALL BE PROVIDED WITH GFCI PROTECTION.
  - A 15 OR 20 AMP, SINGLE PHASE, 125V GFCI RECEPTACLE SHALL BE INSTALLED AT AN ACCESSIBLE LOCATION FOR THE SERVICING OF HEATING, AIR CONDITIONING AND REFRIGERATION EQUIPMENT. (VISIBLE AND WITHIN 25 FT) A MIN. OF (1)125V, GFCI, 15 AMP RECEPTACLE.
  - ALL BRANCH CIRCUITS SURPLYING 15 OR 20AMP, SINGLE PHASE, 125V OUTLETS (RECEPTACLES, LIGHTS, SWITCHES, CEILING FANS AND SMOKE DETECTORS) IN A DWELLING UNIT BEDROOM MUST BE AFCI PROTECTED BY A CIRCUIT BREAKER. IN ADDITION EACH ASSOCIATED RECEPTACLE SHALL BE OF THE AFCI TYPE.
  - RECEPTACLES OF ANY KIND ABOVE A SUSPENDED OR DROPPED CEILING ARE NOT ALLOWED.

## DEVICES AND PLATES:

- RECEPTACLES SHALL BE COMMERCIAL GRADE, 20-AMP, 125-VOLT A.C. & 15-AMP, 125-VOLT AC RESIDENTIAL GRADE FOR RESIDENT UNITS ONLY. BOTH IN WHITE FINISH. CONFIRM FINISH WITH ARCHITECT.
- GROUND FAULT CIRCUIT INTERRUPTER (GFI): SHALL BE CLASS A 4MA TO 6MA TYPE WITH "SMART LOCK" PROTECTION. (LEWITON-SMART LOCK GFCI) WHEN THE GFCI COMPONENT OF THE UNIT FAILS THE ASSOCIATED PANEL SHALL BE DEENERGIZED BY DEFAULT, IN ADDITION LINE-LOAD REVERSAL FEATURE SHALL RENDER THE UNIT UNUSABLE WHEN ACTIVATED.

SWITCHES SHALL BE COMMERCIAL GRADE, 20-AMP, 125-VOLT A.C. & 15-AMP, 125-VOLT AC RESIDENTIAL GRADE FOR RESIDENT UNITS ONLY. BOTH IN WHITE FINISH (CONFIRM). ALL SWITCHES TO BE "BROCKER" DECORA STYLE. SWITCHES & DIMMERS SHALL BE SINGLE POLE, THREE-WAY OR FOUR-WAY AS INDICATED ON THE DRAWINGS. DIMMER SWITCHES TO BE LUTRON RLX-600PL-WH SERIES.

GENERAL USE DIMMERS SHALL NOT BE ALLOWED TO CONTROL RECEPTACLES OR AND PLUG CONNECTED TABLE AND FLOOR LAMPS.

DEVICE COVERPLATES SHALL BE "NYLON" OR "LEXAN" IN WHITE FINISH (CONFIRM WITH ARCHITECT).

WEATHER PROOF (WP) IMPLIES A COVER THAT IS RATED A WEATHER PROOF WHETHER OR NOT THE ATTACHMENT PLUG IS INSERTED OR NOT.

## EXIT & EMERGENCY LIGHTING SYSTEM:

PROVIDE A COMPLETE EXIT AND EMERGENCY LIGHTING SYSTEM AS INDICATED ON DRAWINGS. LOCATE ALL EXIT LIGHTS FOR MAXIMUM VISIBILITY. ENTIRE SYSTEM SHALL COMPLY WITH ARTICLE 700 OF NEC.

## LIGHTING FIXTURES:

- GENERAL
- FIXTURES SHALL BE AS PER THE LIGHTING FIXTURE SCHEDULE AS INDICATED ON THE DRAWINGS.
  - ALL FIXTURES SHALL BE U.L. LABELED FOR THE INTENDED INSTALLATION.
- BALLASTS
- FLUORESCENT FIXTURES SHALL BE PROVIDED WITH ELECTRONIC BALLAST(S) WITH 10% THD OR LESS.
  - ACCEPTABLE MANUFACTURERS SHALL BE MOTOROLA, ADVANCE, OR OSRAM/SYLVANIA

**LAMPS**

- FLUORESCENT LAMPS SHALL BE 3000 DEGREE COLOR TEMPERATURE UNLESS OTHERWISE NOTED. COMPACT FLUORESCENT LAMPS SHALL BE 2700 DEGREE COLOR TEMPERATURE UNLESS NOTED OTHERWISE.
- FLUORESCENT LAMPS SHALL HAVE A MIN. COLOR RENDERING INDEX OF 80.
- FLUORESCENT LAMPS SHALL SATISFY THE FEDERAL TOXIC CHARACTERIZATION LEACHING PROCEDURE (TCLP) CRITERIA FOR CLASSIFICATION AS NON-HAZARDOUS WASTE.
- INCANDESCENT LAMPS SHALL BE 130V IN WATTAGE INDICATED.
- ALL METAL HALIDE LAMPS SHALL BE OF THE PULSE START VARIETY OR AS INDICATED ON PLANS.

## TELEPHONE SYSTEM:

PROVIDE A COMPLETE SYSTEM OF OUTLETS, CONDUITS, EQUIPMENT SPACE, CABINETS, ETC., FOR TELEPHONE COMPANY USE. SYSTEM SHALL BE AS INDICATED ON DRAWINGS AND IN ACCORDANCE WITH ALL REQUIREMENTS OF TELEPHONE COMPANY. PROVIDE ENTRANCE CONDUITS AS INDICATED. MAINTAIN MINIMUM 2" SEPARATION FROM POWER, ANY AND ALL SIGNALING AND OR COMMUNICATIONS INSTALLATIONS SHALL COMPLY WITH NEC CHAPTERS 7 & 8 RESPECTIVELY.

## MECHANICAL EQUIPMENT WIRING SYSTEM:

- PROVIDE ALL POWER FEEDERS AND FINAL CONNECTIONS TO ALL MOTORS SPECIFIED UNDER MECHANICAL PORTION OF THESE SPECIFICATIONS. MOTORS SHALL BE FURNISHED AND SET IN PLACE BY MECHANICAL CONTRACTOR.
- INSTALL AND WIRE THROUGH ALL DEVICES SUCH AS MAGNETIC STARTERS, SPEED CONTROLLERS, RELAYS, LINE VOLTAGE THERMOSTATS, SWITCHES, ETC., FURNISHED BY OTHERS, WHICH DIRECTLY HANDLE THE FULL LOAD CURRENT OF THE MOTORS. LOCATE ALL DIRECTED BY MECHANICAL CONTRACTOR.
- MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPERATURE CONTROL WIRING FOR THIS PROJECT AND FOR ALL SUCH INTERLOCK AND CONTROL WIRING WHICH DOES NOT DIRECTLY HANDLE THE FULL LOAD CURRENT. THIS ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR

REFERENCE NOTES (THIS SHEET ONLY)

- 1 NEW PROPOSED PAD MOUNTED SERVICE TRANSFORMER CONFIRM EXACT LOCATION WITH POWER COMPANY AND OWNER. SEE ONE-LINE RISER DIAGRAM ON SHEET E3.1.
- 2 ELECTRICAL EQUIPMENT STRUCTURE, SEE DETAILS ON SHEET E3.1, TYPICAL OF EACH STRUCTURE.
- 3 SEE ENLARGED PLAN FOR DETAILS AND CIRCUITING REGARDING TRUCK BLOCK HEATER OUTLETS. CONFIRM EXACT LOCATIONS.
- 4 SPECIAL PURPOSE OUTLET FOR LIFT UNIT, SEE ELECTRICAL STRUCTURE DETAIL ON SHEET E3.1. PROVIDE MIDWEST POWER PRODUCTS #U055010 (14-50R OUTLET & 20 AMP GFI OUTLET IN 6"x9" BOX) MOUNTED ON ELECTRICAL STRUCTURE.
- 5 PROVIDE OUTLET BOX AT POLE (+20' FOR CAMERA) AND (+6" FOR CAMERA WIRING SYSTEM). CAMERA SYSTEM BY OWNER, COORDINATE. PROVIDE (1) 1" EMPTY SCHEDULE 40 PVC CONDUIT WITH PULLWIRE FOR CAMERA CABLING SYSTEM TO PANEL 'B' STRUCTURE, SEE DETAIL ON SHEET E3.1.
- 6 CONTAINER OUTLET PEDESTAL - MIDWEST POWER PRODUCTS #U010010 (20-AMP GFI OUTLET BOX, 5" x 7") - 6PT (62" HIGH DIRECT BURY PEDESTAL FOR OUTLET BOX.) CONFIRM EXACT LOCATIONS.



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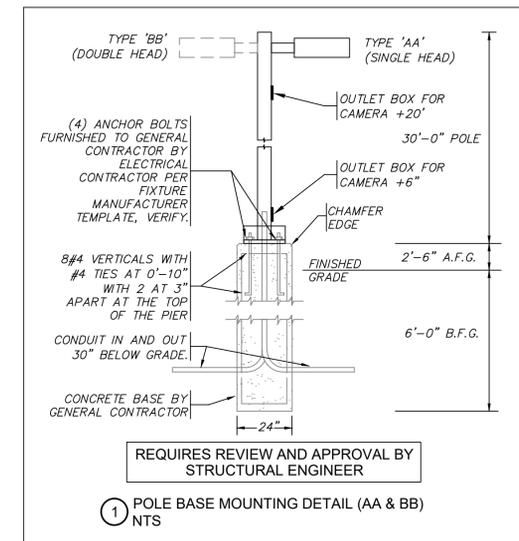
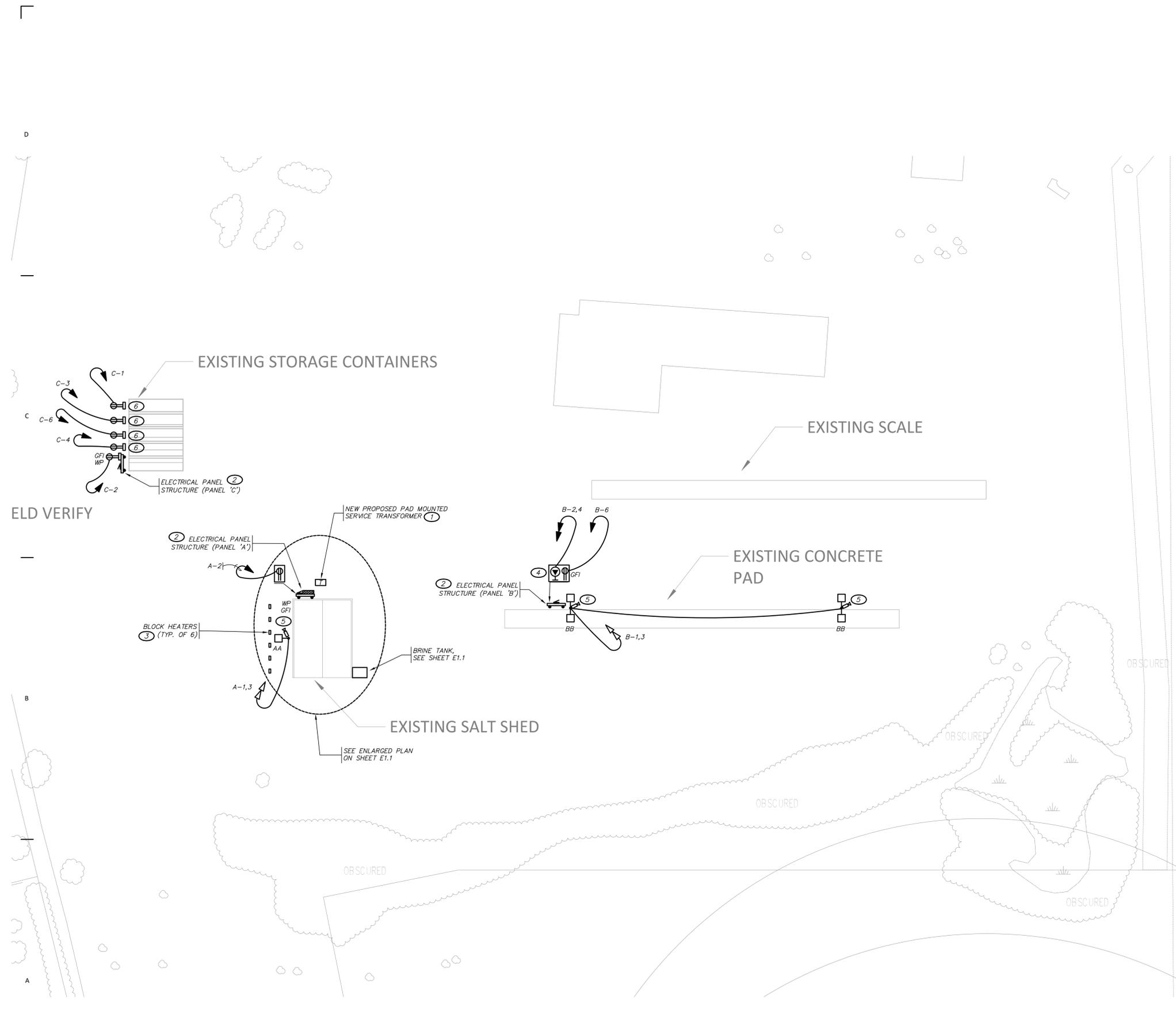


APS, INC.  
ELECTRICAL ENGINEERS  
APSINC.BIZ

No.	Issue	Date
Project	APS.613.24	08/28/2024
Date		08/28/2024
Drawn	SJM, RJB	

ELECTRICAL SITE PLAN

E0.1



ELECTRICAL SITE PLAN  
SCALE: 1" = 40'-0"

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LIGHTING FIXTURE SCHEDULE

TYPE	LAMPS	DESCRIPTION	FINISH	MOUNTING	MANUFACTURER	CAT. NO.	VOLTS
A	LED FURN. W/ UNIT	LED NEMA 4X, MARINE GRADE FLOOD LIGHT	GRAY	SURFACE TO CEILING JOIST	RIG-A-LITE	LFLLD-07-LO-U-T-40	120
-	-	-	-	-	-	-	-
AA	LED FURN. W/ UNIT	SINGLE-HEAD CUT-OFF TYPE LED AREA LIGHT (TYPE 3 & PHOTOCELL UNIT) MOUNT TO POLE	BRONZE	30'-0" POLE (SEE DETAIL) NOTE NO.1	LITHONIA	DSXO-LED-P5-40K-80CRI-T3M-MVOLT-SPA-PER/DLL127F 1.5JU-DDBXD(NO.1)	240
BB	LED FURN. W/ UNIT	DOUBLE-HEAD CUT-OFF TYPE LED AREA LIGHT (TYPE 3 & PHOTOCELL UNIT) MOUNT TO POLE	BRONZE	30'-0" POLE (SEE DETAIL) NOTE NO.2	LITHONIA	(2)HEADS DSXO-LED-P5-40K-80CRI-T3M-MVOLT-SPA-PER/DLL127F 1.5JU-DDBXD(NO.2)	240
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-

LIGHTING NOTES:

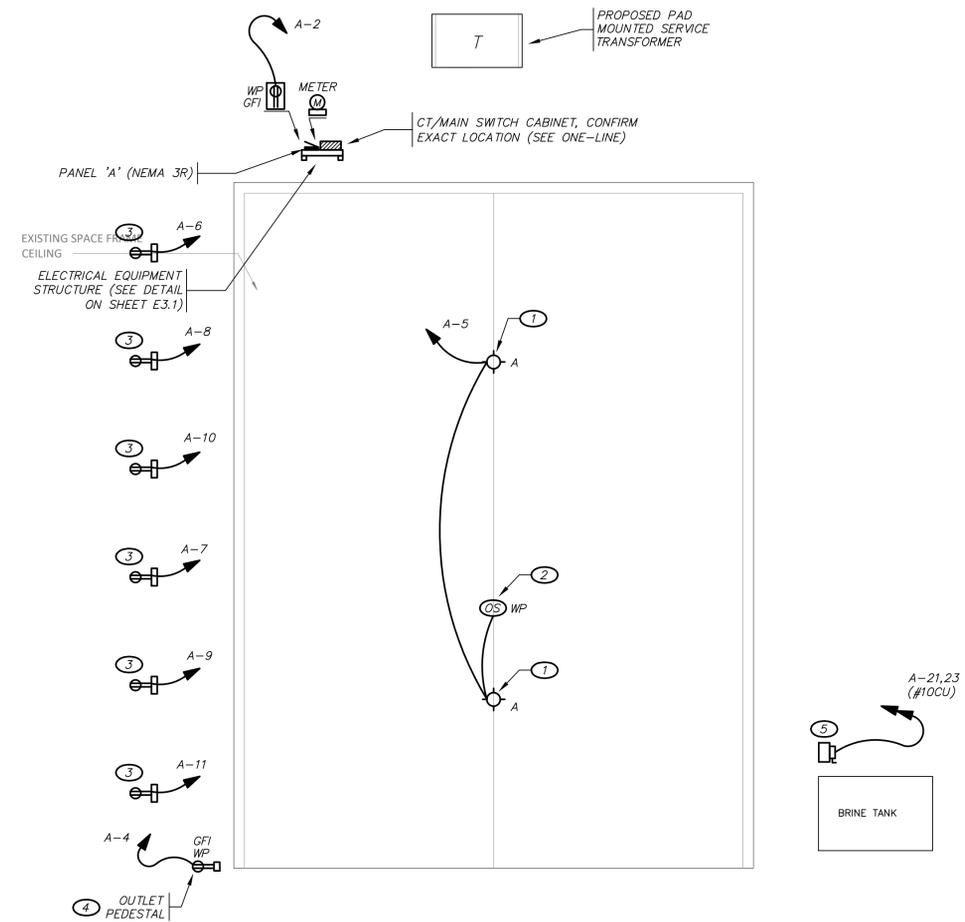
- PROVIDE 30' HIGH STEEL STRAIGHT POLE FOR SINGLE HEAD, LITHONIA #SSS-30-5G-DM19AS-FDL20'B-EHH6"B(FOR CAMERA)-DDBXD.
- PROVIDE 30' HIGH STEEL STRAIGHT POLE FOR DOUBLE HEADS, LITHONIA #SSS-30-5G-DM28AS-FDL20'B-EHH6"B(FOR CAMERA)-DDBXD.

REFERENCE NOTES (THIS SHEET ONLY)

- MOUNT TO JOISTS STRUCTURE. UTILIZE NON-METALLIC JUNCTION BOXES AND FEED WITH LIQUID-TIGHT FLEXIBLE CONDUIT DUE TO CORROSIVE ENVIRONMENT.
- PROVIDE NEMA 4X OUTDOOR OCCUPANCY SENSOR, SENSOR SWITCH #SBR-PC-WH. UTILIZE NON-METALLIC JUNCTION BOX AND FEED WITH LIQUID-TIGHT FLEXIBLE CONDUIT DUE TO CORROSIVE ENVIRONMENT.
- BLOCK HEATER OUTLET PEDESTAL. MIDWEST POWER PRODUCTS #U010010 (20-AMP GFI OUTLET BOX, 5"x7")-6PT (62" HIGH DIRECT BURY PEDESTAL FOR OUTLET BOX). PROVIDE 20A FEMALE CORD ENDS FOR BLOCK HEATER PLUG, AND WITH KELLUM GRIPS FOR 12/2 SO CORD (FEMALE CORD). CONFIRM QUANTITY AND EXACT LOCATIONS.
- GENERAL OUTLET PEDESTAL. MIDWEST POWER PRODUCTS #U010010 (20 AMP GFI OUTLET BOX, 5"x 7") - 6PT (62" HIGH DIRECT BURY PEDESTAL FOR OUTLET BOX).
- DISCONNECT SWITCH PEDESTAL. MIDWEST POWER PRODUCTS #MH-F-2-2-1-R (DISC. SWITCH WITH 30A FUSES) - 9PT (64" HIGH DIRECT BURY PEDESTAL FOR DISC. SWITCH). CONFIRM EXACT LOCATION.

GENERAL NOTES

- PER NEC 210.8 (B) PROVIDE "GFI" TYPE RECEPTACLES OR CIRCUIT BREAKERS AS REQUIRED.



ELECTRICAL PLAN

SCALE: 1/8" = 1'-0"

STREETS SITE ELECTRICAL  
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E1.1

PANELBOARD "C" SCHEDULE																	
MAIN BUS: 125A				LOAD-VA				LOAD-VA				LOCATION: EXTERIOR STRUCTURE					
VOLTAGE: 120/240V, 1-PH, 3W.												MOUNTING: SURFACE (NEMA 3R)					
PANEL TYPE: LTG. & APPL.												MINIMUM AIC: SERIES RATED					
CKT. NO.	AMPS	POLES	LOAD SERVED	LTG.	RECP.	MECH.	SPARE	PHASE	LTG.	RECP.	MECH.	SPARE	LOAD SERVED	AMPS	POLES	CKT. NO.	
1	20	1	GENERAL PURPOSE		200			A		200			GENERAL PURPOSE	20	1	2	
3	20	1	GENERAL PURPOSE		200			B		200			GENERAL PURPOSE	20	1	4	
5	20	1	SPARE					A		200			GENERAL PURPOSE	20	1	6	
7	20	1	SPARE					B					SPARE	20	1	8	
9	20	1	SPARE					A					SPACE ONLY			10	
11	20	1	SPARE					B					SPACE ONLY			12	
13			SPACE ONLY					A					SPACE ONLY			14	
15			SPACE ONLY					B					SPACE ONLY			16	
CONN. LOAD					400					600			CONN. LOAD				
% DF					NEC					NEC			% DF				
EMD					400					600			EMD				
EMD = $\frac{1000 \text{ VA}}{240\text{V}} = 4\text{A}$				$\times 1.25 = 5\text{A}$				MAIN BREAKER SIZE:									
SYS. VOLT 240V								OR MAIN LUG ONLY (MLO): 125A									

PANELBOARD "B" SCHEDULE																		
MAIN BUS: 125A				LOAD-VA				LOAD-VA				LOCATION: EXTERIOR STRUCTURE						
VOLTAGE: 120/240V, 1-PH, 3W.												MOUNTING: SURFACE (NEMA 3R)						
PANEL TYPE: LTG. & APPL.												MINIMUM AIC: SERIES RATED						
CKT. NO.	AMPS	POLES	LOAD SERVED	LTG.	RECP.	MECH.	SPARE	PHASE	LTG.	RECP.	MECH.	SPARE	LOAD SERVED	AMPS	POLES	CKT. NO.		
1	20	1	EXTERIOR POLE LIGHTS		200			A		3600			EXISTING YARD LIFT UNIT	50	2	2		
3	2	2			200			B		3600						4		
5	20	1	SPARE					A		200			GENERAL PURPOSE	20	1	6		
7	20	1	SPARE					B					CAMERA SYSTEM	20	1	8		
9			SPACE ONLY					A					SPARE	20	1	10		
11			SPACE ONLY					B					SPARE	20	1	12		
13			SPACE ONLY					A					SPACE ONLY			14		
15			SPACE ONLY					B					SPACE ONLY			16		
CONN. LOAD					400					200			7500	CONN. LOAD				
% DF					1.25					NEC			1.0	% DF				
EMD					500					200			7500	EMD				
EMD = $\frac{8200 \text{ VA}}{240\text{V}} = 34\text{A}$				$\times 1.25 = 43\text{A}$				MAIN BREAKER SIZE:										
SYS. VOLT 240V								OR MAIN LUG ONLY (MLO): 125A										

PANELBOARD "A" SCHEDULE																	
MAIN BUS: 400A				LOAD-VA				LOAD-VA				LOCATION: EXTERIOR STRUCTURE					
VOLTAGE: 120/240V, 1-PH, 3W.												MOUNTING: SURFACE (NEMA 3R)					
PANEL TYPE: LTG. & APPL.												MINIMUM AIC: SERIES RATED					
CKT. NO.	AMPS	POLES	LOAD SERVED	LTG.	RECP.	MECH.	PHASE	LTG.	RECP.	MECH.	PANEL	LOAD SERVED	AMPS	POLES	CKT. NO.		
1	20	1	EXTERIOR POLE LIGHT		50			A		200		GENERAL PURPOSE	20	1	2		
3	2	2			50			B		200		GENERAL PURPOSE	20	1	4		
5	20	1	SALT STORAGE LIGHTS		150			A		1000		BLOCK HEATER OUTLET	20	1	6		
7	20	1	BLOCK HEATER OUTLET					B		1000		BLOCK HEATER OUTLET	20	1	8		
9	20	1	BLOCK HEATER OUTLET					A		1000		BLOCK HEATER OUTLET	20	1	10		
11	20	1	BLOCK HEATER OUTLET					B		1000		SPARE	20	1	12		
13	20	1	SPARE					A				SPARE	20	1	14		
15	20	1	SPARE					B				SPARE	20	1	16		
17	100	2	EXTERIOR PANEL 'C'					A		500		EXTERIOR PANEL 'B'	125	2	18		
19	2	2						B		500					20		
21	30	1	BRINE TANK					A		2000		SPACE ONLY			22		
23	2	2						B		2000		SPACE ONLY			24		
CONN. LOAD					250					7000		1000	CONN. LOAD				
% DF					1.25					1.0		1.0	% DF				
EMD					313					7000		1000	EMD				
EMD = $\frac{19913 \text{ VA}}{240\text{V}} = 83\text{A}$				$\times 1.25 = 104\text{A}$				MAIN BREAKER SIZE:									
SYS. VOLT 240V								OR MAIN LUG ONLY (MLO): 400A									

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FEEDER SCHEDULE	
SEC 90-10	#6 CU GROUND
SEC 90-10	#1/0 CU GROUND
SEC 90-10	#6 CU GROUND
SERV 450A	2-RUNS(3#3/0 THWN CU)2-1/2"C
**OR**	2-RUNS(3#250 MCM THWN AL)3"C
400A	2-RUNS(3#3/0 THWN CU & 1#3 CU GRD)2-1/2"C
**OR**	2-RUNS(3#250 MCM THWN AL & 1 #3 CU GRD)3"C
100A	(3 #1 THWN CU & 1#6 CU GRD) 2"C
125A	(3 #1/0 THWN CU & 1#6 CU GRD) 2"C

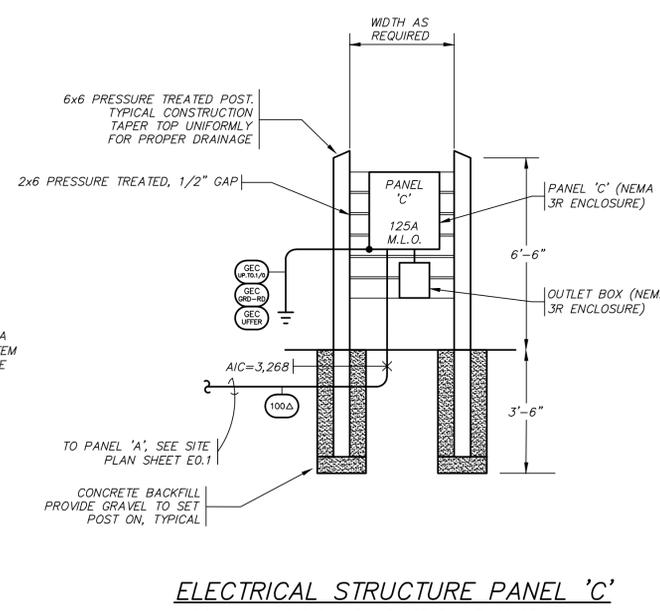
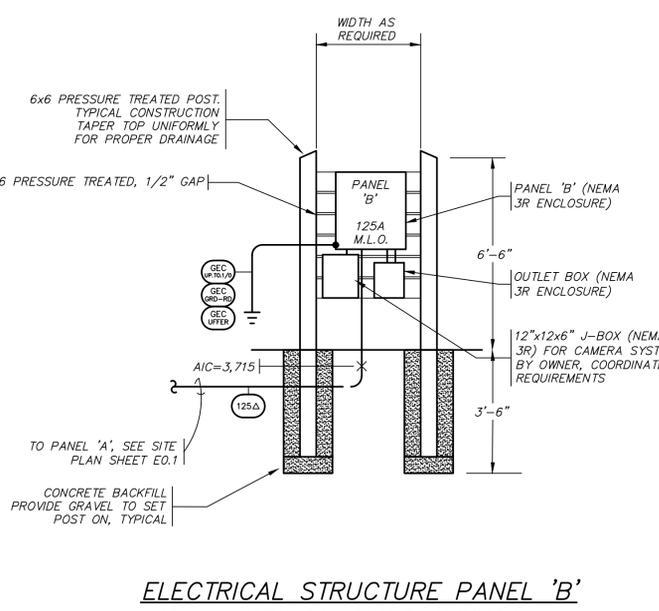
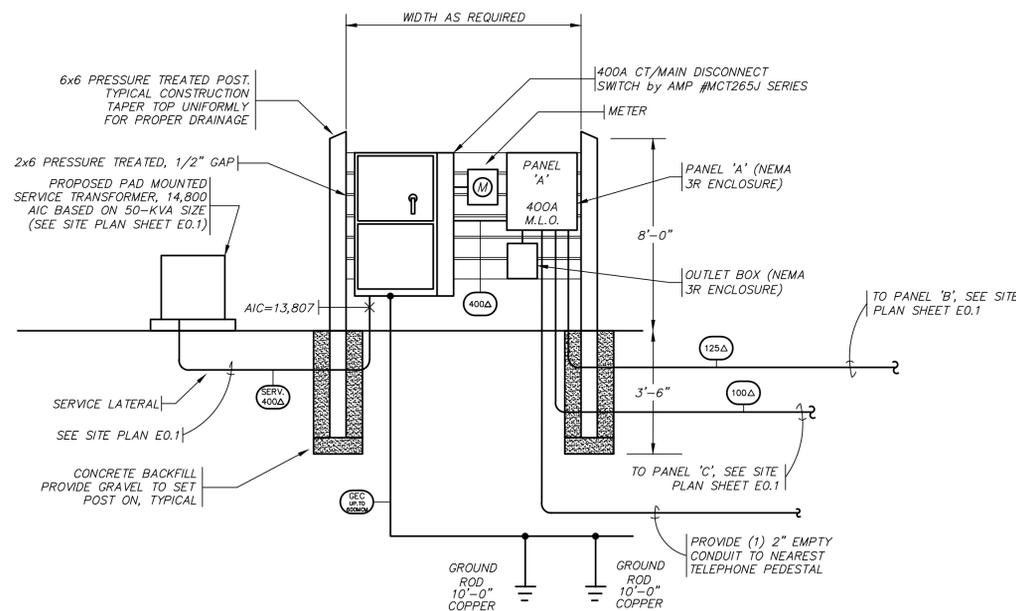
DEMAND ON SERVICE	
ELECTRICAL SERVICE LOADS:	
LIGHTING LOADS =	.813 KVA
EQUIPMENT LOADS =	17.500 KVA
GENERAL POWER LOADS =	1.600 KVA
TOTAL = 19.913 KVA	
19.913 KVA @240V, 1 PHASE = 83 AMPS	
ON NEW 400 AMP SERVICE.	

**SERIES RATING SPECIFICATION**

Provide series rating combinations, the loadside circuit breakers supplied shall be tested and listed as a series combination with the line side feeder fuses per the plans. Panelboards with series rated loadside circuit breakers shall have a manufacturer's label stating the listing for the series combination interrupting rating for the loadside circuit breakers and the lineside fuse combination, in compliance with NEC Section 240-86. This series rating shall be equal to or greater than the available short-circuit current.

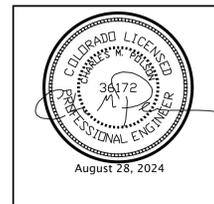
Where series rated combinations are utilized, the electrical contractor shall affix field installed labels to the loadside circuit breaker panelboard and feeder switch/panelboard/switchboard, in compliance with NEC Section 110-22. As required in Section 110-22, the loadside panelboard/switchboard label shall be field marked with the short-circuit rating of the series combination, type circuit breaker for replacement, part number for the series rated lineside, feeder fuses and location/name of this fuse switch/panelboard/switchboard. The panel/switch with the lineside fuses shall be field marked with short-circuit rating of the series combination, part number for fuse replacement and the location/name of loadside, series rated panelboard/switchboard.

If the manufacturer/supplier/installer cannot supply tested and listed series rated combinations of the specified loadside circuit breakers with the specified line side fuses, it is their responsibility to provide loadside circuit breakers that have fully rated interrupting ratings equal to or greater than the short-circuit current available at the loadside circuit breakers.



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**CITY OF GREELEY**  
**135 N 35th Ave, Greeley Colorado**



No.	Issue	Date
Project	APS.613.24	08/28/2024
Date		
Drawn	SIM, RJB	

**ELECTRICAL ONE-LINE DIAGRAMS AND SCHEDULES**

**E3.1**

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